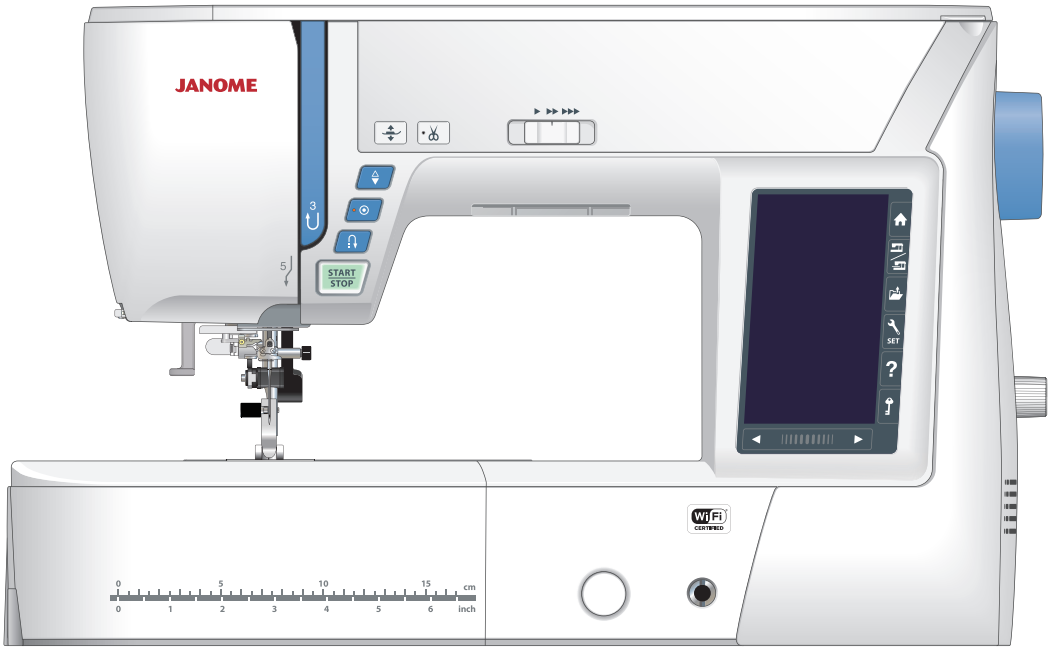
Instruction Book



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)

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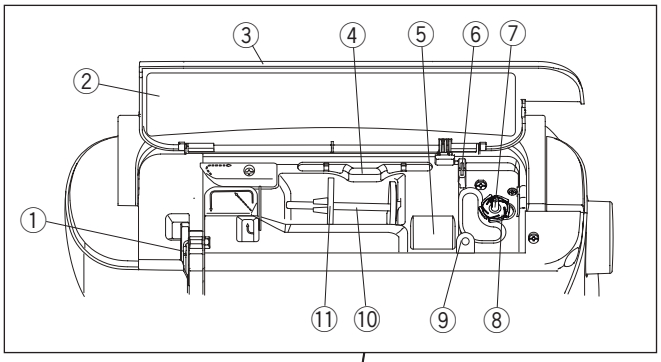
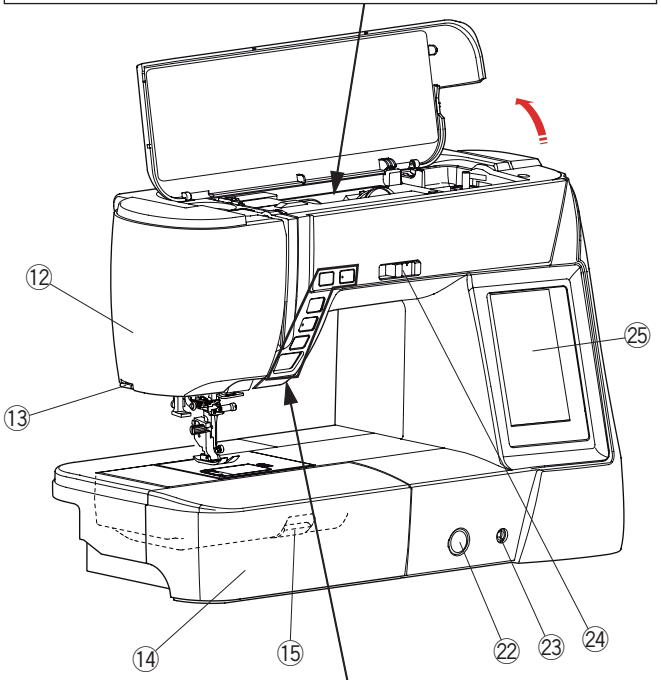
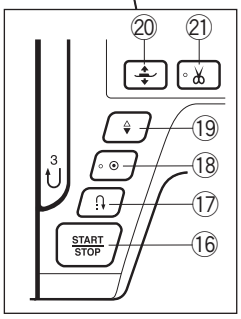
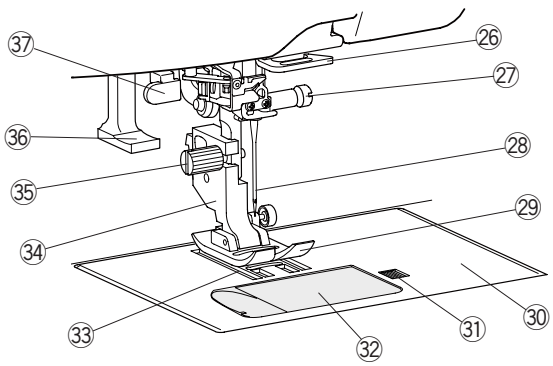








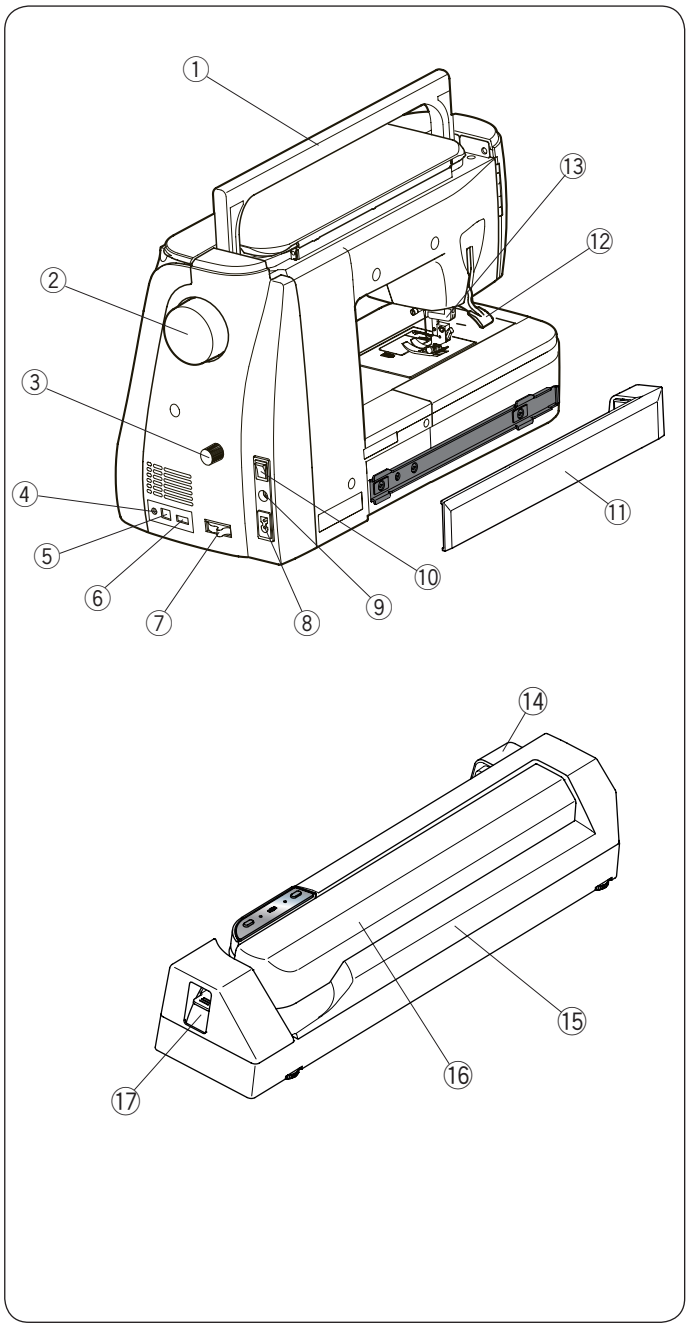
ESSENTIAL PARTS

Names of Parts

① Thread take-up lever
② Reference chart
③ Top cover
④ Touch panel stylus holder
⑤ Foot storage compartment
⑥ Bobbin thread cutter B
⑦ Bobbin winder spindle
⑧ Bobbin thread cutter A
⑨ Hole for extra spool pin
⑩ Spool pin
⑪ Spool holder (large)
⑫ Face cover
⑬ Thread cutter
⑭ Extension table (accessory storage)
⑮ Needle plate release lever
⑯ Start/stop button
⑰ Reverse button
⑱ Auto-lock button
⑲ Needle up/down button
⑳ Presser foot lifter button
㉑ Thread cutter button
㉒ Feed balancing dial
㉓ Knee lifter socket
㉔ Speed control slider
㉕ Visual touch screen
㉖ Lower thread guide
㉗ Needle clamp screw
㉘ Needle
㉙ Zigzag foot A
㉚ Needle plate
㉛ Hook cover release button
㉜ Hook cover plate
㉝ Feed dog
㉞ Foot holder
㉟ Setscrew
㊱ Needle threader
㊲ Buttonhole lever

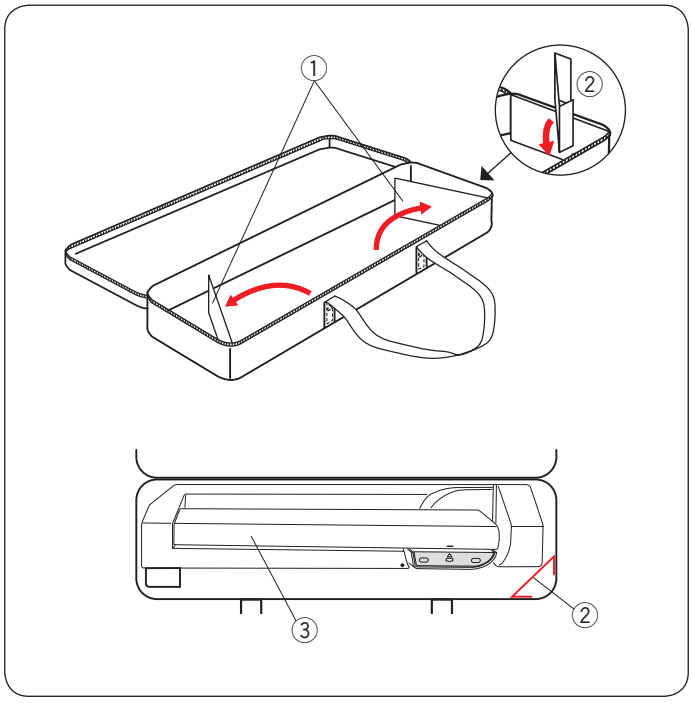
NOTE:
To carry the sewing machine, hold the carrying handle with your hand, and support the sewing machine with the other hand.

NOTE:
Sewing machine design and specifications are subject to change without prior notice.



① Carrying handle
② Handwheel
③ Dual feed balancing dial
④ Thread cutter switch jack*
⑤ USB port (type B)
⑥ USB port (type A)
⑦ Drop feed lever
⑧ Machine socket
⑨ Foot control jack
⑩ Power switch
⑪ Cover
⑫ Presser foot lifter
⑬ Dual feed drive
⑭ Embroidery unit socket
⑮ Embroidery unit
⑯ Carriage arm
⑰ Carriage arm release lever

* Thread cutter switch is the optional item.

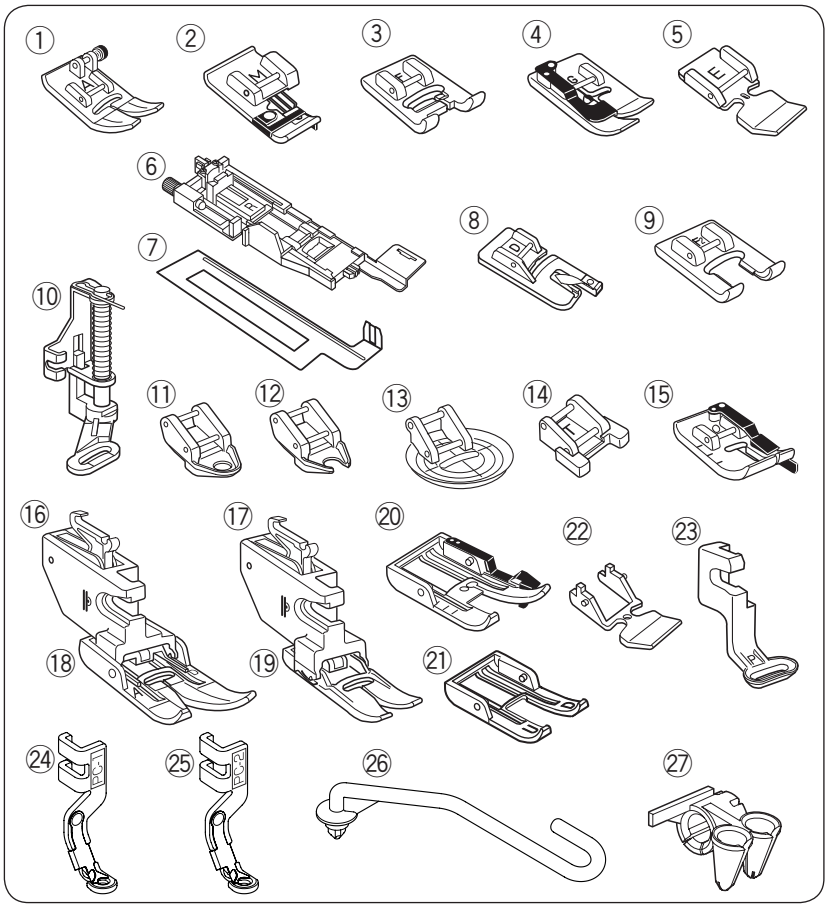


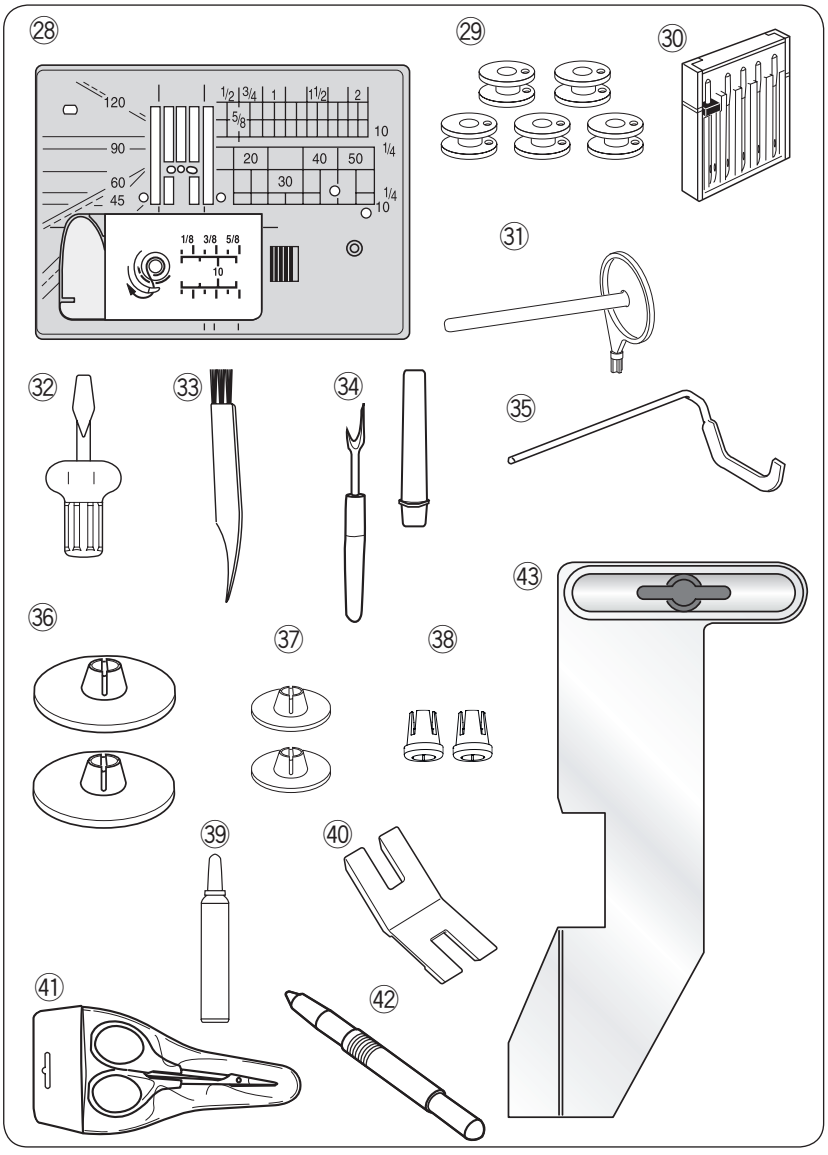
Embroidery unit case

To use:

Open the flaps.
Attach the supporter as shown.
Place the embroidery unit as shown so the supporter prevents the embroidery unit sways inside the case while carrying.

① Flaps
② Supporter
③ Embroidery unit

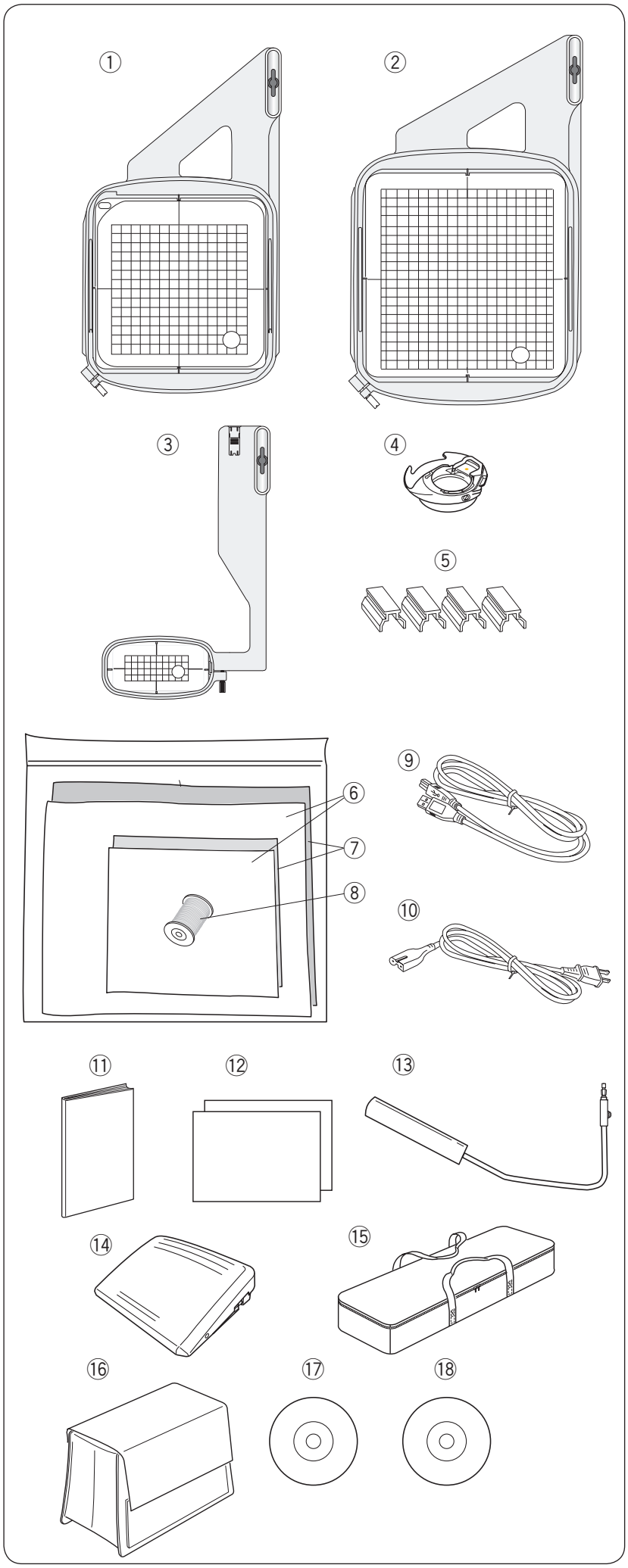




Standard Accessories

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 Automatic buttonhole foot R
⑦ Stabilizer plate
⑧ Rolled hem foot D
⑨ Open toe satin stitch foot F2
⑩ Darning foot PD-H
⑪ Free motion quilting closed-toe foot QC
⑫ Free motion quilting open-toe foot QO
⑬ Free motion quilting zigzag foot QV
⑭ Button sewing foot T
⑮ 1/4″ seam foot O
⑯ Dual feed holder (twin)
⑰ Dual feed holder (single)
⑱ Dual feed foot AD (twin)
⑲ Dual feed foot VD (single)
⑳ Dual feed quilt piecing foot OD (twin)
㉑ AcuFeed open toe foot UD (twin)
㉒ Dual feed zipper foot ED (single)
㉓ Embroidery foot P
㉔ Couching foot PC-1
㉕ Couching foot PC-2
㉖ Yarn guide bar
㉗ Yarn guide

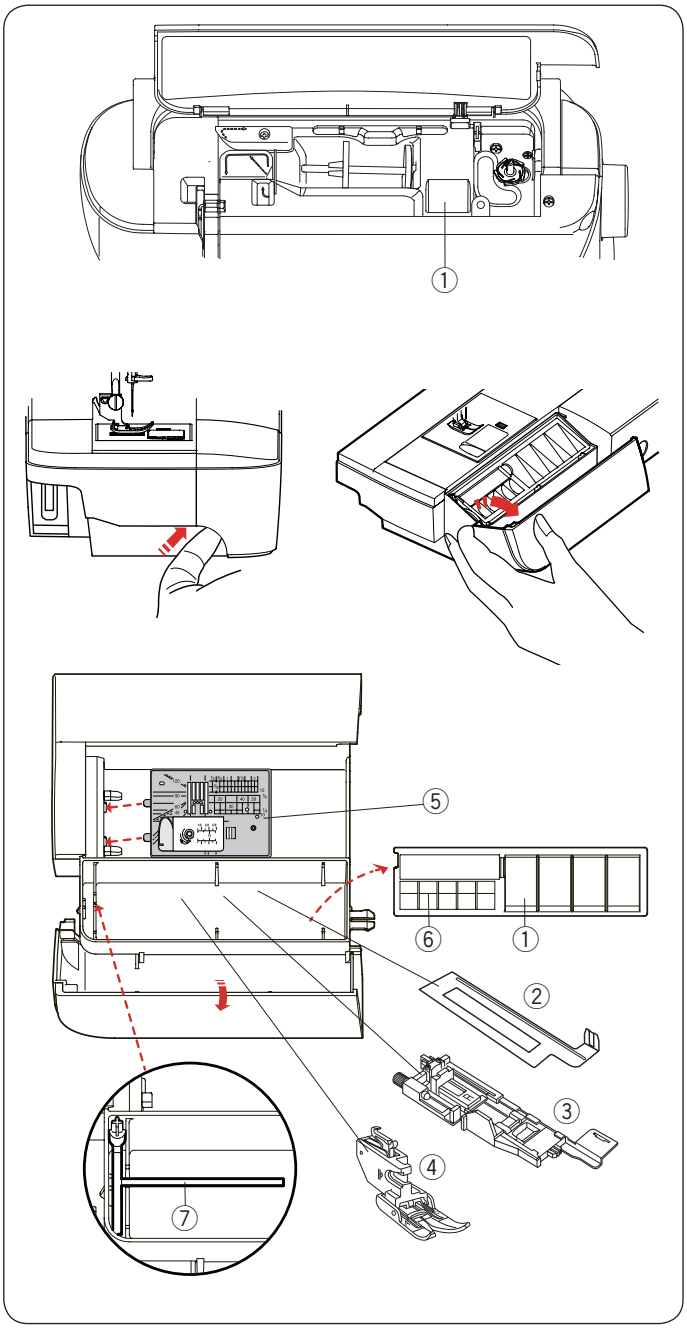
㉘ Straight stitch needle plate
㉙ Bobbin x 5 (1 set on the machine)
㉚ Needle set
㉛ Additional spool pin
㉜ Screwdriver
㉝ Lint brush
㉞ Seam ripper (buttonhole opener)
㉟ Quilting guide bar
㊱ Spool holder (large) X 2 (1 set on the machine)
㊲ Spool holder (small) X 2
㊳ Spool holder (special) X 2
㊴ Bobbin holder cleaner
㊵ Button shank plate
㊶ Scissors
㊷ Touch panel stylus
㊸ Cloth guide



Standard Accessories

① Embroidery hoop SQ14a (with template)
② Embroidery hoop RE20a (with template)
③ Embroidery hoop FA10a (with template)
④ Bobbin holder for embroidery
⑤ Magnetic clamps (X4)
⑥ Felt
⑦ Stabilizers
⑧ Bobbin thread for embroidery
⑨ USB cable
⑩ Power supply cable*
⑪ Instruction book
⑫ Quick charts
⑬ Knee lifter
⑭ Foot control
⑮ Embroidery unit case
⑯ Semi-hard fabric cover
⑰ Instructional video DVD
⑱ Acutools S CD-ROM

*The power supply cable included may differ from the illustration.



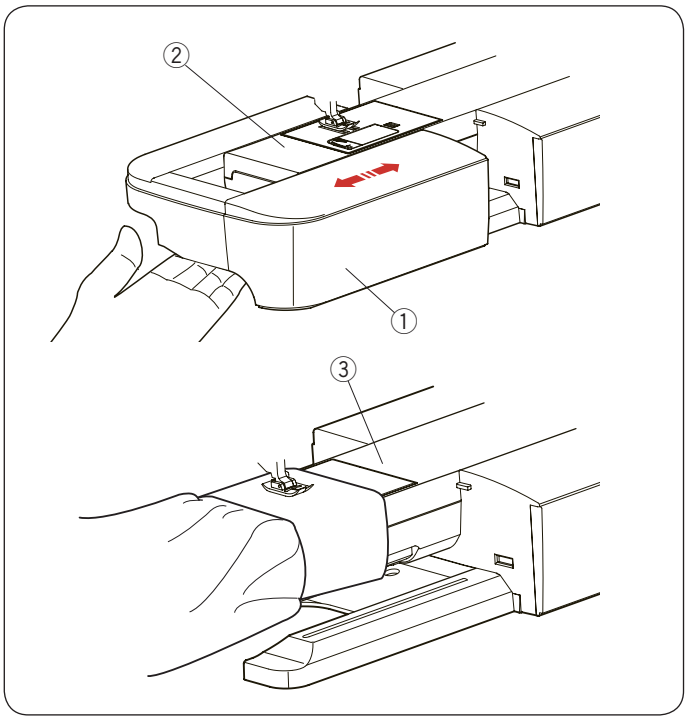
Accessory Storage

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

To store the accessories in the compartment of the extension table, push up the cover towards you to open the accessory storage.

① Presser foot
② Buttonhole stabilizer plate
③ Automatic buttonhole foot R
④ Dual feed foot AD (twin)
⑤ Straight stitch needle plate
⑥ Bobbin
⑦ Extra spool pin

Other accessories can be also stored in the compartment in the extension table.



Extension Table

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

① Extension table
② Free-arm

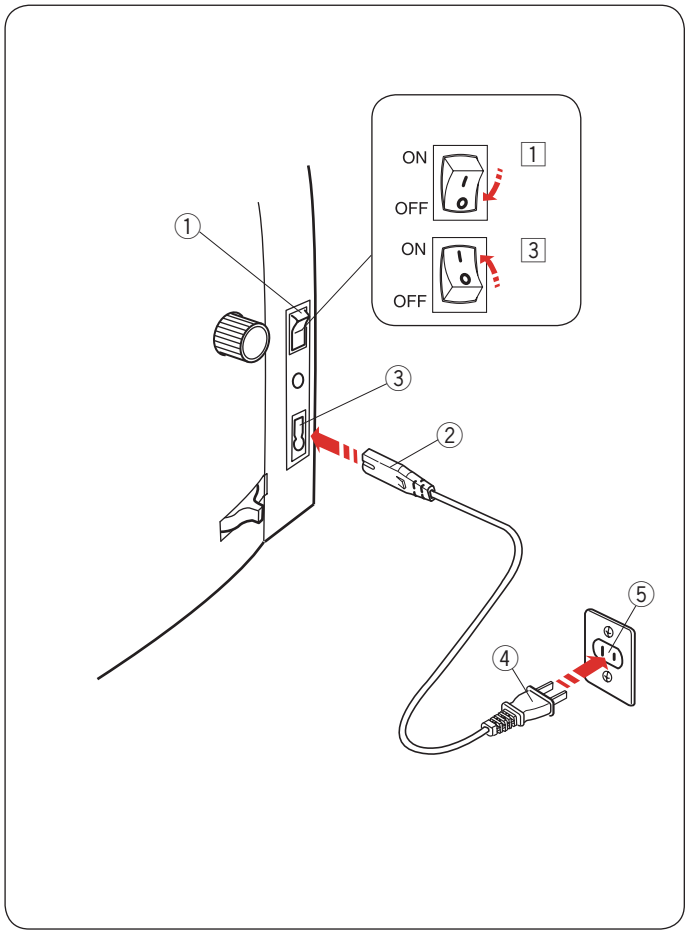
To detach:
Draw the table out to the left.

To attach:
Slide the table on the base and push the table to the right.

Free-arm sewing

Free-arm sewing is used for stitching sleeves, waistbands, pant legs or any other tubular garments. It is also useful for darning socks or mending knees or elbows.

③ Free-arm



GETTING READY TO SEW

Connecting the Power Supply

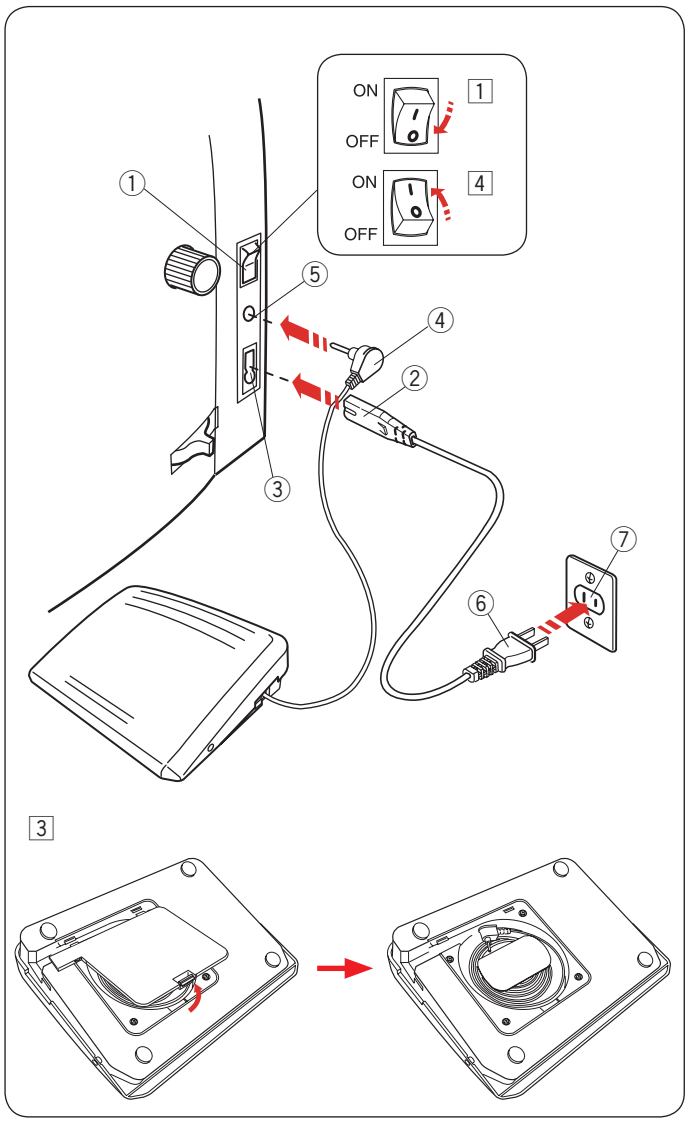
1 First make sure the power switch ① is off.
2 Insert the machine plug ② of the power supply cable into the machine socket ③.
3 Insert the power supply plug ④ into the wall outlet ⑤, and turn the power switch ① on.

① Power switch
② Machine plug
③ Machine socket
④ Power supply plug
⑤ Wall outlet

NOTE:
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.

WARNING:
While in operation, always keep your eyes on the sewing area, and do not touch any moving parts such as the thread take-up lever, handwheel or needle.
Always turn off the power switch and unplug the machine from the power supply:
- when leaving the machine unattended.
- when cleaning the machine.

Do not place anything on the foot control.



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

1 First make sure the power switch ① is off.
2 Insert the machine plug ② of the power supply cable into the machine socket ③.
3 Draw out the cord from the foot control and insert the pin connector ④ into the jack ⑤ on the machine.
4 Insert the power supply plug ⑥ into the wall outlet ⑦, and turn the power switch ① on.

① Power switch
② Machine plug
③ Machine socket
④ Pin connector
⑤ Jack
⑥ Power supply plug
⑦ Wall outlet

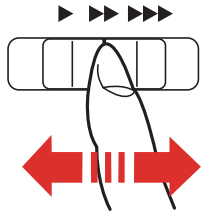
NOTE:
The start/stop button does not work when the foot control is connected.

Operating Instructions:

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

For the U.S.A. and Canada only

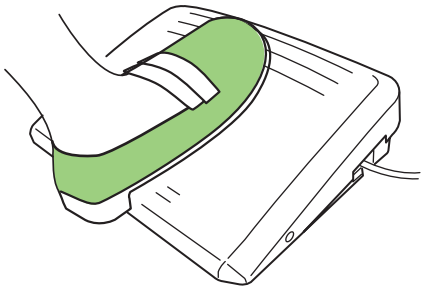
Polarized plug (one blade wider than the other):
To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If it does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do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



Controlling Sewing Speed

Speed control slider

You can limit the maximum sewing speed with the speed control slider according to your sewing needs.
To increase the sewing speed, move the slider to the right.
To decrease the sewing speed, move the slider to the left.

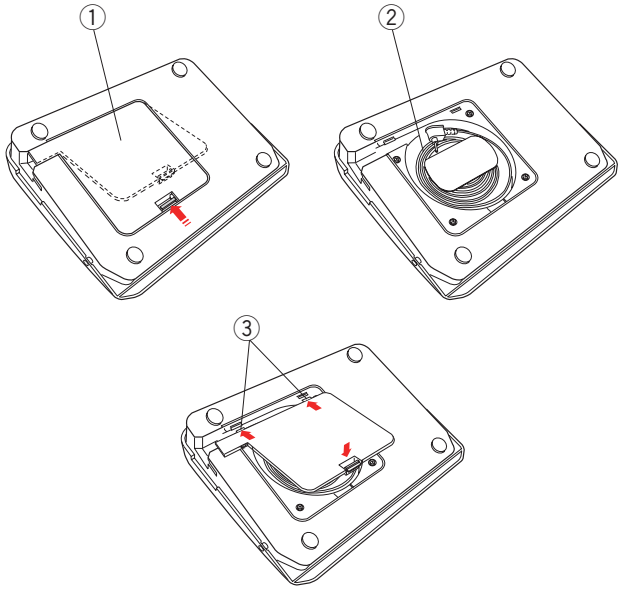


Foot Control

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

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

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.



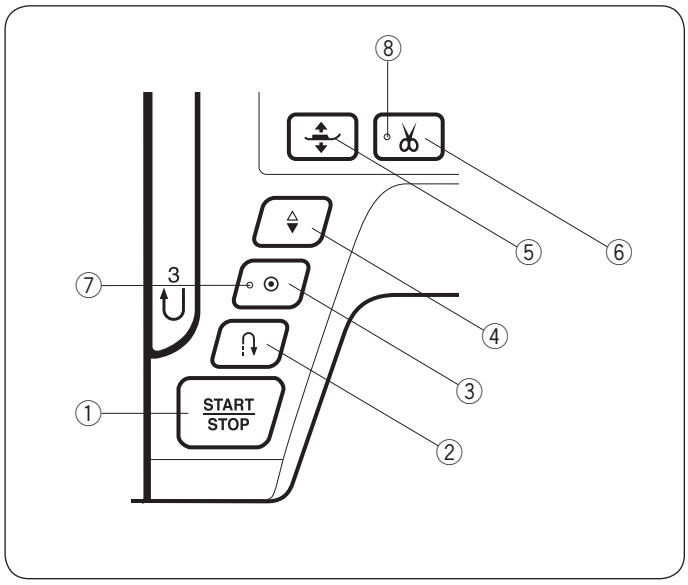
Cord storage

The cord of the foot control can be conveniently stored in the cord storage under the base cover of the foot control.

① Base cover
② Cord
③ Hooks

Operating Instructions:

Foot control model 21380 is for use with this sewing machine.



Machine Operating Buttons

① Start/stop button

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

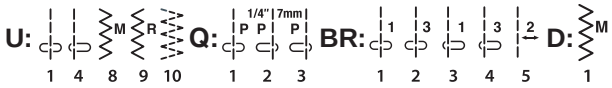
The button will turn red when the machine is running, and green when it has been stopped.

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

NOTE:
- The start/stop button cannot be used when the foot control is connected to the machine.
- You can select the desired start-up speed from slow, medium or high (refer to page 98).

② Reverse button

- **When stitch pattern U1, U4, U8-U10, Q1-Q3, BR1-BR5 or D1 is selected;**



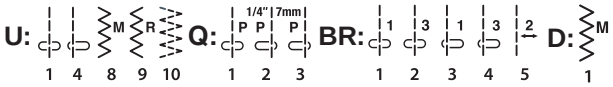
The machine will sew in reverse as long as the reverse button is pressed. Release the button to sew forward.
When the machine is stopped and foot control is disconnected, the machine will sew in reverse slowly as long as the reverse button is pressed. Release the button to stop the machine.

- **When any other stitches are selected;**
If you press the reverse button when sewing any other patterns, the machine will immediately sew locking stitches and automatically stop.

NOTE:
There will be particular functions of the reverse button when stitch pattern U2, U3, B2, B13, or B14 is selected. Refer to pages 32, 48, 54 and 88 for instructions.

③ Auto-lock button

- **When stitch pattern U1, U4, U8-U10, Q1-Q3, BR1-BR5 or D1 is selected;**



Press the auto-lock button to sew a locking stitch immediately. The machine will automatically stop.

When the machine is stopped, press the auto-lock button to blink the LED signal ⑦. The machine will immediately sew locking stitches and automatically stop when the machine is started.

- **When any other stitches are selected;**
Press the auto-lock button to sew a locking stitch at the end of current pattern. The machine will automatically stop.

When the machine is stopped, press the auto-lock button to blink the LED signal ⑦. The machine will sew a locking stitch at the end of the current pattern and automatically stop when the machine is started.

The machine will trim the threads automatically after locking the stitch when the auto thread cutting is turned on (refer to page 101).

④ Needle up/down button

Press this button to bring the needle bar up or down. The machine will stop with the needle in down position. However, you can change the needle stop position in the machine setting mode (refer to page 98).

⑤ Presser foot lifter button

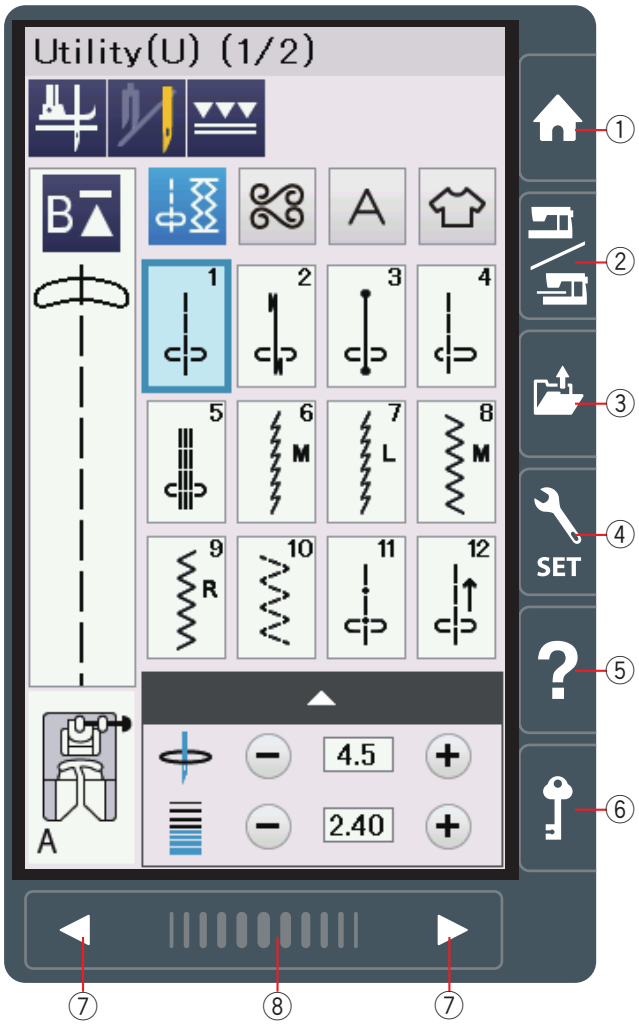
The presser foot will go up or go down by pressing this button.
You can also use the presser foot lifter and knee lifter to raise and lower the presser foot (refer to page 25).

⑥ Thread cutter button

After finish sewing, press this button to trim the threads. The needle bar automatically rises after trimming the threads (refer to page 31).
The LED signal ⑧ blinks when the machine trims threads.

NOTE:
The thread cutter button does not function:
- directly after turning on the power.
- when the presser foot is raised with the foot lifter.
- after being pressed 3 times in a row.

Use the thread cutter on the face cover if the thread is #30 or thicker (refer to page 31).



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 **Home key**
Press this key to enter the category selection of the selected mode (ordinary sewing mode or embroidery mode).

② **Mode switch key**
Press this key to enter into embroidery mode or to return to ordinary sewing mode.

③ **Open file key**
Press this key and the open file window will open.
You can open pattern combinations, monograms and embroidery designs saved in the machine's internal memory or on a USB flash drive.

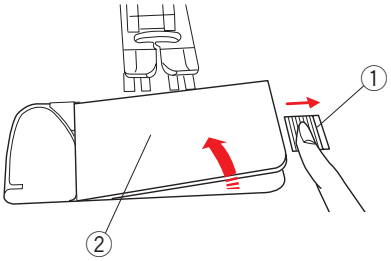
④ **Set mode key**
Press this key to enter the setting mode. You can customize the machine settings to your preference.
The machine settings for common settings, ordinary sewing, embroidery, Wi-Fi® * and language selection are available in this mode.

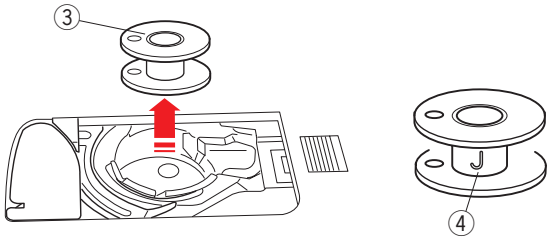
⑤ **Help key**
Press this key to view the step-by-step visual guide about the essential parts.

⑥ **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 except the lock key and presser foot lifter button are deactivated.
To unlock the machine, press this key again.

⑦ **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.

⑧ **Touch bar**
Press on the bar and slide to the right or left to display the next page or previous page.





Winding the Bobbin

Removing the Bobbin

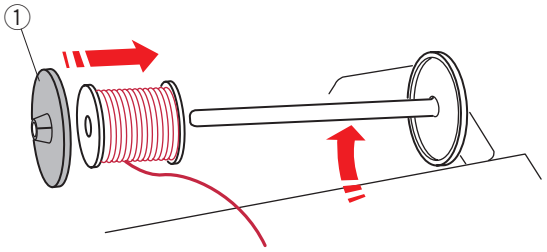
Slide the hook cover release button to the right, and remove the hook cover plate.

① Hook cover release button
② Hook cover plate

Lift out the bobbin from the bobbin holder.

③ Bobbin

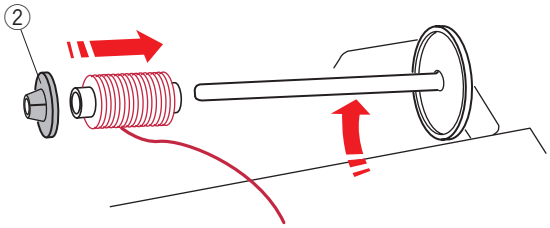
NOTE:
Use the “J” plastic bobbins for horizontal hook (marked with “J” ④). Using other bobbins, such as pre-wound paper bobbins, may cause stitching problems and/ or damage to the bobbin holder.



Setting the spool of thread

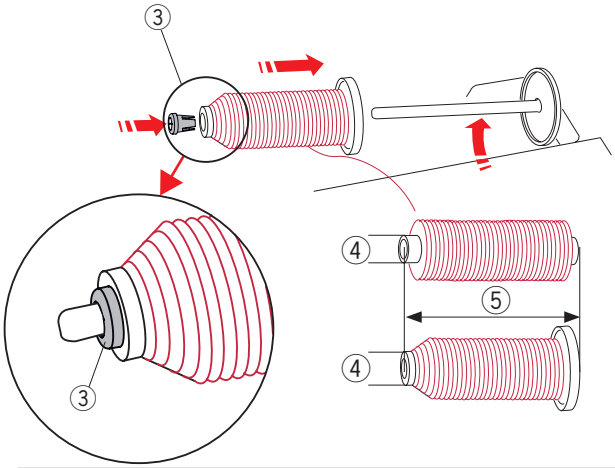
Lift up the spool pin. Place the spool of thread on the spool pin.
Attach the large spool holder, and press it firmly against the spool of thread.

① Large spool holder



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

② Small spool holder

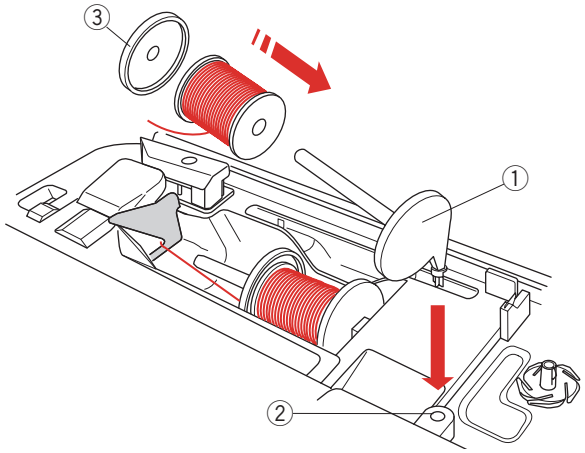


Use the spool holder (special) to hold the specific size of the spool of threads as shown.

The sizes of the spools of thread are as follows;
The hole diameter of the spool has a range of 3/8″ to 7/16″ (9.5 to 10.5 mm)), and the spool length has a range of 2 3/4″ to 3″ (70 to 75 mm).

③ Spool holder (special)
④ Hole diameter (3/8″ to 7/16″)
⑤ Spool length (2 3/4″ to 3″)

Firmly insert the spool holder (special) into the hole and hold the spool as illustrated.



Extra spool pin

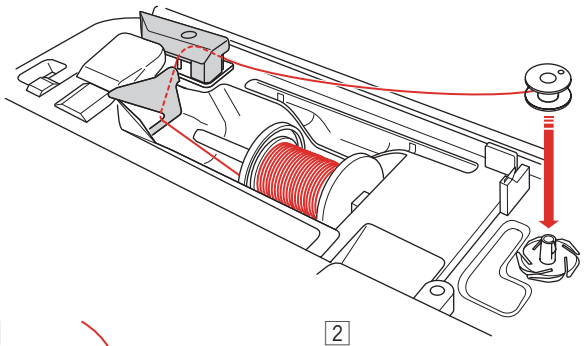
Use the extra spool pin when you need to wind a bobbin without unthreading the machine while working on a sewing project.
Insert the extra spool pin into the hole as shown.
Place a spool of thread on the extra spool pin and fix the spool with the spool holder.

① Extra spool pin
② Hole for extra spool pin
③ Large spool holder

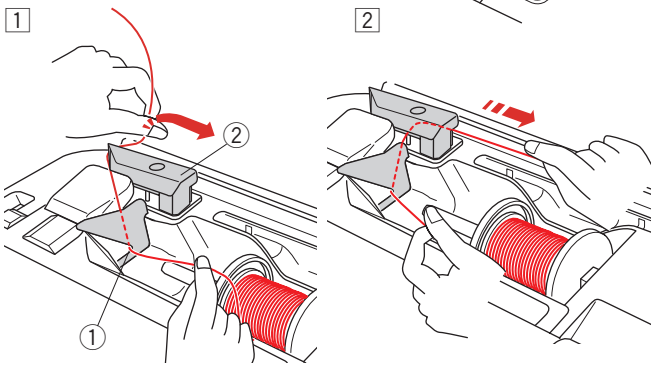
NOTE:
The extra spool pin is also used for twin needle sewing.

Winding the bobbin

NOTE:
Set the speed control slider at the fastest position (refer to page 10).

