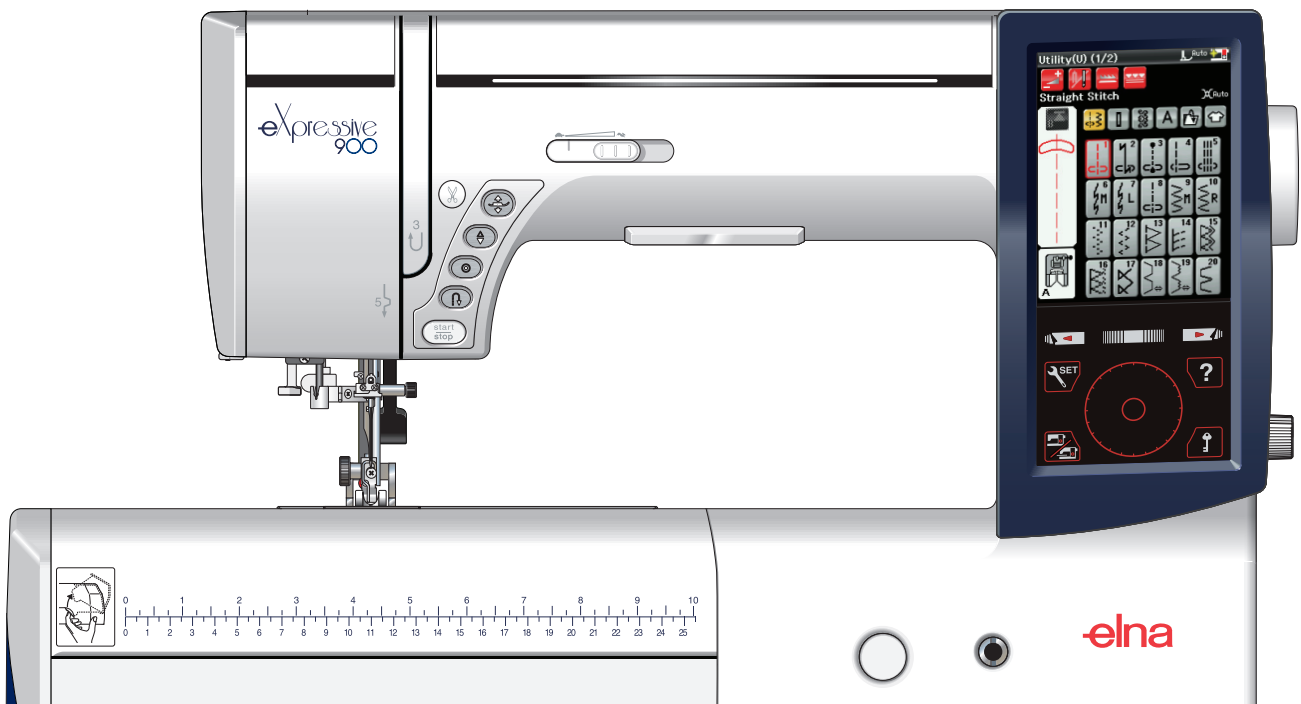


# eXpressive 900

| Instruction Manual |







# IMPORTANT SAFETY INSTRUCTIONS

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

### **For Europe only:**

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

### **For outside Europe (except U.S.A and Canada):**

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 the appliance.



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)



## GETTING READY TO SEW

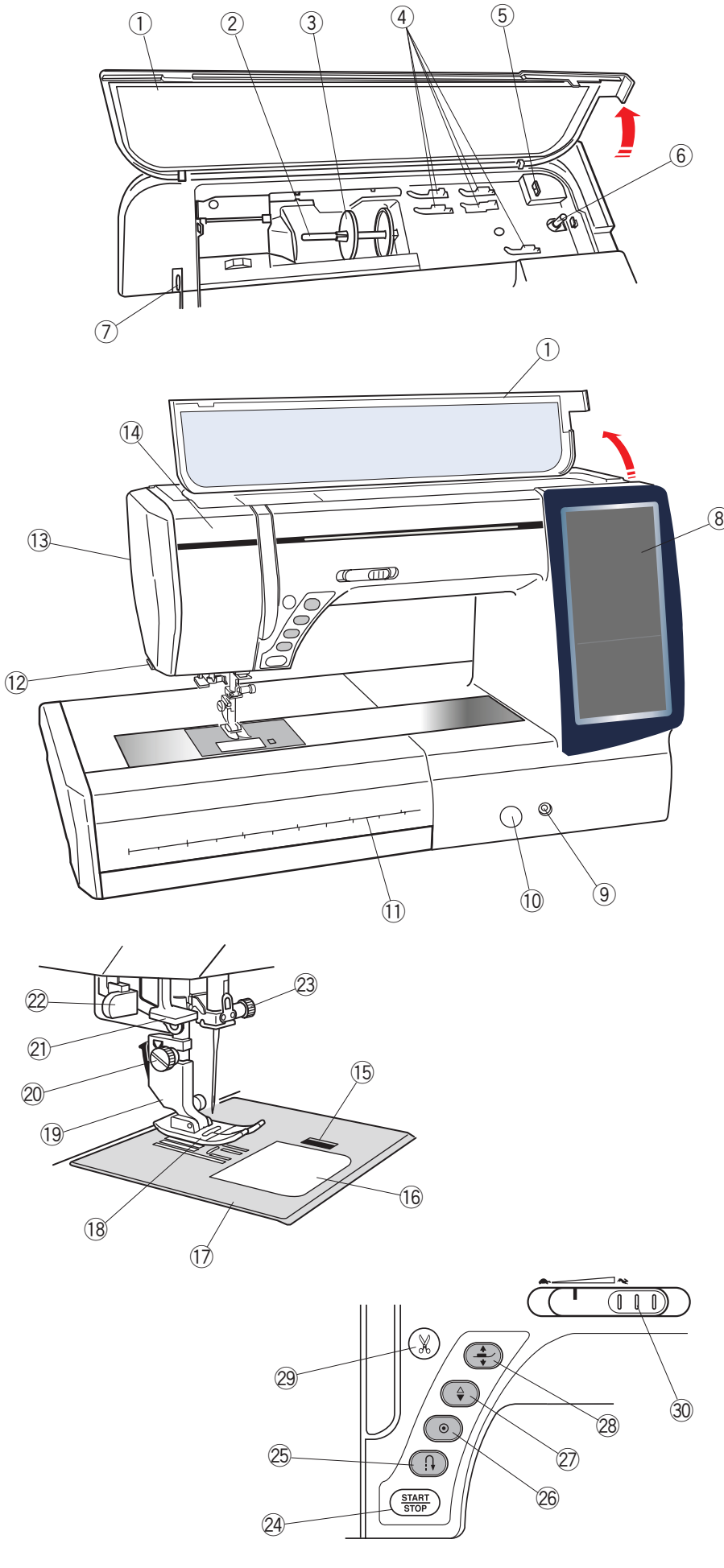
### Names of Parts

- ① Top cover
- ② Spool pin
- ③ Spool holder (Large)
- ④ Foot compartment
- ⑤ Thread cutter
- ⑥ Bobbin winder spindle
- ⑦ Thread take-up lever

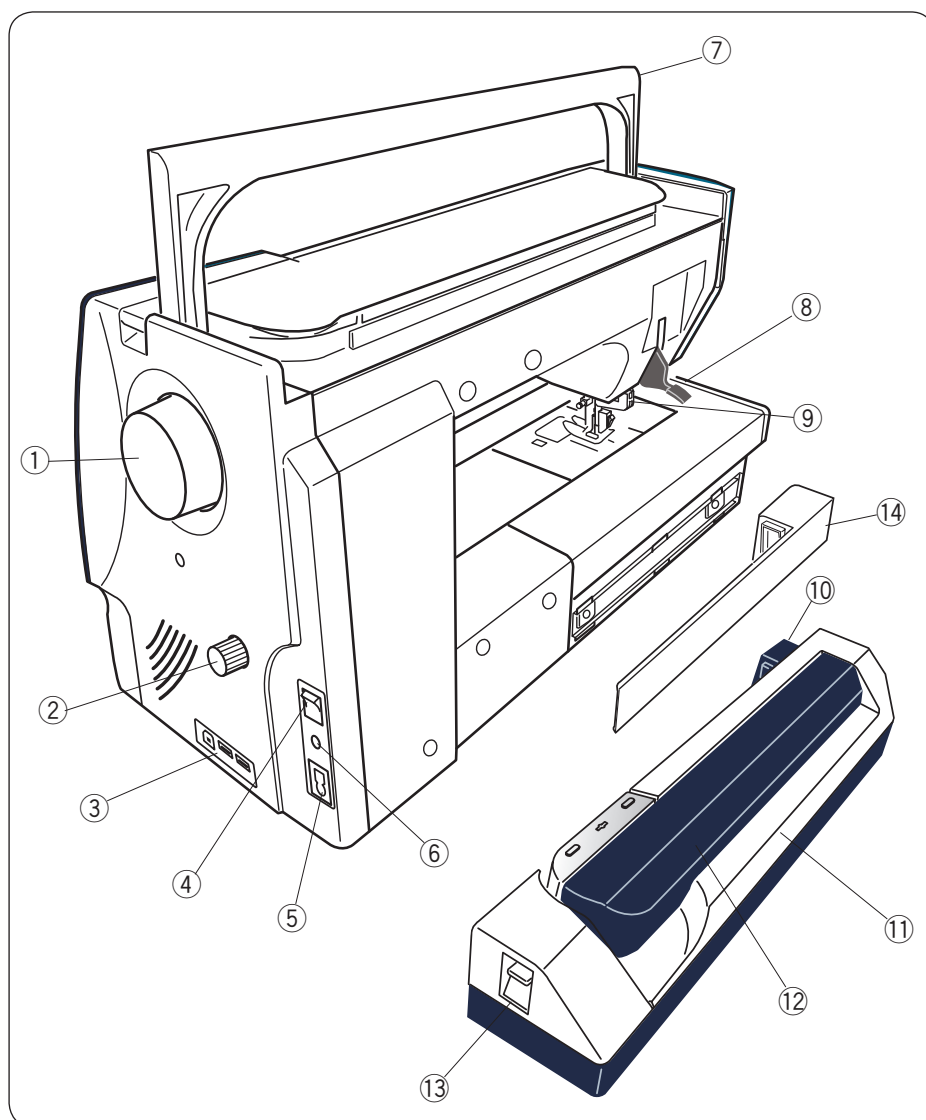
- ⑧ Visual touch screen
- ⑨ Knee lifter socket
- ⑩ Feed balancing dial cap
- ⑪ Extension table (accessory storage)
- ⑫ Thread cutter/holder
- ⑬ Face plate
- ⑭ Retractable light

- ⑮ Hook cover release button
- ⑯ Hook cover
- ⑰ Needle plate
- ⑱ Presser foot
- ⑲ Presser foot holder
- ⑳ Thumbscrew
- ㉑ Needle threader
- ㉒ Buttonhole lever
- ㉓ Needle clamp screw

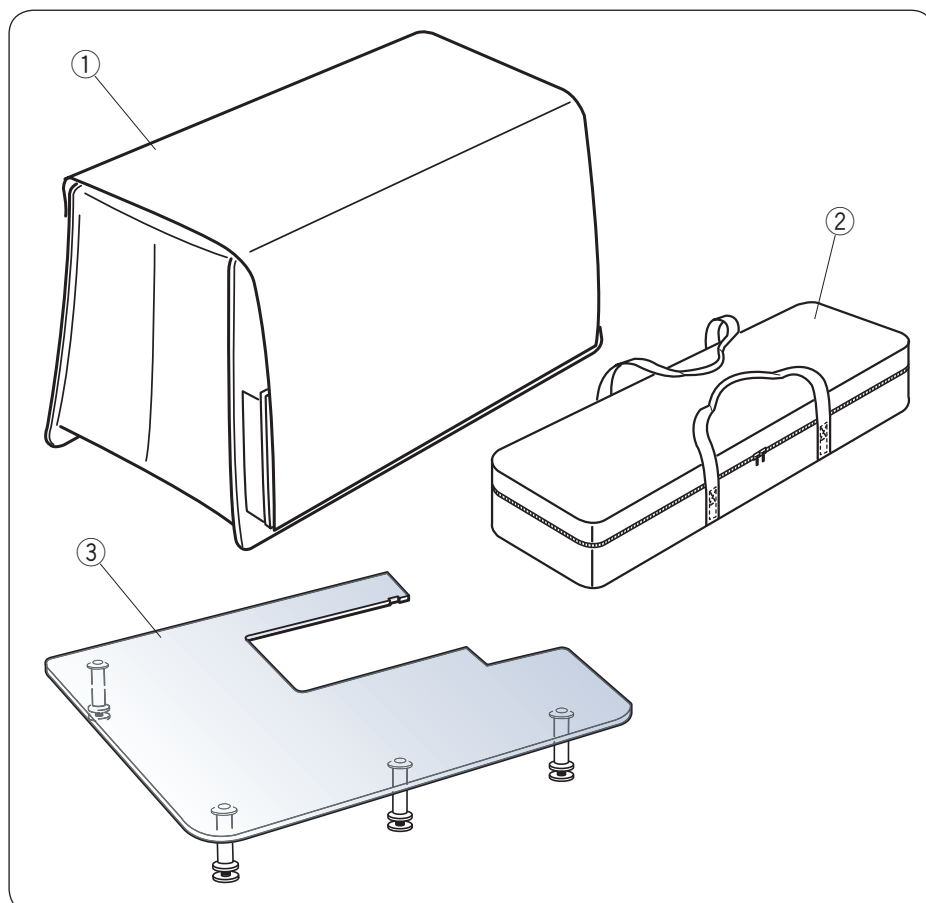
- ㉔ Start/stop button
- ㉕ Reverse button
- ㉖ Auto-lock button
- ㉗ Needle up/down button
- ㉘ Presser foot lifter button
- ㉙ Thread cutter button
- ㉚ Speed control slider



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



- ① Hand wheel
- ② Dual feed balancing dial
- ③ USB ports
- ④ Power switch
- ⑤ Power inlet
- ⑥ Foot control jack
- ⑦ Carrying handle
- ⑧ Presser foot lifter
- ⑨ Dual feed drive
- ⑩ Embroidery unit socket
- ⑪ Embroidery unit
- ⑫ Carriage arm
- ⑬ Carriage arm release lever
- ⑭ Cover

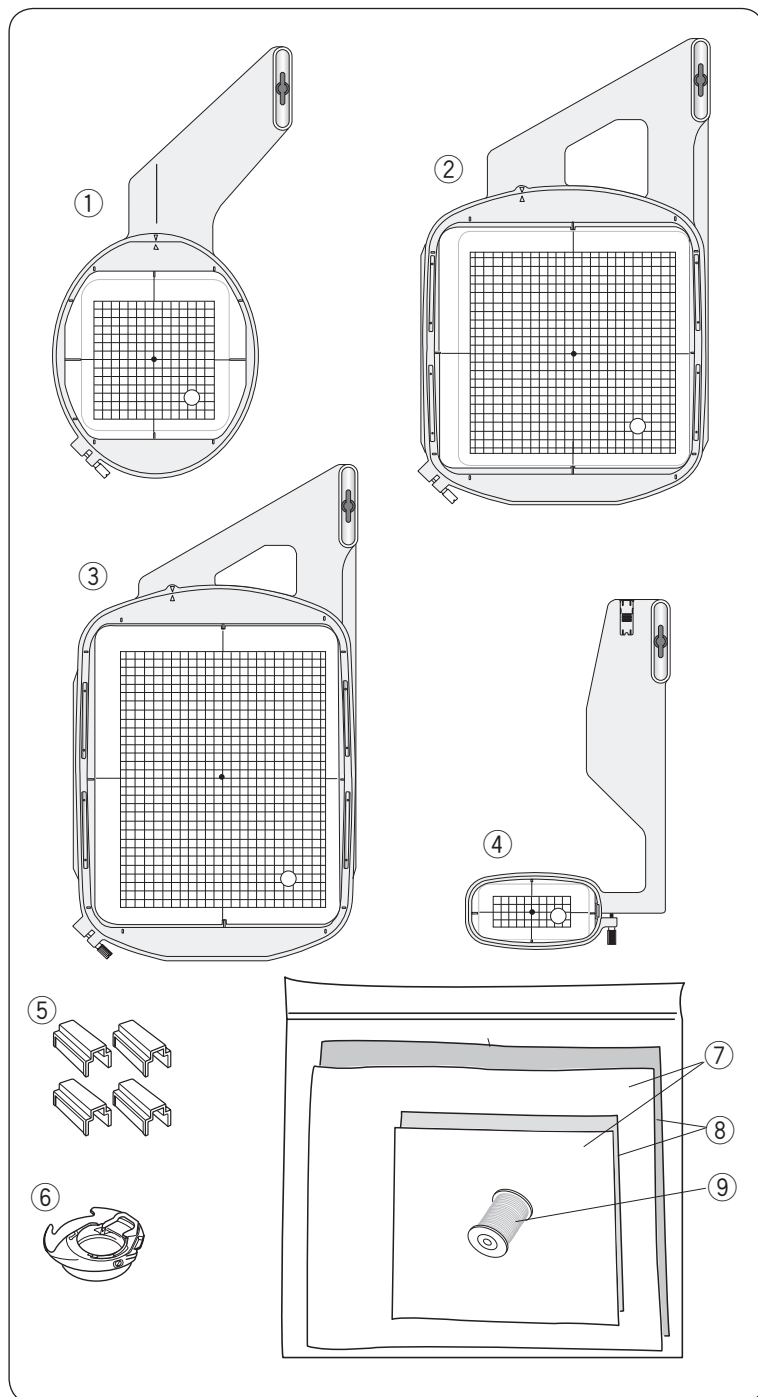


- ① Semi-hard fabric cover
- ② Embroidery unit case
- ③ Extra wide table

## Standard Accessories

- ① Zigzag foot A (set on the machine)
- ② Overedge foot M
- ③ Satin stitch foot F
- ④ Blind hemming foot G
- ⑤ Zipper foot E
- ⑥ Concealed zipper foot Z
- ⑦ Automatic buttonhole foot R
- ⑧ Stabilizer plate
- ⑨ Rolled hem foot D
- ⑩ Open toe satin stitch foot F2
- ⑪ Darning foot PD-H
- ⑫ Free motion quilting closed-toe foot QC
- ⑬ Free motion quilting open-toe foot QO
- ⑭ Free motion quilting zigzag foot QV
- ⑮ Button sewing foot T
- ⑯ 1/4" seam foot O
- ⑰ Dual feed holder (twin)
- ⑱ Dual feed holder (single)
- ⑲ Dual feed foot AD (twin)
- ⑳ Dual feed foot VD (single)
- ㉑ Dual feed quilt piecing foot OD (twin)
- ㉒ Dual feed zipper foot ED (single)
- ㉓ Embroidery foot P

- ㉔ Straight stitch needle plate
- ㉕ Bobbins
- ㉖ Needle set
- ㉗ Screwdriver
- ㉘ Lint brush
- ㉙ Seam ripper (buttonhole opener)
- ㉚ Quilting guide bar
- ㉛ Spool holders (large)
- ㉜ Spool holders (small)
- ㉝ Extra spool pin
- ㉞ Scissors
- ㉟ Button shank plate
- ㊱ Touch panel stylus
- ㊲ Cloth guide
- ㊳ Bobbin holder cleaner

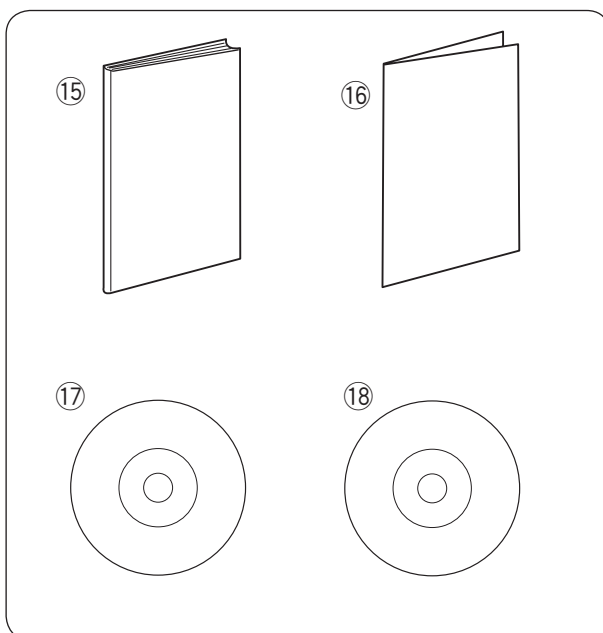
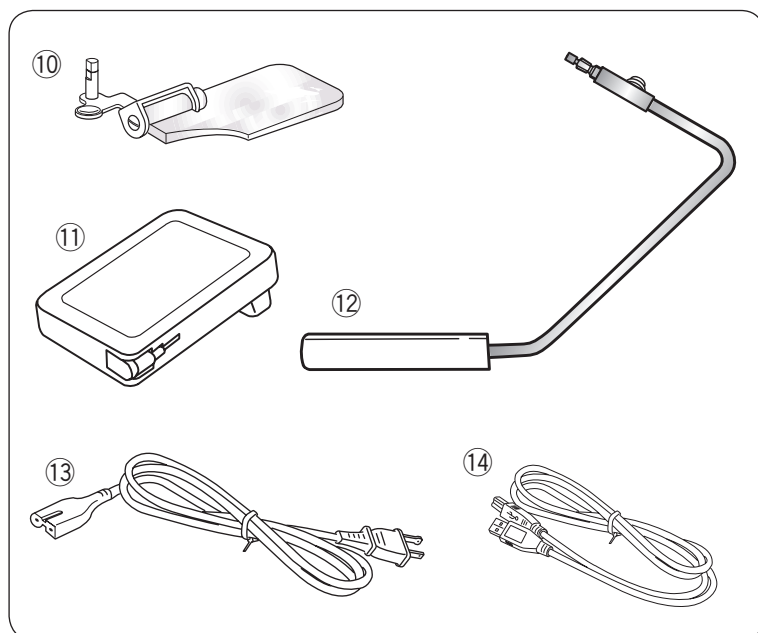


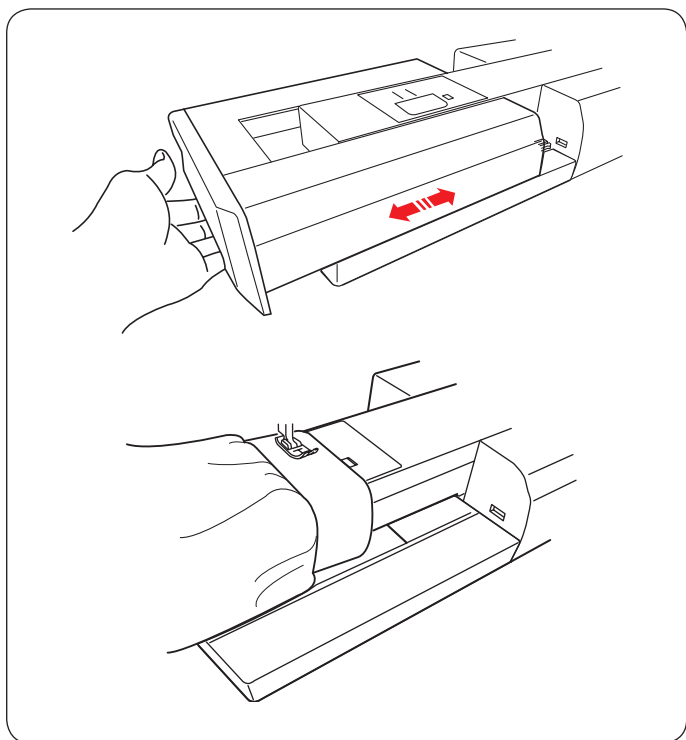
- ① Embroidery hoop SQ14 (with template)
- ② Embroidery hoop SQ23 (with template)
- ③ Embroidery hoop GR (with template)
- ④ Embroidery hoop FA10 (with template)
- ⑤ Magnetic clamps
- ⑥ Bobbin holder for embroidery

- ⑦ Felts
- ⑧ Stabilizers
- ⑨ Bobbin thread for embroidery

- ⑩ Optic magnifier
- ⑪ Foot control
- ⑫ Knee lifter
- ⑬ Power cable
- ⑭ USB cable

- ⑮ Instruction book
- ⑯ Key icon reference chart
- ⑰ Instructional video DVD
- ⑱ Stitch composer EX (with instruction)





## Extension Table

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

### To remove:

Draw the table to the left.

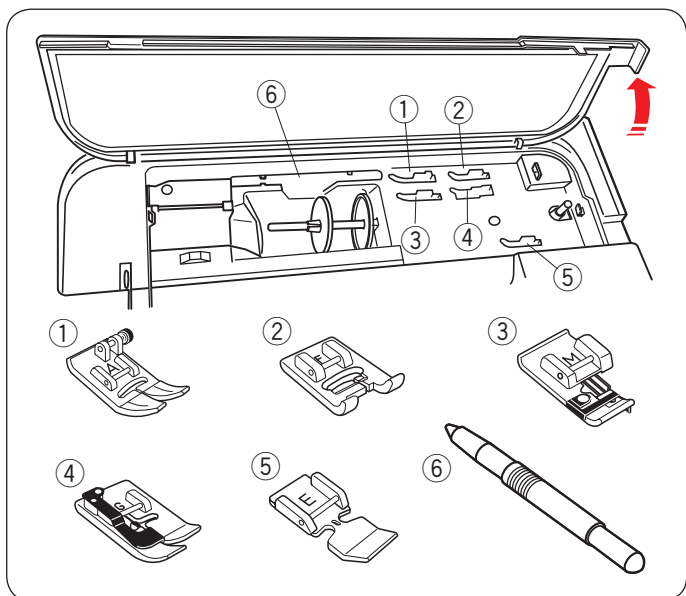
### To attach:

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

### Free arm sewing

The free arm is used for stitching sleeves, waistbands, pant legs or any other tubular garments.

It is also useful for darning socks or elbows.

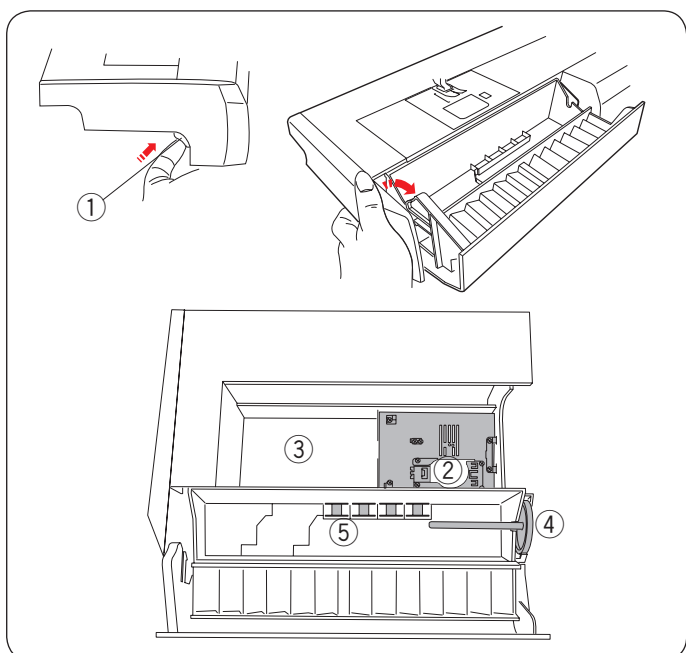


## Accessory Storage

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

### Under the top cover

- ① Zigzag foot A
- ② Satin stitch foot F
- ③ Overedge foot M
- ④ Blind hemming foot G
- ⑤ Zipper foot E
- ⑥ Touch panel stylus



### In the extension table

Push up the latch to open the compartment cover.

- ① Latch
- ② Straight stitch needle plate (Place it upside down.)
- ③ Automatic buttonhole foot R (with stabilizer plate)
- ④ Extra spool pin
- ⑤ Bobbins

Other accessories can be stored in the compartment under the cover.

## Connecting the Power Supply

First make sure the power switch is off.

Insert the machine plug into the power inlet.

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

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

### NOTES:

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

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

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.

- ④ Foot control cord
- ⑤ Pin connector

Insert the machine plug of the power supply cable into the power inlet.

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.

- ⑥ Red mark

### NOTE:

The foot control cannot be used in the embroidery mode.



### WARNING:

When running the machine, always keep your eyes on the sewing area, and do not touch any moving parts such as the thread take-up lever, hand wheel 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.

### Operating Instructions:

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

### For the U.S.A. and Canada only

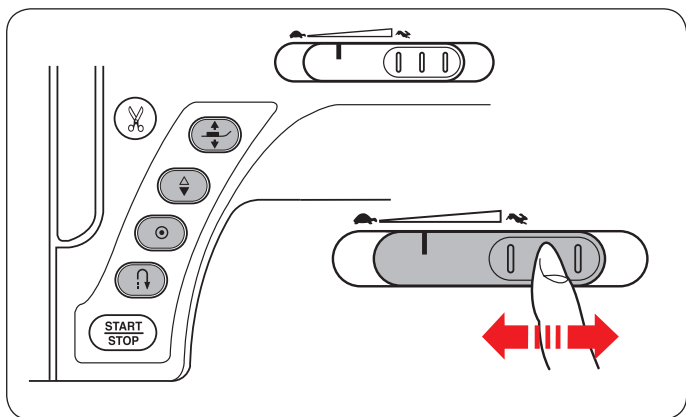
Polarized plug (one blade wider than the other):

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.

### Operating Instructions:

Foot controller Model 21371 is for use with sewing machine eXpressive 900.





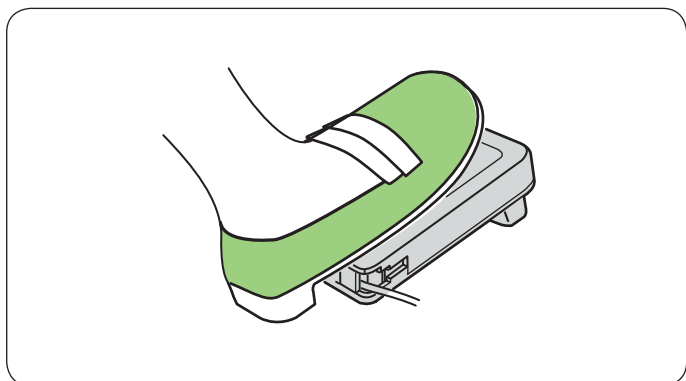
## Controlling Sewing Speed

### Speed control slider

You can limit the maximum sewing speed in both the ordinary sewing mode and embroidery mode 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.

The sewing speed can be changed while stitching.



### Foot control

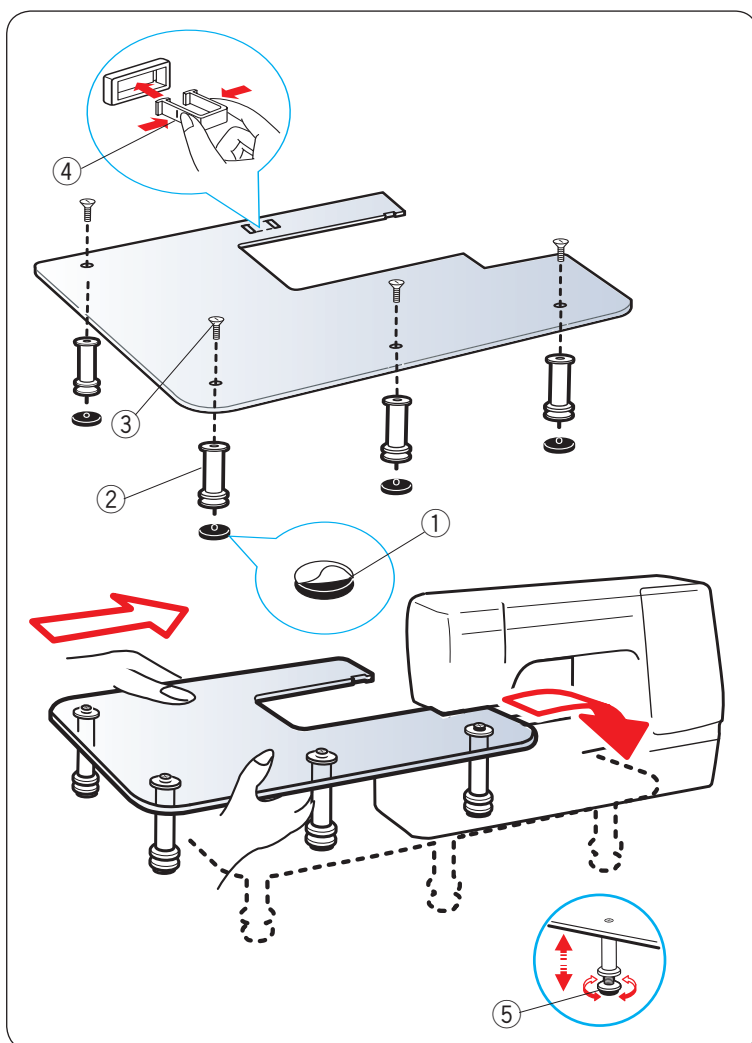
Pressing on the foot control can vary sewing speed. The harder you depress the foot control, the faster the machine runs.

#### NOTE:

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

#### 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 visual touch screen.



## 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

Attach the 4 legs to the table top with the setscrew.  
Attach the table support to the underside of the table by inserting the hooks into the slots.

- ③ Setscrew
- ④ Table support

Remove the extension table.  
Place the assembled table on the machine.  
Adjust the table height by turning the adjusting screws.

- ⑤ Adjusting screw

## Machine Operating Buttons

### ① Start/stop button

Press this button to start or stop the machine. This button can be used either in the ordinary sewing mode or embroidery mode.

In the ordinary sewing mode, 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 being pressed.

The button turns red when the machine is running, and green when it stops.

#### NOTE:

The start/stop button cannot be used in the ordinary sewing mode when the foot control is connected.

### ② Reverse button

When sewing stitch pattern U1, U4, U9-12, Q1-3 or BR1-10, the machine will sew in reverse as long as the reverse button is pressed.

If stitch pattern U1, U4, U9-12, Q1-3 or BR1-10 has been selected and the foot control is not connected, the machine will start sewing 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.

### ⑤ Presser foot lifter button

The presser foot will go up or go down by pressing this button.

You can use also the presser foot lifter and knee lifter to raise and lower the presser foot.

### ⑥ Thread cutter button

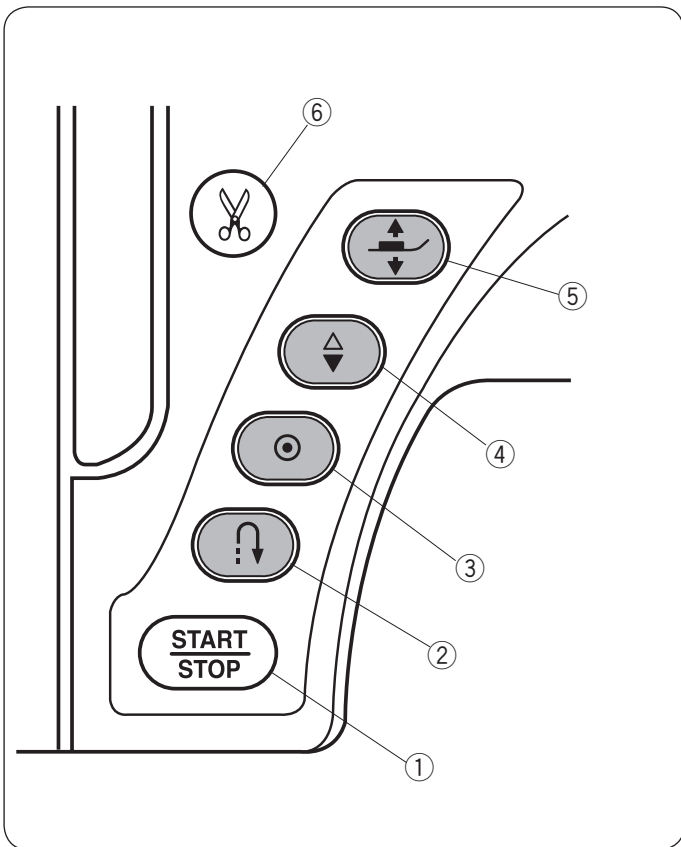
Press this button when you finish sewing to trim the threads. The needle bar and presser foot automatically rise after trimming the threads.

Refer to page 30.

#### NOTE:

The thread cutter button does not function:

- soon after turning on the power.
- when the presser foot is raised with the foot lifter.
- when being pressed 4 times in a row.



### ③ Auto-lock button

When sewing stitch pattern U1, U4, U9-12, Q1-3 or BR1-10, 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.

The machine will trim the threads automatically after locking the stitch when the auto thread cutting option is turned on (refer to page 91).

### ④ Needle up/down button

The machine will always stop with the needle down except when buttonholes, darning, tacking, eyelets or monograms are selected.

Press this button to bring the needle bar up or down.

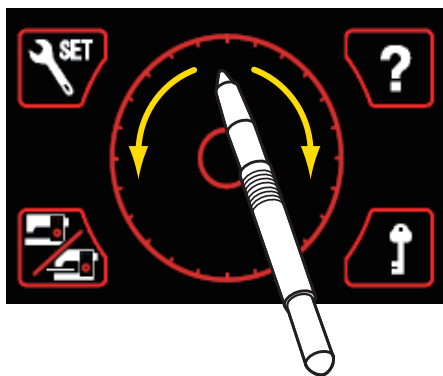
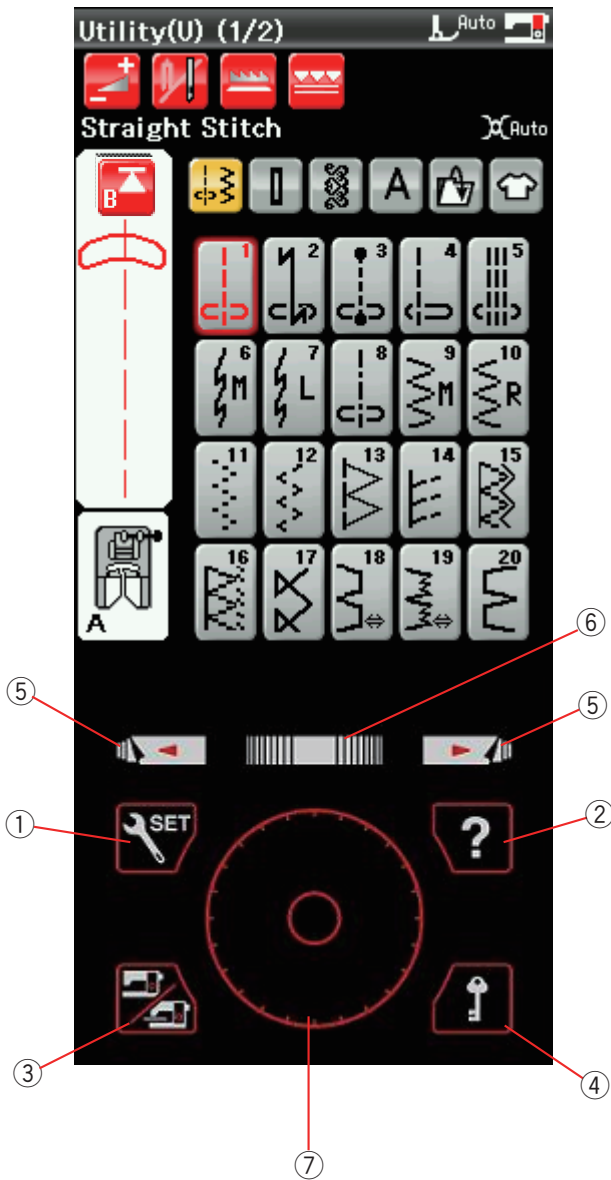


## Touch Panel Keys



### CAUTION:

Do not press the touch panel or visual touch screen with hard or sharp objects like pencils, screwdrivers or the like. Use the touch panel stylus included in the standard accessories.



#### ① Set mode key

Press this key to enter the setting mode. You can customize the machine settings to your preference. The machine settings for common settings, ordinary sewing, embroidery and language selection are available in this mode.

#### ② Help movie key

Press this key to view the on-screen movie about the essential operations.

#### ③ Mode switch key

Press this key to enter into embroidery mode or to return to ordinary sewing mode.

#### ④ Lockout key

Press this key to lockout the machine when threading the machine, replacing the accessories etc. To reduce the risk of injury, all the buttons and keys except for the presser foot lifter button are deactivated. To unlock the machine, press this key again.

#### ⑤ Page keys

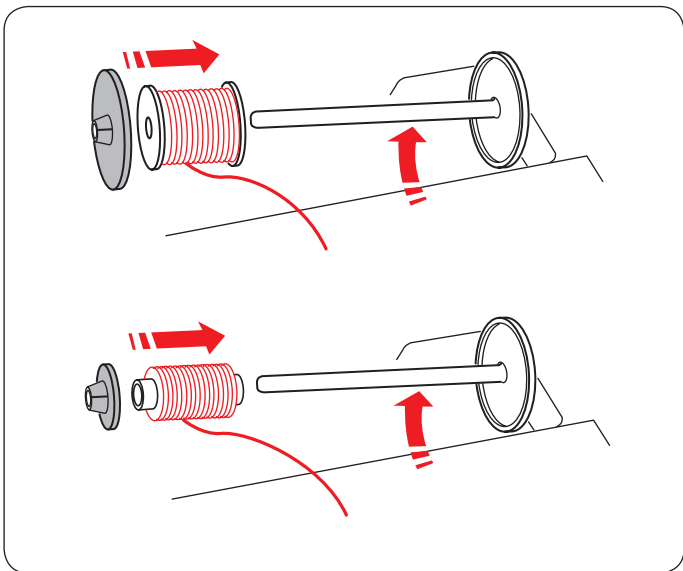
Press the page key to display the next page or previous page. Press and hold the page key to turn the pages continuously.

#### ⑥ Touch bar

Press on the bar and slide to the right or left to display the next page or previous page.

#### ⑦ Touch ring

Trace the ring clockwise or counterclockwise with your finger tip or use the touch panel stylus to browse items displayed on the visual touch screen.



## Setting the Spool of Thread

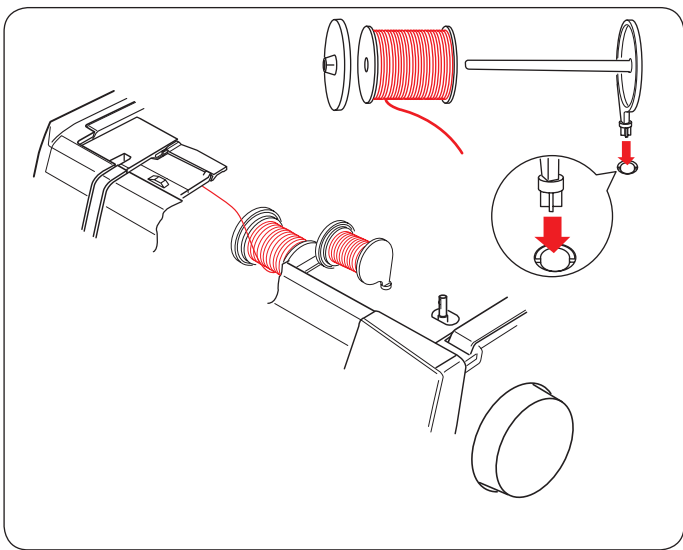
Open the top cover.

Lift up the spool pin. Place the spool of thread on the spool pin.

Attach the large spool holder, and press it firmly against the spool of thread.

### NOTE:

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



## Extra spool pin

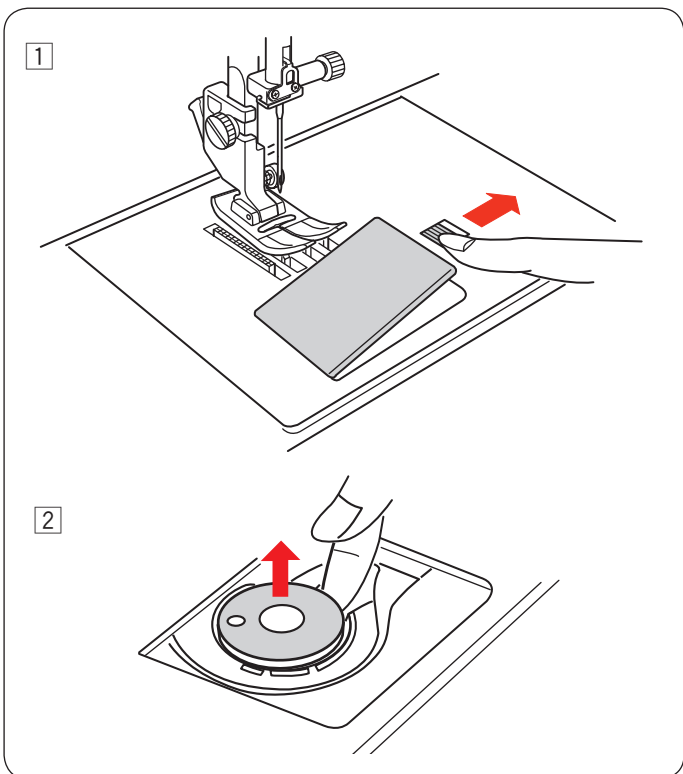
Use the extra spool pin when you need to wind a bobbin without unthreading the machine while working on a sewing project.

Insert the extra spool pin into the hole in the foot compartment as shown.

Place a spool of thread on the extra spool pin and fix the spool with the spool holder.

### NOTE:

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



## Winding the Bobbin

### Removing the bobbin



### CAUTION:

Press the lockout key or turn the power switch off.

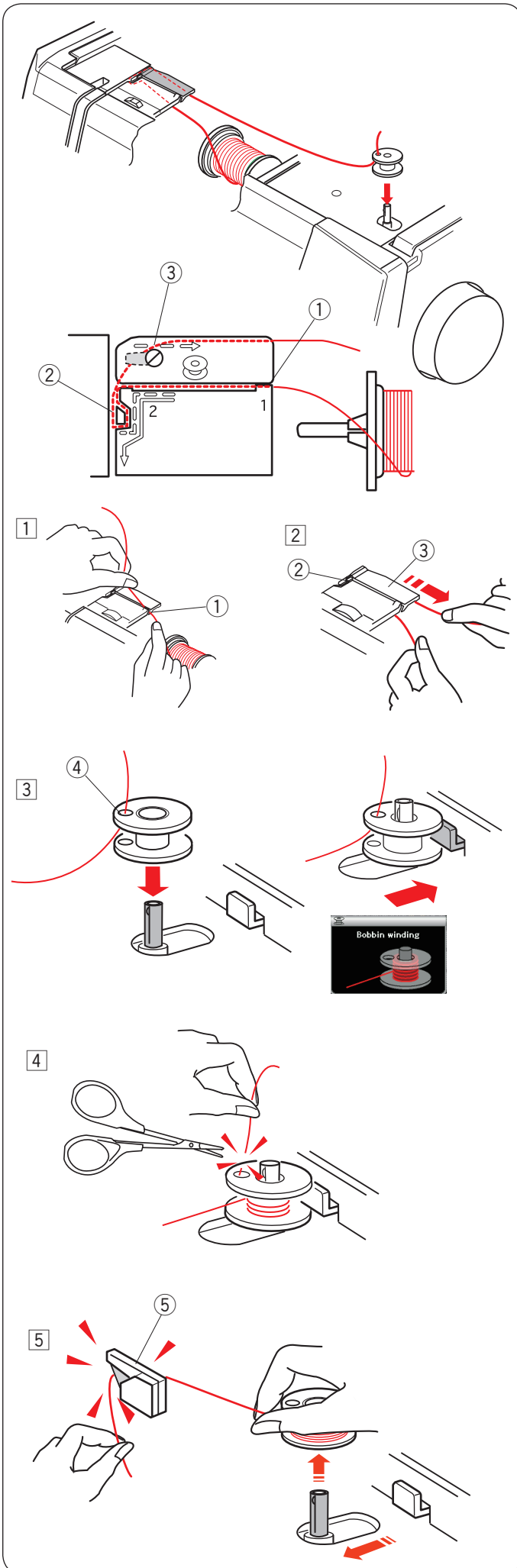
1 Slide the hook cover release button to the right, and remove the hook cover.

2 Remove the bobbin from the bobbin holder.

### NOTE:

Use the plastic bobbins for horizontal hook marked with a "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 and 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.

Turn the power switch on. Put the bobbin on the bobbin winder spindle.

Push the bobbin to the right.

The LCD screen will show the bobbin winding sign.

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 a few layers, and cut the thread close to the hole in the bobbin.

### NOTE:

Set the speed control slider to 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 1.5 minutes after starting bobbin winding.

## Inserting the bobbin

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

① Lockout key

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

② Front notch

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

③ Tension spring blades

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

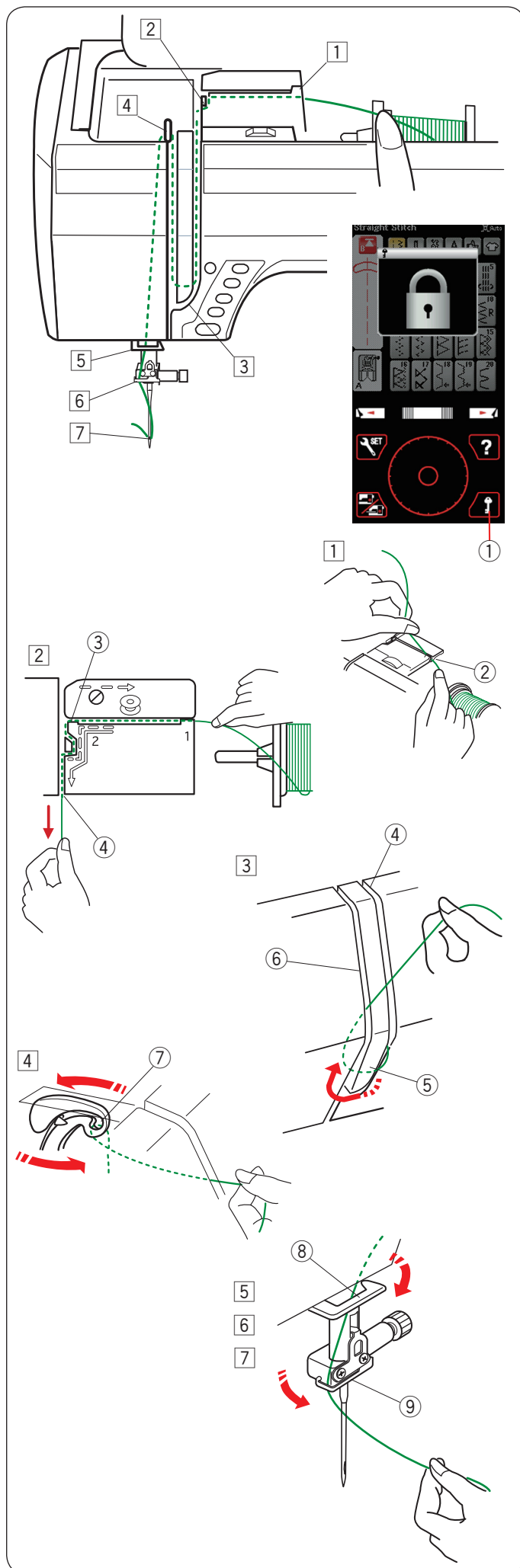
④ Side notch

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

⑤ Hook cover

### NOTE:

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



## Threading the Machine

Press the needle up/down button to raise the take-up lever to the highest position.

Press the lockout key to lockout the machine. The presser foot will go down and the upper thread tension disks will open.

- ① Lockout key

Pass the thread in the order from ① to ⑦.

- ① Hold the thread with both hands and pass the thread into the guide slot.
- ② Guide slot
- ② Hold the thread with both hands and draw the thread around the corner of the guide. Firmly pull the thread toward you along the right channel until the thread snaps.
- ③ Corner of the guide
- ④ Right 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).

## Needle threader

### NOTE:

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

Thread size 50 to 90 is recommended.

Make sure the machine is locked out.

- 1 Pull down the needle threader knob as far as it will go. The threader hook comes out through the needle eye from behind.

- ① Threader knob
- ② Threader hook

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

- ③ Left guide
- ④ Right guide

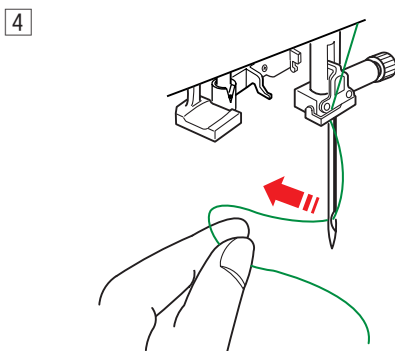
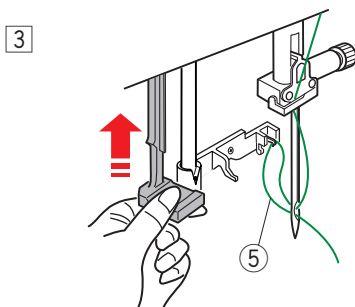
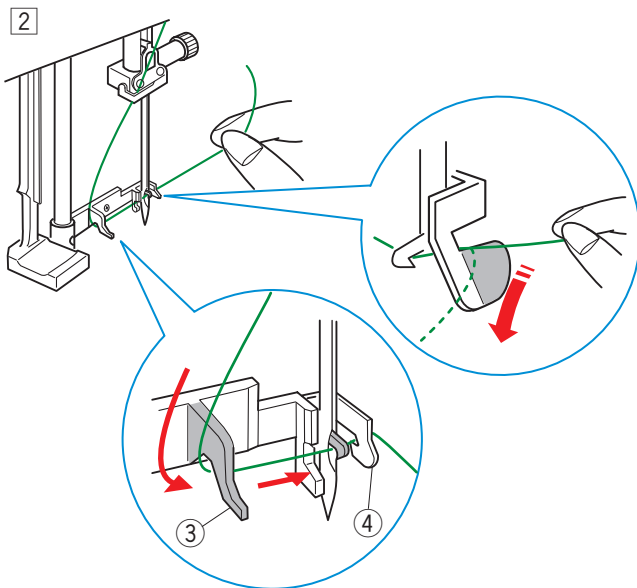
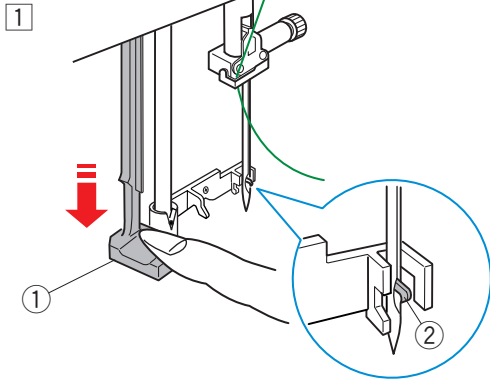
- 3 Raise the threader slowly so a loop of the thread is pulled up through the needle eye.