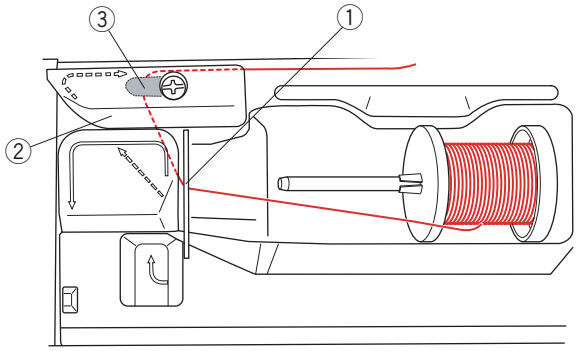


1 2

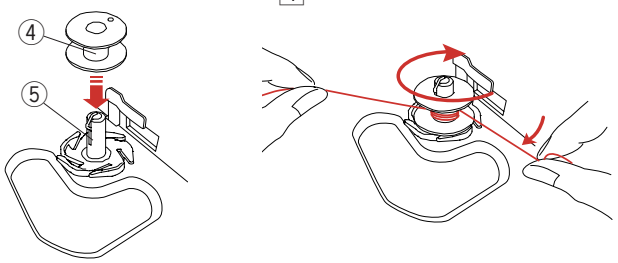


1 Pull the thread from the spool.
Hold the thread with both hands and pass the thread into the guide slot ①.
Draw the thread to the left and forward around the thread guide ②.
Draw the thread to the rear and to the right around and under the guide plate ③.
① Guide slot
② Thread guide
③ Guide plate

2 Firmly pull the thread to the right while holding it with both hands.



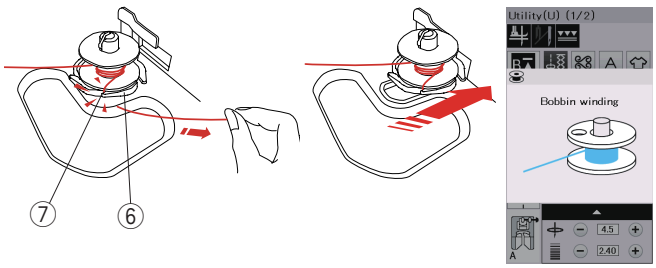
3 4



3 Put the bobbin ④ on the bobbin winder spindle ⑤.
④ Bobbin
⑤ Bobbin winder spindle

4 Pass the thread to the bobbin.
Hold the thread with both hands and wind it around the bobbin clockwise several times.

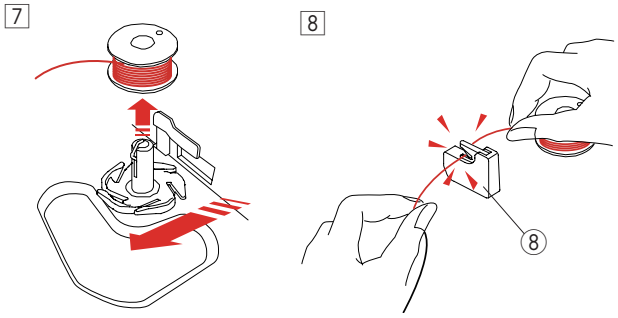
5 6



5 Insert the thread into one of the slits ⑦ of the flange plate ⑥ and pull the thread to cut.
⑥ Flange plate
⑦ Slit

6 Push the bobbin to the right. The visual touch screen will show the bobbin winding sign.

7 8



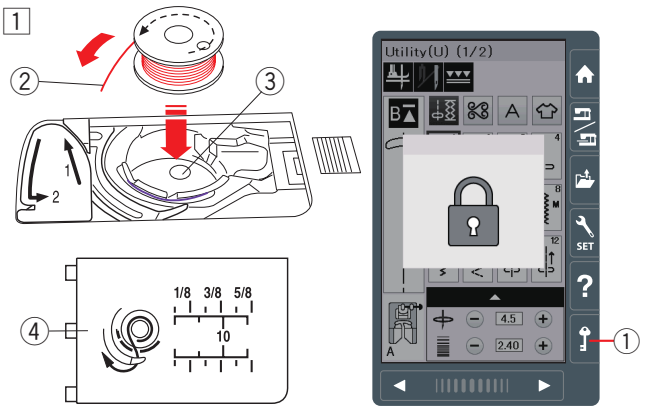
7 Start the machine.
Stop the machine when the bobbin is fully wound and stops spinning.
Return the bobbin winder spindle to its original position.

8 Remove the bobbin. Cut the thread with bobbin thread cutter B ⑧.
⑧ Bobbin thread cutter B

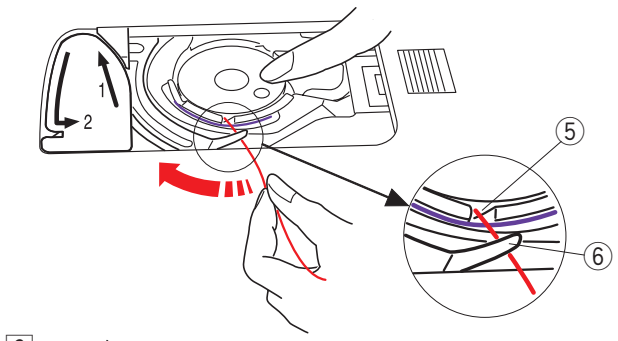
NOTE:
For safety purposes, the machine will automatically stop 1.5 minutes after starting bobbin winding.

Inserting the Bobbin

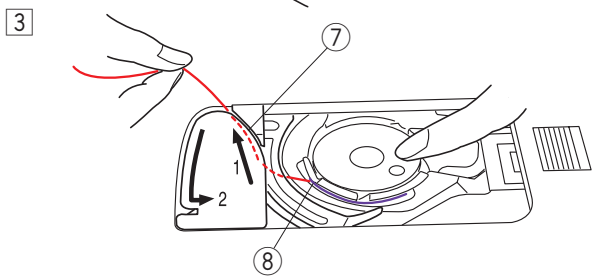
1 Press the lockout key.
Place a bobbin in the bobbin holder with the thread running off counterclockwise as shown on the hook cover plate.
① Lockout key
② End of thread
③ Bobbin holder
④ Hook cover plate

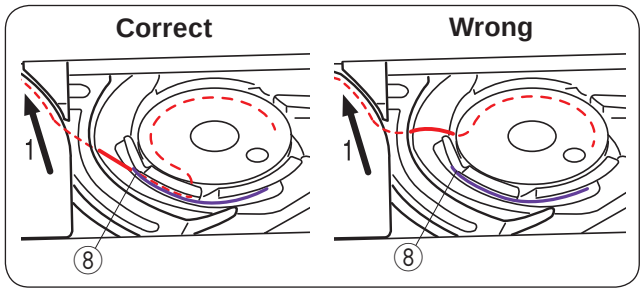


2 Hold the bobbin with your fingertip so it does not rotate.
Guide the thread into the front notch of the bobbin holder.
Pull the thread to the left to pass it under the guide.
⑤ Front notch
⑥ Guide



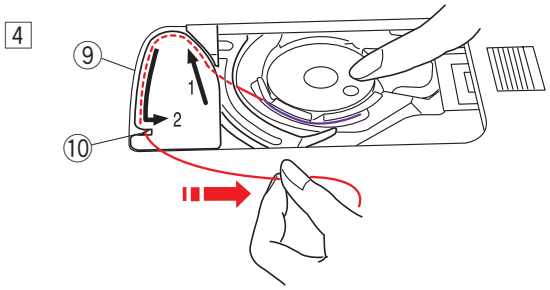
3 Draw the thread to the left to pass it into the guide path marked “1”.
Make sure that the thread comes out from the side notch of the bobbin holder.
⑦ Guide path 1
⑧ Side notch



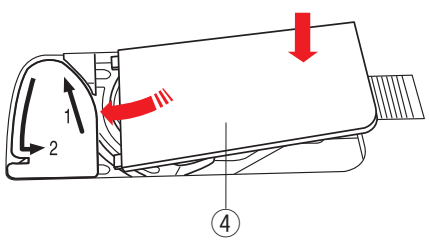


NOTE:
If the thread does not come out from the side notch, rethread from step 1.

4 Continue to draw the thread along the guide path marked “2” and pull the thread to the right through the slit. The thread will be cut to a proper length and held in place.
⑨ Guide path 2
⑩ Slit (Thread cutter)



5 Set the left edge of the hook cover plate into opening.
Push down the hook cover plate to fit in place.



NOTE:
Unless otherwise noted, you can start sewing without drawing up the bobbin thread.
Refer to page 18 for how to draw up the bobbin thread.

Threading the Machine

CAUTION:
Always make sure to press the lockout key to lockout the machine before 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 order 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

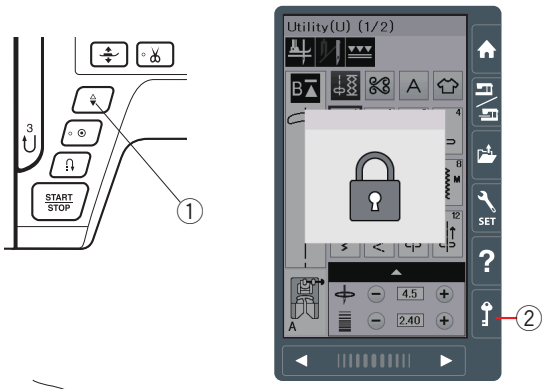
6 Slide the thread from the right of the needle bar thread guide to the left.

⑨ Needle bar thread guide

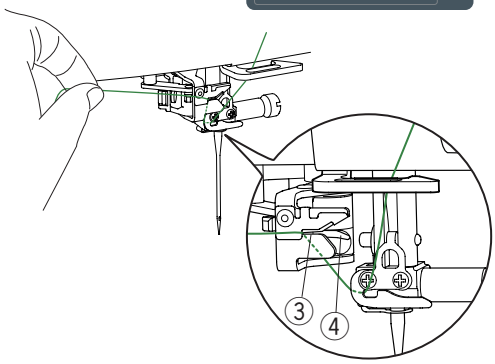
7 Thread the needle with the needle threader (refer to the next page).

Built-in Needle Threader

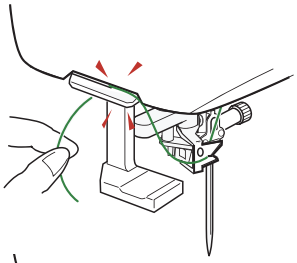
NOTE:
- The needle threader can be used with a #11 to #16 needle.
  Thread size 50 to 90 is recommended.
  Do not use thread size 30 or thicker.
- The needle threader cannot be used with the twin needle.

1 

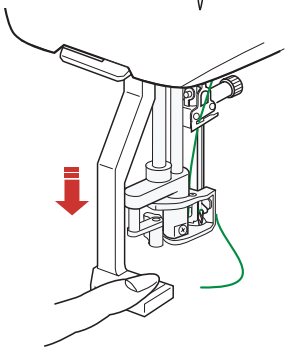
1 Press the needle up/down button to raise the needle. Press the lockout key to lock the machine.
① Needle up/down button
② Lockout key

2 

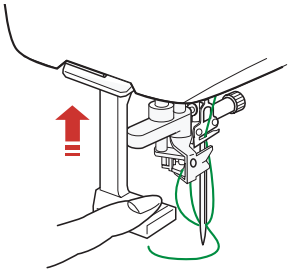
2 Draw the thread through the slit ③ of the needle threader. The thread should pass under the hook ④.
③ Slit
④ Hook

3 

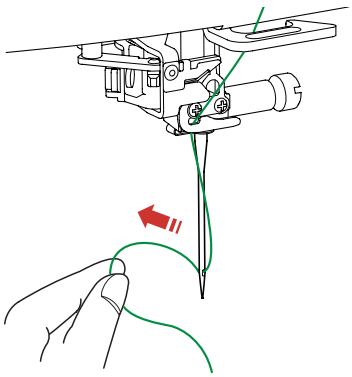
3 Pull the thread up and slip it between the thread cutter and face plate from behind.
Pull the thread toward you to cut.

4 

4 Pull down the needle threader knob as far as it will go.

5 

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

6 

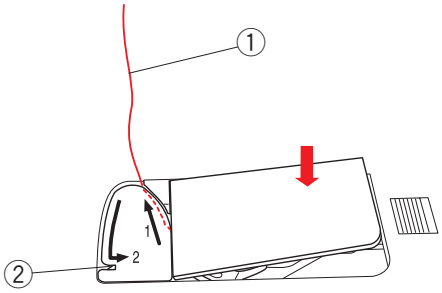
6 Pull the thread loop to take the thread end out through the needle eye to the rear.

NOTE:
If the thread is caught in the hook and the thread loop is not formed, remove the thread from the hook and pull it to take the thread end out through the needle eye.

Drawing up the Bobbin Thread

After using auto thread cutting or threading the bobbin holder, you can start sewing without drawing up the bobbin thread.
However, you need to draw up the bobbin thread when sewing gathering stitches etc.

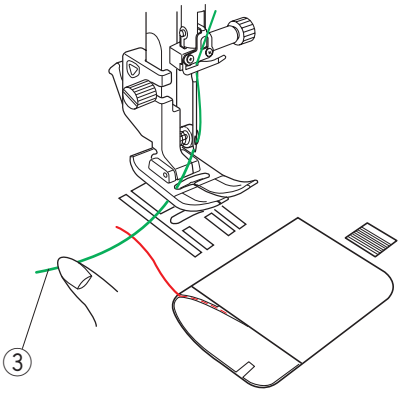
1



1 Remove the bobbin. Insert the bobbin into the bobbin holder again and rethread the bobbin holder according to the instructions on page 15, but leave a 10 cm (4″) tail of bobbin thread as shown.
① Bobbin thread

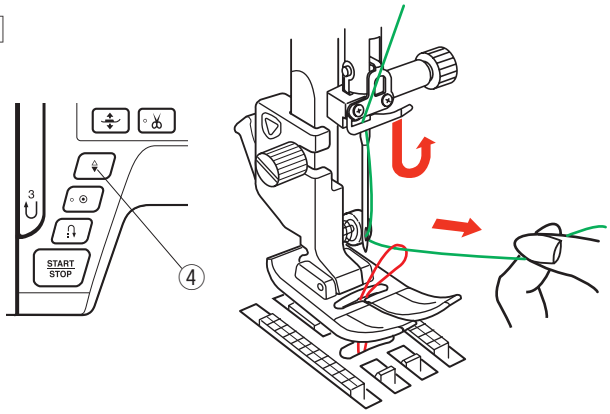
NOTE:
Do not cut the bobbin thread with the thread cutter.
② Thread cutter

2



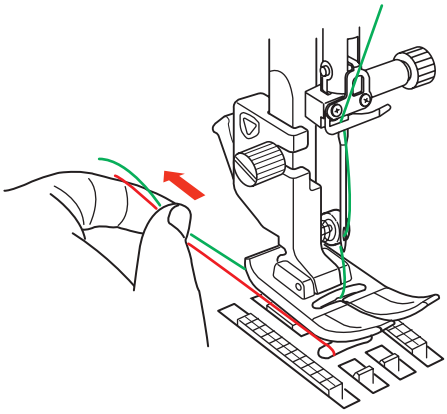
2 Raise the presser foot. Hold the needle thread lightly with your left hand.
③ Needle thread

3

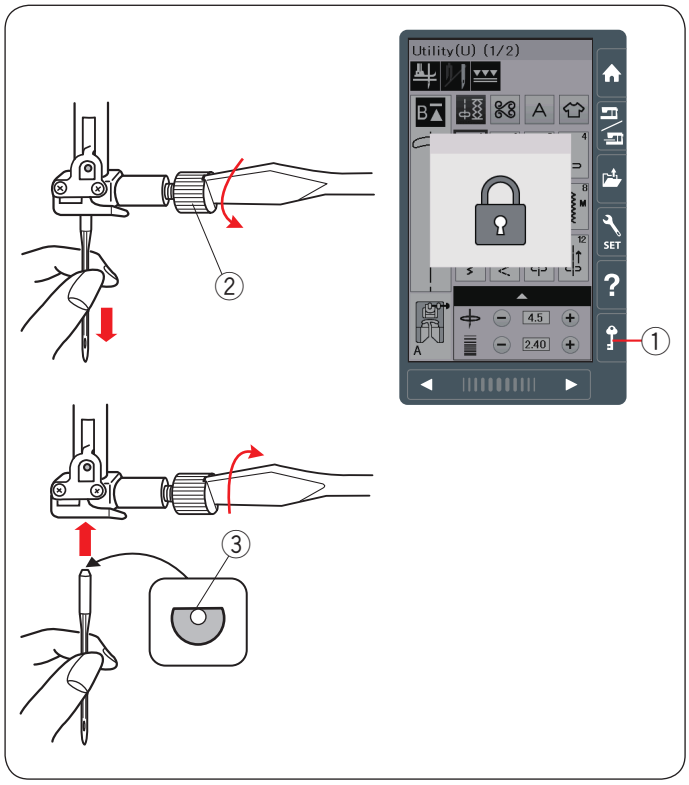


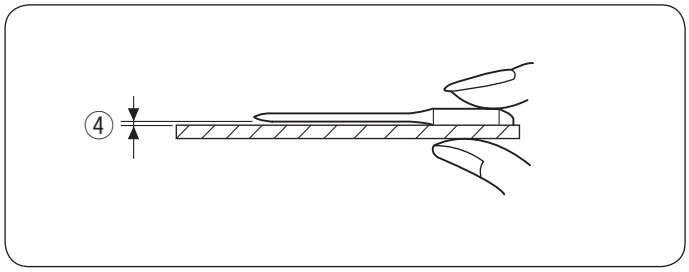
3 Press the needle up/down button twice to lower and raise the needle and pick up the bobbin thread.
④ Needle up/down button

4



4 Pull both threads 10 cm (4″) under and behind the presser foot.





Replacing Needles

CAUTION:
Always make sure to press the lockout key to lockout the machine 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 counterclockwise.
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		Thread	Needle
Fine	Lawn Georgette Tricot Organza Crepe	Silk #80-100 Cotton #80-100 Synthetic #80-100	Blue tip needle Universal needle #9/65-11/75
Medium	Sheeting Jersey Broadcloth Fleece	Silk #50 Cotton #50-80 Synthetic #50-80	Red tip needle Purple tip needle Universal needle #11/75-14/90
Heavy weight	Denim Tweed Coating Quilting	Silk #30-50 Cotton #40-50 Synthetic #40-50	Red tip needle Purple tip needle Universal needle #14/90-16/100

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 (Part No. 859856005).

Fabric and Needle Chart

- For general sewing, use red needle.
- 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 tip needle for sewing fine fabrics, stretch fabrics, tricot and buttonholes to prevent skipped stitches.
- Use a purple tip needle for sewing knits, free quilting 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.

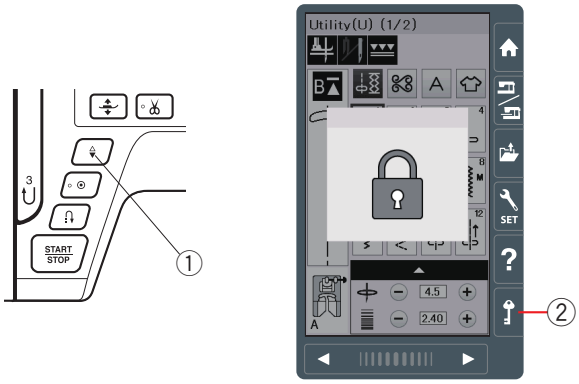
For embroidery:

- In general, use a blue tip needle.
- Use a red tip needle or purple tip needle for thicker fabrics.
- Use a purple tip needle for dense stitch embroidery and Quilting designs.
- Janome bobbin thread for embroidery is recommended for bobbin.

Replacing the Presser Foot

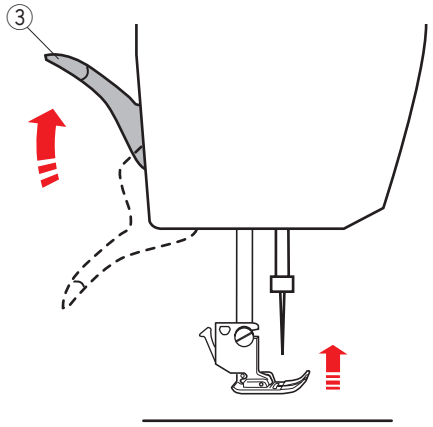
CAUTION:
Always make sure to press the lockout key to before replacing the presser foot.
Use the proper foot for the selected pattern.
The wrong foot can cause the needle to break.

1



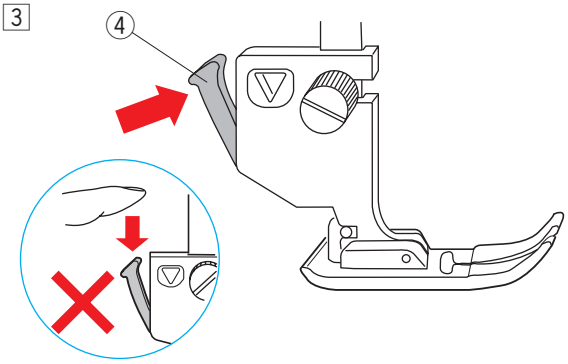
① Raise the needle by pressing the needle up/down button.
Press the lockout key.
① Needle up/down button
② Lockout key

2



② Raise the presser foot lifter.
③ Presser foot lifter

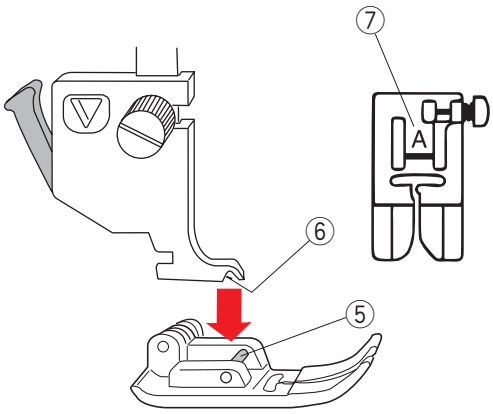
3



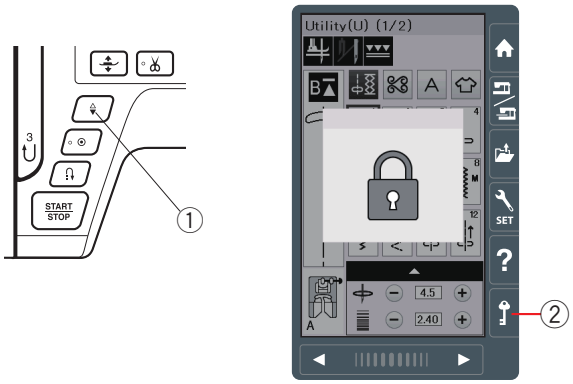
③ Press the black lever on the back of the foot holder.
The presser foot will drop off.
④ Lever

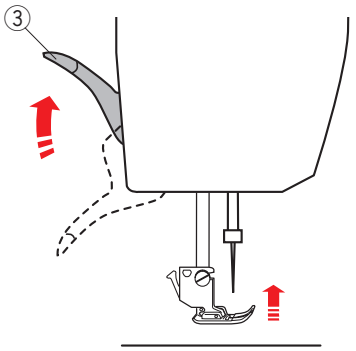
CAUTION:
To avoid damaging the lever, do not push it down.

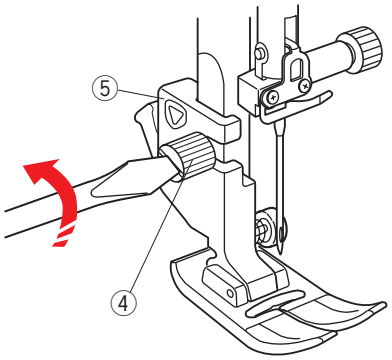
4

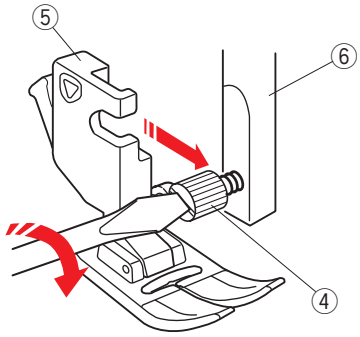


④ Place the presser foot so that the pin on the foot lies just under the groove of the foot holder.
Lower the presser bar to lock the foot in place.
Each foot is marked with an identification letter.
⑤ Pin
⑥ Groove
⑦ Identification letter









Removing and Attaching the Foot Holder

Remove the foot holder before using the dual feed foot or darning foot.

> **CAUTION:**
> Always make sure to press the lockout key to lockout the machine before replacing the foot holder.

Removing the 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 Needle up/down button
② Lockout key
③ Presser foot lifter

Loosen the setscrew and remove the foot holder.

④ Setscrew
⑤ Foot holder

Attaching the foot holder

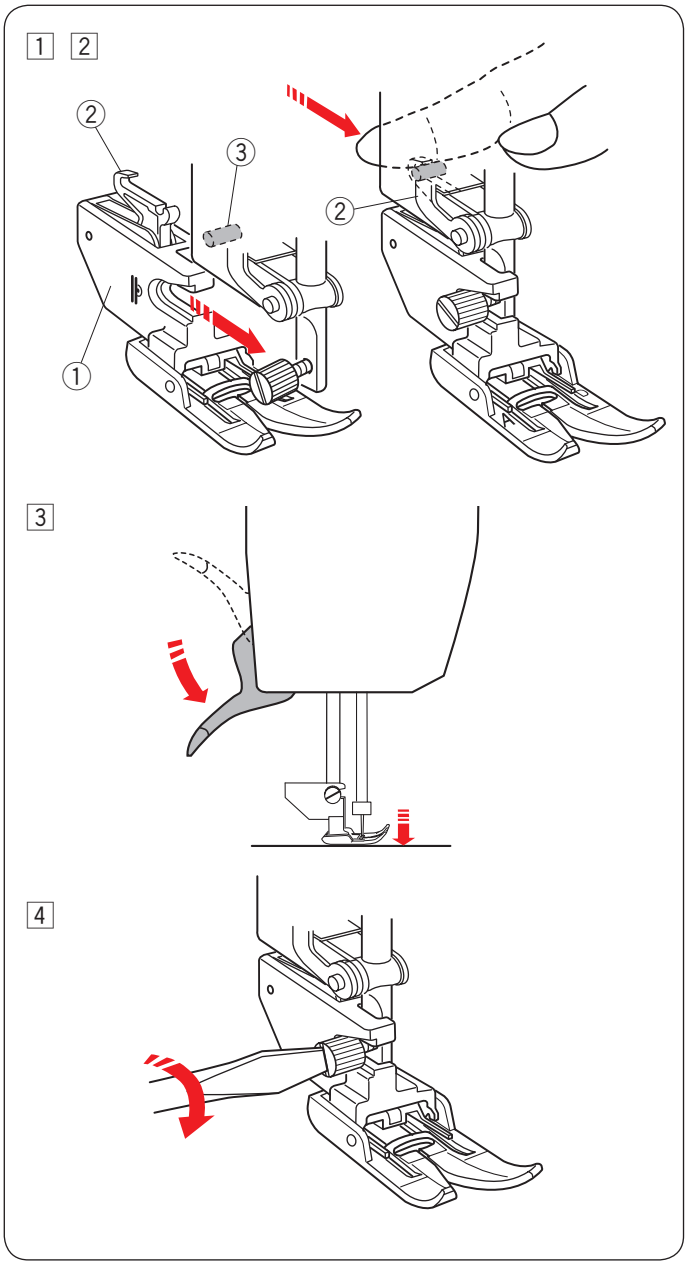
Attach the foot holder to the presser bar from the rear. Tighten the thumbscrew securely with the screwdriver.

⑥ Presser bar

Attaching the Dual Feed Foot

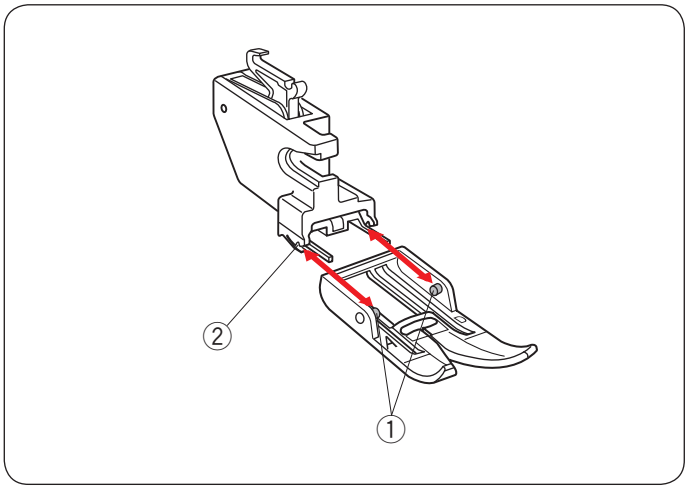
1 Attach the dual feed holder to the presser bar.
① Dual feed holder

2 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



3 Lower the presser foot lifter. Lower the needle to the lowest position by turning the handwheel.

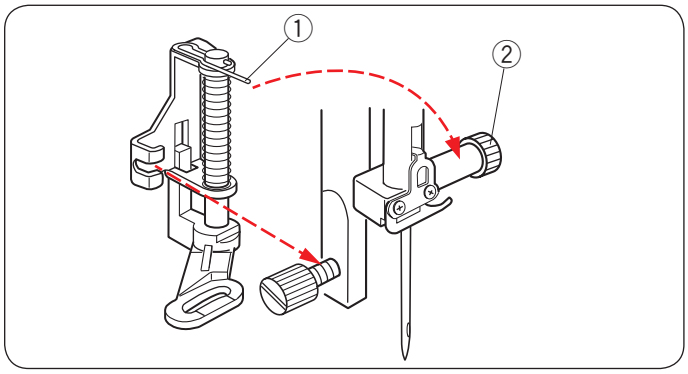
4 Tighten the thumbscrew securely with the screwdriver.



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

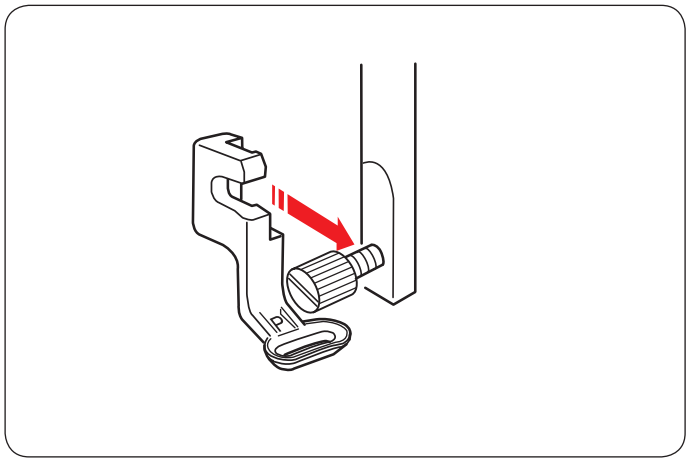


Attaching the Darning Foot PD-H

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

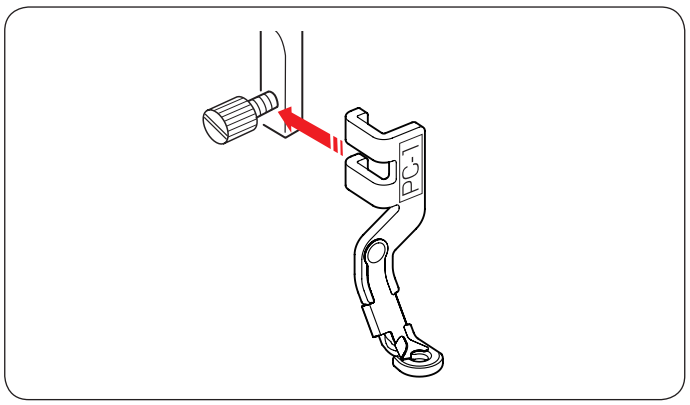
Tighten the thumbscrew firmly with the screwdriver.



Attaching the Embroidery Foot P

Attach the embroidery foot P to the presser bar from behind (refer to page 109).

Tighten the thumbscrew firmly with the screwdriver.



Attaching the Couching Foot PC-1 or PC-2

Attach the couching foot PC-1 or PC-2 to the presser bar from front (refer to page 149).

Tighten the thumbscrew firmly with the screwdriver.

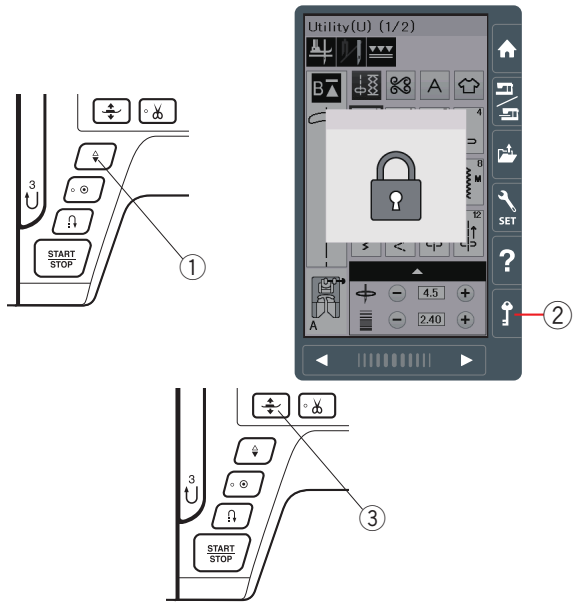
Replacing the Needle Plate

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

CAUTION:
Always make sure to press the lockout key to lockout the machine before replacing the needle plate.

NOTE:
When the straight stitch needle plate is attached to the machine, the patterns not suitable for the straight stitch needle plate cannot be selected.

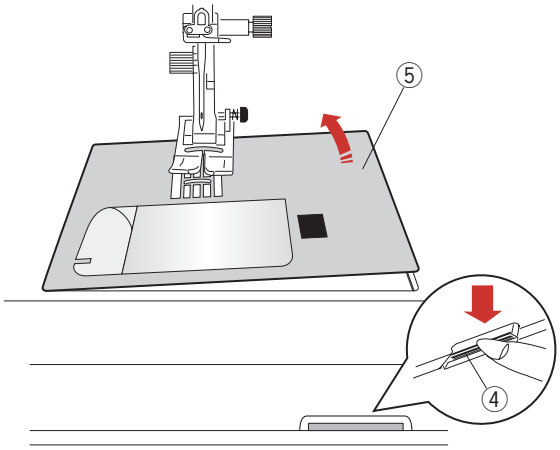
1



1 Press the needle up/down button to raise the needle.
Press the lockout key.
Press the presser foot lifter button to raise the presser foot.

① Needle up/down button
② Lockout key
③ Presser foot lifter button

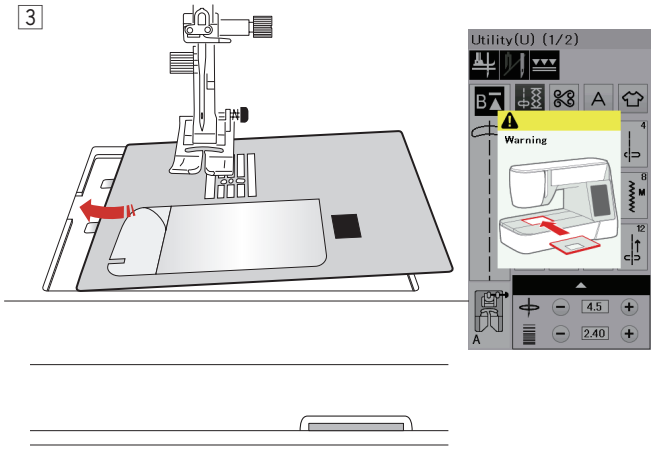
2



2 Slide the extension table to the left to remove it.
Push down the needle plate release lever and the needle plate will snap off.

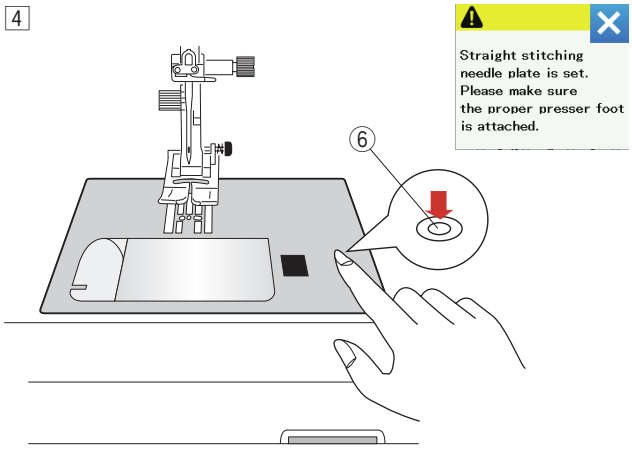
④ Needle plate release lever
⑤ Needle plate

3



3 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.

4



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

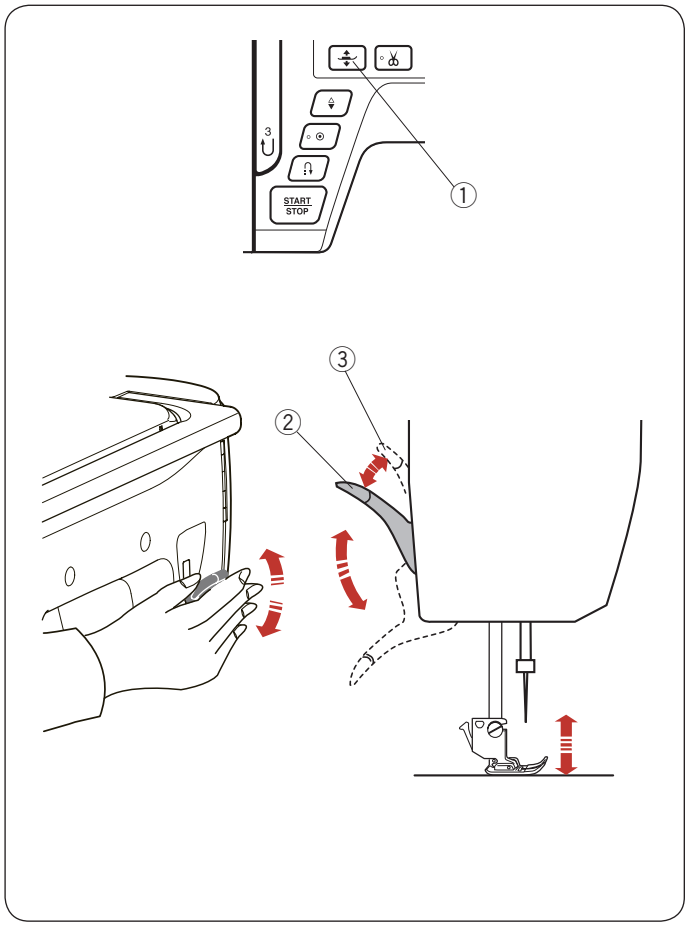
Make sure the warning message disappears and the straight stitch is automatically selected.

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

Press the lockout key to unlock.

⑥ Mark

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



Raising and Lowering the Presser Foot

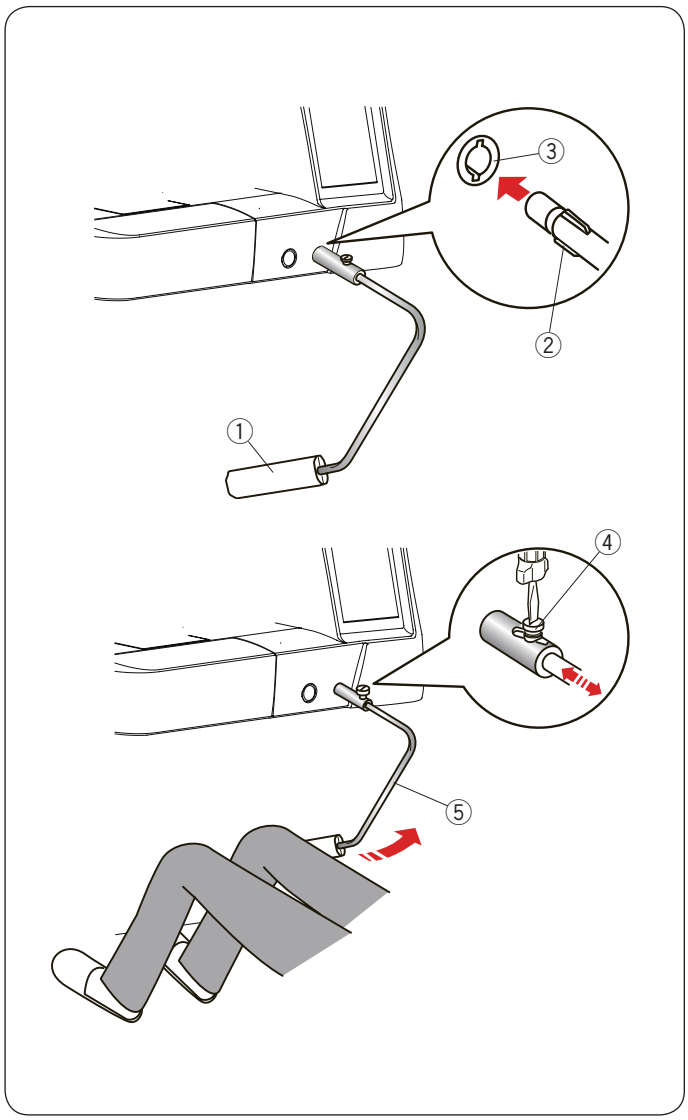
You can raise and lower the presser foot with the presser foot lifter button, the presser foot lifter or the knee lifter.

① Presser foot lifter button
② Presser foot lifter
③ Extra lifted position

You can raise the presser foot about 7 mm (1/4″) higher than the normal up position by exerting more pressure when lifting the presser foot lifter or knee lifter.
This allows for changing the needle plate, and also helps you to place layers of thick fabrics.

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

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



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 Rib
③ Knee lifter socket

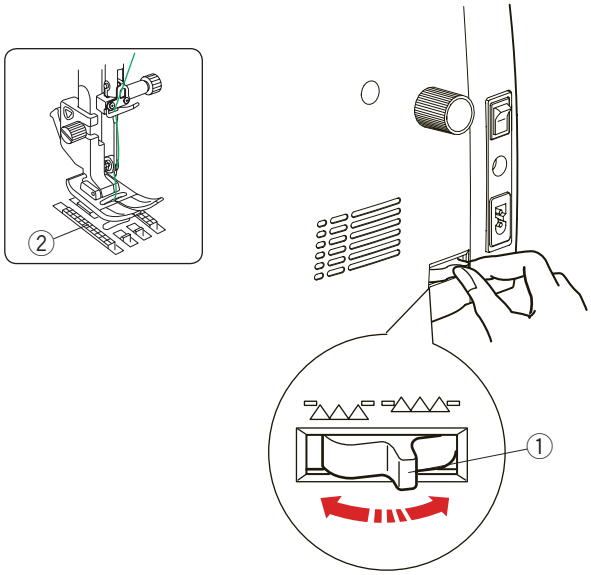
Adjusting the knee lifter

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

④ Setscrew
⑤ Angle bar

Using the knee lifter

Push the knee lifter with your knee to easily move the presser foot up and down.
You can control how high the foot rises by the amount of knee pressure you exert.



Dropping the Feed Dog

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

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

① Drop feed lever
② Feed dog

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

NOTE:
If you start the machine with the feed dog lowered, a message will appear on the visual touch screen.

ORDINARY SEWING MODE

Ordinary Stitch Patterns

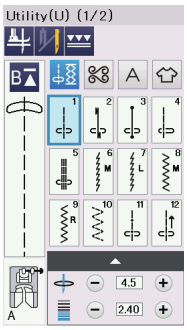
In the ordinary sewing mode, there are 4 categories available.

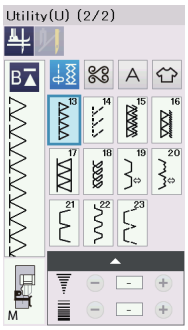
① Utility stitches, Buttonhole and specialty stitches
② Decorative and quilting stitches
③ Monogramming
④ Sewing applications

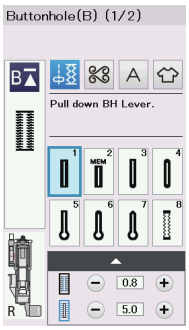
Press one of the icon keys to select the category.

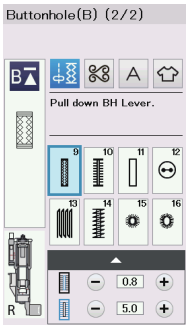
NOTE:
In this manual, the pattern number refers to the initial for each group or category.
For example pattern #15 in the buttonholes and specialty stitches is referred to as pattern B15.

①





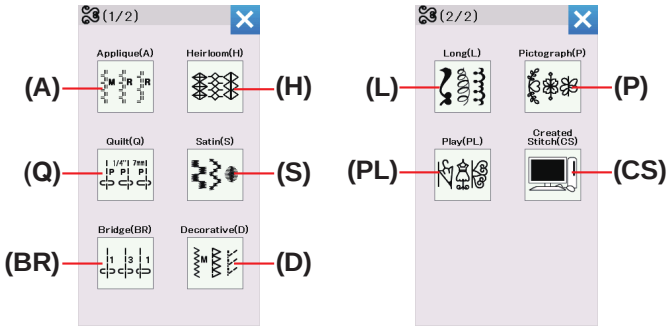




① Utility stitches, Buttonholes and speciality stitches

You can select utility stitches (U), buttonholes and speciality stitches (B) in this category.

②



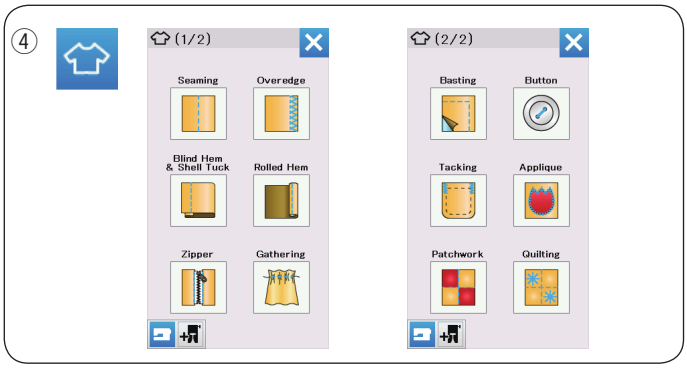
② Decorative and quilting stitches

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)

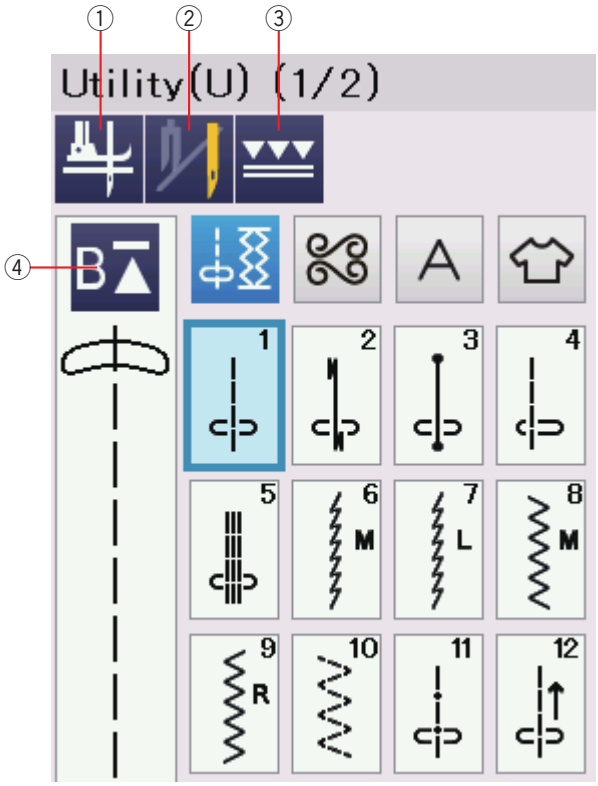
③

③ Monogramming

You can program lettering as well as a combination of characters.



④ **Sewing applications**
You can select the appropriate stitch for a specific sewing project and fabric type from the designated application in this category.



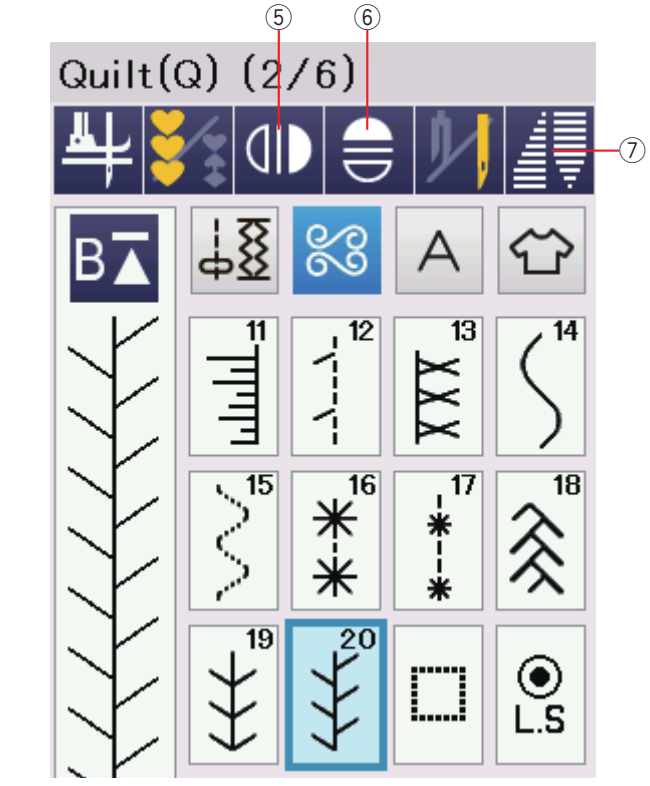
Function Keys in Ordinary Sewing Mode

① **Foot-up key**
If this option is turned on, the needle stops at the down position and the presser foot will automatically go up when the machine stops.
Press this key to turn this option on or off (refer to page 37).

② **Twin needle key**
Press this key to set the stitch width for twin needle sewing (refer to page 65).

③ **Dual feed key**
Press this key for dual feed sewing (refer to page 33).

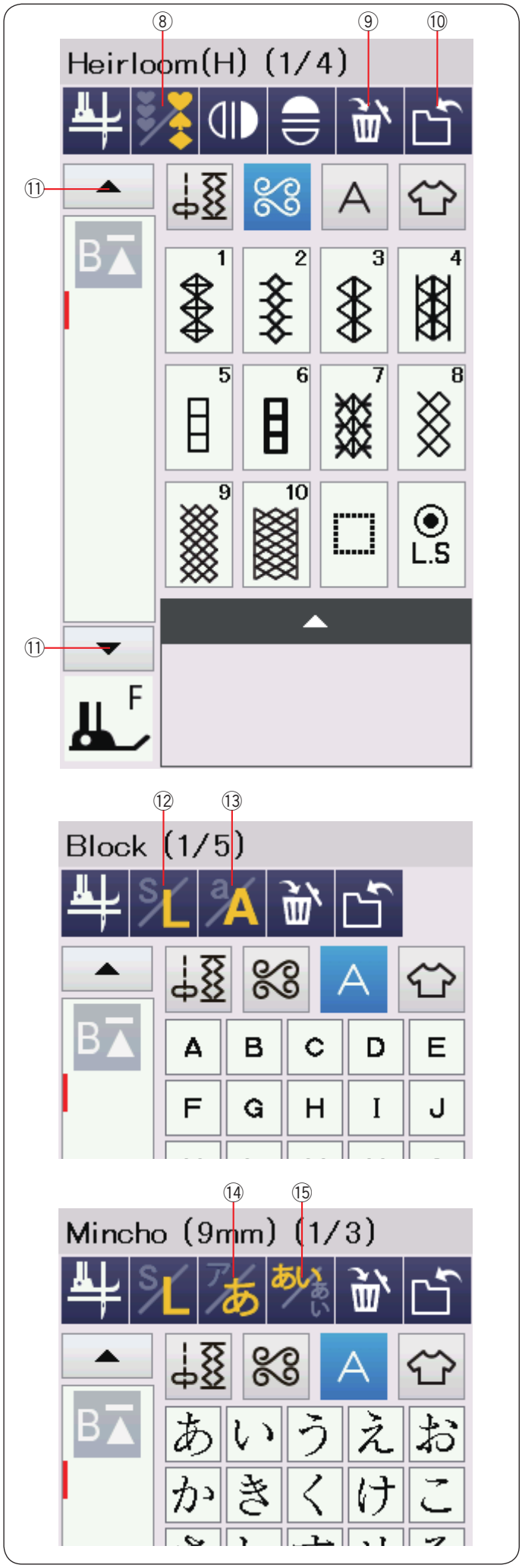
④ **Startover key**
If you stop sewing in the middle of a stitch pattern and wish to sew the pattern again from the beginning, press this key before you start sewing.
Press this key once to startover from the beginning of the current pattern, or press this key twice to startover from the beginning of the first pattern of the combination (refer to page 68).



⑤ **Vertical mirror image key**
Press this key to sew a vertical mirror image of the selected pattern (refer to page 66).

⑥ **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 (refer to page 66).

⑦ **Tapering key**
Press this key to open the dialog box for tapering (refer to page 63).



⑧ **Program key**
Press this key to program a pattern combination. When this key is pressed, the delete key, save file key and cursor keys will appear.

⑨ **Delete key**
Press this key to delete the pattern from the pattern combination.

⑩ **Save file key**
Press this key to save the pattern combination as a file.

⑪ **Cursor keys**
Press one of the cursor keys to move the cursor up or down.

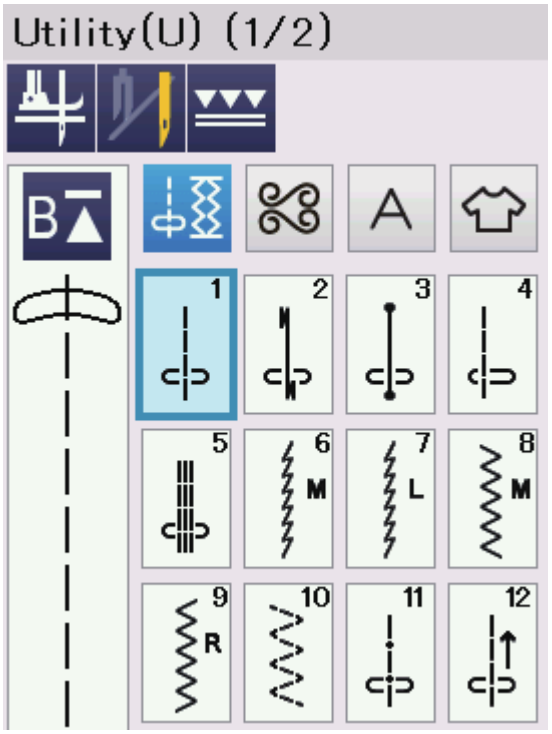
⑫ **Letter size key**
Press this key to select the full size (L) or small size (S).

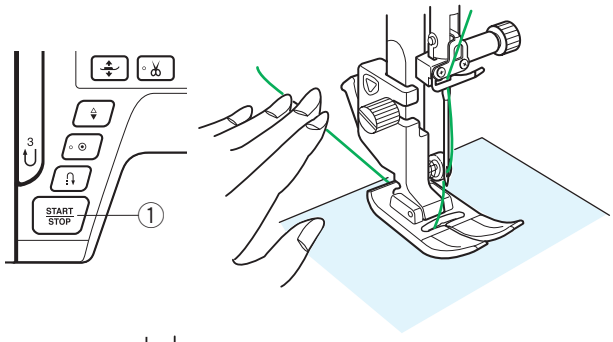
⑬ **Letter case key**
Press this key to select upper case or lower case for monograms.

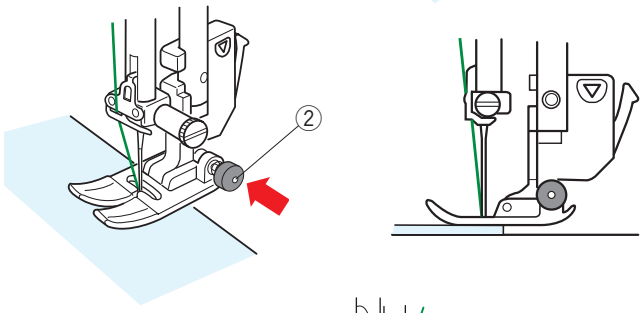
NOTE:
Hiragana/Kanakana key and lettering orientation key are available when Japanese characters (Mincho (9 mm) or Marumoji (9 mm)) are selected.

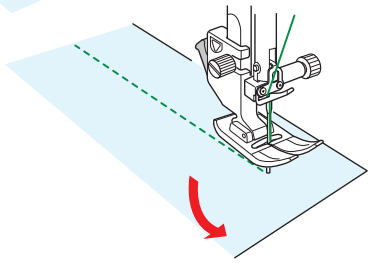
⑭ **Hiragana/Katakana key**
Press this key to select Hiragana or Katakana font.

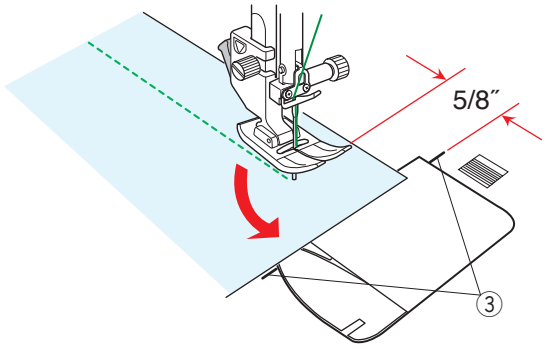
⑮ **Lettering orientation key**
Press this key to select the horizontal or vertical orientation.











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 the seam guide line on the needle plate. Lower the needle to the point where you want to start.

Pull the needle thread towards the rear and lower the foot.

> **NOTE:**
> Pull the needle thread to the left when using satin stitch foot F, open-toe satin stitch foot F2, dual feed foot or automatic buttonhole foot R.

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

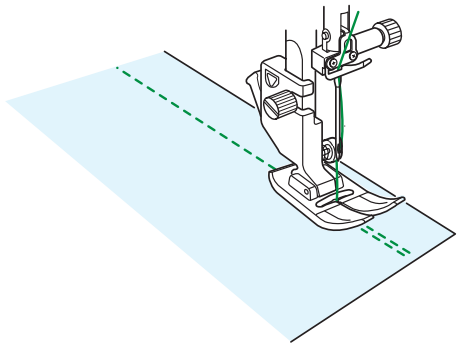
Stop the machine and press the presser foot lifter button to raise the presser foot.
Pivot the fabric around the needle to change the sewing direction as desired.
Start sewing in a new direction.

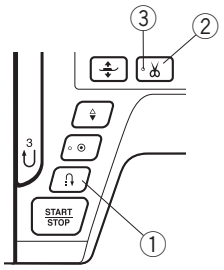
> **NOTE:**
> If you turn on the foot up option, the presser foot will automatically go up when the machine stops (refer to page 37).

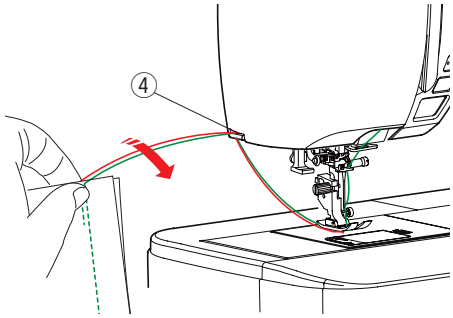
Turning a Square Corner

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.

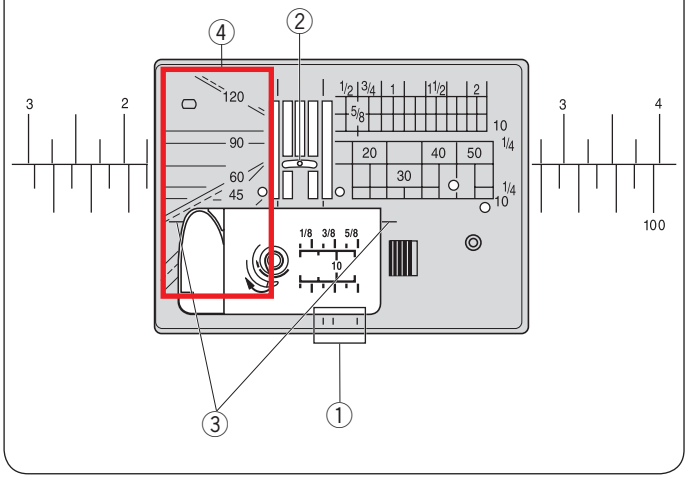
② Thread cutter button

NOTE:
The thread cutter button does not function when the presser foot is raised with the presser foot lifter or the LED signal ③ is turned off.
Use the thread cutter on the face plate to cut specialized or thick threads if the auto thread cutter does not work well.

③ LED signal

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.

④ Thread cutter



Needle Plate Guides

The seam guides are marked on the needle plate, free arm and hook cover.
The seam guides for 1/4″, 3/8″ and 5/8″ are also marked on the front of the needle plate.

① Seam guides on the front of the needle plate

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

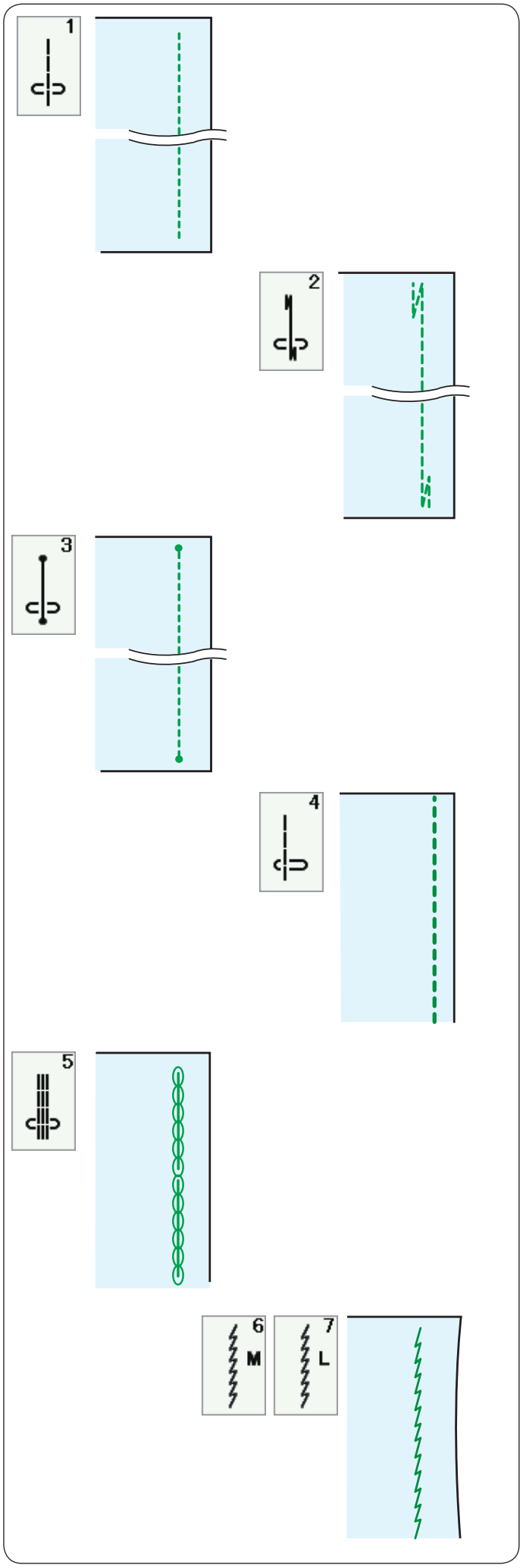
② Center needle position

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

③ Cornering guide

The angle scales on the needle plate are useful for patchwork piecing (refer to page 61).

④ Angle scales



Variety of Straight Stitches

U1 Straight stitch in center needle position
Use this stitch for seaming, rolled hemming etc.

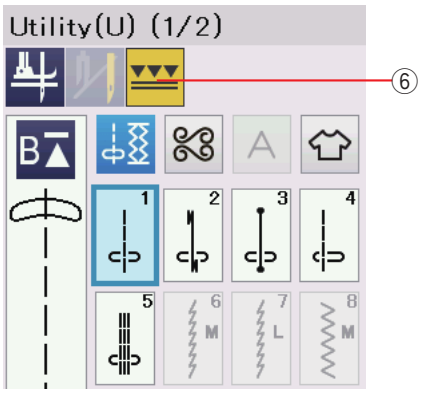
U2 Lock-a-matic stitch
Use this stitch to secure the beginning and the end of a seam with backstitching.
When you reach the end of the seam, press the reverse button once.
The machine will sew four reverse stitches, four forward stitches, and then stop sewing automatically.

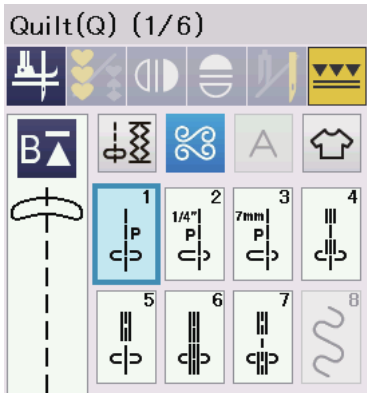
U3 Locking stitch
This unique stitch is used where an invisible locking stitch is needed.
The machine will sew several locking stitches at the beginning and continue sewing forward.
When you press the reverse button at the end of the seam, the machine will sew several locking stitches in place, then stop sewing automatically.

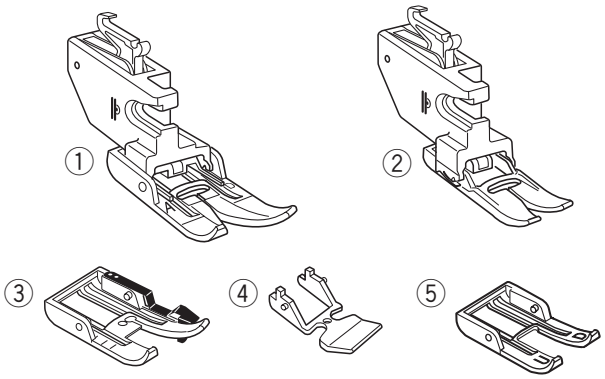
U4 Straight stitch in left needle position
Use this stitch to seam fabrics close to the edge.

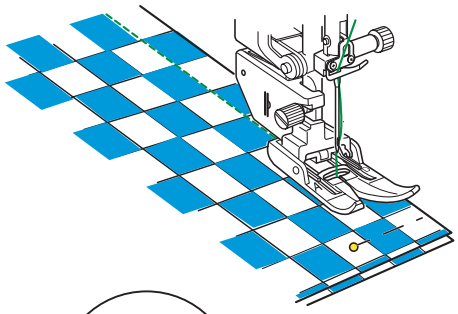
U5 Triple stretch stitch
This strong, durable stitch is recommended for areas where both elasticity and strength are needed to ensure comfort and durability.
Use it to reinforce areas such as crotch and armhole seams.
Also use it when constructing items such as backpacks for extra strength.

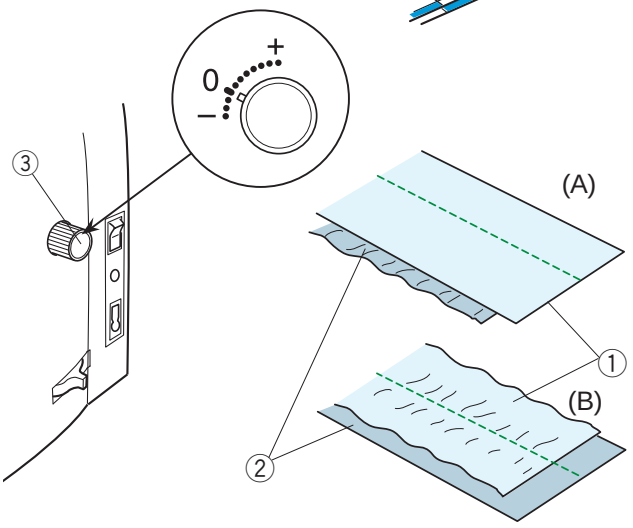
U6, U7 Stretch stitches
These are narrow stretch stitches designed to eliminate puckering on knit fabrics and bias seams, while permitting the seam to be pressed completely open flat.
Use U7 for seaming fine fabrics or stretch fabrics.











Sewing with the Dual Feed Device

Patterns U1 to U5 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 5 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

⑤ Dual feed AcuFeed open toe foot UD (twin):
For open toe better view sewing with dual feed

Attach the desired dual feed foot to the respective dual feed holder and attach to the machine (refer to page 22).
Press the dual feed key ⑥ 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

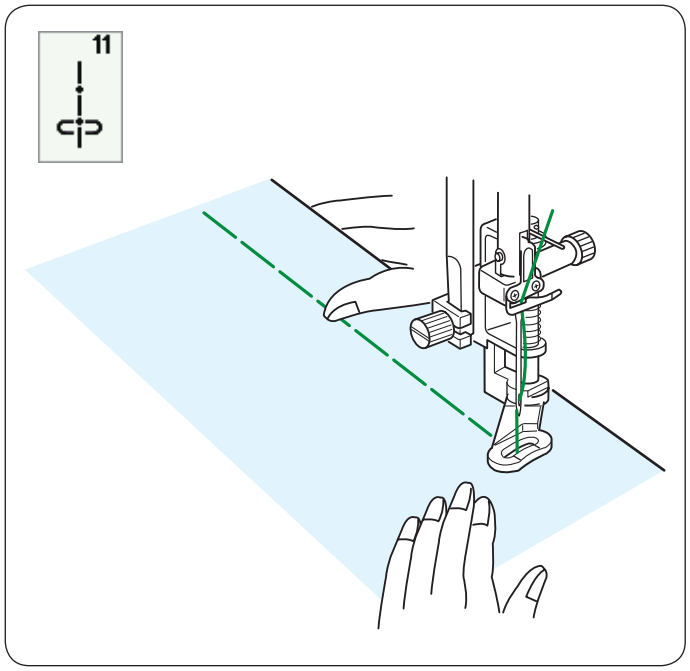
The dual feed balancing dial should be set at “0”, however you may need to adjust the dual feed balance depending on the type of fabric.

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

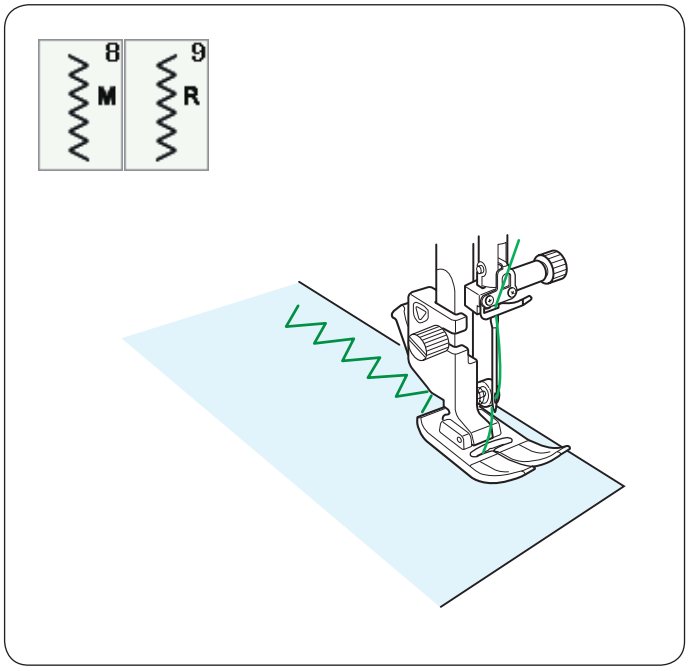
(A): If the lower layer puckers, turn the dual feed balancing dial toward “+”.

(B): If the upper layer puckers, turn the dual feed balancing dial toward “–”.

① Upper layer
② Lower layer
③ Dual feed balancing dial

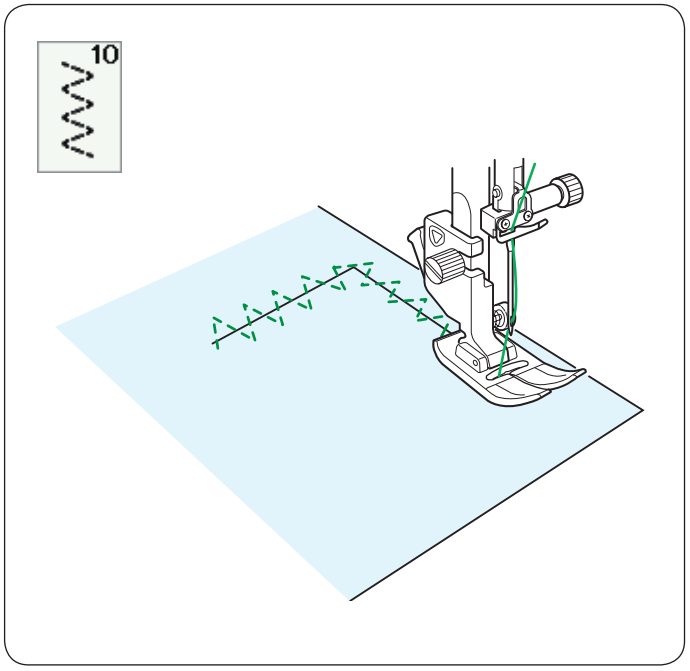


U11 Basting
See page 86 for sewing instructions.

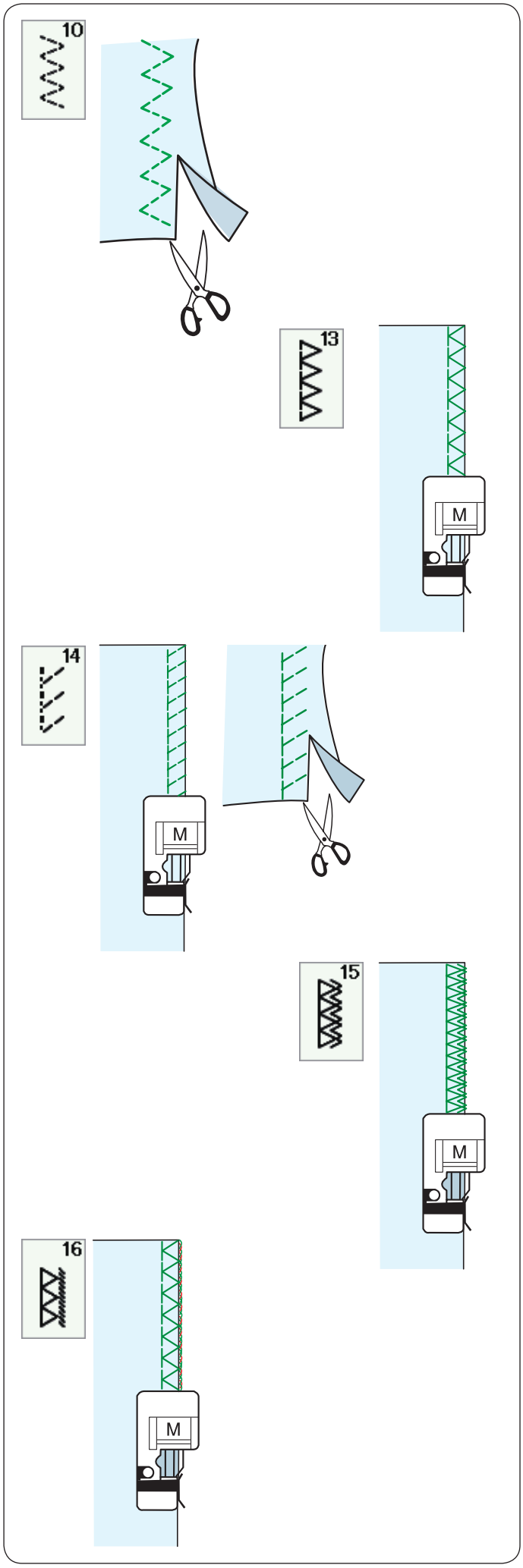


Zigzag Stitches

U8, U9 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.



U10 Multiple zigzag stitches
These stitches are used for mending tears.



Variety of Overcasting Stitches

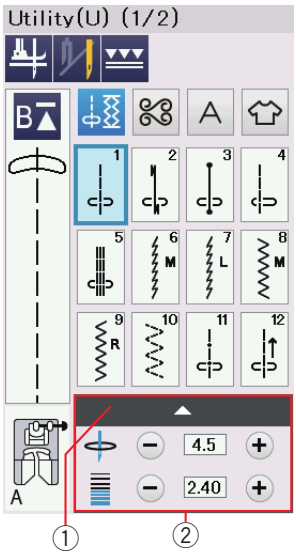
U10 Multiple zigzag stitch: Zigzag foot A
This stitch is used to finish a raw edge of synthetics and other stretch fabrics that tend to pucker.
Sew along the fabric edge leaving an adequate seam allowance. After sewing, trim off the seam allowance closer to the stitches.

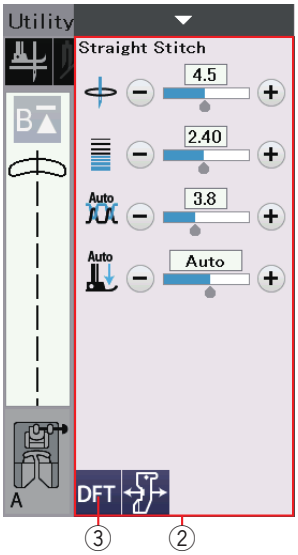
U13 Overcasting stitch: Overedge foot M
This stitch can be used to simultaneously seam and overcast edges of fabrics.
Use this stitch when you do not need to open seams flat.
Place the fabric edge next to the guide of the foot and sew.

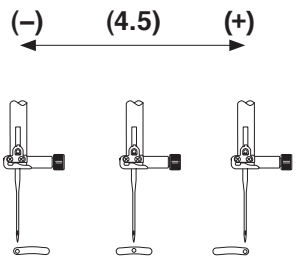
U14 Knit stitch: Overedge foot M
This stitch is recommended for sewing such fabrics as synthetic knits and stretch velour as it provides the greatest amount of elasticity and strength.
Place the fabric edge next to the guide of the foot and sew.
For better results, use the zigzag foot A and sew leaving an adequate seam allowance.
After sewing, trim the seam allowance close to the stitches.

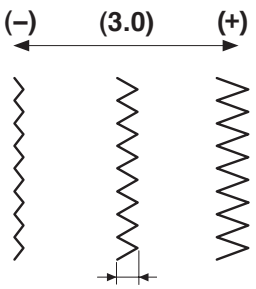
U15 Double overedge stitch: Overedge foot M
This stitch is excellent for fabrics that tend to fray extensively such as linens and gabardines.
Place the fabric edge next to the guide of the foot and sew.
Two rows of zigzag stitches are simultaneously sewn over the edge to insure that the fabric will not ravel.

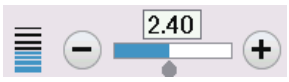
U16 Overlock stitch: Overedge foot M
This stitch finishes the edges of fabric in a way similar to a commercial overlocking machine for a professional look.
Place the fabric edge next to the guide of the foot and sew.

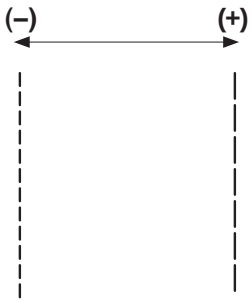


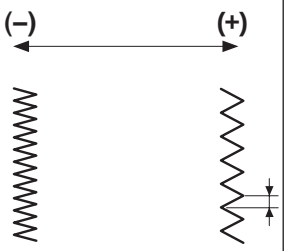












Manual Stitch Settings

You can alter the stitch width (or needle drop position of the straight stitches) and stitch length.
Press the “+” or “–” key beside the setting you wish to change. Press default key ③ to recover the original stitch setting.

When you press the setting bar, the manual setting window expands to show more options.
You can alter other settings such as needle thread tension and presser foot pressure value, depending on the selected stitch pattern.
Press the setting bar again to shrink the manual setting window.

① Setting bar
② Manual setting window
③ Default key

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

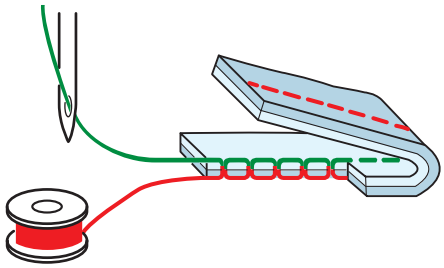
Press the “+” key to increase the stitch width.
Press the “–” key to decrease the stitch width.

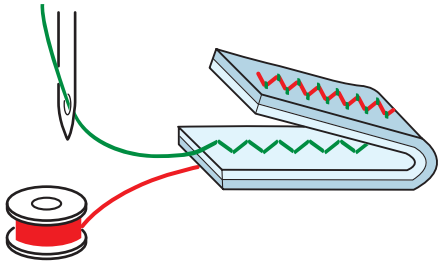
NOTE:
The adjustable range of patterns U6-U10 is 0.0 to 7.0.

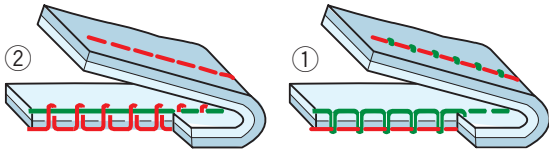
Altering stitch length

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

NOTE:
The adjustable range of patterns U6 is 0.0 to 5.0, U7 is 1.0 to 5.0, U8-U10 is 0.0 to 5.0.







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.

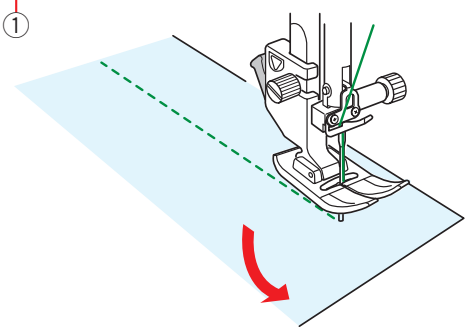
Zigzag stitch: The needle thread appears slightly on the wrong side of the fabric.

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.

Adjusting Foot Pressure Control

The presser foot pressure is automatically optimized for each stitch pattern.
However, you can adjust the foot pressure manually by pressing the “+” key or “–” key to suit your specific sewing needs.



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

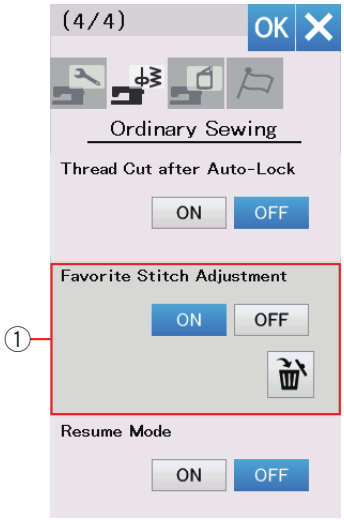
NOTE:
Height of the foot can be altered in the ordinary sewing setting mode (refer to page 100).

Favorite Stitch Adjustment

You can save customized stitch settings (stitch length, stitch width, thread tension and presser foot pressure, depending on the selected stitch patterns) as Favorite Stitch Adjustment. When the favorite stitch adjustment option is turned ON ① (refer to page 101), the saved customized stitch settings are automatically assigned when the stitch pattern is selected.

NOTE:
Favorite stitch option cannot be assigned for created stitch (CS).
Favorite stitch option cannot be used in monogram mode.

1



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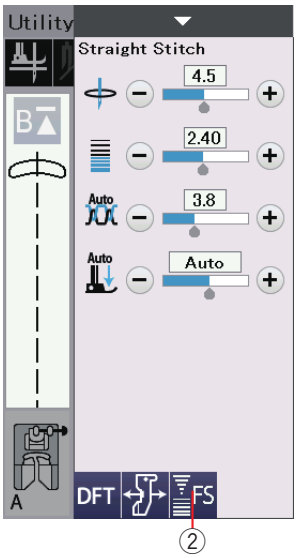

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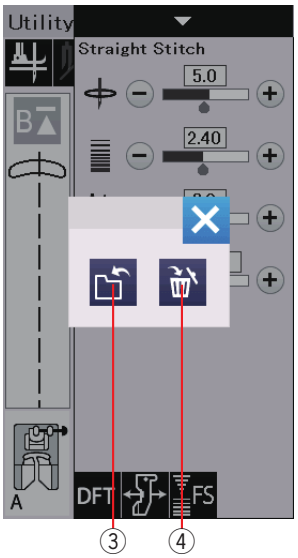


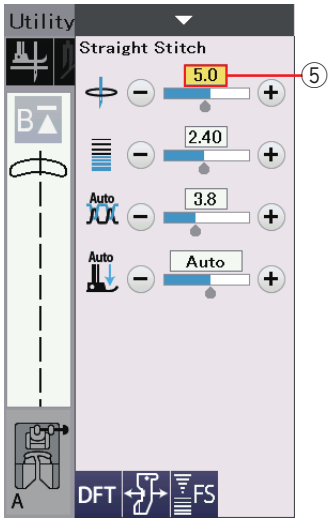
Example: To change the preset value of the needle drop position from “4.5” to “5.0”.

1 Turn the Favorite Stitch Adjustment option ON (refer to page 101).
Select stitch pattern U1.
Press the setting bar. The manual setting window expands to show more options.

2 The favorite stitch key ② appears on the manual setting window.
Change the needle drop position from “4.5” to “5.0” by pressing “+” key.
Press the favorite key ②.

3 The dialog box will open.
Press the save favorite key ③ to register the favorite stitch settings.

4



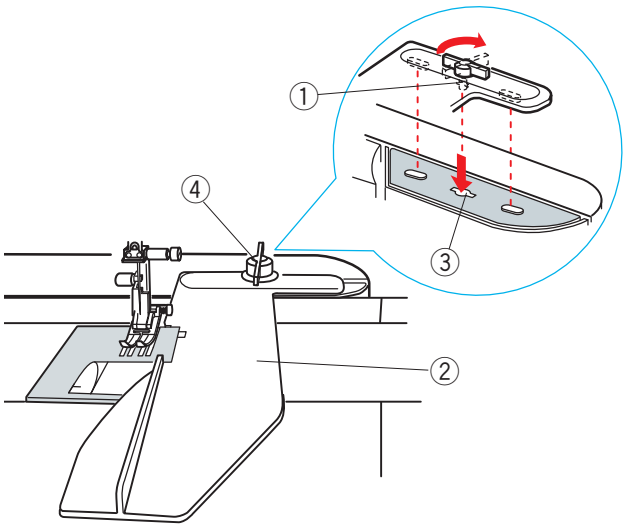
4 The cream colored box ⑤ indicates that the customized preset stitch value is applied to the setting.
To delete favorite stitch settings, press the favorite stitch key and press the delete key ④.

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

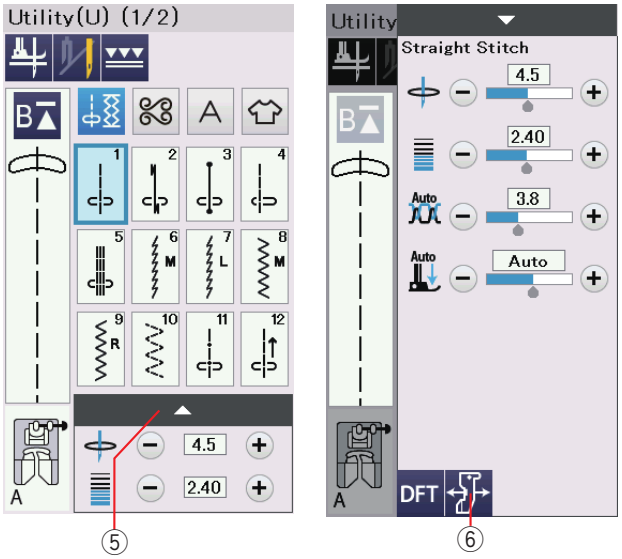
Attach the embroidery unit (see page 106).
Insert the pin on the cloth guide into the carriage hole.
Turn the attaching knob clockwise to secure the cloth guide.



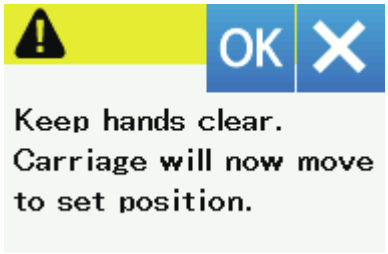
① Pin
② Cloth guide
③ Carriage hole
④ Attaching knob

Setting the cloth guide position

Press the setting bar to expand the manual setting window.
Press the cloth guide key.

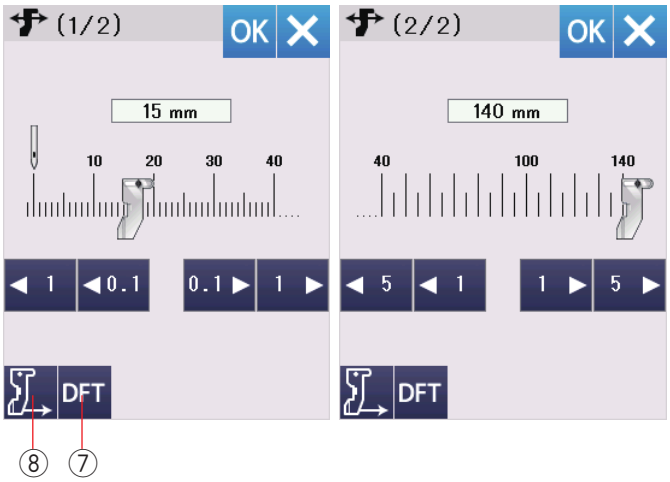


⑤ Setting bar
⑥ Cloth guide key



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.

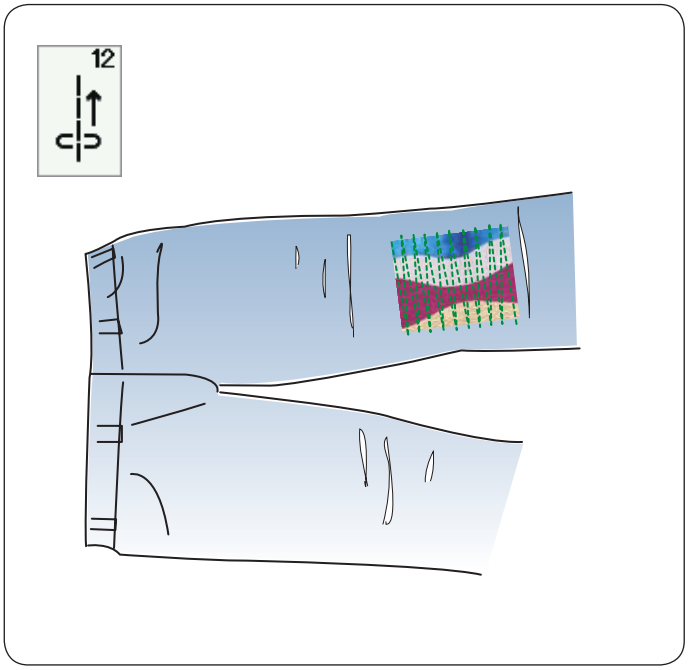
NOTE:
The machine will not run if the cloth guide adjustment window is open.

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

⑦ 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.

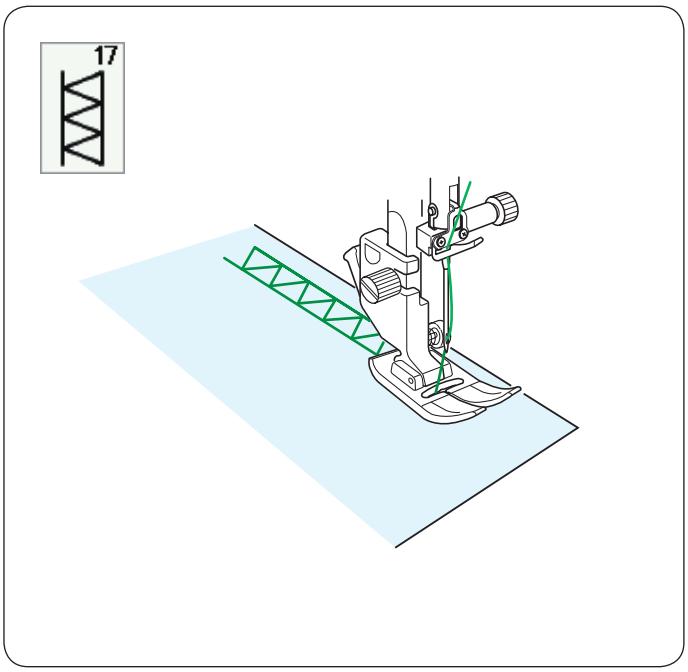
⑧ Cloth guide storage key



Other Utility Stitches

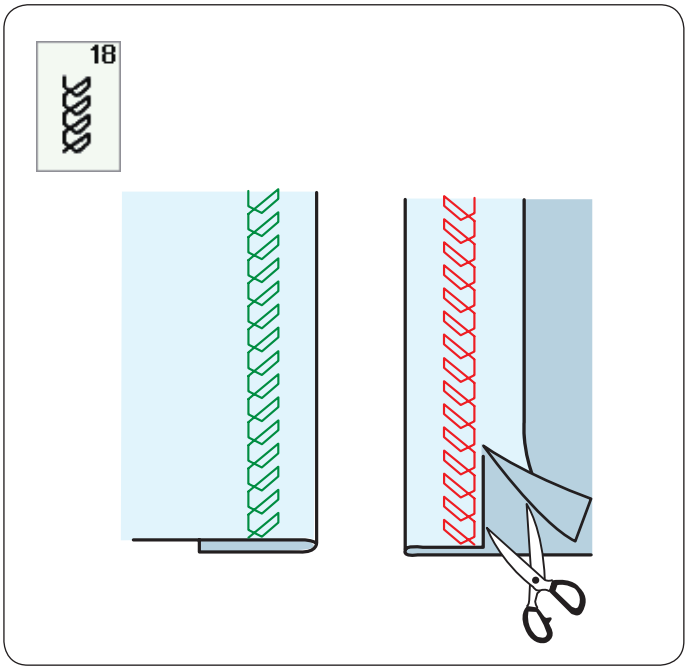
U12 Backward stitch

U12 is backward stitch.
Use the stitch 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.



U17 Hemstitch

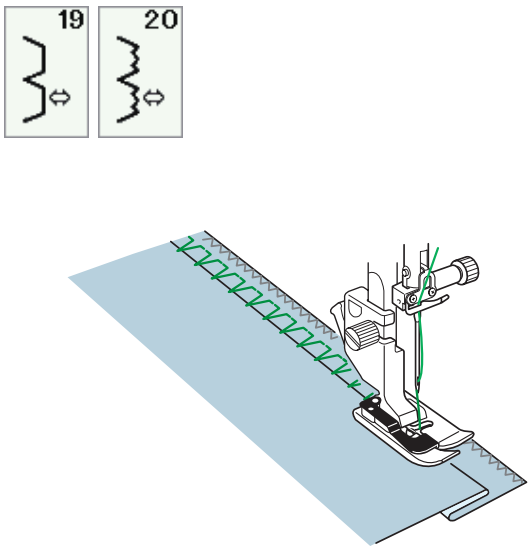
Use this stitch for fagoting or decorative stitch.



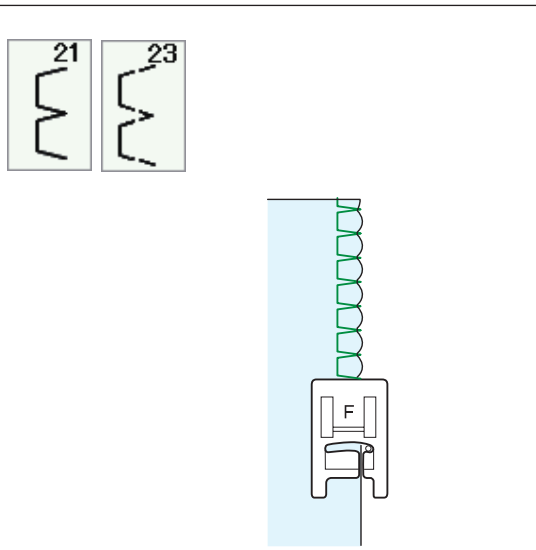
U18 Visible hemming

Select pattern U18.

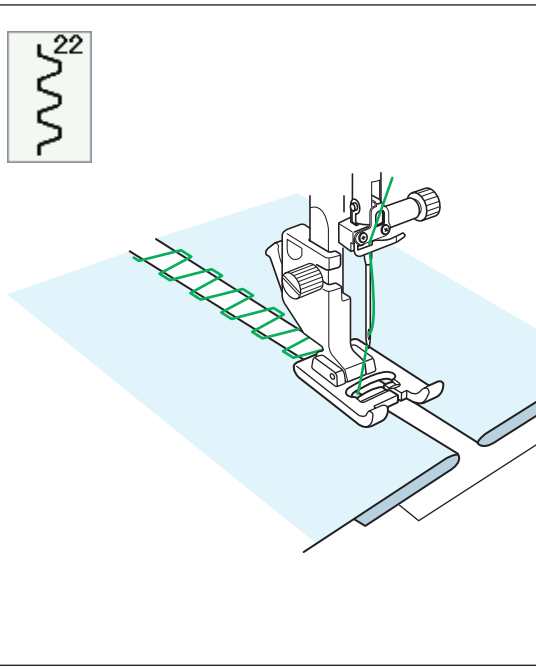
Fold and press a single hem. Place the fabric with the right side up.
Sew along the fold at the desired depth.
Trim the excess on the wrong side.



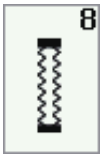
U19, U20 Blind Hem
Refer to pages 78-79 for sewing instruction.

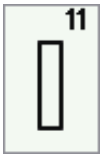


U21, U23 Shell Tuck
Refer to page 79 for sewing instruction.



U22 Fagotting
Use the stitch to join two pieces of fabric to create an open work appearance and add stitch interest.





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.

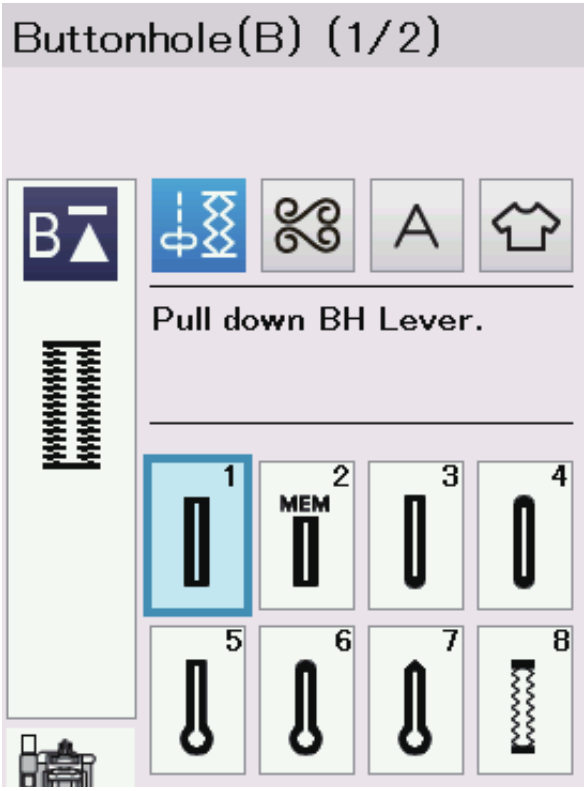
B8 Stretch buttonhole
This buttonhole is suitable for stretch fabrics. It can also be used as a decorative buttonhole.