- ⑤ Thread loop

- 4 Pull the thread loop to take the thread end out through the needle eye to the rear.

### NOTE:

The needle threader cannot be used with the twin needle.



## Drawing Up the Bobbin Thread

Press the lockout key to unlock the machine. The presser foot will go up.

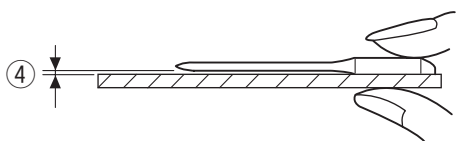
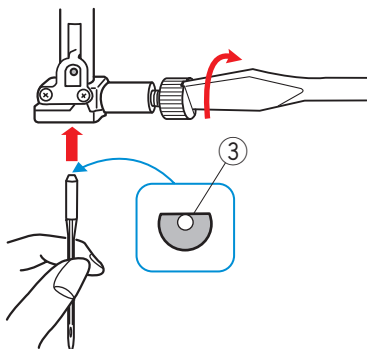
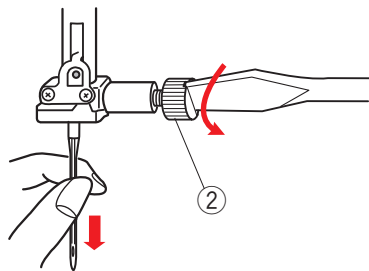
- 1 Hold the needle thread with your finger and press the needle up/down button twice to pick up the bobbin thread.

① Needle up/down button

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

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





## Replacing Needles



### CAUTION:

Always make sure to press the lockout key to lockout the machine or turn the power switch off before replacing the needle.

Raise the needle by pressing the needle up/down button.  
Press the lockout key.

① Lockout key

Loosen the needle clamp screw by turning it counter-clockwise.

Remove the needle from the clamp.

② Needle clamp screw

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

③ Flat side

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.

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.

④ Gap

Never use a blunt needle.

## Fabric and Needle Chart

Fabric		Thread	Needle
Fine	Lawn	Silk #80-100	#9/65-11/75 Blue tip needle
	Georgette	Cotton #80-100	
	Tricot	Synthetic #80-100	
Medium	Sheeting	Silk #50	#11/75-14/90 Red tip needle
	Jersey	Cotton #50-80	
	Wool	Synthetic #50-80	
	Knit		
Heavy weight	Denim	Silk #30-50	#14/90-16/100 Purple tip needle
	Tweed	Cotton #40-50	
	Coating	Synthetic #40-50	
	Quilting		

- For general sewing, use needle size #11/75 or #14/90.
- Fine threads and needles should be used for sewing fine fabrics.
- In general, use the same thread for both needle and bobbin.
- Use a blue needle for sewing fine fabrics, stretch fabrics and buttonholes to prevent skipped stitches.
- Use a purple needle for sewing thick fabrics, denims, quilt layers and across the hem to prevent skipped stitches.
- Use a stabilizer or interface to stretch or fine fabrics to prevent seam puckering.
- Always test the thread and needle size on a small piece of the same fabric you will use for actual sewing.

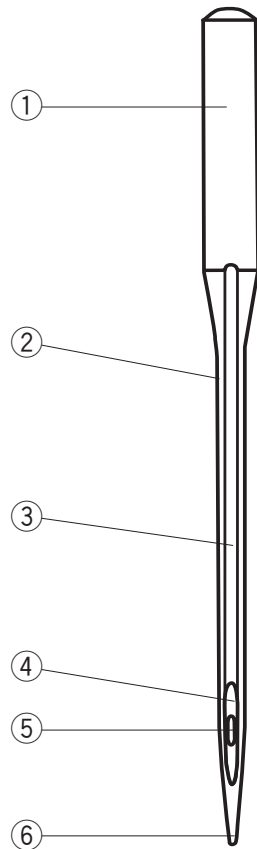
### NOTE:

1 x twin needle, 2 x blue tip needle (#11/75), 1 x red tip needle (#14/90) and 1 x purple tip needle (#14/90) are included in the needle case.

### For embroidery:

- In general, use a blue tip needle.
- Use a red tip needle for dense stitch embroidery.
- Janome bobbin thread for embroidery is recommended for bobbin.





## 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 of needle)
- ⑤ Eye
- ⑥ Point

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

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

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

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

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

**Metallic** – the large grooved shaft helps prevent delicate metallic threads from shredding. Another plus, a larger than average eye makes for easier threading.

**Self-Threading** – the needle eye has a slit opening on the side to allow the thread to be easily inserted.

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

**Quilt** – the tapered point easily penetrates through multiple layers and crossed seams.

**Wing/Hemstitch** – wide flat edges (wings) extend outwards near the eye; they separate fibers and create holes for beautiful heirloom stitches.

**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.

## Replacing the Presser Foot

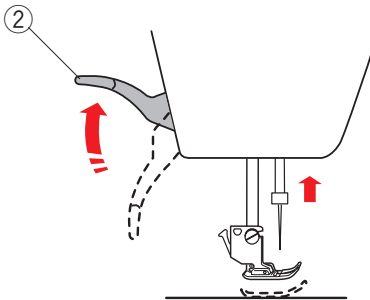


### CAUTION:

Always make sure to press the lockout key to lockout the machine or turn the power switch off before replacing the presser foot.

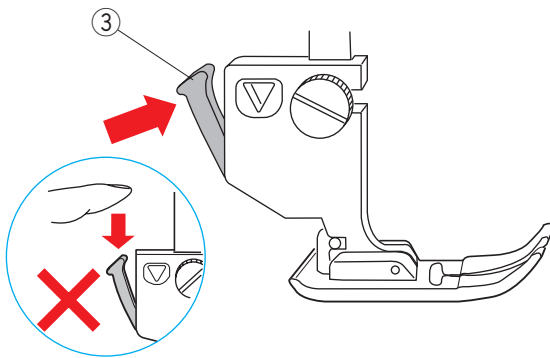
Raise the needle by pressing the needle up/down button.  
Press the lockout key.

- ① Lockout key



Raise the presser foot lifter.

- ② Presser foot lifter



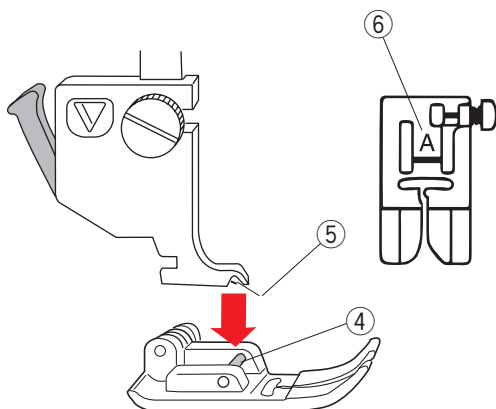
Press the black lever on the backside of the foot holder.  
The presser foot will snap off.

- ③ Lever



### CAUTION

To avoid damaging the lever, do not push it down.

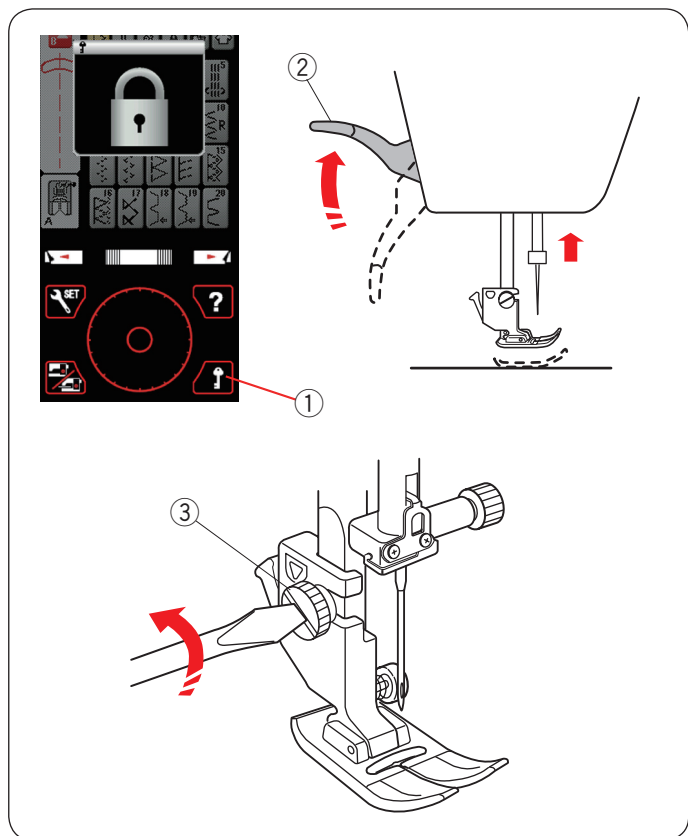


Place the desired foot under the foot holder so that the pin of the foot lies just under the groove of the foot holder.  
Lower the presser foot lifter to lock the foot in place.

- ④ Pin  
⑤ Groove

Each foot is marked with an identification letter.

- ⑥ Identification letter



## Replacing the Foot Holder

Replace the foot holder, if you use the dual feed feet, darning foot or embroidery foot.



### CAUTION:

Press the lockout key to lockout the machine before replacing the foot holder.

### Removing the presser foot holder

Raise the needle by pressing the needle up/down button. Press the lockout key and raise the presser foot with the presser foot lifter.

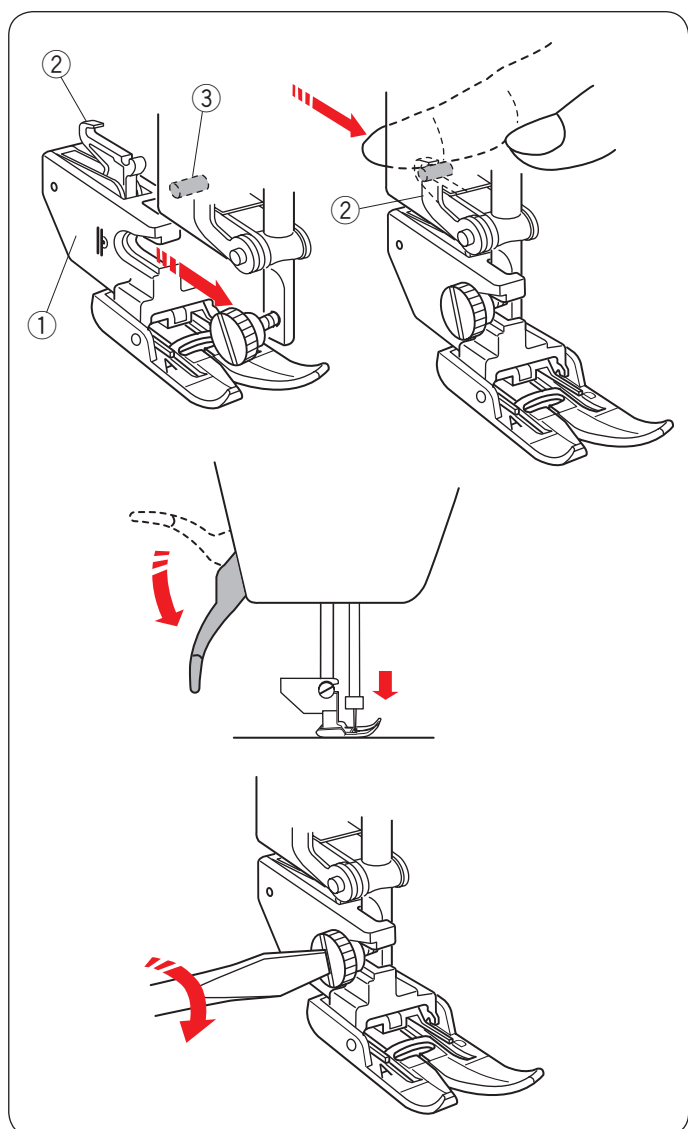
- ① Lockout key
- ② Presser foot lifter

Loosen the thumbscrew and remove the presser foot holder.

- ③ Thumbscrew

### NOTE:

Use the foot holders included in the standard accessories only.



## Attaching the dual feed holder

Attach the dual feed holder to the presser bar.

- ① Dual feed holder

Tighten the thumbscrew with your fingers.

Push the dual feed link to engage it with upper feed drive.

- ② Dual feed link
- ③ Upper feed drive

Lower the presser foot lifter. Lower the needle to the lowest position by turning the hand wheel.

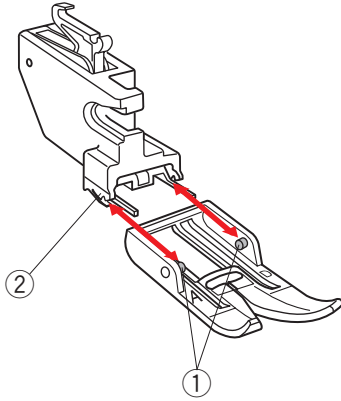
Tighten the thumbscrew securely with the screwdriver.

### Detaching and attaching the dual feed foot

Pull the foot toward you to remove it.

Insert the pins of the foot into the slits of the foot holder and gently push the foot until it snaps into place.

- ① Pin
- ② Slit

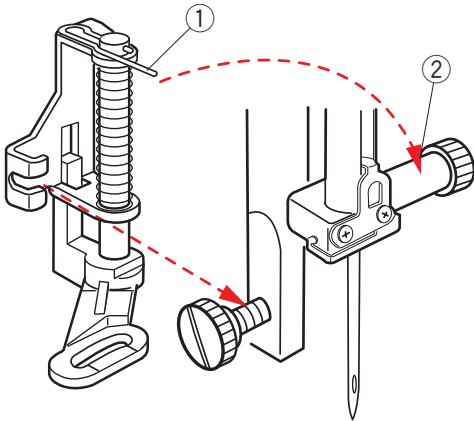


### Attaching the darning foot PD-H

Attach the darning foot PD-H to the presser bar by putting the pin on the needle clamp screw.

- ① Pin
- ② Needle clamp screw

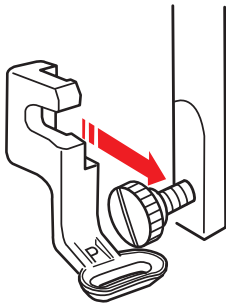
Tighten the thumbscrew firmly with the screwdriver.

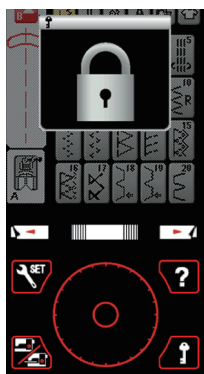


### Attaching the embroidery foot P

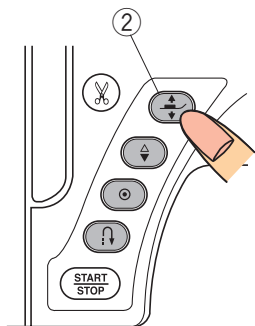
Attach the embroidery foot P to the presser bar from behind.

Refer to page 99.

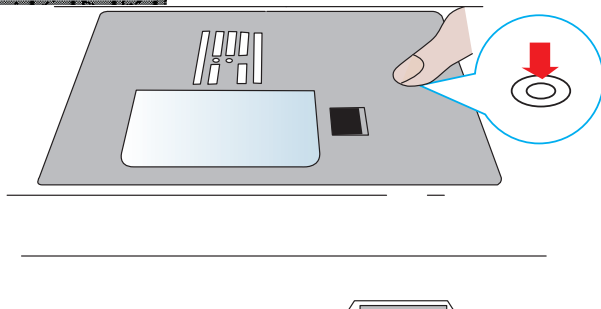




①



③



## Replacing the Needle Plate

Use the straight stitch needle plate when sewing with the dual feed foot and also when embroidering.



### CAUTION:

Press the lockout key to lockout the machine before replacing the needle plate.

Raise the needle and press the lockout key.

Press the presser foot lifter button to raise the presser foot.

- ① Lockout key
- ② Presser foot lifter button

Slide the extension table to the left to remove it.

Push down the needle plate release lever and the needle plate will snap off.

- ③ Needle plate release lever

A message will appear warning that the needle plate is not secured.

Remove the needle plate to the right.

Place the straight stitch needle plate on the machine.

Set the left edge of the needle plate into the opening.

Push down on the mark of the needle plate until it locks in place.

Make sure the warning message disappears and the straight stitch is automatically selected.

Turn the hand wheel slowly and make sure that the needle does not hit the needle plate.

Press the lockout key to unlock.



### CAUTION:

Never press the needle plate release lever while running the machine.

## Raising and Lowering the Presser Foot

The presser foot automatically goes down when you begin sewing.

However, you can raise and lower the presser foot with the presser foot lifter button, the presser foot lifter or the knee lifter.

- ① Presser foot lifter button
- ② Presser foot lifter

You can raise the presser foot about 6 mm (1/4") higher than the normal up position by exerting more pressure when lifting the presser foot lifter or knee lifter.

This helps you to place layers of thick fabrics or embroidery hoops under the foot.

### NOTE:

The presser foot cannot be lowered with the presser foot lifter if the foot was raised with the presser foot lifter button.

The knee lifter cannot be used in the embroidery mode.

## 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 knee lifter can be adjusted to fit your knee. 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

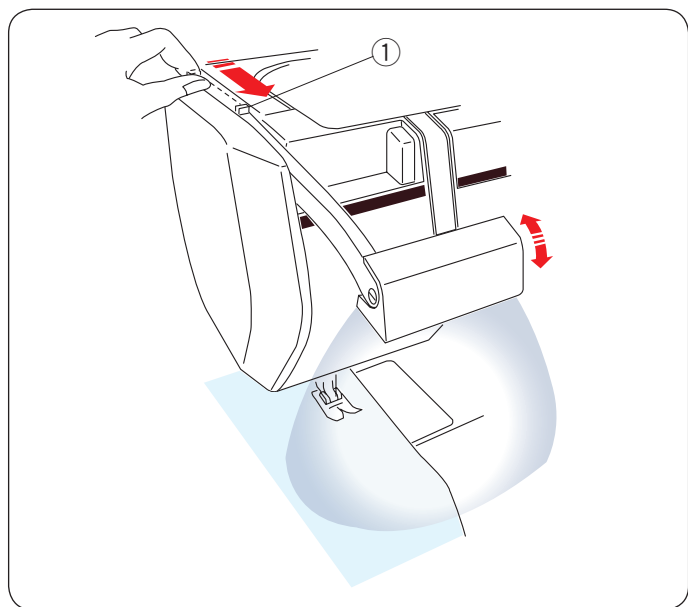
### Using the knee lifter

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

The knee lifter controls zigzag width of the variable zigzag (refer to page 85).

### NOTE:

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



## Retractable Sewing Light

In addition to the twin LED lights, the machine is equipped with a retractable light.

Slide the arm toward you by pulling the small tab on the arm. The light will turn on automatically.

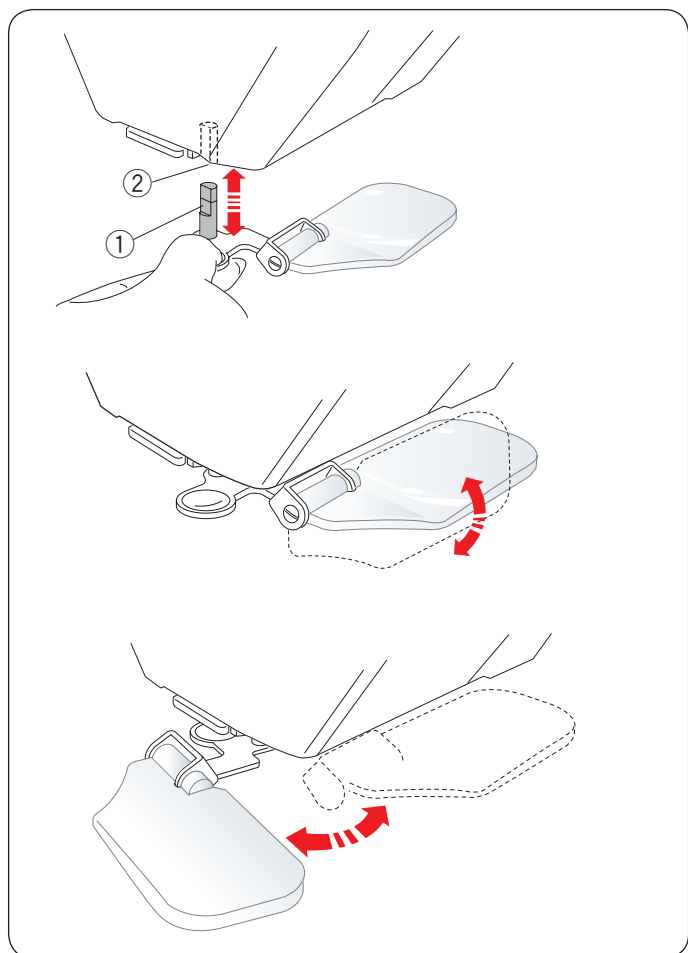
Adjust the angle of the light to illuminate the working area.

① Small tab

Push back the arm to turn the light off and store it.

### **CAUTION:**

Do not hit or exert excessive force to the arm of the retractable sewing light to avoid damage when it is extended.



## Optic Magnifier

Use the magnifier to get a larger view of the needle area.

### Attaching the magnifier

Hold the knob with your fingers and insert the pin into the hole in the bottom of the face plate.

Push the magnifier up until it snaps to fit.

Adjust the angle to get the best view.

① Pin

② Hole

### Removing the magnifier

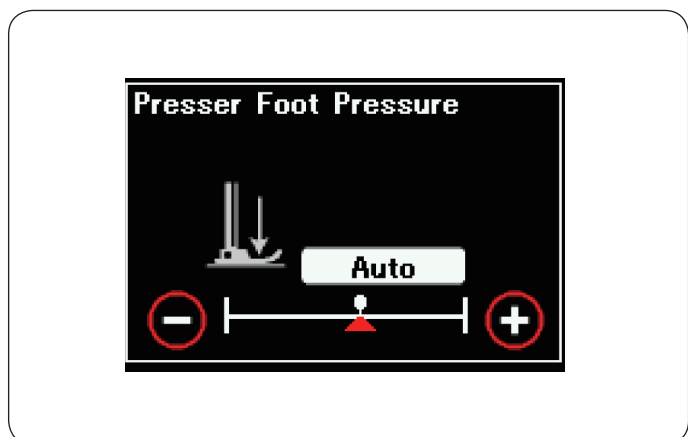
If the magnifier is not in use, turn it to the left out of sight or pull it down to remove.

### **CAUTION:**

Do not use or leave the magnifier in the direct sunlight, otherwise it may cause a fire or burn.

Do not look at the sun, it can damage your eyes.

Do not hit or exert excessive force to the optic magnifier to avoid damaging it when it is attached.

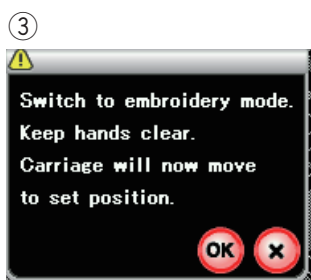
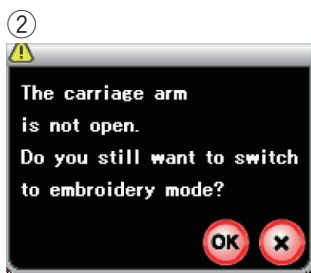


## Automatic Foot Pressure Control

The presser foot pressure is automatically optimized for each stitch pattern.

However you can adjust the foot pressure to suit your specific sewing need in the setting mode (refer to page 92).





## Mode Selection

When you turn the power switch on, the visual touch screen will show the ordinary sewing mode after a few seconds.

The machine is set for straight stitch sewing.

### NOTE:

After turning on the power, it takes several seconds to display the opening window.  
(This is the required boot up procedure.)

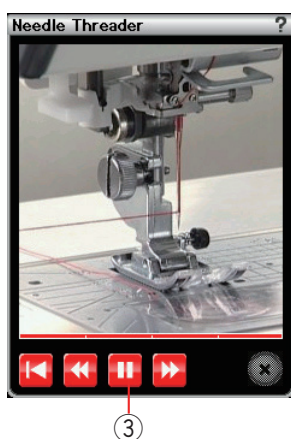
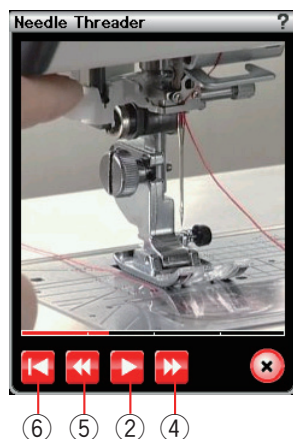
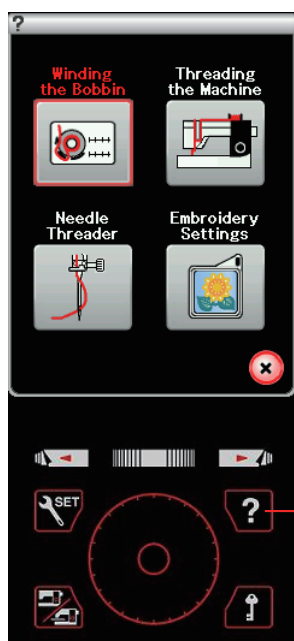
To switch to the embroidery mode, first turn the power switch off then attach the embroidery unit (refer to pages 96-97).

Turn the power switch on and press the mode switch key.

① Mode switch key

A confirmation message ② will appear. Do not press the OK key or X key. Open the carriage arm and a warning message ③ will appear. Press the OK key to switch to the embroidery mode and the carriage will move to the starting position.

To switch back to the ordinary sewing mode, press the mode switch key and follow the instructions in the confirmation message.



## On-screen Help Movie

Press the help key to open the help movie menu.

You can view movies on 4 topics of essential operations of the machine.

① Help key

Select the help topic by pressing the thumbnail and the movie window will open.

Press the play key to start the movie and press the pause key to stop playing.

You can search the movie in forward or reverse direction by pressing the fast forward key or rewind key.

② Play key

③ Pause key

④ Fast forward key

⑤ Rewind key

Press the return key to return to the beginning of the movie.

⑥ Return key

Press the X key to close the current window.



## ORDINARY SEWING MODE

### Ordinary Stitch Patterns

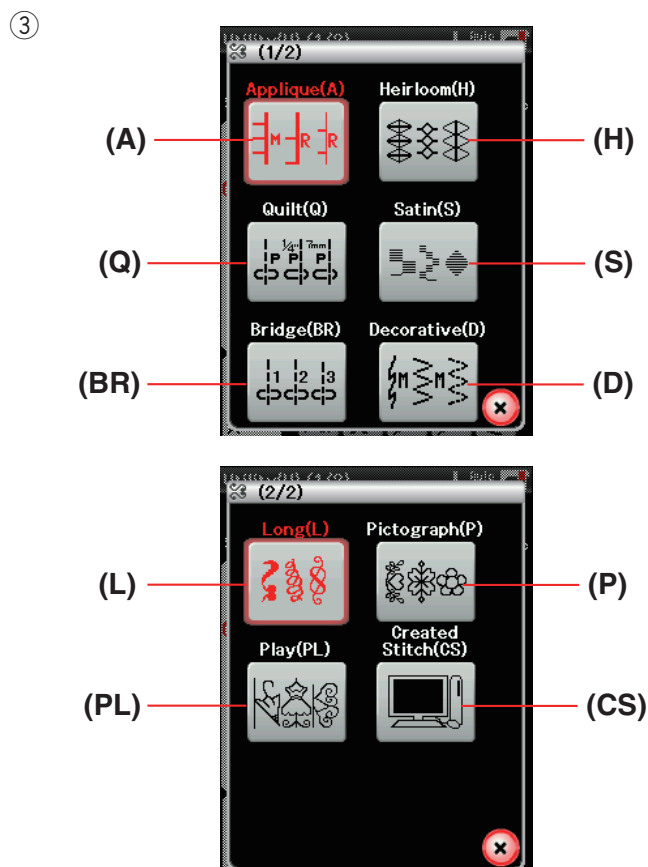
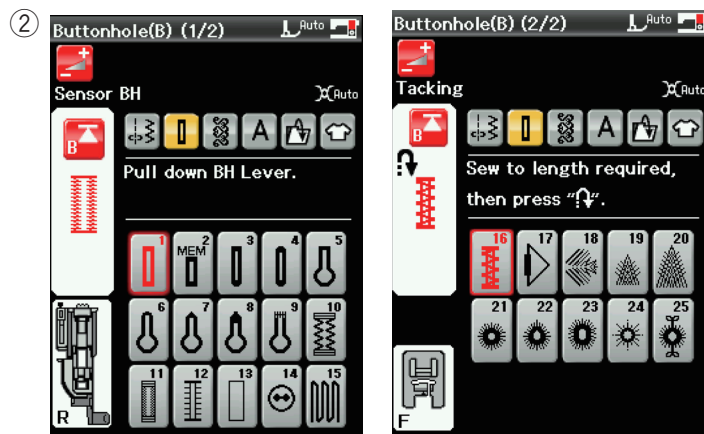
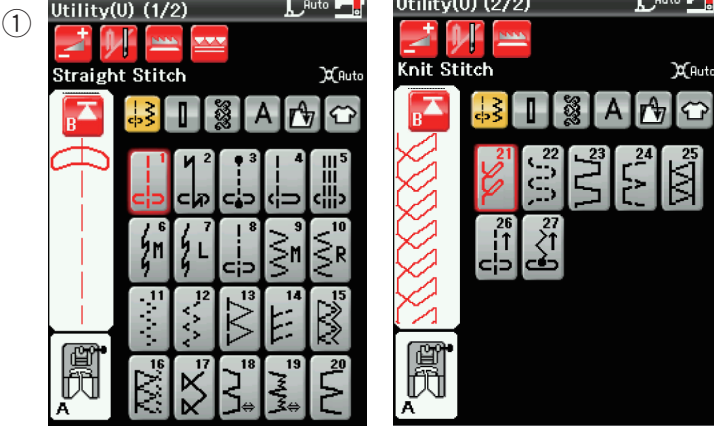
In the ordinary sewing mode, there are 6 categories available.

1. Utility stitches (U)
  2. Buttonhole and specialty stitches (B)
  3. Decorative and quilting stitches
  4. Monogramming
  5. Open file
  6. Sewing applications
- Press one of the icon keys to select the category.

#### NOTE:

In this manual, the pattern number refers to the initial for each group or category.

For example pattern #15 in the buttonholes and specialty stitches is referred to as pattern B15.



#### ① Utility stitches (U)

You can select utility stitches for seaming, overcasting, blind hemming, basting and shell tucking.

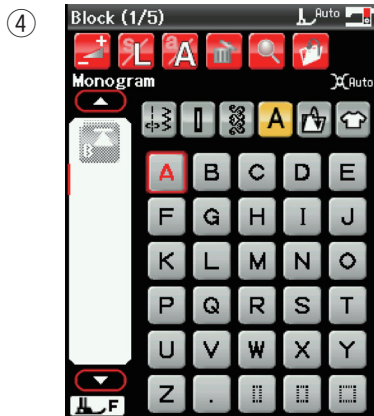
#### ② Buttonholes and specialty stitches (B)

There are various styles of buttonholes, button sewing stitches, darning, tacking, fly stitches and eyelets available in this category.

#### ③ Decorative and quilting stitches

This category consists of the following 10 groups.

- Applique stitches (A)
- Heirloom stitches (H)
- Quilting stitches (Q)
- Satin stitches (S)
- Bridge stitches (BR)
- Decorative stitches (D)
- Long stitches (L)
- Pictograph stitches (P)
- Play stitches (PL)
- Created stitches (CS)



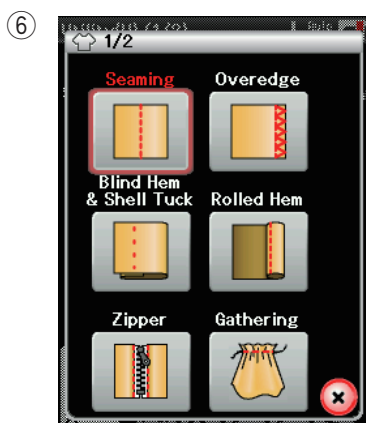
#### ④ Monogramming

You can program lettering as well as a combination of characters and symbol patterns.



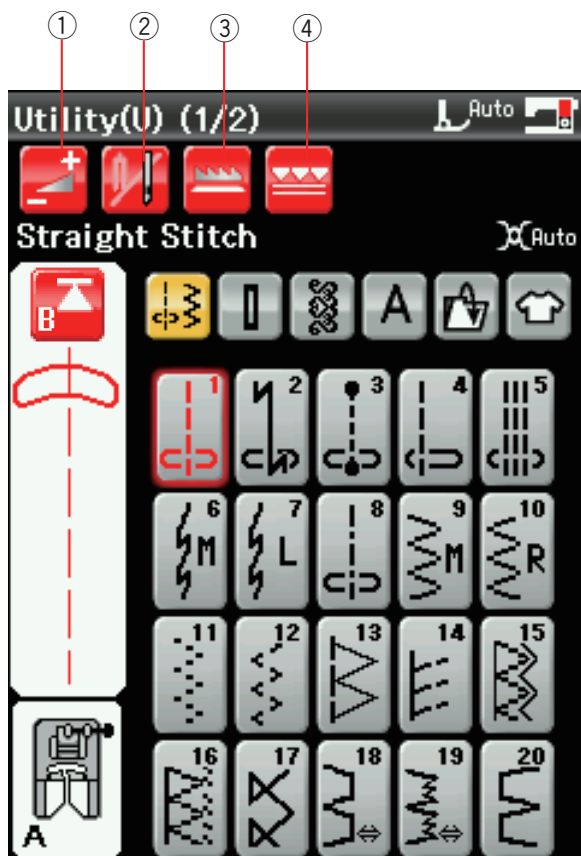
#### ⑤ Open file

You can open the pattern combinations saved in the machine's internal memory and USB flash drive.



#### ⑥ Sewing applications

You can select the appropriate stitch for a specific sewing project and fabric type from the designated applications in this category.



## Function Keys in Ordinary Sewing Mode

### ① Adjust key

Press this key to open the manual setting window. You can adjust the settings of the stitch width, stitch length, thread tension, cloth guide position, foot height for pivoting etc. (refer to pages 35-37).

### ② Twin needle key

Press this key to set the stitch width for twin needle sewing (refer to page 59). The key will be grayed out if the selected pattern is not suitable for twin needle sewing.

### ③ Drop feed key

This key is available only with the utility stitch group. Press this key to drop or raise the feed dog.

### ④ Dual feed key

Press this key for dual feed sewing (refer to page 32).



### ⑤ Program key

Press this key to program a pattern combination. When this key is pressed, the cursor keys, delete key, memory check key and save file key will appear.

### ⑥ Vertical mirror image key

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

### ⑦ Horizontal mirror image key

Press this key to sew a horizontal mirror image of the selected pattern. The key is grayed out if the selected pattern cannot be turned over.

### ⑧ Delete key

Press this key to delete the pattern from the pattern combination.

### ⑨ Memory check key

Press this key to view the stitch image of the entire pattern combination.

### ⑩ Save file key

Press this key to save the pattern combination as a file.

⑪ **Letter size key**

Press this key to select the letter size for monograms.

⑫ **Letter case key**

Press this key to select upper case or lower case for monograms.

⑬ **Cursor keys**

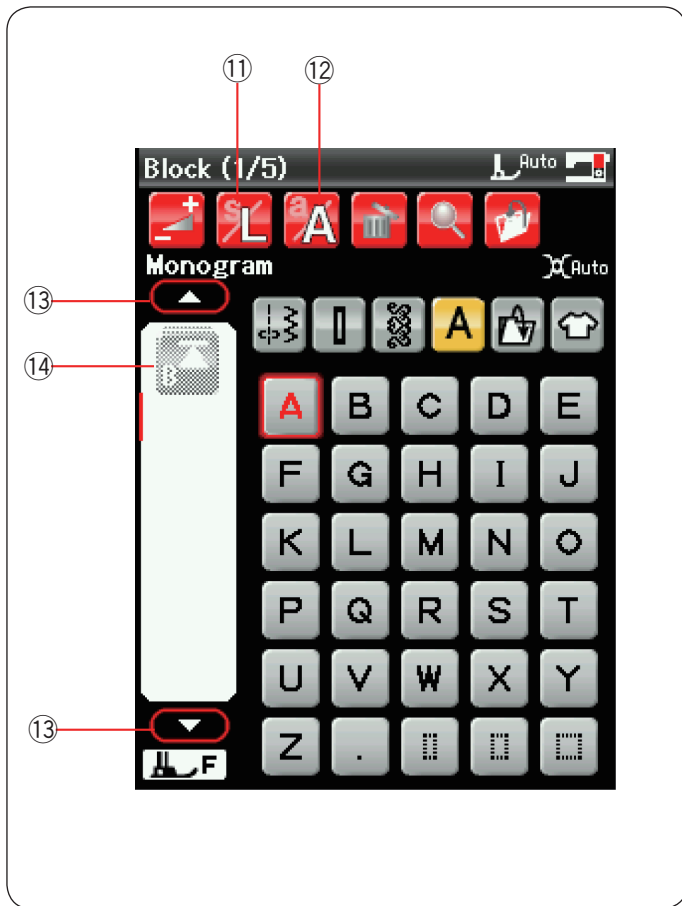
Press one of the cursor keys to move the cursor up or down.

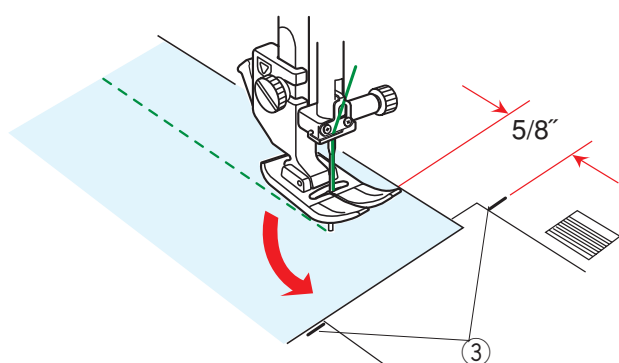
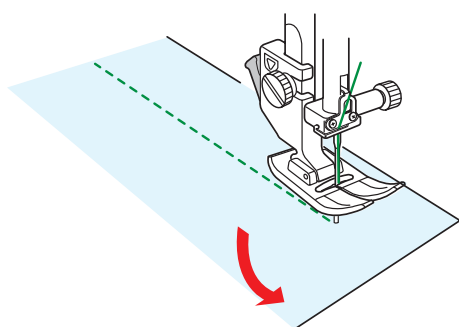
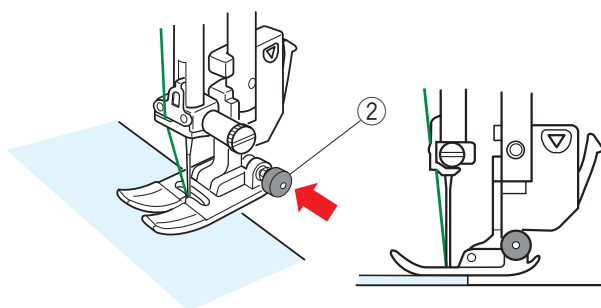
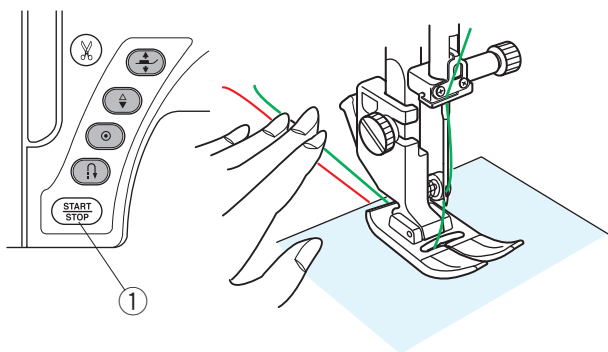
⑭ **Startover key**

This key will appear when you stop sewing.

If you stop sewing in the middle of a stitch pattern and wish to sew the pattern again from the beginning, press this key before you start sewing.

Press this key once to startover from the beginning of the current pattern, or press this key twice to startover from the beginning of the first pattern of the combination (refer to page 62).





## Utility Stitches

### Straight stitches

Patterns U1 to U5 are straight stitches for seaming. Press the pattern selection key for the desired stitch.

### Starting to sew

Place the fabric next to a seam guide line on the needle plate. Lower the needle to the point where you want to start.

Pull the needle and bobbin threads towards the rear and lower the foot.

Press the start/stop button or foot control to start sewing. Gently guide the fabric along the seam guide line letting the fabric go naturally.

- ① Start/stop button

### 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 at the extreme edge of thick fabrics or for sewing across a hem.

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

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

After a few stitches, the black button is released automatically.

- ② Black button

### Changing sewing direction

Stop the machine and press the presser foot lifter button to raise the presser foot.

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

Start sewing in a new direction.

### NOTE:

If you turn on the foot up option in the adjustment window, the presser foot will automatically go up when the machine stops (refer to page 36).

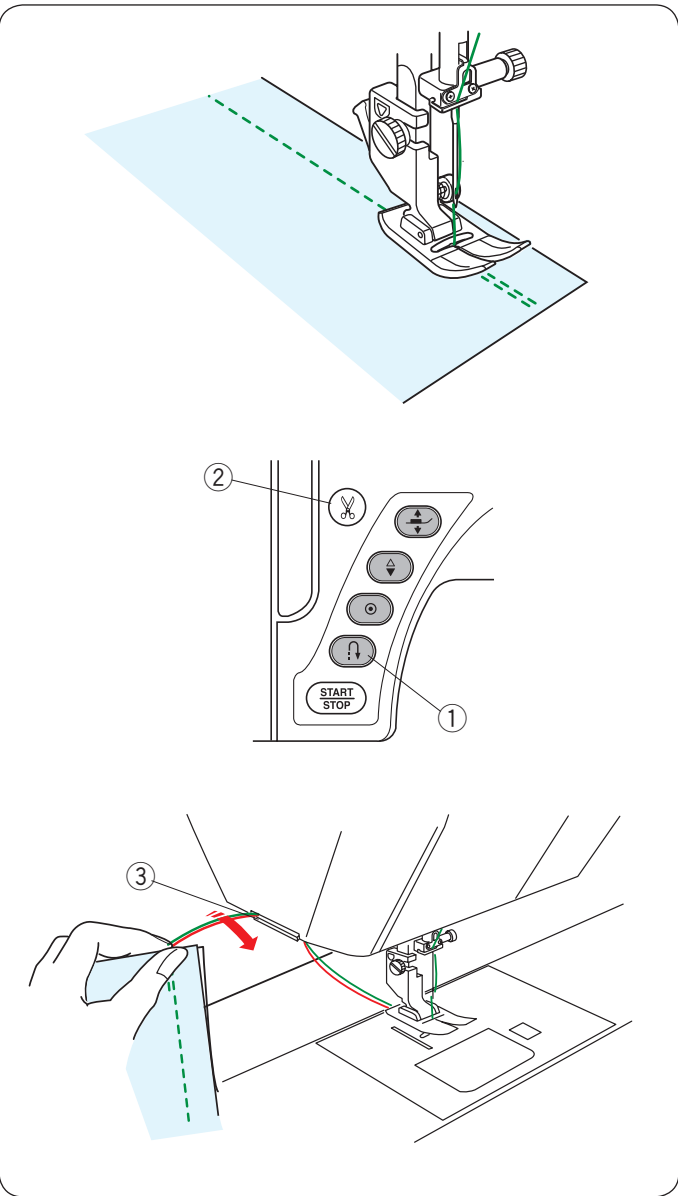
### Turning a square corner

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.

Press the foot lifter button and turn the fabric 90 degrees. Start sewing in the new direction.

- ③ Cornering guide



### Securing seams

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 the reverse button.

- ① Reverse button

Press the reverse button once when sewing the lock-a-matic stitch (pattern U2) or locking stitch (pattern U3) and the machine will lock the stitches off and stop automatically.

### Cutting threads

To cut the threads after finishing sewing, press the thread cutter button. The needle bar and presser foot will automatically go up after trimming the threads.

- ② Thread cutter button

#### NOTES:

The thread cutter button does not function when the presser foot is up.

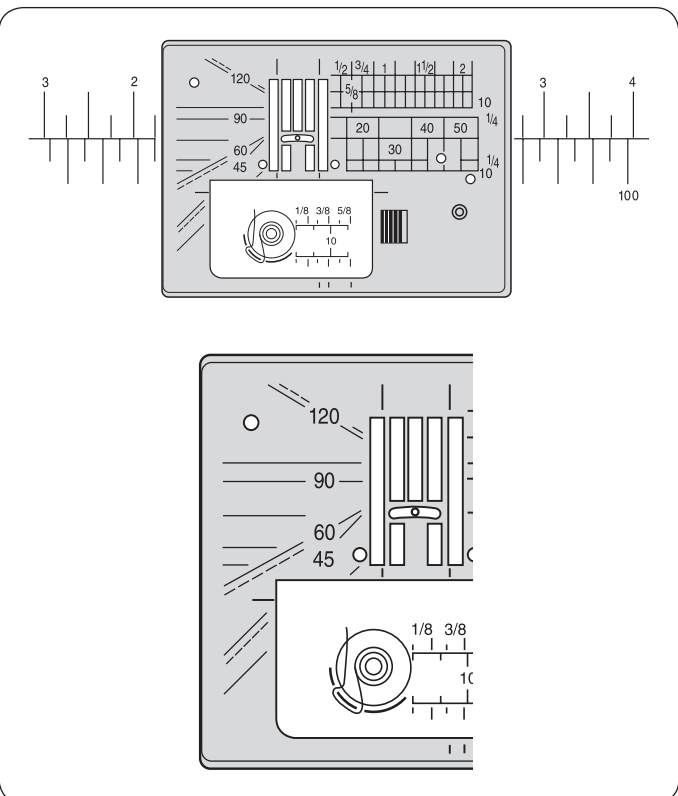
Use the thread cutter on the face plate to cut specialized or thick threads if the auto thread cutter does not work well.

To use the thread cutter on the face plate, remove the fabric and draw it to the back.

Pull the threads up and slip them between the thread cutter and face plate from behind.

Pull the threads toward you to cut.

- ③ Thread cutter



### Using the seam guide lines

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

#### NOTE:

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

### Angle scale on the needle plate

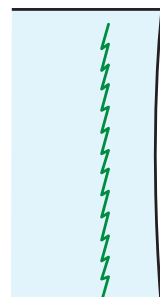
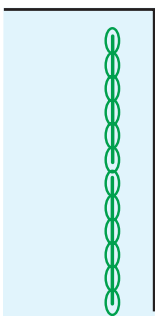
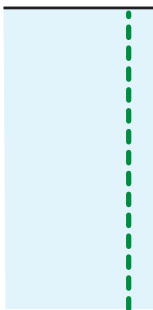
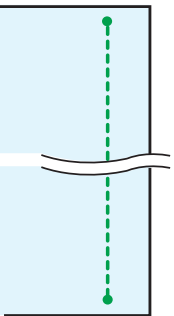
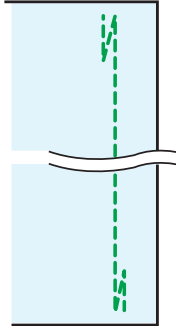
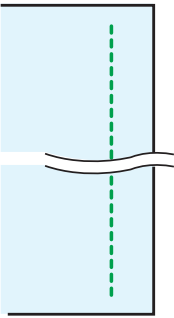
The angle scales are marked at 45, 60, 90 and 120 degrees.

Use the broken lines when piecing the patchwork pieces with the 1/4" seam foot O.

## Variety of straight stitches

### U1 Straight stitch in center needle position

Use this stitch for seaming, rolled hemming etc.



### U2 Lock-a-matic stitch

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.

### U3 Locking stitch

This unique stitch is used where an invisible locking stitch is needed.

The machine will sew several locking stitches at the beginning 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.

### U4 Straight stitch in left needle position

Use this stitch to seam fabrics close to the edge.

### U5 Triple stretch stitch

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.

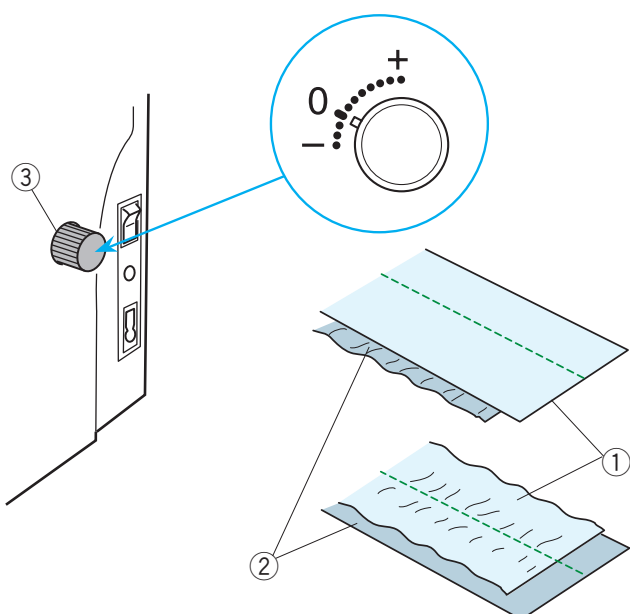
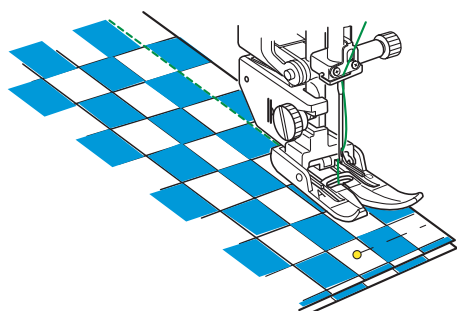
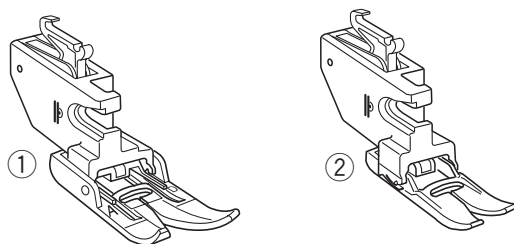
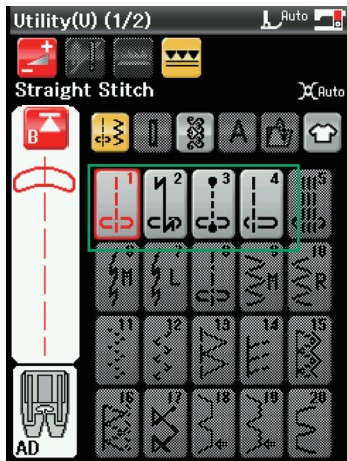
Also use it when constructing items such as backpacks for extra strength.

### U6, U7 Stretch stitches

These are narrow stretch stitches designed to eliminate puckering on knit fabrics and bias seams, while permitting the seam to be pressed completely open flat.

Use U7 for seaming fine fabrics or stretch fabrics.





## Sewing with the dual feed device

Patterns U1 to U4 and Q1 to Q7 can be sewn with the dual feed device.

The dual feed device is extremely effective when sewing hard to feed materials such as PVC coated fabric or leather.

It also eliminates layer slippage.

The following 4 types of dual feed feet are available in the standard accessories.

### ① Dual feed foot AD (twin):

For regular sewing with dual feed

### ② Dual feed foot VD (single):

For sewing narrow areas with dual feed

### ③ Dual feed quilt piecing foot OD (twin):

For 1/4" seam piecing with dual feed

### ④ Dual feed zipper foot ED (single):

For zipper application with dual feed

Attach the desired dual feed foot to the respective dual feed holder and attach them to the machine (refer to page 19).

Press the dual feed key and select the desired pattern.

### NOTE:

The patterns not suitable for dual feed sewing are grayed out.

The dual feed key will gray out or not be indicated if you selected a pattern not suitable for dual feed sewing.

Place the fabric under the foot and lower the needle at the point where you wish to start.

Start sewing at medium speed.

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

Remove the pins as you sew.

### Dual feed balancing dial

The dual feed balancing dial should be set at "0", however you may need to adjust the dual feed balance depending on the type of fabric.

Check the feed balance by test sewing on a scrap piece of the fabric you intend to use.

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

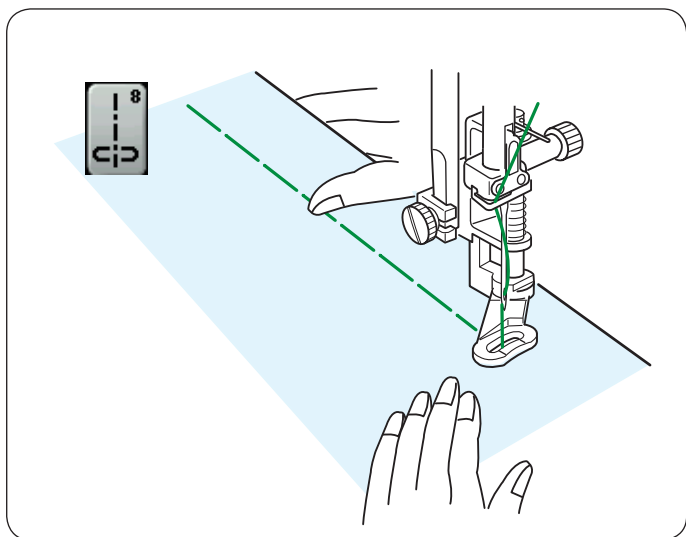
(B): If the upper layer puckers, turn the dual feed balancing dial toward "-".

① Upper layer

② Lower layer

③ Dual feed balancing dial





### U8 Basting

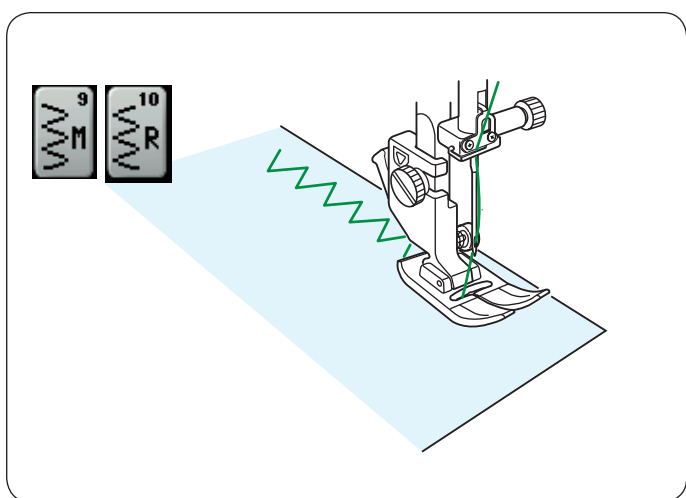
See page 78 for sewing instructions.

## Zigzag stitches

### U9, U10 Zigzag stitches

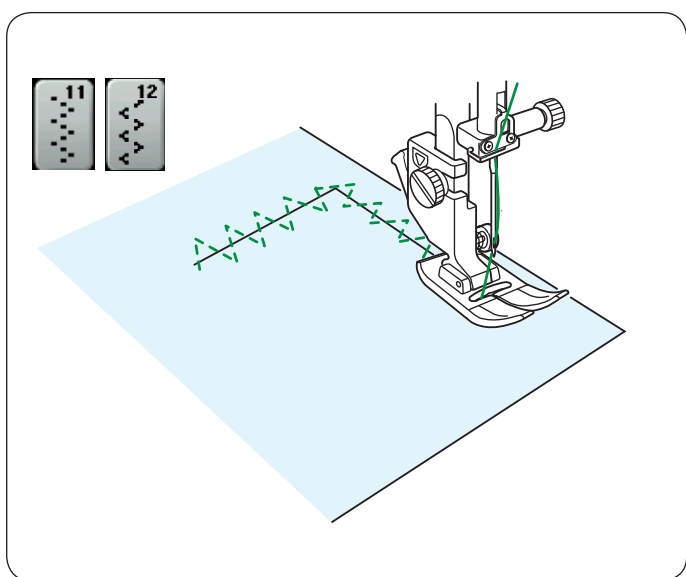
Zigzag stitches are used for various sewing needs including overcasting. These stitches can be used on most woven fabrics.

A dense zigzag stitch can also be used for applique.



### U11, U12 Multiple zigzag stitches

These stitches are used for mending tears.



## Variety of overcasting stitches

### U11, U12 Multiple zigzag stitch: Zigzag foot A

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 off the seam allowance closer to the stitches.

### U13 Overcasting stitch: Overedge foot M

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 sew.

### U14 Knit stitch: Overedge foot M

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

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

For better results, use the zigzag foot A and sew leaving an adequate seam allowance.

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

### U15 Double overedge stitch: Overedge foot M

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

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

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

### U16 Overlock stitch: Overedge foot M

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

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

The stitch width cannot be adjusted.

### U17 Overlock stitch: Overedge foot M

This stitch is used for overcasting knits and stretch fabrics. Place the fabric edge next to the guide of the foot and sew.



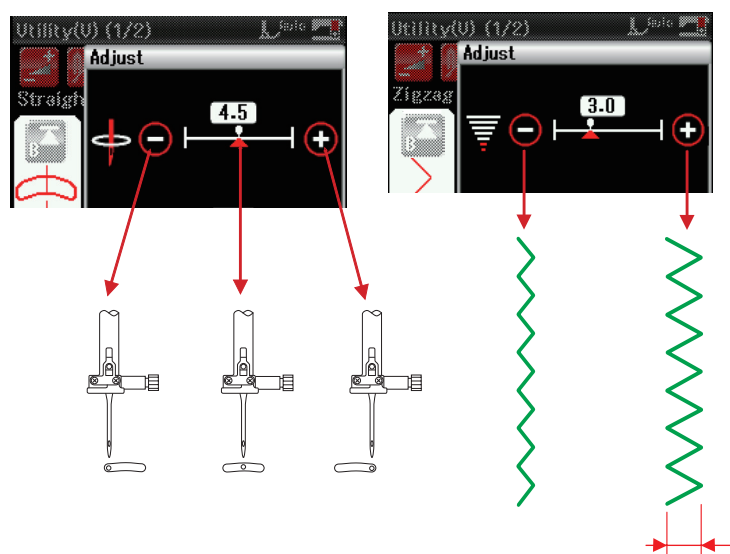
## Manual Stitch Settings

When you press the adjust key, the screen shows the manual setting window.

### ① Adjust key

You can alter the stitch width (or needle drop position of the straight stitches), stitch length and needle thread tension.

Press the “+” or “-” key beside the setting you wish to change.



### Altering needle drop position (straight stitches)

Press the “+” key to move the needle drop position to the right.

Press the “-” key to move the needle drop position to the left.

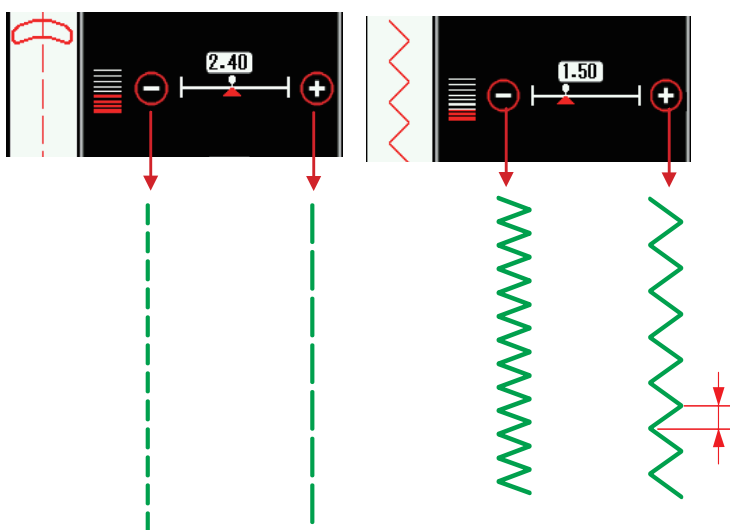
### Altering stitch width

Press the “+” key to increase the stitch width.

Press the “-” key to decrease the stitch width.

#### NOTE:

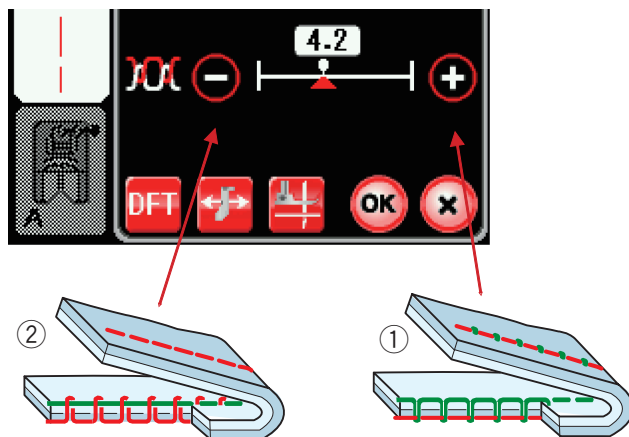
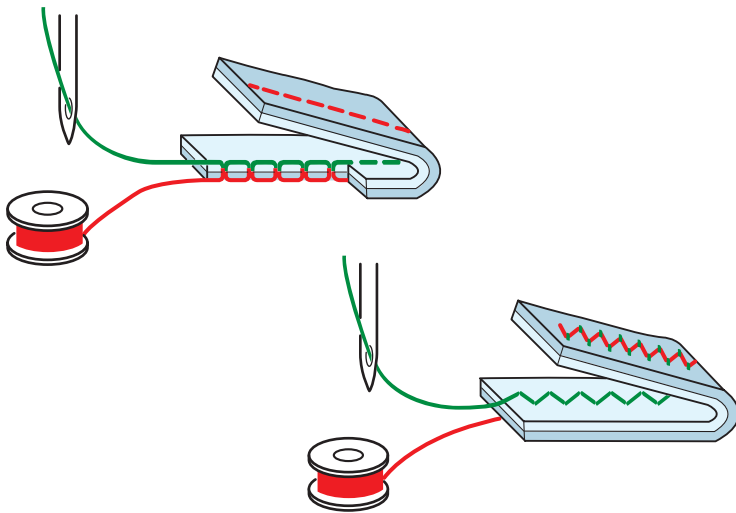
The adjustable range of patterns U6, U7, U9-U12 and U27 is 0.0 to 7.0.



### Altering stitch length

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

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



### Adjusting thread tension

This machine is equipped with automatic thread tension control, which optimizes the tension balance for the selected stitch pattern.

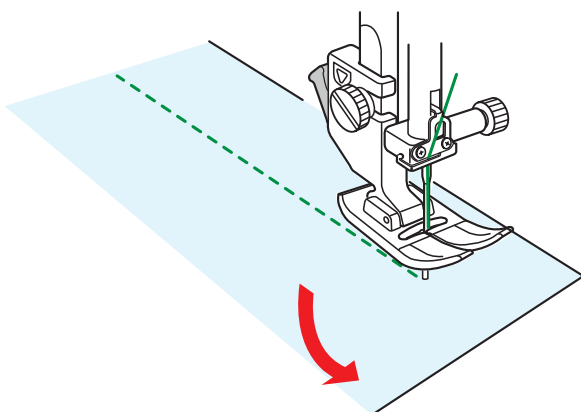
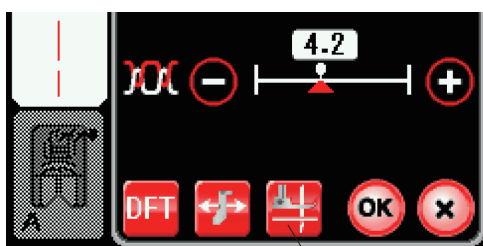
### Balanced thread tension

**Straight stitch:** Both needle and bobbin threads interlock between the layers.

**Zigzag stitch:** The needle thread appears slightly on the wrong side of the fabric.

However you may need to manually adjust the tension balance depending on the sewing conditions, or you can fine-tune the thread tension to suit your preference.

- ① Press the “+” key if the tension is too loose.
- ② Press the “-” key if the tension is too tight.



### Foot up for pivoting

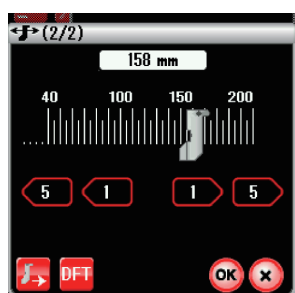
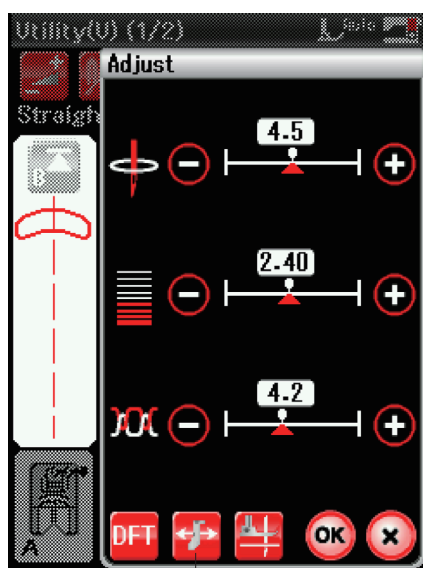
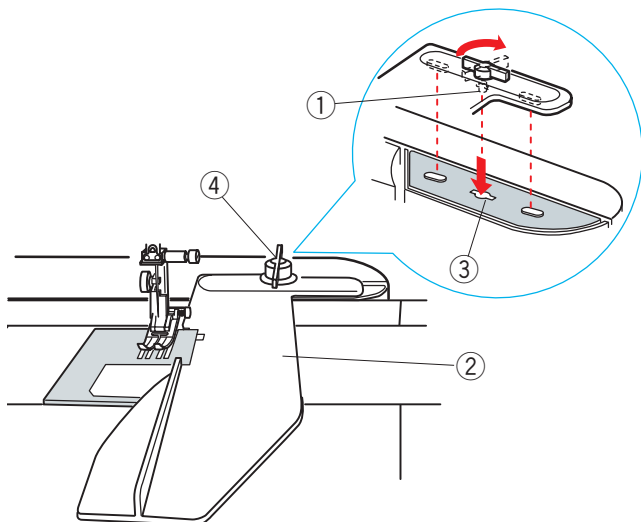
If this option is turned on, the presser foot will automatically go up when the machine stops. This feature is very useful when turning corners.

Press the foot-up key to turn this option on or off.

- ① Foot-up key

### NOTE:

Height of the foot can be altered in the ordinary sewing setting mode (refer to page 92).



## Cloth guide



### CAUTION:

Always leave sufficient space to the left of the machine when using the cloth guide.

Do not use the cloth guide when the buttonhole foot R is attached.

The extension table cannot be opened when the cloth guide is in use.

### Attaching the cloth guide

Insert the pin on the cloth guide into the carriage hole. Turn the attaching knob clockwise to secure the cloth guide.

- ① Pin
- ② Cloth Guide
- ③ Carriage Hole
- ④ Attaching knob

### Setting the cloth guide position

Press the adjust key to open the manual setting window. Press the cloth guide key.

- ⑤ Cloth guide key

The visual touch screen will show a warning message. Press the **OK** key.

The cloth guide adjustment window will open.

Press the **1 0.1** or **0.1 1** key to move the cloth guide to the desired position.

The cloth guide will move the distance indicated on the key.

The cloth guide position is indicated on the scale bar and the distance from the center needle drop position is indicated in millimeters or inches.

Press the **OK** key to register the setting and close the cloth guide adjustment window.

### NOTE:

The machine will not run if the cloth guide adjustment window is open.

Press the default key to return the cloth guide to the default position (15 mm or 5/8").

- ⑥ Default key

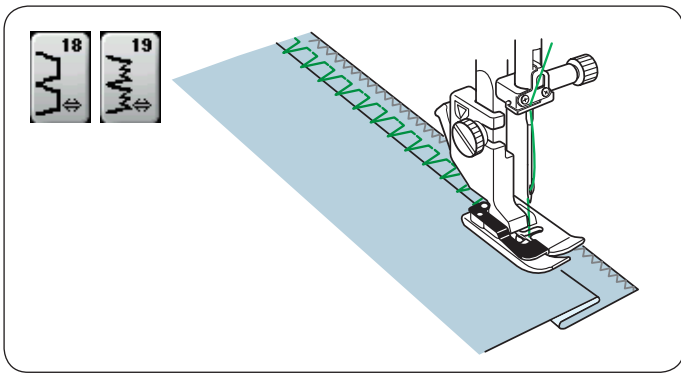
Make sure to return the carriage to the stored position by pressing the cloth guide storage key and remove the cloth guide after you finish sewing.

- ⑦ Cloth guide storage key

## Other utility stitches

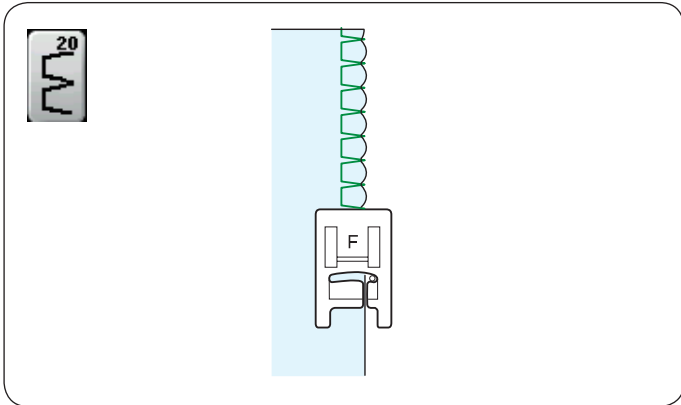
### U18, U19 Blind hemming

See page 70 for sewing instructions.



### U20 Shell tuck

See page 71 for sewing instructions.



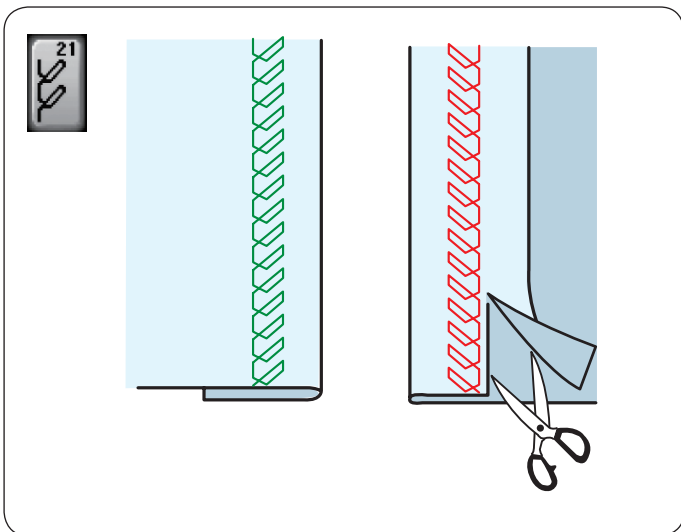
### U21 Visible hemming

Select pattern U21.

Fold and press a single hem. Place the fabric with the right side up.

Sew along the fold at the desired depth.

Trim the excess on the wrong side.

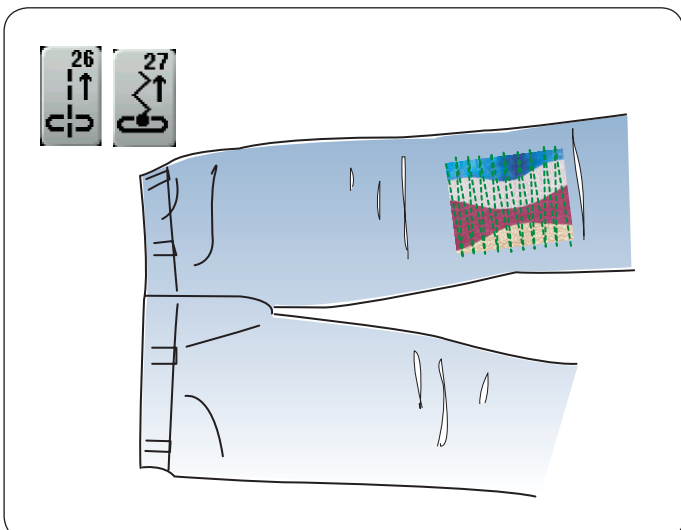


### U26, U27 Backward stitches

U26 and U27 are backward stitches.

Use these stitches if it is hard to guide the fabric while pressing the reverse button.

The machine sews in reverse without pressing the reverse button so that you can guide the fabric with both hands.



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## Buttonholes and Specialty Stitches

### Variety of buttonholes



#### **B1 Sensor (Square) 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.



#### **B2 Auto (Square) buttonhole**

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



#### **B3 Round end buttonhole**

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



#### **B4 Fine fabric buttonhole**

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



#### **B5 Keyhole buttonhole**

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



#### **B6 Rounded keyhole buttonhole**

This buttonhole is used for thicker buttons on medium weight fabrics.



#### **B7 Tailored buttonhole**

This durable buttonhole is used with thick buttons and heavy fabrics.



#### **B8 Keyhole buttonhole (tapered reinforced end)**

This buttonhole is used for tailored clothing, woven cloth etc.



#### **B9 Keyhole buttonhole (heavy reinforced end)**

This buttonhole is used for tailored clothing, jackets, particularly men's wear, woven cloth etc.



#### **B10 Stretch buttonhole**

This buttonhole is suitable for stretch fabrics. It can also be used as a decorative buttonhole.



#### **B11 Knit buttonhole**

This buttonhole is suitable for knit fabrics. It can also be used as a decorative buttonhole.



#### **B12 Antique buttonhole**

This buttonhole looks like the heirloom stitch. It has an attractive handmade appearance and makes a nice decorative buttonhole.



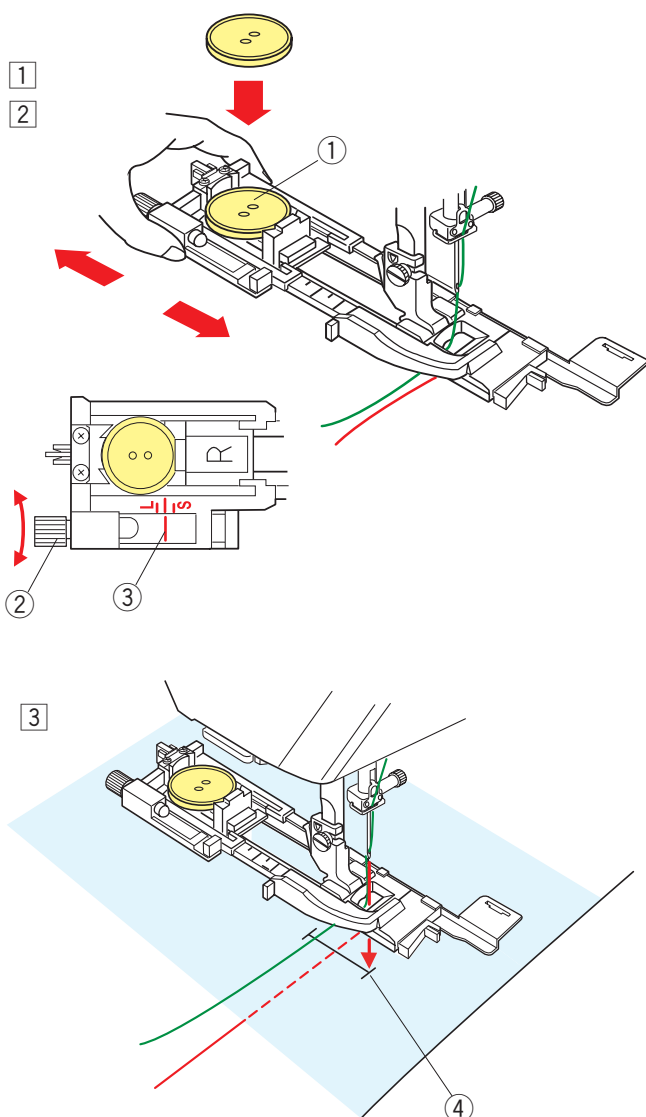
#### **B13 Welted buttonhole**

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

#### **NOTE:**

B3-B13 are sensor buttonholes and the sewing procedure is the same as for B1.





## B1 Sensor (Square) buttonhole

- 1 Pull open the button holder of the automatic buttonhole foot R, and place the button in the button holder. Push it tightly against the button.

① Button holder

### NOTE:

Use the blue needle for sewing buttonholes on fine to medium fabrics.

- 2 Attach the buttonhole foot. Raise the presser foot. Insert a corner of fabric under the foot. Press the needle up/down button twice. Remove the fabric to the left to draw the threads to the left under the foot.

### NOTES:

The buttonhole size is automatically set by placing a button into the button holder on the foot.

The button holder of the foot takes a button size of up to 2.5 cm (1") in diameter.

Make a test buttonhole on an extra piece of the fabric. Check the length of the test buttonhole, and adjust the buttonhole length if necessary by turning the adjusting screw on the buttonhole foot.

To increase the buttonhole length, turn the adjusting screw to move the marker toward "L".

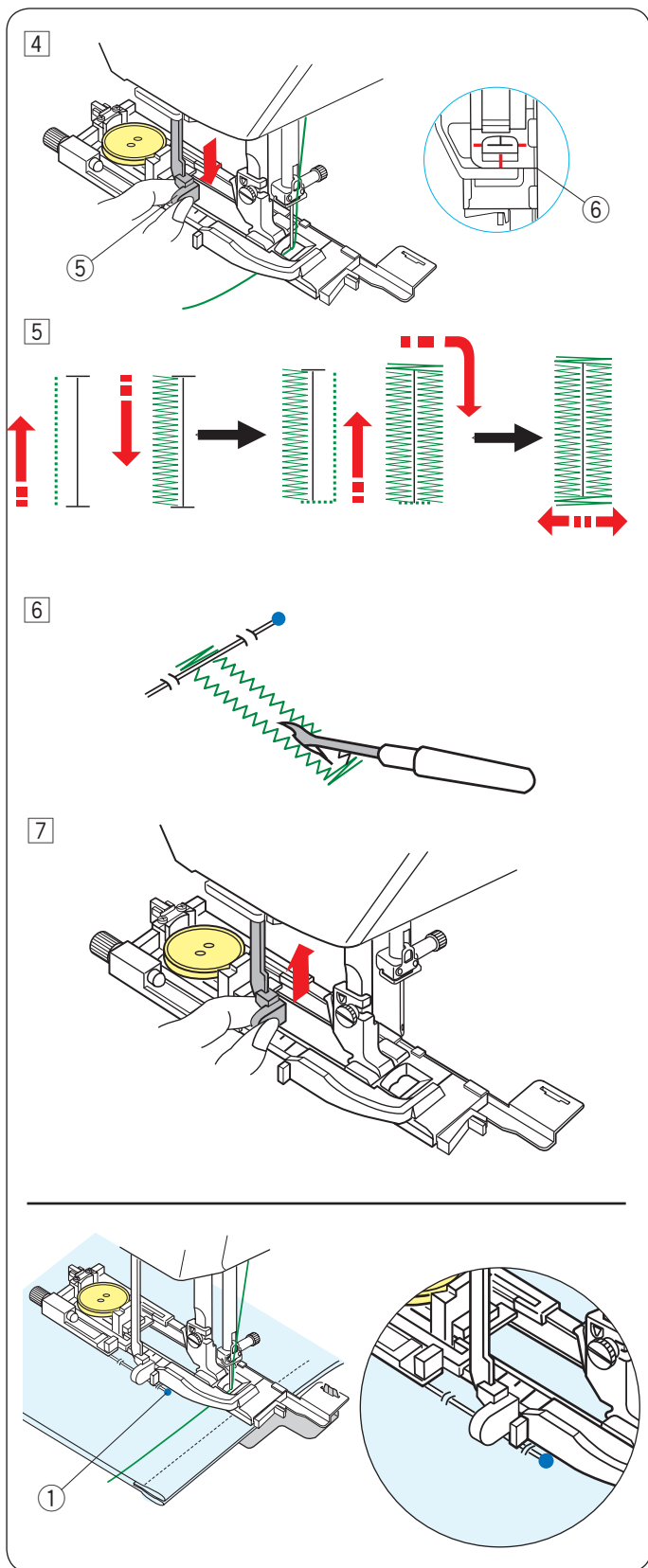
To decrease the buttonhole length, turn the adjusting screw to move the marker toward "S".

② Adjusting screw

③ Marker

- 3 Mark the buttonhole position on the fabric and place it under the buttonhole foot. Lower the needle at the starting point by turning the hand wheel.

④ Starting point



- 4 Lower the buttonhole foot and pull down the buttonhole lever as far as it will go. Start sewing while pulling the needle thread lightly to the left. After sewing a few stitches, free the thread and continue sewing.
- 5 Buttonhole lever

**NOTE:**

A warning message will appear and the machine will stop automatically if you start the machine without pulling down the buttonhole lever. Press the X key, pull down the buttonhole lever and start again. Make sure there is no gap between the slider and front stopper, otherwise the buttonhole will be out of position or the left and right lengths will be different.

- 6 No gap

**NOTE:**

Use the stabilizer plate when sewing thick fabrics or sewing across hems (refer to page 44).

- 5 The buttonhole is sewn automatically in the sequence shown. When the buttonhole is finished, the machine will stop automatically with the needle in the up position. Press the thread cutter button and remove the fabric.
- 6 Place a pin just below the bartack at each end to prevent accidentally cutting the threads. Cut the opening with the seam ripper. Use an eyelet puncher to open a keyhole buttonhole.
- 7 After you finish buttonhole sewing, push the buttonhole lever up as far as it will go.

Patterns B3 to B13 are sensor buttonholes and the sewing procedure is the same as for buttonhole B1.

However, the sewing sequence varies depending on the type of the buttonhole.

**NOTE:**

Use the stabilizer plate when sewing thick fabrics or sewing across hems (refer to page 44).

**NOTE:**

When sewing a buttonhole on thick fabric which has a bulky texture such as fleece, the fabric may move the BH lever and cause a deformed buttonhole. Use a pin ① to hold the fabric flat and prevent it from wrinkling while feeding the fabric. Make sure the fabric does not move the lever when sewing.

**Double layer buttonhole**

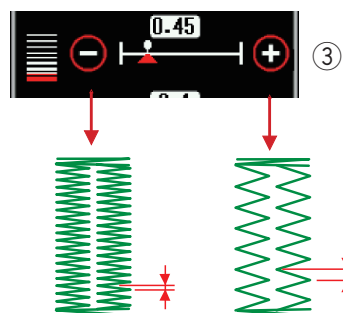
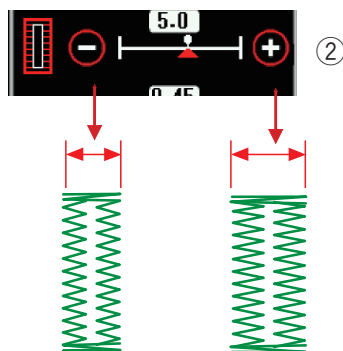
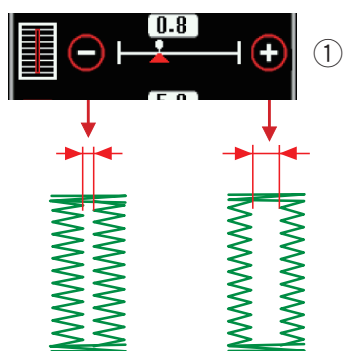
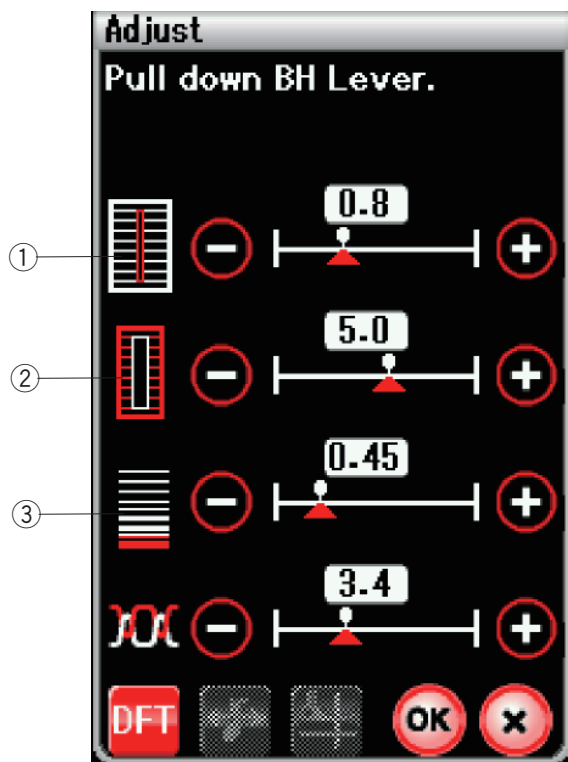
To make a sturdy buttonhole, sew another layer of buttonhole stitches over the previous stitches. After the buttonhole is finished, simply start the machine again.

Do not raise the foot or buttonhole lever.

**NOTE:**

This function is disabled if Thread Cut after Auto-Lock option is turned on in the ordinary sewing setting mode.





## Manual settings

Press the adjust key and the manual setting window will open.

### ① Altering buttonhole opening width

Press the “+” key to make the buttonhole opening wider.  
Press the “-” key to make the buttonhole opening narrower.

### ② Altering buttonhole width

Press the “+” key to increase the buttonhole width.  
Press the “-” key to decrease the buttonhole width.

### ③ Altering buttonhole stitch density

Press the “+” key to make the buttonhole stitches less dense.  
Press the “-” key to make the buttonhole stitches denser.

Press the OK key to register the settings.

### NOTE:

The opening width can be adjusted from 0.2 to 2.0.  
The buttonhole width can be adjusted from 2.5 to 7.0.  
The stitch density can be adjusted from 0.3 to 1.0.

## Using the Stabilizer Plate

The stabilizer plate holds and supports the fabric so it is helpful when sewing buttonholes over the hem of thick fabrics.

- 1 Insert the tab of the stabilizer plate ① into the slot ② of the buttonhole foot.

① Stabilizer plate

② Slot

- 2 Place the button on the button holder of the foot. Attach the buttonhole foot to the machine.

Insert the fabric between buttonhole foot and stabilizer plate. Press the needle up/down button twice and remove the fabric to the left to draw both needle and bobbin threads between the foot and stabilizer plate.

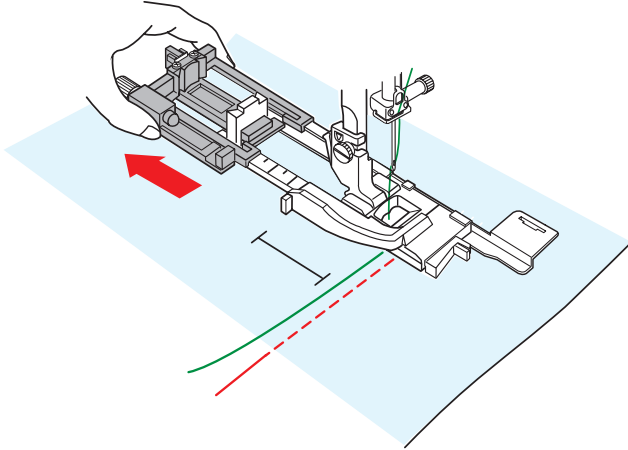
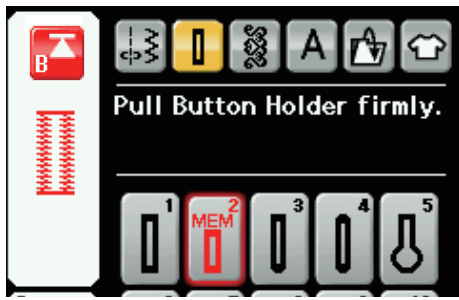
- 3 Place the fabric between the buttonhole foot and stabilizer plate. Lower the needle into the starting point by turning the hand wheel.

Lower the foot and buttonhole lever.

Start the machine.

### NOTE:

The sewing procedure is exactly the same as that for B1 sensor (square) buttonholes.



## B2 Automatic (square) buttonhole

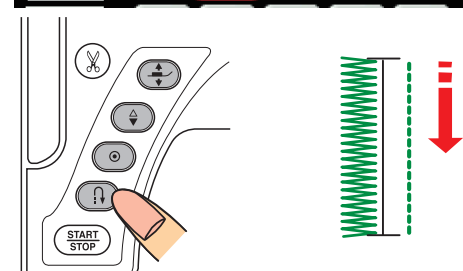
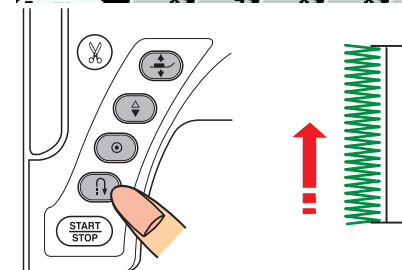
Pull the button holder all the way out.  
 Mark the buttonhole position on the fabric.  
 Place the fabric under the foot, and lower the needle at the starting point.  
 Lower the foot and start sewing while pulling the needle thread lightly to the left. After sewing a few stitches, free the thread and continue sewing.

### NOTE:

You do not need to pull down the buttonhole lever.  
 If you wish to sew a buttonhole longer than the size permitted by the automatic buttonhole foot R, use satin stitch foot F.

### NOTE:

The opening width can be adjusted from 0.2 to 2.0.  
 The buttonhole width can be adjusted from 2.5 to 7.0.  
 The stitch density can be adjusted from 0.3 to 1.0.

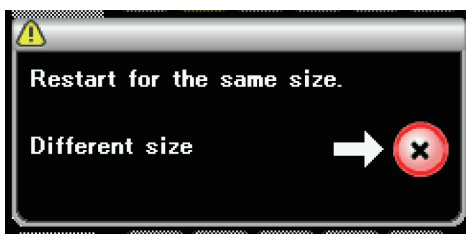
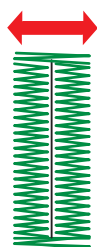
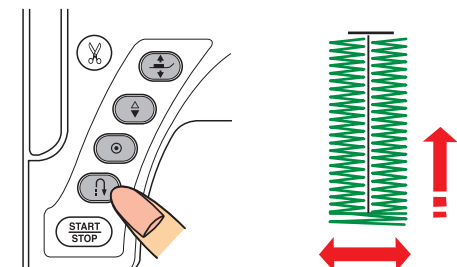
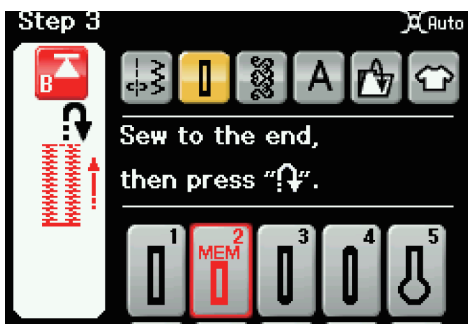


### Step-1

Sew the left side up to the required buttonhole length and stop the machine. Then press the reverse button.

### Step-2

Start sewing again, and the machine sews back with a straight stitch.  
 Stop the machine when you reach the starting point.  
 Then press the reverse button.



### Step-3

Start sewing again, and the machine sews the front bartack and right side of the buttonhole.  
Stop the machine when you reach the ending point.  
Then press the reverse button.

### Step-4

Start sewing again, and machine sews the back bartack and locking stitches then stops automatically with the needle in the up position.

When the buttonhole is finished, a message will appear.

To make the next buttonhole, position the fabric and start sewing again. The message disappears and the machine sews another buttonhole identical to the first one then stops automatically.

To sew another buttonhole in a different size press the X key.

### NOTES:

To cut the buttonhole opening, refer to the instructions on page 41.

The memorized length will be cancelled if the presser foot is raised or the startover key is pressed before buttonhole is completed.

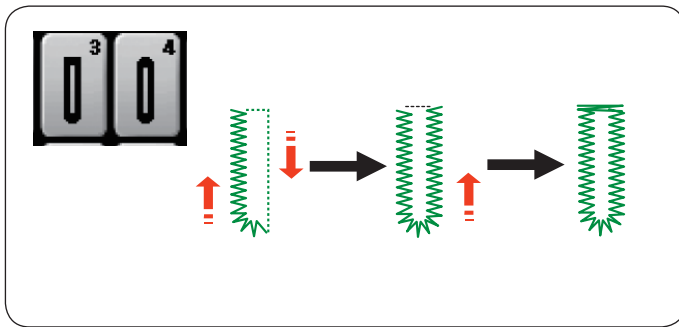
## Other buttonholes

### B3, B4 Round end and fine fabric buttonholes

The sewing procedure is the same as that of B1 square (sensor) buttonhole (refer to page 41).

#### NOTE:

The opening width can be adjusted from 0.2 to 2.0.  
The buttonhole width can be adjusted from 2.5 to 5.5.  
The stitch density can be adjusted from 0.3 to 1.0.



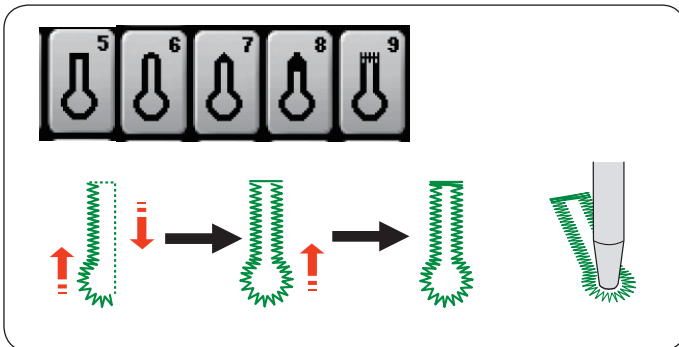
### B5-B9 Keyhole buttonholes

The sewing procedure is the same as B1 square (sensor) buttonhole (refer to page 41).

Use an eyelet punch to open the keyhole buttonhole.

#### NOTE:

The opening width can be adjusted from 0.2 to 2.0.  
The buttonhole width can be adjusted from 5.5 to 7.0.  
The stitch density can be adjusted from 0.3 to 1.0.



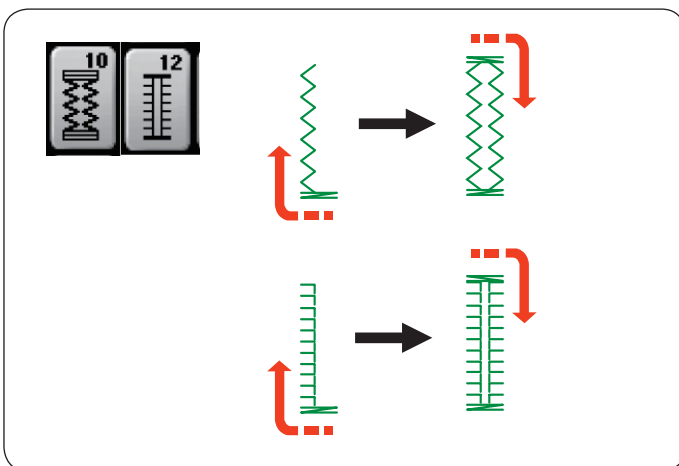
### B10, B12 Stretch and Antique buttonholes

The sewing procedure is the same as B1 square (sensor) buttonhole (refer to page 41).

The sewing steps are as shown.

#### NOTE:

The opening width can be adjusted from 0.2 to 2.0.  
The buttonhole width can be adjusted from 2.5 to 7.0.  
The stitch density can be adjusted from 0.5 to 1.0 (B10), from 0.5 to 2.5 (B12).

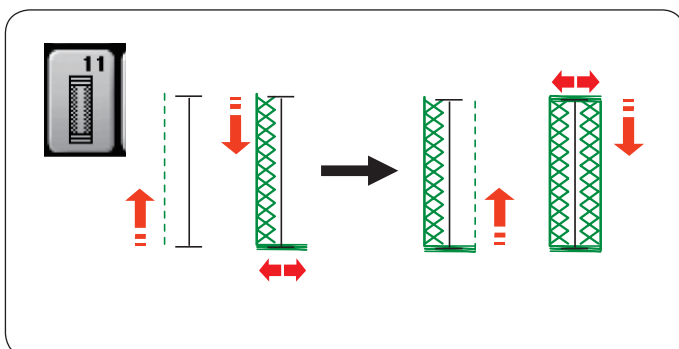


### B11 Knit buttonhole

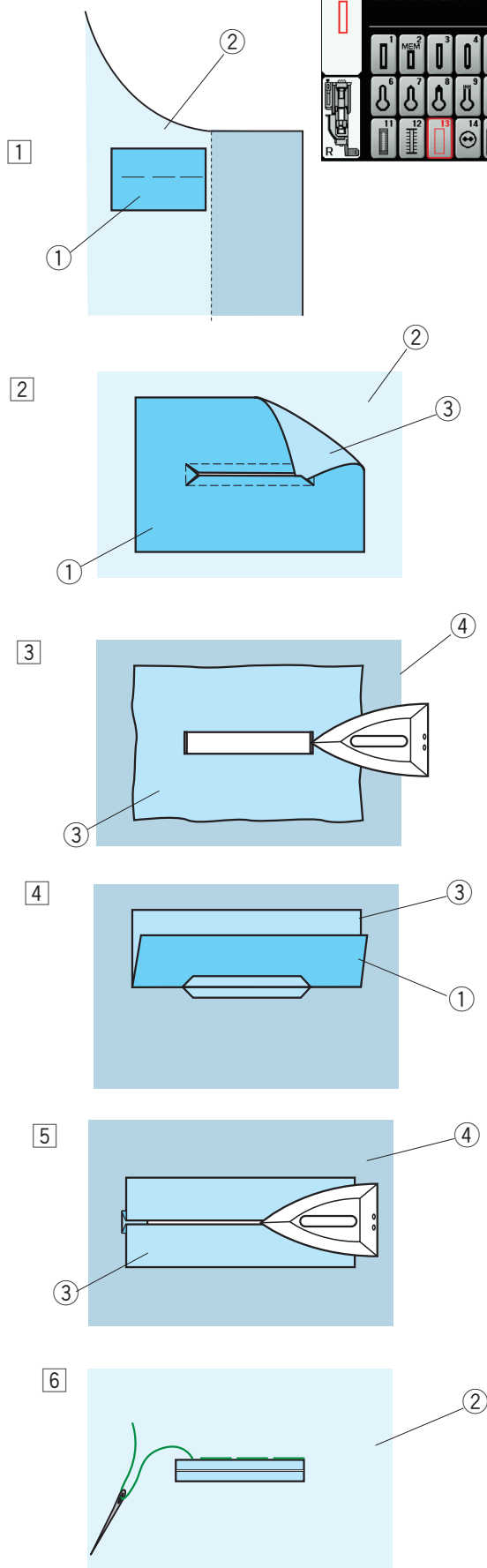
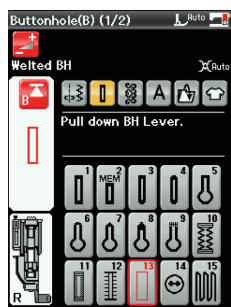
The sewing procedure is the same as B1 square (sensor) buttonhole (refer to page 41).

#### NOTE:

The opening width can be adjusted from 0.2 to 2.0.  
The buttonhole width can be adjusted from 2.5 to 7.0.  
The stitch density can be adjusted from 0.7 to 1.2.





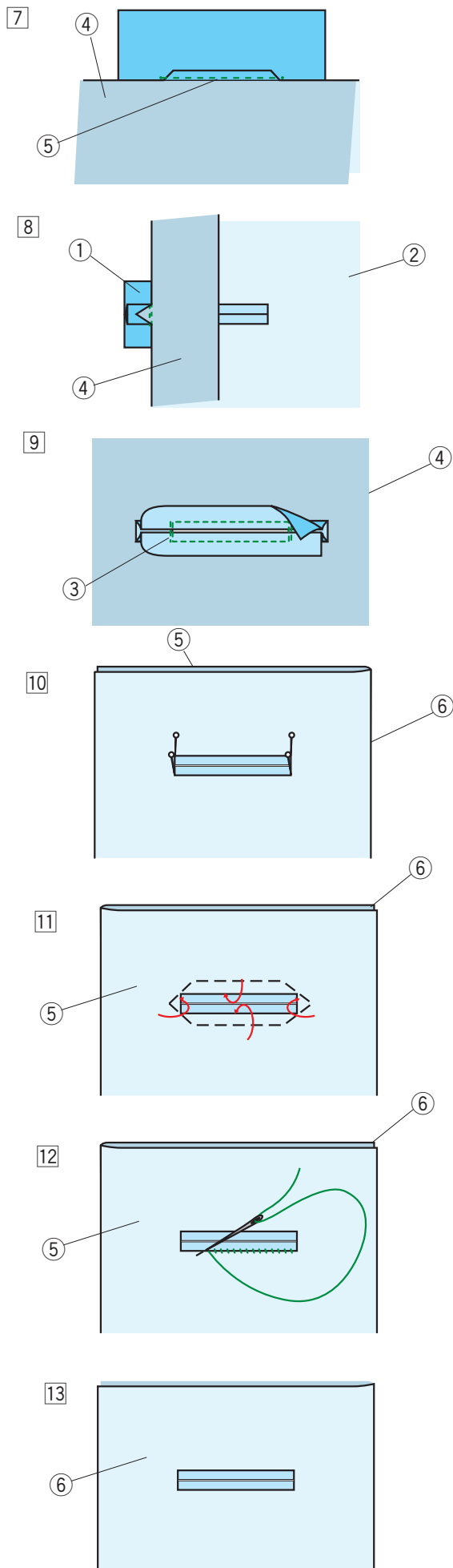


### B13 Welted buttonhole (Bound buttonhole)

A welted buttonhole is made by stitching a strip or patch of fabric to the buttonhole.

Welted buttonholes are particularly suitable for tailored garments, but are not recommended for sheer or delicate fabrics where the patch might show through or add bulk.

- 1 Baste a patch to the garment fabric with the right sides together.
  - ① Wrong side of patch
  - ② Right side of garment fabric
- 2 Select pattern B13.  
Sew the welted buttonhole on both fabrics together. Cut the buttonhole opening as illustrated then pull the patch out through the slit to the other side.
  - ① Wrong side of patch
  - ② Right side of garment fabric
  - ③ Right side of patch
- 3 Pull out the patch until the right side of the patch is showing. Use an iron to press both corner ends until they are squared off.
  - ③ Right side of patch
  - ④ Wrong side of garment fabric
- 4 Fold back each side of the patch to form buttonhole lips.
  - ① Wrong side of patch
  - ③ Right side of patch
- 5 Press both folds with an iron.
  - ③ Right side of patch
  - ④ Wrong side of garment fabric
- 6 Baste both edges of the seam with a needle and thread by hand.
  - ② Right side of garment fabric



**7** Fold over the length of the garment fabric, sew back and forth beside the original seam to secure flaps of the patch.

④ Wrong side of garment fabric

⑤ Sew back and forth

**8** Fold over the end of fabric and sew back and forth three times over the triangular end.

① Wrong side of patch

② Right side of garment fabric

④ Wrong side of garment fabric

**9** The patch should be cut 1 to 1.5 cm (7/16" – 5/8") away from the hole. The corners should be cut rounded off as shown.

③ Right side of patch

④ Wrong side of garment fabric

**10** Place the facing on the wrong side of the garment fabric. Mark the 4 corners with pins as shown.

⑤ Facing

⑥ Garment fabric

**11** Turn all the layers over and cut the buttonhole opening on the facing in the same way as step 2. Four marker pins show you the corner points on the facing. Fold back each flap between the facing and patch.

⑤ Facing

⑥ Garment fabric

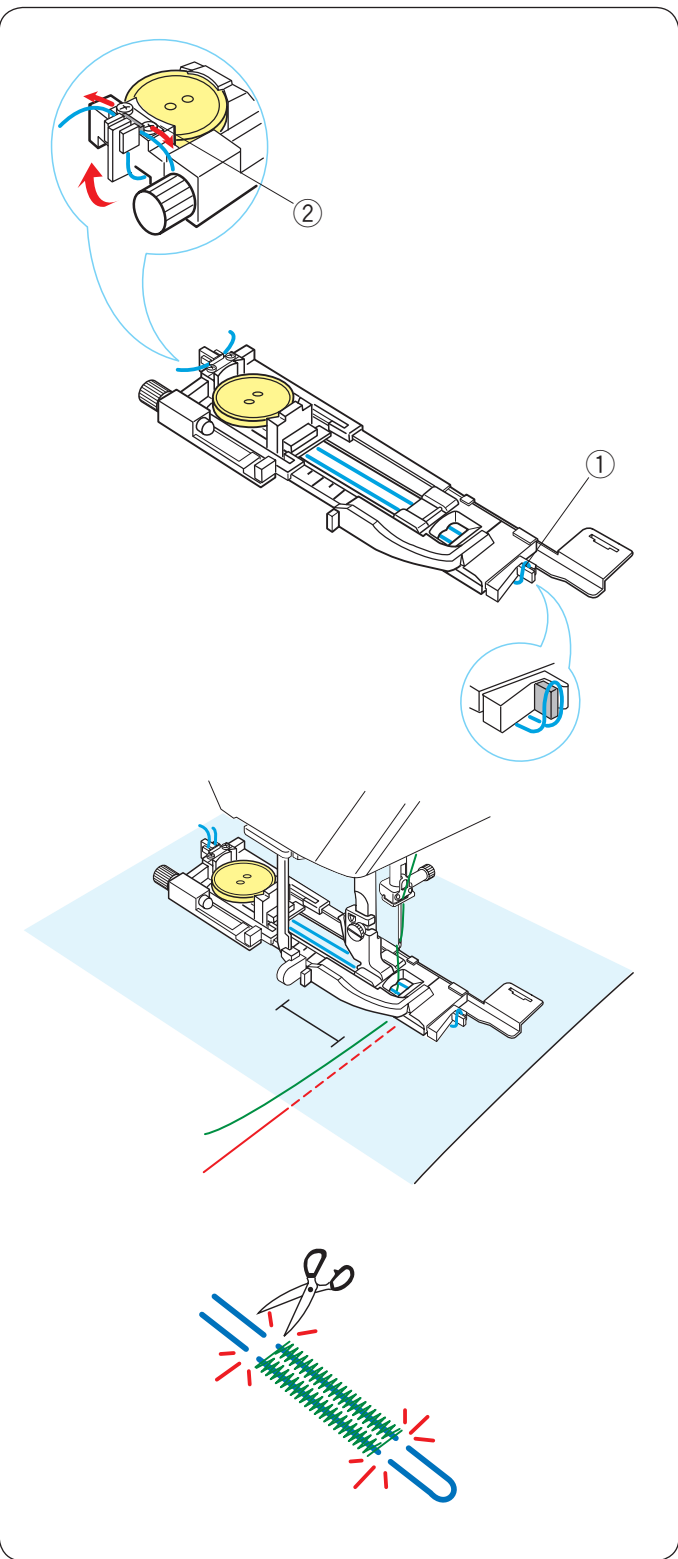
**12** Stitch around the opening with a needle and thread as shown.