B9 Knit buttonhole
This buttonhole is suitable for knit fabrics. It can also be used as a decorative buttonhole.

B10 Antique buttonhole
This buttonhole looks like the heirloom stitch. It has an attractive handmade appearance and makes a nice decorative buttonhole.

B11 Welted buttonhole
This is a template pattern for the hand sewn welted (bound) buttonhole.

NOTE:
B3-B11 are sensor buttonholes and the sewing procedure is the same as for B1.

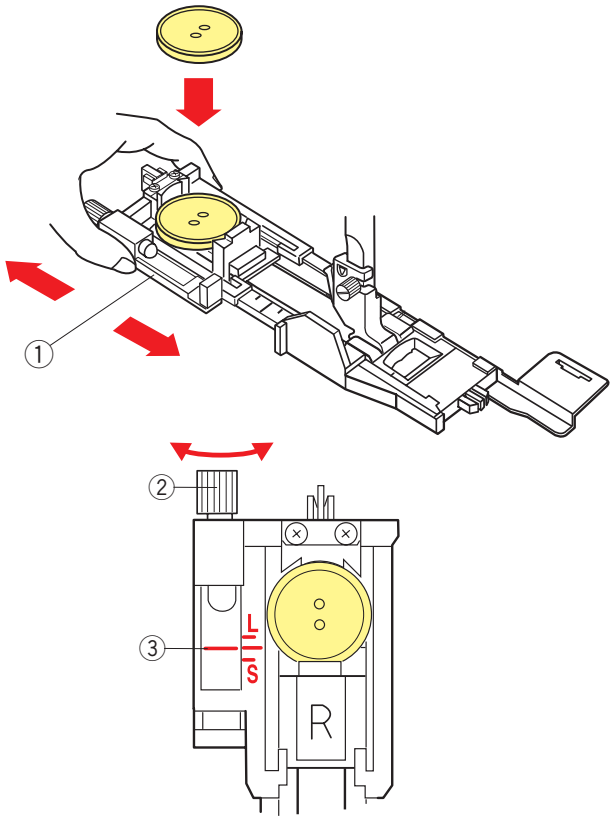


B1 Sensor (Square) Buttonhole

The size of a buttonhole is automatically set by placing a button in the rear of automatic buttonhole foot R.
The button holder of the foot takes a button size of 1 cm (3/8″) to 2.5 cm (1″) in diameter.
When selecting the buttonholes, the visual touch screen advise you to lower the buttonhole lever.

NOTE:
It is sometimes necessary to change buttonhole size to match certain heavy or specific fabrics and threads. Make a test buttonhole on an extra piece of the fabric to check your settings.
The preset width of the buttonhole is suited for ordinary buttons.
Apply an interfacing to stretch or fine fabrics.

1

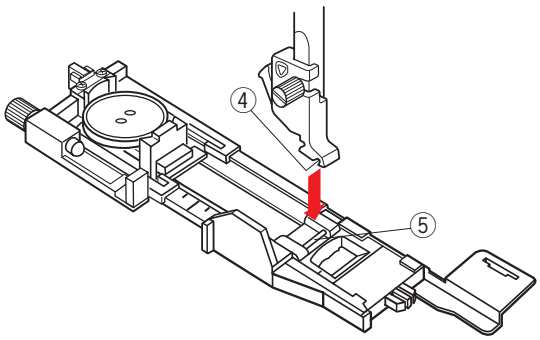


Sewing

1 Pull the button holder to the back, and place the button in it. Push it together tightly on the button.
① Button holder

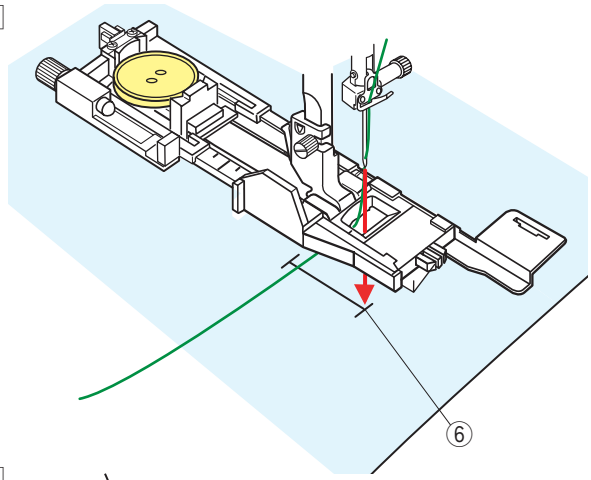
NOTE:
Check the length of the test buttonhole, and adjust the buttonhole length if necessary by turning the adjusting screw on the buttonhole foot.
To increase the buttonhole length, turn the adjusting screw to move the marker toward “L”.
To decrease the buttonhole length, turn the adjusting screw to move the marker toward “S”.
② Adjusting screw
③ Marker

2



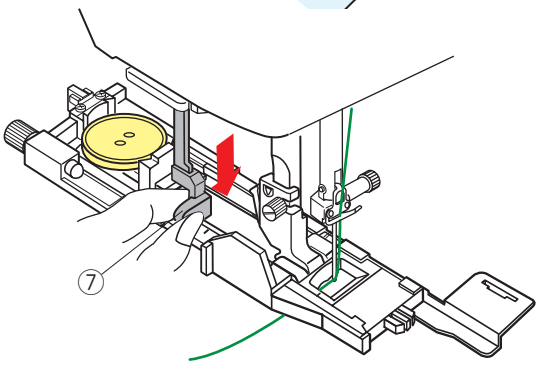
2 Press the needle up/down button to raise the needle. Press the lockout key.
Raise the presser foot and attach the automatic buttonhole foot R snapping the pin into the groove of the foot holder.
You may lift the presser foot lifter to the extra lifted position when placing the automatic buttonhole foot under the foot holder.
Press the lockout key to unlock the machine.
④ Groove
⑤ Pin

3

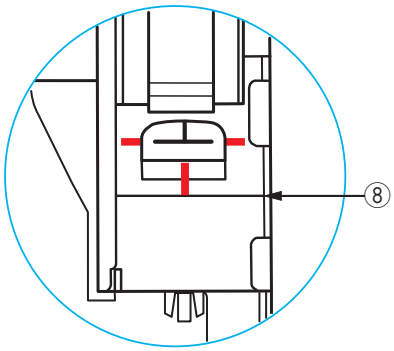


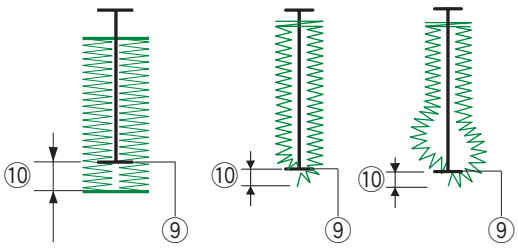
3 Draw the needle thread to the left through the hole of the foot.
Mark the buttonhole position on the fabric and place it under the buttonhole foot. Lower the needle at the starting point by turning the handwheel.
⑥ Starting point

4



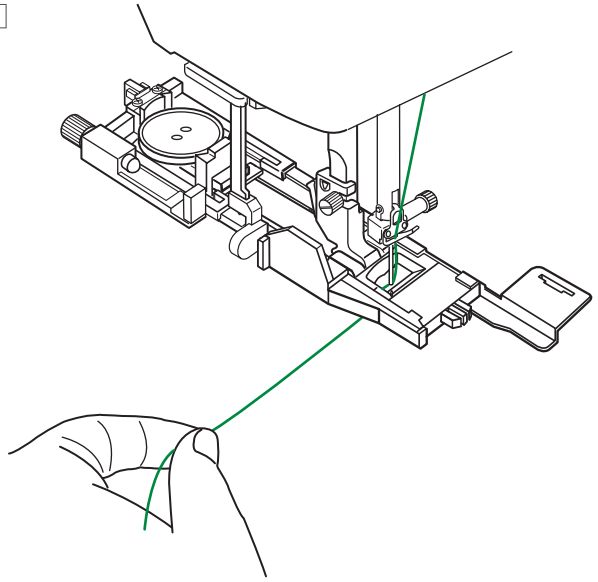
4 Lower the presser foot and pull the buttonhole lever down as far as it will go.
⑦ Buttonhole lever





NOTE:
Make sure there is no gap between the slider and front stopper, otherwise the buttonhole will be out of position or there will be a sewing gap.
⑧ No gap
⑨ Starting point
⑩ Sewing gap

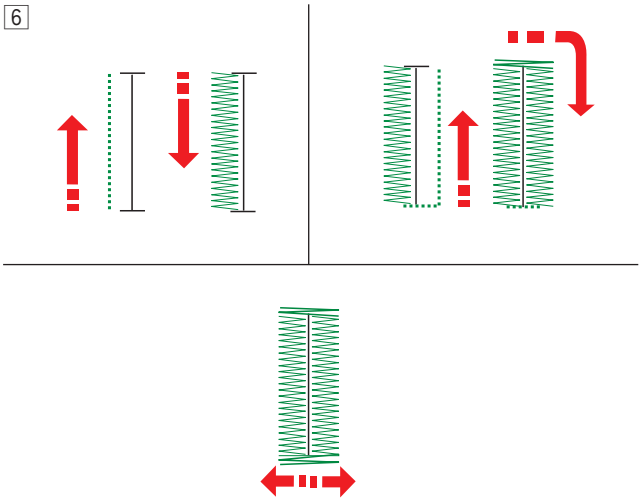
5



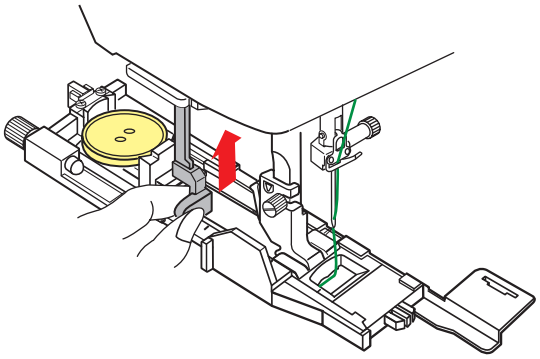
5 Start sewing while pulling the needle thread lightly to the left. After sewing a few stitches, free the thread and continue sewing.

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

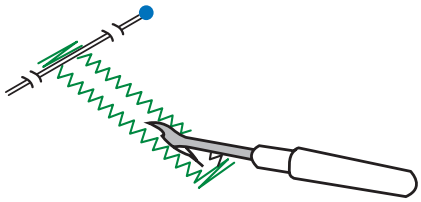
6



7



8



6 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.

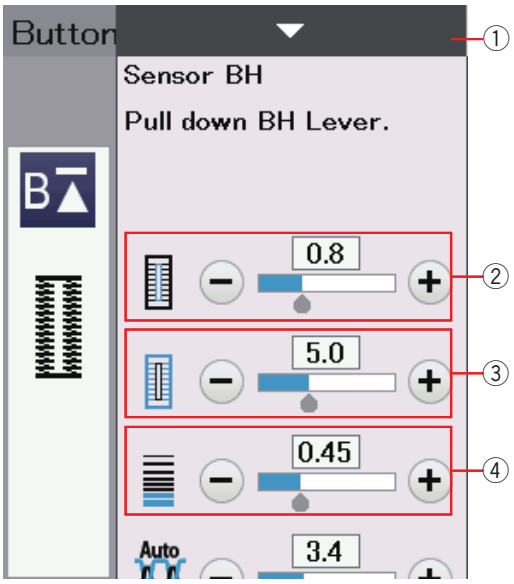
7 After you finish buttonhole sewing, push the buttonhole lever up as far as it will go.

8 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.

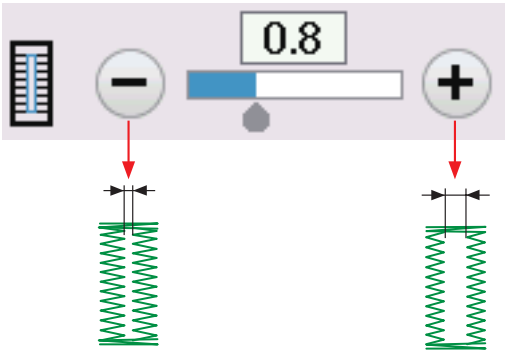
Double layer buttonhole

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.
Do not reselect the pattern.

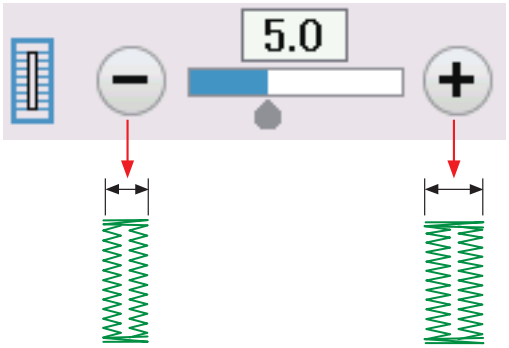
NOTE:
This function is disabled if Thread Cut after Auto-Lock option is turned on in the ordinary sewing setting mode (refer to page 101).



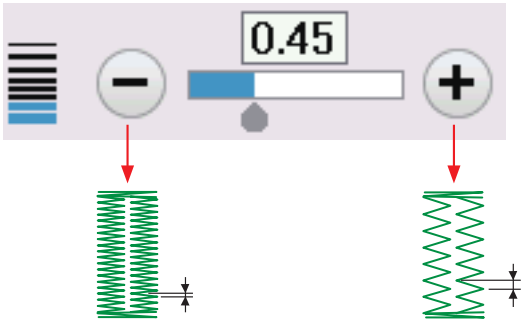
Manual settings
When you press the setting bar, the manual setting window expands to show more options.
① Setting bar



② **Altering buttonhole opening width**
Press the "+" key to make the buttonhole opening wider.
Press the "–'' key to make the buttonhole opening narrower.



③ **Altering buttonhole width**
Press the "+" key to increase the buttonhole width.
Press the "–" key to decrease the buttonhole width.



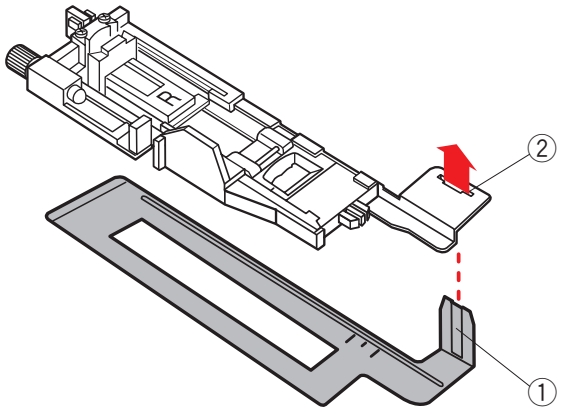
④ **Altering buttonhole stitch density**
Press the "+" key to make the buttonhole stitches less dense.
Press the "–" key to make the buttonhole stitches denser.

NOTE:
The opening width can be adjusted from 0.2 to 2.0.
The buttonhole width can be adjusted from 2.6 to 9.0.
The stitch density can be adjusted from 0.20 to 1.00.

Using the Stabilizer Plate

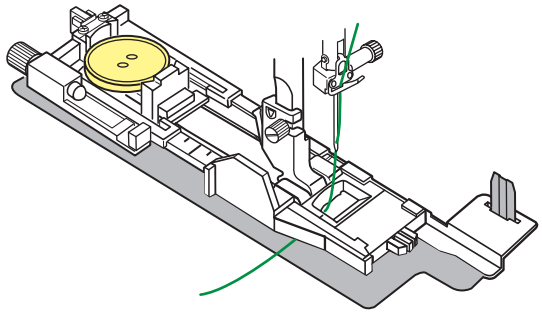
The stabilizer plate holds and supports the fabric so it is helpful when sewing buttonholes over the hem of thick fabrics.

1



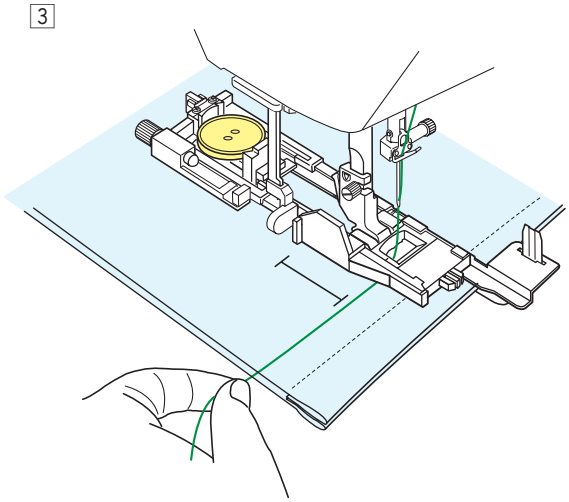
1 Insert the tab of the stabilizer plate ① into the slot ② of the buttonhole foot.
- ① Stabilizer plate
- ② Slot

2



2 Place the button on the button holder of the foot.
Attach the buttonhole foot to the machine.
Draw the needle thread to the left between the foot and stabilizer plate.

3



3 Place the fabric between the buttonhole foot and stabilizer plate. Lower the needle into the starting point by turning the handwheel.
Lower the foot and buttonhole lever.
Start the machine while pulling the needle thread lightly to the left. After sewing a few stitches, free the thread and continue sewing.

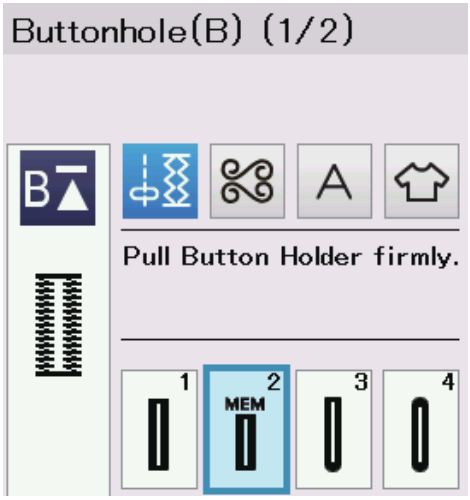
NOTE:
The sewing procedure is exactly the same as that for B1 sensor (square) buttonholes.

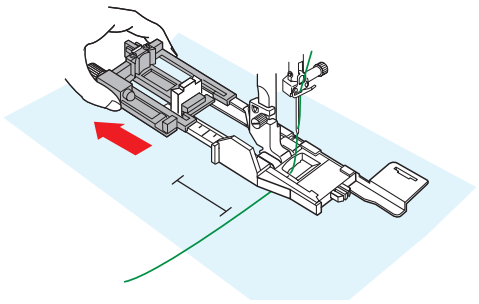
B2 Automatic (square) Buttonhole

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.

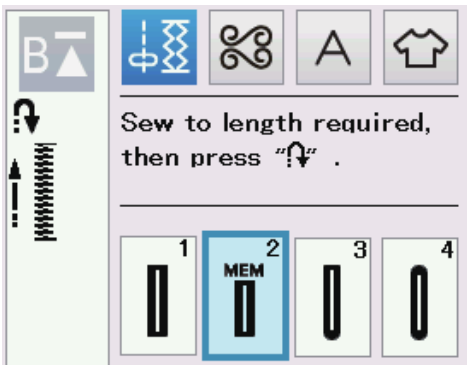
NOTE:
You do not need to pull down the buttonhole lever.
If you wish to sew a buttonhole longer than the size permitted by the automatic buttonhole foot R, use satin stitch foot F.

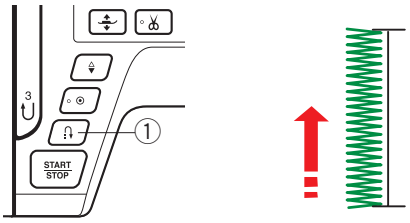
NOTE:
The opening width can be adjusted from 0.2 to 2.0.
The buttonhole width can be adjusted from 2.6 to 9.0.
The stitch density can be adjusted from 0.20 to 1.00.



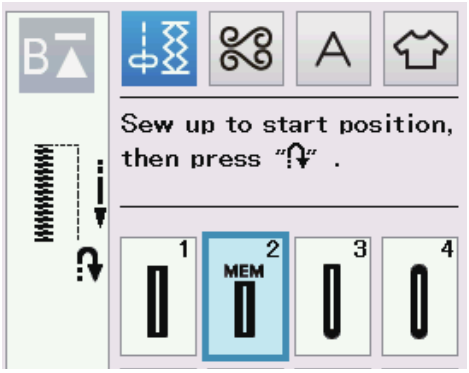


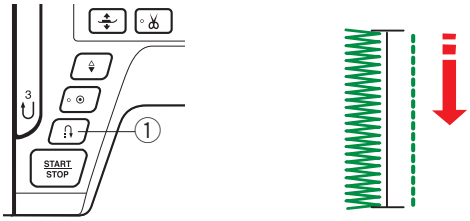
1 Sew the left side up to the required buttonhole length and stop the machine. Then press the reverse button ①.



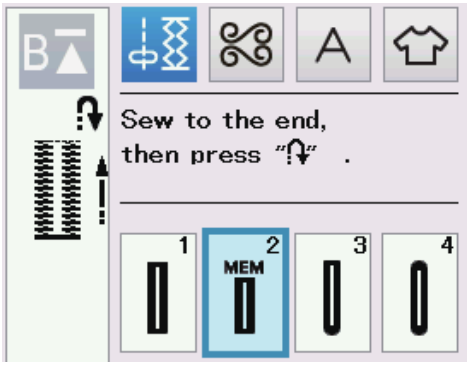


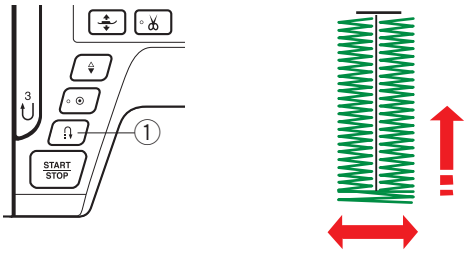
2 Start sewing again, and the machine sews back with a straight stitch.
Stop the machine when you reach the starting point.
Then press the reverse button ①.





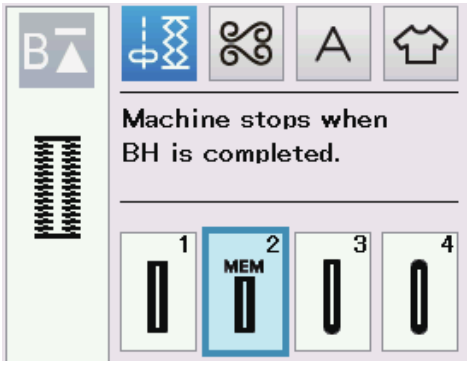
3

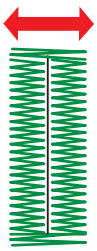


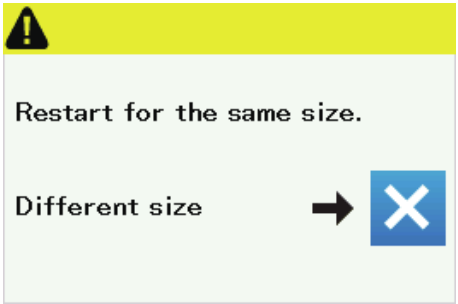


3 Start sewing again, and the machine sews the front bartack and right side of the buttonhole.
Stop the machine when you reach the ending point. Then press the reverse button ①.

4







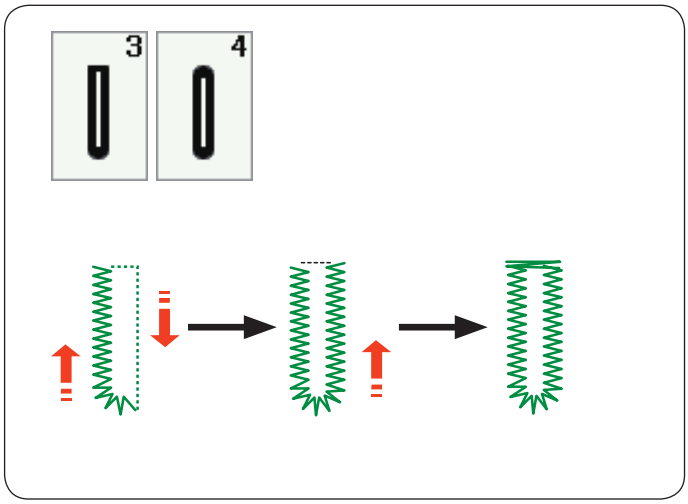
4 Start sewing again, and machine sews the back bartack and locking stitches then stops automatically with the needle in the up position.

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 on the dialog box.

NOTE:
To cut the buttonhole opening, refer to the instructions on page 45.
The memorized length will be cancelled if the presser foot is raised or the startover key is pressed before buttonhole is completed.

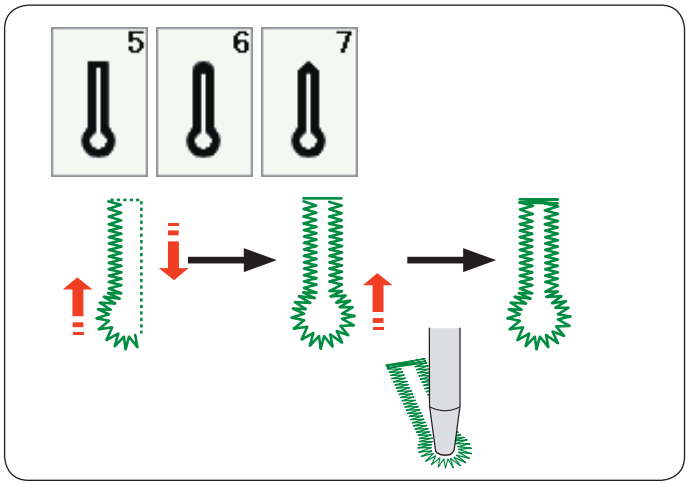


Other Buttonholes

B3, B4 Round end and fine fabric buttonholes

The sewing procedure is the same as that of B1 square (sensor) buttonhole (refer to pages 43-45).

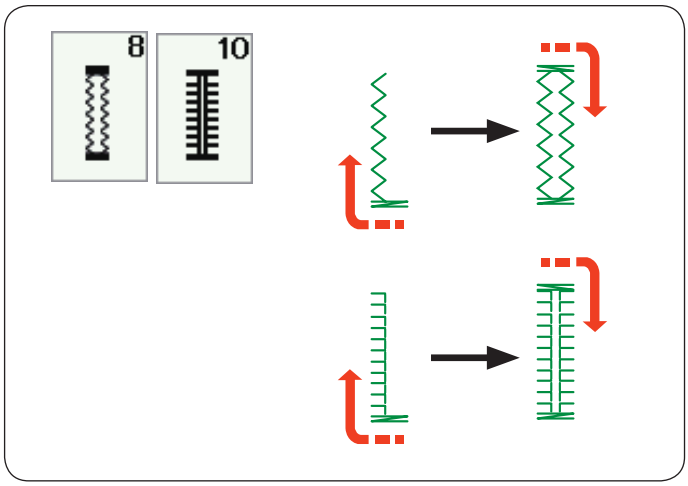
NOTE:
The opening width can be adjusted from 0.2 to 2.0.
The buttonhole width can be adjusted from 2.6 to 9.0.
The stitch density can be adjusted from 0.20 to 1.00.



B5-B7 Keyhole buttonholes

The sewing procedure is the same as B1 square (sensor) buttonhole (refer to pages 43-45).
Use an eyelet punch to open the keyhole buttonhole.

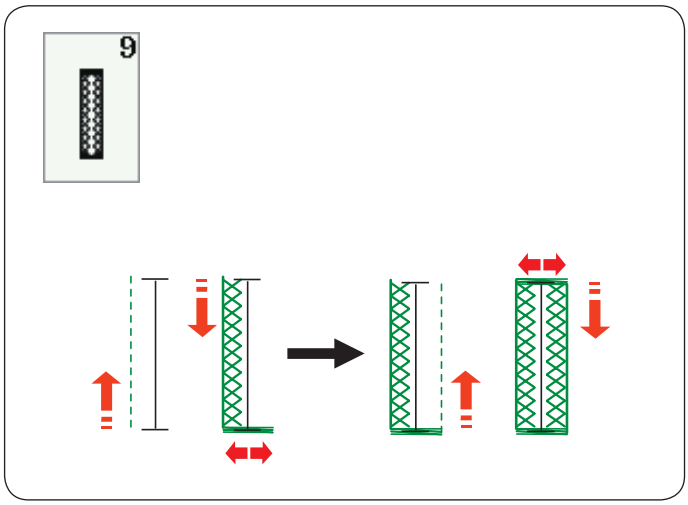
NOTE:
The opening width can be adjusted from 0.2 to 2.0.
The buttonhole width can be adjusted from 5.6 to 9.0.
The stitch density can be adjusted from 0.20 to 1.00.



B8, B10 Stretch and Antique buttonholes

The sewing procedure is the same as B1 square (sensor) buttonhole (refer to pages 43-45).
The sewing steps are as shown.

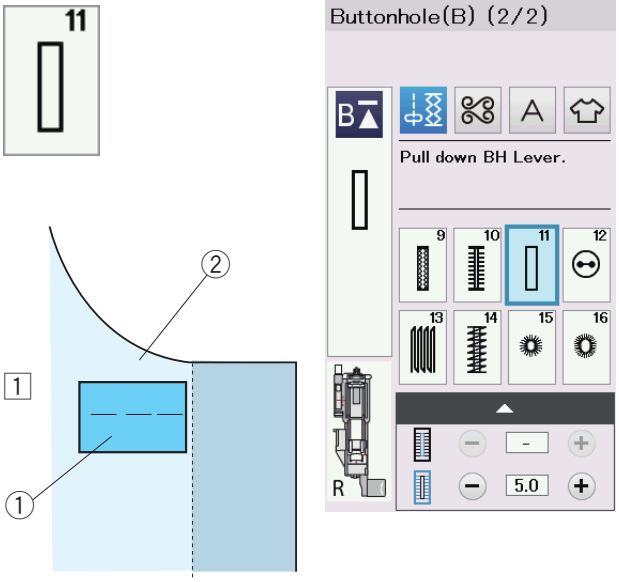
NOTE:
The opening width can be adjusted from 0.2 to 2.0.
The buttonhole width can be adjusted from 2.6 to 9.0.
The stitch density can be adjusted from 0.50 to 1.00 (B8), from 0.50 to 2.50 (B10).

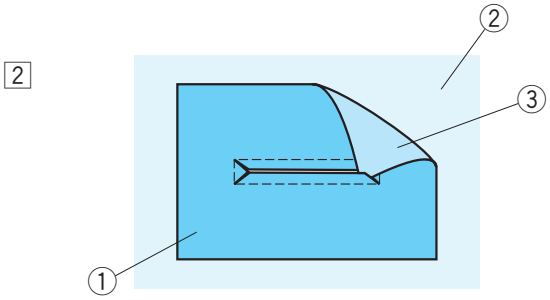


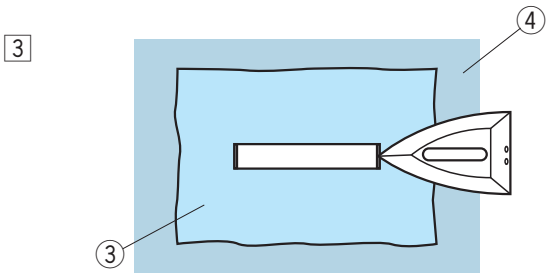
B9 Knit buttonhole

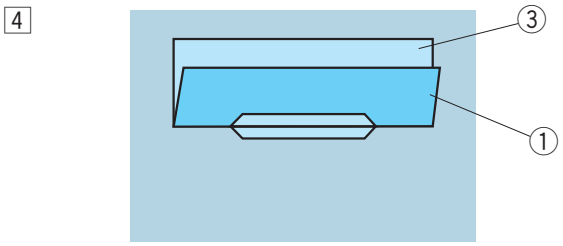
The sewing procedure is the same as B1 square (sensor) buttonhole (refer to pages 43-45).

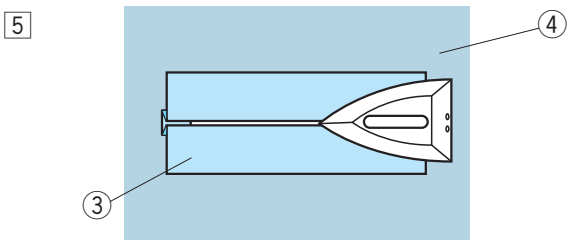
NOTE:
The opening width can be adjusted from 0.2 to 2.0.
The buttonhole width can be adjusted from 2.6 to 9.0.
The stitch density can be adjusted from 0.70 to 1.20.

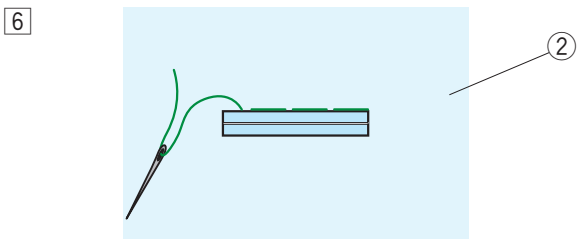












B11 Welted Buttonhole (Bound Buttonhole)

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 B11.
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

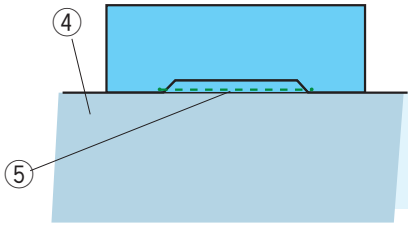
3 Pull out the patch until the right side of the patch is showing. Use an iron to press both corner ends until they are squared off.
- ③ Right side of patch
- ④ Wrong side of garment fabric

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

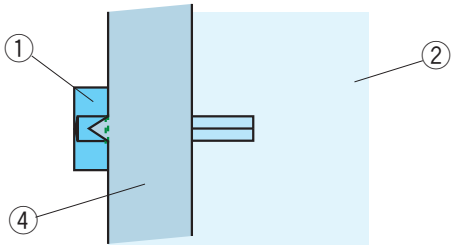
6 Baste both edges of the seam with a needle and thread by hand.
- ② Right side of garment fabric

7



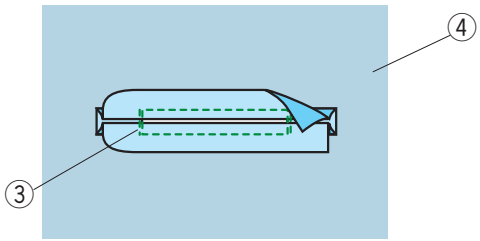
7 Fold over the length of the garment fabric, sew back and forth beside the original seam to secure flaps of the patch.
④ Wrong side of garment fabric
⑤ Sew back and forth

8



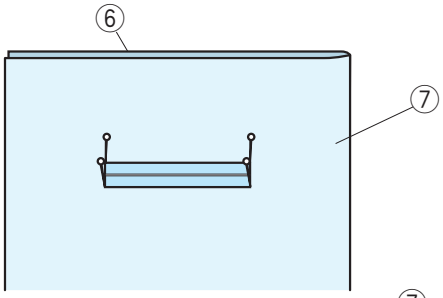
8 Fold over the end of fabric and sew back and forth three times over the triangular end.
① Wrong side of patch
② Right side of garment fabric
④ Wrong side of garment fabric

9



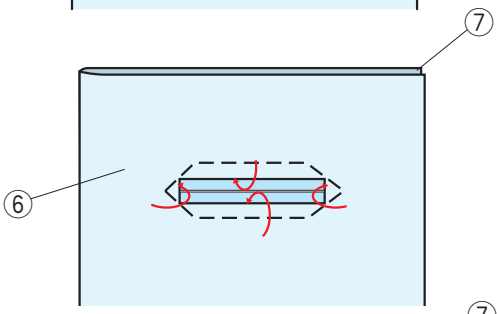
9 The patch should be cut 1 to 1.5 cm (7/16″ – 5/8″) away from the hole. The corners should be cut rounded off as shown.
③ Right side of patch
④ Wrong side of garment fabric

10



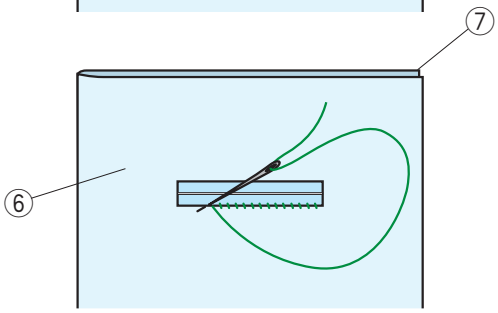
10 Place the facing on the wrong side of the garment fabric. Mark the 4 corners with pins as shown.
⑥ Facing
⑦ Garment fabric

11



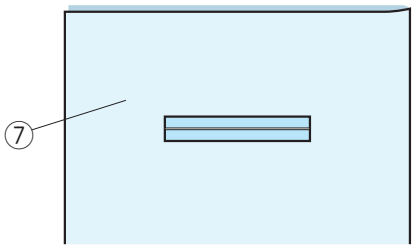
11 Turn all the layers over and cut the buttonhole opening on the facing in the same way as step 2.
Four marker pins show you the corner points on the facing. Fold back each flap between the facing and patch.
⑥ Facing
⑦ Garment fabric

12



12 Stitch around the opening with a needle and thread as shown.
⑥ Facing
⑦ Garment fabric

13



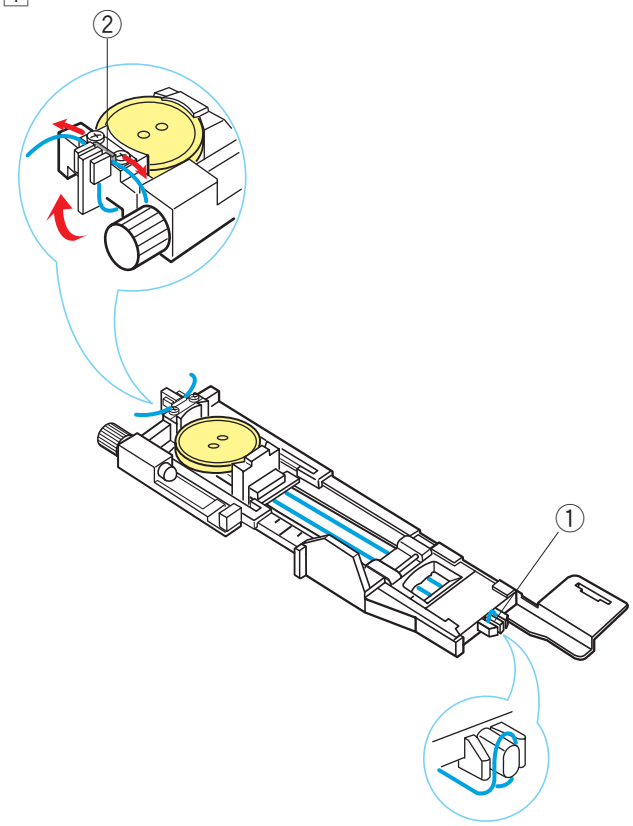
13 The welted buttonhole is complete.
⑦ Garment fabric

Corded Buttonhole

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

Select pattern B1.

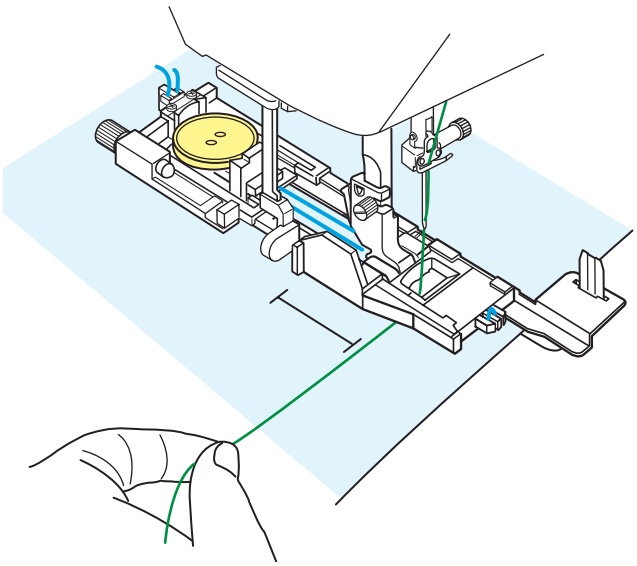
1



1 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 the 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.

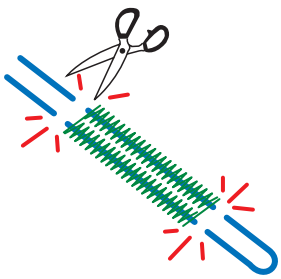
2



2 Lower the needle into the fabric where the buttonhole will start.
Lower the foot and buttonhole lever.
Pull the needle thread lightly to the left.
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.

3



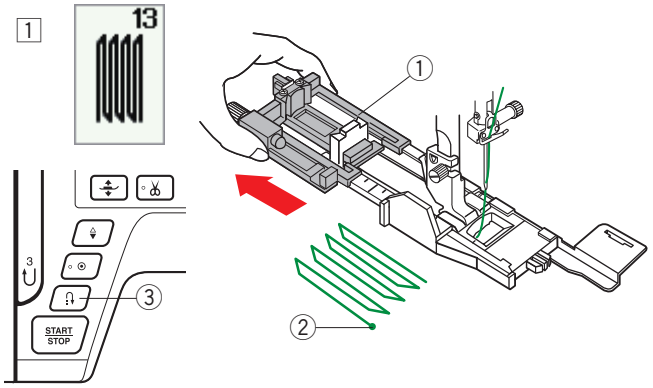
3 Cut the filler cord at both ends as close to the buttonhole as possible.

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 45.

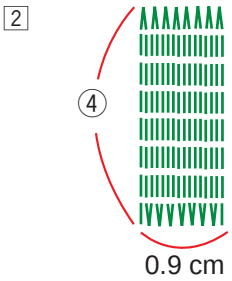
Speciality Stitches

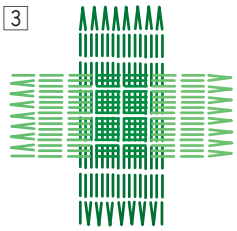
See pages 87, 88 and 55 for referring sewing instructions of B12, B14, B15 and B16.

B13 Darning

1 

1 Attach the automatic buttonhole foot R and pull the button holder all the way out.
Place the fabric under the foot, and lower the needle at the starting point. Then lower the foot.
① Button holder
② Starting point

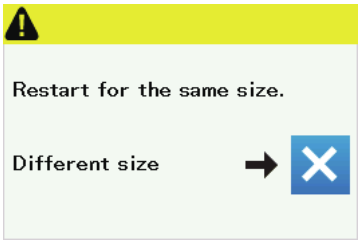
2 

3 

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.
③ Reverse button
④ Required length

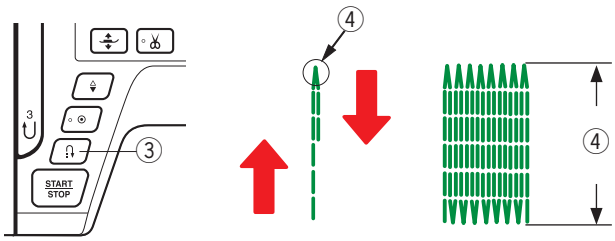
3 Sew another layer of darning over the first layer, at a right angle to it.

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 layer of darning stitches in the same size.
To sew the next layer of darning stitches in a different size, press the X key.

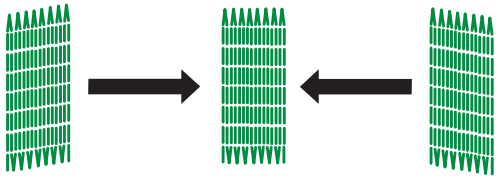


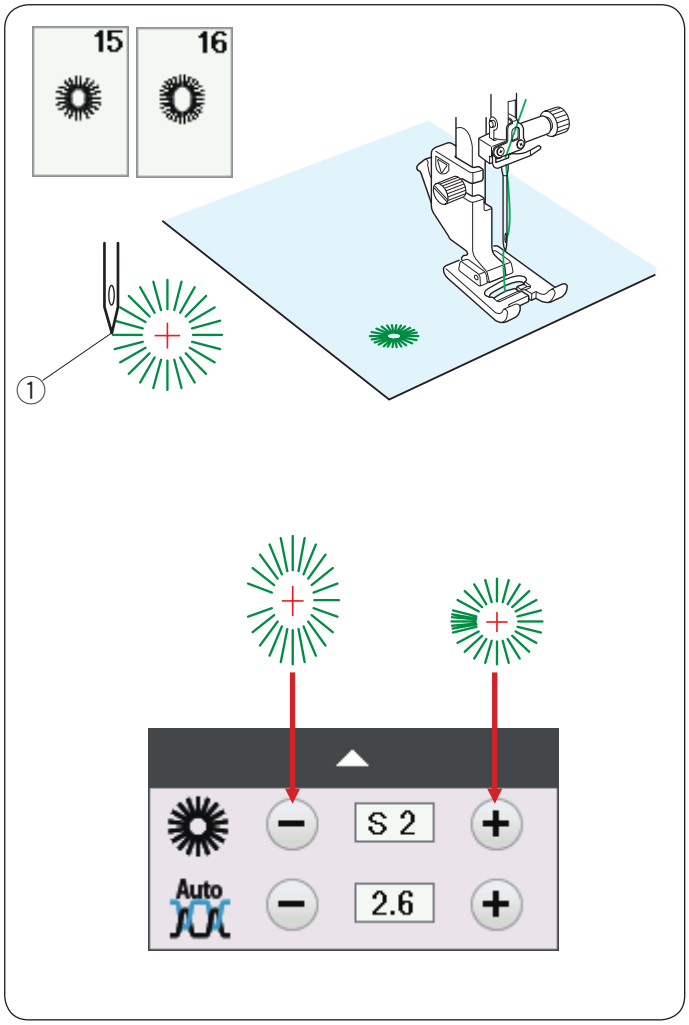
To sew a shorter darning

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 of the adjusting window.
If the left corner is lower than the right side, press the “–” key to correct it.
If the right corner is lower than the left side, press the “+” key to correct it.





B15, B16 Eyelet

The eyelet is used for belt holes, etc.

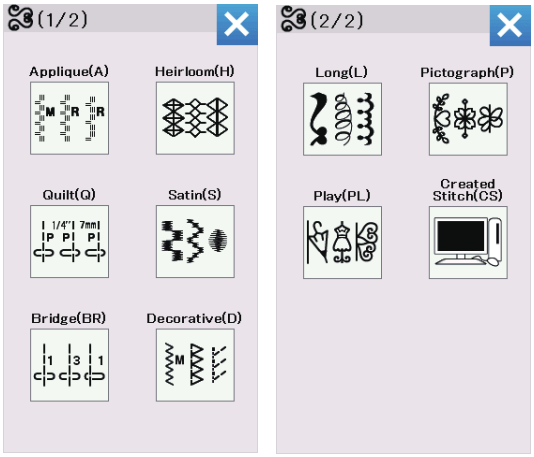
Attach the satin stitch foot F.

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.

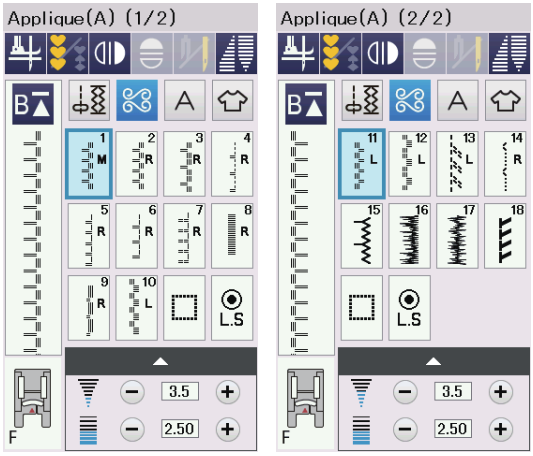
To correct the shape of an eyelet:
If the eyelet is open, press the "–" key.
If the eyelet overlaps, press the "+" key.

NOTE:
The shape can be adjusted within S1 to S3 (default setting is S2).