⑤ Facing

⑥ Garment fabric

**13** The welted buttonhole is complete.

⑥ Garment fabric



### Corded buttonhole

To sew a corded buttonhole, follow the same procedure as for B1 square (sensor) buttonhole.

Select pattern B1.

Place the button on the button holder on the buttonhole foot.

Hook a filler cord on the spur on the front of the foot. Bring the ends of cord toward back and under the foot. Bring up the ends of the cord and insert both ends between the ribs and metal plate.

- ① Spur
- ② Metal plate

Set the stabilizer plate as necessary and attach the buttonhole foot.

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

Lower the foot and buttonhole lever.

Start the machine to sew the buttonhole over the cord. The machine stops automatically when finished.

Remove the fabric from the machine and cut the sewing threads only.

Cut the filler cord at both ends as close to the buttonhole as possible.

#### NOTE:

Do not adjust the opening width wider than 0.8.

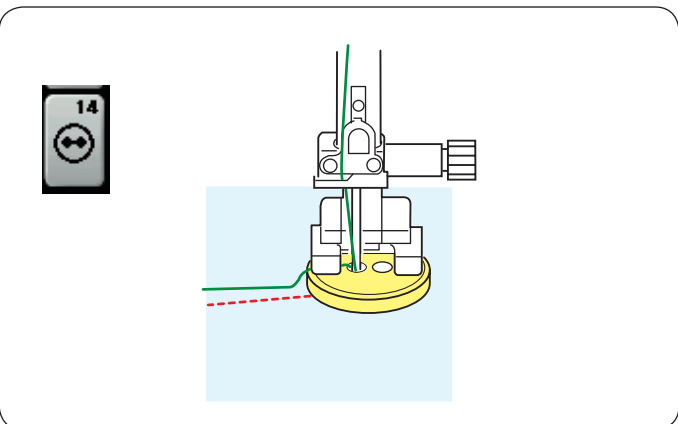
Set the stitch width in accordance with the thickness of the cord used.

To cut the buttonhole opening, refer to the instructions on page 42.

### Specialty stitches

#### B14 Button sewing

See page 79 for sewing instructions.



## B15 Darning

- 1 Attach the automatic buttonhole foot R and pull the button holder all the way out.
- 2 Start the machine and sew to the required length, then press the reverse button. This sets the darning length. Continue sewing until the machine stops automatically.
  - ① Required length

- 3 Sew another layer of darning over the first layer, at a right angle to it.

### NOTE:

The maximum darning length is 2 cm (3/4") and the maximum width is 0.9 cm (3/8").

### To sew the same size darning

When finished sewing, a confirmation message will appear.

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

To sew the next darning in a different size, press the X key.

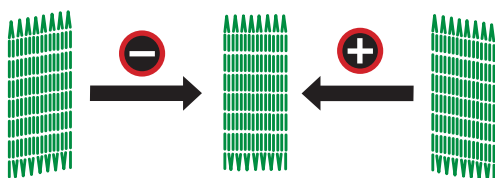
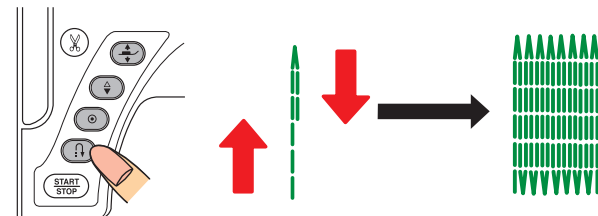
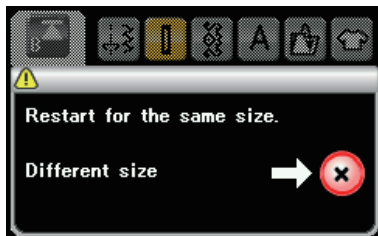
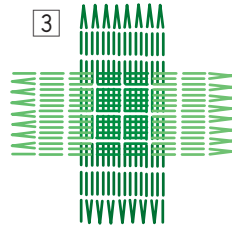
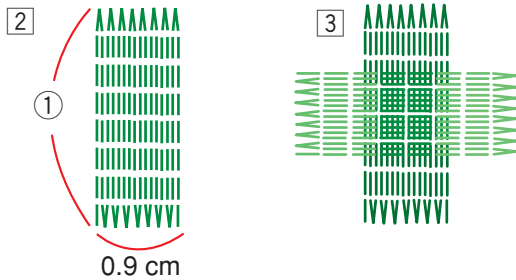
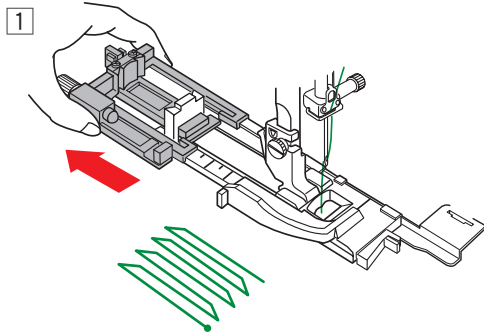
### To sew a shorter darning

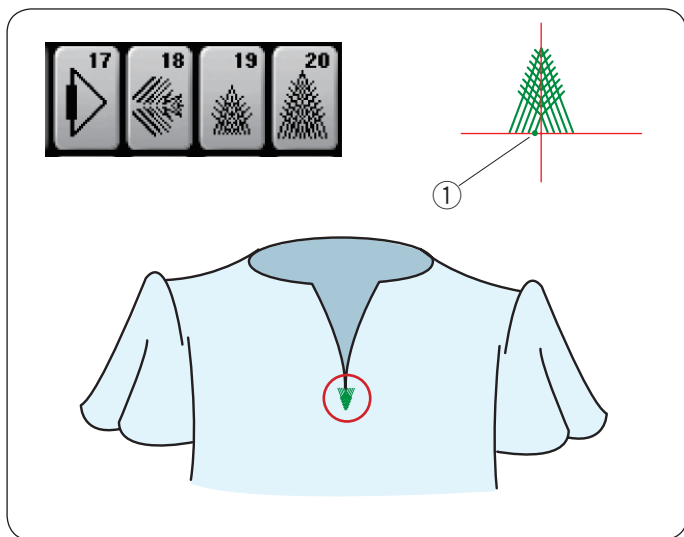
Sew the first line to the desired length and stop the machine.

Press the reverse button and start the machine again. The machine will sew the rest of the darning and stop automatically.

### To adjust the evenness of darning stitches:

You can correct unevenness of darning stitches by pressing the “-” or “+” key in the adjusting window. If the left corner is lower than the right side, press the “-” key to correct it, and vice versa.





### Fly stitches (B17 to B20)

The fly stitch is a triangle tacking stitch for use on a zipper fly bottom and on the side pockets of men's pants.

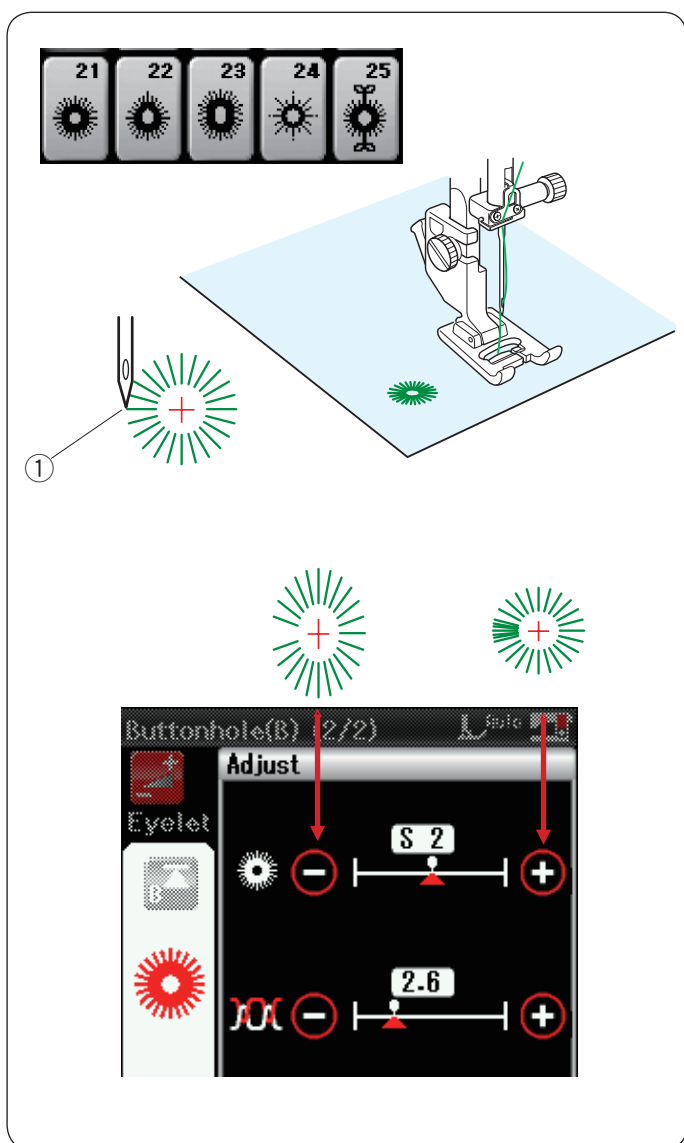
Attach the satin stitch foot F.

#### To sew:

Place the garment under the foot and lower the needle at the starting point.

Sew the stitch until the machine stops automatically.

- ① Starting point



### Eyelets (B21 to B25)

The eyelet is used for belt holes, etc.

Attach the satin stitch foot F.

#### To sew:

Place the garment under the foot and lower the needle to the starting point.

Sew until the machine stops automatically.

- ① Starting point

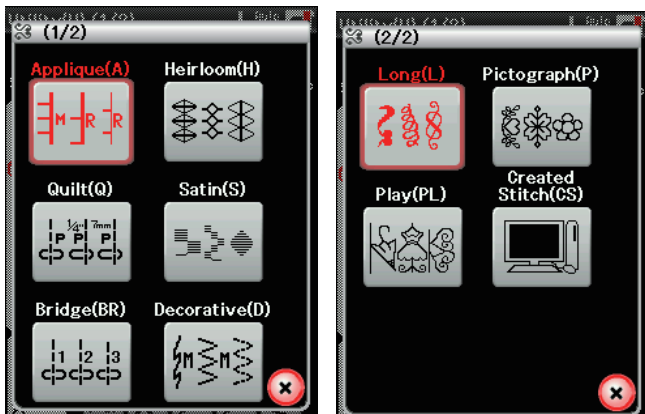
Open the eyelet with an awl, puncher or pointed scissors.

To correct the shape of an eyelet:

If the eyelet is open, press the “-” key.

If the eyelet overlaps, press the “+” key.

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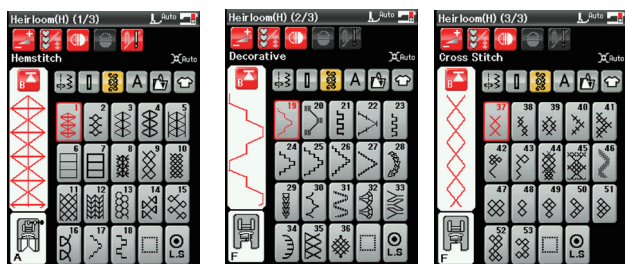
## Decorative Stitches

The patterns in this section are classified into 10 groups. These patterns are programmable and you can make a pattern combination.



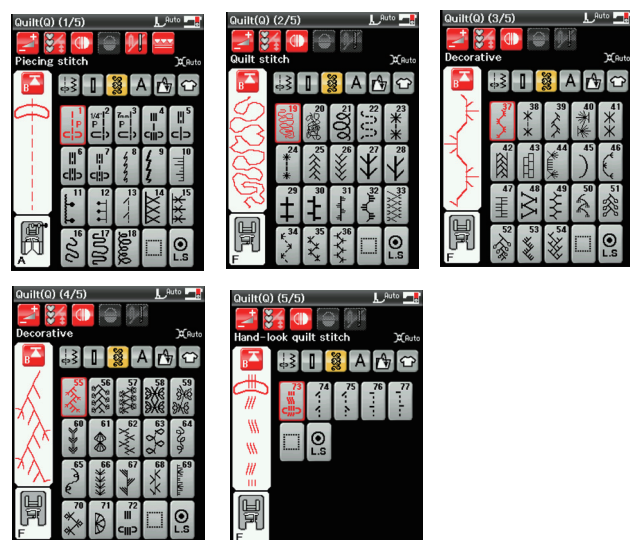
### Applique stitches (A): 2 pages

Stitches in this group are for applique.  
(Refer to page 81.)



### Heirloom stitches (H): 3 pages

This group provides heirloom stitches and cross stitches for craft sewing and home décor.



### Quilting stitches (Q): 5 pages

Stitches in this group are for patchwork and quilting.  
(Refer to pages 82-85.)



### Satin stitches (S): 2 pages

The stitches in this group can be elongated up to 5 times their original length while the stitch density remains the same.  
(Refer to page 57.)

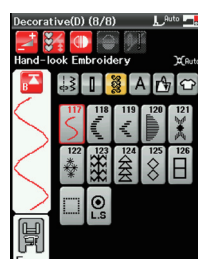
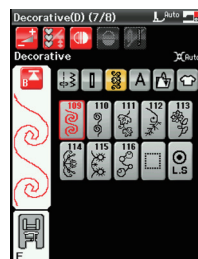
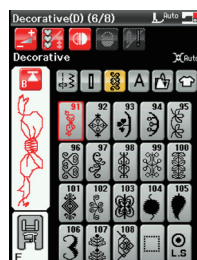




### Bridge stitches (BR): 1 page

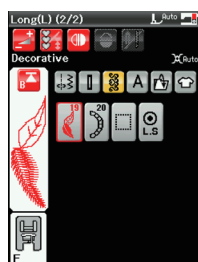
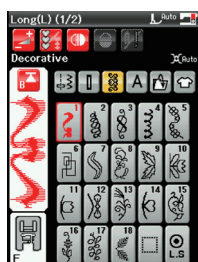
Bridge stitches are used for inserting straight stitches after a stitch pattern.

The number beside the stitch image on the straight stitch key indicates the stitch count of a programmable unit. Patterns BR9, BR10 and BR12 will inherit the needle drop position and stitch length of the previous pattern in the programmed pattern combination.



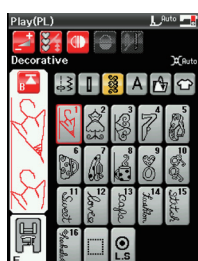
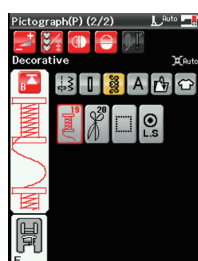
### Decorative stitches (D): 8 pages

More than 100 attractive patterns are available in this group.



### Long stitches (L): 2 pages

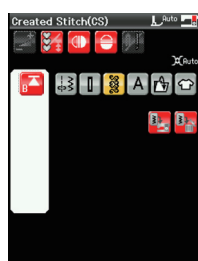
Patterns in this group are ideal for decorating garments and for adding border trims.



### Pictograph stitches (P): 2 pages

### Play stitches (PL): 1 page

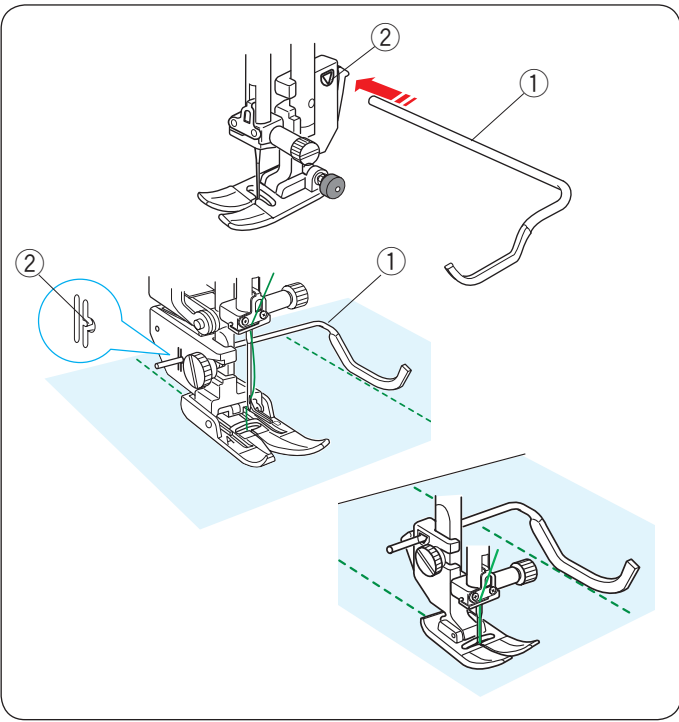
There are many cute designs, fancy motifs and calligraphy available in these groups.



### Created stitches (CS)

In this section, you can select original stitch patterns created with Stitch Composer.

Refer to page 58 for how to transfer created stitch patterns from the PC to the machine.



## Quilting(Q)

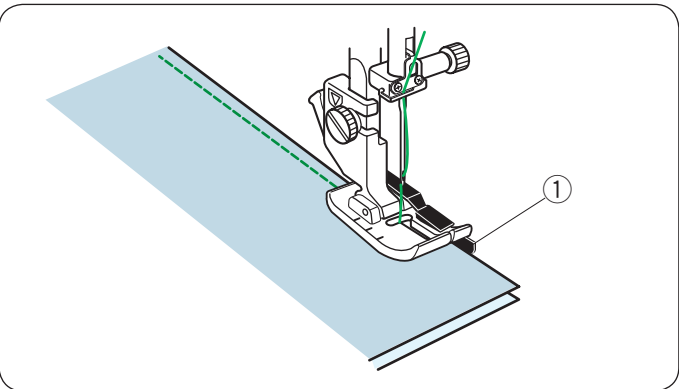
### Using the quilting guide bar

The quilting guide bar is helpful when sewing parallel, evenly spaced rows of stitches.

Insert the quilting guide bar into the hole in the back of the foot holder. Slide the quilting guide bar and set it to the desired spacing.

- ① Quilting guide bar
- ② Hole

Sew rows of stitches while tracing the previous row of stitches with the quilting guide bar.



### Q1-Q3 Patchwork piecing

Patterns Q1 to Q3 are special stitches for seaming patchwork pieces.

Patterns Q2 and Q3 are for patchwork piecing with 1/4" and 7 mm seam allowances respectively. Use the 1/4" seam foot O or dual feed quilt piecing foot OD.

Place the patchwork pieces right sides together. Sew while guiding the edge of fabric along the guide.

- ① Guide



### Q72-Q77 Hand-look quilt stitches

Patterns Q72 to Q77 are special stitches for quilting which look like hand sewn stitches.

Use a transparent nylon thread for the needle and ordinary sewing thread for the bobbin.

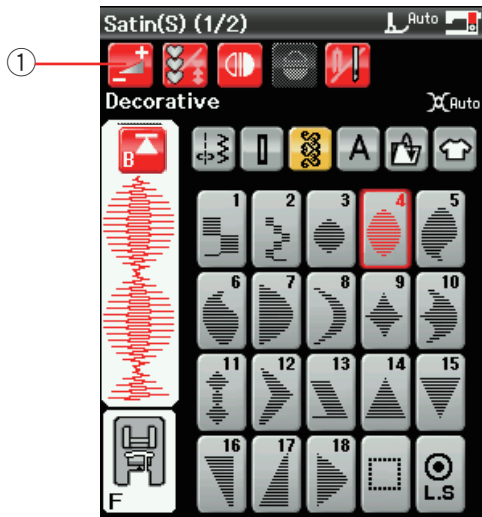
The bobbin thread is pulled up on the right side of the fabric and the stitches look as if they were sewn by hand.

## S1-S29 Decorative satin stitches

Patterns S1 to S29 are decorative satin stitches for which the pattern length can be elongated without changing the stitch density.

Press the adjust key to open the manual setting window.

- ① Adjust key



Press the “+” key to elongate the stitch pattern.

- ② “+” key (elongation)

To reduce the elongation ratio, press the “-” key.

- ③ “-” key (elongation)

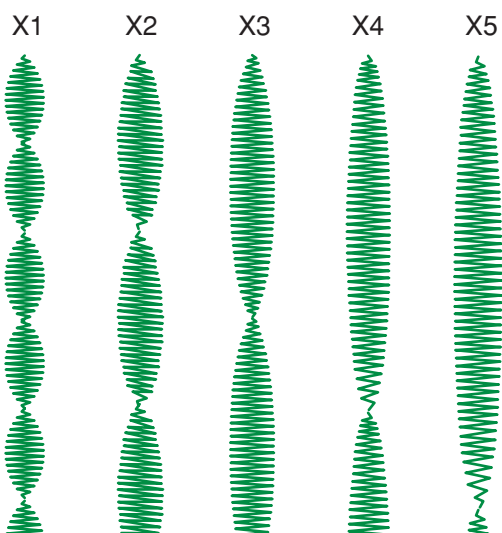
Press the OK key to register the elongation ratio.

The pattern can be elongated up to 5 times the original length.

The elongation ratio is indicated in the box.

- ④ Elongation ratio

You can also alter stitch density and stitch width.

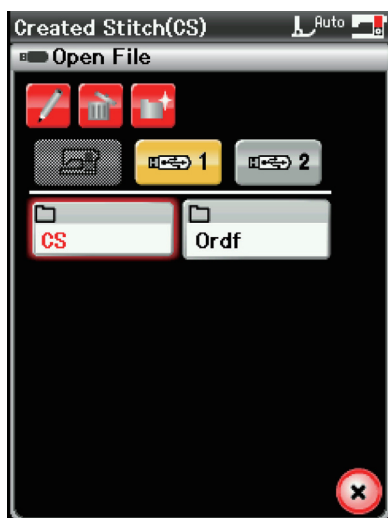
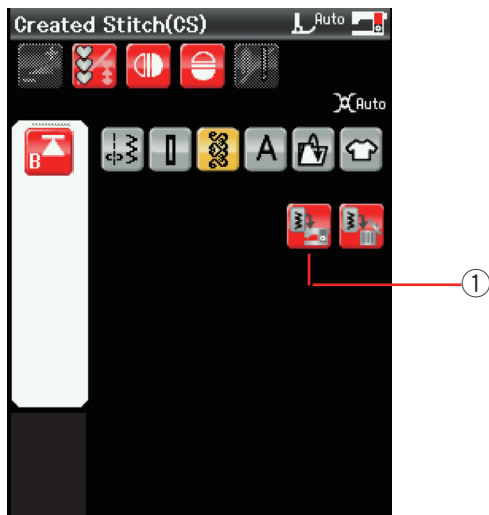


## Created stitches (CS)

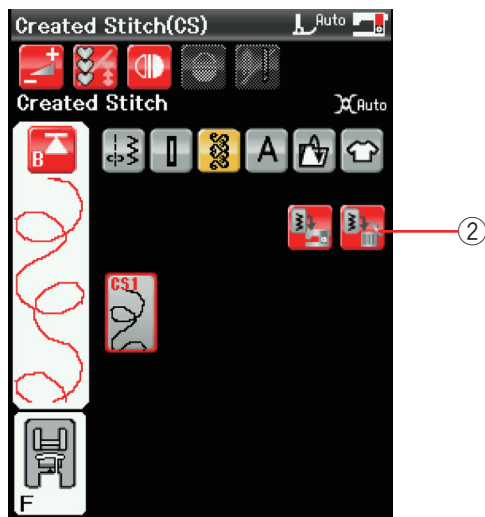
Original stitch patterns created with Stitch Composer EX are saved in this group.

Insert the USB flash drive containing the original stitch patterns and press the import key.

① Import key



Select "USB1" or "USB2" and the folder list will appear. Select the desired folder to open and the file list will appear.



Select the desired file and the original stitch pattern is saved and the pattern selection key is created.

You can select, program and sew these patterns the same way as with the built-in stitch patterns.

To delete the pattern, press the delete key and select the pattern to delete.

A confirmation message will appear. Press the OK key to delete the pattern.

② Delete key

### NOTES:

Up to 30 patterns can be saved in this group.

Twin needle sewing is not available for the created stitches.

## Twin Needle Sewing

Some of the utility stitches and decorative stitches can be sewn with a twin needle.

Replace the needle with the twin needle supplied with the standard accessories.

### CAUTION:

Turn the power switch off or press the lockout key before changing the needle.

Do not use twin needles other than one included in the standard accessories, otherwise the needle may hit the needle plate, foot or hook and break.

① Lockout key

Insert the extra spool pin into the hole in the foot storage compartment.

Place a spool of thread on the extra spool pin and fix the spool with the spool holder.

② Extra spool pin

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

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

### NOTE:

Threading from points ① to ⑤ is the same as for a single needle (refer to page 13).

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

Thread the needles from front to back.

### NOTE:

The needle threader cannot be used with the twin needle.

Press the twin needle key and select the desired pattern. Patterns not suitable for twin needle sewing cannot be selected (pattern selection keys are grayed out).

Buttonholes and specialty stitches, monogram and sewing application cannot be selected.

③ Twin needle key

### NOTES:

When you sew patterns with the twin needle, test the stitches first before you sew on the garment.

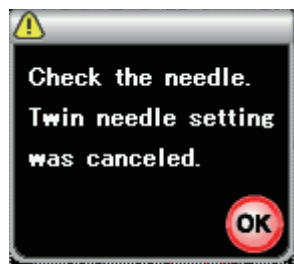
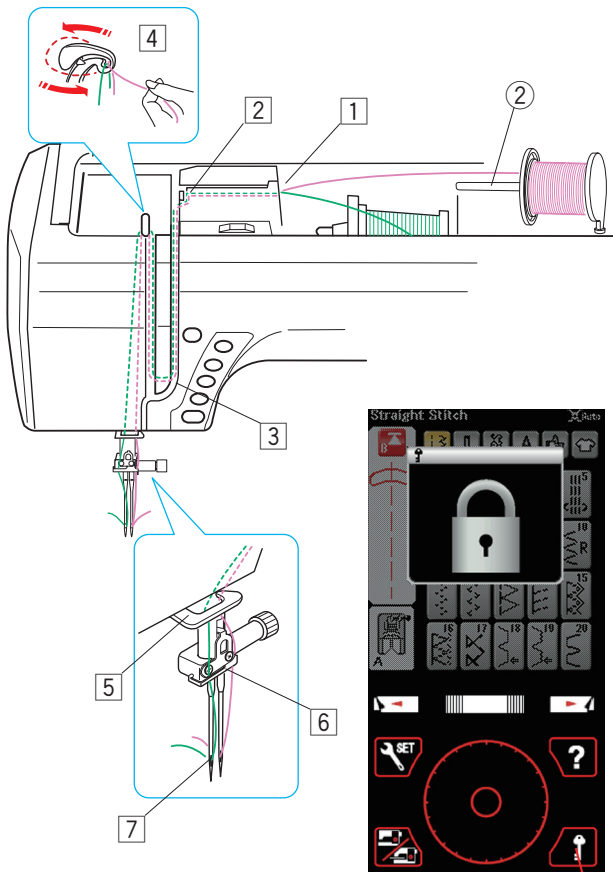
Use the zigzag foot A or satin stitch foot F for twin needle sewing.

Use the threads #60 or finer.

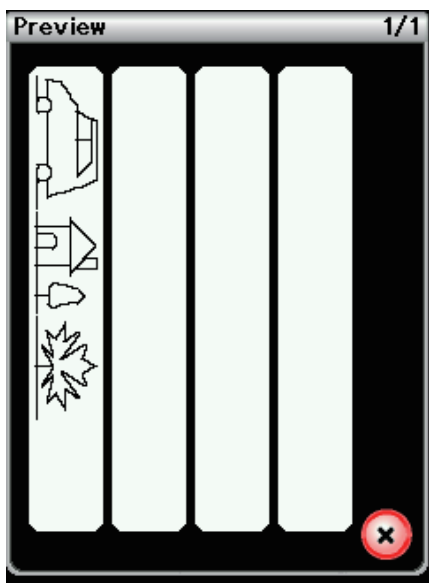
When changing the sewing direction, raise the needle and presser foot then turn the fabric (foot up for pivoting option is not available when the twin needle is selected).

After twin needle sewing is finished, press the twin needle key and the warning message will appear.

Press the OK key and replace the twin needle with a single needle.







## Programming a Pattern Combination

The patterns in the decorative stitch category and monograms can be programmed to make a pattern combination.

Press the program key and select as many patterns as you wish to program.

You can program up to 100 patterns in each combination. The images of programmed patterns are shown on the left side of the LCD screen.

- ① Program key

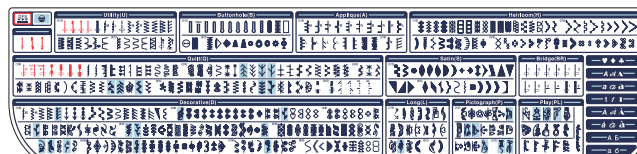
## Mirror image of patterns

To sew or program the pattern as a mirror image, press the vertical mirror key or horizontal mirror key, then select the desired patterns.

- ② Vertical mirror key
- ③ Horizontal mirror key

## NOTE:

Horizontal mirror image is available only for the specific patterns. For pattern identification, these patterns are shaded in blue on the reference chart inside the top cover.



To view the entire pattern combination, press the cursor key to scroll over the pattern combination or press the memory check key to show the entire pattern combination at a glance.

- ④ Cursor keys
- ⑤ Memory check key

## Bridge Stitches

Bridge stitches are used for inserting straight stitches after a stitch pattern.

If you want more space between French knots (D6), for example, insert pattern BR10 after pattern D6. Four counts of straight stitches are added to pattern D6.

## NOTE:

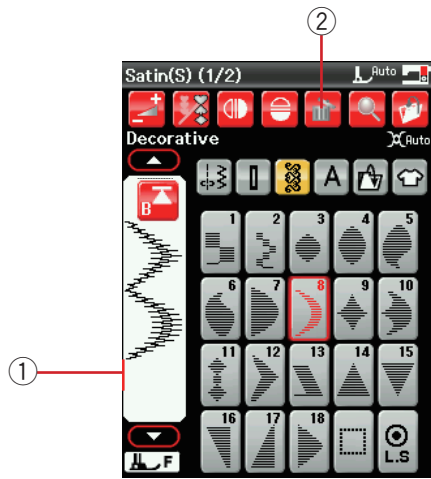
Patterns BR9, BR10 and BR12 will inherit the stitch length and needle drop position of the previous pattern in the pattern combination.

## Editing a pattern combination

### Deleting the pattern

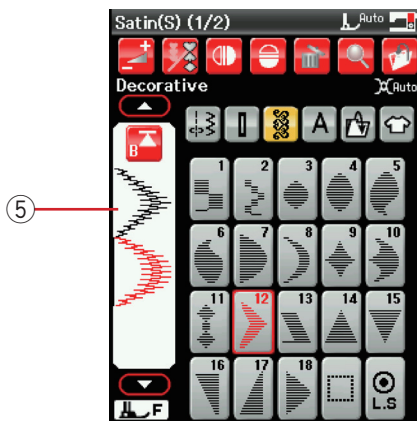
The pattern before the cursor or shown in red is deleted by pressing the delete key.

- ① Cursor
- ② Delete key



To delete a pattern in the middle of a combination, press the cursor key to select the pattern you wish to delete. The stitch image of the selected pattern turns red. Press the delete key to delete the selected pattern.

- ③ Cursor key
- ④ Selected pattern

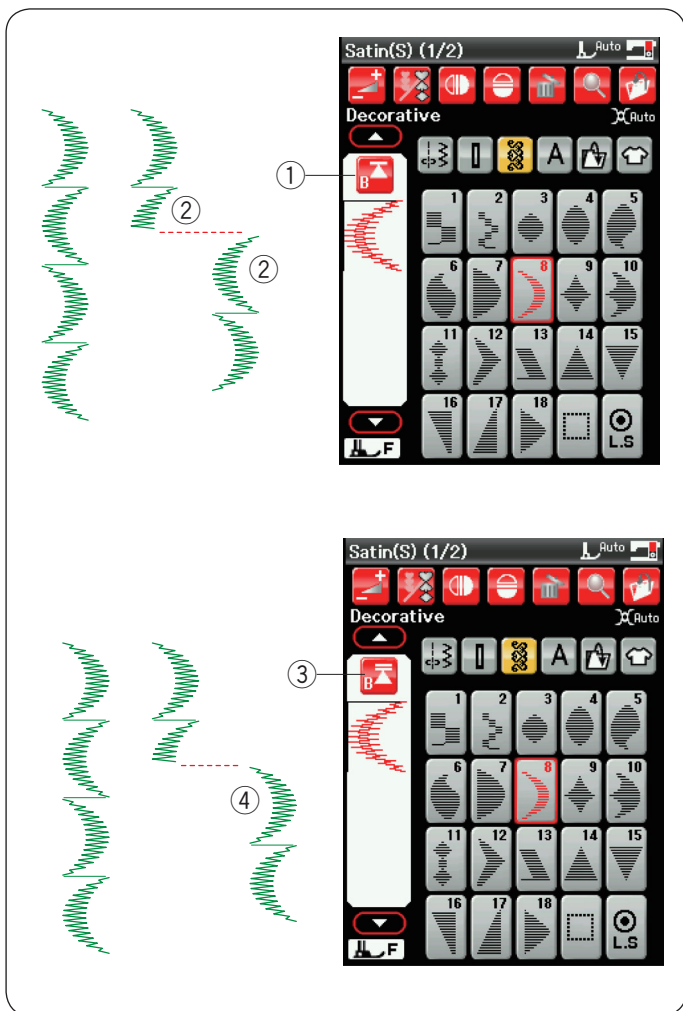


### Inserting the pattern

Press the cursor key to select the pattern next to where you wish to insert a pattern. Enter the desired pattern to insert it before the selected pattern.

- ⑤ Inserted pattern





## Startover key

This is a 2-way function key to start sewing a pattern combination over from the beginning.

When you stop sewing a pattern combination, the startover key is activated.

The key shows a triangle and single bar that means the machine will start over from the current pattern.

When you press the startover key, the key will change and show a triangle and double bar that means the machine will start over from the first pattern of the combination.

## Current pattern startover

If you wish to start sewing from the beginning of the current pattern, press the startover key once and start the machine.

- ① Startover key (current pattern)
- ② Current pattern

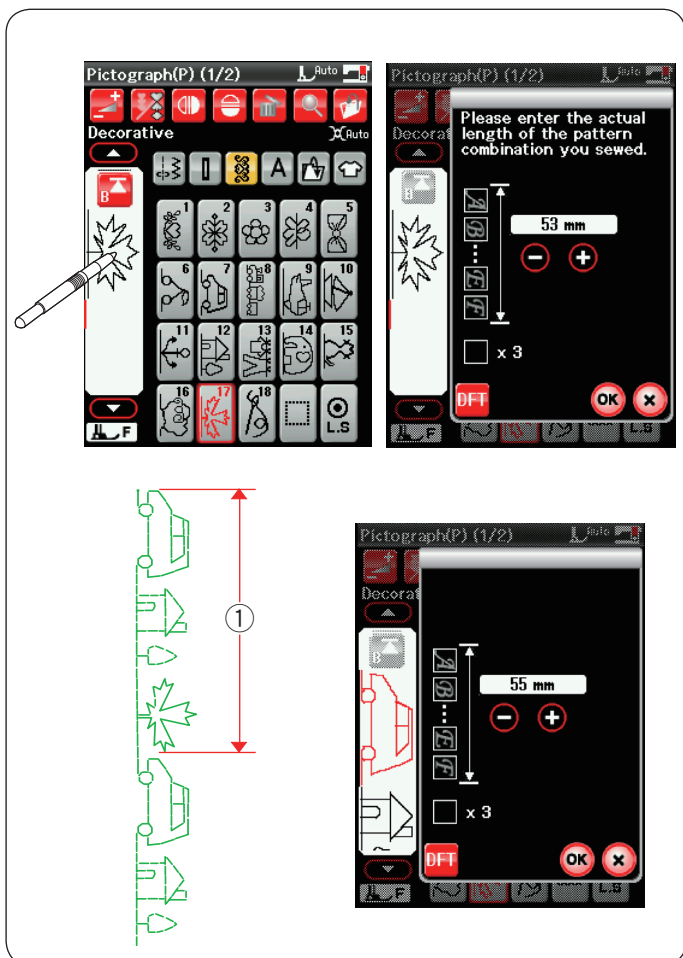
## First pattern startover

If you wish to start sewing from the beginning of the first pattern of the combination, press the startover key twice and start the machine.

- ③ Startover key (first pattern)
- ④ First pattern

## NOTE:

If auto thread cutting is done, the machine will startover from the first pattern.



## Checking pattern combination length

You can check the total length of the pattern combination by pressing on the stitch image indicated in the left window.

The readout of the total length is a theoretical value and the actual length may vary depending on sewing conditions.

For example, program pattern P17 three times, and sew a pattern combination.

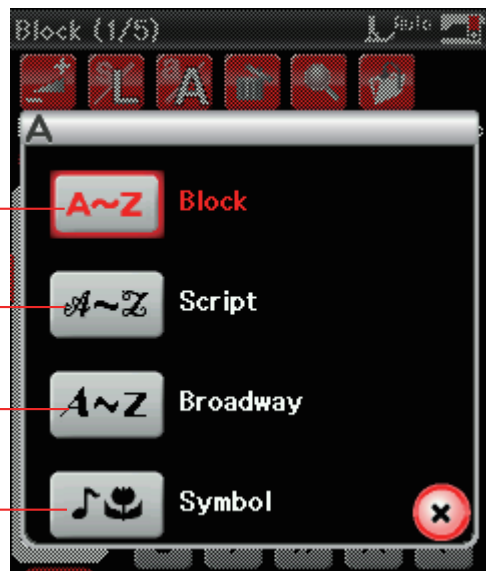
If the actual length differs considerably from the readout, measure the actual length and enter the nearest value by pressing the "+" or "-" key.

- ① Actual length

The readout is adjusted automatically when calculating the length of other pattern combinations (combination of patterns P7, P12 and P17 for example).



①



②

③

④

⑤

## Monogramming

You can program letters and symbol designs for monogramming.

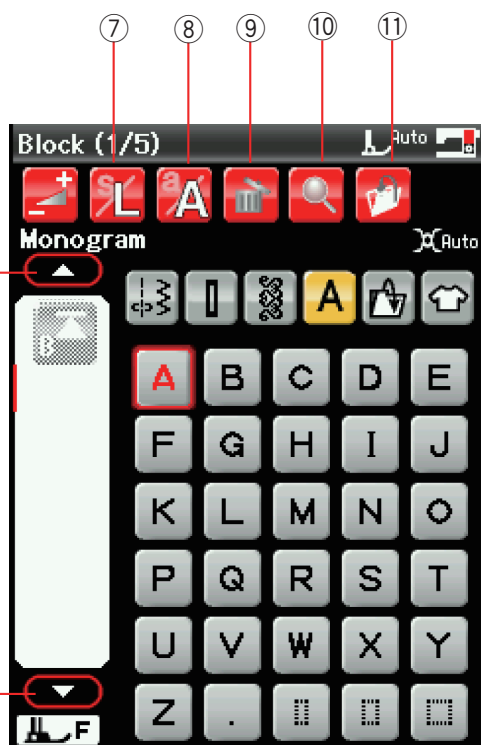
Press the monogram key and the font selection window will open.

- ① Monogram key

You can select one of 3 fonts and symbol designs. Select the desired font or symbol by pressing the corresponding key.

- ② Block font key
- ③ Script font key
- ④ Broadway font key
- ⑤ Symbol key

The monogram mode window will open.



⑥

⑥

## Function keys

- ⑥ **Cursor key**

Press the cursor key to move the cursor up or down.

- ⑦ **Letter size key**

Press this key to select the full size (L) or small size (S).

- ⑧ **Letter case key**

Press this key to select the upper case or lower case.

- ⑨ **Delete key**

Press this key to delete the selected character or symbol (refer to page 61).

- ⑩ **Memory check key**

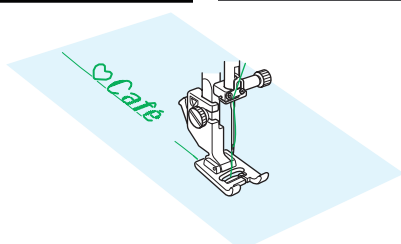
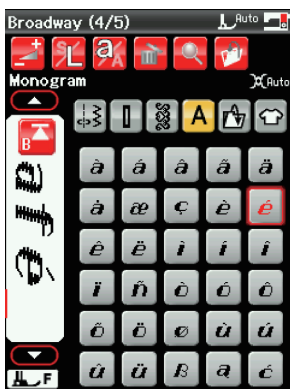
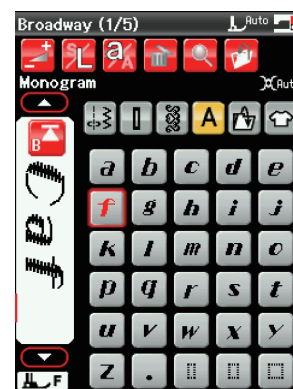
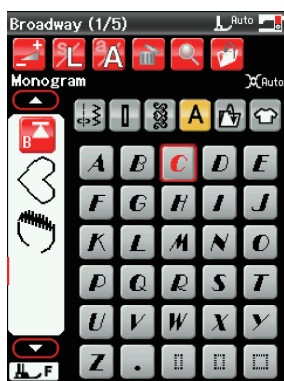
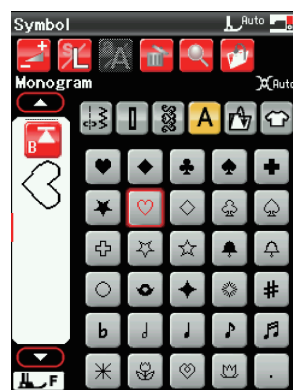
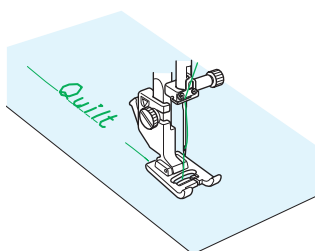
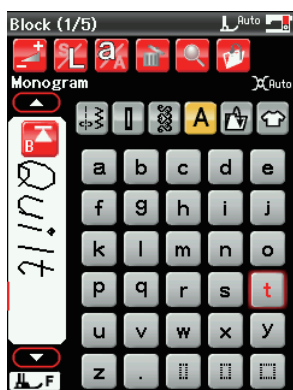
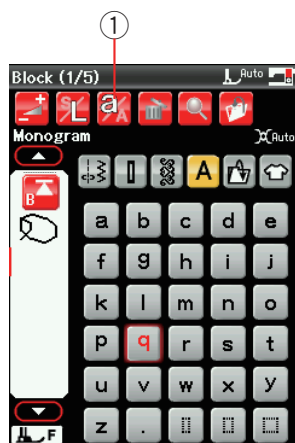
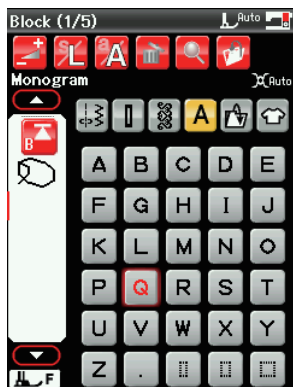
Press this key to view the entire monogram (refer to page 60).

- ⑪ **File save key**

Press this key to save the monogram as a data file (refer to page 65).

### NOTE:

Numbers, signs and European letters are available on pages 2/5 through 5/5.



## Programming a monogram

Simply enter the characters by pressing the corresponding keys to program a monogram.

### Example 1: “Quilt” in Block font

Select Block font. Enter “Q”.

Press the letter case key to select lower case.

- ① Letter case key

Enter “u”, “i”, “l” and “t”.

### Example 2: “♥ Café” in Broadway font

Press the monogram key and select symbol.  
Enter a hollow heart.

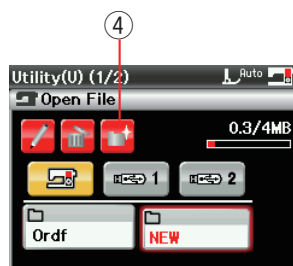
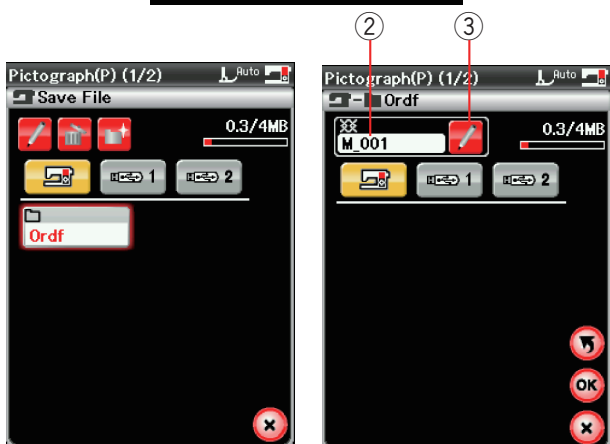
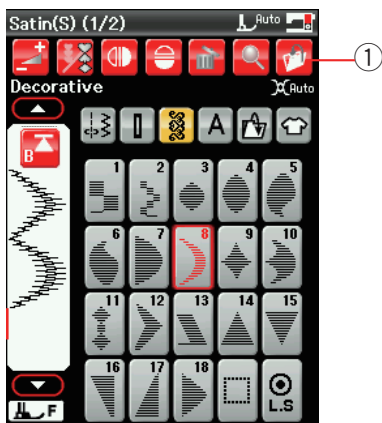
Press the monogram key and select Broadway font.  
Enter “C”.

Press the letter case key and select lower case letters.  
Enter “a” and “f”.

Press the next page key to go to page 4 of 5.  
Enter “é”.

#### NOTES:

Use a blue tip needle for sewing a monogram.  
Apply a tear away backing to fine fabrics or stretch fabrics.  
Test sew to check the sewing results.



## Saving a Pattern Combination

The pattern combination and monogram can be saved as a file in the machine's internal memory or the USB flash drive.

The machine has two USB ports for memory sticks.

Press the save file key after programming a pattern combination, and the save file window will open.

① Save file key

Select the location to where you wish to save the pattern combination.

The "Ordf" folder is shown.

Select the "Ordf" folder and the file name is assigned automatically starting from M\_001.....in order.

Press the OK key to save the file under the assigned name.

② File name

If you wish to assign a unique name to the file, press the rename key and the keyboard window will open.

③ Rename key

Enter a new name and press the OK key to change the file name.

Press the OK key and the file is saved under the new name.

## Creating a new folder

Select a location for a new folder and press the new folder key. The keyboard window will open.

Enter a folder name and press the OK key.

The new folder is created under the assigned name.

④ New folder key

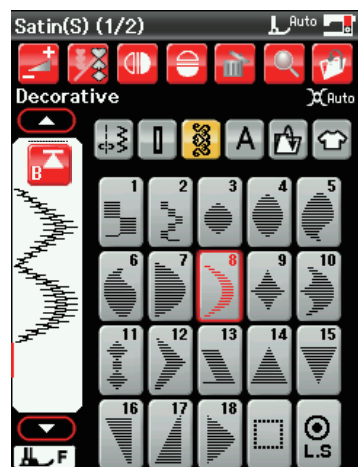
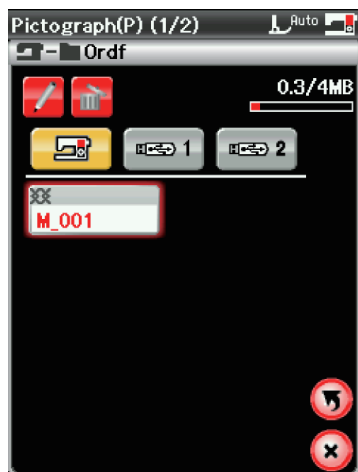
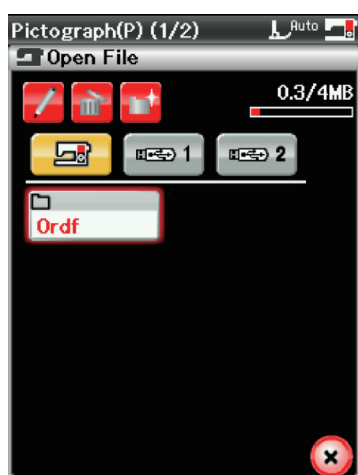
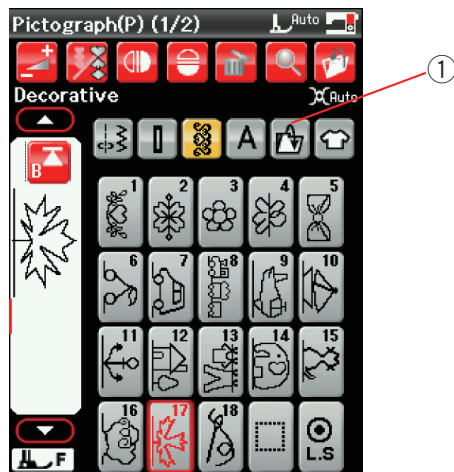
## Changing the folder name or file name

Press the rename key and select the folder or file for which you wish to change its name. The keyboard window will open.

Enter the new name and press the OK key.

The name of the folder or file will change.

⑤ Rename key



## Opening a Pattern Combination

You can open the pattern combination and monogram saved in the machine's internal memory or the USB flash drive.

Press the open file key and the open file window will open.

- ① Open file key

Select the memory location, either the machine's internal memory or a USB memory stick.

The "Ordf" folder will appear.

### NOTE:

If you created any folders before, those folders will also appear.

Select the desired folder and the file list will appear.

Select the desired file.

The screen will return to the ordinary sewing window showing the saved pattern combination or monogram.

## Sewing Application

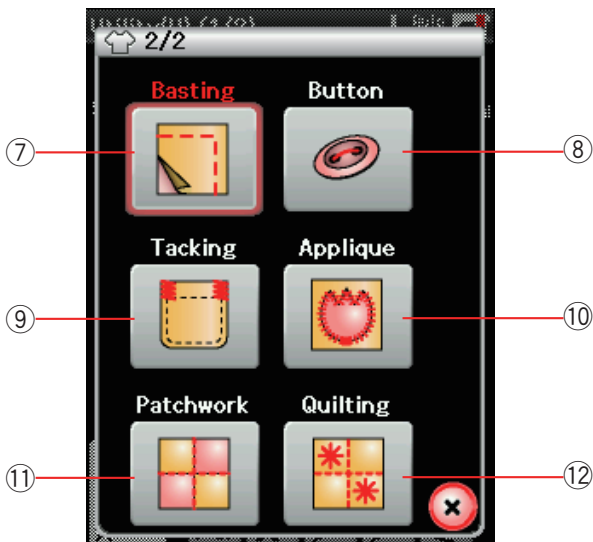
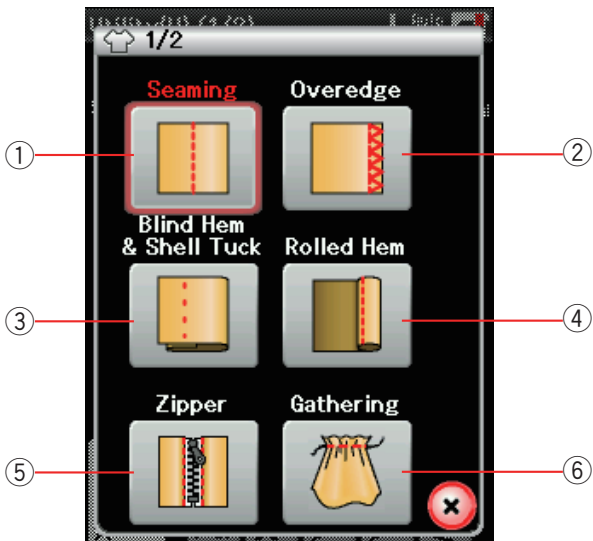
Sewing application is a unique feature that provides you with 12 useful sewing applications.

Press the sewing application key and the sewing application menu will open. Press the next page key to show the second page of the menu.

The 12 sewing applications are as follows:

- ① Seaming
- ② Overedge
- ③ Blind Hem & Shell Tuck
- ④ Rolled Hem
- ⑤ Zipper Sewing
- ⑥ Gathering

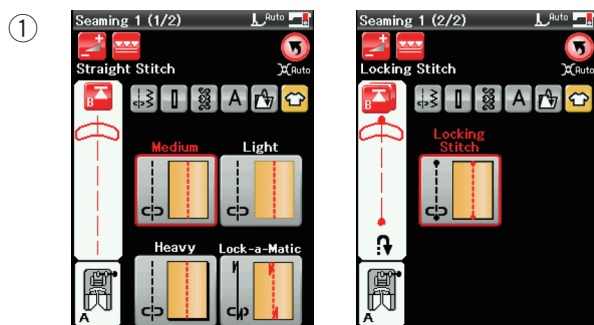
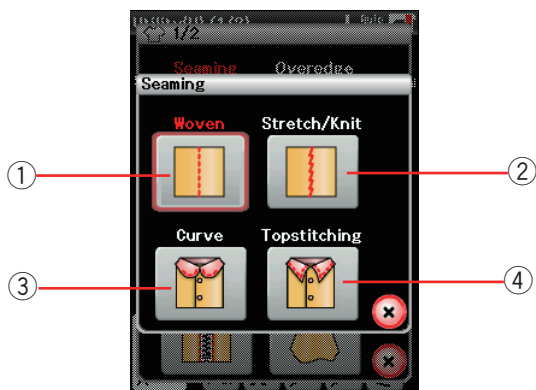
- ⑦ Basting
- ⑧ Button Sewing
- ⑨ Tacking
- ⑩ Applique
- ⑪ Patchwork
- ⑫ Quilting





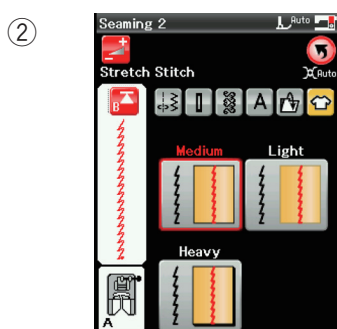
## Seaming

There are 4 types of stitches for seaming in this group.



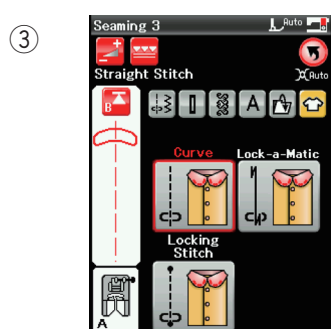
### ① Woven

Straight stitches for seaming regular woven fabrics.



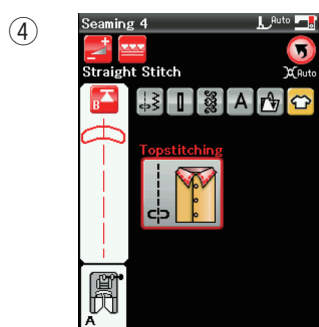
### ② Stretch/Knit

Narrow stretch stitches for seaming stretch or knit fabrics.



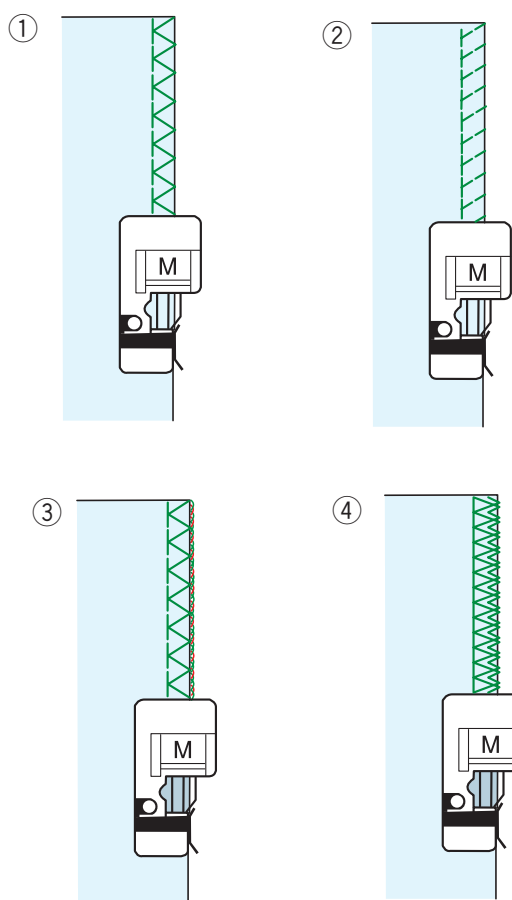
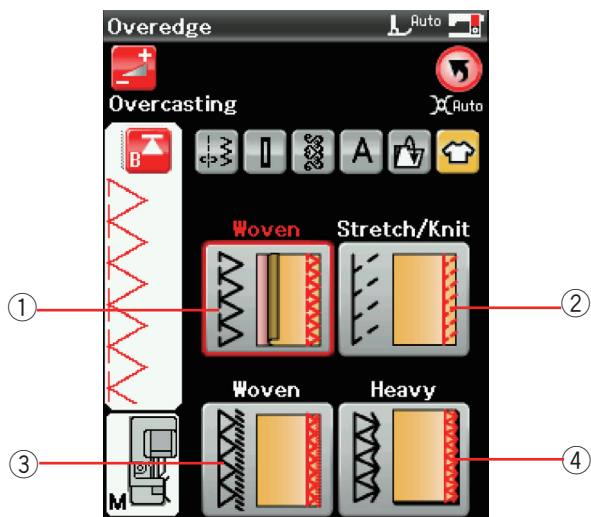
### ③ Curve

Short straight stitches for seaming curved line.



### ④ Topstitching

Long straight stitch for topstitching with thick threads.



## Overedge

### ① Woven

Overcasting stitch for regular woven fabrics.

### ② Stretch/Knit

Knit stitch for finishing raw edges of stretch or knit fabrics.

### ③ Woven

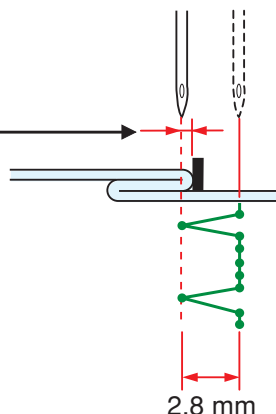
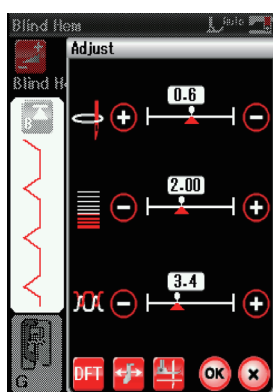
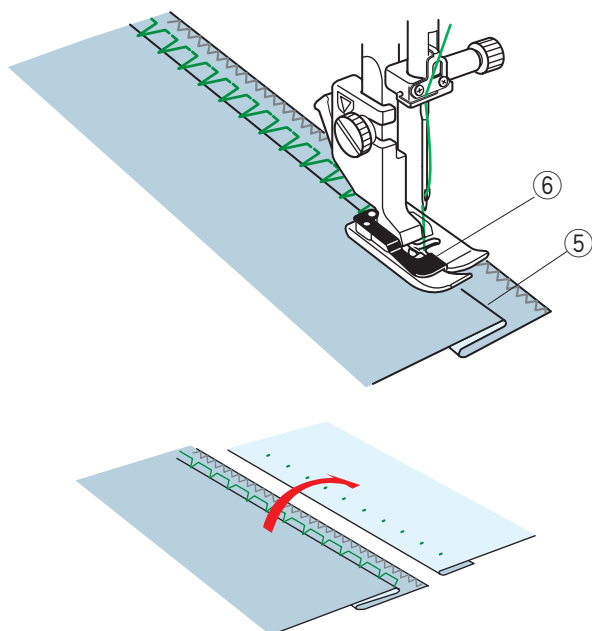
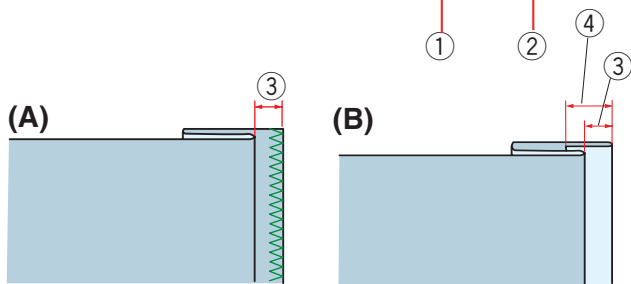
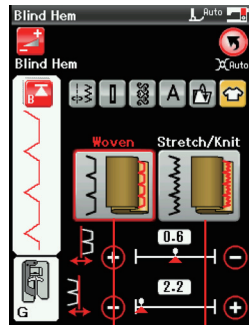
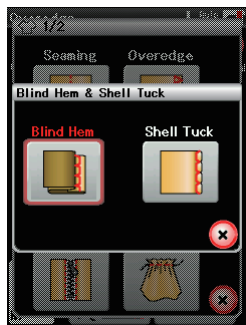
Overlock stitch similar to a professional overlocker stitch.

### ④ Heavy

Double overedge stitch for preventing raw edges of linens and gabardines from ravelling.

Refer to page 34 for how to sew.





## Blind hem

Select "Blind Hem".

The following 2 options are available.

### ① Woven

For blind hemming regular woven fabric

### ② Stretch/Knit

For blind hemming stretch or knit fabric.

## To sew:

Attach the blind hem foot G.

Fold the fabric to form a hem leaving a 0.5 cm (1/4") allowance as shown.

### ③ 0.5 cm (1/4")

(A) Medium to heavy fabrics: The raw edge should be overcasted.

(B) Fine fabrics: Fold the raw edge 1 cm (1/2").

### ④ 1 cm (1/2")

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

The needle should just pierce the folded edge when it comes over to the left side.

Adjust the position of the needle drop if necessary.

Sew guiding the fold along the guide.

### ⑤ Fold

### ⑥ Guide

After sewing is finished, open the fabric flat.

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

## Adjusting the needle drop position

Press the adjust key to open the manual setting window.

Press the "+" key in the upper row to move the needle drop positions to the left.

Press the "-" key in the upper row to move the needle drop positions to the right.

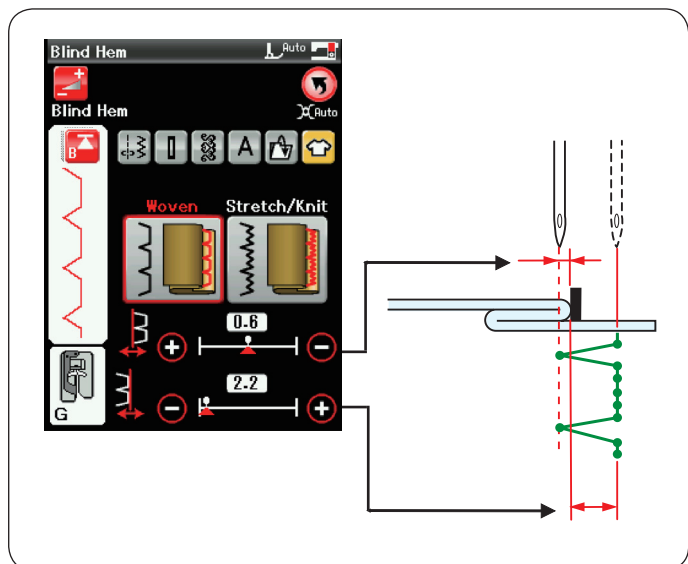
Press the OK key to register the settings.

The needle drop position will change, while the stitch width (2.8 mm) remains consistent.

The distance between the left needle drop position and guide of the foot is indicated in millimeters.

## NOTE:

You can alter the stitch width by changing the right needle drop position.



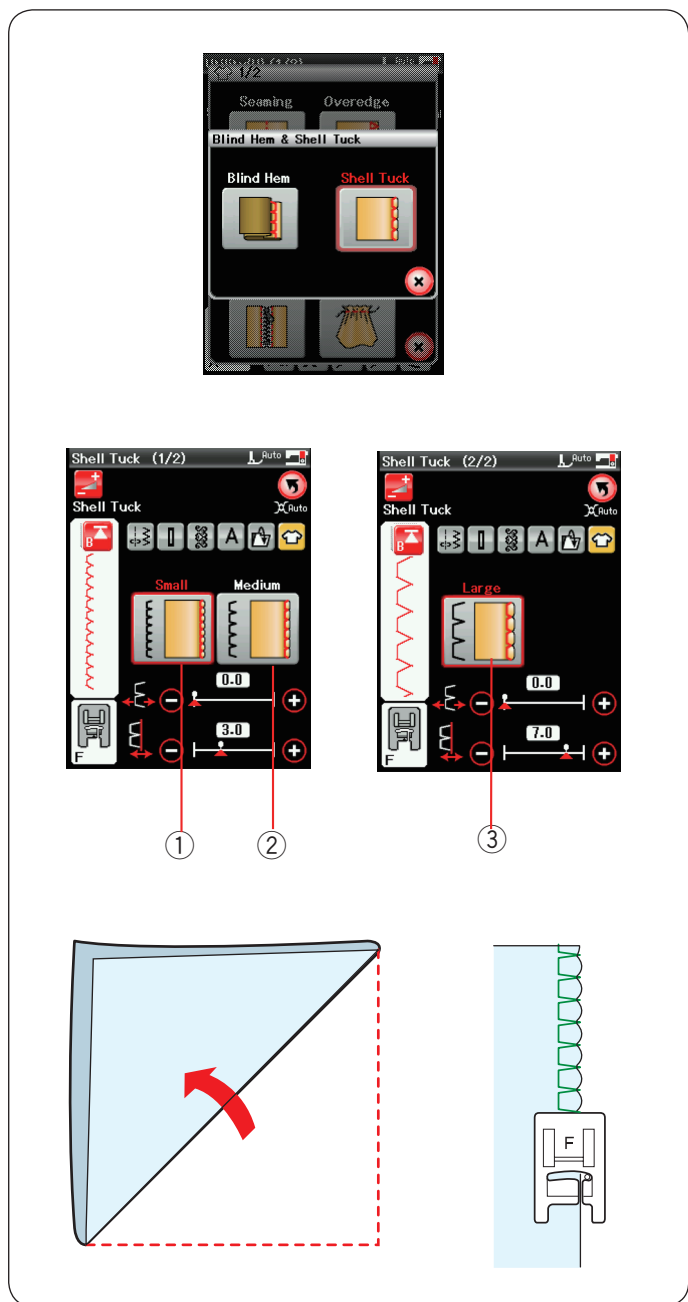
## Altering blind hem stitch width

Press the “+” key in the lower row to increase the stitch width.

Press the “-” key in the lower row to decrease the stitch width.

### NOTE:

You can move the left needle drop position with the “+” or “-” key in the upper row.



## Shell tuck

Select “Shell Tuck”.

The following 3 options are available.

- ① Small  
Narrow shell tuck stitch
- ② Medium  
Medium width shell tuck stitch
- ③ Large  
Regular shell tuck stitch

### To sew:

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

Allow the needle to barely clear the folded edge to create a shelled edge.

If you sew shell tucks, space the rows at least 1.5 cm (5/8”) apart.

## Rolled hem

### ① Straight Stitch

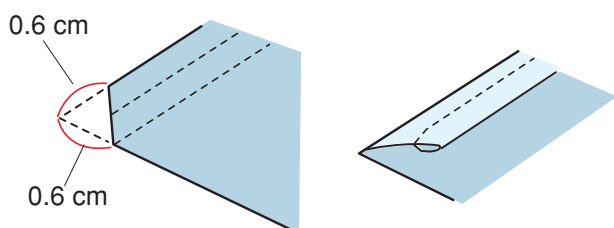
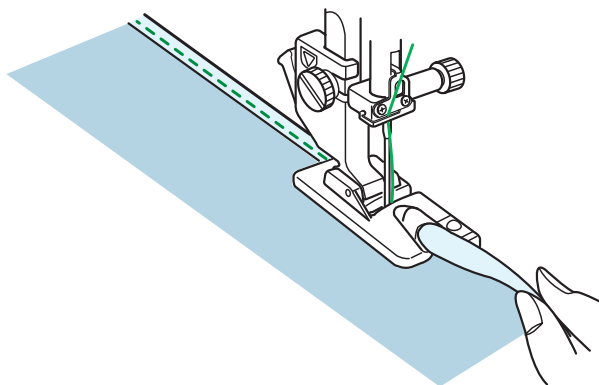
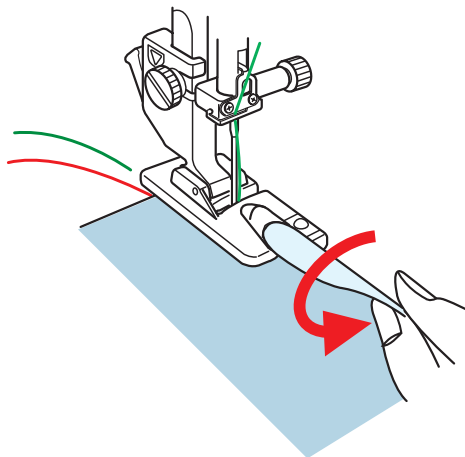
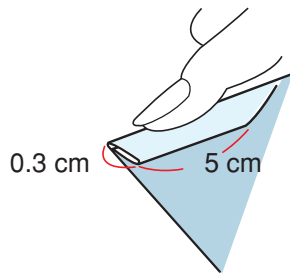
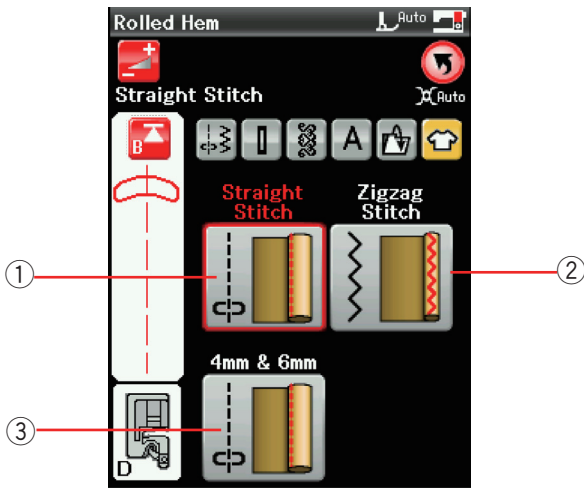
Rolled hemming with straight stitch

### ② Zigzag Stitch

Rolled hemming with narrow zigzag stitch

### ③ 4 mm & 6 mm

Rolled hemming using optional rolled hemming feet D1 and D2



### To sew:

Attach the rolled hem foot D.

Fold the fabric edge twice to form a hem, 0.3 cm (1/8") wide and 5 cm (2") long then press.

Place the fabric aligning the hem edge with the guide of the foot. Turn the hand wheel to lower the needle to the starting point.

Lower the foot and sew several stitches slowly while pulling on the threads to assist feeding the fabric.

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 sew while lifting the edge of the fabric to keep it feeding into the curl smoothly and evenly.

### NOTE:

Trim the corners 0.6 cm (1/4") to reduce bulk.

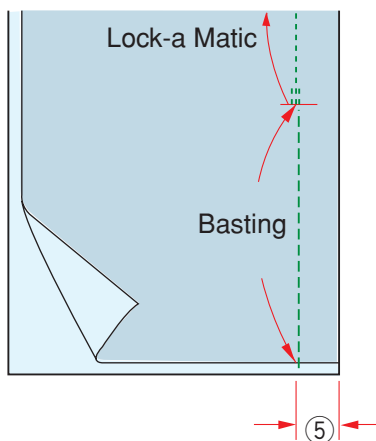
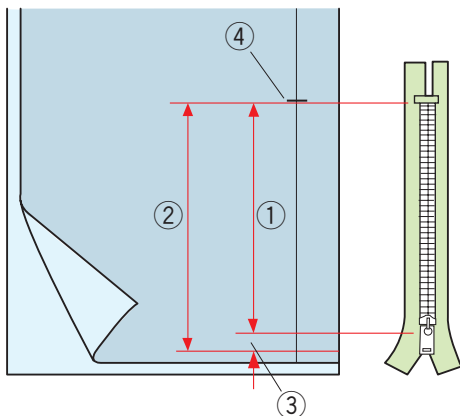
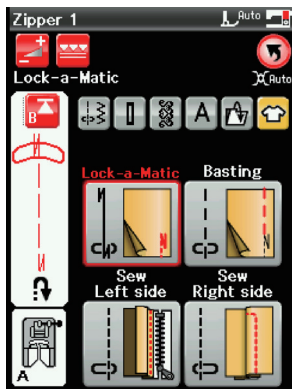
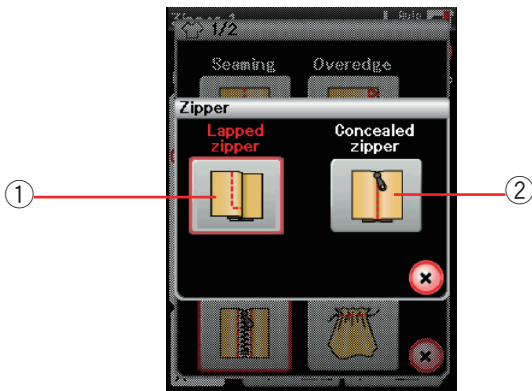
## Zipper sewing

### ① Lapped zipper

Lapped zipper application with the zipper foot E

### ② Concealed zipper

Concealed zipper application



## Lapped zipper sewing

Press the lapped zipper icon and the zipper sewing window will open.

Press the sewing step icon so the machine setting will be automatically suited for each sewing step.

## Fabric preparation

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

Mark the end of opening.

- ① Zipper size
- ② Opening size
- ③ 1 cm (3/8")
- ④ End of opening

Attach the zigzag foot A.



### Lock-a-Matic

Place the right sides of the fabric together and sew to the end of the opening leaving a 2 cm (3/4") allowance.

- ⑤ 2 cm (3/4")



### Basting

Baste the zipper opening.



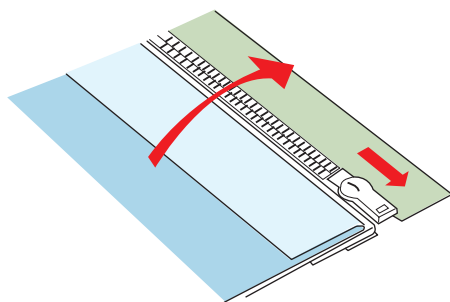
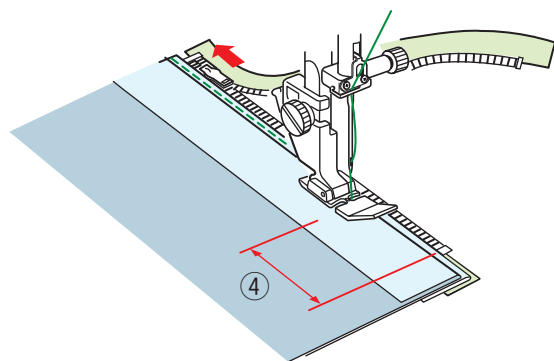
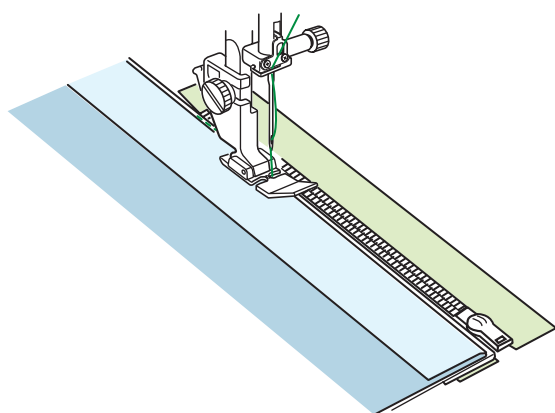
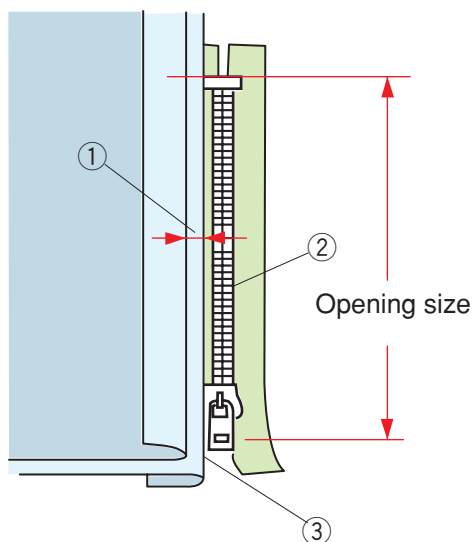
### Sew left side

Attach the zipper foot E.

Fold back the left seam allowance. Turn the right seam allowance under to form a 0.2 to 0.3 cm (1/8") fold.

Place the zipper teeth next to the fold and pin in place.

- ① 0.2-0.3 cm (1/8")
- ② Zipper teeth
- ③ Fold



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

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

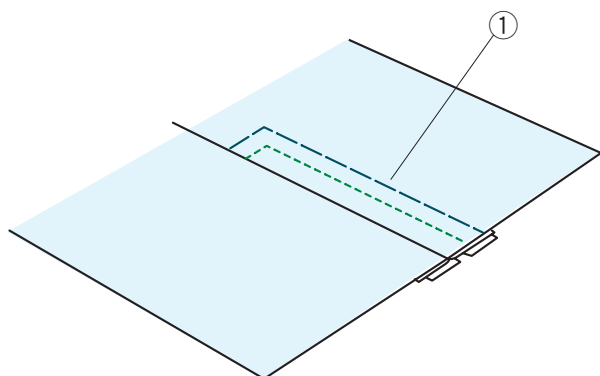
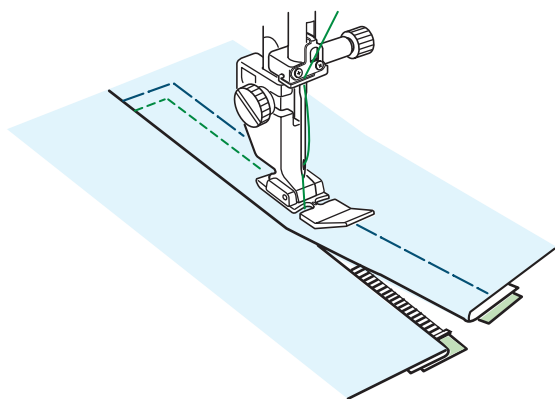
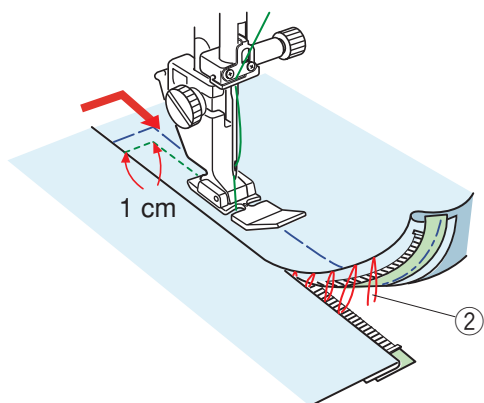
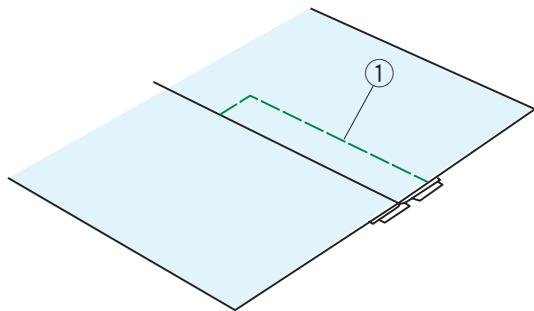
Sew through all layers next to the fold.

Stop 5 cm (2") before zipper foot E reaches the slider on the zipper tape.

- ④ 5 cm (2")

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

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



### Basting

Replace the foot with the zigzag foot A.

Baste the opened fabric and zipper tape together.

① Basting



### Sew right side

Replace the foot with the zipper foot E.

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

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

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

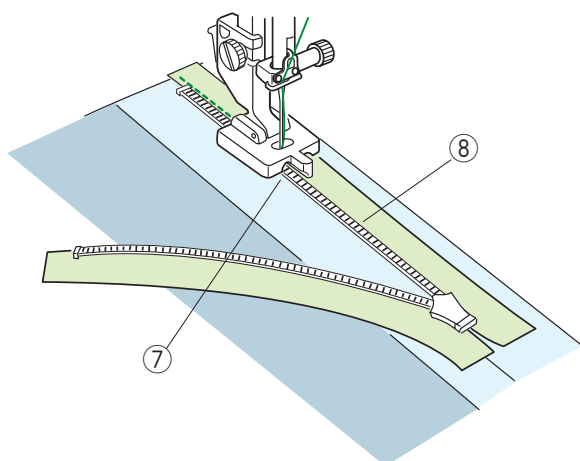
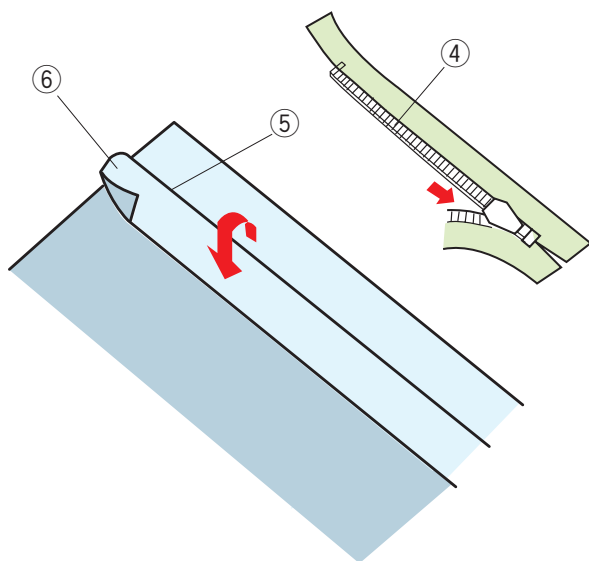
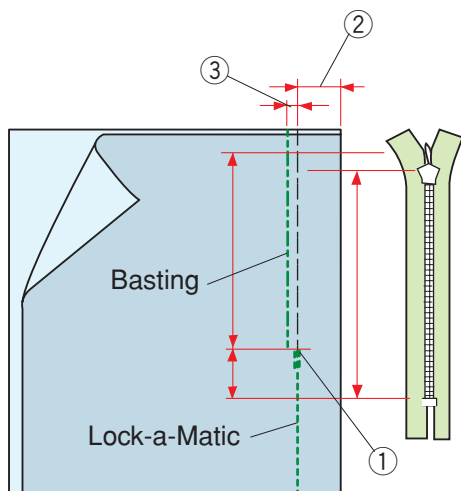
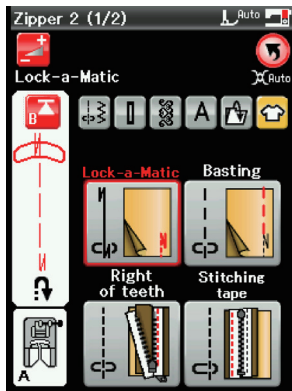
Lower the needle into the fabric, raise the foot and remove the basting stitches.

② Basting stitches

Open the zipper and move the slider to the rear of the foot.

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

Remove the basting stitches.



## Concealed zipper sewing

Press the concealed zipper icon and the window will show the step-by-step icon keys.

Prepare a concealed zipper 2 cm (3/4") longer than the opening size.

Press the sewing step icon so the machine settings will be automatically suited for each sewing step.



### Lock-a-Matic

Attach the zigzag foot A. Place the right sides of the fabric together and sew to the end of the opening with a 2 cm (3/4") seam allowance. Press the reverse button to lock the seams.

- ① End of opening
- ② 2 cm (3/4")



### Basting

Baste the opening 0.3 cm (1/8") inside of the seam line.

- ③ 0.3 cm (1/8")

Place the right zipper teeth next to the fold and pin it in place.

Fold up the left seam allowance to the bodice. Open the zipper and put it on the right seam allowance with the back side up.

- ④ Zipper teeth
- ⑤ Fold
- ⑥ Left seam allowance



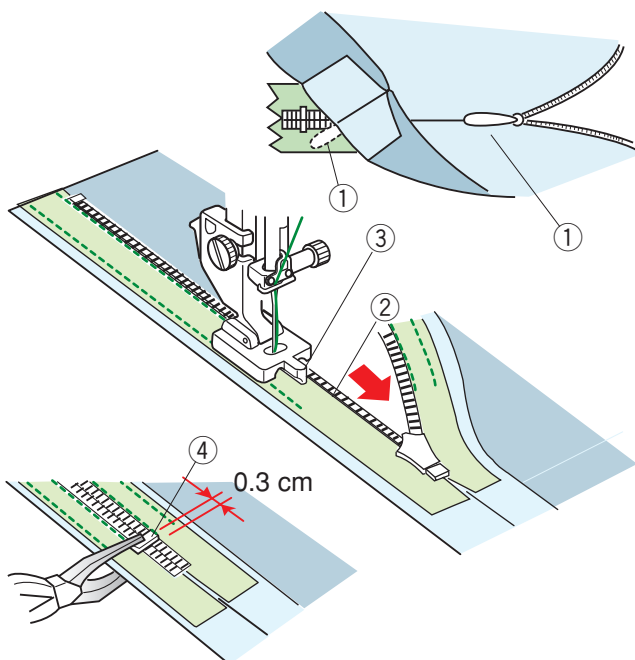
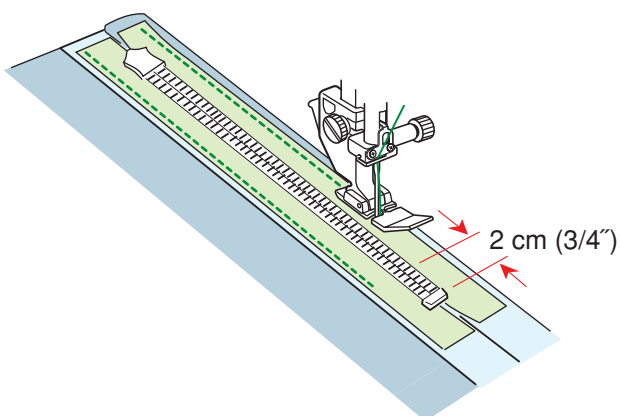
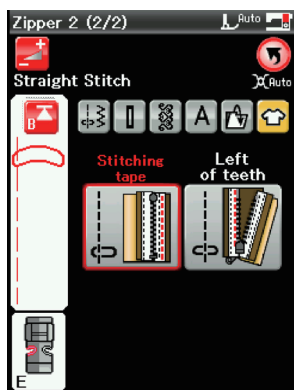
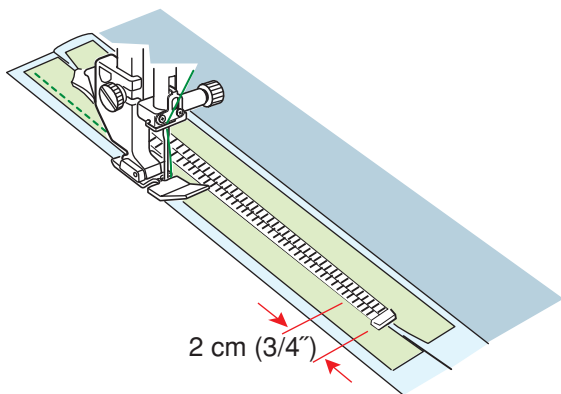
### Right of teeth

Attach the concealed zipper foot Z.

Raise the zipper teeth on the right and lower the foot so the left groove of the foot catches the zipper teeth. Stitch through the zipper tape and fabric up to the end of the opening.

Reverse the stitches to secure the seam.

- ⑦ Left groove
- ⑧ Zipper tape



### Stitching tape

Raise the foot and close the zipper.

Replace the foot with the zipper foot E.

Turn and fold the bodice to the right. Seam along the edge of the left zipper tape and reverse the stitches 2 cm (3/4") before the zipper bottom.

Press the next page key to go to the next step.



### Stitching tape

Turn and fold the bodice to the left. Seam along the edge of the right zipper tape and reverse the stitches 2 cm (3/4") before the zipper bottom.



### Left of teeth

Raise the foot and replace it with the concealed zipper foot Z.

Remove the basting stitches.

Open zipper and insert the pull tab between fabric and zipper tape to allow the slider to reach the stopper.

① Pull tab

Raise the zipper teeth on the left and lower the foot so the right groove of the foot catches the zipper teeth. Stitch through the zipper tape and fabric up to the end of the opening. Reverse the stitches to secure the seam.

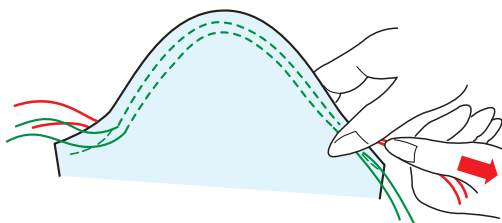
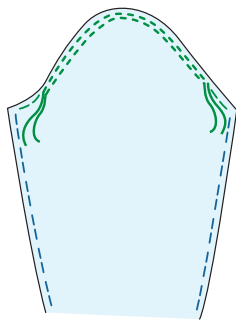
② Zipper teeth

③ Groove

Slide up the stopper to 0.3 cm (1/8") below the end of the opening and fasten the stopper with pliers.

④ Stopper





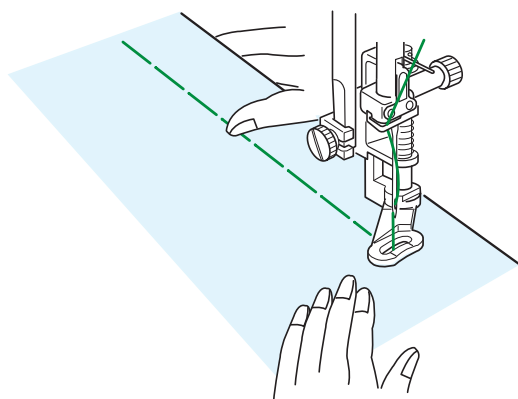
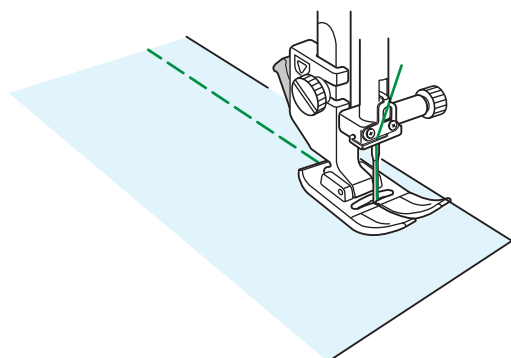
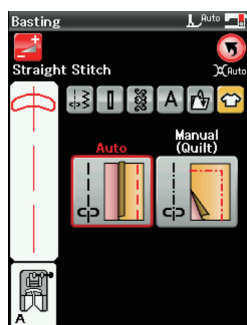
## Gathering

In addition to the regular gathering stitch, this section offers you a special stitch for easing sleeve tops.

### Easing a sleeve top

Sew a pair of lines, 3 mm (1/8") apart, along the edge of the sleeve top.

Pull the bobbin threads to contract the sleeve top carefully, matching it with the armhole size. Make sure not to make gathers in the sleeve top.



## Basting

There are 2 basting stitches available in this section.

### Basting (Auto)

This stitch is used for basting zipper tape or fitting of garments.

Sew in the same way as that for straight stitch sewing.

### Basting (Manual/Quilting)

Attach the darning foot PD-H.

When basting is selected, the feed dog lowers automatically.

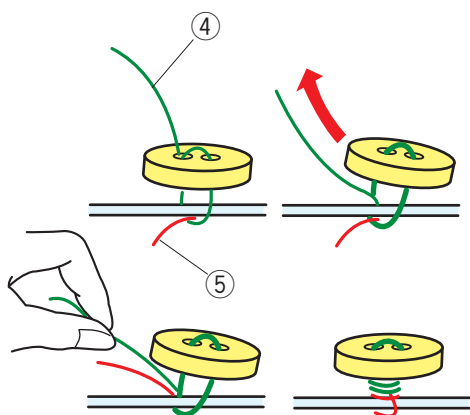
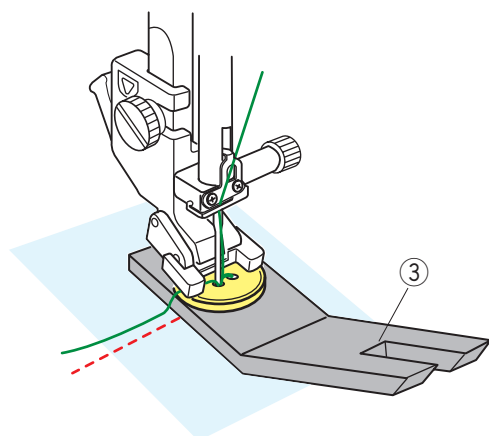
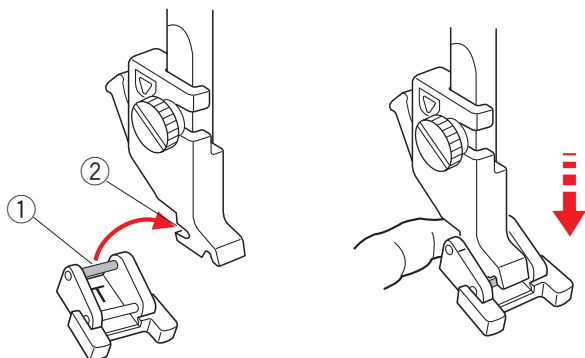
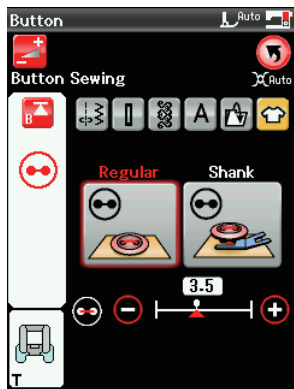
#### NOTE:

Refer to page 20 for how to attach the darning foot PD-H.

#### To sew

Hold the fabric taut and depress the foot control. The machine will make one stitch and stop automatically.

Slide the fabric to the rear for the next stitch.



## Button sewing

When attaching a button to thick fabric, you need to make a shank by using the button shank plate.

The feed dog lowers automatically when selecting the button sewing section.

### Attaching the button sewing foot T

Make sure to press the lockout key to lock the machine. Insert the rear pin of the foot into the rear groove of the foot holder.

- ① Rear pin
- ② Rear groove

Gently lower the presser foot lifter while holding the foot with your finger to fit the foot. Press the lockout key to unlock the machine.

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

Insert the button shank plate under the button.

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

- ③ Button shank plate

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

Press the "+" or "-" key so the needle enters into the right hole of the button.

Start sewing and continue until the machine stops automatically.

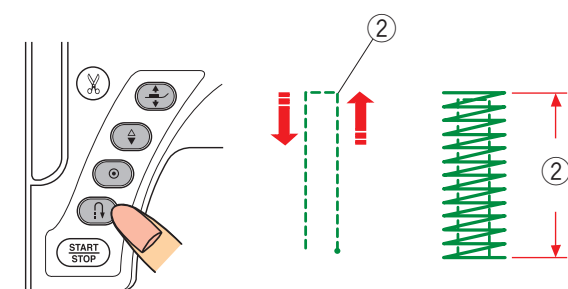
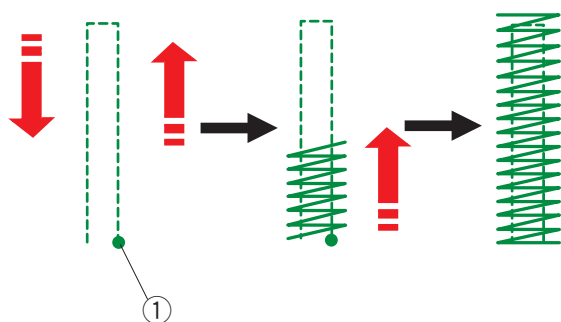
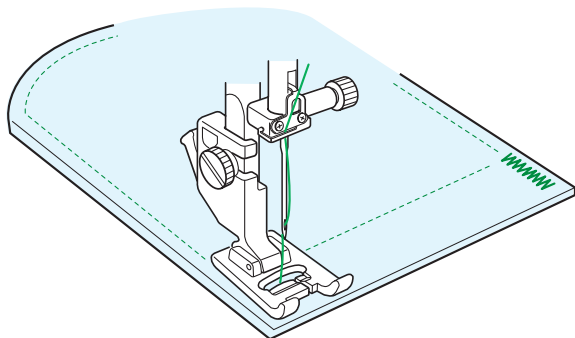
Remove the fabric from the machine.

Cut the all threads leaving at least 10 cm (4") tails. Trim the threads at the beginning close to the fabric.

Pass the needle thread at the end of stitching through the left hole in the button, between the button and fabric. Pull the needle thread to bring the bobbin thread up to the right side of the fabric.

- ④ Needle thread at the end
- ⑤ Bobbin thread

Wind the threads to form a shank and knot them together.



## Tacking

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

There are 3 auto tacking sizes and manual tacking available.

Attach the satin stitch foot F.

### Auto tacking

Lower the needle at the starting point and start sewing. The machine will sew the tack of the selected size and stop automatically when it is finished.

- ① Starting point

### Manual tacking

Start the machine and sew to the required length, then press the reverse button. This sets the tack length. Continue sewing until the machine stops automatically.

- ② Required length

### NOTE:

The maximum length of tacking is 1.5 cm (5/8").

### To sew the same size tack

To sew another tack in the same size, simply start the machine and sew until the machine stops automatically.

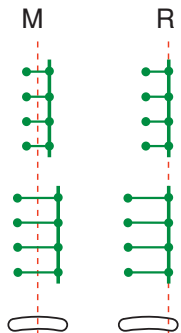
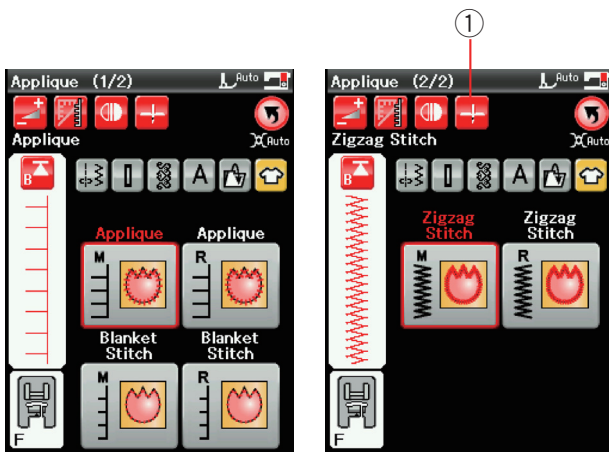
To sew the next tack in a different size, press the X key.

## Applique

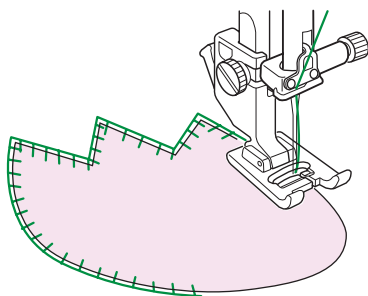
There are 6 types of applique stitches available in this section.

You can select the needle stop position either up or down by pressing the needle stop position key.

- ① Needle stop position key



②



The letter above the stitch image denotes the baseline of the needle drop position.

M: Middle (center)

R: Right

The baseline can be adjusted without changing the stitch width by pressing the "+" or "-" key on the bottom row.

### Pivoting at applique corners

When sewing an applique with sharp corners, you may turn on the "Foot up for pivoting" option so that the presser foot automatically goes up when the machine stops.

Press the foot-up key to turn on this option

- ② Foot-up key

### NOTE:

Make sure to stop the machine with the needle drops at the outer edge of the applique.

### Starting over from the corner

Press the startover key before sewing in the new direction to sew from the beginning of the pattern.

- ③ Startover key

Two options of startover are available for applique stitches. Press the cornering key to select normal startover or cornering startover.

The key icon will change to show which option is being selected when pressing the key.

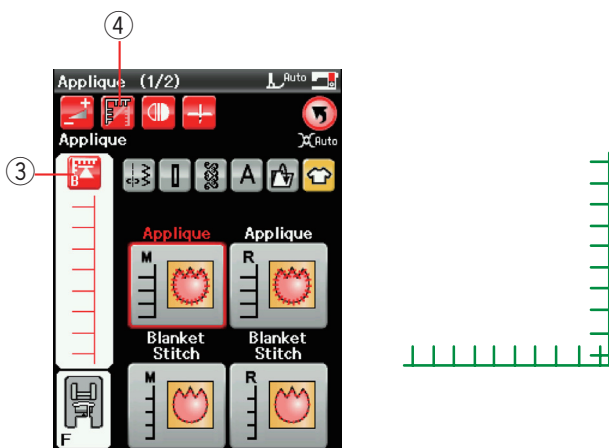
- ④ Cornering key

### Normal startover:

Sew a locking stitch then start sewing from the beginning of the pattern.

### Cornering startover:

Start sewing from the beginning of the pattern without a locking stitch.



## Patchwork

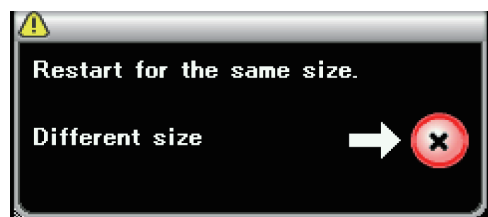
### Patchwork piecing

There are 3 stitches for seaming patchwork pieces in this section.

The default stitch length is set at 1.8 mm, ideal for patchwork piecing, but you can fine tune the stitch length by pressing the “+” or “-” key.

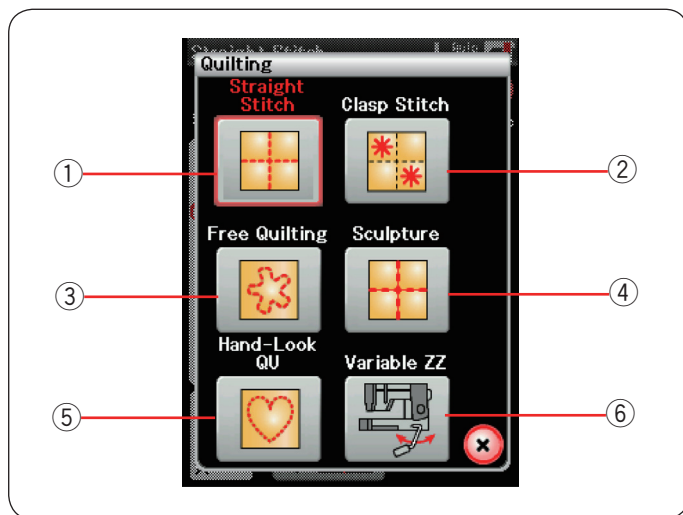
Attach 1/4” seam foot O, which helps you to keep a constant 1/4” (6 mm) seam allowance.  
Put 2 pieces of fabric with right sides together.  
Place the patchwork pieces under the foot so that the edge of the fabric matches the guide on the presser foot.

- ① Edges of fabric
- ② Guide on the 1/4” seam foot O



When you stop the machine, a message will appear.  
Press OK key and the machine memorizes the seam length to sew another piece of the same length.  
Press the X key to sew in a different size.

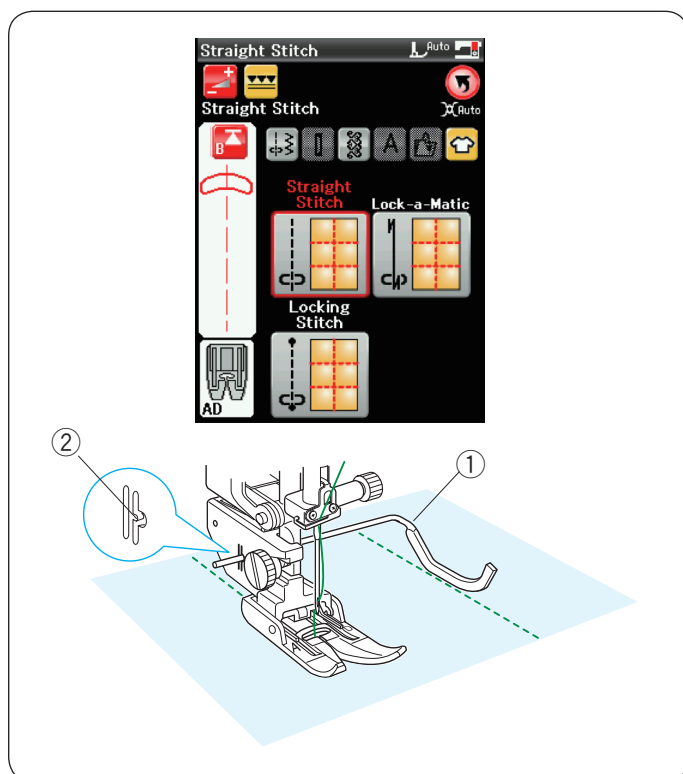
After sewing the memorized length, a message will appear.  
To sew the same length, start the machine and it will stop automatically after sewing the memorized length.



## Quilting

In this section, 6 types of useful stitches for quilting are available.

- ① Straight stitches (with dual feed)
- ② Clasp stitches
- ③ Free motion quilting stitches
- ④ Sculpture stitches (with dual feed)
- ⑤ Hand-look quilt stitches
- ⑥ Variable zigzag stitches



## Straight stitches

Straight stitches in this section are suitable for seaming quilt layers using the dual feed foot (refer to page 18 for how to attach it).

## Quilting guide bar

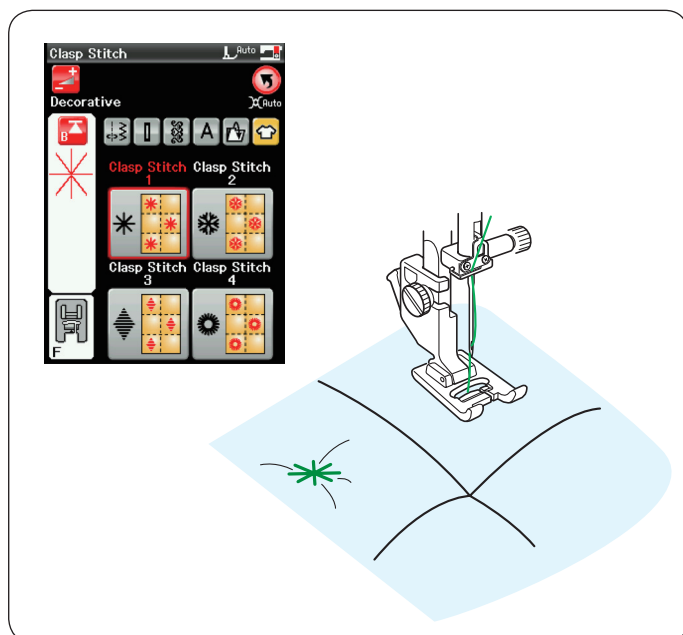
The quilting guide bar is helpful when sewing parallel, evenly spaced rows of stitching.

Insert the quilting guide bar into the hole in the rear of the foot holder.

Shift the quilting guide bar to the desired spacing.

- ① Quilting guide bar
- ② Hole

Sew rows of stitching while tracing the previous row of stitches with the quilting guide bar.