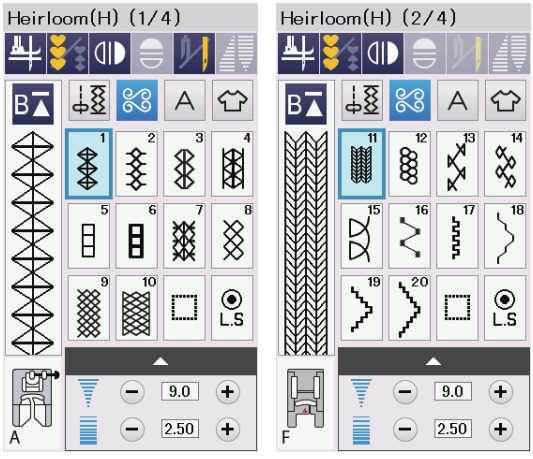


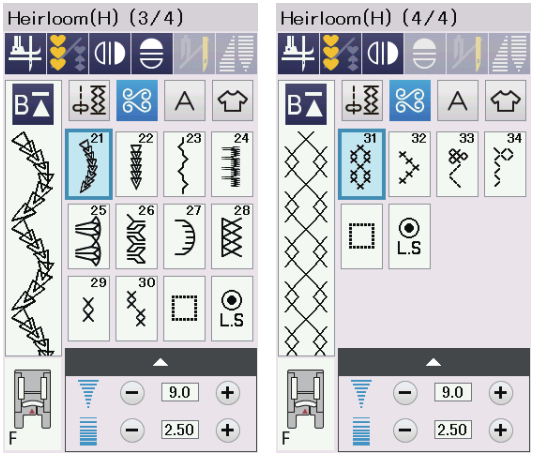
Decorative Stitches
Decorative Stitch Groups

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

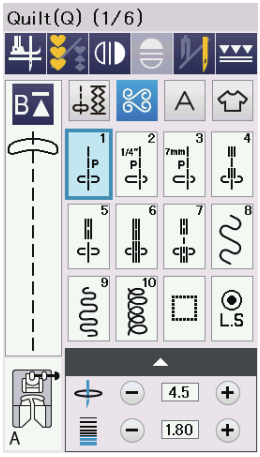


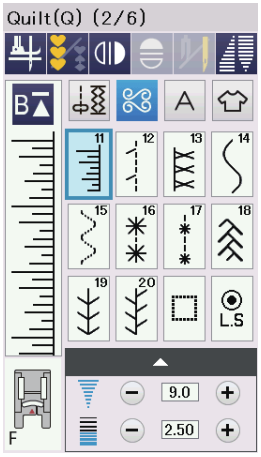
Applique stitches (A): 2 pages
Stitches in this group are for applique.
(Refer to page 89.)

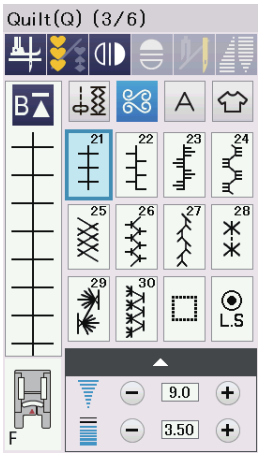


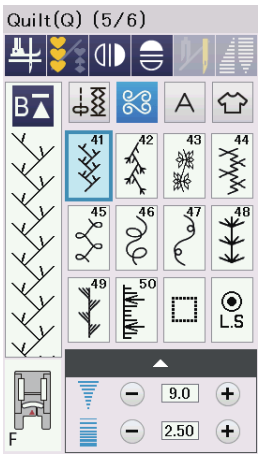


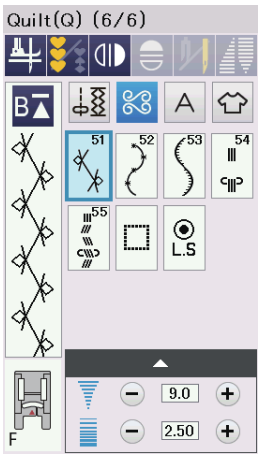
Heirloom stitches (H): 4 pages
This group provides heirloom stitches and cross stitches for craft sewing and home décor.



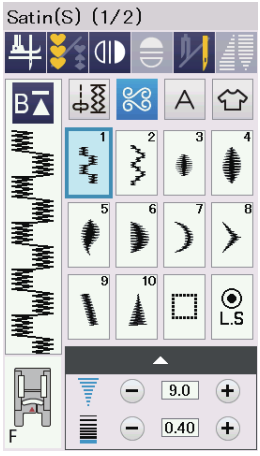


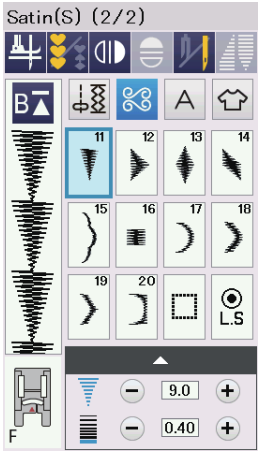




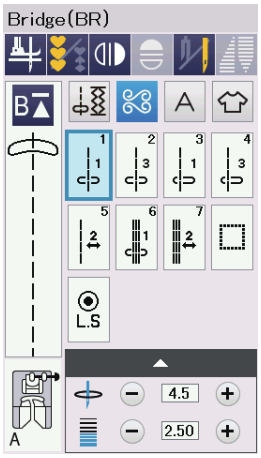


Quilting stitches (Q): 6 pages
Stitches in this group are for patchwork and quilting.
(Refer to pages 61, 91-93.)



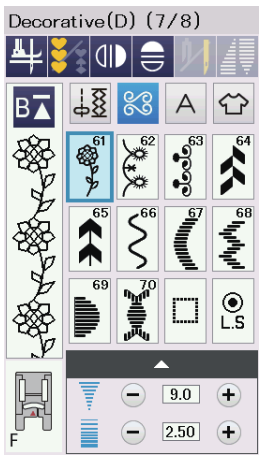


Satin stitches (S): 2 pages
The stitches in this group can be elongated up to 5 times their original length while the stitch density remains the same.
(Refer to page 62.)

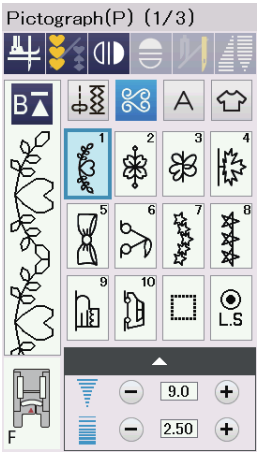


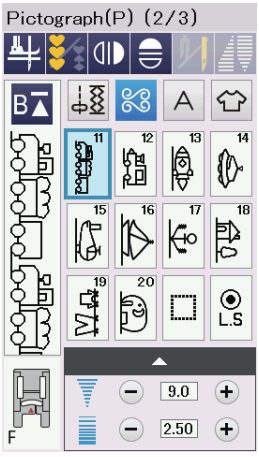
Bridge stitches (BR): 1 page
Bridge stitches are used for inserting straight stitches after a stitch pattern.
The number beside the stitch image on the straight stitch key indicates the stitch count of a programmable unit.
Patterns BR5 and BR7 will inherit the needle drop position and stitch length of the previous pattern in the programmed pattern combination.
(Refer to page 66.)

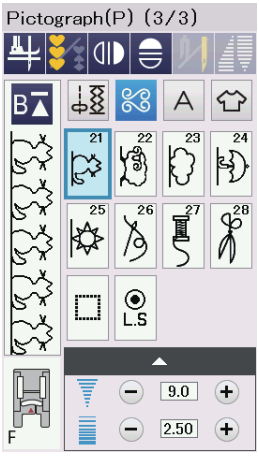
Decorative stitches (D): 8 pages
75 attractive patterns are available in this group.



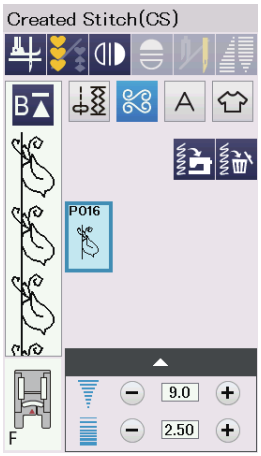
Long stitches (L): 2 pages
Patterns in this group are ideal for decorating garments and for adding border trims.







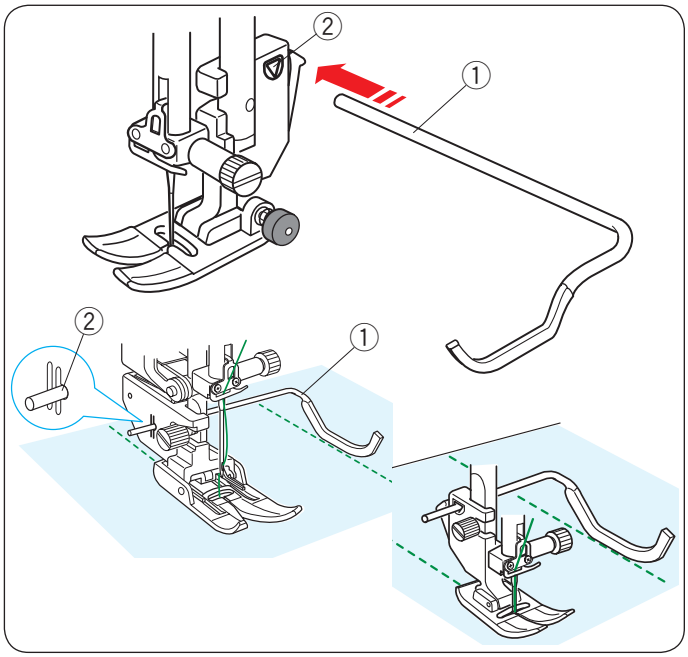
Pictograph stitches (P): 3 pages
Play stitches (PL): 1 page
There are many cute designs, fancy motifs and calligraphy available in these groups.



Created stitches (CS)

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

Refer to page 64 for how to transfer created stitch patterns from the PC to the machine.



Quilting(Q)

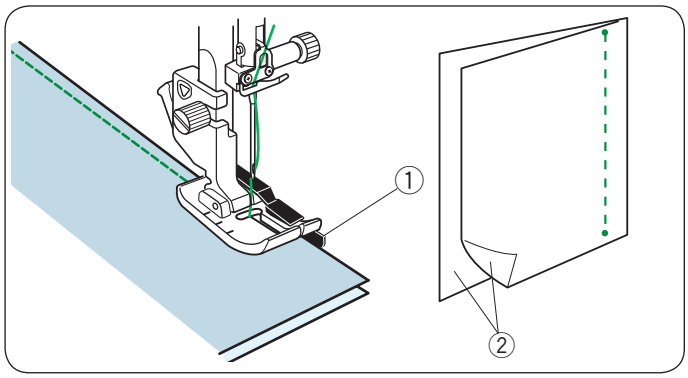
Using the Quilting Guide Bar

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.

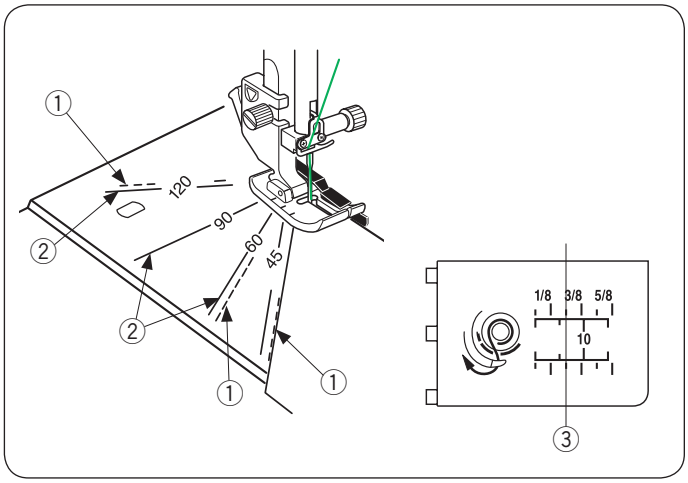


Q1-Q3 Patchwork Piecing

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

① Guide
② Right side of the fabric



Angle Scales on the Needle Plate

You can easily seam patchwork pieces at the desired angle without marking, by using the angle scales on the needle plate.
The angle scales are marked at 45, 60, 90 and 120 degrees.
Use the broken lines when piecing the patchwork pieces with the 1/4″ seam foot O as illustrated.

① Broken line

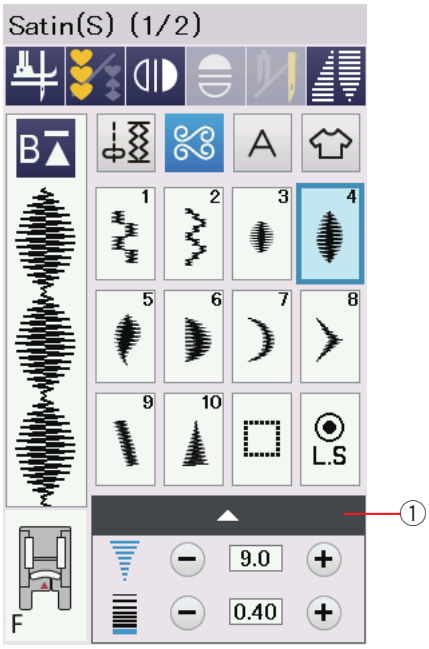
NOTE:
Use the solid lines when piecing the patchwork pieces with the zigzag foot A. Align the edge of the fabric to the 1/4″ seam guide line.

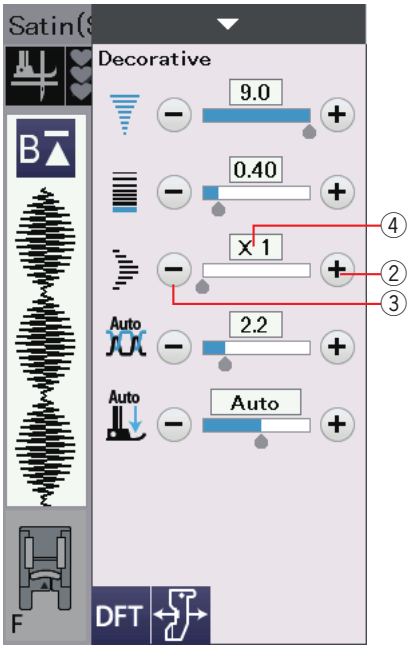
② Solid line
③ 1/4″ seam guide line

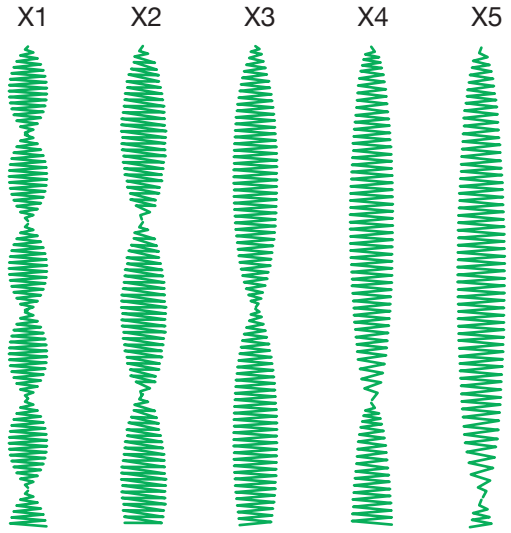
Q54-Q55 Hand-look quilt stitches

Patterns Q54 to Q55 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-S20 Decorative Satin Stitches

Elongation Ratio

Patterns S1 to S20 are decorative satin stitches for which the pattern length can be elongated without changing the stitch density.

Press the setting bar ① to expand the manual setting window.

① Setting bar

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

② “+” key (elongation)

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

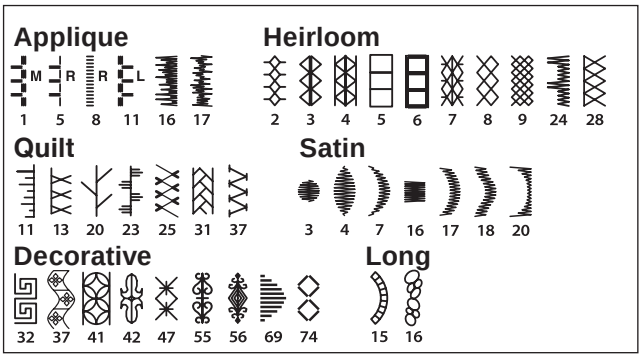
③ “–” key (elongation)

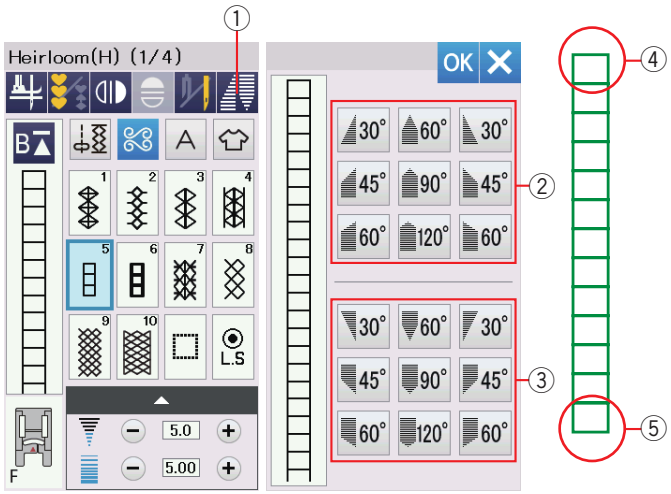
The pattern can be elongated up to 5 times the original length.
The elongation ratio is indicated in the box.

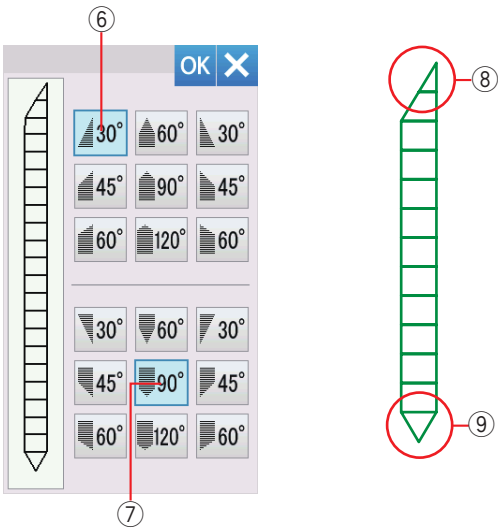
④ Elongation ratio

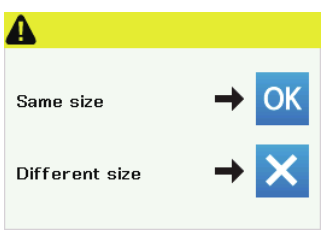
You can also alter stitch density and stitch width.

NOTE:
The elongation function and the tapering function (refer to page 63) cannot be applied at the same time.
The elongation function will be removed when a tapering function is applied to the elongated stitch.









Tapering

You can taper the beginning and end of the decorative stitch patterns to create tapered corners and points. The tapering can be applied to the stitch patterns as shown.

NOTE:

- Tapering function cannot be applied when using a stitch pattern combination, twin needle, dual feed foot, or straight stitch needle plate.
- The tapering length varies depending on the stitch pattern and its tapering shape. Make a test stitch on an extra piece of the fabric to check the tapering length.
- If you press the reverse button while sewing or the machine is stopped, it will immediately sew locking stitches and automatically stop. The tapering size will not be memorized.
- If you stop the machine while sewing, and change the stitch width, center needle position or stitch length, the machine will start tapered sewing from the beginning.

Example: To taper the stitch pattern H5.
Select stitch pattern H5. Press the tapering key ①.
The dialog box will open.

① Tapering key

Select the shape of the tapering for the beginning and the end of the stitch patterns by pressing the tapering shape keys.

The keys on the top half ② are for tapering the beginning of the stitch pattern ④.
The keys on the bottom half ③ are for tapering the end of the stitch pattern ⑤.

The numbers in the tapering shape keys indicate the degree of tapering. You can apply the tapering alignment from left, center or right. The beginning and end of the stitch patterns can be aligned separately.

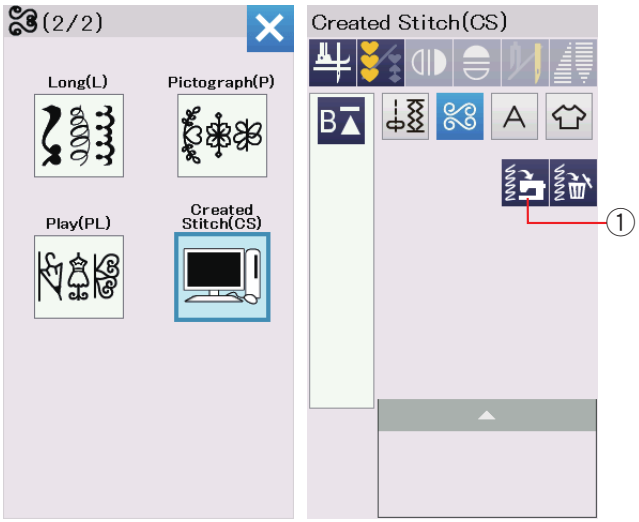
In this example, select the right-aligned 30° taper key ⑥ for the beginning of the stitch pattern ⑧.
Select the center-aligned 90° taper key ⑦ for the end of the stitch pattern ⑨.
Press OK key to apply the tapering.

Start the machine and sew to the required length, then press the auto-lock button.
The machine will sew the selected taper end, and sew the auto-lock stitch and stop.

To sew the same size tapering

When finished sewing, a confirmation message will appear.
Press OK key and start the machine to sew another layer of tapering in the same size.
To sew the next layer of tapering stitch in a different size, press the X key and sew. Start the machine and sew to the required length, then press the auto-lock button.

NOTE:
To remove the tapering function, press the same stitch pattern key.



Created Stitches (CS)

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

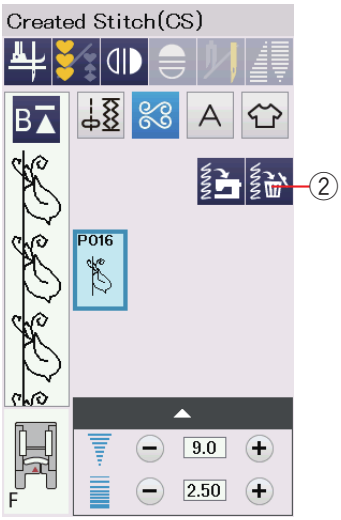
Insert the USB flash drive containing the original stitch patterns and press the import key, or import them from Stitch Composer using a USB cable.

① Import key

Select the USB icon 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.

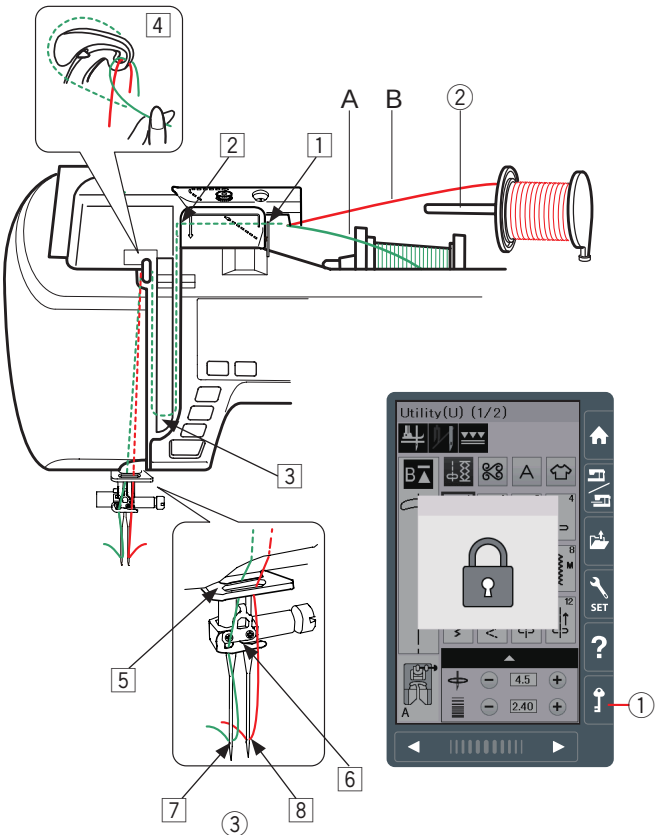
You can select, program and sew these patterns the same way as with the built-in stitch patterns.

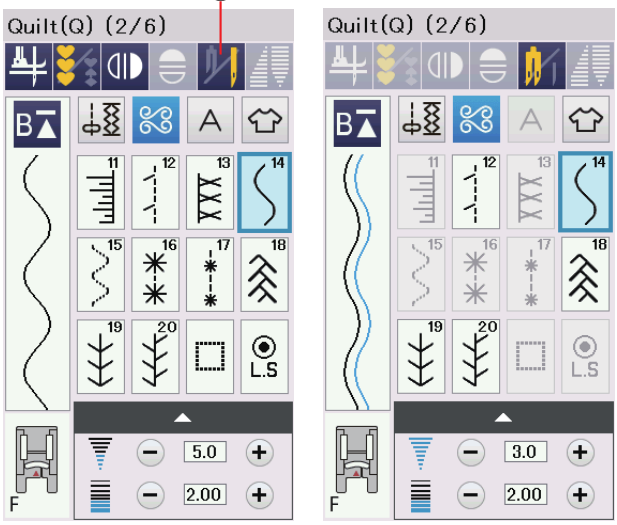


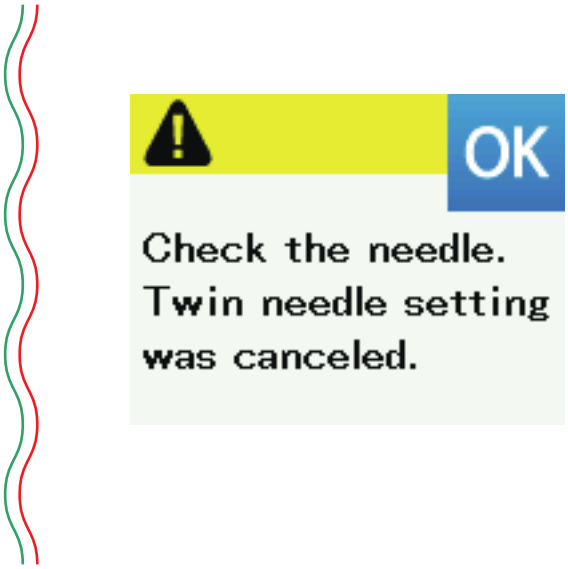
To delete the pattern, press the delete key and select the pattern to delete.
A confirmation message will appear. Press the OK key to delete the pattern.

② Delete key

NOTE:
- Up to 40 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 the 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 under the top cover.
Place a spool of thread on the additional spool pin and the spool holder (refer to page 13).

② Extra spool pin

Draw both threads from the spools and pass them through the threading points from 1 to 4.
Slip the thread A through the needle bar thread guide 5, then pass through points 6 and 7 as illustrated.
Thread the thread B through the front hole of needle bar thread guide 5, then pass it through the needle hole 8.

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

NOTE:

- Threading from points 1 to 4 is the same as for a single needle (refer to page 16).
- The needle threader cannot be used with the twin needle.

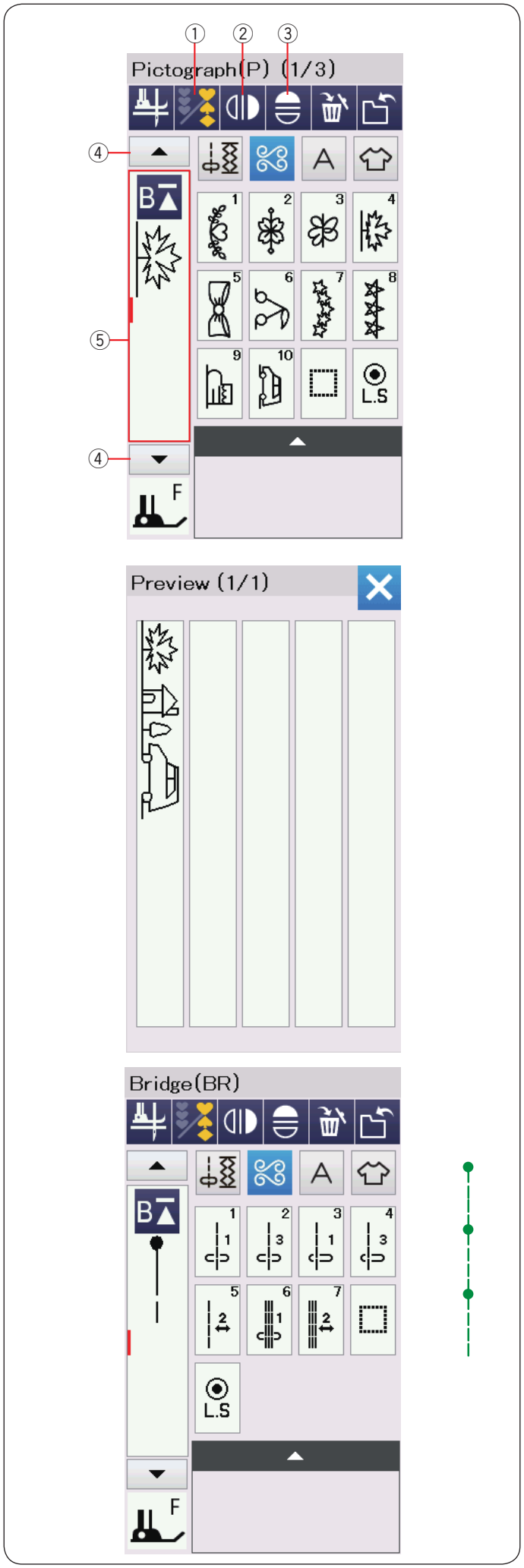
Press the twin needle key and select the desired pattern.
Patterns not suitable for twin needle sewing cannot be selected (pattern selection keys are grayed out).
Buttonholes, specialty stitches and monogram cannot be selected.

③ Twin needle key

NOTE:

- 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).
- Use the thread cutter on the face plate when cutting threads.

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 visual touch screen.

① Program key

Mirror Image of Patterns

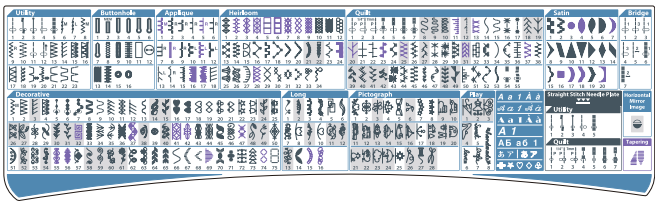
To sew or program the pattern as a mirror image, press the vertical mirror key or horizontal mirror key.
Select the desired patterns to create the mirror image.
Press the vertical or horizontal mirror key again to cancel the mirror image function.

② Vertical mirror key
③ Horizontal mirror key

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

④ Cursor keys
⑤ Edit box

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



Mirror image function will be canceled and mirror image icon will disappear if the selected pattern is not suitable for the mirror image.

NOTE:
Presser foot pressure cannot be adjusted to the stitch patterns of a pattern combination individually.
If you attempt to do so, only the last pattern's presser foot pressure settings are applied to all the programmed patterns.

Bridge Stitches

Bridge stitches are used for inserting straight stitches after a stitch pattern.
If you want more space between French knots (D5), for example, insert pattern BR5 after pattern D5.
Two counts of straight stitches are added to pattern D5.

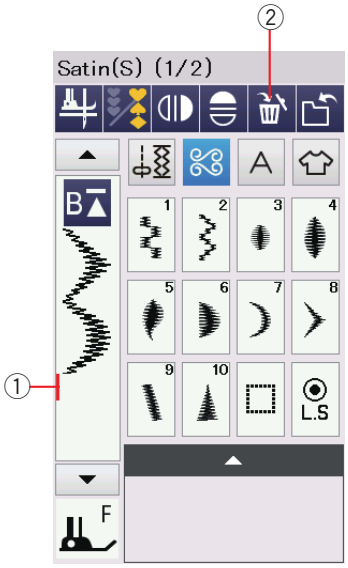
NOTE:
Patterns BR5 and BR7 will inherit the stitch length and needle drop position of the previous pattern in the pattern combination.

Editing a Pattern Combination

Deleting a Pattern

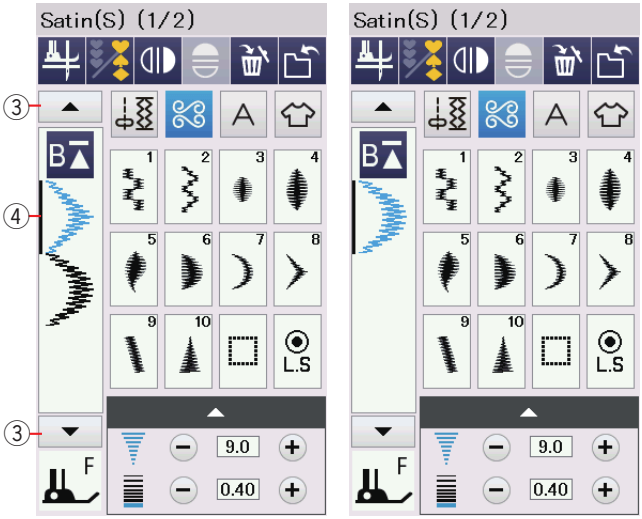
The pattern before the cursor or shown in blue is deleted by pressing the delete key.

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 blue. Press the delete key to delete the selected pattern.

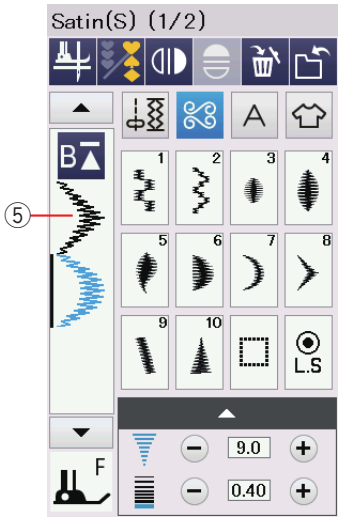
③ Cursor key
④ Selected pattern

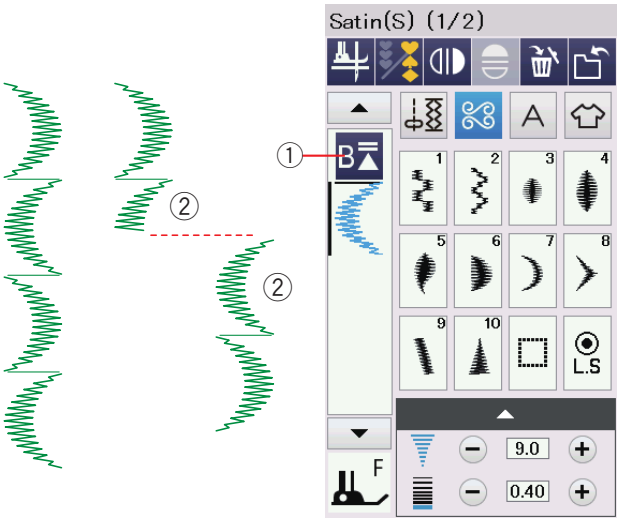


Inserting a Pattern

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.

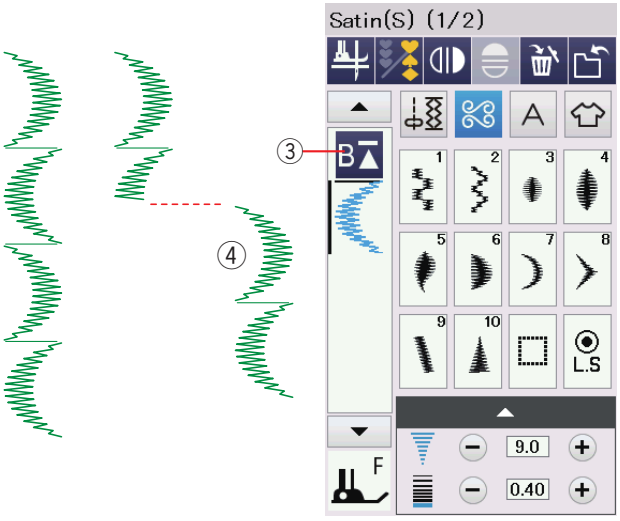
When you stop sewing a pattern combination, the startover key is activated.

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. The key will change and show a triangle and double bar that means the machine will start over from the current pattern of the combination.

① Startover key (current pattern of the combination)
② Current pattern

NOTE:
When you stop sewing a pattern combination during the first pattern and press the startover key, the number of the bar above the triangle will not change because the pattern will be sewn from the first pattern.



First pattern startover

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

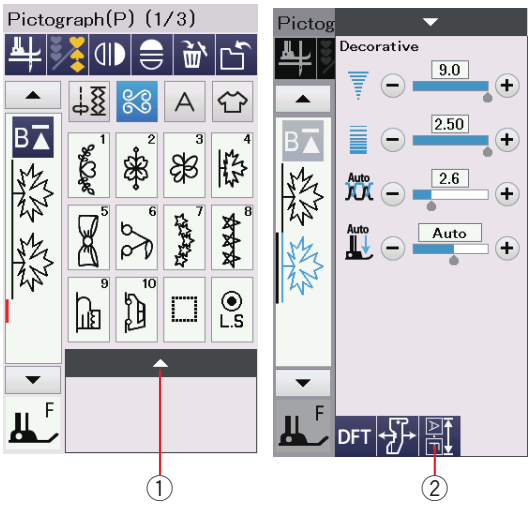
③ Startover key (first pattern of the combination)
④ First pattern

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 pattern combination length key indicated in the manual setting window.
Press the setting bar to open the manual setting window.

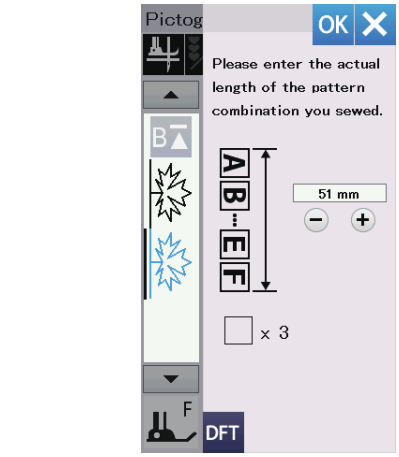
① Setting bar
② Pattern combination length key

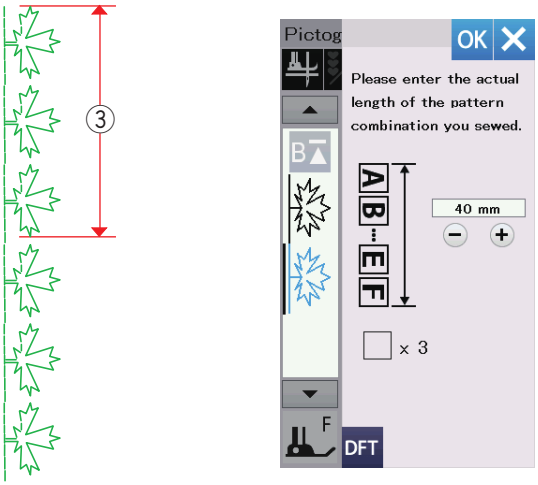


The readout of the total length is a theoretical value and the actual length may vary depending on sewing conditions.

For example, select the pattern P4 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.
In this case, the theoretical value is 51 mm. However, if the actual length ③ is 40 mm, enter 40 mm by pressing “–” key. Press the OK to register it.

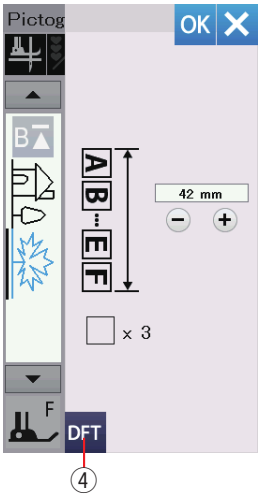
③ Actual length

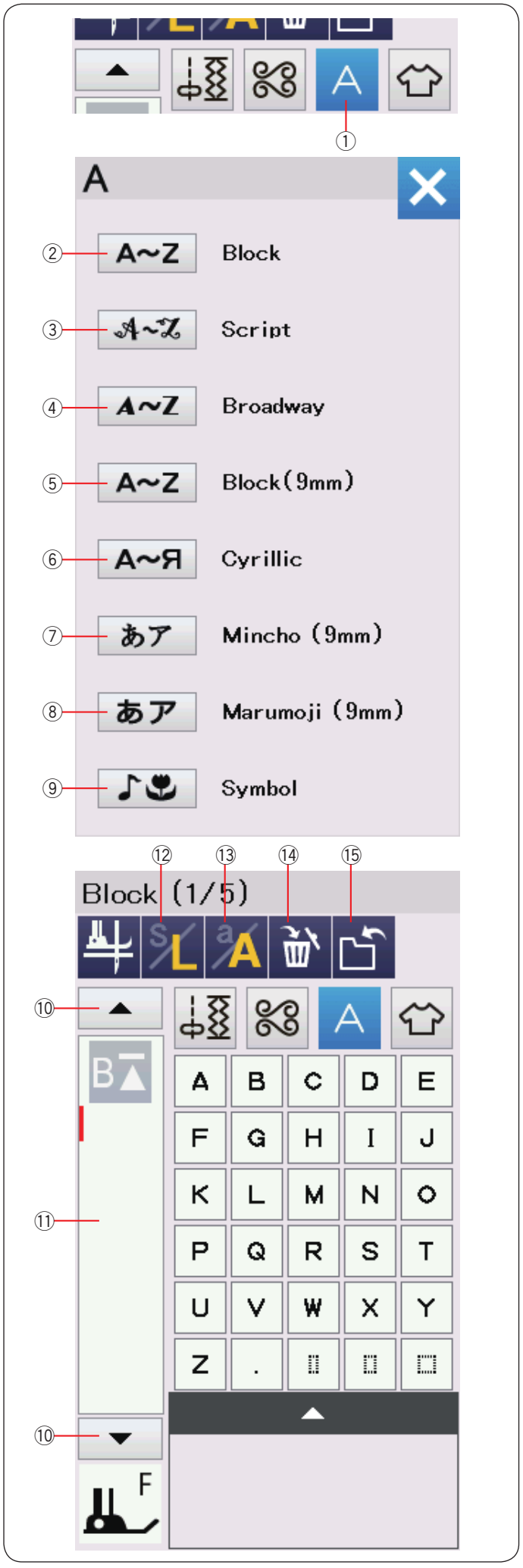




The readout is adjusted automatically when calculating the length of other pattern combinations.
The message “Please enter the actual length of the pattern combination you sewed.” disappears to indicate that the displayed value is adjusted already.
For example select patterns P10, P18 and P4.
The theoretical value is 53 mm. However, the read out is calculated according to the measured actual length. In this case, the adjusted value is 42 mm.
Press the default key to clear the entered actual length.

④ Default key





Monogramming

You can program letters and symbol designs for monogramming.
Press the Monogram key and the font selection window will open.
You can select one of 8 fonts.
Select the desired font by pressing the corresponding key.

① Monogram key
② Block font key
③ Script font key
④ Broadway font key
⑤ Block font (9 mm) key
⑥ Cyrillic font key
⑦ Mincho (9 mm) font key
⑧ Marumoji (9 mm) font key
⑨ Symbol font key

The monogram mode window will open.

NOTE:
The heights of Block font (9 mm), Mincho font (9 mm) and Marumoji font (9 mm) are approximately 9 mm.

Function Keys

⑩ **Cursor key**
Press the cursor key to move the cursor up or down.

⑪ **Edit box**
Press the edit box to view the entire monogram.

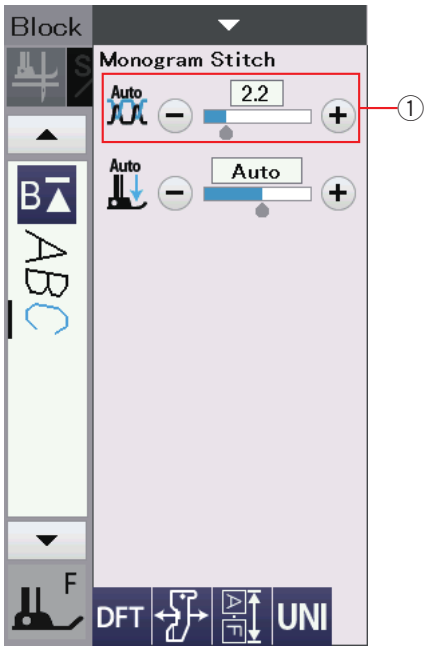
⑫ **Letter size key**
Press this key to select the full size (L) or small size (S).

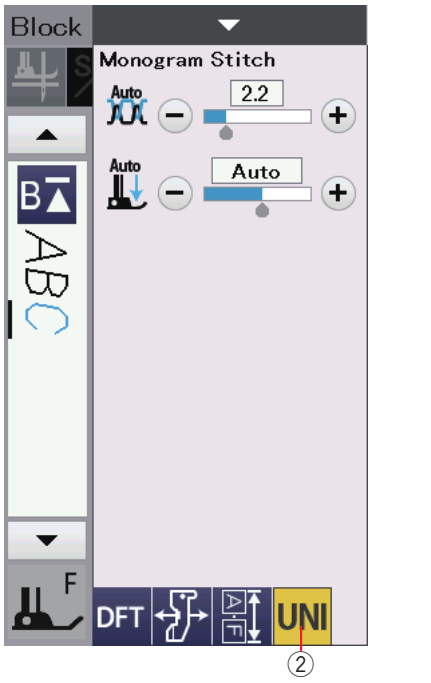
⑬ **Letter case key**
Press this key to select the upper case or lower case.

⑭ **Delete key**
Press this key to delete the selected character or symbol.

⑮ **File save key**
Press this key to save the monogram as a data file.

NOTE:
Numbers, symbols and European letters are available on pages 2/5 through 5/5.





Manual Thread Tension

This machine is equipped with automatic thread tension control. However, you may need to manually adjust the tension balance depending on the sewing conditions.

To adjust the thread tension, press the setting bar to show the option.

Individual Thread Tension Adjustment

To apply the thread tension adjustment to each letter individually, select the letter by moving the cursor.

Press “+” or “–” to adjust the thread tension of the selected letter. The adjusted thread tension is applied to the selected letter.

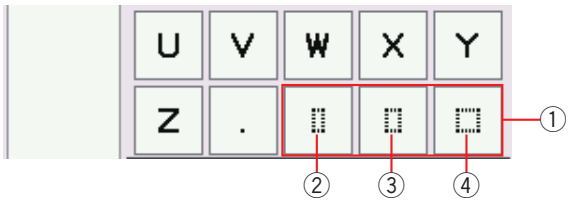
① Thread tension adjustment

Unified Thread Tension Adjustment

To apply the thread tension adjustment to all letters together, you do not need to select the letters.

Press the unified thread tension key ②.
Press “+” or “–” to adjust the thread tension.
The adjusted thread tension is applied to all entered letters.

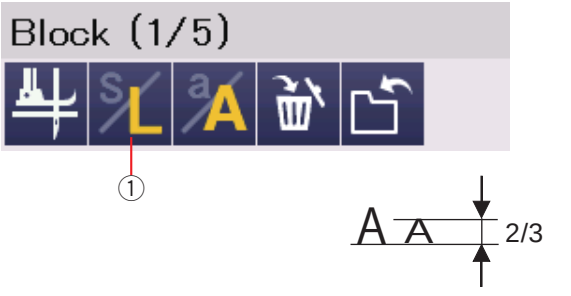
When unified thread tension control is applied, the unified thread tension key turns to yellow.
Press the unified thread tension key again to deactivate the unified thread tension adjustment.



Spacing

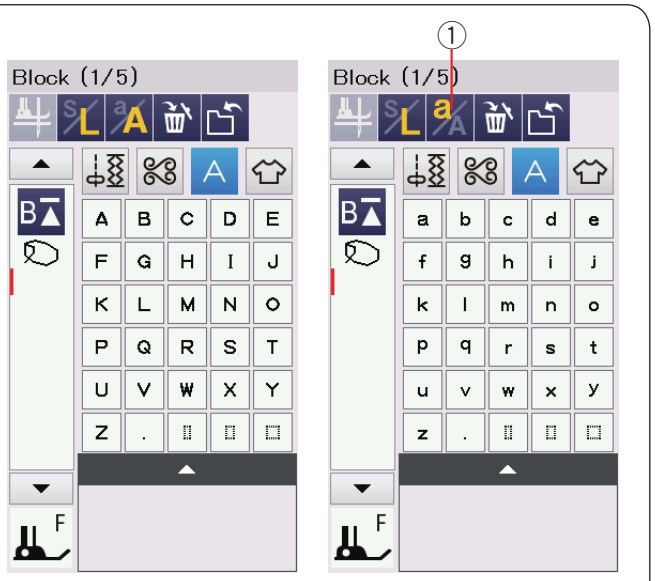
To enter a space in monogramming, press one of the three space keys on the lower right corner of the monogram selection.

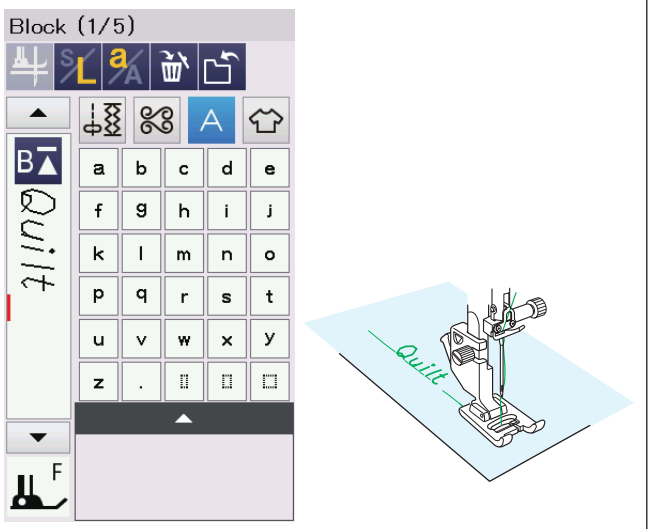
① Space keys
② Small-size space
③ Medium-size space
④ Large-size space



Reducing the Size of Letters

To reduce the height of a character to approximately 2/3 of its original size, select the character and press the letter case key ①.