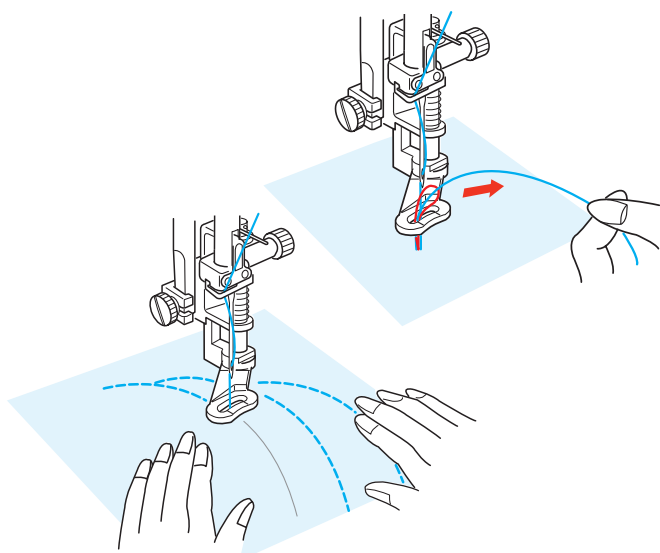
## Clasp stitches

You can close quilt layers and batting using the clasp stitch.

Use the satin stitch foot F.

The machine sews one unit of the pattern and automatically stops with the needle in up position when completed.





## Free quilting

For ordinary and bulky quilts, select the upper stitches and use the darning foot PD-H (refer to page 20 for how to attach the darning foot).

Select the lower stitches for flatter quilts and use the free quilting foot QC, QO or QV.

## One stitch off

The machine stops automatically after sewing one stitch so that you can bring the bobbin thread up to avoid it from bunching up on the wrong side of the fabric.

Hold the needle thread and sew one stitch and the machine stops automatically.

Pull the needle thread up to bring the bobbin thread up.

Hold both the needle and bobbin threads and sew several stitches to secure the threads.

You can trim the thread tails with scissors.

The machine will stitch continuously when you resume sewing.

If you wish to start sewing without “one stitch off”, press the one stitch off key to cancel this function.

The key icon changes to .

When “one stitch off” is active, the key icon shows .

① One stitch off key

## To Sew

Sew at medium speed while guiding the fabric with your hands.

Move the quilt 3 mm or less per stitch.

Refer to page 79 (button sewing foot) for how to attach the free quilt feet.



## Foot height for free motion quilting

When straight stitch 2 or zigzag stitch 2 is selected, the height of down position of the free motion quilting feet (QC, QO, QV) is optimized automatically.

However, you can fine tune the foot height according to the quilt thickness.

Press the foot height key and the adjusting window opens.

Adjust the foot height by pressing the “+” key or “-” key and press the OK key to register the setting.

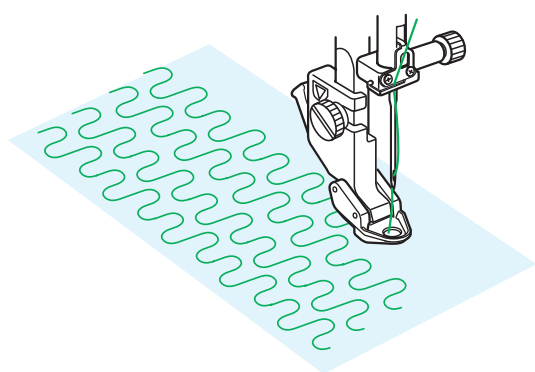
② Foot height key

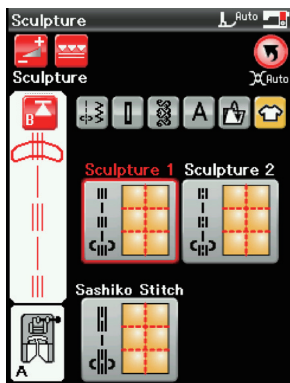
Reduce the height if the fabrics bounce when sewing.

Increase the height if the foot gets trapped in the fabrics when sewing.

## NOTE:

Red tip needle or purple tip needle is recommended for free motion quilting to prevent skipped stitch.



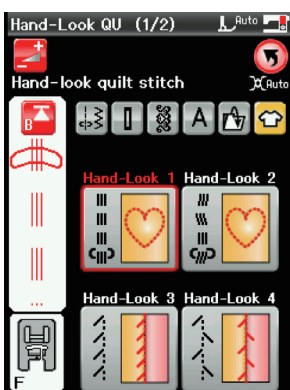


### Sculpture stitches

These stitches are used to accentuate design outlines and to create a mock hand-quilt.

Use the dual feed foot AD.

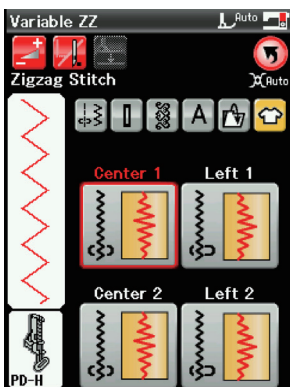
Refer to pages 19-20 for how to attach the dual feed foot.



### Hand-look quilt stitches

Use a transparent nylon thread for the needle and ordinary sewing thread for the bobbin.

The bobbin thread is pulled up on the right side of the fabric and the stitches will look as if sewn by hand.



### Variable zigzag

This unique feature allows you to control zigzag width with the knee lifter while you are guiding the fabric with your hands.

Select "Center 1" or "Left 1", using the darning foot PD-H for sewing quilt layers.

Select "Center 2" or "Left 2", using the clear view free quilt foot QV for sewing flat and firm fabrics.

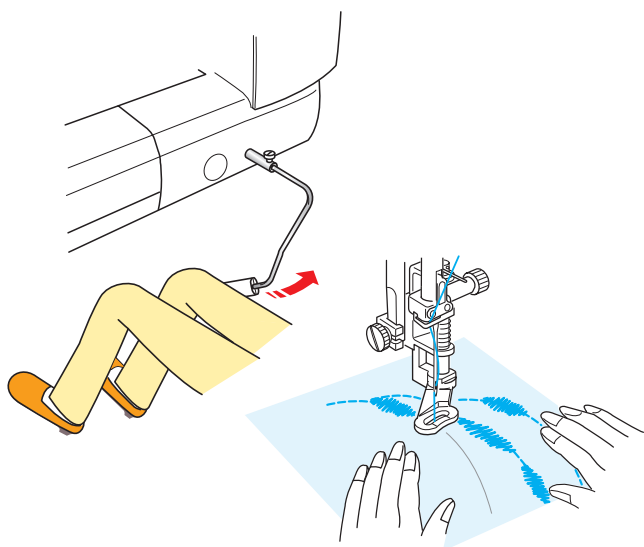
Attach a stabilizer to the wrong side of the fabric if needed.

Sew at slow to medium speed while guiding the fabric with your hands and controlling the stitch width with your knee.

#### NOTE:

When the machine stops, you can raise and lower the presser foot with the knee lifter.

Red tip needle or purple tip needle is recommended for free motion quilting to prevent skipped stitch.





## CUSTOMIZING MACHINE SETTINGS

Press the set mode key to enter the machine setting mode.

You can select various options and customize the machine settings to suit your personal preference.

⑤ Set mode key

Press one of the 4 keys to select the mode to customize.

### ① Common Setting Mode

In this mode, you can customize the machine settings and options for both ordinary sewing and embroidery.

### ② Ordinary Sewing Setting Mode

In this mode, you can customize the machine settings and options for ordinary sewing.

### ③ Embroidery Setting Mode

In this mode, you can customize the machine settings and options for embroidery. (refer to pages 126-128 for operation).

### ④ Language Selection Mode

In this mode, you can select the desired language for the screen messages.

To browse pages in each mode, press the next page key or previous page key

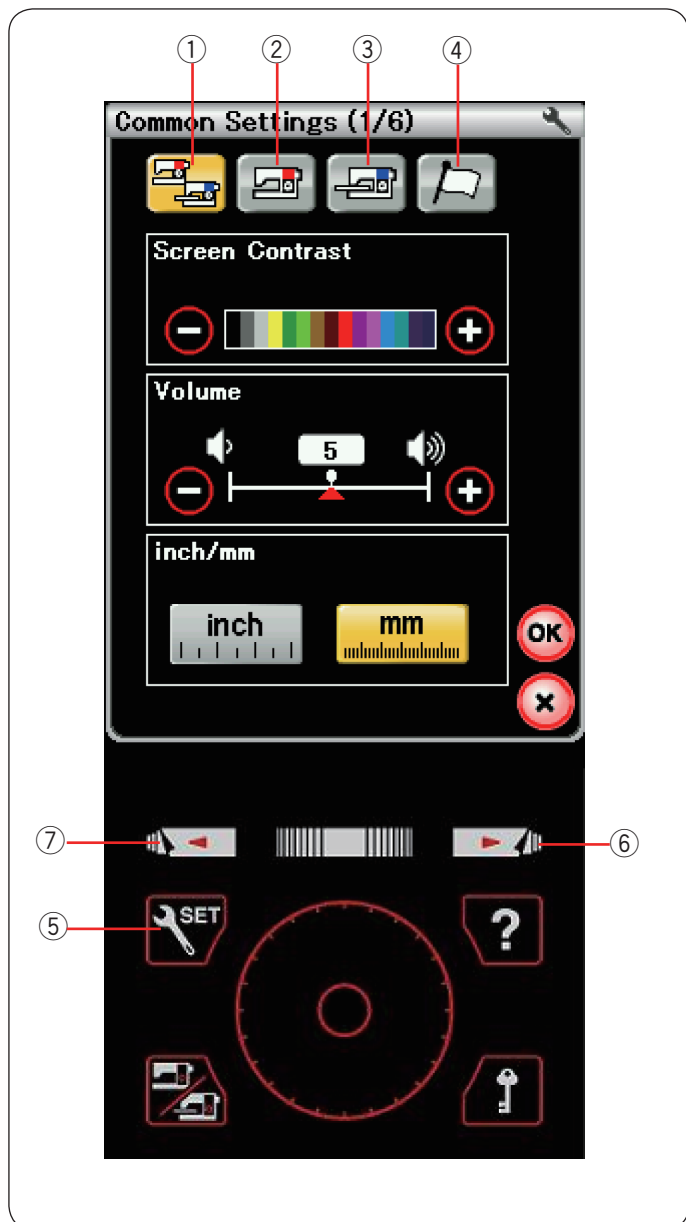
⑥ Next page key

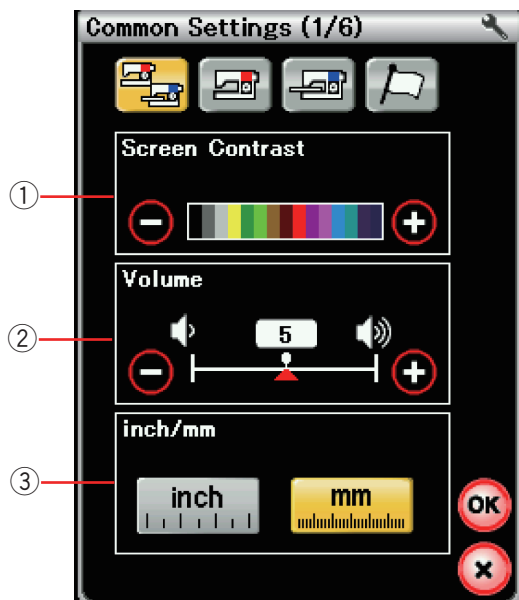
⑦ Previous page key

### Registering the Custom Settings

After customizing the settings, press the OK key to enable the new settings.

To cancel the changes to the settings, press the X key and the setting mode window will close.





## Common Setting Mode

### ① Screen Contrast

You can adjust the contrast of the LCD screen by pressing the “+” or “-” key.

### ② Sound Volume

The buzzer sound can be adjusted by pressing the “+” or “-” key.

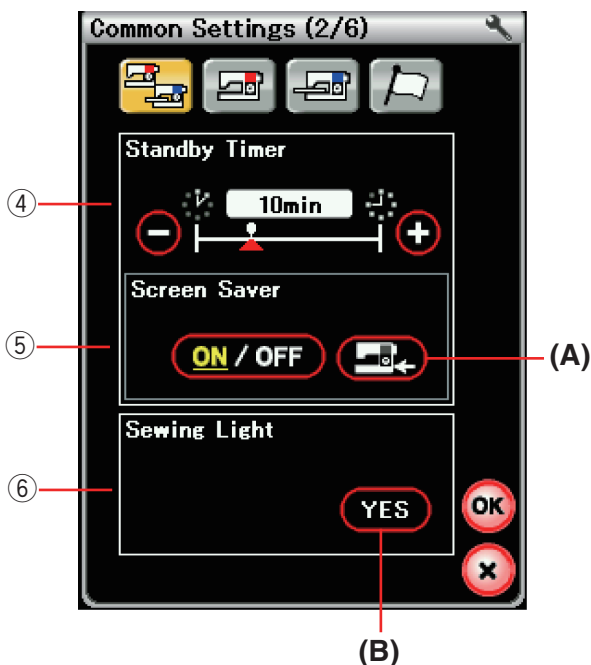
Set the value to “0” to mute the buzzer.

### ③ Inch/mm Option

You can set your machine’s dimensional unit to either inches or millimeters by pressing the “inch” or “mm” icon key.

The default unit is millimeters.

Press the next page key to show the next menu.



### ④ Standby Timer

The sewing lights will turn off, the LCD screen will go dark and the machine will be in standby mode if you have not used the machine within the time period set by this timer. Doing any operation will turn the lights and screen on again.

The standby timer can be set from 1 to 30 minutes.

If you wish to turn off the timer, press and hold the “+” key until “OFF” shows in the timer window.

### ⑤ Screen Saver

Press the ON/OFF key to turn on the screen saver, and the LCD screen will show the screen saver when the machine is in standby status.

#### NOTE:

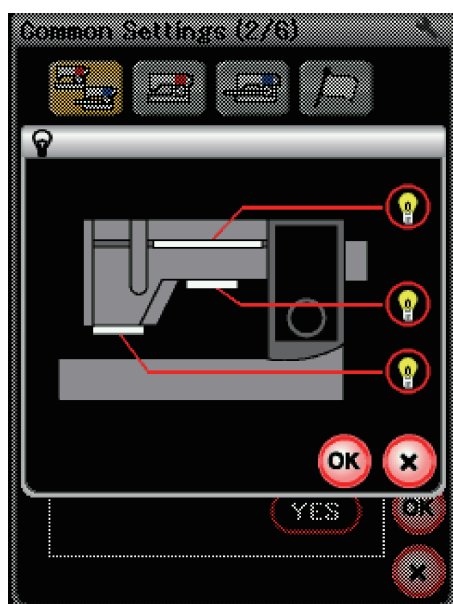
The (A) key is not applicable for this version of the machine.

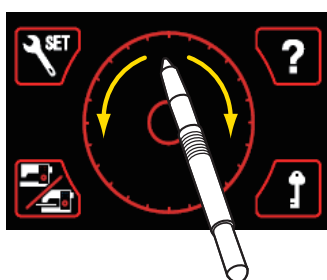
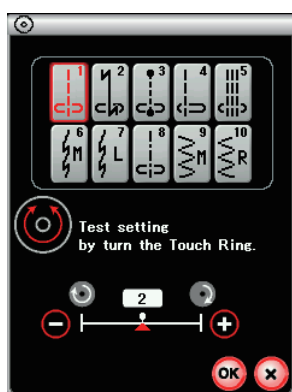
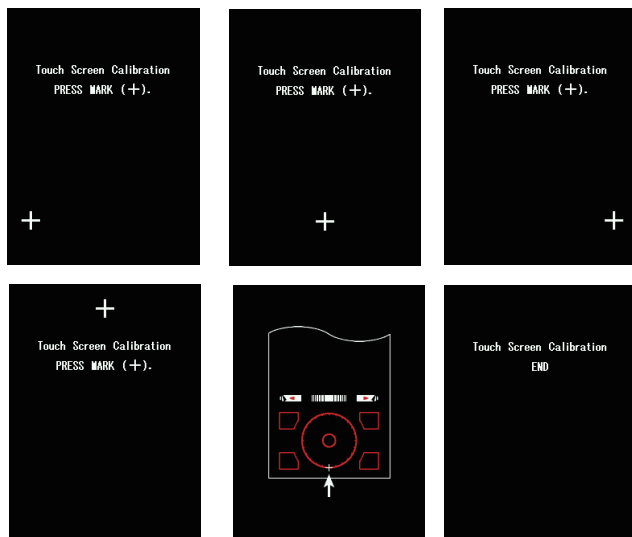
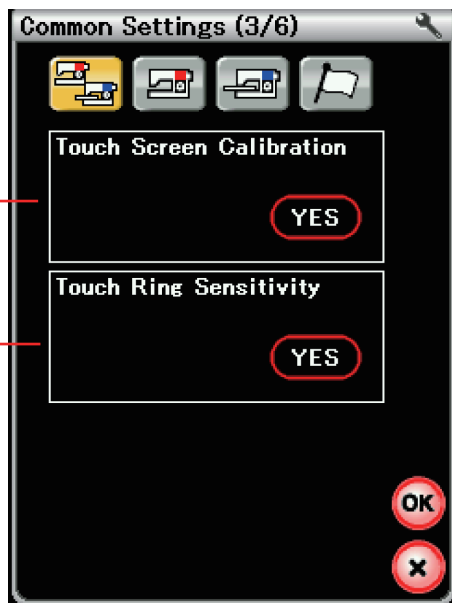
### ⑥ Sewing Light

Press the YES key to open the sewing light option window. The sewing lights can be turned on or off individually, however the retractable sewing light will always turn on when extended.

(B) YES key

Press the next page key to show the next menu.





### ⑦ Touch Screen Calibration

You can calibrate the key positions of the touch screen if you feel the touch screen key is not responding properly.

Press the YES key to open the calibration window.

Press the “+” sign with the touch panel stylus as the sign appears.

When you press the last sign, the screen shows “END” and the calibration window will close.

### ⑧ Touch Ring Sensitivity

Press the YES key to open the adjustment window.

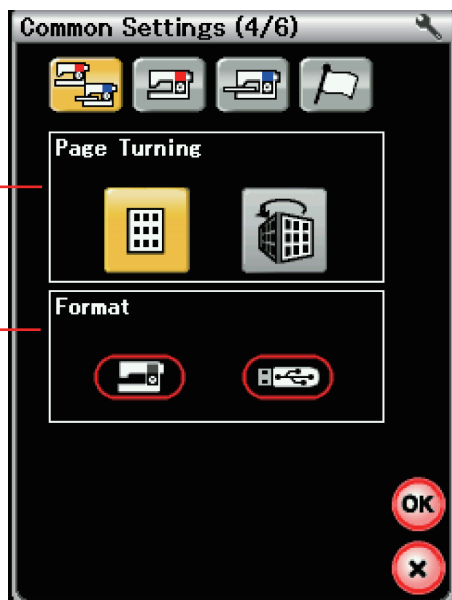
Press the “+” key for quicker response or press the “-” key for slower response.

You can test the response by circling around the touch ring with your finger tip or touch panel stylus.

Press the next page key to show the next menu.

⑨

⑩



## ⑨ Page Turning

You can select the normal page turning or animated page turning by pressing the relevant icon key.

## ⑩ Formatting the memory

If the internal memory of the machine or USB flash drive does not function due to damage to the memory bank, you need to re-enable it by formatting the memory.

To format the machine's internal memory, press the machine icon key and a confirmation message will appear. Press the OK key to format.

To format a USB memory stick, press the USB icon key and the confirmation window will open. Select the USB port, USB1 or USB2 port where your USB flash drive is connected and press the OK key to format.



### CAUTION:

Do not turn off the power or disconnect the USB flash drive while a warning message is displayed otherwise it may damage the memory bank.

Press the next page key to show the next menu.

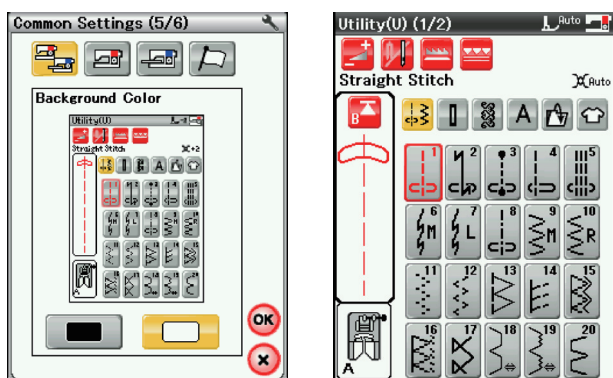
⑪



## ⑪ Background Color

You can select black or white for the background color of the visual touch screen by pressing the relevant icon key.

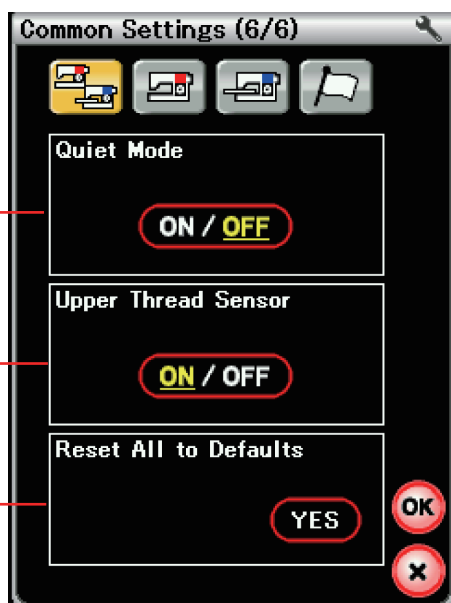
Press the next page key to show the next menu.



⑫

⑬

⑭



## ⑫ Quiet Mode

If you prefer the machine to run more quietly, turn on this option so the buzzer sound, start-up sewing speed and maximum embroidery speed will be set at the lowest levels.

The quiet mode setting overrules any previous settings for these parameters.

### NOTE:

Custom settings for sound volume, start-up speed and maximum embroidery speed are disabled, and the quiet sign will appear on the screen when the quiet mode is on.

## ⑬ Upper Thread Sensor

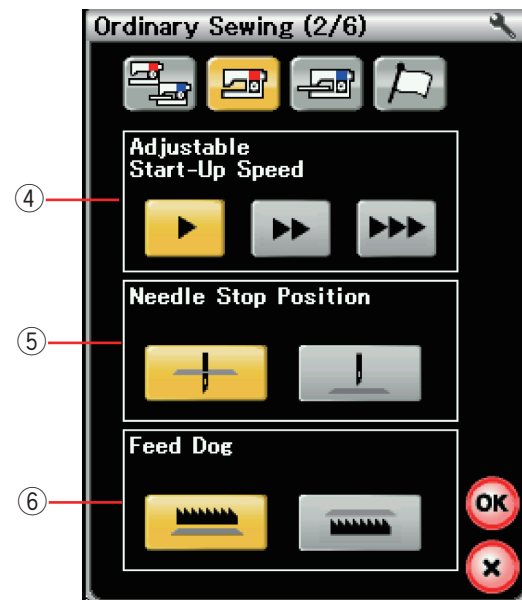
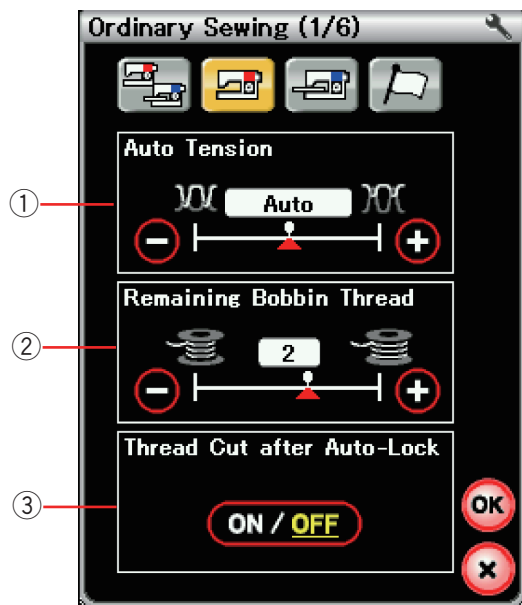
If you need to run the machine without threads, turn off the upper thread sensor.

After altering the settings press the OK key to enable the new settings.

## ⑭ Reset All to Defaults

Press the YES key to reset all the parameters to the original values (factory settings).

Press the OK key to register the new menu.



## Ordinary Sewing Setting Mode

### ① Auto thread tension

You can adjust the auto thread tension level by pressing the “+” or “-” key.

### ② Low bobbin thread warning

You can adjust the low bobbin thread warning level by pressing the “+” or “-” key.

To turn off the low bobbin thread warning, press the “-” key until “OFF” shows in the window.

### ③ Auto thread cutting

The machine automatically trims the threads after sewing locking stitches when this option is turned on.

Press the next page key to show the next menu.

### ④ Start-Up Speed

The machine will start running slowly and the sewing speed will gradually increase to maximum when pressing the start/stop button.

You can select the desired start-up speed from slow, normal or high by pressing the corresponding key.

### ⑤ Needle Stop Position

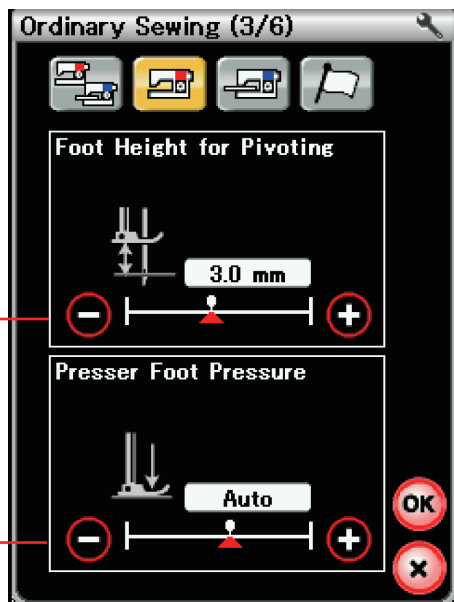
The machine always stops with the needle in the down position except when sewing buttonholes, specialty stitches, monograms, etc. However you can change the needle stop position to up by pressing the needle up key.

### ⑥ Drop feed option

Turn this option on if you wish to sew decorative stitches and sewing applications with the feed dog down.

Press the drop feed key to turn on this option.

Press the next page key to show the next menu.



### ⑦ Foot Height for Pivoting

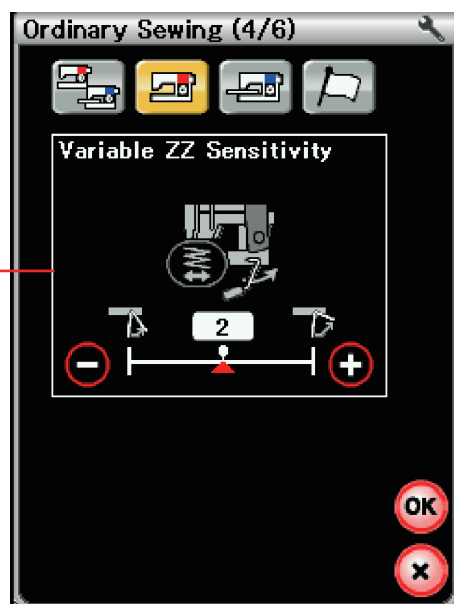
When the foot up option is turned on, the presser foot will automatically go up when the machine stops. The height of the foot in the up position can be adjusted by pressing the “+” key or “-” key in accordance with thickness of the fabrics.

Press the next page key to show the next menu.

### ⑧ Foot Pressure

The foot pressure is automatically optimized but you can adjust the foot pressure manually by pressing the “+” key or “-” key

Press the next page key to show the next menu.



### ⑨ Variable Zigzag Sensitivity

You can adjust amount of the needle swing against the knee lifter movement for variable zigzag in sewing applications.

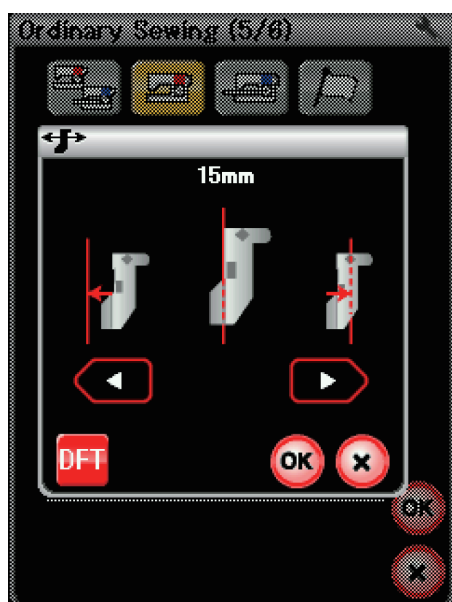
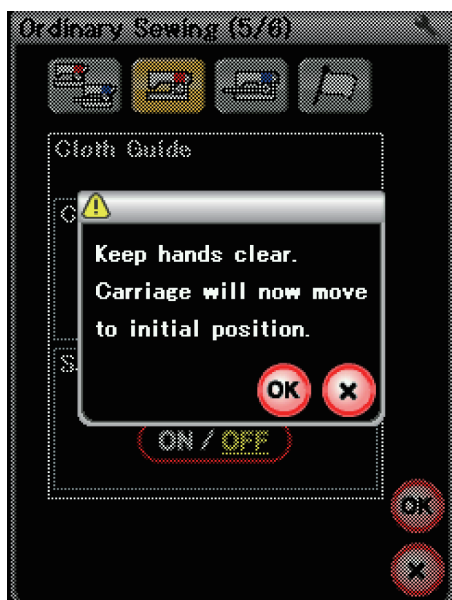
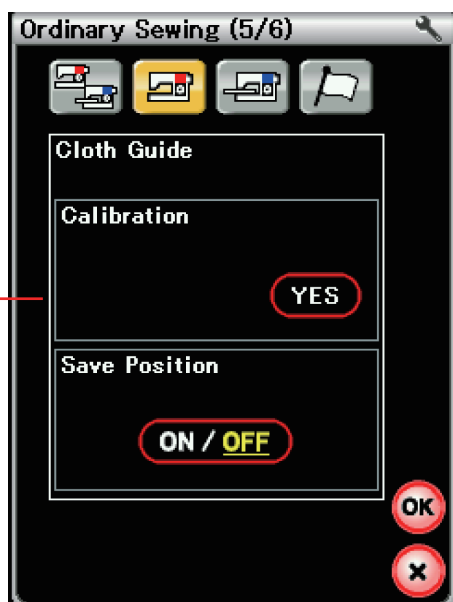
Press the “-” key so the needle swings when moving the knee lifter a small amount.

Press the “+” key so the needle swings when moving the knee lifter a large amount.

Press the next page key to show the next menu.



⑩



## ⑩ Cloth Guide

### Calibration of the default position

The default position of the cloth guide is 15 mm (5/8") from the center needle drop position. However, you can fine tune the default position of the cloth guide.

Press the YES key and a warning message will appear. Press the OK key and the carriage will move to the standard position.

Press the ◀ key or ▶ key to adjust the position of the cloth guide.

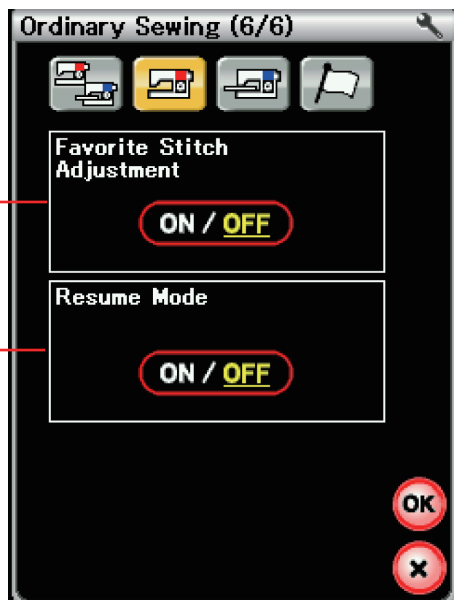
Press the OK key and the carriage will return to the home position.

### Saving the favorite position

If you have set the cloth guide to your favorite position, 6.4 mm (1/4") in the manual setting window for example (refer to page 36), you can save this position for future use.

To save the favorite position, press the ON/OFF key to turn ON the save position option.

Press the next page key to show the next menu.



### ⑪ Favorite Stitch Adjustment

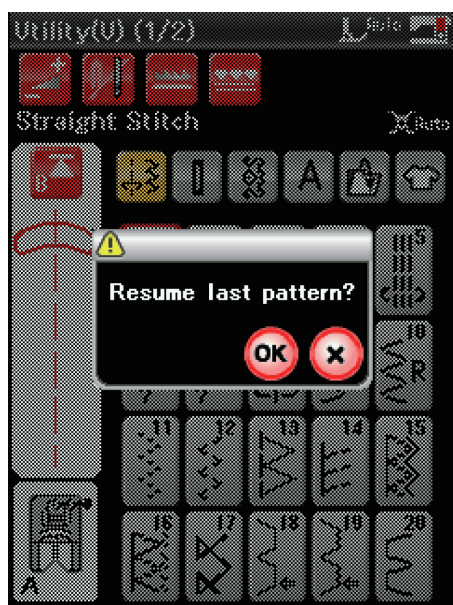
If you wish to save the changes to manual stitch settings, turn on this option by pressing the ON/OFF key.

#### NOTE:

This option is available for utility stitches (U1-U27), buttonholes and specialty stitches (B1-B25) and sewing applications.

### ⑫ Resume Mode

Turn on this option when you wish to resume the last pattern sewn before turning the power switch off.



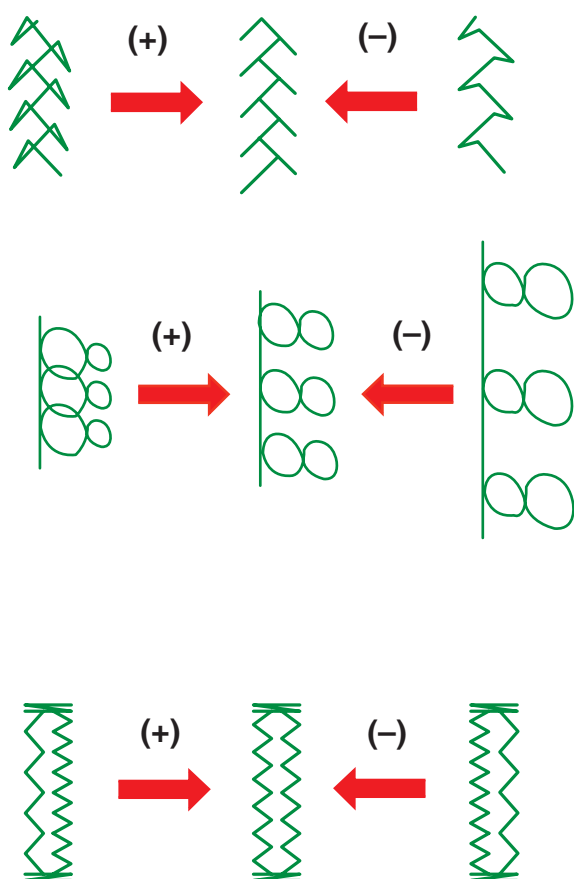
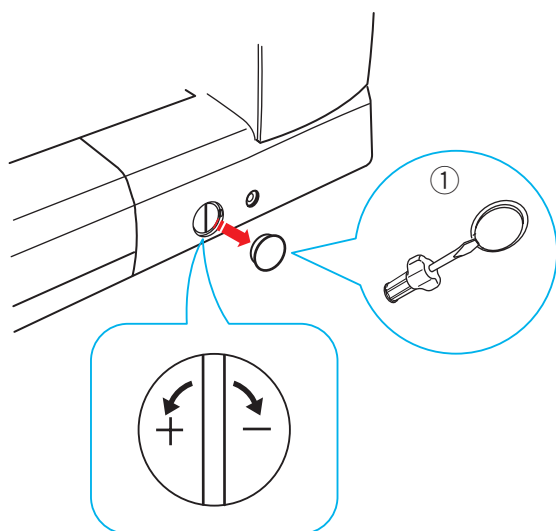
When the power is turned on again, the confirmation message will appear. Press the OK key to resume the last pattern.

After customizing the settings, press the OK key to enable the new settings.



### Language Selection Mode

Select the desired language and press the OK key. The visual touch screen shows messages in the selected language.



## Correcting Deformed Stitch Patterns

The sewing results of the stretch stitch patterns may vary depending upon the sewing conditions, such as sewing speed, type of the fabric, number of layers etc. Always test sew on a scrap piece of the fabric that you wish to use.

If decorative stitch patterns, letters, numbers or the manual buttonhole stitch are deformed, correct them with the feed balancing dial.

Remove the cap by using the screw driver etc. Make sure not to scratch the machine body with the screwdriver.

① Cap

### NOTE:

In normal sewing, set the feed balancing dial to the neutral position, i.e. the groove on the dial is centered with the standard setting mark.

### Decorative stretch stitch patterns

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

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

### Letters and numbers

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

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

### Stitch balance of the stretch buttonhole (B10)

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

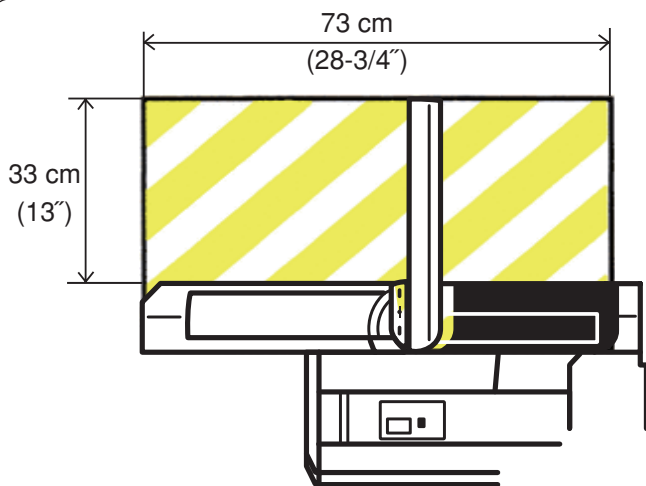
If the stitches are not balanced, correct the unevenness with the feed balancing dial.

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

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

### NOTE:

Return the feed balancing dial to the neutral position and attach the cap when the sewing is finished.



## EMBROIDERY MODE

### Embroidery Unit

#### NOTE:

Be sure to provide sufficient space around the machine to allow the hoop to move freely.  
Do not place anything inside the area shown on the left.

### Attaching the embroidery unit

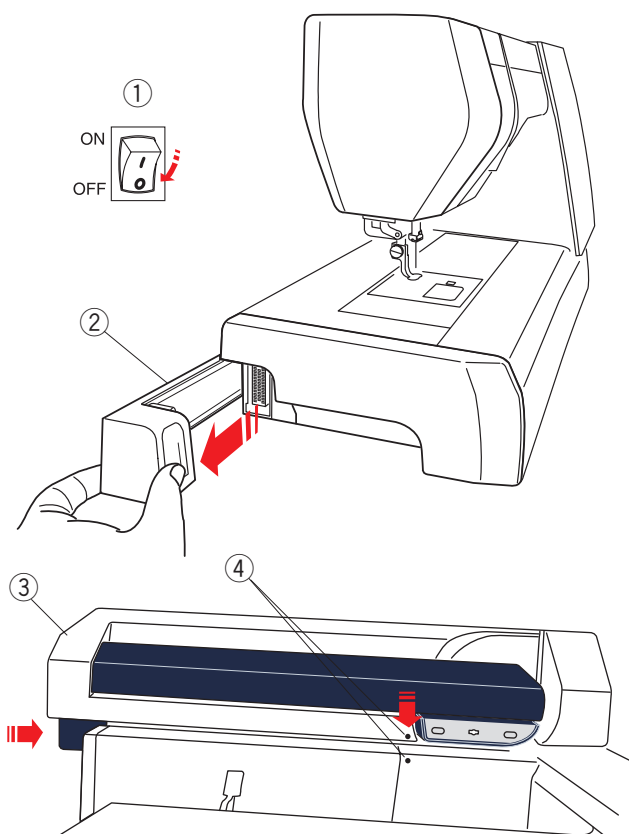
Turn the power switch off.

Remove the cover from the machine.

- ① Power switch
- ② Cover

#### NOTE:

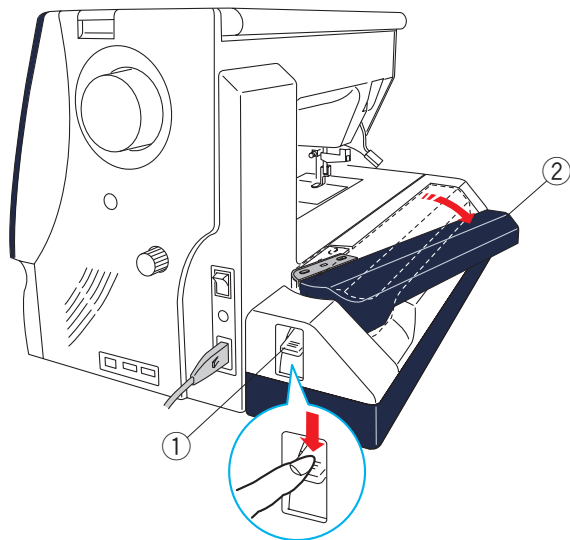
Always attach the extension table except when using the free-arm hoop.



Place the embroidery unit on the back side of the machine base, matching the small dots as shown.

- ③ Embroidery unit
- ④ Small dots

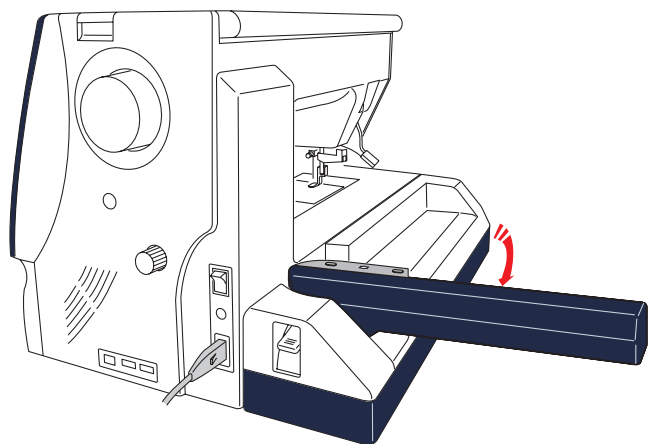
Slide the embroidery unit along the machine to the right and push the embroidery unit firmly until it fits securely.



### Extending the carriage arm

Press down the carriage arm release lever to extend the carriage arm.

- ① Carriage arm release lever
- ② Carriage arm



Swing out the carriage arm until it locks in the fully extended position.



### **CAUTION:**

Do not push on the carriage arm when it is extended.  
Do not force to move the carriage or carriage arm by hand.

Do not hold the carriage or carriage arm while it is moving.

Failure to do so may cause a damage to the carriage mechanism.

## Detaching the embroidery unit

### NOTE:

Be sure to remove the embroidery unit when carrying or storing the machine.

Remove the hoop from the carriage and return the carriage to the home position (refer to page 113).

### NOTE:

If the needle is in down position, make sure to raise the needle by pressing the needle up/down key.

Push down the carriage arm release lever to retract the carriage arm.

- ① Carriage arm release lever
- ② Carriage arm



### WARNING:

Be careful not to get your finger caught between the embroidery unit and machine bed with the extension table removed when the carriage returns to home position.

Retract the carriage arm to the stored position.

Turn the power switch off.

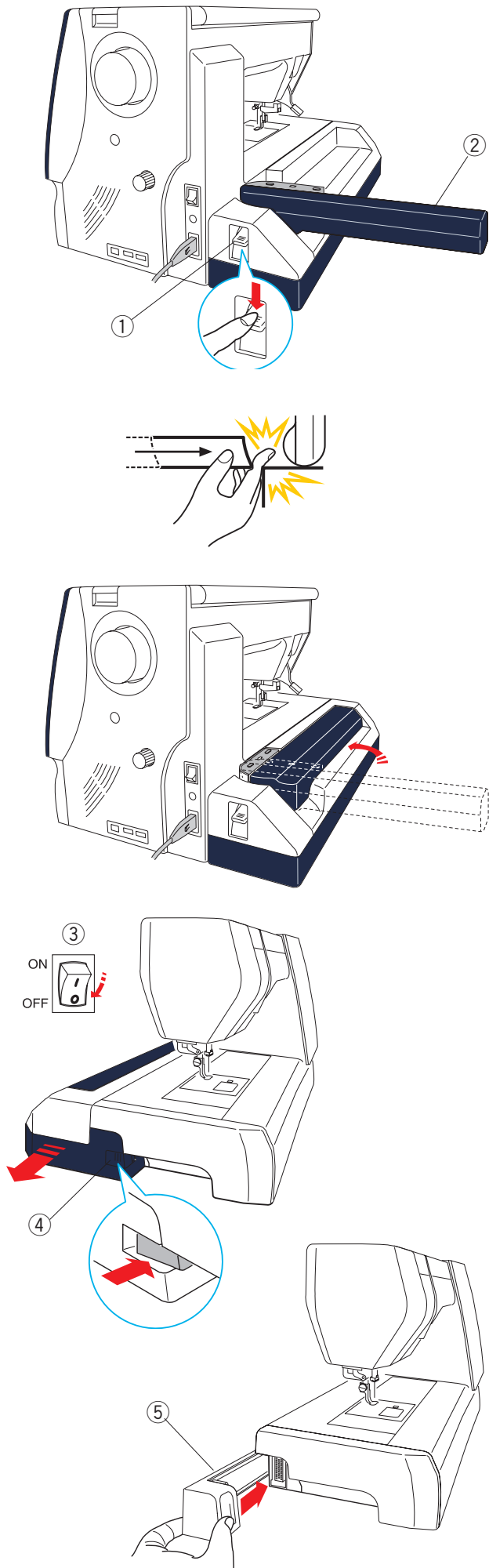
Push the embroidery unit release button.

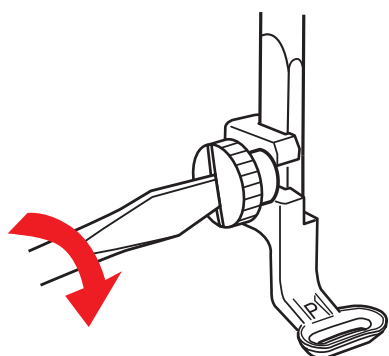
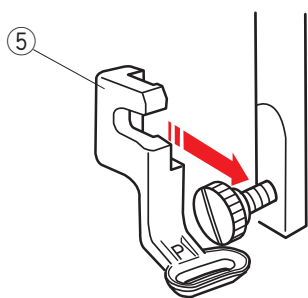
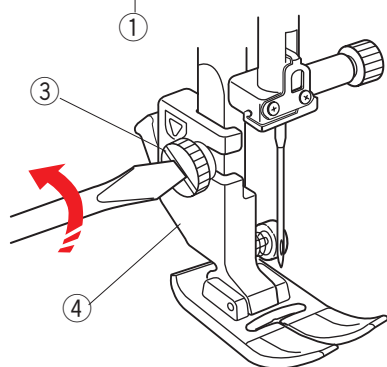
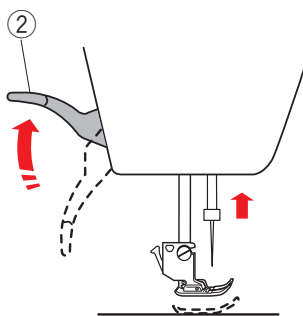
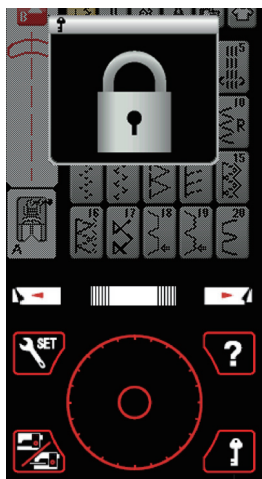
Slide the embroidery unit to the left and remove it.

- ③ Power switch
- ④ Embroidery unit release button

Attach the cover to the machine.

- ⑤ Cover





## Attaching the Embroidery Foot

Use the embroidery foot P for embroidery.

Turn the power switch on.

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

Press the lockout key and raise the presser foot with the presser foot lifter.

- ① Lockout key
- ② Presser foot lifter

Loosen the thumbscrew with the screwdriver and remove the foot holder.

- ③ Thumbscrew
- ④ Foot holder

Attach the embroidery foot P to the presser bar from behind. Tighten the thumbscrew loosely by hand.

- ⑤ Embroidery foot P

Lower the foot with the presser foot lifter.

Tighten the thumbscrew securely with the screwdriver.



## Attaching the Straight Stitch Needle Plate

Use the straight stitch needle plate for embroidery.

Turn the power switch on.

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

Press the lockout key and raise the presser foot with the presser foot lifter button.

① Presser foot lifter button

Remove the extension table.

Push down the needle plate release lever and the needle plate will snap off.

A message will appear warning that the needle plate is not secured.

Remove the needle plate.

② Needle plate release lever

Attach the hook cover to the straight stitch needle plate.

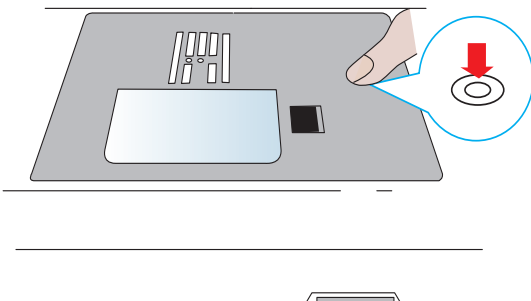
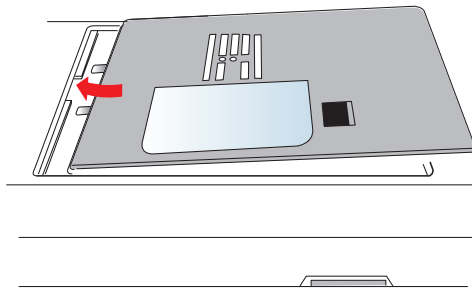
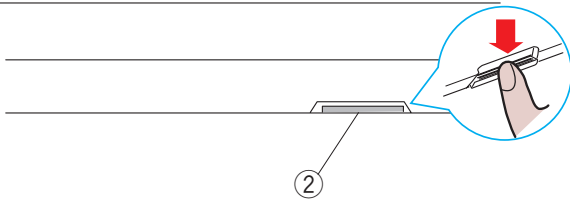
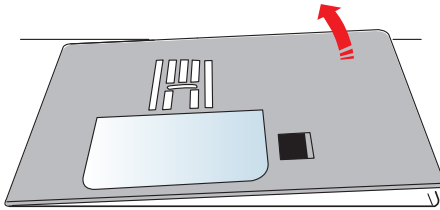
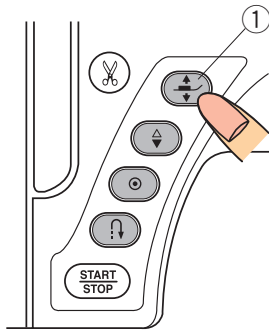
Place the straight stitch needle plate in the opening for the needle plate.

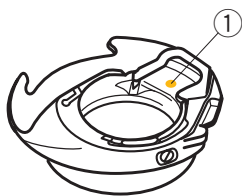
Match the left edge of the needle plate with the opening.

Push the mark on the needle plate down until it locks in place.

The warning message disappears and a confirmation message will appear.

Press the X key and the machine automatically selects the straight stitch.





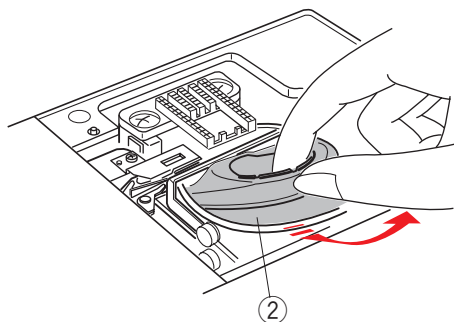
## Special Bobbin Holder for Embroidery

Replace the standard bobbin holder with the special bobbin holder for embroidery when using bobbin threads other than Janome bobbin thread for embroidery.

### NOTE:

The special bobbin holder is marked with a yellow dot for identification.

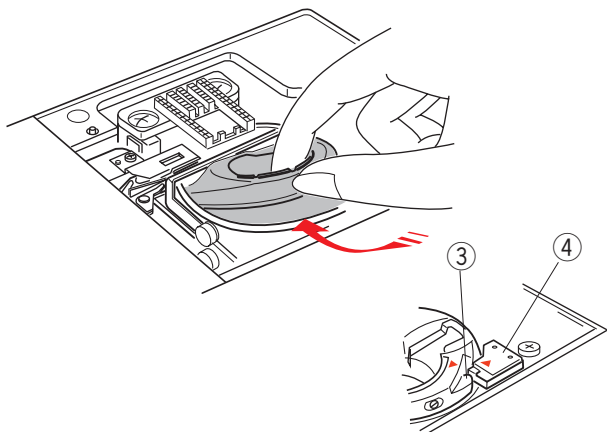
- ① Yellow dot



Remove the needle plate (refer to the previous page).

Take out the standard bobbin holder.

- ② Standard bobbin holder



Insert the special bobbin holder into the hook race.