Programming a Monogram

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

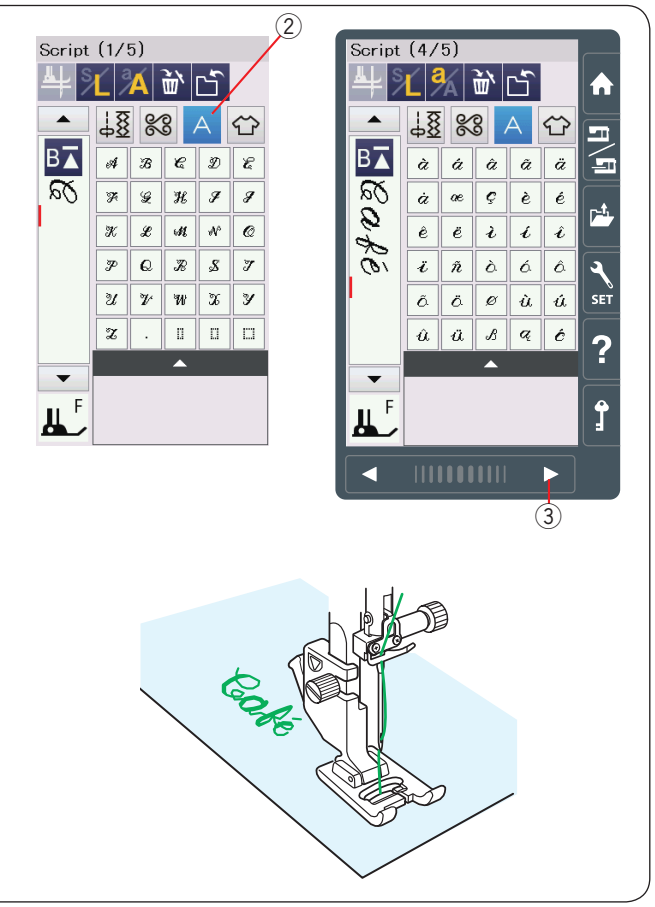
Example 1: “Quilt” in Block font

Select Block font. Enter “Q”.

Press the letter case key ① to select lower case.

① Letter case key

Enter “u”, “i”, “l” and “t”.



Example 2: “Café” in Script font

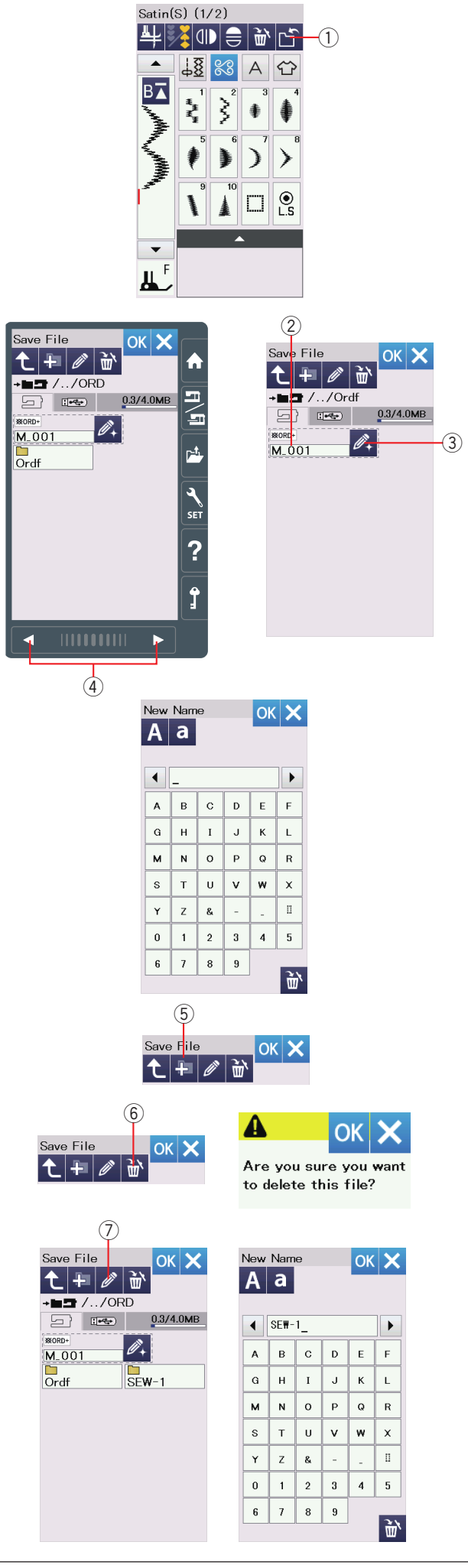
Press the monogram key and select Script font.
Enter “C”.

② Monogram key

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

Press the page key ③ 3 times to go to the page 4 of 5.
Press the letter case key. Enter “é”.

NOTE:
Use a blue tip needle for sewing a monogram.
Apply a sheet of stabilizer to fine fabrics or stretch fabrics.
Test sew to check the sewing results.



Saving a Pattern Combination

NOTE:
Always back up your data to an external device in case a problem occurs.

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

Press the save file key after programming a pattern combination, and the save file window will open.
① Save file key

The "Ordf" folder is shown.
Select the location to where you wish to save the pattern combination.

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.

NOTE:
- The files and folders are displayed on different pages. Use page keys ④ to display the saved files.
- The Ordf folder is for the default location to save a pattern combination. You may save the pattern combination into the Ordf folder.

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.
⑤ New folder key

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.
⑥ Delete key

Changing the folder name or file name

Press the rename key and select the folder or file of 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.
⑦ Rename key

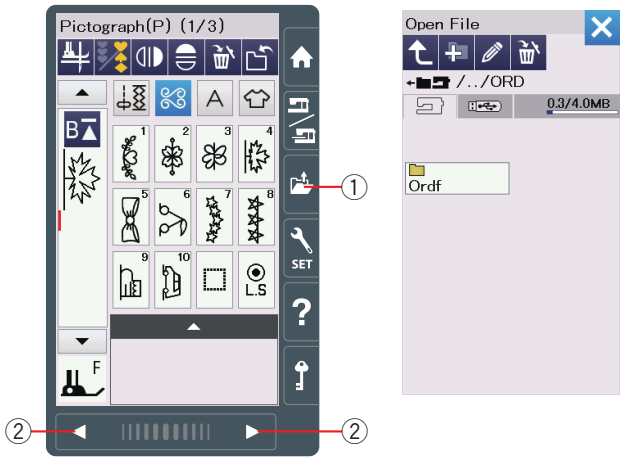
NOTE:
The maximum number of characters that can be entered for naming is 10.

Opening a Pattern Combination

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

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

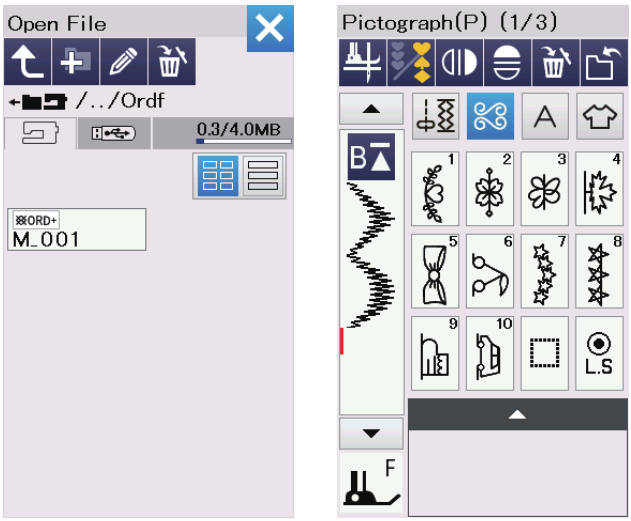
① Open file key



Select the memory location; either the machine's internal memory or a USB flash drive.
The "Ordf" folder will appear.

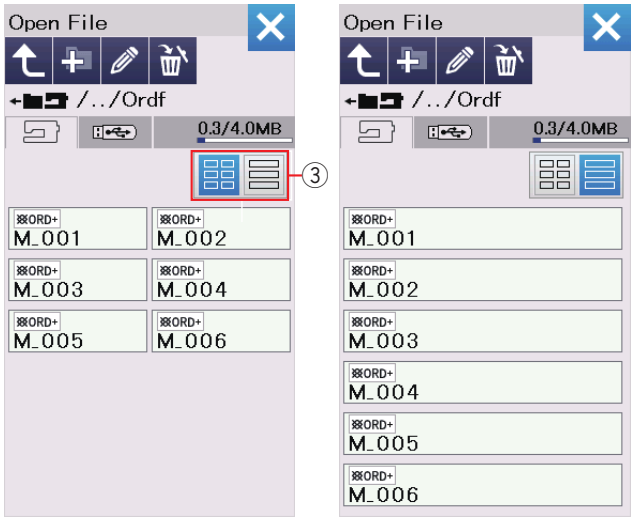
NOTE:

- If you created any folders before, those folders will also appear.
- If you cannot find the desired folder or the file in the page, press the next or previous page key ② to display the other pages.



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.



Press one of the layout keys ③ to select the layout of the file list as shown.

SEWING APPLICATION

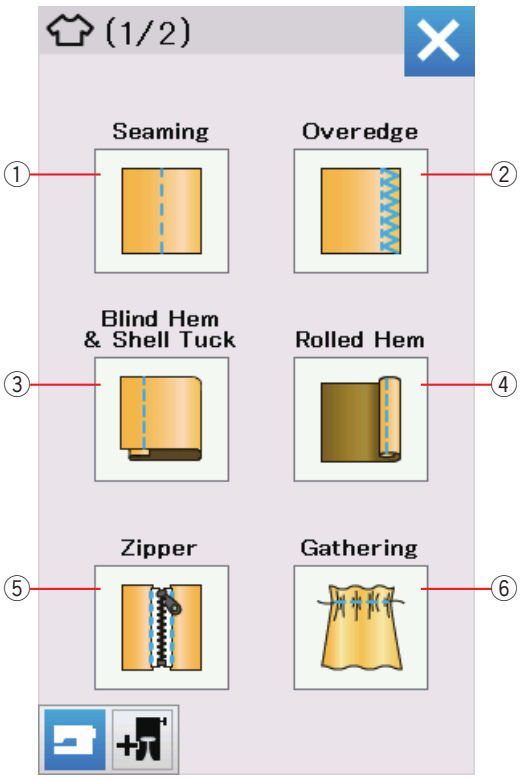
Sewing Applications

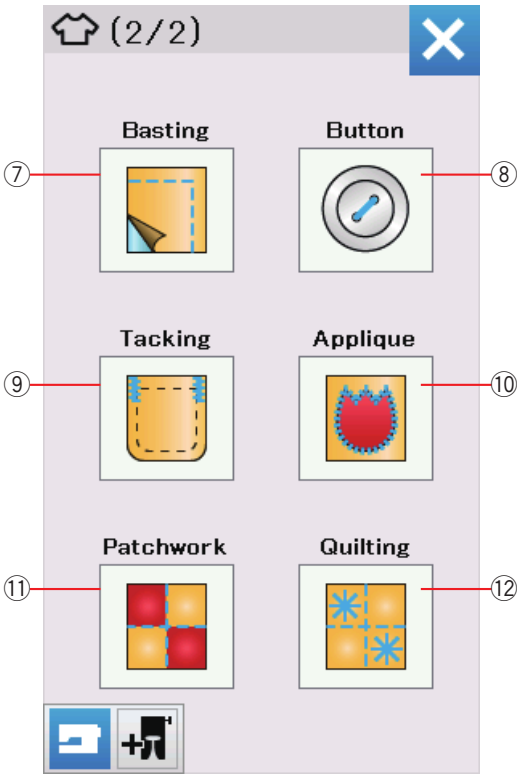
Sewing application is a unique feature that provides you with 12 useful sewing applications.

Press the sewing application key and the sewing application menu will open.

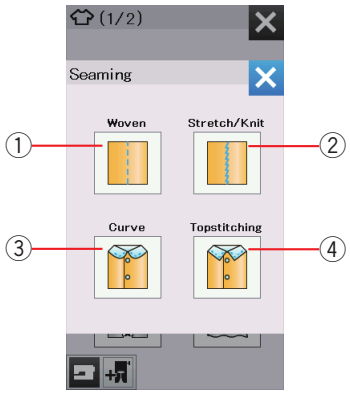
The 12 sewing applications are as follows:

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





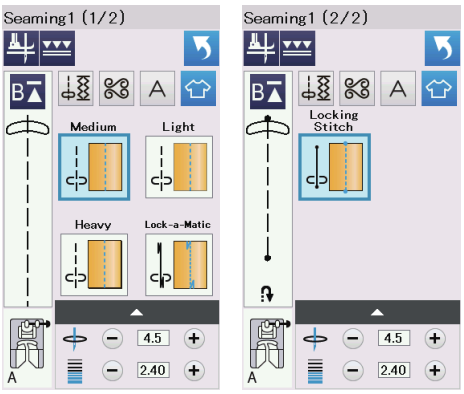
⑦ Basting
⑧ Button Sewing
⑨ Tacking
⑩ Applique
⑪ Patchwork
⑫ Quilting



Seaming

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

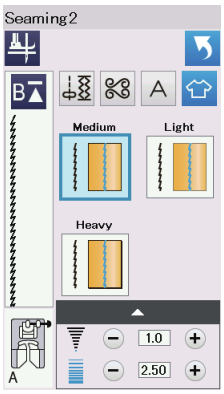
①



① Woven (Seaming 1)

Straight stitches for seaming regular woven fabrics.

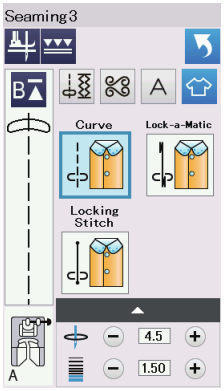
②



② Stretch/Knit (Seaming 2)

Narrow stretch stitches for seaming stretch or knit fabrics.

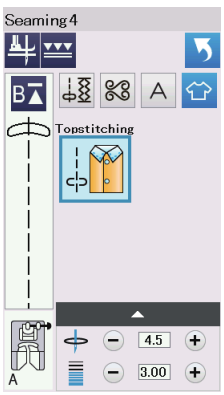
③



③ Curve (Seaming 3)

Short straight stitches for seaming curved line.

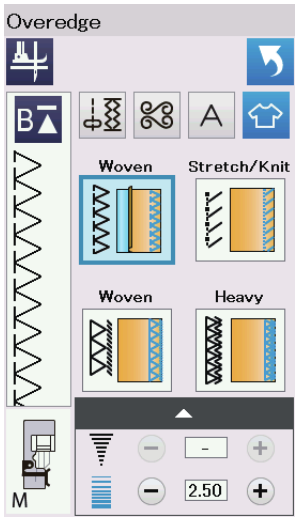
④

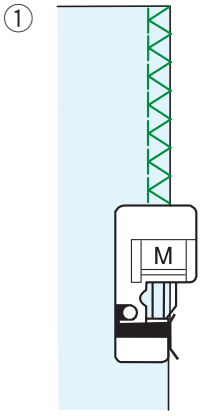


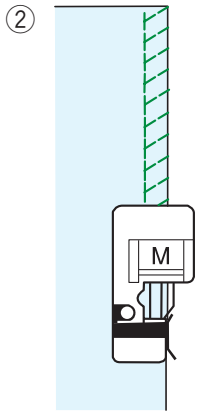
④ Topstitching (Seaming 4)

Long straight stitch for topstitching with thick threads.

Overedge



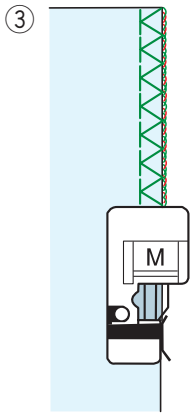


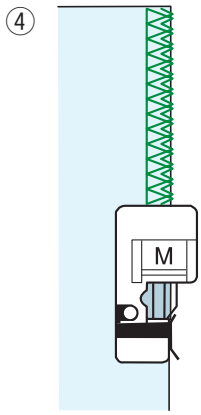


① **Woven**
Overcasting stitch for regular woven fabrics.

② **Stretch/Knit**
Knit stitch for finishing raw edges of stretch or knit fabrics.

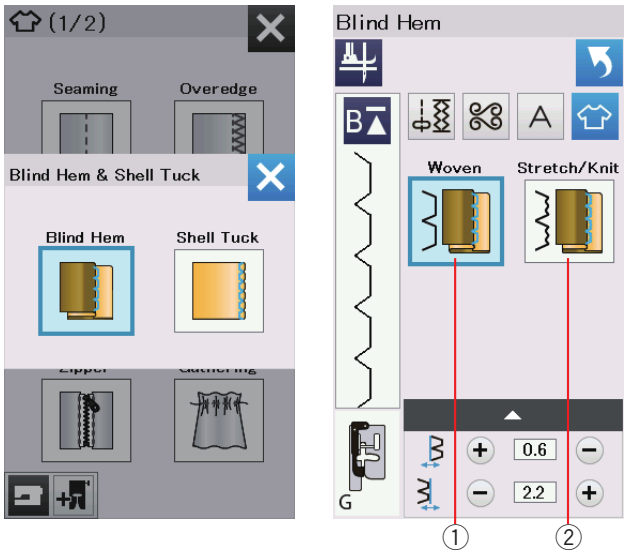
For better results, use the zigzag foot A and sew leaving an adequate seam allowance.
After sewing, trim the seam allowance close to the stitches (refer to page 35).

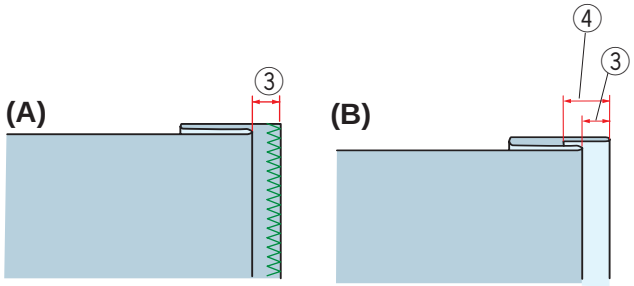


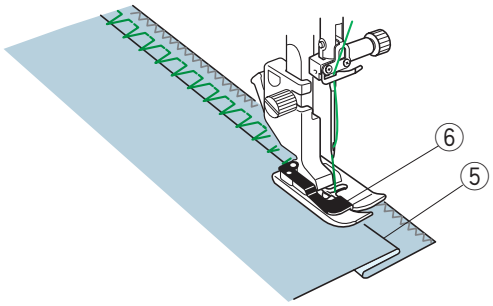


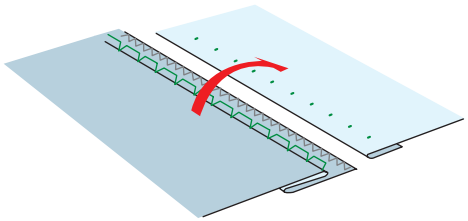
③ **Woven**
Overlock stitch similar to a professional overlocker stitch.

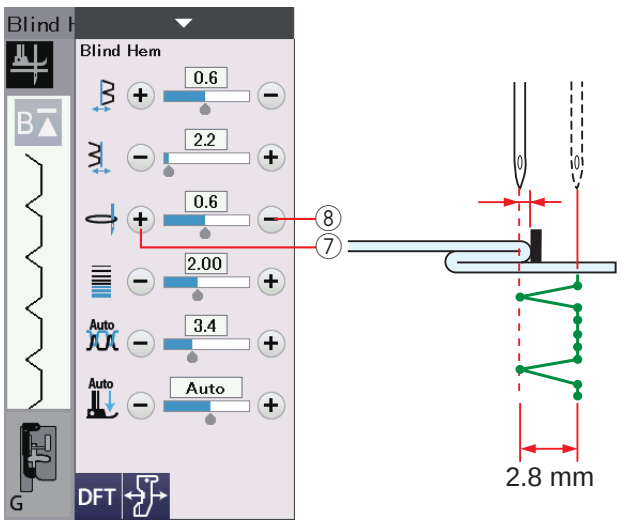
④ **Heavy**
Double overedge stitch for preventing raw edges of linens and gabardines from ravelling.











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.

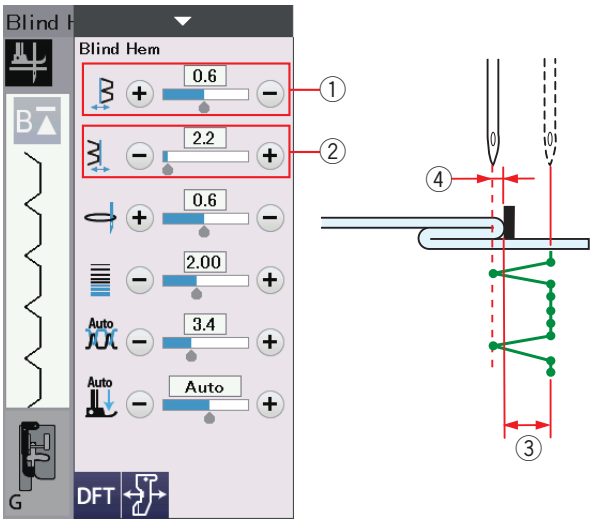
Adjusting the needle drop position

Press the setting bar to expand the manual setting window.

Press the “+” key ⑦ in the upper row to move the needle drop positions to the left.
Press the “–” key ⑧ in the upper row to move the needle drop positions to the right.

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.

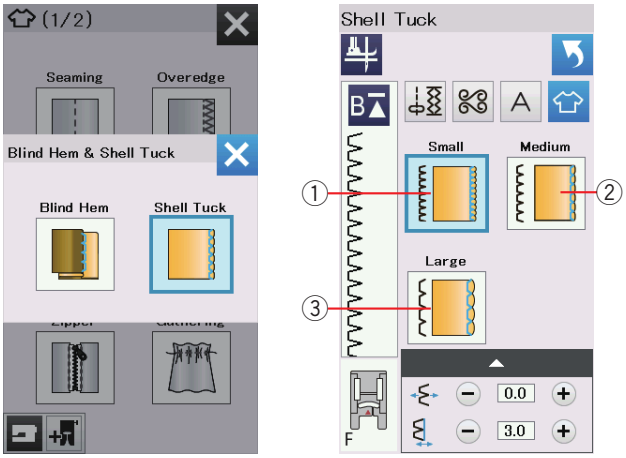
NOTE:
You can alter the stitch width by changing the right needle drop position.



Altering blind hem stitch width

Press the “+” key in the row ② to increase the stitch width ③.
Press the “–” key in the row ② to decrease the stitch width ③.

NOTE:
You can move the left needle drop position ④ with the “+” or “–” key in the row ①.



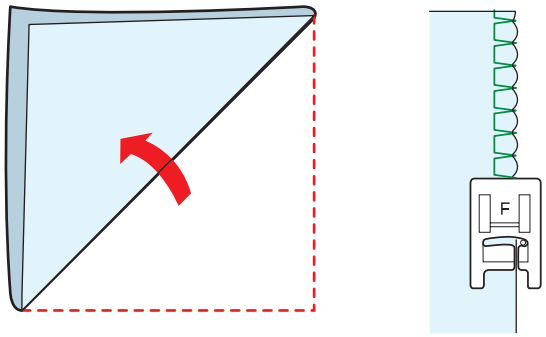
Shell Tuck

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

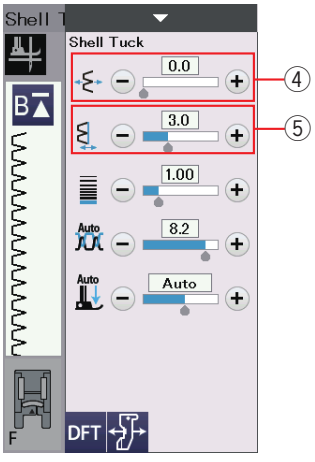


To sew:

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.

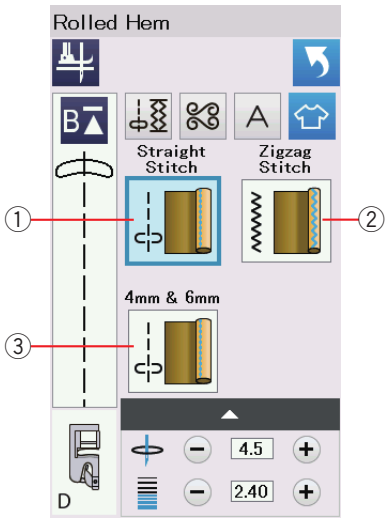
If you sew shell tucks, space the rows at least 1.5 cm (5/8″) apart.



Altering shell tuck position

Press the “+” key in the row ④ to move the shell tuck position to the right.
Press the “–” key in the row ④ to move the shell tuck position to the left.

NOTE:
You can move the right needle drop position with the “+” or “–” key in the row ⑤.



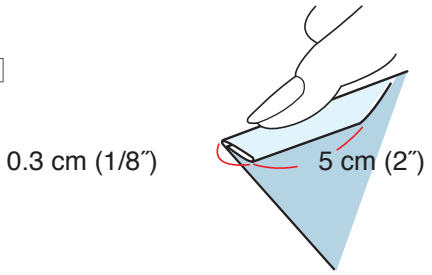
Rolled Hem

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

1

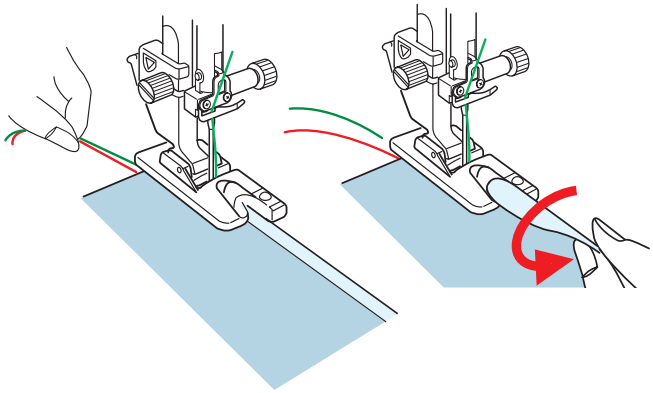


To sew:

1 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.

2

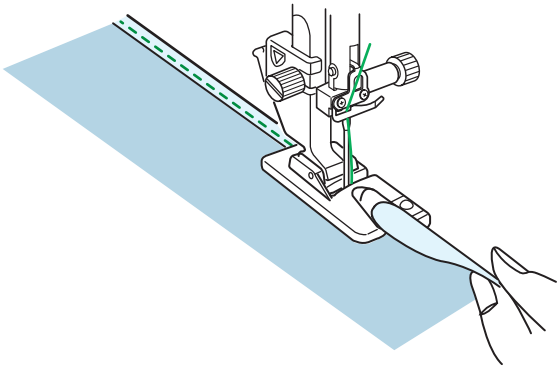


2 Place the fabric aligning the hem edge with the guide of the foot. Turn the handwheel to lower the needle to the starting point.

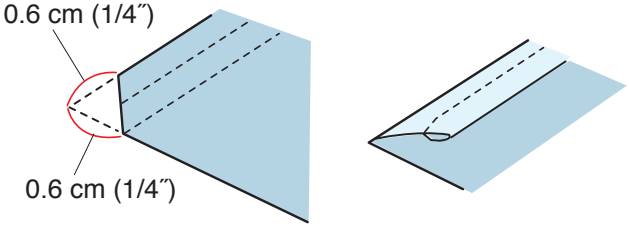
Lower the foot and sew several stitches slowly while pulling on the threads to assist feeding the fabric.

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.

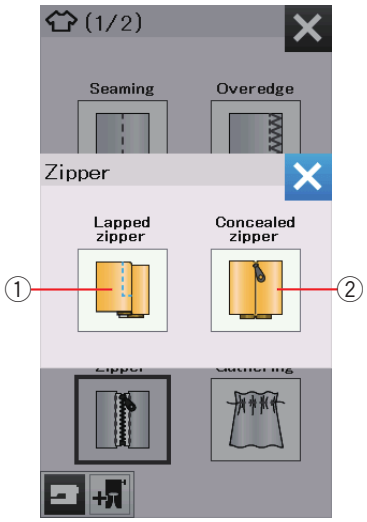
3



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



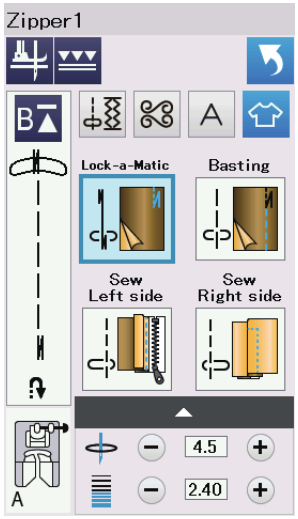
NOTE:
Trim the corners 0.6 cm (1/4″) to reduce bulk.



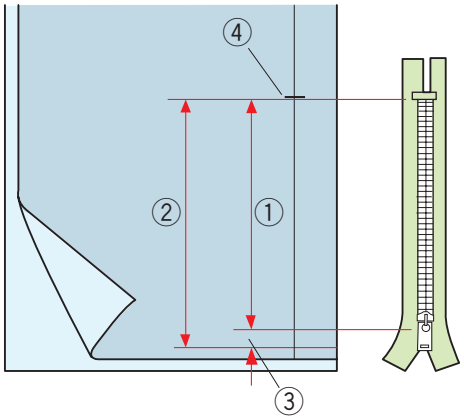
Zipper Sewing

① Lapped zipper
Lapped zipper application with the zipper foot E

② Concealed zipper
Concealed zipper application with the optional concealed zipper foot Z

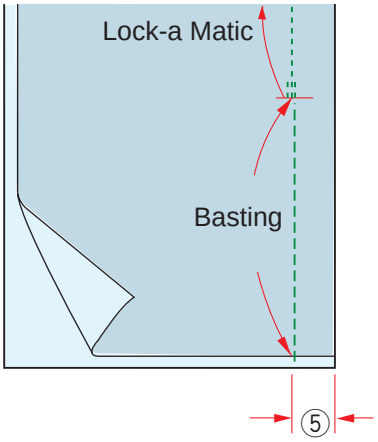


Lapped zipper sewing
Press the lapped zipper icon and the zipper sewing window will open.
Press the sewing step icon and the machine setting will automatically adjust to suit each sewing step.



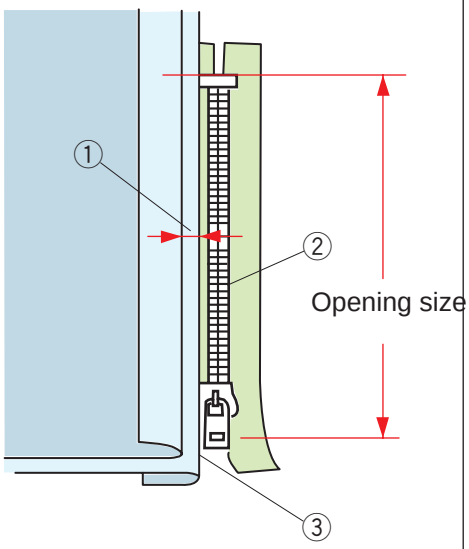
Fabric preparation
Add 1 cm (3/8″) to the zipper size. This is the overall opening size.
Mark the end of opening.
① Zipper size
② Opening size
③ 1 cm (3/8″)
④ End of opening

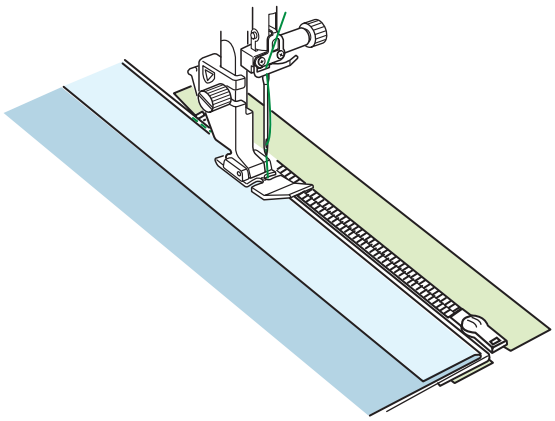
Attach the zigzag foot A.

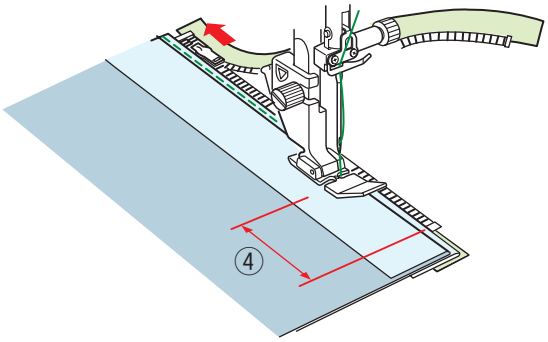


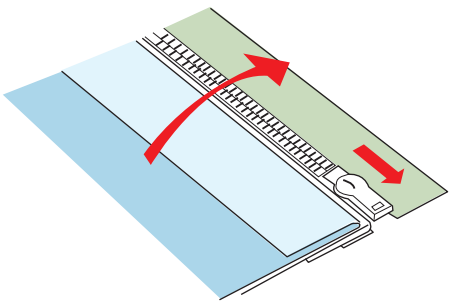
Lock-a-Matic
Place the right sides of the fabric together and sew to the end of the opening leaving a 2 cm (3/4″) allowance.
⑤ 2 cm (3/4″)

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.

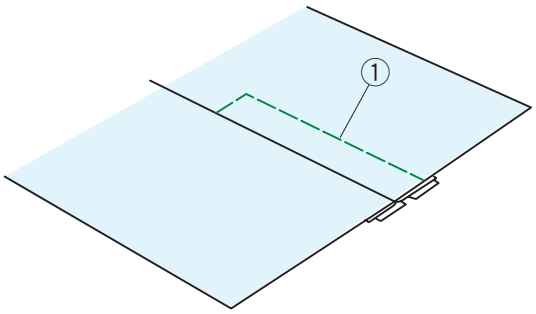
Sew through all layers next to the fold.

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

④ 5 cm (2″)

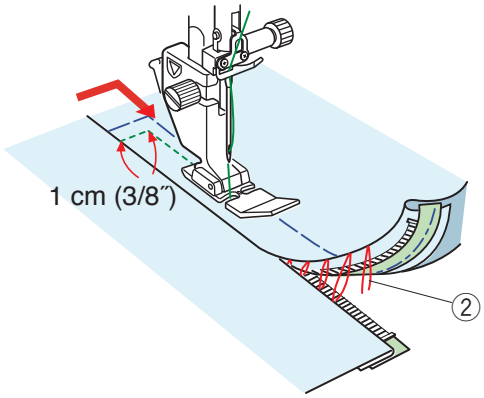
Raise the foot and open the zipper. Lower the foot and stitch the remainder of the seam.

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



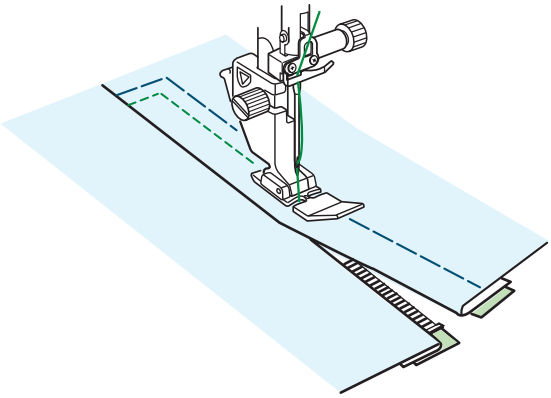
Basting

Replace the foot with the zigzag foot A.
Baste the opened fabric and zipper tape together.
① Basting



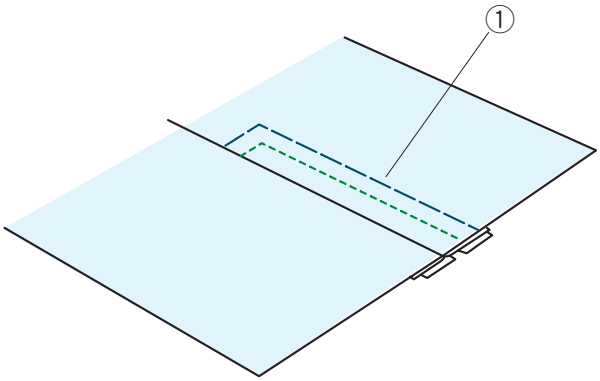
Sew right side

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

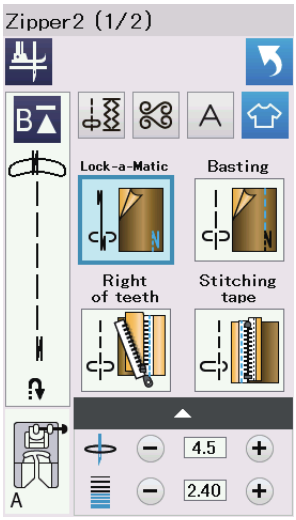


Open the zipper and move the slider to the rear of the foot.

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



Remove the basting stitches.

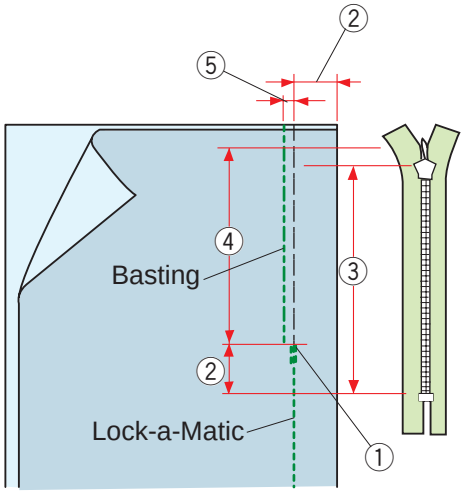


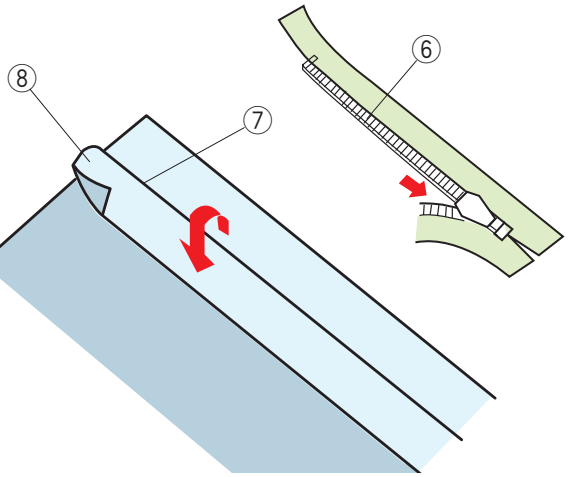
Concealed Zipper Sewing (optional)

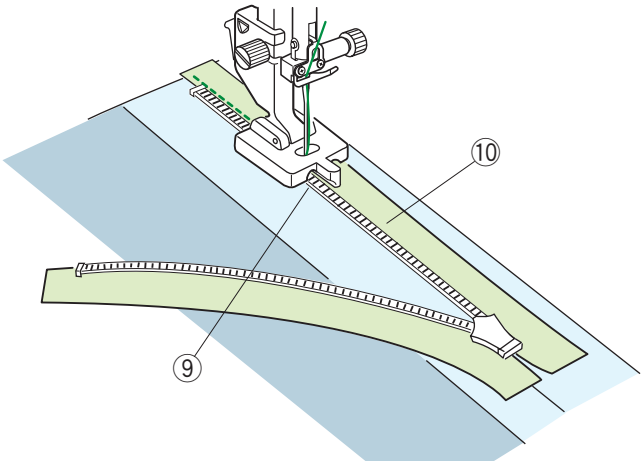
Press the concealed zipper icon and the window will show the step-by-step icon keys.

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

Press the sewing step icon and machine settings will automatically adjust to suit 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″)
③ Zipper size
④ Opening size

Basting

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

⑤ 0.3 cm (1/8″)

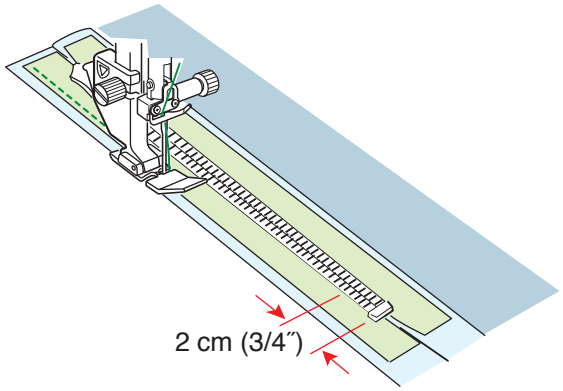
Fold up the left seam allowance to the bodice. Open the zipper and put it on the right seam allowance with the back side up. Place the right zipper teeth next to the fold and pin it in place.

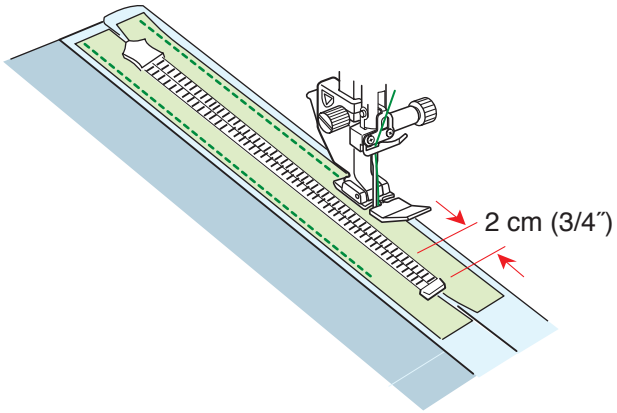
⑥ Zipper teeth
⑦ Fold
⑧ Left seam allowance

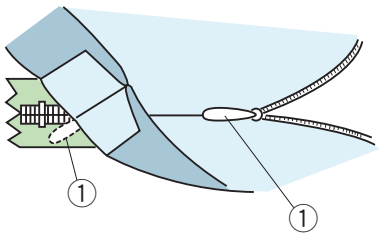
Right of teeth

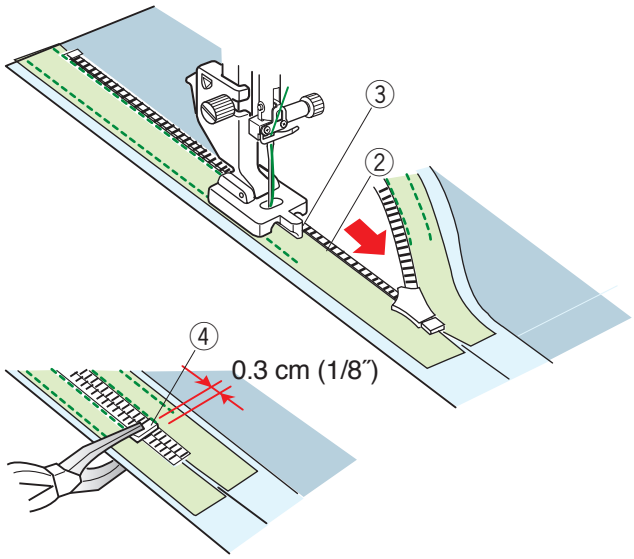
Attach the concealed zipper foot Z.
Raise the zipper teeth on the right and lower the foot so the left groove of the foot catches the zipper teeth.
Stitch through the zipper tape and fabric up to the end of the opening.
Reverse the stitches to secure the seam.

⑨ Left groove
⑩ 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.

Stitching tape

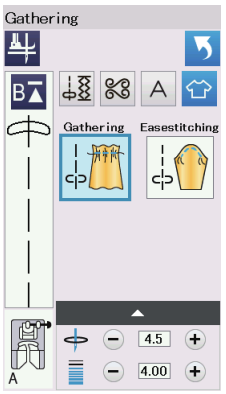
Turn and fold the bodice to the left.
Seam along the edge of the right zipper tape and reverse the stitches 2 cm (3/4″) before the zipper bottom.

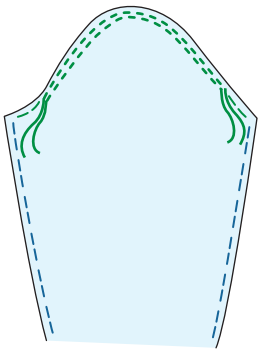
Left of teeth

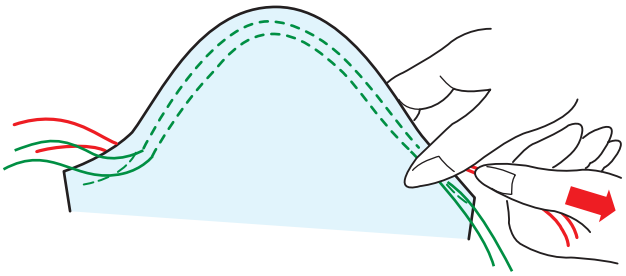
Raise the foot and replace it with the concealed zipper foot Z.
Remove the basting stitches.
Open zipper and insert the pull tab between fabric and zipper tape to allow the slider to reach the stopper.
① Pull tab

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







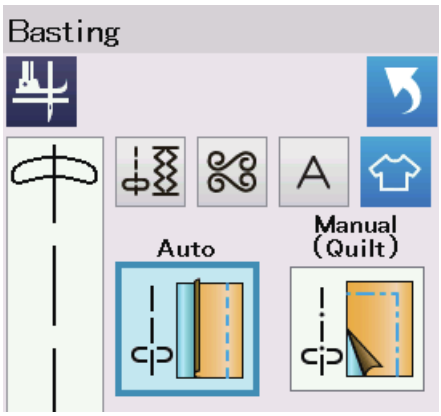
Gathering

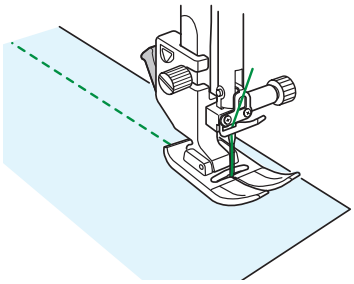
In addition to the regular gathering stitch, this section offers you a special stitch for easing sleeve tops.

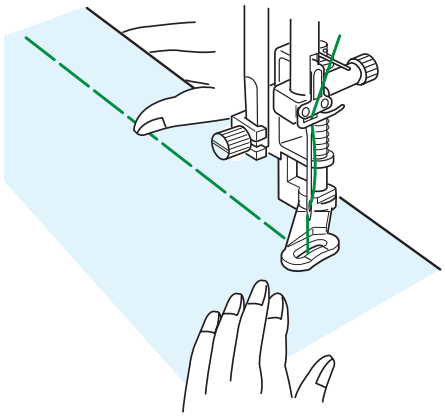
Easing a sleeve top

Pull both of the threads about 10 cm (4″).
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.
Lower the feed dog.

> **NOTE:**
> Refer to page 23 for how to attach the darning foot PD-H.

To sew

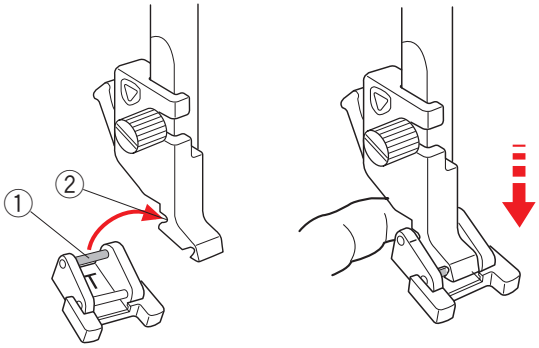
Hold the fabric taut and depress the foot control.
The machine will make one stitch and stop automatically.

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.

Lower the feed dog. Select “Shank”.



Attaching the button sewing foot T

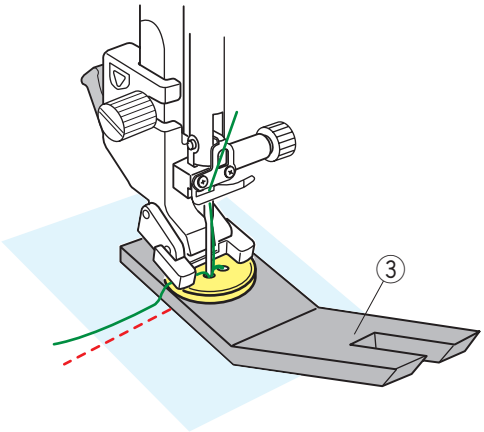
Make sure to press the lockout key to lock the machine.
Raise the presser foot with the presser foot lifter.
Insert the rear pin of the foot into the rear groove of the foot holder.

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

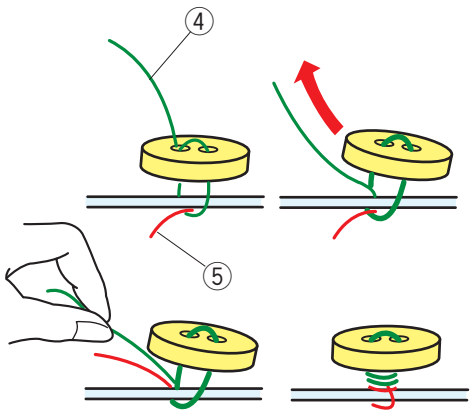


Raise the needle by turning the handwheel until the needle bar swings to the right.
Press the “+” or “–” key so the needle enters into the right hole of the button. The maximum stitch width is 7 mm (1/4″).

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 thread at the beginning close to the fabric.