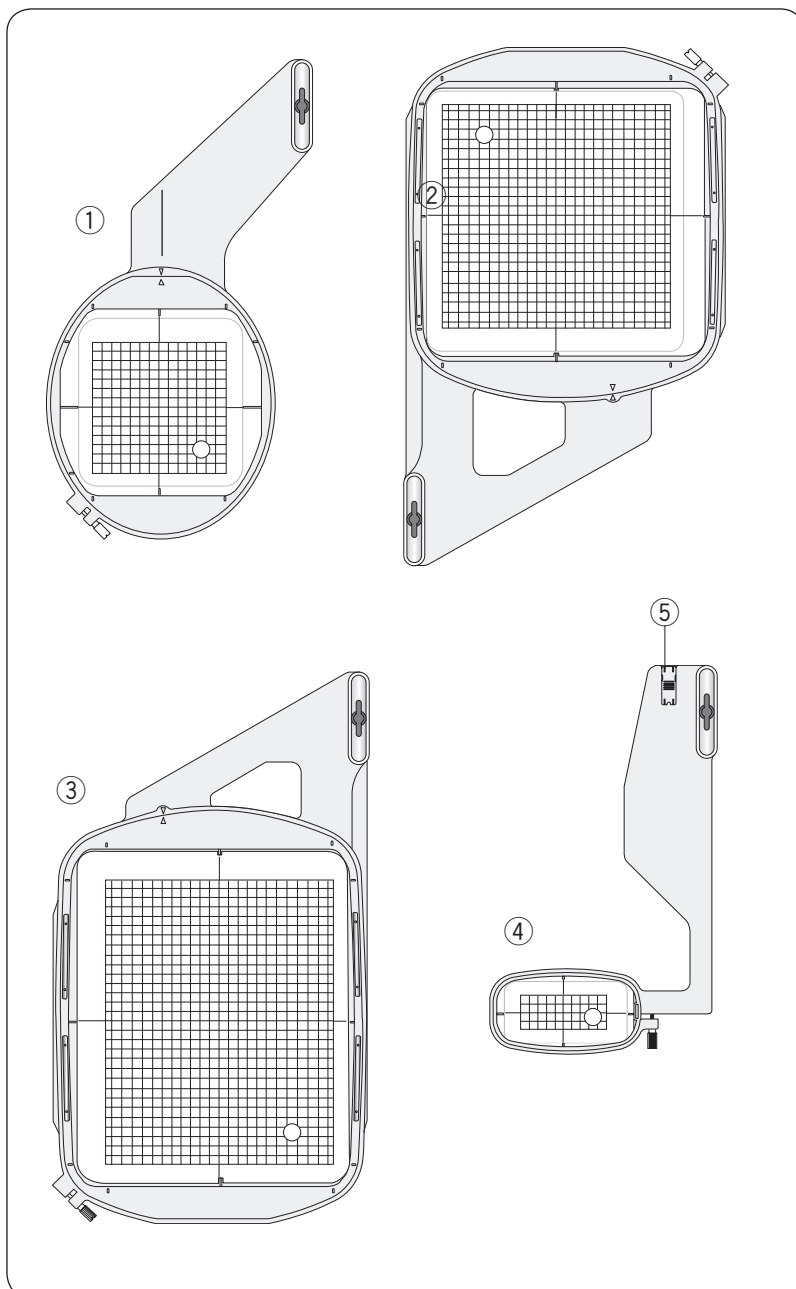
Make sure to match the knob of the bobbin holder with the stopper on the machine.

Attach the needle plate.

- ③ Knob
- ④ Stopper

### NOTE:

Use the standard bobbin holder when sewing lace designs and quilting designs that use the same thread for the bobbin as the needle thread.



## Embroidery Hoops

There are 4 embroidery hoops included in the standard accessories.

### ① Embroidery hoop SQ14

An oval embroidery hoop with a 14 cm (5.5") square embroidery area

### ② Embroidery hoop SQ23

A square embroidery hoop with a 23 cm (9.1") square embroidery area

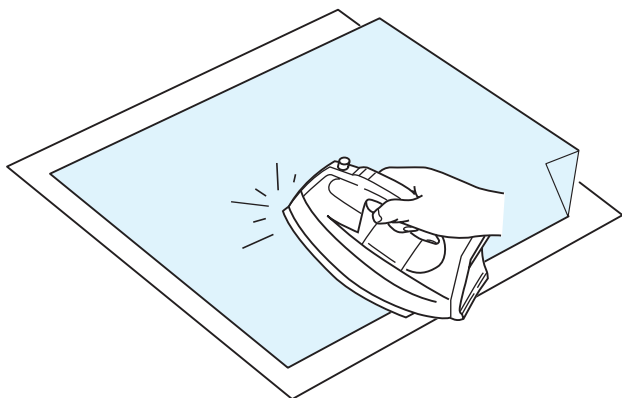
### ③ Embroidery hoop GR

An extra large embroidery hoop with a 23 cm by 30 cm (9.1" by 11.8") embroidery area

### ④ Embroidery hoop FA10

A free arm embroidery hoop with a 10 cm by 4 cm (3.9" by 1.6") embroidery area

### ⑤ Blocking plate



## Stabilizers

To create the best quality embroidery, it is important to use stabilizers.

### How to use:

Attach the stabilizer to the wrong side of the fabric.

You may need to use more than one layer.

For firm fabrics, you may place a thin paper under the fabric.

The non-adhesive type should be used when embroidering fabric which cannot be ironed or for sections which are difficult to iron.

Cut the stabilizer larger than the embroidery hoop and set it on the hoop so that the entire piece is fastened with the hoop to prevent any looseness in the fabric.

### Attaching the stabilizer

Place the wrong side of fabric and the glossy side of the stabilizer together. Fold up a corner of the stabilizer and fuse it with an iron.

#### NOTES:

Fold up a corner of the stabilizer, to make it easier to peel off the excess stabilizer after stitching.

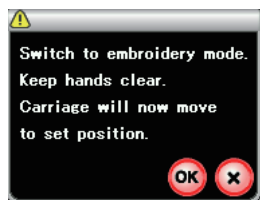
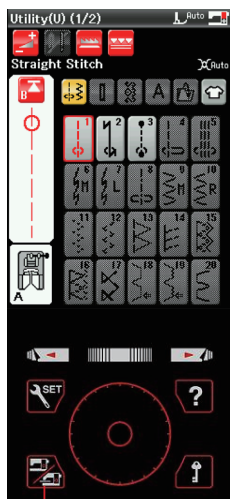
Ironing temperatures vary depending on the kind of adhesive stabilizer you are using.

## Types of the stabilizers

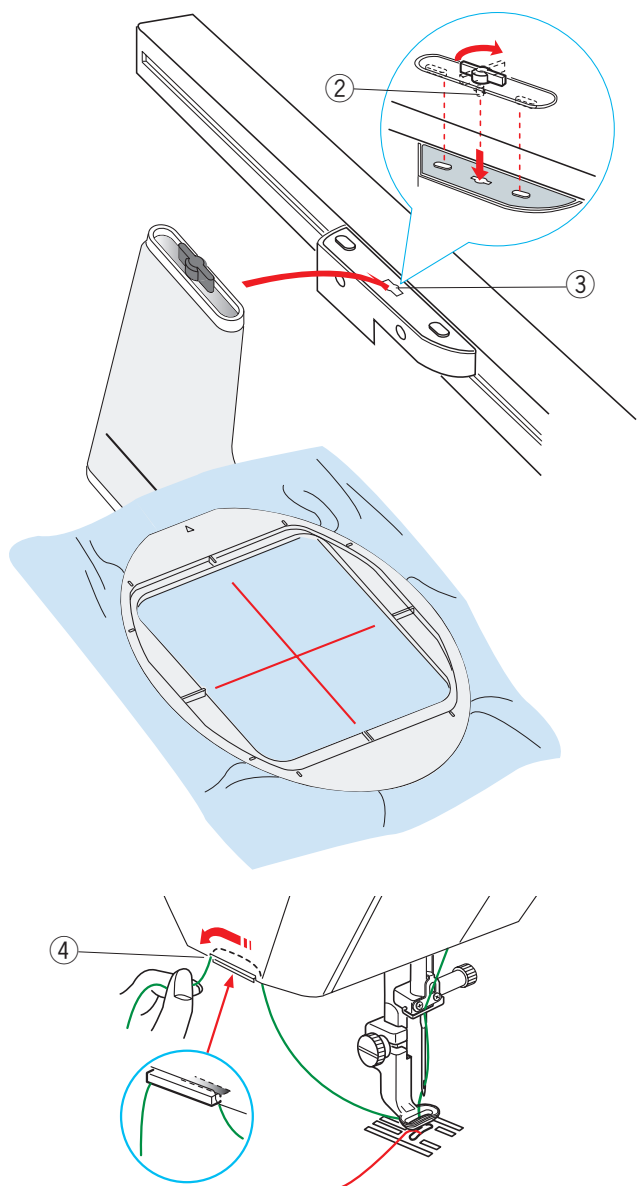
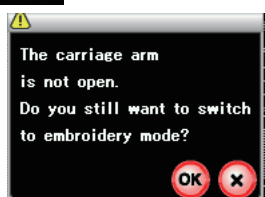
Type	Usage	Property
Tear-away	Stable woven fabrics	Made from a fiber that will tear easily.
Iron-on	Knits and all kinds of unstable fabrics	Adhesive type fusible with an iron.
Cut-away	Knits and all kinds of unstable fabrics	Non-woven fabric that does not tear.
Water soluble	Cutwork or lace embroidery Right side of looped fabrics such as towels to avoid loops coming through the embroidery	A thin film that will dissolve in water.
Sticky	Securing a small fabric or work that cannot be secured in the hoop Velvet and other napped fabric that would be permanently marked by the hoop	Sticky paper

Avoid sewing on the layers thicker than 3 mm (1/8").





①



## Attaching the Embroidery Hoop to the Machine

Turn the power switch on and open the carriage arm. Press the mode switch key and a warning message will appear.

Press the OK key and the carriage will move to the starting position.

The LCD screen will display the embroidery mode window.

- ① Mode switch key

### NOTE:

If you press the mode switch key with the carriage arm retracted, a confirmation message will appear. Do not press the OK key or X key. Instead, open the carriage arm.

Place the hoop on the machine and attach the hoop to the carriage by inserting the lock pin of the hoop into the hole in the carriage.

Turn the knob clockwise to secure the hoop.

- ② Lock pin
- ③ Hole

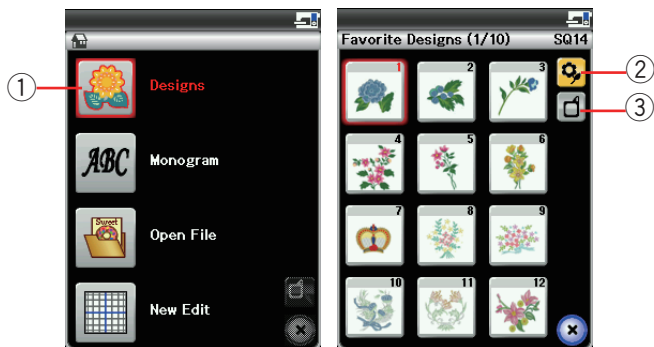
### Thread holder

To avoid sewing over a tail of the needle thread, place the thread end on the thread holder.

- ④ Thread holder

Pass the needle thread through the hole in the embroidery foot and draw it up to the thread holder.

Hang the thread on the thread holder from front to back.



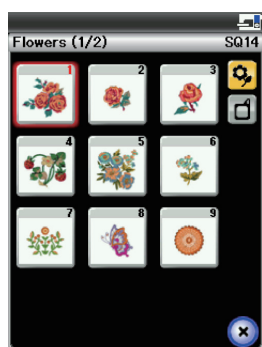
(1/4)

(2/4)



(3/4)

(4/4)



## Selecting Built-in Embroidery Designs


Press the built-in design key and the first page of the design list of favorite designs will open.

- ① Built-in design key

Press the design category key to browse the design list by design category, or press the hoop size key to browse the designs by hoop size.

- ② Design category key
- ③ Hoop selection key

## Design category

Press the design category key  to show the design lists by category.

Press the next or previous page key to browse the design lists.

- ④ Next page key
- ⑤ Previous page key

Page 1 of 4

- Favorite Designs
- Lace Designs
- Border Designs
- Quilting Designs

Page 2 of 4

- Cross Stitch Alphabet Designs
- Floral Alphabet Designs
- Calibration Pattern (for clothsetter)

Page 3 of 4

- GANAHA Collections, Flowers
- GANAHA Collections, Kitchen
- GANAHA Collections, Sweets
- GANAHA Collections, Kids


Page 4 of 4

- GANAHA Collections, Sewing Items
- GANAHA Collections, Others
- GANAHA Collections, Interior
- GANAHA Collections, Redwork

Press the desired category to select and the pattern selection window will open.

Browse the pattern list with the next page key or touch ring and select the desired pattern by pressing the pattern icon key.

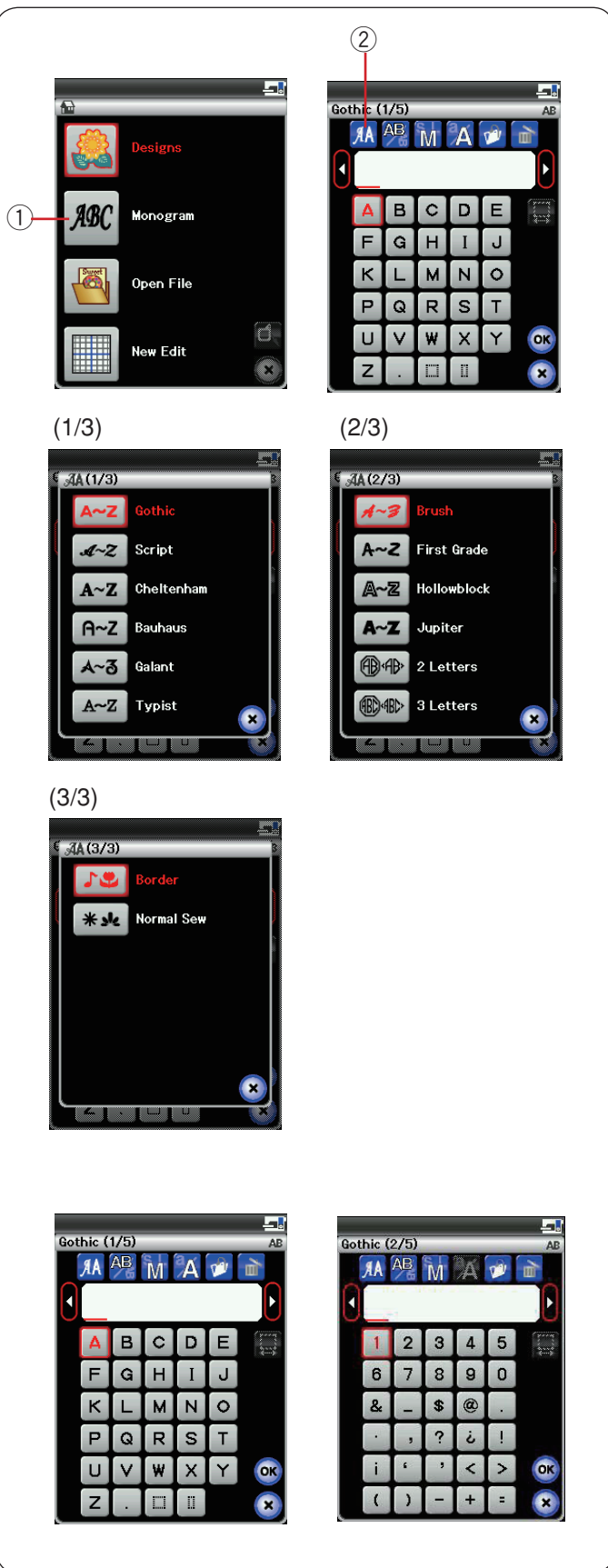
## Hoop size

Press the hoop size key  and the hoop selection window will open. Select the same hoop as the one attached to the machine.

Browse the design list with the next page key or touch ring and select the desired pattern by pressing the pattern icon key.

The LCD screen will show the hoop confirmation window.





## Monogramming

Press the monogram key and the monogram window for Gothic font will open.

Press the font selection key to open the font selection window.

- ① Monogram key
- ② Font selection key

You can select one of the 10 fonts for monogramming as well as 2-letter, 3-letter, border patterns and normal sew patterns.

The following fonts and patterns are available:

Page 1 of 3

- Gothic font
- Script font
- Cheltenham font
- Bauhaus font
- Galant font
- Typist font

Page 2 of 3

- Brush font
- First grade font
- Hollowblock font (upper case only)
- Jupiter font (upper case only)
- 2-Letter
- 3-Letter

Page 3 of 3

- Border patterns
- Normal sew patterns (patterns similar to ordinary stitches)

Press the icon key of the desired font and the monogram window will open.

Browse pages with the page keys or touch ring.

You can enter alphabet letters, numbers, symbols and European letters.

### NOTE:

If you select Russian for screen message, Russian characters can be selected instead of alphabet letters.

## Function keys

### ① Font selection key

Press this key to open the font selection window.

### ② Lettering orientation key

Press this key to select the horizontal or vertical orientation.

### ③ Letter size key

You can select the following 3 letter sizes by pressing this key.

The approximate letter sizes of upper case are as follows:

**L (Large):** 30 mm (1.2")

**M (Medium):** 20 mm (0.8")

**S (Small):** 10 mm (0.4")

### ④ Letter case key

Pressing this key changes the letter case from upper case to lower case and vice versa.

### ⑤ Save file key

Pressing this key opens the save file window and allows you to save the text or monogram as a file.

### ⑥ Delete key

Press this key to delete the character above the cursor.

### ⑦ Cursor key

Press these keys to move the cursor to the left or right.

### ⑧ OK key

Press this key to confirm your entry and open the embroidery screen.

### ⑨ Space adjust key

This key is activated only when a space is entered.

If the spaces between characters look uneven, insert a blank space between characters and adjust the space width to justify.

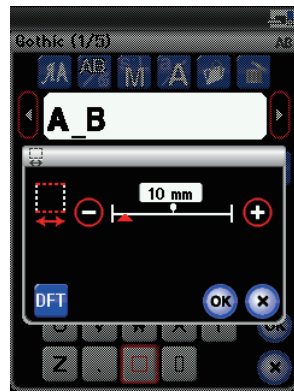
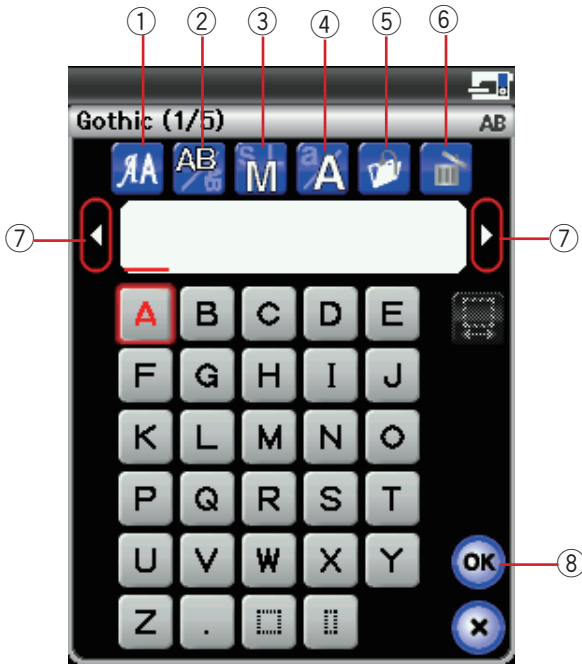
Press this key to open the space adjustment window.

To increase the space width, press the "+" key.

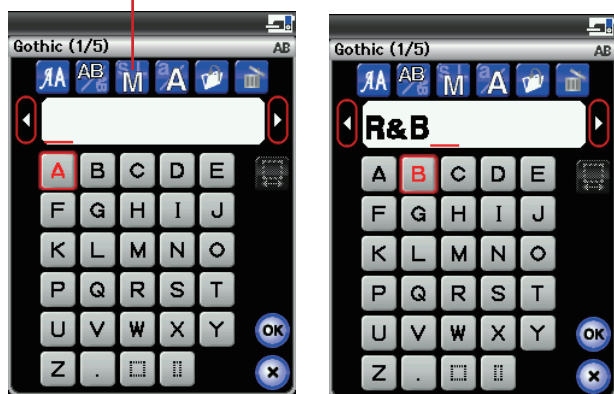
To decrease the space width, press the "-" key.

### NOTE:

The space width is shown only in millimeters.



①



②



R & B

## Programming a monogram

**Example:** Programming “R&B” in Gothic style font.

Enter “R”, the cursor shifts to the right and “R” is automatically memorized.

Press the letter size key and select small size.

① Letter size key

Enter “&”, the cursor shifts to the right and “&” is automatically memorized.

Press the letter size key and select medium size.

Enter “B”, the cursor shifts to the right and “B” is automatically memorized.

Press the OK key and the hoop confirmation window will appear.

Press the OK key and a warning message will appear. Press the OK key and the carriage moves to starting position

The screen changes to the ready to sew window.

## Color change

You can sew a multi-colored monogram by changing the thread color of each letter if you press the color change key before sewing.

The machine will stop automatically when each character has been sewn.


Change the thread to the next color and start sewing again.

② Color change key

## Monogram placement

You can select one of 3 monogram placements : left justify, center justify and right justify.


### ① Left Justify

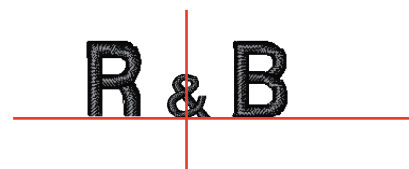
Press the  key to start sewing from the left end reference line on the template.

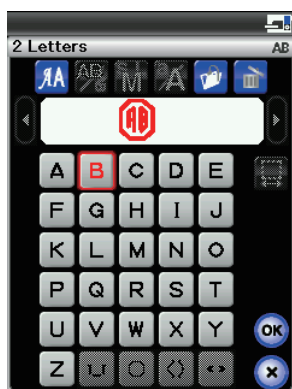
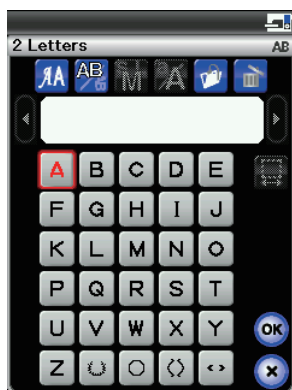
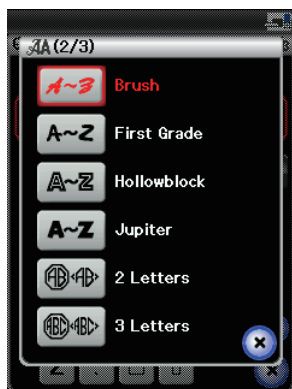
### ② Center Justify

Press the  key to sew in the center of the hoop.

### ③ Right Justify

Press the  key to sew from the right end reference line on the template.





## 2- Letter monogram

**Example:** 2-Letter in an octagon

Press the font key.

Select 2-letter.

Select the octagon.

Enter “A” and “B”.

Press the OK key and the hoop confirmation window will appear.

Press the OK key and a warning message will appear.

Press the OK key and the carriage moves to the starting position

The screen changes to the ready to sew window.

### NOTES:

The 3-letter monogram is sewn in the same way as the 2-letter monogram.

The starting position for the 2-letter and 3-letter monogram is in the center of the hoop.

## Editing a monogram

**Deleting a character:** Deleting “R” from “MART”

Press the cursor key to move the cursor under “R” .



Press the delete key and letter “R” is deleted.



**Inserting a character:** Inserting “E” into “MAT”

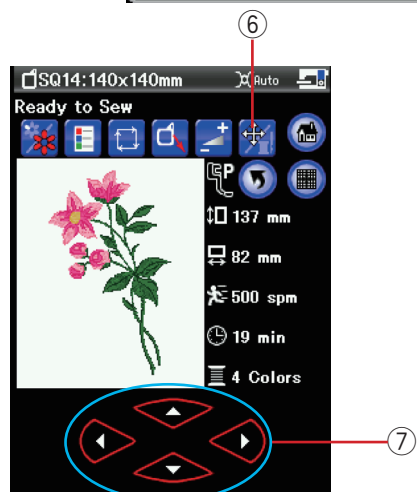
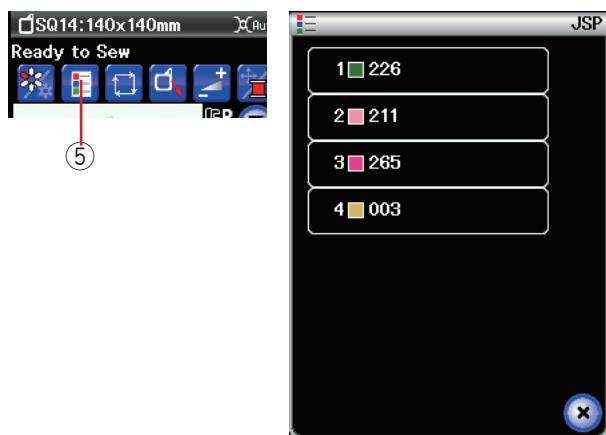
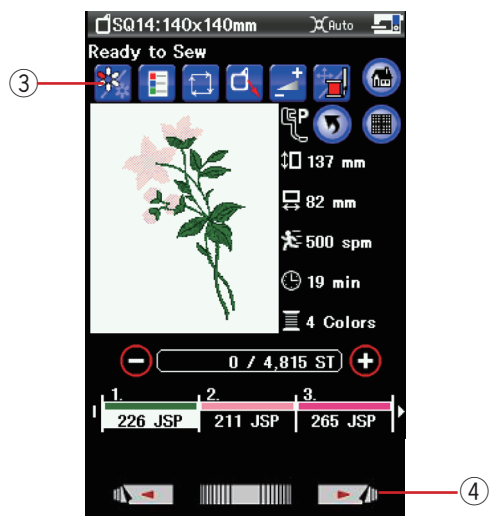
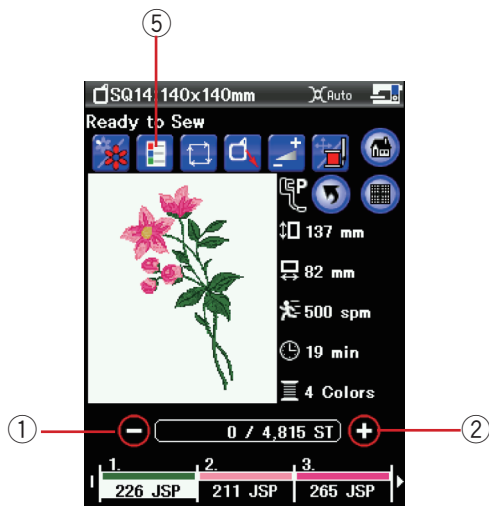
Press the cursor key to move the cursor under “A”.



Enter “E”.

The letter “E” is inserted before “A”.





## Ready to Sew Window

The ready to sew window shows embroidery function keys and information on the selected pattern.

### Stitch back/forward keys

Press the “-” key to move the hoop back to a previous sewing point.

Press the “+” key to move the hoop ahead.

The hoop will move one stitch each time the key is pressed. Hold down the key to travel faster and jump 10 or 100 stitches at a time.

You can use these keys to move the embroidery hoop to where the thread has broken or run out.

- ① Stitch back key
- ② Stitch forward key

### Color section key

Press this key to show the complete image of the selected design or partial image of each color section only.

To view the next color section, press the next page key. You can sew only the specific color section by pressing the next page key until the desired section is displayed.

- ③ Color section key
- ④ Next page key

### Color list key

Press this key to view a list of thread colors employed in the selected design.

- ⑤ Color list key

### Jog/stitch key

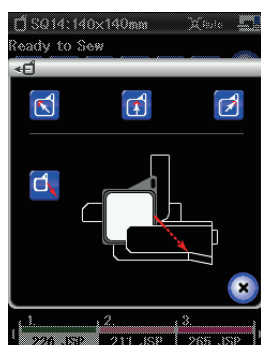
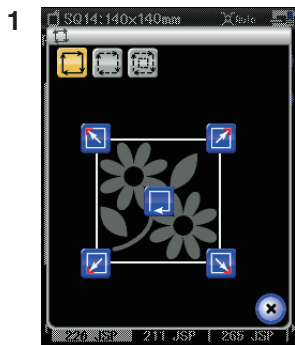
Press this key to switch the jog keys to the stitch back/forward keys or vice versa.

Adjust the hoop position with the jog keys so that the needle position comes right above the center of the reference lines on the fabric.

To use the jog keys after sewing has started, stop the machine and return the stitch counter to zero by pressing the stitch back key and/or page keys.

- ⑥ Jog/stitch key
- ⑦ Jog keys





## Pattern tracing


You can check the size of the embroidery area by tracing the pattern outline without stitching or with basting stitches.



Press the trace key and the trace option window will open.

① Trace key


The following 3 options are available:

### 1. Trace without stitching

Press the  key to open the trace without stitching window.


Press the trace key  to start tracing or press one of the  keys to move the hoop to a corner.

### 2. Trace and baste (single)

Press the  key to open the trace and baste (single) window.

Press the start/stop button to start tracing with basting stitches.

### 3. Trace and baste (double)

Press the  key to open the trace and baste (double) window.

Press the start/stop button to start tracing with basting stitches. First, the machine bastes inside the pattern then traces the pattern outline with basting stitches.

#### NOTE:

The machine will baste around the embroidery area with a 5 mm allowance.



However, the allowance will be null if the pattern spreads over the maximum limit of embroidery area.

To close the tracing option window, press the X key.

## Hoop back key

Raise the needle by pressing the needle up/down key, if the needle is in down position.

Press the hoop back key and hoop back option window will open.

Press the  key to move the carriage back to the home position and return to the ordinary sewing mode, or press one of the  keys to move the carriage to a standby position.

Press the X key to close the hoop back option window.

② Hoop back key

The hoop will go back to the home position when pressing the start/stop button.



### Adjust key

When pressing this key open the manual setting window. You can adjust the following settings in this window.

- ① Adjust key

### Auto thread tension level

Press the “+” or “-” key to adjust the thread tension to your preference.

### Tail length of jump thread cutting

This option is valid when the “jump thread cutting length” setting is activated.

Press the “+” or “-” key to minimize the tail length of jump thread.

### Embroidery foot height

Press one of the fabric icon keys to select the recommended height or press the “+” or “-” key to fine tune the foot height.

- ② Plain fabric key
- ③ Quilting key

Press the OK key to activate the new settings.

To return the settings to the default, press the default key.

- ④ Default key

### NOTE:

The altered settings will be cancelled when selecting the other modes or patterns.

### Embroidery mode key

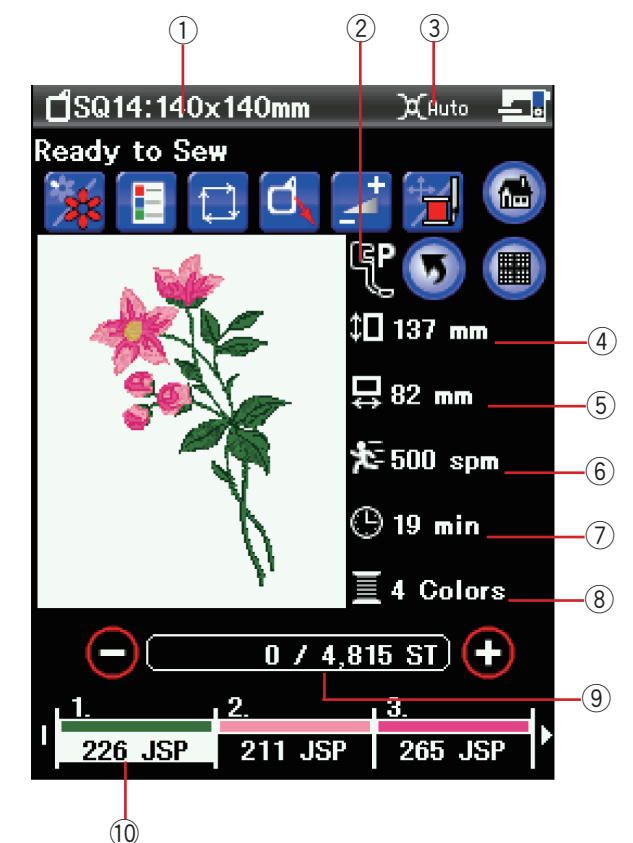
Press this key to open the embroidery mode window.

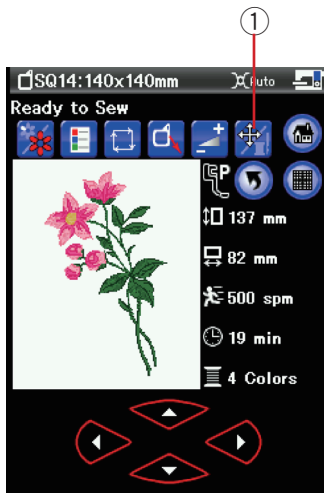
- ⑤ Embroidery mode key

### Pattern information

The LCD screen displays the following details:

- ① Hoop size
- ② Presser foot type
- ③ Tension setting
- ④ Vertical dimension of the design
- ⑤ Horizontal dimension of the design
- ⑥ Maximum sewing speed
- ⑦ Required sewing time
- ⑧ Number of thread colors (layers)
- ⑨ Stitch count
- ⑩ Thread color





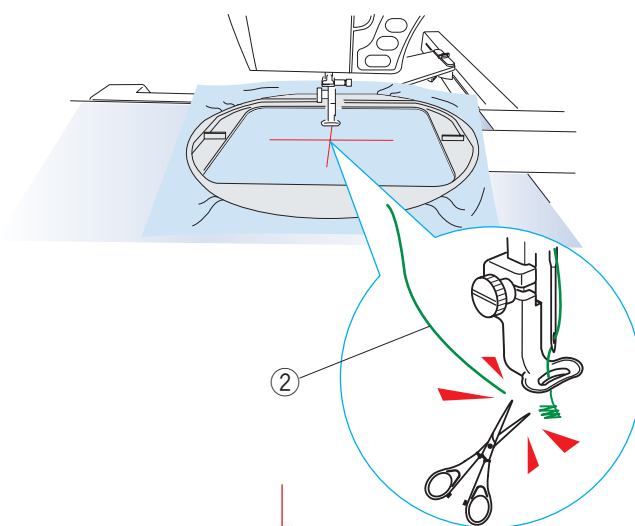
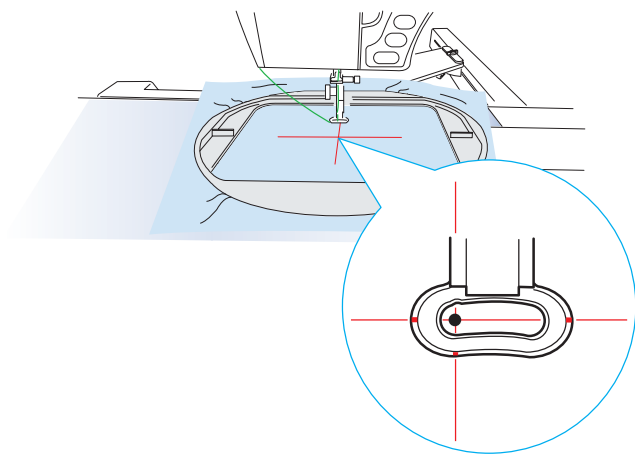
## Starting to sew embroidery

Select the desired pattern.

Press the jog/stitch key to show the jog keys.

① Jog/stitch key

Adjust the hoop position with the jog keys so that the needle position comes right above the center of the centerlines on the fabric.



Press the start/stop button and sew 5 to 6 stitches.

Press the start/stop button again to stop the machine.

Raise the presser foot by pressing the presser foot lifter button, cut the loose thread close to the beginning of the starting point.

② Loose thread

Press the start/stop button to start sewing again.

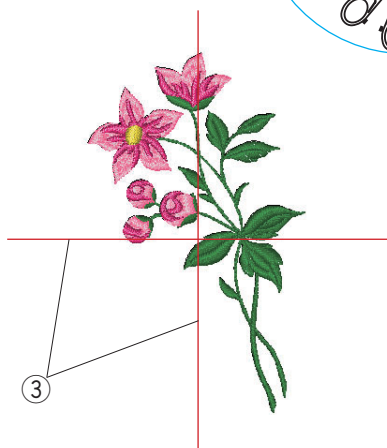
The machine will stop (and trim the threads if the auto thread cutting is activated) automatically when the first color section is finished.

Change the thread to the next color and sew the next section.

## Sewing results

The embroidery pattern is sewn against the centerlines on the fabric as shown.

③ Centerlines on the fabric



## NOTE:

Refer to page 126 for how to set auto thread cutting.

## Fringed flower designs

Favorite designs FA10-14 and FA10-15 are special patterns for creating fringed flower designs.

The embroidery design easily turns into an attractive fringed flower.

### Example: Favorite design FA10-14

Select favorite design FA10-14 and sew the pattern as you would sew a normal embroidery design.

Remove the fabric from the hoop.

Cut the needle threads along the red broken line at the outer edge of the pattern as shown.

Ruffle the threads to make fringe.

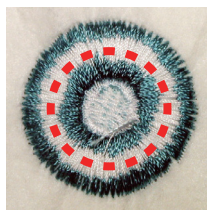
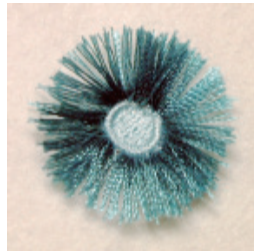
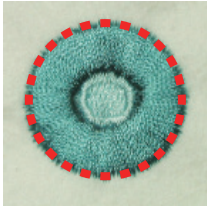
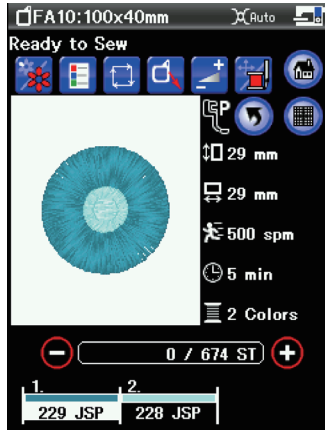
### Example: Favorite design FA10-15

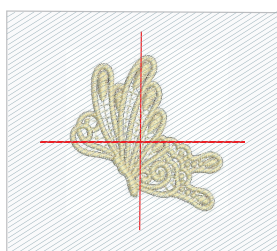
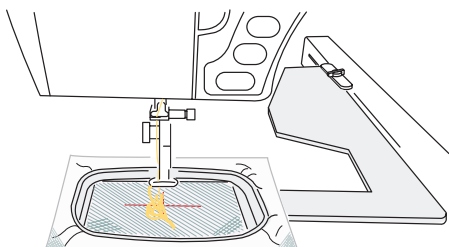
Select favorite design FA10-15 and sew the pattern as you would sew a normal embroidery design.

Remove the fabric from the hoop.

Cut the bobbin threads on the wrong side of the fabric along the red broken line as shown.

Pull the needle threads up and bring the loop ends to the right side of the fabric to make fringe.





## Lace designs

You can make a free standing lace by sewing the lace designs on organdy.

Attach a water soluble stabilizer to organdy, two or more layers may be required.

Use the same thread for the bobbin as the needle thread.  
Use a fully wound bobbin.

Adjust the embroidery foot height to 2.2 mm or higher (refer to page 114 or 126).

Set the low bobbin thread warning level to 3 or 4 (refer to page 126).

Set the sewing speed to 600 spm or less with the speed control slider.

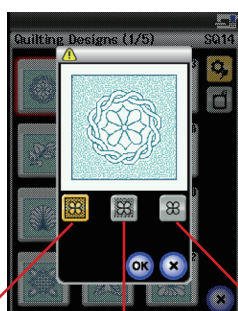
Select the desired lace design pattern and sew.

Remove the organdy from the hoop.

Trim away the organdy and stabilizer surrounding the design pattern with scissors.

Rinse away the stabilizer using water.

Iron press the design pattern as necessary.



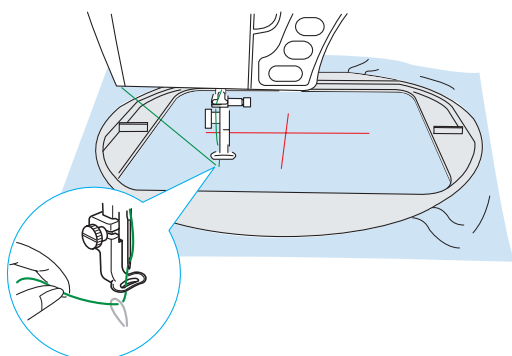
①



②



③



## Quilting designs

The quilting designs SQ14-1 through SQ14-24 comprise 3 color sections.

However you sew the following specific sections only by pressing the relevant icon keys.

- ① Outer frame, stippling and center design
- ② Stippling and center design
- ③ Center design

Use the same thread for the bobbin as the needle thread.  
Use the red tip needle or purple tip needle to avoid skipped stitch.

Adjust the foot height if necessary (refer to page 114 or 126).

Set the low bobbin thread warning level to 3 or 4 (refer to page 126).

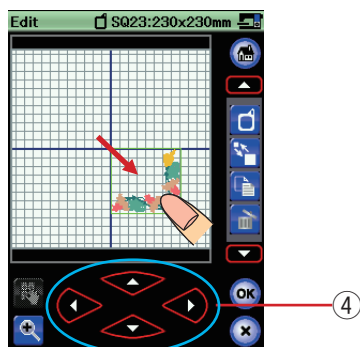
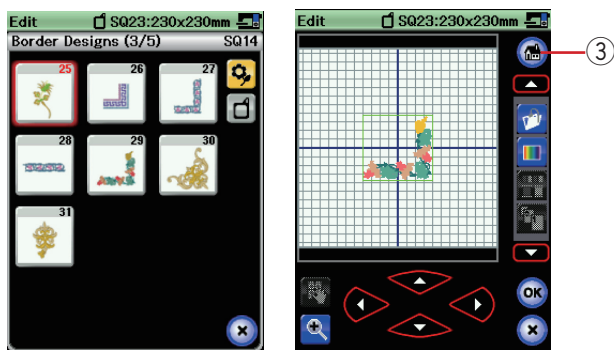
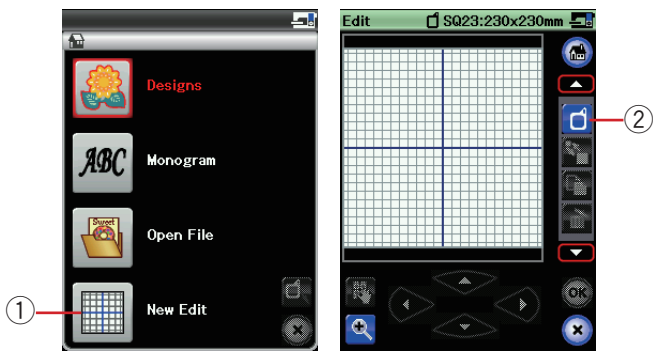
Turn on the one stitch stop function in the embroidery setting mode (refer to page 126).

When pressing the start/stop button, the machine sews one stitch and stops automatically.

Pull the needle thread to bring the bobbin thread up and place both threads on the thread holder.

Sew several stitches and stop the machine.

Cut the loose threads close to the beginning of the stitch.  
Start the machine again to sew the design pattern.



## Editing Mode

In the editing mode, you can edit and combine patterns to create original embroidery designs.

Press the editing mode key and the editing window for the hoop SQ23 will open.

① Editing mode key

You can select other hoop sizes.

Press the hoop selection key and the hoop selection window will open.

Press the hoop icon key to select the desired hoop. If you use optional hoop, press the next page key and select the desired hoop.

② Hoop selection key

### NOTE:

In the editing mode, you cannot select patterns larger than the size of the selected hoop.

## Opening the embroidery designs

You can open the built-in designs, monogram, and designs from the USB flash drive in the editing window.

To open design patterns, press the embroidery mode key. Select the desired pattern from the design list (refer to page 106).

The screen will return to the editing window displaying the selected pattern.

③ Embroidery mode key

## Selecting the pattern to edit

To select the pattern to edit, press on the pattern image in the editing window.

The frame appears around the selected pattern.

## Moving a pattern

To move the embroidery pattern in the editing window, press and drag the pattern to a desired location with the touch panel stylus or your fingertip.

### NOTE:

Do not drag the pattern on the screen with a sharp pointed object.

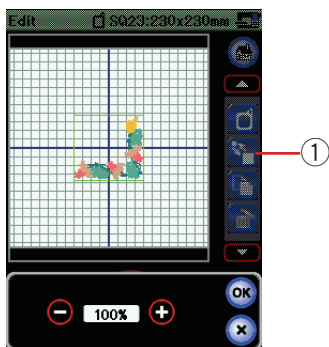
You can move the selected pattern also by pressing the layout keys.

Press the layout keys to move the pattern to the desired position in the editing window.

④ Layout key

The carriage will not move when you press the layout keys since the pattern position will move relative to the hoop, not to the machine.





## Resizing a pattern

Press the resize key to open the resize option window.

### ① Resize key

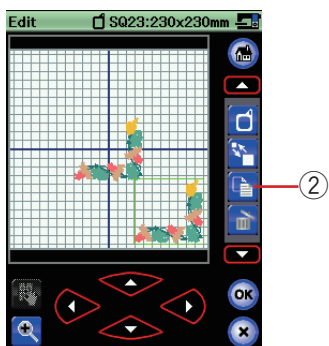
You can change the embroidery pattern size from 80% to 120% of the original size.

Press the “+” key to enlarge the pattern size.

Press the “-” key to reduce the pattern size.

The size will change 1% each time you press the plus or minus key. To change the size quickly, press and hold the “+” or “-” key.

Press the OK key to confirm the new size.



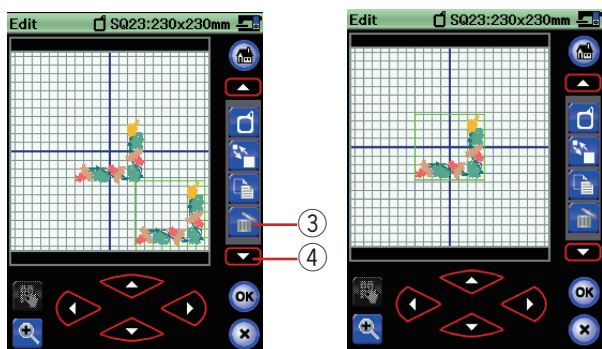
## Duplicating a pattern

Press the duplicate key to make a copy of the selected pattern.

### ② Duplicate key

### NOTE:

The duplicated pattern will be superimposed over the original pattern. Move the duplicate to show the original pattern.



## Deleting the pattern

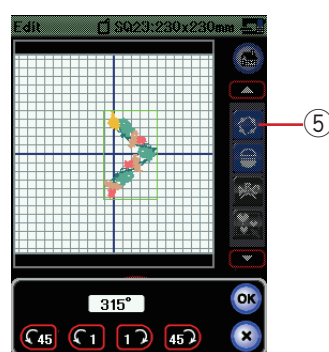
Select the design to delete.

Press the delete key to delete the selected pattern.

### ③ Delete key

Press the downward arrow key to show the next set of editing tools.

### ④ Downward arrow key



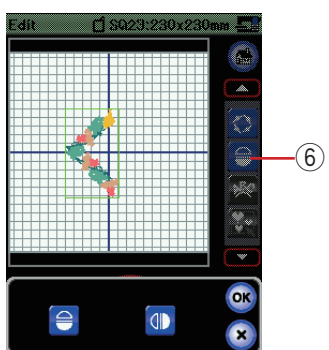
## Rotating the pattern

Press the rotate key to open the rotation option window.

### ⑤ Rotate key

Press the **↶45** **↶1** **↷1** **↷45** keys to rotate the selected pattern 1 degree or 45 degrees, clockwise or counterclockwise.

Press the OK key to confirm.



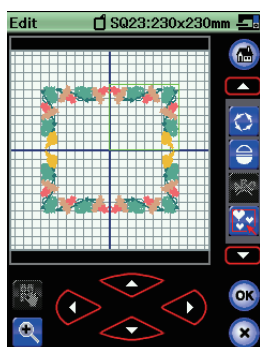
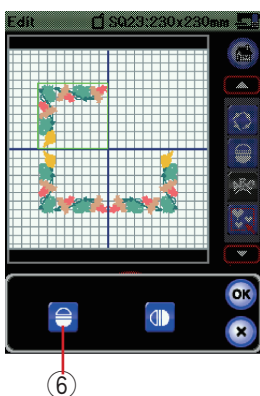
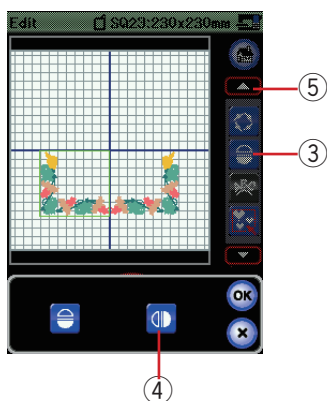
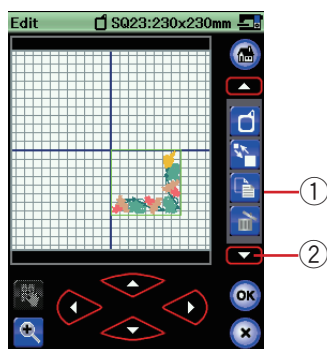
## Flipping a pattern

Press the mirror image key to open the flip option window.

### ⑥ Mirror image key

Press the **↔** **↕** keys to flip the selected pattern horizontally or vertically.

Press the OK key to confirm.



## Combining the patterns (creating a square frame)

Select pattern Border Design SQ14-29.

Move the design down and to the right.

Press the duplicate key.

① Duplicate key

Press the downward arrow key to show the next set of editing tools.

② Downward arrow key

Press the mirror image key.

Press the vertical mirror key and press the OK key.

Move the duplicate to the left.

③ Mirror image key

④ Vertical mirror key

Press the upward arrow key to show the previous set of editing tools.

⑤ Upward arrow key

Press the duplicate key.

Press the downward arrow key.

Press the horizontal mirror key and press the OK key.

Move the duplicate up.

⑥ Horizontal mirror key

Press the upward arrow key.

Press the duplicate key.

Press the downward arrow key.

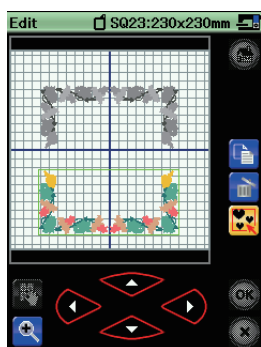
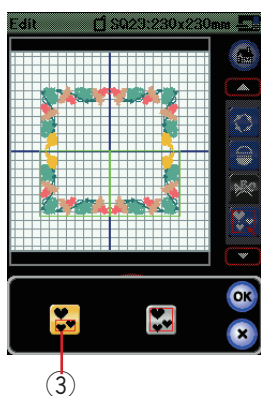
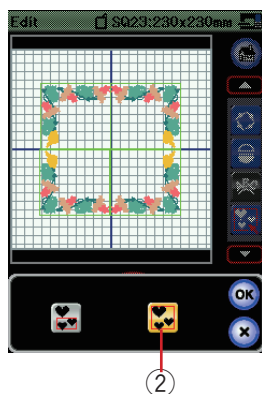
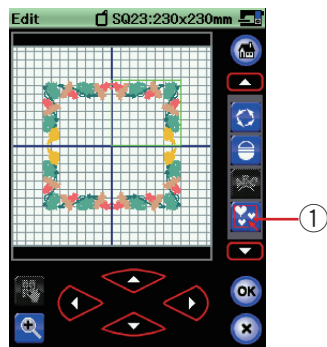
Press the vertical mirror key and press the OK key.

Move the duplicate to the right.

Press the OK key.

The ready to sew window will open.





## Grouping the patterns

You can group patterns together.

Press the group key and the grouping option window will open.

① Group key

Press the group all key and press the OK key to group all the patterns in the editing window.

② Group all key

If you wish to group the selected patterns only, press the group select key.

Select the desired patterns by pressing on the pattern images and press the OK key.

③ Group select key

The grouped patterns can be moved and duplicated as a unit.

When grouping the selected patterns only, the rest of the patterns are grayed out and cannot be selected.

To ungroup the patterns, press the group key again.



### Sewing order

You can change the sewing order of a pattern combination.

Press the sewing order key and press on the images of the pattern one by one.

The patterns will be sewn in the order you press on the images.

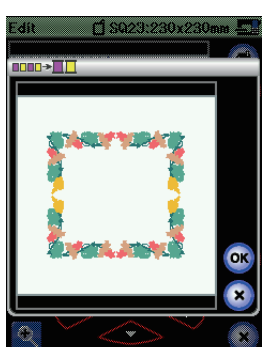
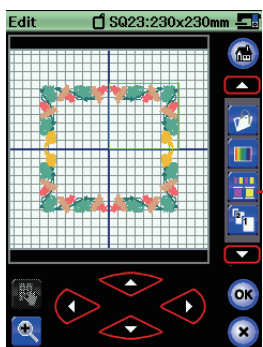
Press the sewing order key again to return to the previous screen.

① Sewing order key

### Color grouping

When combining duplicated patterns, you can reduce the number of color sections with color grouping.

For example, the combined design pattern created on page 120 has 20 color sections.



Press the color group key and the color grouping window will open.

Press the OK key to unite all color sections of the same color and the ready to sew window opens.

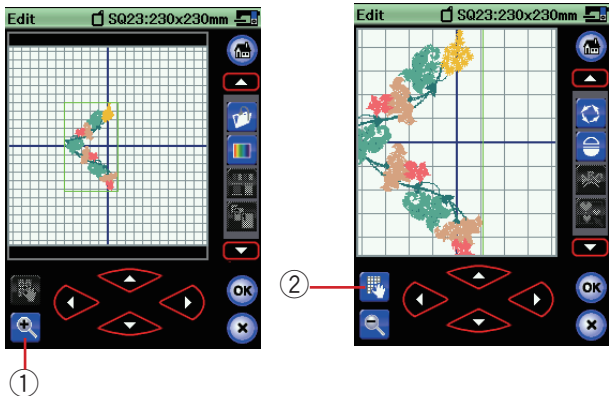
② Color group key



The number of the color sections is reduced to 5.

#### NOTE:

Color grouping will be cancelled when returning to the editing window.