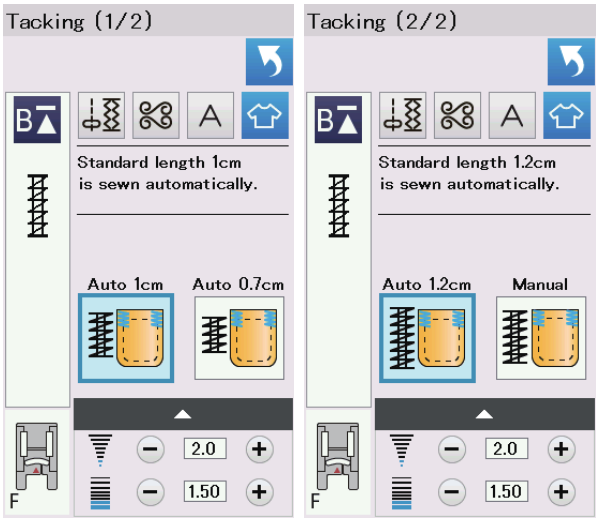


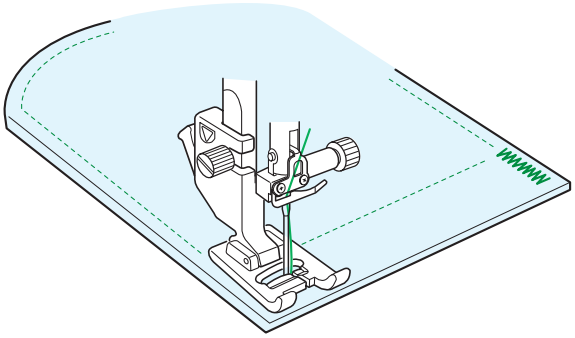
Pass the needle thread at the end of stitching through the left hole in the button, between the button and fabric.
Pull the needle thread to bring the bobbin thread up to the right side of the fabric.

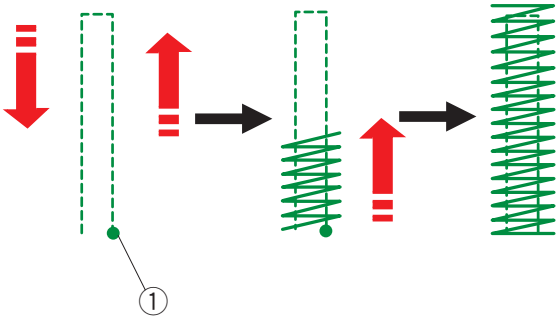
④ Needle thread at the end
⑤ Bobbin thread

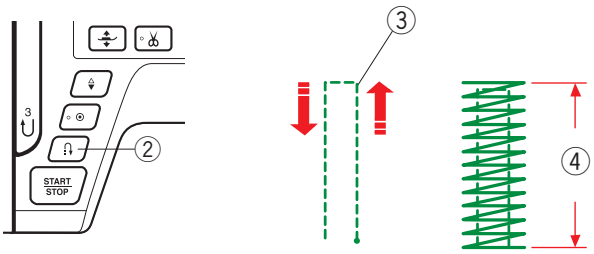
Wind the threads to form a shank and knot them together.

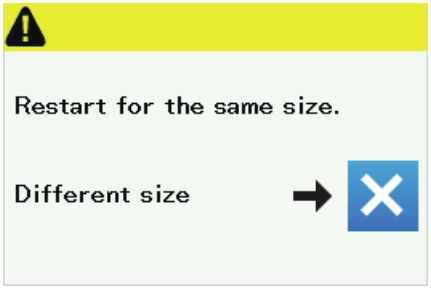
NOTE:
The button shank plate cannot be used if the button is too thick.











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 ③, then press the reverse button ②. This sets the tack length ④. Continue sewing until the machine stops automatically.

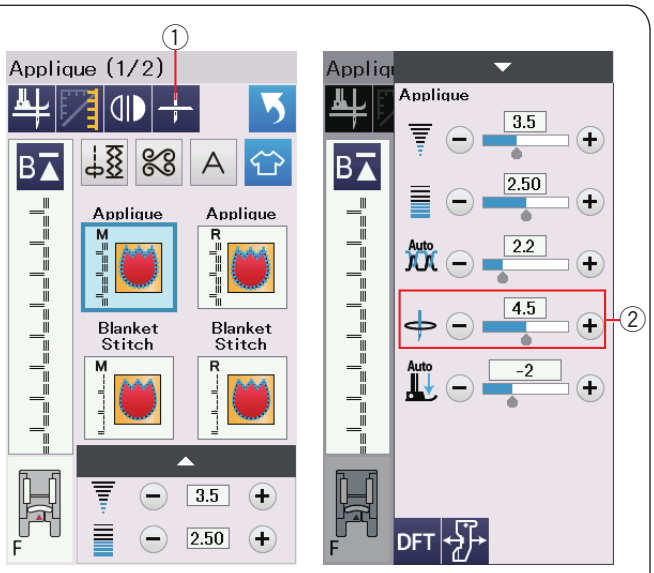
③ Required length

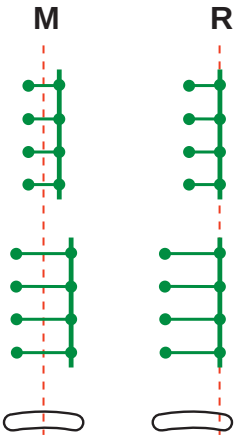
NOTE:
The maximum length of tacking is 1.5 cm (5/8″).

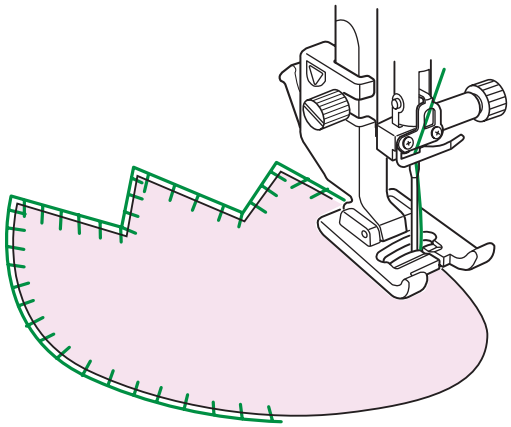
To sew the same size tack

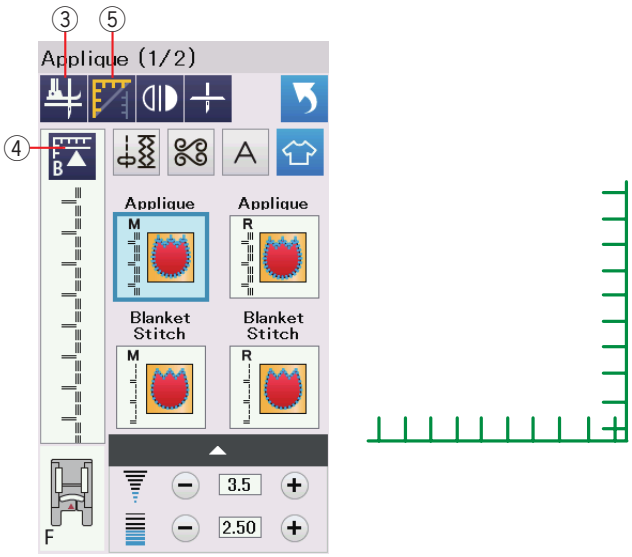
To sew another tack in the same size, simply start the machine and sew until the machine stops automatically.

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

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 row ②.

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

③ Foot-up key

> **NOTE:**
> Make sure to stop the machine with the needle dropped 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.

④ 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.

⑤ Cornering key

Normal startover:

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

Cornering startover:

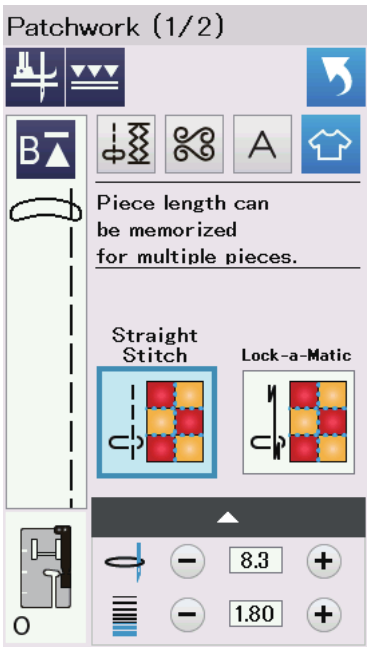
Start sewing from the beginning of the pattern without a locking stitch.

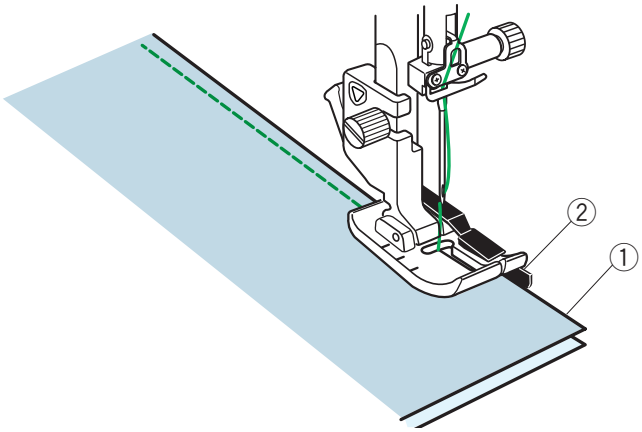
Patchwork

Patchwork piecing

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

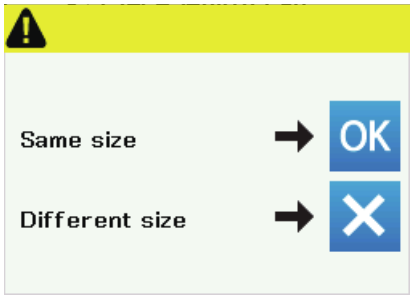
The default stitch length is set at 1.8 mm, ideal for patchwork piecing, but you can fine tune the stitch length by pressing the “+” or “–” key.



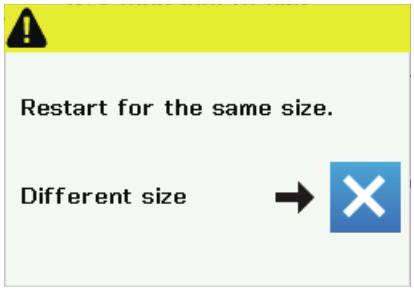


Attach 1/4″ seam foot O, which helps you to keep a constant 1/4″ (6 mm) seam allowance.
Put 2 pieces of fabric with right sides together.
Place the patchwork pieces under the foot so that the edge of the fabric matches the guide on the presser foot.

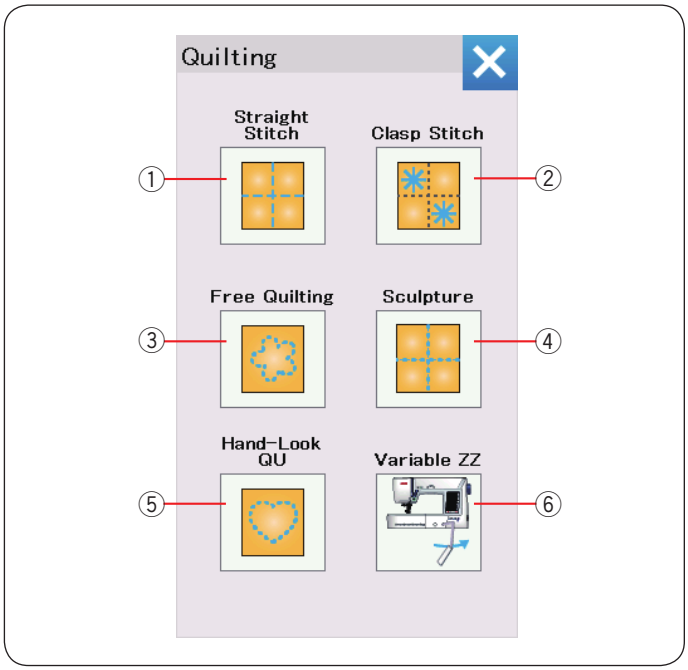
① Edges of fabric
② Guide on the 1/4″ seam foot O



When you stop the machine, a message will appear.
Press the 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.



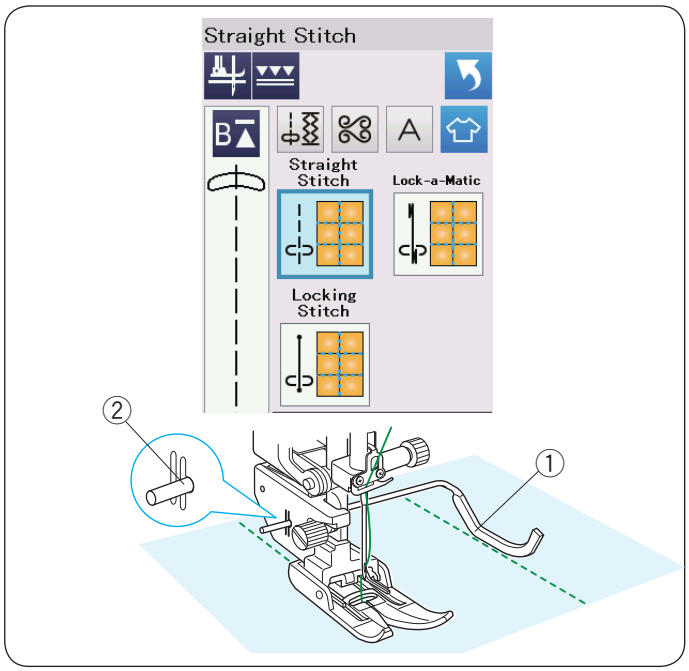
After sewing the memorized length, a message will appear.
To sew the same length, start the machine and it will stop automatically after sewing the memorized length.



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 (with dual feed)

Straight stitches in this section are suitable for seaming quilt layers using the dual feed foot (refer to page 22 for how to attach it). Please refer to page 61 if you wish to use zigzag foot A.

Quilting guide bar for dual feed foot

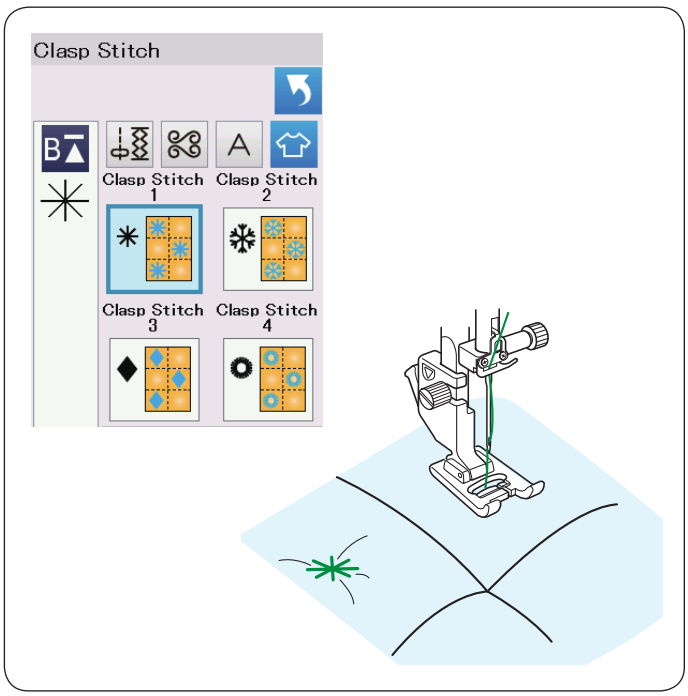
The quilting guide bar is helpful when sewing parallel, evenly spaced rows of stitching.

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.

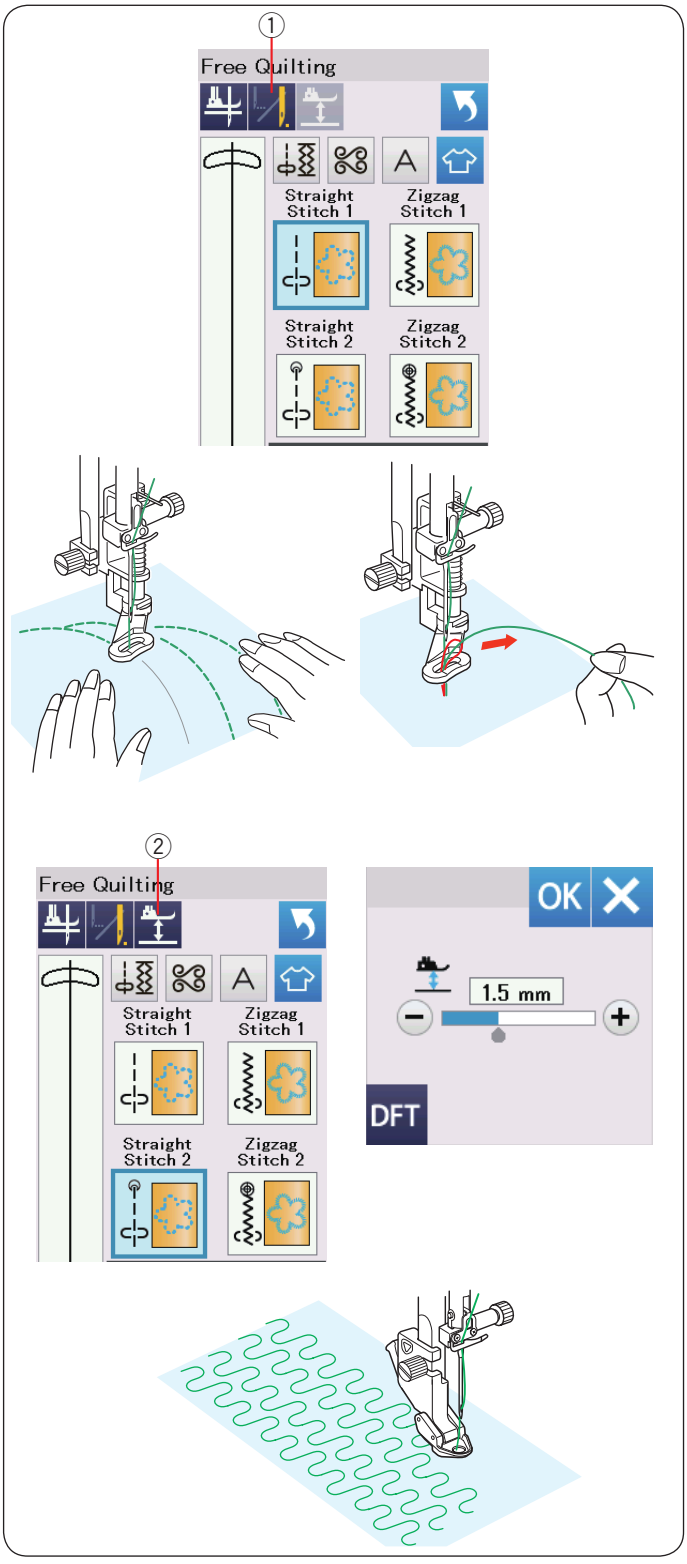


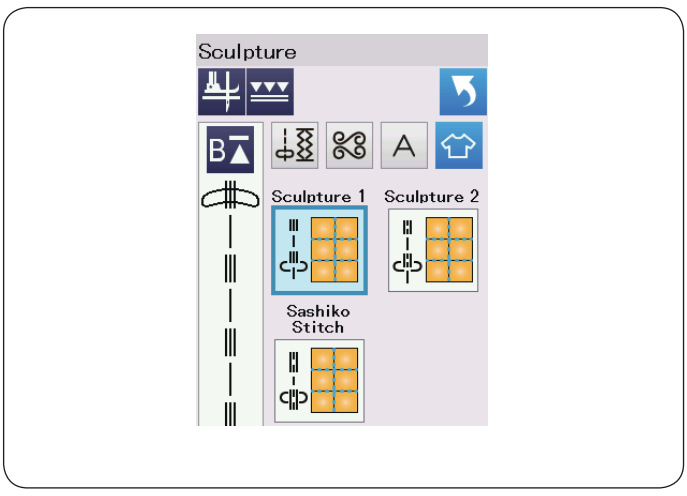
Clasp Stitches

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 “Straight Stitch 1” or “Zigzag Stitch 1”, and use the darning foot PD-H (refer to page 23 for how to attach the darning foot).
Select the “Straight Stitch 2” or “Zigzag Stitch 2” 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 prevent 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 87 (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.

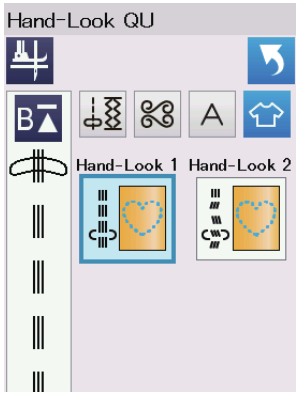
However, you can fine tune the foot height according to the quilt thickness.
Place the fabric under the foot and lower the foot.
Press the foot height key and the adjusting window opens. Adjust the foot height by pressing the “+” key or “–” key and press the OK key to register the setting.
② Foot height key

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

NOTE:
- Purple tip needle is recommended for free motion quilting to prevent skipped stitch.
- Do not move the quilt layers toward you when the open-toe foot is attached.

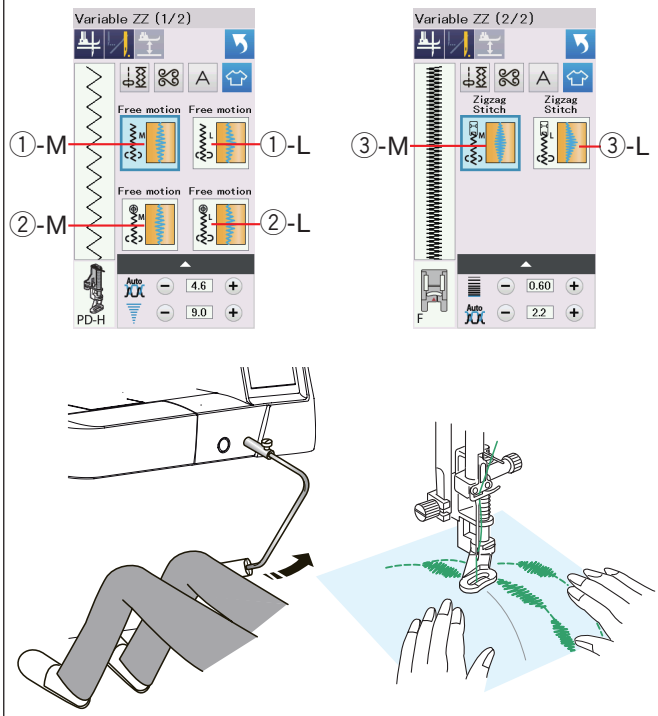
Sculpture Stitches

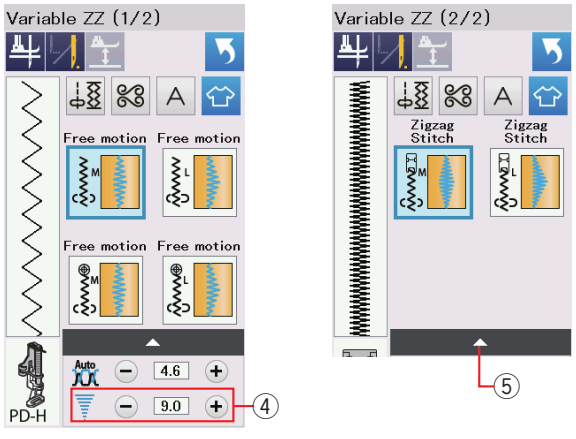
These stitches are used to accentuate design outlines and to create a mock hand-quilt.

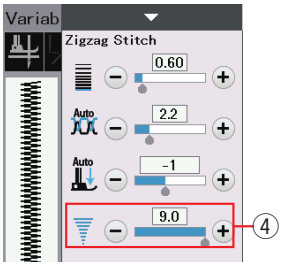


Hand-look Quilt Stitches

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.

Select ①-M or ①-L, using the darning foot PD-H for sewing quilt layers. Drop the feed dog. Guide the fabric with your hands while sewing.

Select ②-M or ②-L, using the clear view free quilt foot QV for sewing flat and firm fabrics. Drop the feed dog. Guide the fabric with your hands while sewing.

Select ③-M or ③-L, using the satin stitch foot for sewing variable zigzag stitches.
The fabric is fed by the feed dog and the stitch width can be varied with the knee lifter.

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.
Purple tip needle is recommended for free motion quilting to prevent skipped stitch.

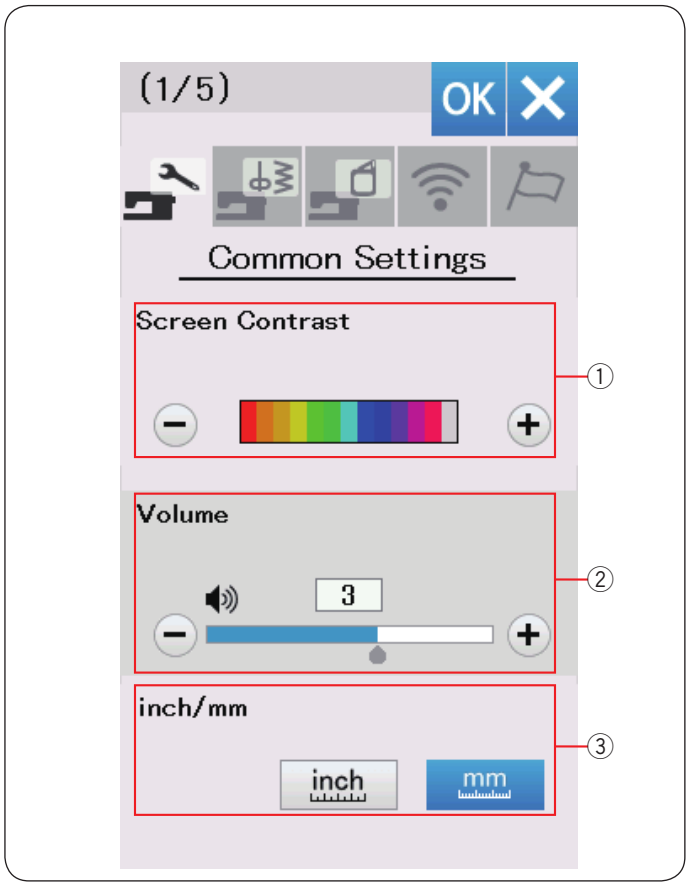
Maximum Zigzag Width Adjustment

The maximum zigzag width can be limited to suit your sewing needs.

Press the “+” or “–” key beside the maximum zigzag width setting ④ to limit the maximum zigzag width to your preference.

For the variable zigzag stitches with the satin stitch foot, press the setting bar ⑤ to open the maximum zigzag width setting.

④ Maximum zigzag width setting
⑤ Setting bar



CUSTOMIZING MACHINE SETTINGS

Machine Setting Mode

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.

① Set mode key

Press one of the 5 keys to select the mode to customize.

② Common Setting Mode
In this mode, you can customize the machine settings and options for both ordinary sewing and embroidery.

③ Ordinary Sewing Setting Mode
In this mode, you can customize the machine settings and options for ordinary sewing (refer to pages 98-101 for the operation).

④ Embroidery Setting Mode
In this mode, you can customize the machine settings and options for embroidery (refer to pages 152-156 for the operation).

⑤ Wi-Fi Setting Mode
In this mode, you can set up the Wi-Fi connection (refer to pages 102-104).

⑥ 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.

⑦ Next page key
⑧ 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.

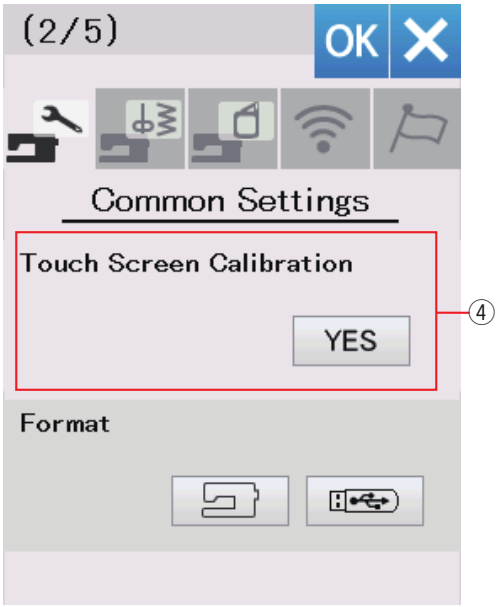
Common Setting Mode

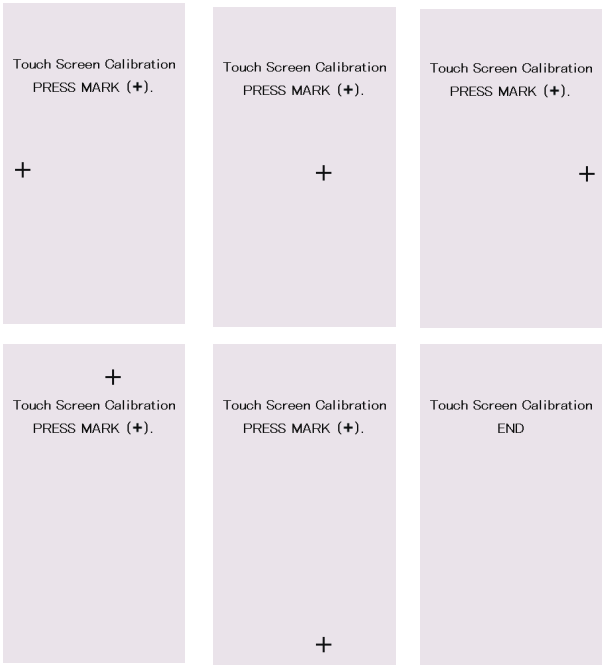
① Screen Contrast
You can adjust the contrast of the visual touch screen by pressing the “+” or “–” key.

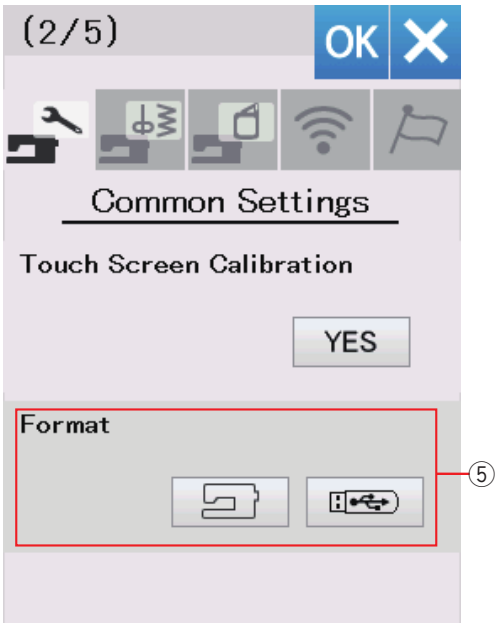
② Sound Volume
The signal sound can be adjusted by pressing the “+” or “–” key.
Set the value to “OFF” by pressing the “–” key several times to mute the signal sounds.

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 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.

⑤ Formatting the memory

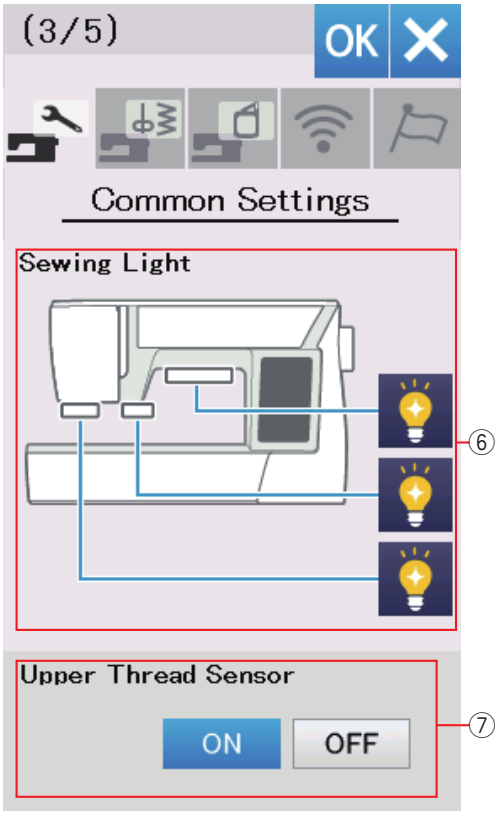
If the internal memory of the machine or USB flash drive does not function due to damage to the memory bank, you need to re-enable it by formatting the memory.

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 flash drive, press the USB icon and the confirmation window will open. 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.

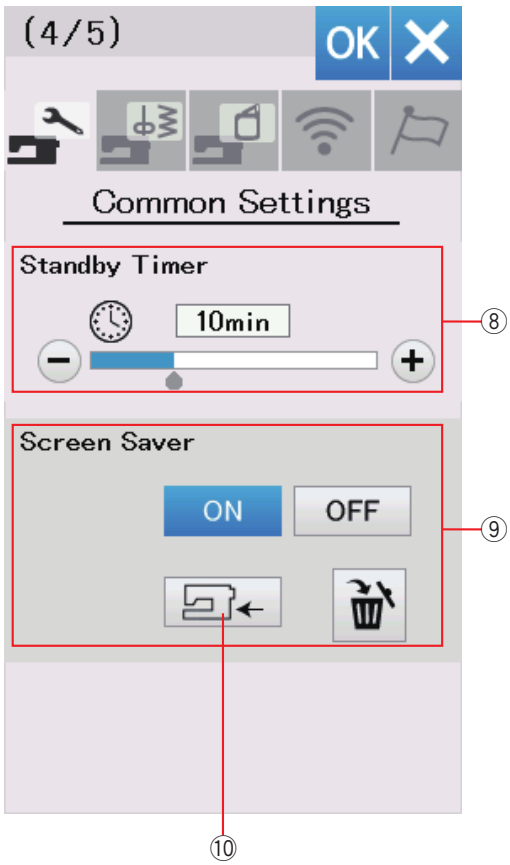
Press the next page key to show the next menu.



⑥ **Sewing Light**
The sewing lights can be turned on or off individually. Press the corresponding light keys to turn on or off the sewing lights.

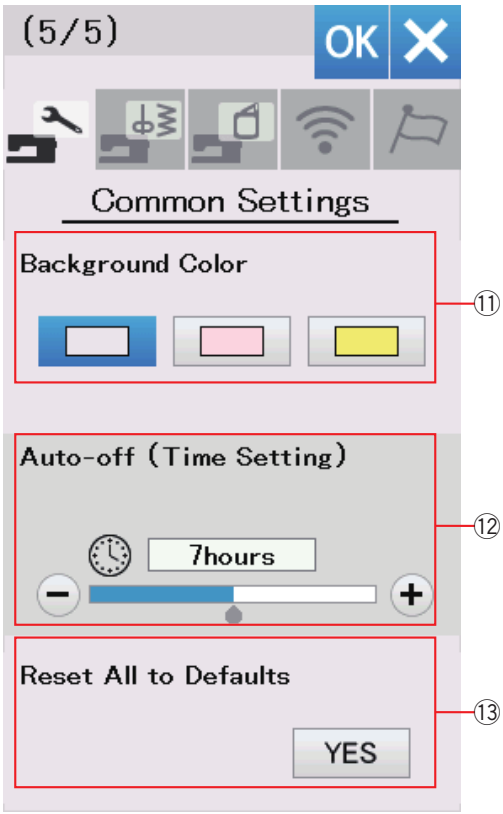
⑦ **Upper Thread Sensor**
If you need to run the machine without threads, turn off the upper thread sensor.

Press the next page key to show the next menu.



⑧ **Standby Timer**
The sewing lights will turn off and the machine will enter standby mode if you do not use 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.

⑨ **Screen Saver**
Press the ON/OFF key to turn on the screen saver, and the visual touch screen will show the screen saver when the machine is in standby status.
Press the import key to import a screen saver from a USB flash drive.
You can create an original screen saver with Screen Saver Tool included in the Acutools S CD-ROM.
The imported screen saver data will be deleted if the delete key is pressed, or the internal memory is formatted (refer to page 95).
⑩ Import key
Press the next page key to show the next menu.



⑪ **Background Color**

You can select from the colorful wallpapers for the background of the visual touch screen by pressing the relevant icon.

⑫ **Auto-off Timer**

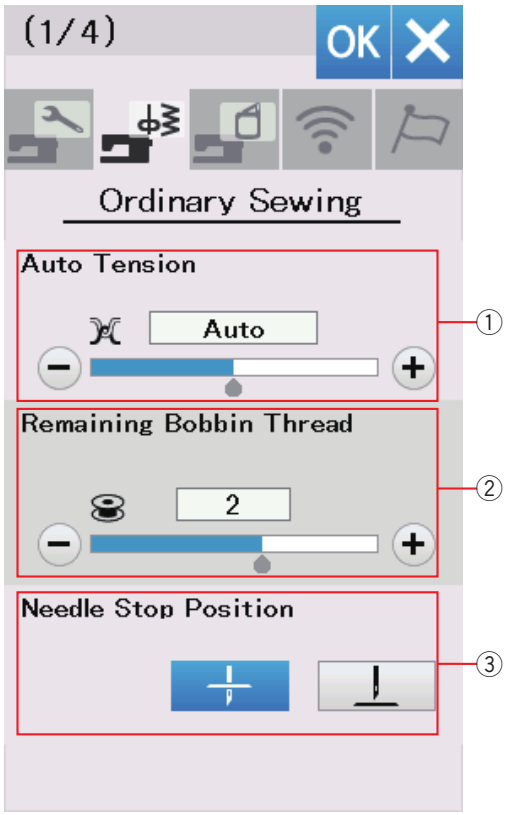
The machine will be automatically turned off if you do not use the machine within the time period set by this timer. The auto-off timer can be set from 1 to 12 hours.
If you wish to turn off the timer, press and hold the “+” key until “OFF” shows in the timer window.
To turn on the machine again, turn the power switch on.

NOTE:
The auto-off timer is available in EU countries and some regions which use 200 - 240 voltage standards.

⑬ **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 settings.



Ordinary Sewing Setting Mode

① **Auto thread tension**
You can adjust the auto thread tension level by pressing the “+” or “–” key.

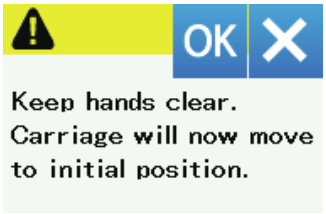
② **Low bobbin thread warning**
You can adjust the low bobbin thread warning level by pressing the “+” or “–” key.
To turn off the low bobbin thread warning, press the “–” key until “OFF” shows in the window.

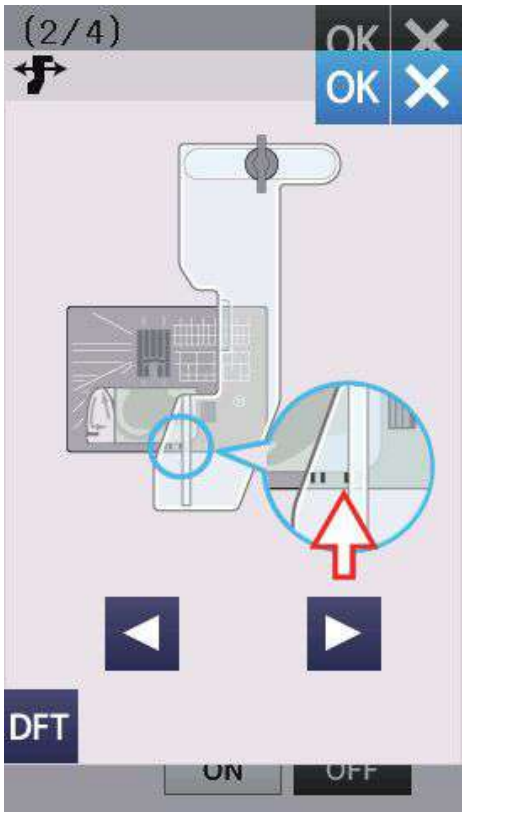
③ **Needle stop position**
The machine always stops with the needle in the down position except when sewing buttonholes, specialty stitches, monograms, etc. However you can change the needle stop position to up by pressing the needle up key.

NOTE:
The machine stops with the needle in the down position if Foot-up key option is turned on, even if the needle stop position is set to up position.

Press the next page key to show the next menu.

④ **Adjustable Start-Up Speed**
The machine will start running slowly and the sewing speed will gradually increase to maximum. You can select the desired start-up speed from slow, medium or high by pressing the corresponding key, and set the speed for the start/stop button or foot control individually.





⑤ **Cloth Guide**

Calibration of the default position

> **NOTE:**
> The embroidery unit must be attached with the carriage arm retracted when calibrating.

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.

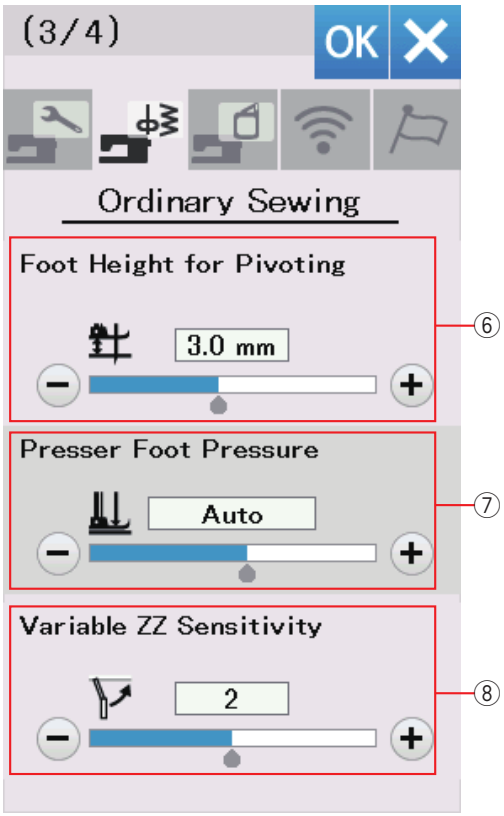
Press the Yes key and a warning message will appear. Press the OK key and the carriage will move to the standard position.

Press the ◀ key or ▶ key to adjust the position of the cloth guide.
Press the OK key. The message is displayed and the carriage will return to the home position.

Saving favorite positions

If you have set the cloth guide to your favorite position (refer to page 39), you can save this position for future use.
To save favorite positions, press the ON/OFF key to turn ON the save position option.

Press the next page key to show the next menu.



⑥ 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.

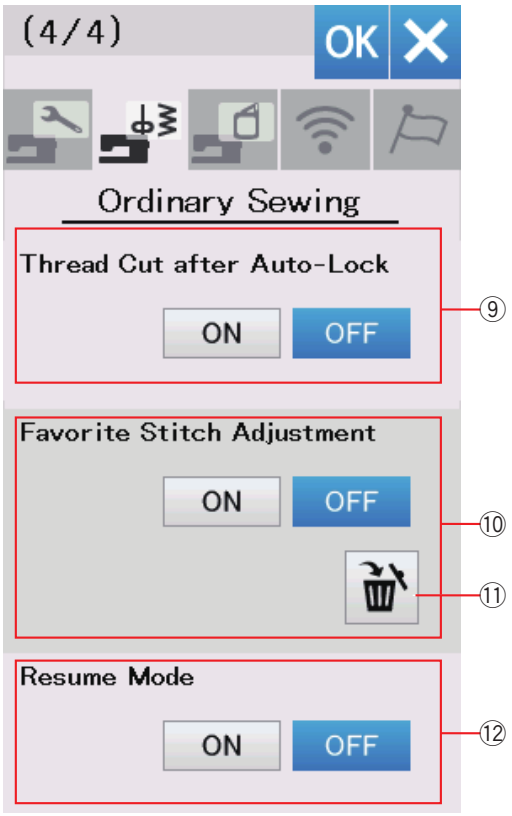
⑦ Foot pressure

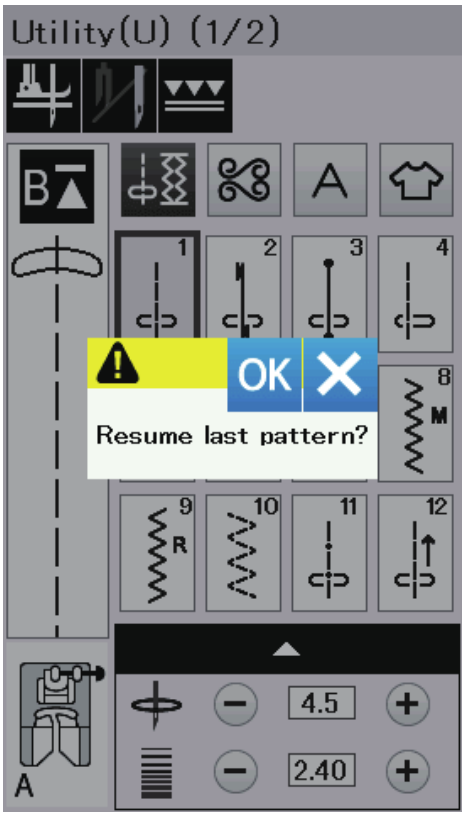
The foot pressure is automatically optimized but you can adjust the foot pressure manually by pressing the “+” key or “–” key.

⑧ Variable zigzag sensitivity

You can adjust the amount of needle swing against the knee lifter movement for variable zigzag in sewing applications.
Press the “–” key so the needle swings a small amount when moving the knee lifter.
Press the “+” key so the needle swings a large amount when moving the knee lifter.

Press the next page key to show the next menu.





⑨ Thread Cut after Auto-Lock

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

⑩ Favorite Stitch Adjustment

If you wish to save the changes to manual stitch settings, turn on this option by pressing the ON key.
If this option is turned off, the saved manual stitch settings will not be applied.
Press the delete icon ⑪ to clear the manual stitch setting.

NOTE:
This option is available for all stitches in ordinary sewing mode except monogram.

⑫ Resume Mode

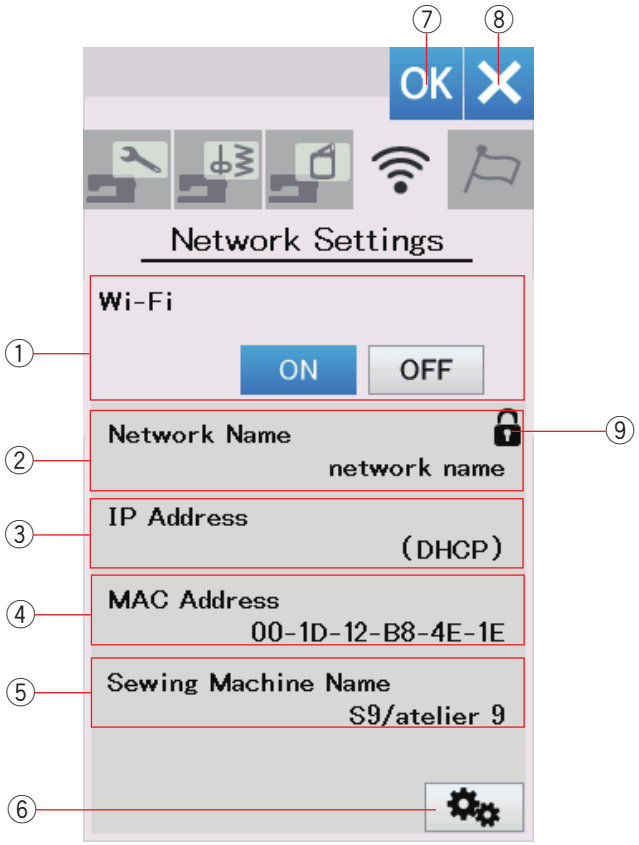
Turn on this option when you wish to resume the last pattern sewn before turning the power switch off.

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

NOTE:
Resume data will be cleared under the following conditions:

- Created stitch is imported with the import key.
- Created stitch is deleted with the delete key.
- Created stitch is deleted, imported or renamed with Stitch Composer.
- The internal memory is formatted.

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



Wi-Fi® Setting Mode

Connecting Wi-Fi Network

A wireless router device that complies with the IEEE802.11b/g/n wireless standard is required for connecting your machine with a Wi-Fi network.

Starting Wi-Fi connection

To start the Wi-Fi settings, press “ON” ①. The network setting button ⑥ is enabled.
Press the network setting button ⑥ to enter the network settings.
Choose one of the 4 methods to connect with the Wi-Fi connection (see pages 103-104).

① Wi-Fi connection

The default setting of the Wi-Fi connection is “OFF”.

Press “ON” to enable the Wi-Fi connection.
The Wi-Fi connection and the network setting button ⑥ are enabled.

Press “OFF” to disconnect the Wi-Fi connection.

② Network Name

The name of the wireless network (SSID) connected with your sewing machine is displayed.
The lock icon ⑨ appears if the connected access point is secured with an encryption key.

③ IP Address

The IP address of your machine is displayed.
“(DHCP)” is displayed in front of the IP address when the DHCP option is turned on.
The IP address can be changed in the network settings.

④ MAC Address

The MAC address of the sewing machine is displayed.

⑤ Sewing Machine Name

The sewing machine name for network identification is displayed.
The sewing machine name can be changed in the network settings.

⑥ Network setting button

Press this button to open the Network Settings window.

⑦ OK key

Press this key to confirm the Wi-Fi connection setting.