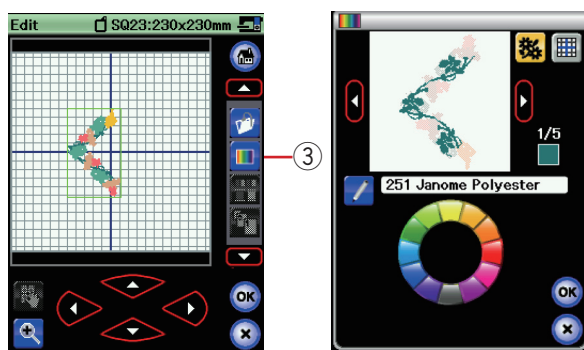
### Zooming in the editing window

Press the zoom key to view the enlarged image in the editing window. Pressing the zoom key again to return to the original view.

- ① Zoom key

To scroll the window, press the scroll key and drag the window in the desired direction. Press the scroll key again to cancel the scroll command.

- ② Scroll key



### Customizing the display colors

You can simulate the colors of the actual fabric and threads on the screen by customizing the colors of the design image and editing window.

Press the custom color key and the custom color window will open.

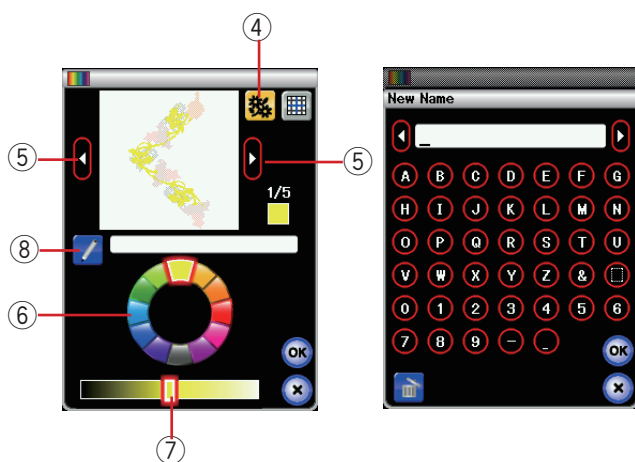
- ③ Custom color key

If you wish to change the color of the design pattern, press the design color key.

Press the scroll keys until the desired section is displayed in the preview window.

- ④ Design color key

- ⑤ Scroll keys



To select the hue, press one of the 12 color tiles.

To change the shade of the selected color, press and drag the slider to the left or right.

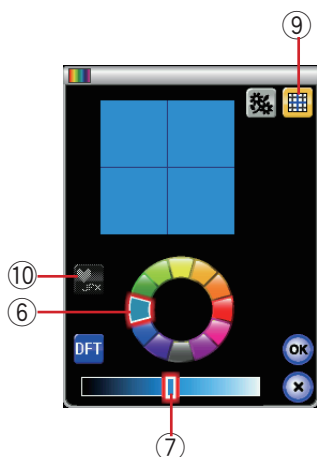
- ⑥ Color tiles

- ⑦ Slider

You can assign a name to the customized color for the color section by pressing the name key.

The assigned name will be displayed instead of the name and code of the thread color in the embroidery window.

- ⑧ Name key



To change the background color, press the background color key and select the desired color.

To select the hue, press one of the 12 color tiles.

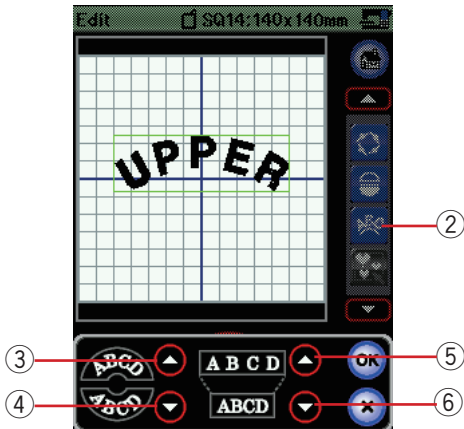
To change the shade of the selected color, press and drag the slider to the left or right.

- ⑨ Background color key

### NOTE:

If a design in \*.JPX format is open, you can display the background image in the editing window by pressing the background image key (refer to the instruction book of Digitizer MBX).

- ⑩ Background image key



## Monogramming in an arc

In the editing mode, you can make a monogram in an upper or lower arc.

Enter the characters and press the OK key.

The entered characters are displayed in the editing window.

Press the arrow key to view the other editing tools.

- ① Arrow key

Press the arc key and the arc layout window will open.

- ② Arc key

Press the upper arc key to make an upper arc.

- ③ Upper arc key

Press the lower arc key to make a lower arc.

- ④ Lower arc key

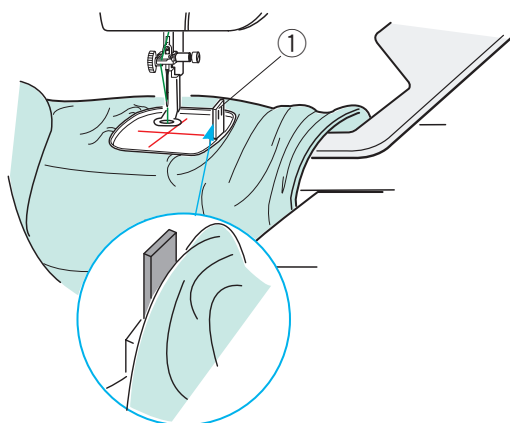
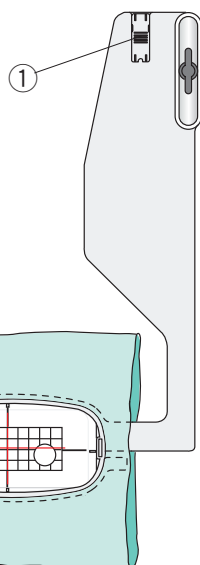
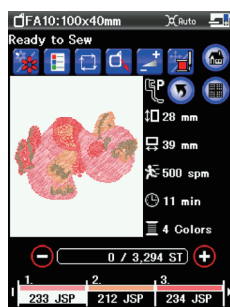
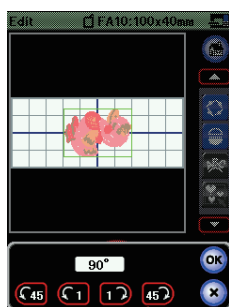
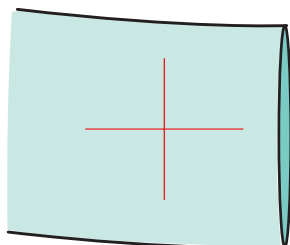
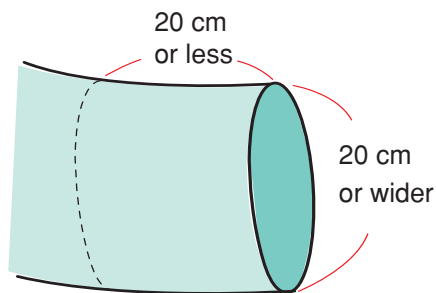
Press the enlarge key to make an arc longer.

- ⑤ Enlarge key

Press the shorten key to make an arc shorter.

- ⑥ Shorten key

Press the OK key to confirm.



## Free arm embroidery

The free arm hoop FA10 is specially designed for embroidering tubular garments such as sleeves, pant legs etc.

Check the opening size of the tubular portion of the garment. The opening width must be 20 cm (8") or wider. The area to be embroidered should be within 20 cm (8") from the opening.

Draw centerlines on the fabric with tailor's chalk.

Open the editing window and select the hoop FA10. Select the design list by hoop size and select the hoop FA10.

Select design pattern FA10-26.

Rotate the pattern 90 degrees clockwise (refer to page 119).

Press the OK key to open the ready to sew window.

Remove the extension table.

Set the garment in the hoop FA10 as shown.

Position the garment so that the centerlines match those on the template in the hoop.

Place the garment over the free arm of the machine and attach the hoop FA10 to the carriage.

Roll up the cuff so that it will not jam at the neck of the free arm.

Insert the blocking plate into the inner hoop to prevent the cuff from overlapping the embroidery area.

① Blocking plate

Press the start/stop button to sew making sure that the garment can move freely around the free arm.

Remove the hoop from the carriage when finished sewing. Remove the garment from the free arm.

## CUSTOMIZING MACHINE SETTINGS

### Embroidery mode settings

Press the embroidery setting mode key (refer to page 86).

#### ① Auto thread tension

The auto thread tension level can be adjusted with the “+” or “-” key. Increase the value when using the same threads on the bobbin and needle.

#### ② Low bobbin thread warning

The low bobbin thread warning level can be adjusted with the “+” or “-” key. To turn this option off, press the “-” key until “OFF” shows in the window.

#### ③ One stitch stop on/off

When this function is turned on, the machine sews one stitch and stops automatically so that you can bring the bobbin thread up before sewing.

Press the next page key to go to the next menu.

#### ④ Embroidery foot height

The machine measures fabric thickness and automatically sets the presser foot to the optimum height.

However, you can fine tune the foot height according to fabric material and/or other sewing conditions by pressing the “+” or “-” key. The adjustable range is 0 mm to 4 mm.

#### ⑤ Consecutive color grouping on/off

If an imported stitch data file or design files of a pattern combination contain consecutive sections in the same color, these sections are automatically grouped together as one section when opening the file or saving the pattern combination as the file or going to the ready to sew window. This function is invalid when combining the built-in designs and external sourced designs.

Turn this option off if you do not wish to group the sections together.

Press the next page key to go to the next menu.

#### ⑥ Auto thread cutting (basic)

The machine automatically trims the threads when it stops to change the thread to the next color when this option is turned on.

#### ⑦ Auto thread cutting (advanced)

Press the customize key **Customize** to open the advanced setting window.

##### ⑦-1 Jump thread cutting length

You can set the cutting length of jump threads by pressing the “+” or “-” key. The adjustable range is 3 mm to 30 mm and “OFF”.

You need to set the cutting length to “OFF” if you turn on the cutting command option.

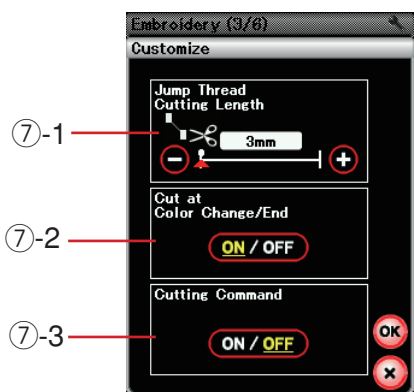
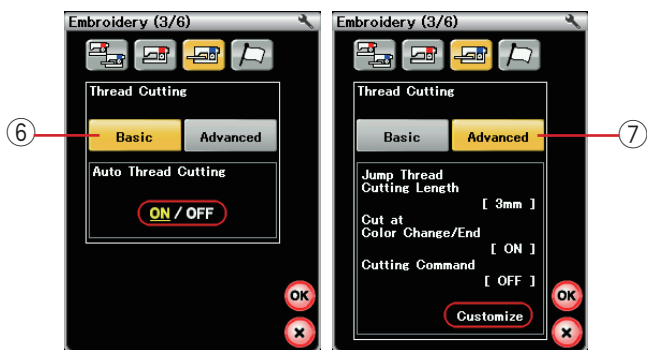
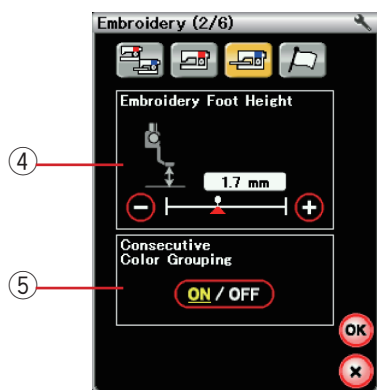
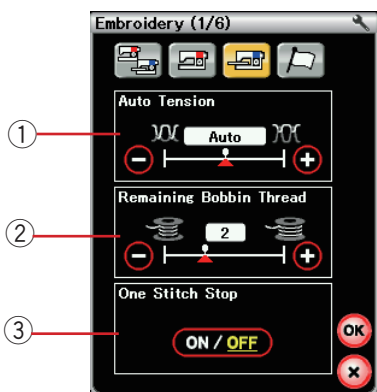
##### ⑦-2 Thread cutting at color change and end of sewing on/off

The machine automatically trims the threads at the end of sewing and when it stops to change the thread to the next color if this option is turned on.

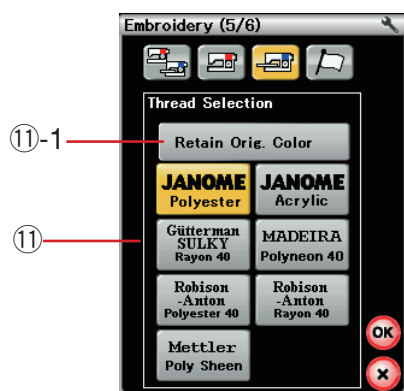
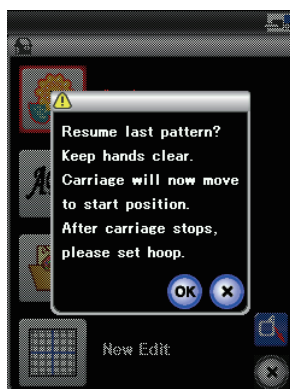
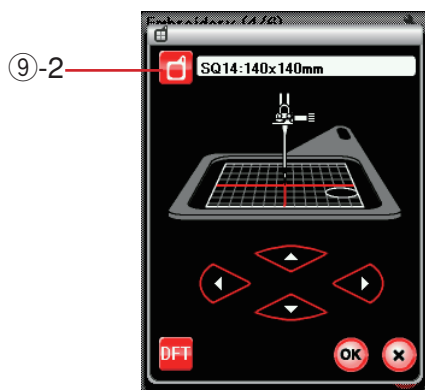
##### ⑦-3 Cutting command on/off

If an imported embroidery stitch data file contains a trim code (cutting command), turn this option on to trim the threads at the trim code.

Press the next page key to go to the next menu.







## ⑧ Maximum embroidery speed

The maximum embroidery sewing speed can be set from 400 to 1000 spm in 100 spm intervals by pressing the “+” or “-” key. (Sewing speed can be varied with the speed control slider even while running the machine.)

### NOTE:

Reduce the sewing speed when sewing patterns with narrow zigzag stitches that tend to warp at high speeds.

## ⑨ Hoop calibration

You can calibrate the center position of the hoops. You need to enter embroidery mode before opening the embroidery setting window.

Extend the carriage arm and press the YES key.

⑨-1 YES key

The carriage moves to the center position.

Press the hoop selection key to open the hoop selection window.

⑨-2 Hoop selection key

Select the hoop and attach it to the carriage. Set the template in the hoop.

Adjust the hoop position by pressing the jog keys so that the needle is right above the hole in the template and press the OK key.

## ⑩ Resume mode

When Resume Mode is turned on, the last stitch sewn before turning the power off will resume when you turn the power on again.

When you turn the power on, the confirmation window opens. Press the OK key to resume the last stitch of the sewn pattern.

Press the next page key to go to the next menu.

## ⑪ Thread selection

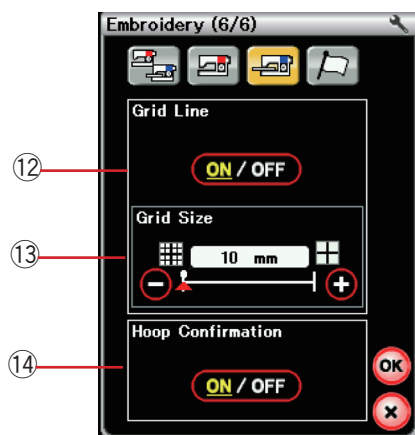
There are 7 types of embroidery thread to choose from. Press the key of the thread you wish to use. The color code of the selected brand is shown on the color/part key along with the name of the color.

If you use imported embroidery stitch data containing proper thread information, press the retain original color key to retain this information.

⑪-1 Retain original color key

Press the next page key to go to the next menu.





#### ⑫ **Grid line on/off**

Turn this option on to show grid in the editing window or turn it off to hide the grid.

#### ⑬ **Grid size**

You can change grid size by pressing the “+” or “-” key.

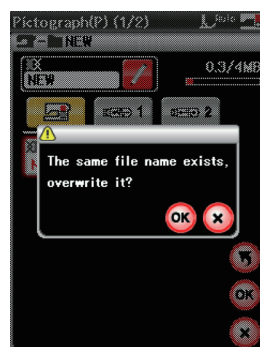
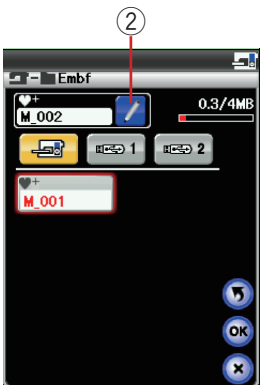
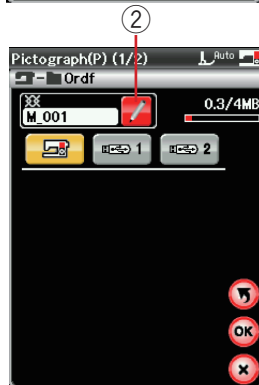
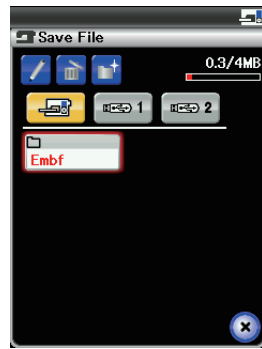
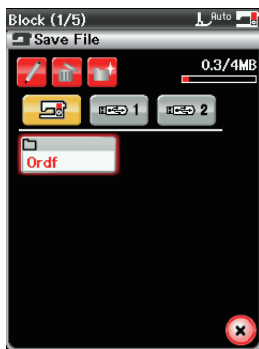
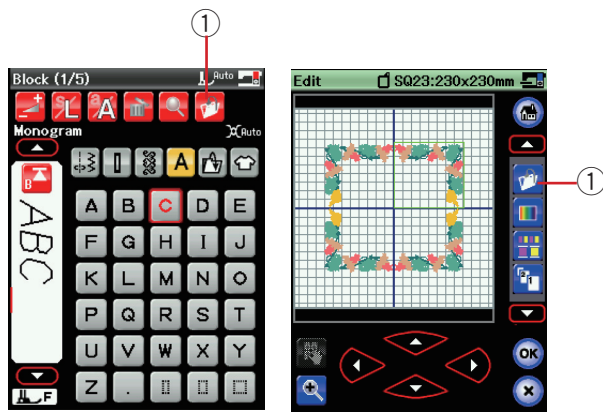
#### ⑭ **Hoop confirmation on/off**

The hoop confirmation message will appear every time before opening the ready to sew window. However you can turn this option off by selecting off.

Press the OK Key to enable the new settings.

## Ordinary sewing

## Embroidery



## FILE MANAGEMENT

### Saving and Opening a File

#### Saving a file

You can save original embroidery designs created in embroidery mode or programmed pattern combination in ordinary sewing mode as files in the built-in memory and/or USB memory stick.

Press the save file key and the save file window will open.

- ① Save file key

A folder labeled "Ord" (ordinary sewing mode) or "Embf" (embroidery mode) is displayed on the screen.

To select a folder, press the folder icon.

File names are assigned automatically in numerical order starting from M\_001.....

Press the OK key and the file is saved in the selected folder.

To assign a particular name to the file, press the rename key.

- ② Rename key

The keyboard window opens.

Enter a new name and press the OK key.

The file is saved under the new name.

When you attempt to save a file with a name that already exists, the confirmation message will appear.

Press the OK key to overwrite the existing file or press the X key if you do not want to overwrite it.

## Creating a new folder

Press the new folder key and the keyboard window will open.

- ① New folder key

Enter a folder name and press the OK key.

A new folder is created under the assigned name.

## Deleting a file or folder

Press the delete key and select the file or folder to delete. A confirmation message appears.

Press the OK key to delete the file or folder.

- ② Delete key

## Opening the file

To open the saved files, press the open file key to open the open file window.

- ① Open file key

Select the folder location, either the built-in memory or USB flash drive.

Open the folder that contains the desired file by pressing the folder icon.

The file list of the selected folder is displayed.

To open the file, press the file icon.

In the embroidery mode, file attributes can be shown on the file icon.

To show the file attribute, press the “large icon” key.

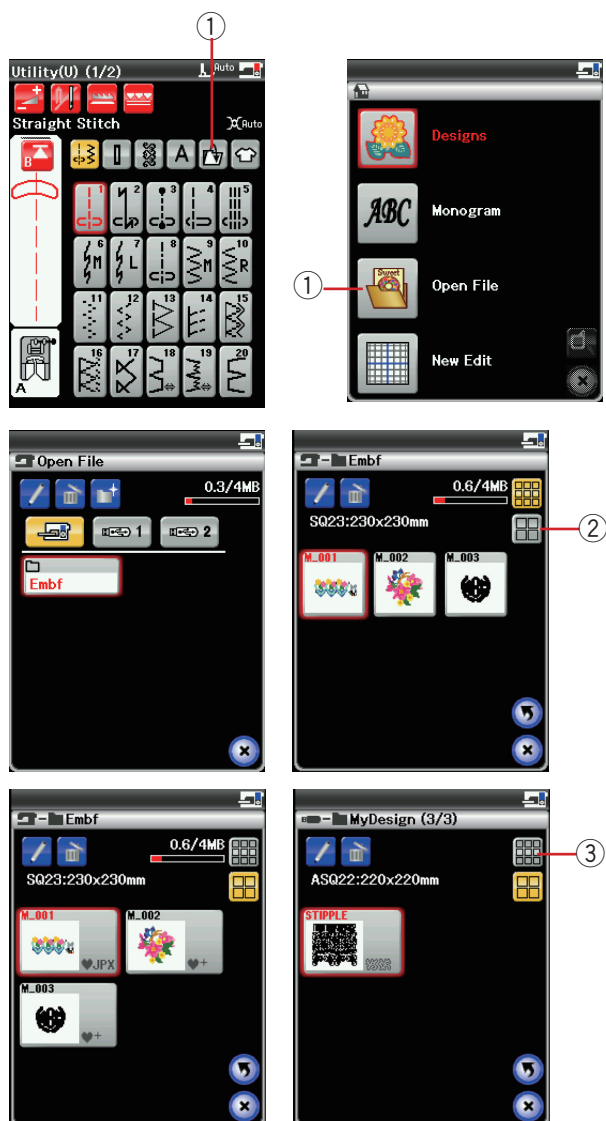
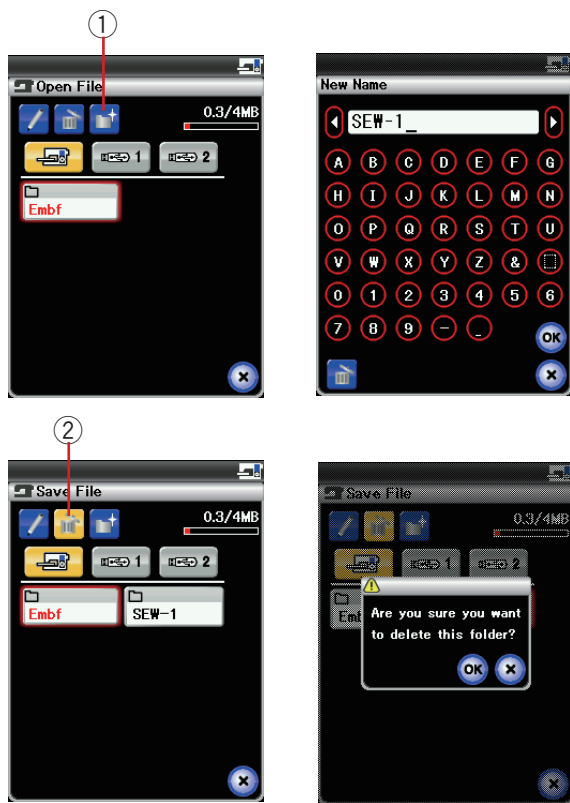
- ② Large icon key

There are 4 file attributes as follows:

- ♥: \*.JEF (Janome embroidery format)
- ♥+: \*.JEF+ (editable Janome embroidery format)
- ♥JPX: \*.JPX (\*.JEF+ with a background bitmap image)
- 🖼️: \*.JPX (Acufil embroidery format)

To hide file attribute, press the small icon key.

- ③ Small icon key



①



## Changing a name of the file or folder

Press the rename key and select the file or folder which you wish to change its name.

The keyboard window will open.

Enter a new name and press the OK key.

The name of the file or folder will change.

① Rename key

If you entered a name that already exists, a confirmation message will appear.

Press the X key and enter another name.

## CARE AND MAINTENANCE

### Cleaning the Hook Area

Clean the hook area at least once a month.

Remove the needle plate (refer to page 20).

Turn the power switch off and unplug the machine.

Remove the needle and presser foot.

#### NOTE:

Do not dismantle the machine in any way other than as explained in this section.

Take out the bobbin and bobbin holder.

- ① Bobbin holder

Clean the bobbin holder with a lint brush.

Apply a few drops of the bobbin holder cleaner (included in the standard accessories) to a soft cloth and wipe the bobbin holder both inside and outside.

- ② Lint brush
- ③ Soft cloth

Clean the feed dog and auto thread cutter device with the lint brush.

- ④ Feed dog
- ⑤ Auto thread cutter device

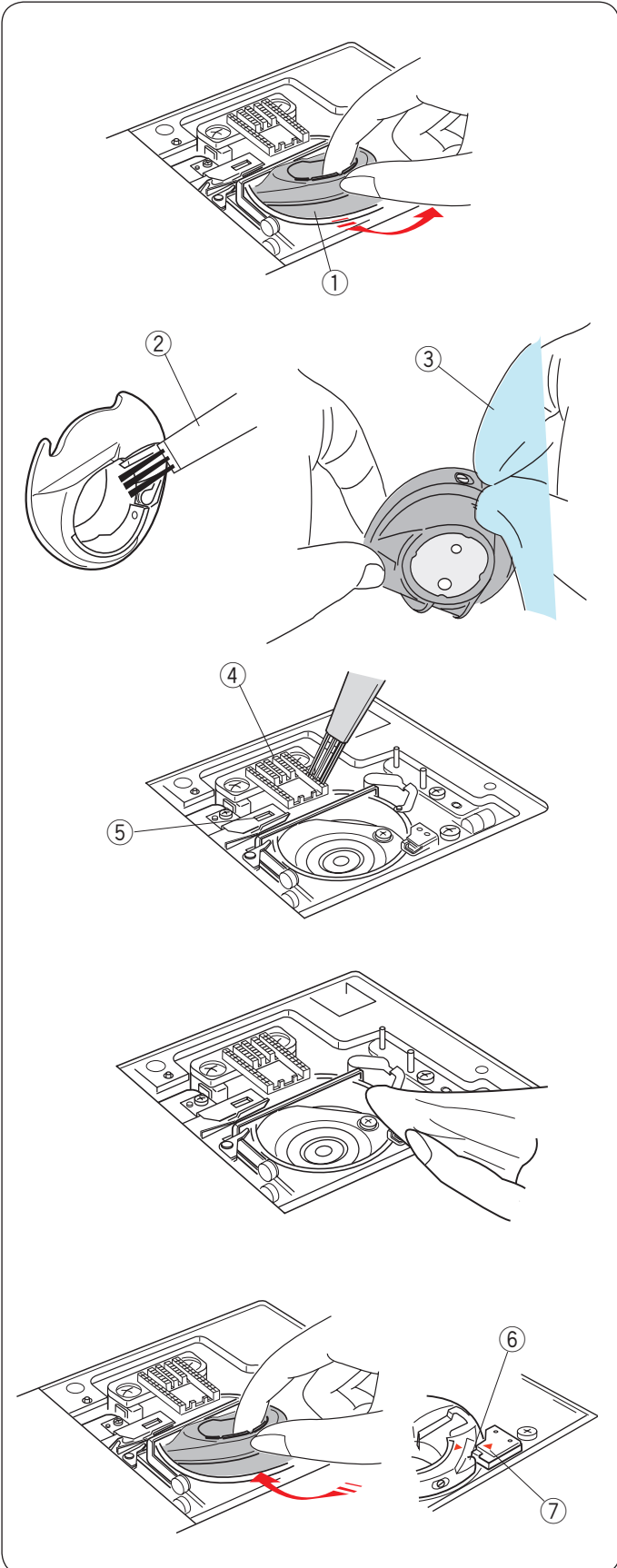
Clean the inside and lip of the hook race with a soft cloth.

Insert the bobbin holder so that the knob fits next to the stopper in the hook race.

Insert the bobbin.

- ⑥ Knob
- ⑦ Stopper

Attach the needle plate, presser foot and needle.

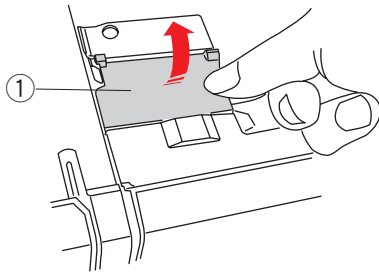


## Cleaning the Inside of the Thread Guide

Clean the inside of the thread guide plate under the top cover at least once a month.

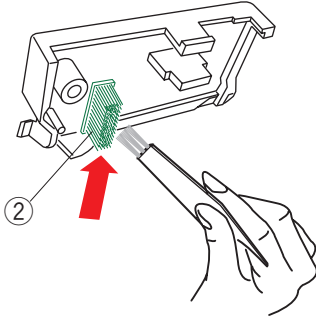
Remove the needle thread and remove the thread guide plate by pulling it up.

① Thread guide plate



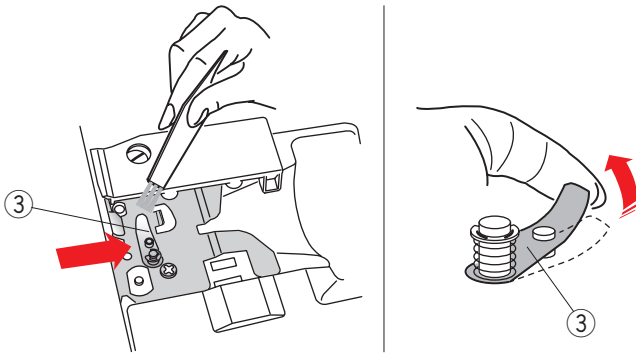
Remove lint and dust from the brush on the underside of the thread guide plate using a lint brush.

② Brush on the thread guide plate



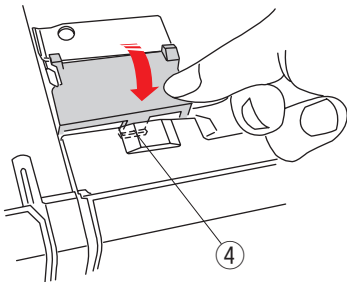
Clean the area around and under the pre-tension leaf with the lint brush.

③ Pre-tension leaf



Set the thread guide plate on the machine, inserting the tenons into the slots. Push the thread guide plate down to snap it in place.

④ Tenon



## Troubleshooting

Problem	Cause	Reference
The machine is noisy.	<ol style="list-style-type: none"> <li>1. Thread is jammed in the hook area.</li> <li>2. The feed dog is packed with lint.</li> </ol>	<p>See page 132. See page 132.</p>
The needle thread breaks.	<ol style="list-style-type: none"> <li>1. The needle thread is not threaded properly.</li> <li>2. The needle thread tension is too tight.</li> <li>3. The needle is bent or blunt.</li> <li>4. The needle is inserted incorrectly.</li> <li>5. The thread is too heavy for the needle.</li> <li>6. The needle thread was not set in the thread holder when embroidery sewing started.</li> </ol>	<p>See page 13. See page 36. See page 16. See page 16. See page 16. See page 105.</p>
The bobbin thread breaks.	<ol style="list-style-type: none"> <li>1. The bobbin thread is not threaded properly in the bobbin holder.</li> <li>2. Lint has collected in the bobbin holder.</li> <li>3. The bobbin is damaged and does not turn smoothly.</li> </ol>	<p>See page 12.  See page 132. Replace the bobbin.</p>
The needle breaks.	<ol style="list-style-type: none"> <li>1. The needle is inserted incorrectly.</li> <li>2. The needle is bent or blunt.</li> <li>3. The needle clamp screw is loose.</li> <li>4. The needle thread tension is too tight.</li> <li>5. The needle is too fine for the fabric being sewn.</li> <li>6. The fabric was pulled toward you when sewing free motion quilting with the free motion quilting open-toe foot QO.</li> </ol>	<p>See page 16. See page 16. See page 16. See page 36. See page 16. See page 84.</p>
Visual Touch Screen is not clear.	<ol style="list-style-type: none"> <li>1. The contrast of the screen is not adjusted properly.</li> </ol>	<p>See page 87.</p>
Skipped stitches	<ol style="list-style-type: none"> <li>1. The needle is inserted incorrectly.</li> <li>2. The needle is bent or blunt.</li> <li>3. The needle and/or threads are not suitable for the fabric being sewn.</li> <li>4. A blue needle is not being used for sewing stretch, very fine and synthetics.</li> <li>5. The needle thread is not threaded properly.</li> <li>6. The needle is defective (rusted, burr on needle eye or tip).</li> <li>7. The embroidery hoop is not set properly.</li> <li>8. The fabric is not stretched tightly enough on the embroidery hoop.</li> <li>9. A purple needle is not being used for sewing thick fabrics, denims and across the hem.</li> </ol>	<p>See page 16. See page 16. See page 16.  See page 16.  See page 13. Change the needle. See page 105. See page 104.  See page 16.</p>
Seam puckering	<ol style="list-style-type: none"> <li>1. The needle tension is too tight.</li> <li>2. The needle thread or the bobbin thread is not threaded correctly.</li> <li>3. The needle is too heavy for the fabric being sewn.</li> <li>4. The stitch length is too long for the fabric.</li> <li>5. The stitch width is too wide.</li> <li>6. The fabric is not stretched tightly enough on the embroidery hoop.</li> </ol>	<p>See page 36. See pages 11-13.  See page 16. Make stitches shorter. Reduce the stitch width. See page 104.</p>



Problem	Cause	Reference
Slipping layers	1. The dual feed foot is not being used for sewing hard to feed material.	Use the dual feed foot.
The cloth is not feeding smoothly.	1. The feed dog is packed with lint. 2. The dual feed foot is not being used for sewing hard to feed material. 3. The stitches are too fine. 4. The feed dog is lowered.	See page 132. Use the dual feed foot. Make stitches longer. See page 91.
The machine does not run.	1. The machine is not plugged in. 2. A thread is caught in the hook race. 3. A faulty foot control is plugged in while the machine is turned on (buzzer sounds once when plugging in). 4. The start/stop button is used for ordinary sewing with the foot control plugged in.	See page 6. See page 132. Replace the foot control. See page 8.
Crunching sound occurs when running the machine.	1. Something is caught between the carriage and the arm. 2. The carriage is hitting something around the machine 3. The power is turned on when the feed dog is lowered.	Remove the object. See page 96. It is initializing sound, not a defect.
Patterns are distorted.	1. The needle thread tension is too loose. 2. The stitch length is not suitable for the fabric being sewn. 3. Feed balancing dial is not properly set. 4. Interfacing is not used for sewing stretch and very fine fabrics. 5. The embroidery hoop attaching knob is loose. 6. The embroidery hoop is hitting something around the machine. 7. The fabric is not stretched tightly enough on the embroidery hoop. 8. The fabric is caught or trapped when sewing embroidery. 9. The embroidery foot is trapped by a jump thread. 10. The embroidery foot stumbles on a mound of embroidery threads.	See page 36. See page 35. See page 95. Use an interfacing.  See page 105. See page 96.  See page 104.  Stop the machine and free the fabric. Trim the jump thread. Adjust the foot height (see page 126).
The automatic buttonhole stitches are not balanced.	1. The stitch length is not suitable for the fabric being sewn. 2. The feed balancing dial is not set properly. 3. Interfacing is not being used with stretch fabric.	See page 42. See page 95. Use an interfacing.
Pattern selection keys do not work.	1. The electronic control circuit is not working correctly. 2. The key position is out of alignment	Turn the switch off and turn it on again. See page 88.
Threads frequently bunch up on the underside of the stippling design pattern.	1. The minimum length of the jump thread cutting is too short.	See page 126.

To carry the sewing machine, hold the carrying handle with your hand, and support the sewing machine with the other hand.

Clean the outside of the machine with a soft cloth. Do not use chemical solvents.

Store the machine in cool and dry place.

Do not store the machine in a area of high humidity, near a radiator or in direct sunlight.

The power supply cord, foot control and embroidery hoops can be stored in the semi-hard fabric cover.

Make sure to store the embroidery carriage arm before turning off the power switch.

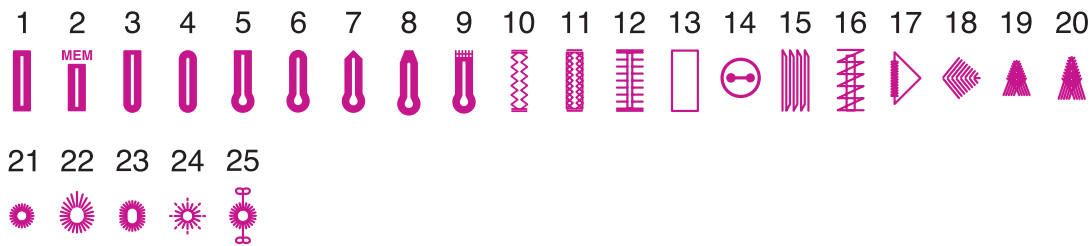
# STITCH CHART

## Ordinary Sewing

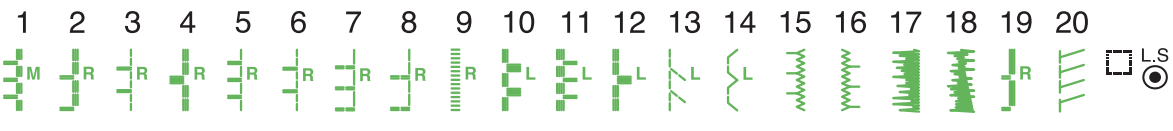
### Utility (U)



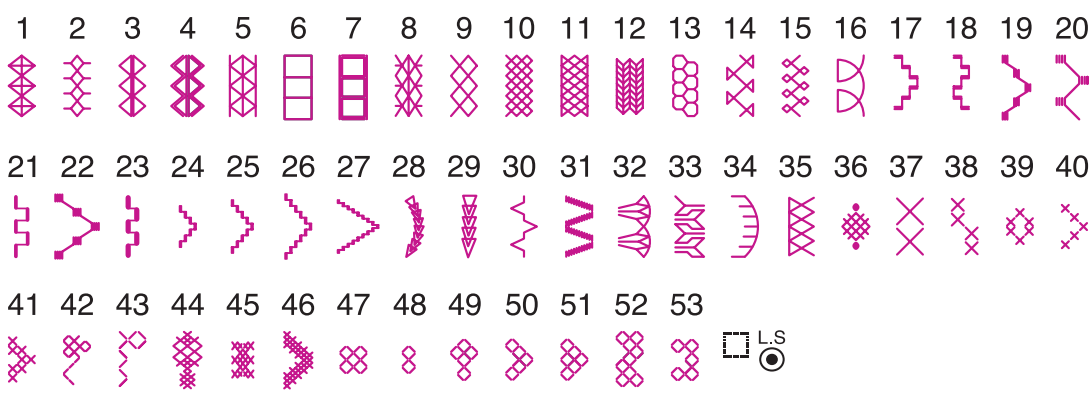
### Buttonhole (B)



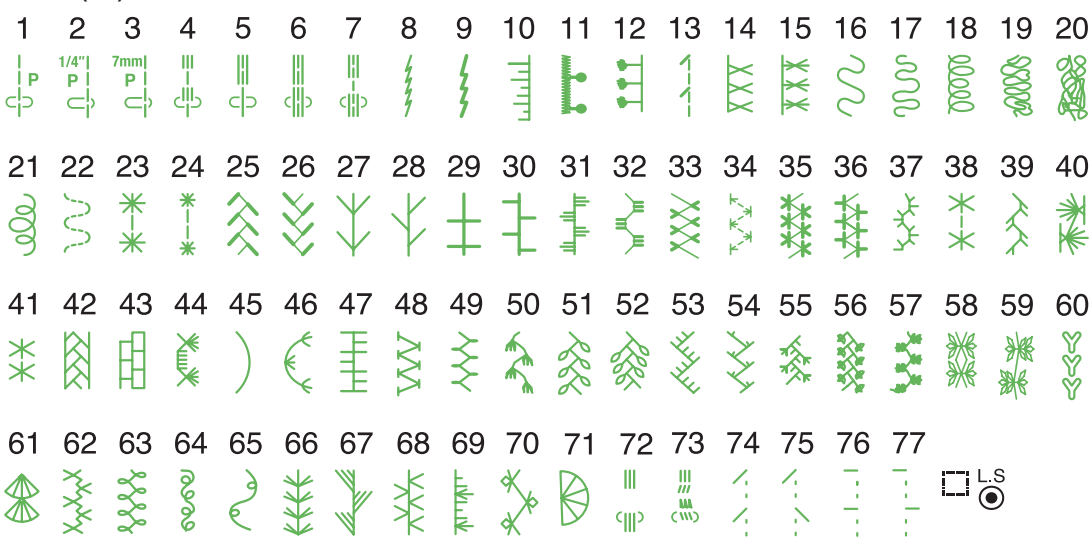
### Applique (A)



### Heirloom (H)



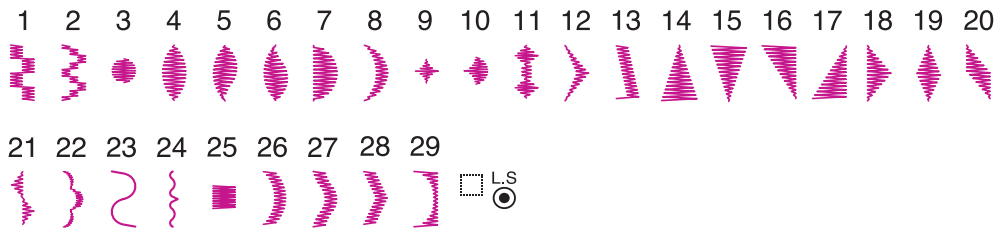
### Quilt (Q)



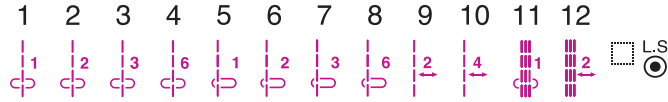
## STITCH CHART

### Satin (S)

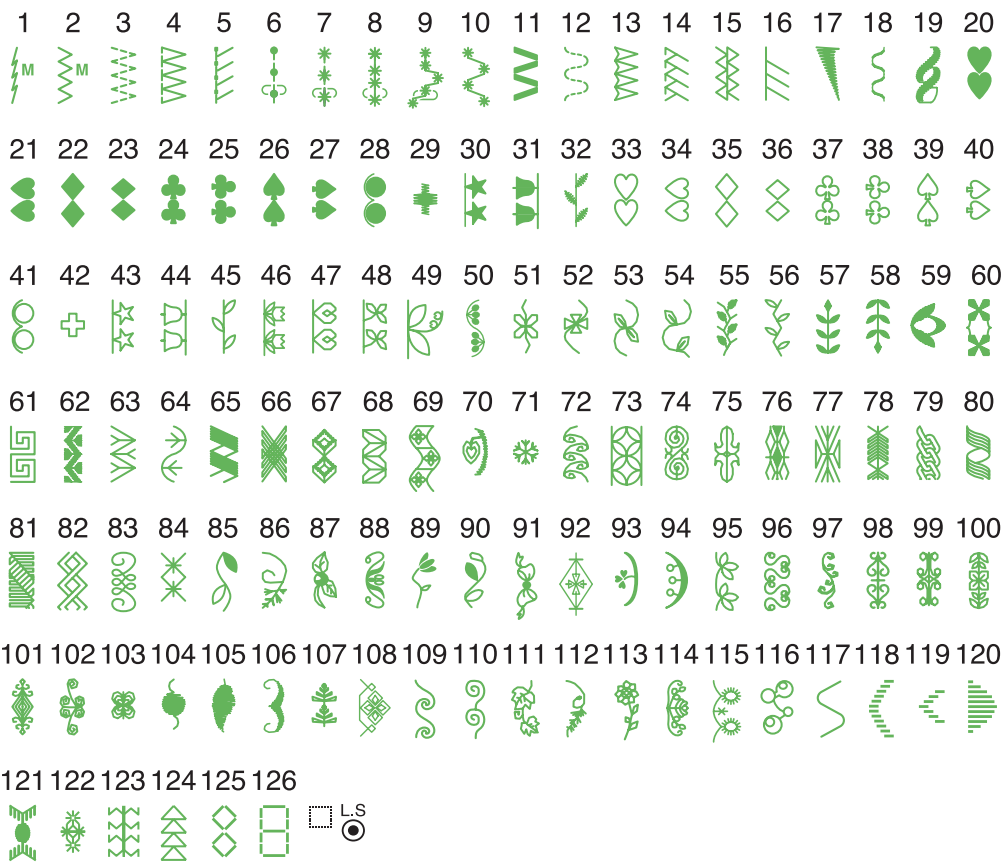
### Ordinary Sewing



### Bridge (BR)



### Decorative (D)



### Long (L)



### Pictograph (P)



### Play (PL)



## STITCH CHART

### Ordinary Sewing

#### Block

A B C D E F G H I J K L M N  
 O P Q R S T U V W X Y Z . □ □ □  
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 ò ó ô õ ö ø ù ú û ü ß à á ê ñ ò  
 ł ł Ń Ń Œ Š š Ž ž

#### Script

*A B C D E F G H I J K L M N*  
*O P Q R S T U V W X Y Z . □ □ □*  
*a b c d e f g h i j k l m n*  
*o p q r s t u v w x y z . □ □ □*  
*1 2 3 4 5 6 7 8 9 0 & - \$ @ . .*  
*, ? ¿ ! ¡ ' ' < > ( ) - + = / // % ~ :*  
*À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ*  
*Ò Ó Ô Õ Ö Ø Ù Ú Û Ü ß À Á Ê Ñ Ò*  
*Ł ł Ń Ń Œ Š š Ž ž*  
*à á â ã ä å æ ç è é ê ë ì í î ï ñ*  
*ò ó ô õ ö ø ù ú û ü ß à á ê ñ ò*  
*ł ł Ń Ń Œ Š š Ž ž*

#### Broadway

**A B C D E F G H I J K L M N**  
**O P Q R S T U V W X Y Z . □ □ □**  
**a b c d e f g h i j k l m n**  
**o p q r s t u v w x y z . □ □ □**  
**1 2 3 4 5 6 7 8 9 0 & - \$ @ . .**  
**, ? ¿ ! ¡ ' ' < > ( ) - + = / // % ~ :**  
**À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ**  
**Ò Ó Ô Õ Ö Ø Ù Ú Û Ü ß À Á Ê Ñ Ò**  
**Ł ł Ń Ń Œ Š š Ž ž**  
**à á â ã ä å æ ç è é ê ë ì í î ï ñ**  
**ò ó ô õ ö ø ù ú û ü ß à á ê ñ ò**  
**ł ł Ń Ń Œ Š š Ž ž**

#### Symbol

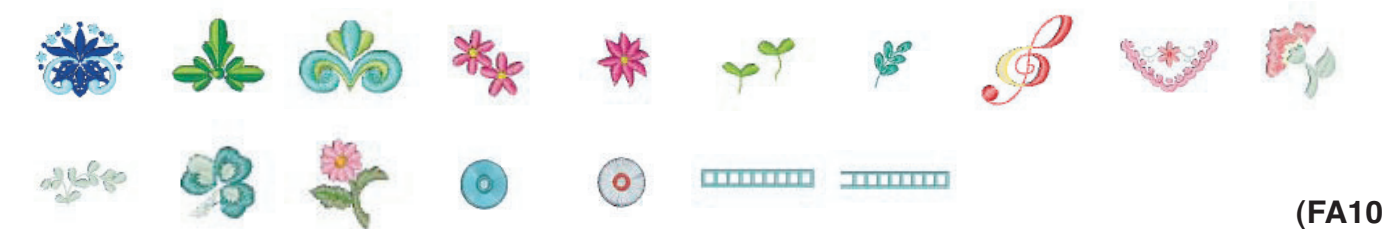
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# DESIGN CHART

## Embroidery

### Favorite Designs

Pattern images are not to scale.





# DESIGN CHART

## Embroidery

Pattern images are not to scale.

### Lace Designs



### Border Designs

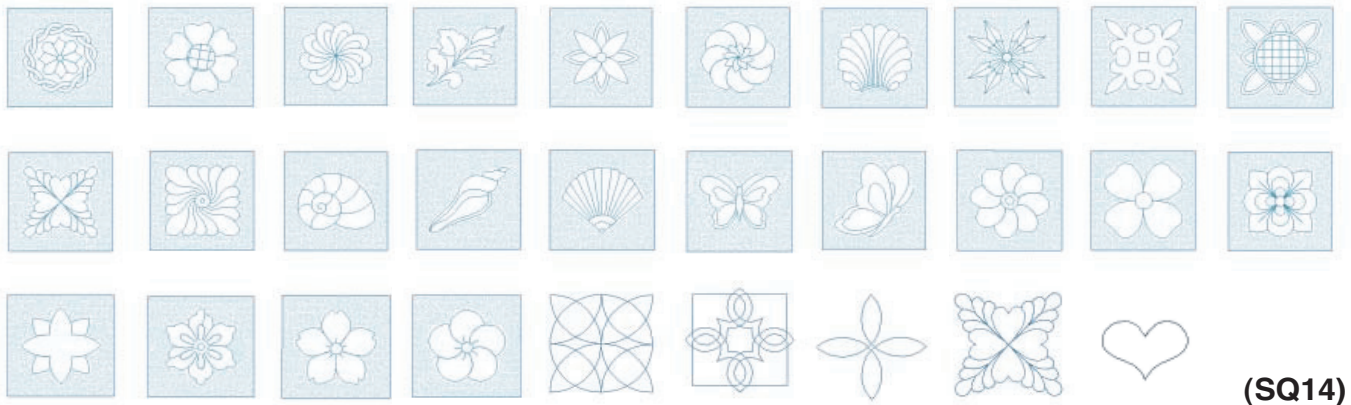


## DESIGN CHART

### Embroidery

Pattern images are not to scale.

#### Quilting Designs

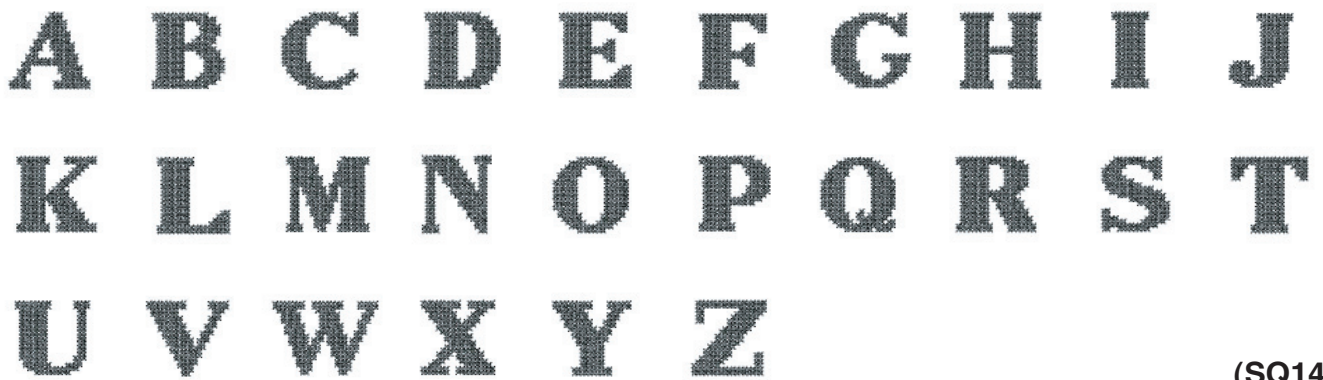


(SQ14)



(SQ23)

#### Cross Stitch Alphabet Designs



(SQ14)

#### Floral Alphabet Designs



(SQ14)



## Flowers



(SQ14)



(FA10)

## Kitchen



(SQ14)

## Sweets



(SQ14)

## Kids



(SQ14)



(FA10)

## Sewing



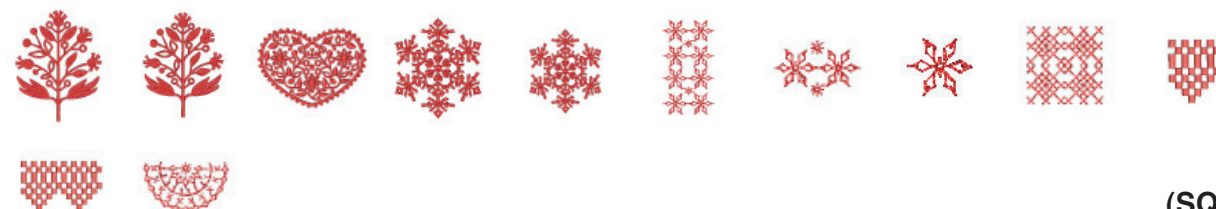
(SQ14)

## Others



(SQ14)

## Interior



(SQ14)

# DESIGN CHART

## Embroidery

© Y. GANAHA COLLECTIONS

Pattern images are not to scale.

### Redwork



(SQ14)

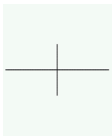


(GR)



(FA10)

### Calibration pattern



# DESIGN CHART

## Embroidery

### Gothic

A	B	C	D	E	F	G	H	I	J	K	L	M	N	
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### Bauhaus

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### Script

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### Galant

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# DESIGN CHART

## Embroidery

### Brush



### Hollowblock



### First Grade



### Jupiter



### 2-letters / 3-letters



### Border



### Normal Sew



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