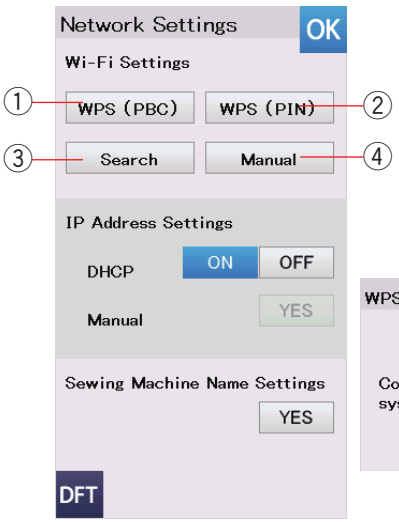
⑧ Cancel key

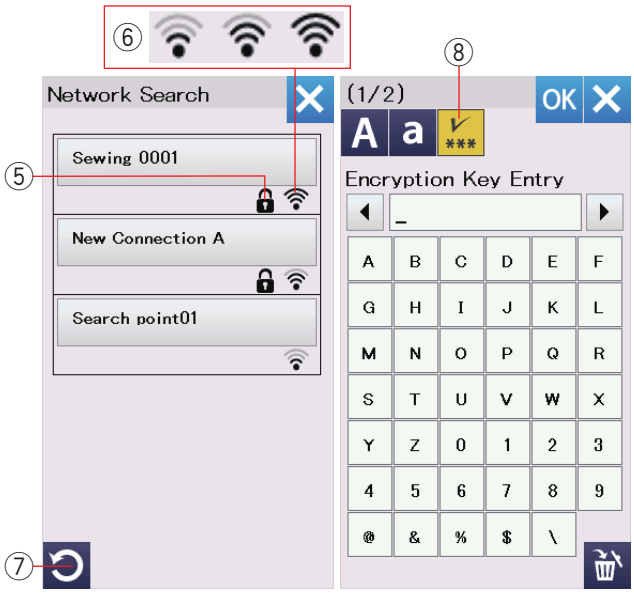
Press this key to cancel the Wi-Fi connection setting.

NOTE:
If you select WEP for the security setting of your wireless LAN router, check the followings:
- Select “ASCII” for the encryption type.
- Select the initial number for the key index number (The initial number can be “0” or “1”, depending on the wireless LAN router.).

For setting up, refer to your wireless router’s instructions.

NOTE:
The use of home appliances such as a microwave oven, bluetooth devices or cordless phones can reduce the range of the Wi-Fi connection (if your wireless router's network standard is using IEEE802.11b or IEEE802.11g).
You may need to reduce the distance between your machine and the wireless LAN access point, or install the wireless LAN access point at an appropriate location.





Network Settings

NOTE:
Please refer to your wireless router's instructions when the using the push-button or PIN method to connect with the Wi-Fi connection.

① Wi-Fi Protected Setup™* push-button configuration method

Press “WPS (PBC)” ①.
The WPS Push-Button Sys. dialog box appears on the screen. Press the Wi-Fi Protected Setup™ button on the wireless LAN router.
The dialog box appears and the wireless LAN router will automatically connect with your machine.

To use the Wi-Fi Protected Setup™ push-button configuration method, the wireless router must support this method. Please also refer to the wireless router’s instructions about this method.

NOTE:
The machine displays “Connection to the network failed” if it cannot receive the signal from the wireless LAN access point within 2 minutes.

② Wi-Fi Protected Setup™ PIN method

If the wireless router supports the Wi-Fi protected Setup™ PIN method, you can connect the machine using the method.
Press “WPS (PIN)” ②. The WPS PIN Code System dialog box appears.
Register the PIN code to the router before the PIN Code System dialog box is closed to establish the network.
To enter the PIN code to your wireless router, please refer to the instructions of your wireless router’s Wi-Fi Protected Setup™ PIN method setup.

NOTE:
The machine displays “Connection to the network failed” if the Wi-Fi connection is not established within 2 minutes.

③ Search for access point

Press “Search” ③.
The machine will search for any wireless LAN access point within the range, and the names of network will be listed.

The lock icon ⑤ appears on the right side of the list if the connection requires an encryption key to get connected.

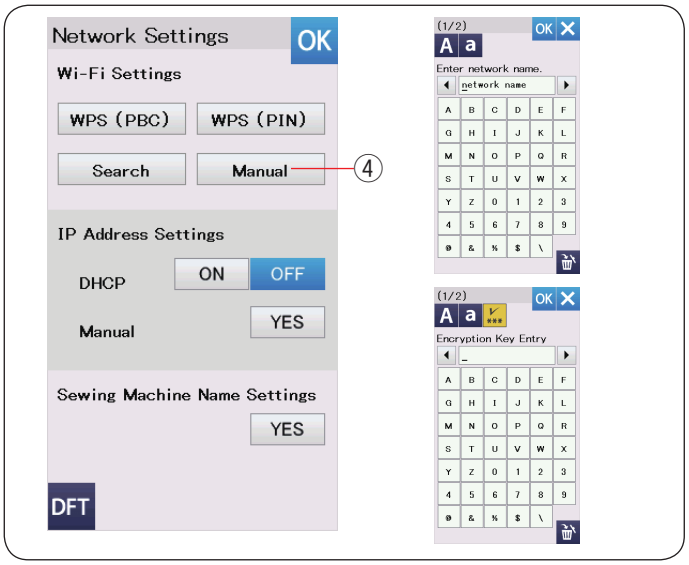
The signal strength icon ⑥ shows the strength of the connection signal. The number of waves above the dot indicates the signal strength of the wireless connection.

Press the wireless network name you would like to connect with.

NOTE:
If you cannot find the wireless LAN access point you are looking for, press the refresh key ⑦ to search for the wireless LAN access point again.

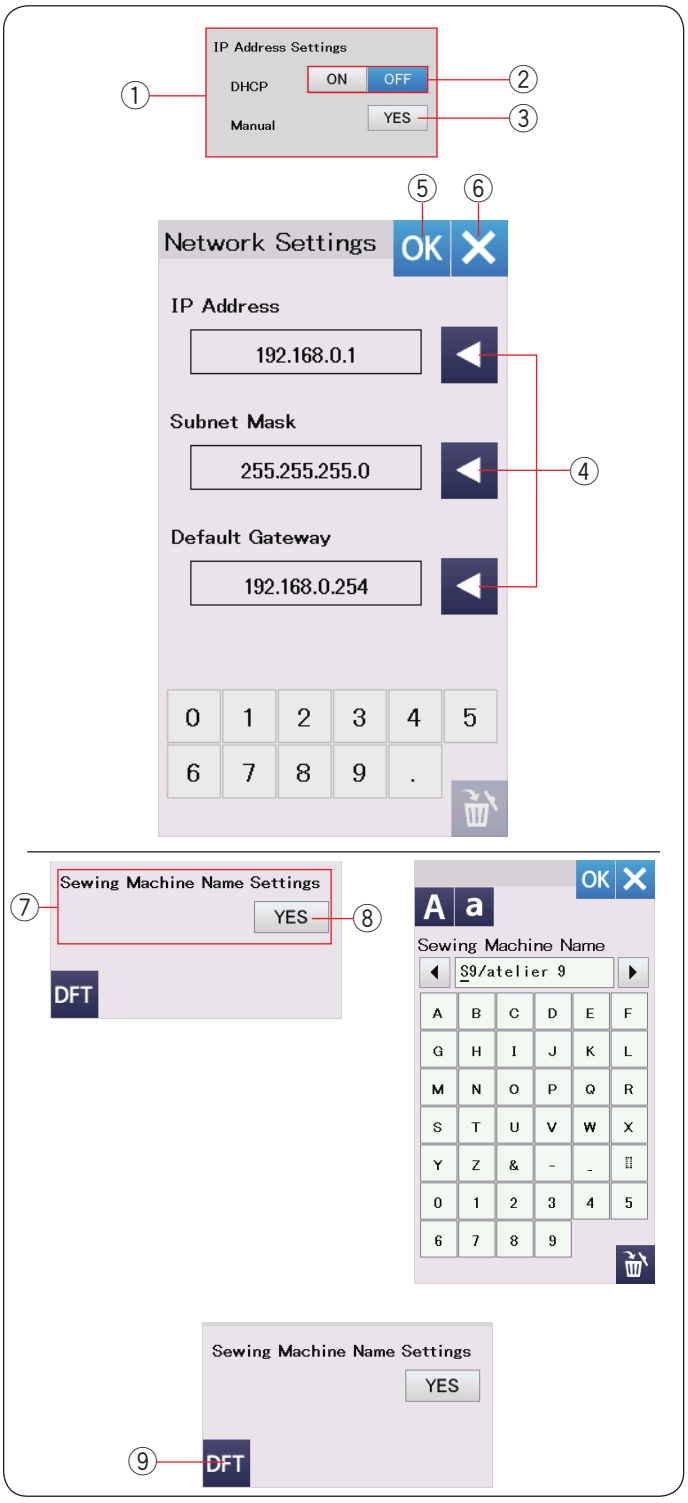
If the selected wireless network requires an encryption key for connection, the Encryption Key Entry dialog box appears. Be careful to enter uppercase or lowercase letters required.
Enter the encryption key and press the OK key to establish the network.
Press show/hide key ⑧ to show or hide the entry.

* Wi-Fi Protected Setup™ is a trademark of Wi-Fi Alliance®.



④ Manual method

Press “Manual” ④. Enter the network name you would like to connect with. Press the OK key.
If the selected wireless network requires an encryption key for connection, the Encryption Key Entry dialog box appears.
Enter the encryption key and press the OK key to establish the network.



① IP Address Settings (network settings)

Turn the DHCP option ON to use DHCP to assign an IP address.

If you want to configure the network settings manually, press the DHCP option OFF ②, and press the Yes key ③ for the Manual option.

The network settings window appears.
Press the arrow ④ of the item you would like to set, choosing from IP Address, Subnet Mask or Default Gateway.
Enter the setting by pressing the numeric keys that appear under the settings.
Press the arrow again to assign the settings.
Press the OK key ⑤ to confirm the network settings.
Press X key ⑥ to cancel the settings.

NOTE:

- You do not need to turn off the DHCP option and configure the network settings manually unless you know the appropriate IP address, Subnet Mask and Default Gateway for this machine.
- When DHCP option of your machine is turned ON, turn on the DHCP option of your wireless router as well.

⑦ Sewing Machine Name Settings

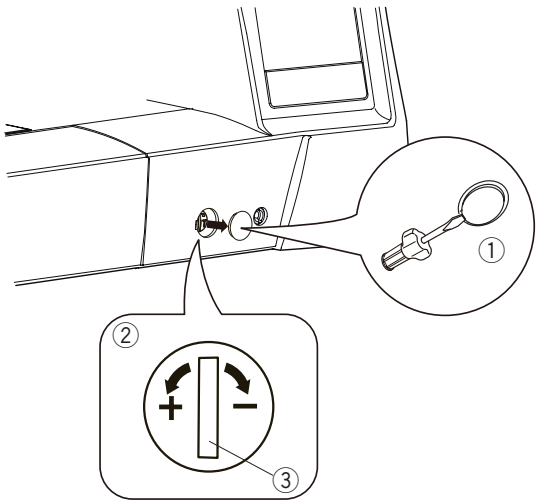
Press Yes key ⑧ to open the sewing machine name setting screen.
Enter the sewing machine name for the network identification.
Press the OK key to change the name.
Press X to cancel the settings.

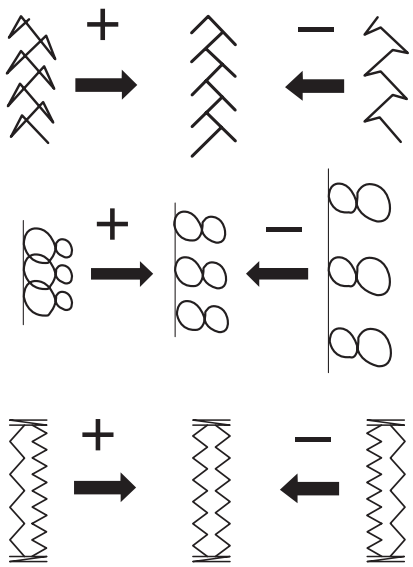
⑨ Default key

Press Default key ⑨ to reset the Wi-Fi settings (factory settings).

Language Selection Mode

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





Correcting Distorted Stitch Patterns

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

If decorative stitch patterns, monogram or the stretch buttonhole is distorted, correct it with the feed balancing dial.
Remove the cap by using the screwdriver etc. Make sure not to scratch the machine body with the screwdriver.
Set the feed balancing dial at the neutral position for normal sewing.

① Cap
② Feed balancing dial
③ Neutral position

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

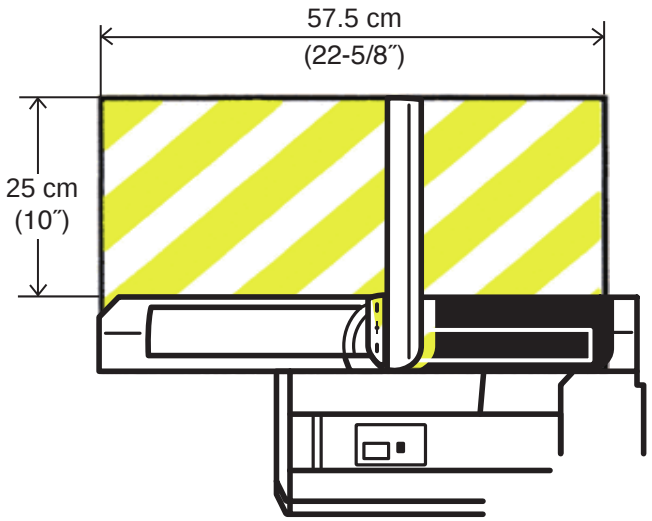
Stretch stitch pattern (Q18)
If the pattern is compressed, turn the feed balancing dial in the direction of “+”.
If the pattern is drawn out, turn the feed balancing dial in the direction of “–”.

Letters and numbers
If the pattern is compressed, turn the feed balancing dial in the direction of “+”.
If the pattern is drawn out, turn the feed balancing dial in the direction of “–”.

Stitch balance of the stretch buttonholes (B8)
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 “–”.

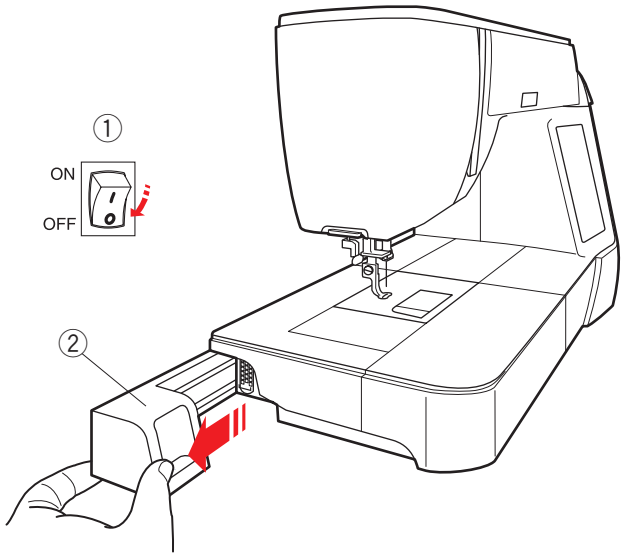
EMBROIDERY MODE

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.

1

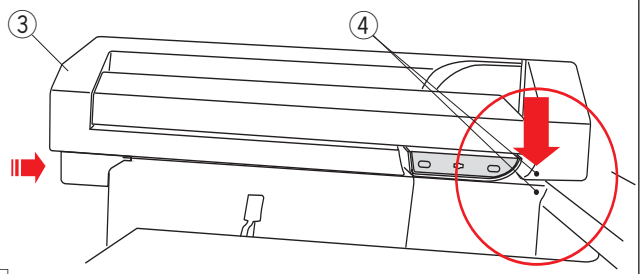


Attaching the embroidery unit

1 Turn the power switch off.
Remove the cover from the machine.
① Power switch
② Cover

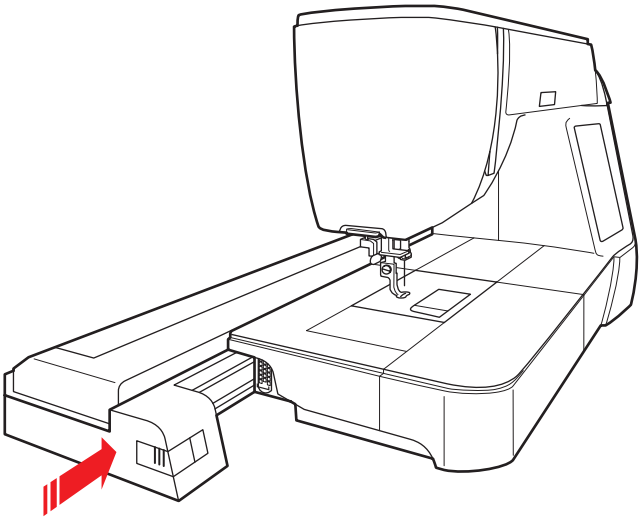
NOTE:
Always attach the extension table except when using the free-arm hoop (FA10a).

2



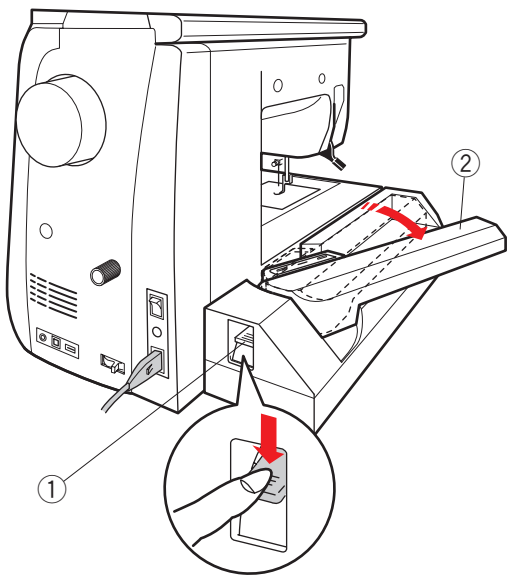
2 Place the embroidery unit on the back side of the machine base, matching the small dots as shown.
③ Embroidery unit
④ Small dots

3

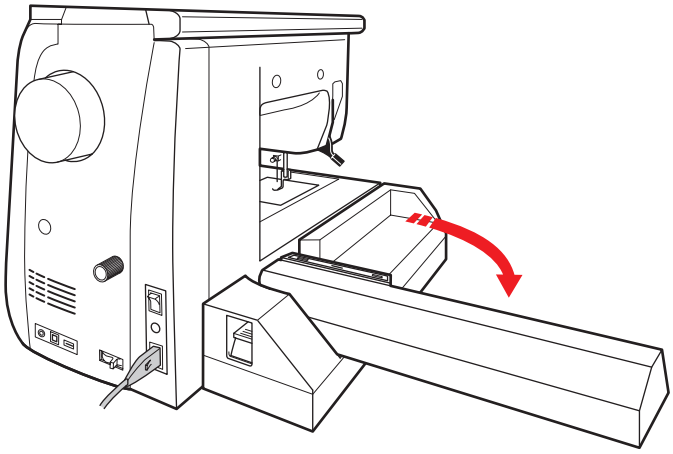


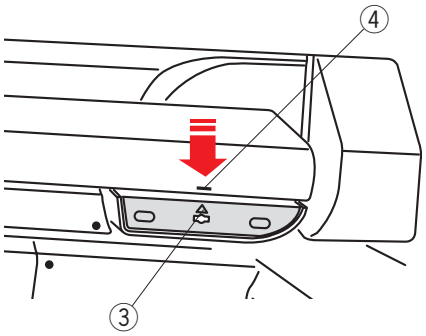
3 Slide the embroidery unit along the machine to the right and push the embroidery unit firmly until it fits securely.

1



2





Extending the carriage arm

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

① Carriage arm release lever
② Carriage arm

2 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 forcefully move the carriage or carriage arm by hand.
Do not hold the carriage or carriage arm while it is moving.
Failure to follow these instructions may result in damage to the carriage mechanism.

CAUTION:

Never move the carriage by hand regardless of whether the power is on or off, otherwise the machine may be damaged when opening the carriage arm.
Be sure that the carriage is at the home position when opening the carriage arm (a triangle mark on the carriage matches with a bar sign on the carriage arm).

③ Triangle mark
④ Bar sign

Detaching the embroidery unit

NOTE:
- Be sure to remove the embroidery unit when carrying or storing the machine.
- If the needle is in down position, make sure to raise the needle by pressing the needle up/down button.

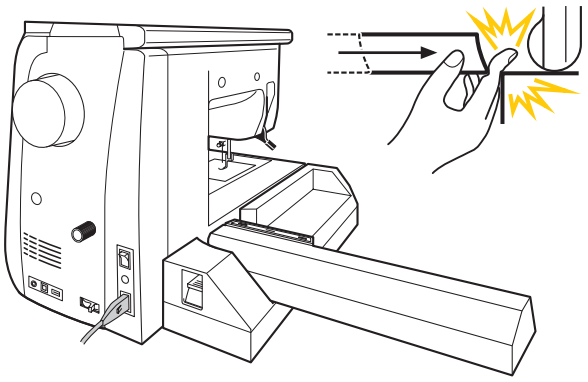
1 Remove the hoop from the carriage and return the carriage to the home position (refer to page 128).

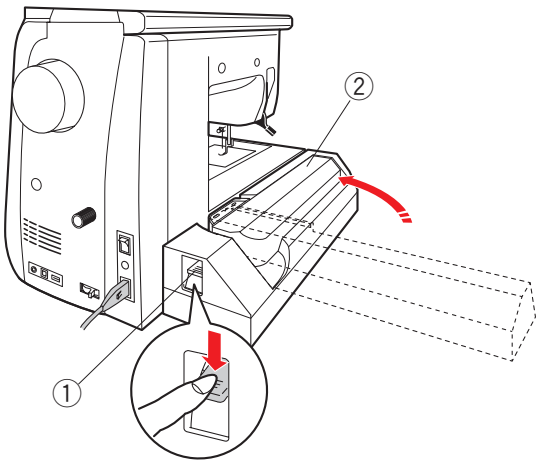
WARNING:
Be careful not to get your finger caught between the embroidery unit and machine bed with the extension table removed when the carriage returns to home position.

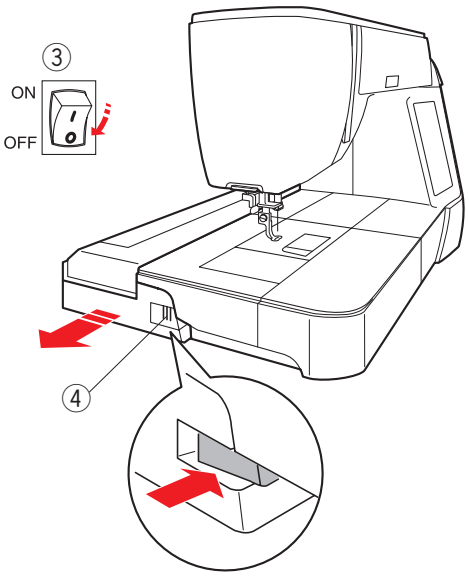
2 Push down the carriage arm release lever to retract the carriage arm.
① Carriage arm release lever
② Carriage arm

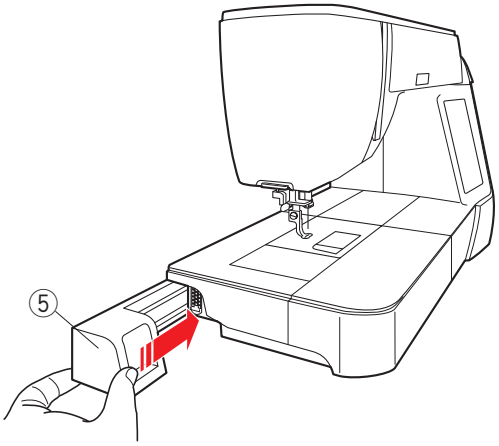
3 Turn the power switch off.
Push the embroidery unit release button.
Slide the embroidery unit to the left and remove it.
③ Power switch
④ Embroidery unit release button

4 Attach the cover to the machine.
⑤ Cover





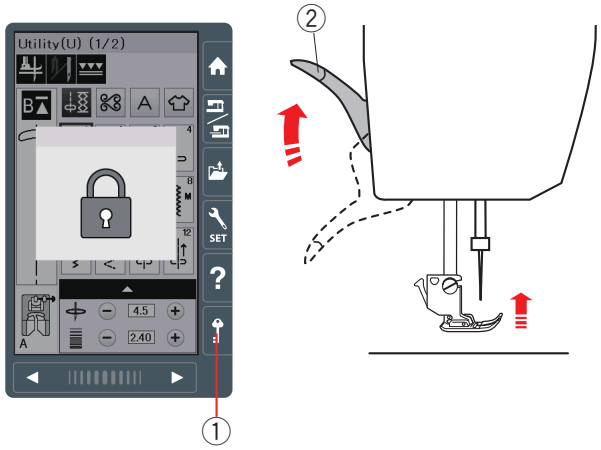




Attaching the Embroidery Foot

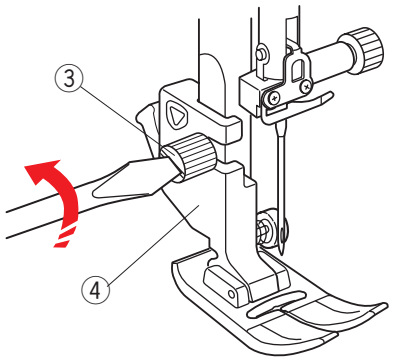
Use the embroidery foot P for embroidery.

1



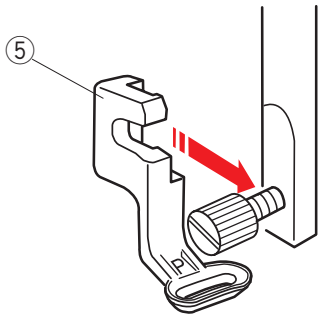
1 Turn the power switch on.
Turn the handwheel toward you to raise the needle its highest position.
Press the lockout key and raise the presser foot with the presser foot lifter.
① Lockout key
② Presser foot lifter

2



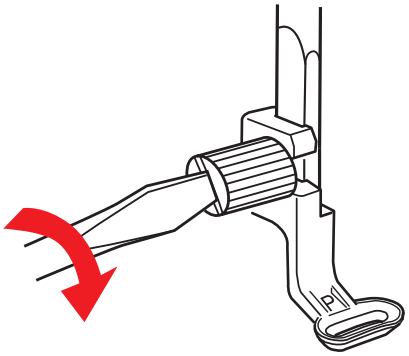
2 Loosen the thumbscrew with the screwdriver and remove the foot holder.
③ Thumbscrew
④ Foot holder

3



3 Attach the embroidery foot P to the presser bar from behind. Tighten the thumbscrew partially by hand.
⑤ Embroidery foot P

4



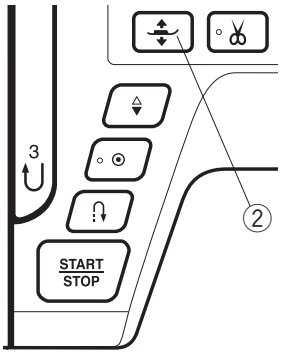
4 Lower the foot with the presser foot lifter.
Tighten the thumbscrew securely with the screwdriver.

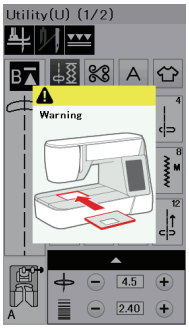
Attaching the Straight Stitch Needle Plate

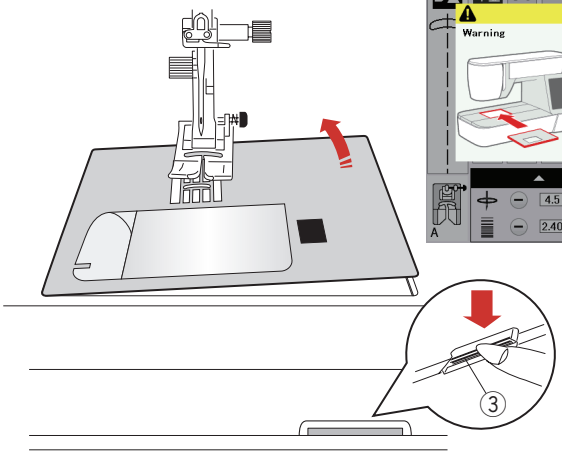
Use the straight stitch needle plate for embroidery.

CAUTION:
Always make sure to press the lockout key to lockout the machine before replacing the needle plate.

1







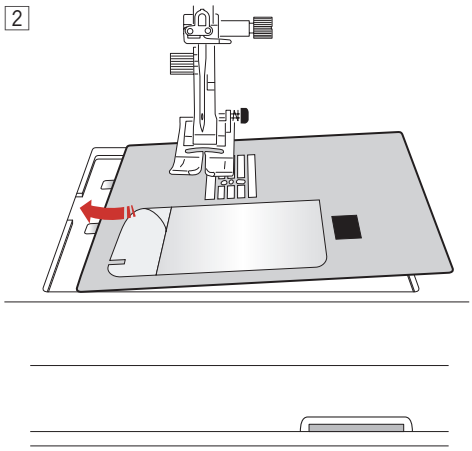
1 Raise the needle and press the lockout key.
Press the presser foot lifter button to raise the presser foot.

Slide the extension table to the left to remove it.
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 to the right.

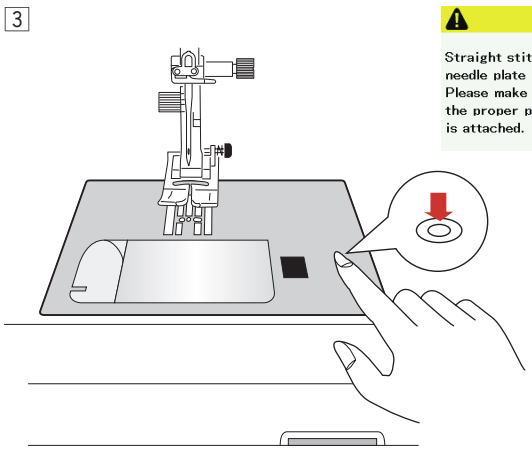
① Lockout key
② Presser foot lifter button
③ Needle plate release lever

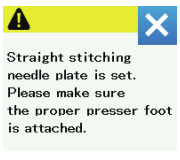
2



2 Place the straight stitch needle plate on the machine.
Set the left edge of the needle plate into the opening.

3





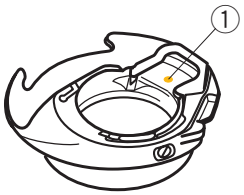
3 Push down on the mark of the needle plate until it locks in place.

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

Turn the handwheel 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.

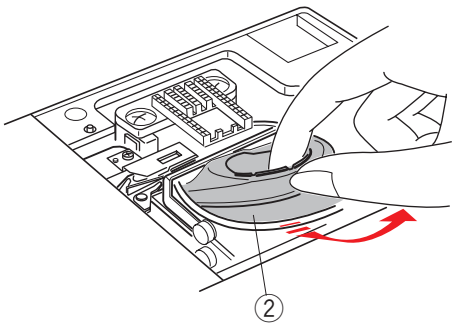


Special Bobbin Holder for Embroidery

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

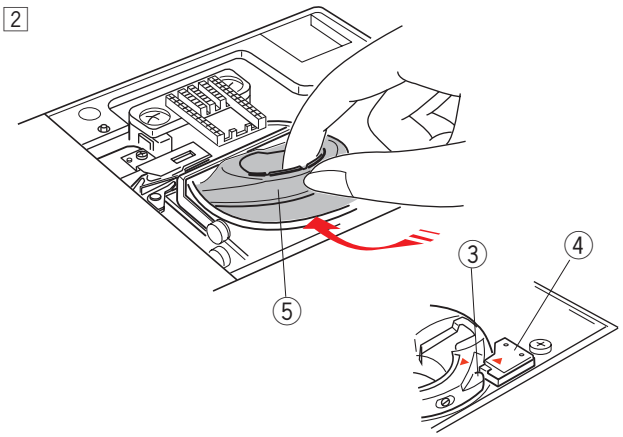
NOTE:
The special bobbin holder is marked with a yellow dot for identification.
① Yellow dot

1



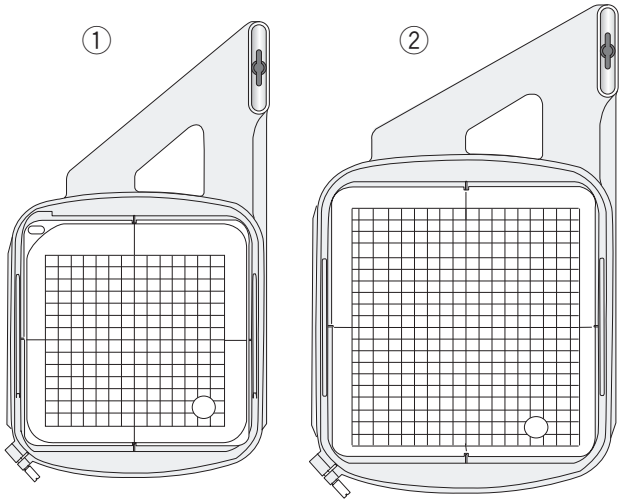
1 Remove the needle plate (refer to the previous page). Take out the standard bobbin holder.
② Standard bobbin holder

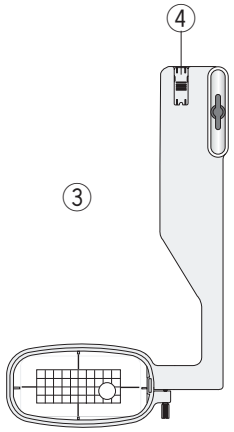
2

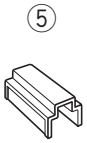


2 Insert the special bobbin holder into the hook race. Make sure to match the knob of the bobbin holder with the stopper on the machine.
Attach the needle plate.
③ Knob
④ Stopper
⑤ Special bobbin holder for embroidery

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

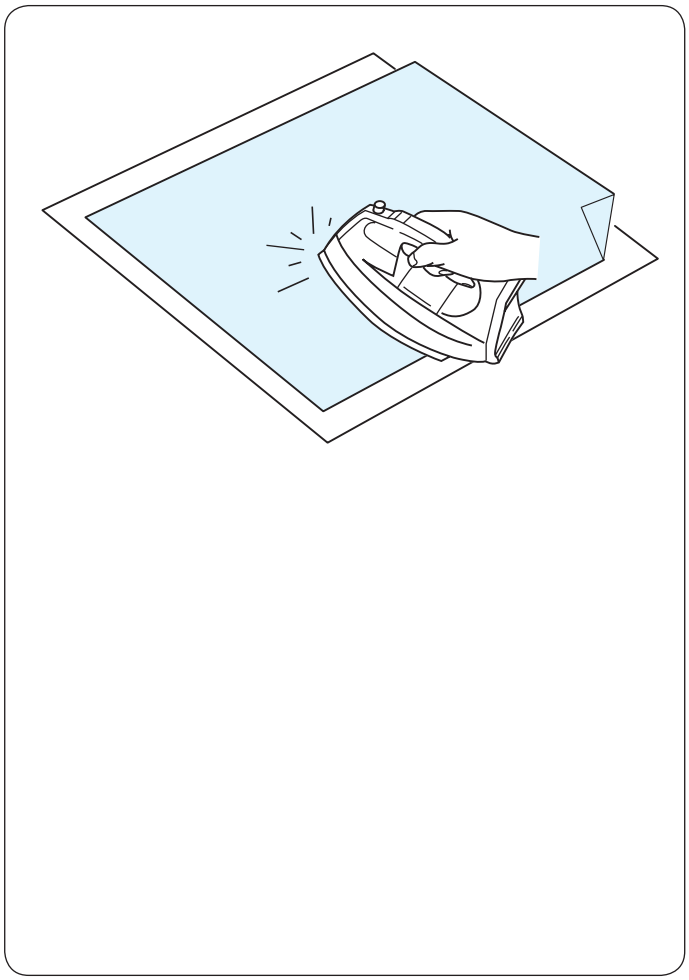
There are 3 embroidery hoops included in the standard accessories.

① Embroidery hoop SQ14a
A square embroidery hoop with a 14 cm (5 1/2″) square embroidery area.

② Embroidery hoop RE20a
A square embroidery hoop with a 17 cm (6 11/16″) by 20 cm (7 7/8″) embroidery area.

③ Embroidery hoop FA10a
A free arm embroidery hoop with a 10 cm by 4 cm (3.9″ by 1.6″) embroidery area.
④ Blocking plate

⑤ Magnetic clamp
A magnetic clamp for holding the fabric to the embroidery hoops.



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 sheet of 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 to 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.

NOTE:
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.

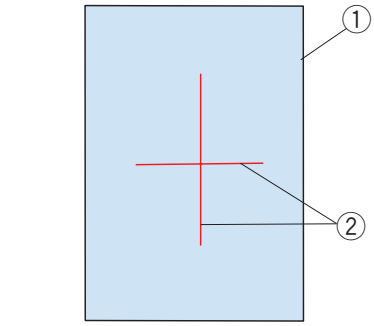
Types of the stabilizers

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 or non-woven fabric that will dissolve in water.
Heat-away	Cutwork or lace embroidery	A thin film that will melt away with heat.

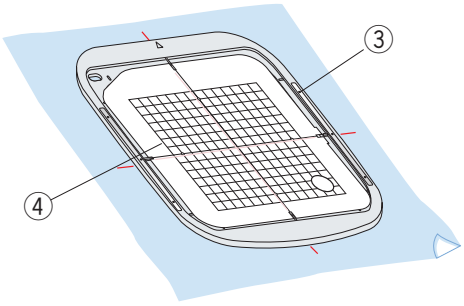
NOTE:
Sticky type stabilizers can be used only for securing a small piece of fabric or work that cannot be secured in the hoop, or for securing velvet and other napped fabric that would be permanently marked by the hoop.
Clean the bobbin holder after stitching as glue can get stuck on it.

Setting the Fabric in an Embroidery Hoop

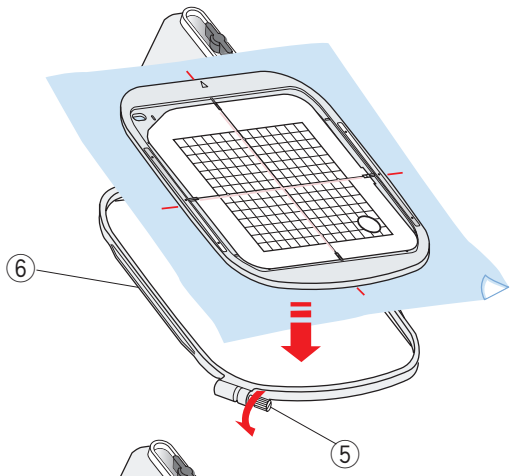
1 Prepare a fabric and attach a stabilizer to the wrong side of the fabric.
The fabric and stabilizer should be larger than the hoop size.
Draw the centerlines on the fabric with tailor's chalk.
① Fabric
② Centerlines



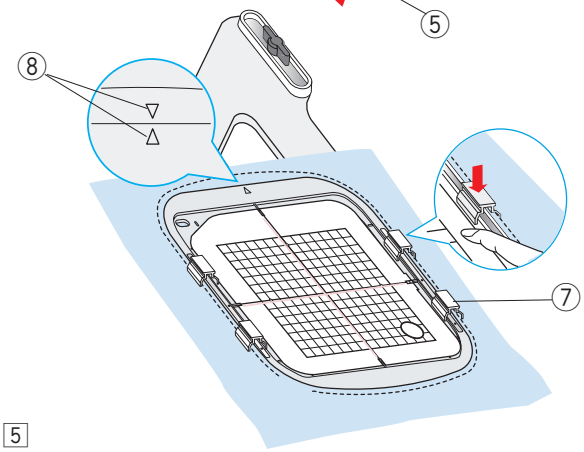
2 Lay the inner hoop and template on the fabric, matching the centerlines of the fabric with the template.
③ Inner hoop
④ Template



3 Loosen the hoop tightening screw on the outer hoop.
Place the inner hoop and fabric on the outer hoop.
⑤ Hoop tightening screw
⑥ Outer hoop

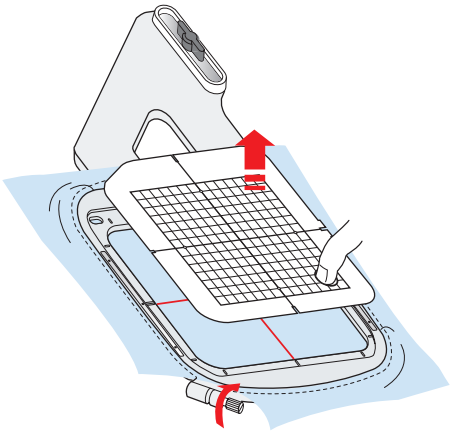


4 Push the inner hoop and fabric into the outer hoop.
Tighten the screw on the outer hoop to stretch the fabric. Make sure that the fabric is stretched tightly in the hoop.
Clamp the fabric to the hoop with the magnetic clamps.
⑦ Magnetic clamp



NOTE:
Make sure to match the alignment marks of the outer and inner hoops when stretching the fabric.
⑧ Alignment marks

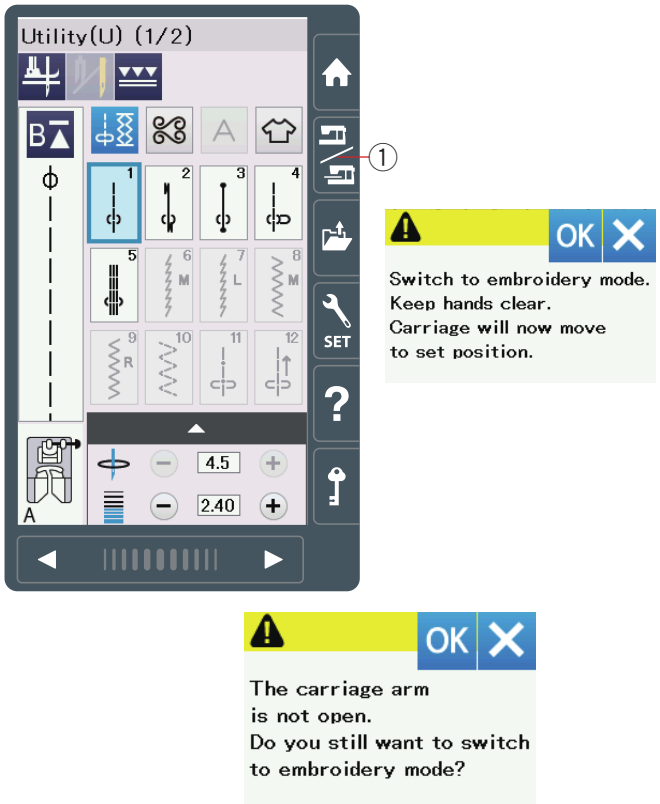
5 Remove the template.



NOTE:
Thick layers of fabric and stabilizer may cause skipped stitches, or broken threads and needles.
Avoid sewing on the layers thicker than 3 mm (1/8″).

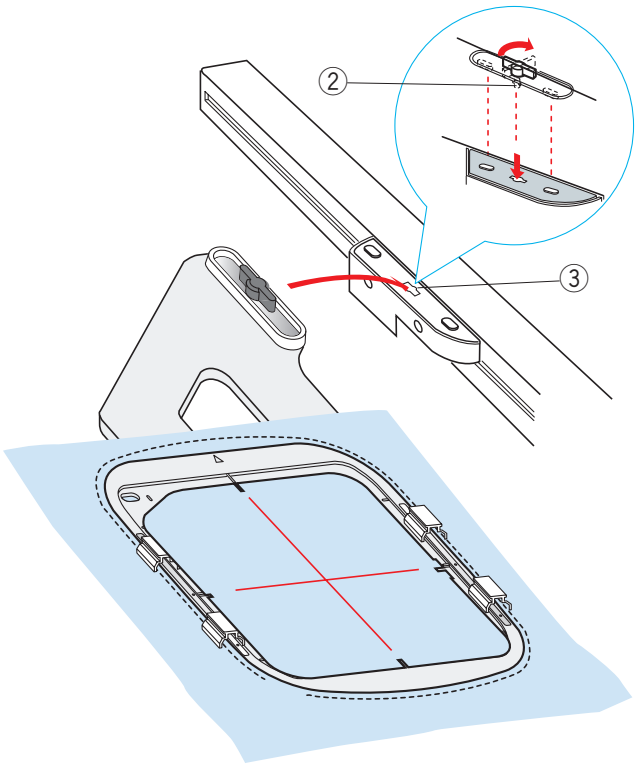
Attaching the Embroidery Hoop to the Machine

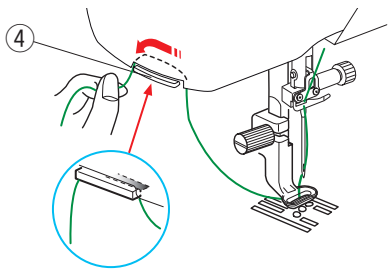
1 Turn the power switch on and open the carriage arm.
Press the mode switch key and a warning message will appear.
Press the OK key and the carriage will move to the starting position.
The visual touch screen will display the embroidery mode window.
① Mode switch key



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.

2 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

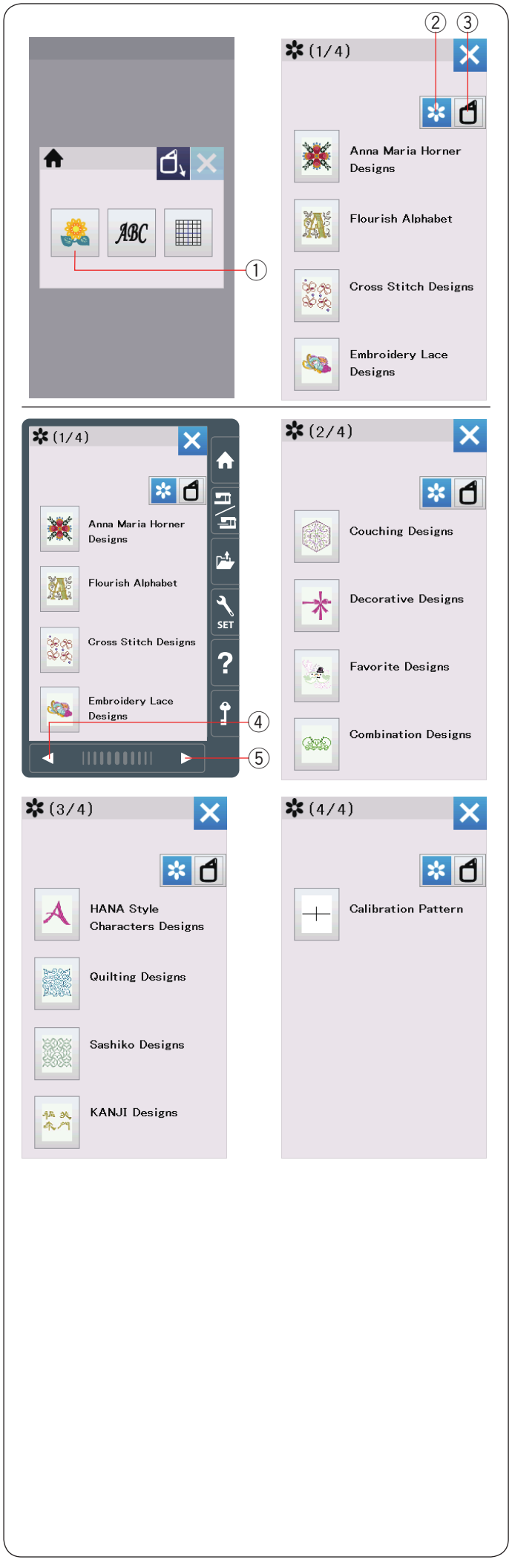




Thread Holder

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.



Selecting Built-in Embroidery Designs

Press the built-in design key and the design list by category will open.

① Built-in design key

Press the design category key to browse the design list by category, or press the hoop selection 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 previous/next page keys to browse the design lists.

④ Previous page key
⑤ Next page key

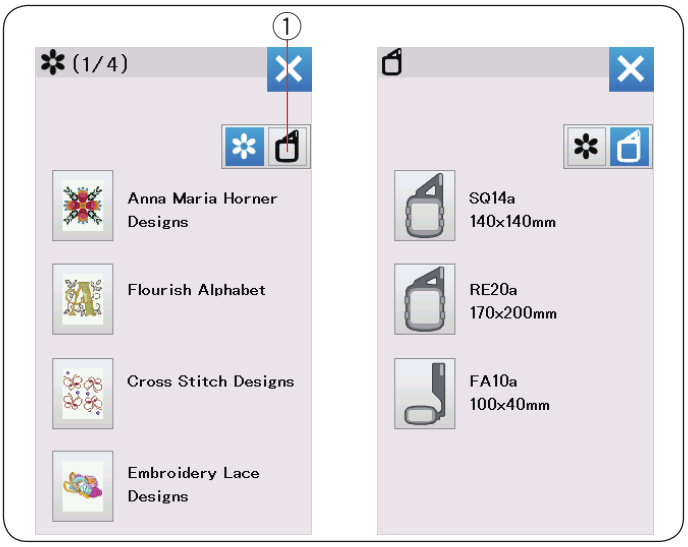
Page 1 of 4
- Anna Maria Horner Designs
- Flourish Alphabet
- Cross Stitch Designs
- Embroidery Lace Designs

Page 2 of 4
- Couching Designs
- Decorative Designs
- Favorite Designs
- Combination Designs

Page 3 of 4
- HANA Style Characters Designs
- Quilting Designs
- Sashiko Designs
- KANJI Designs

Page 4 of 4
- Calibration Pattern

Press the desired category to select and the pattern selection window will open.
Browse the pattern list with the previous/next page keys, and select the desired pattern by pressing the pattern icon key.



Hoop size

Press the hoop selection key ① and the hoop selection window will open. Select the same hoop as the one attached to the machine.

Browse the design list with the previous/next page keys, and select the desired pattern by pressing the pattern icon key.
The visual touch 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 20 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 2
- Gothic font
- Script font
- Cheltenham font
- Bauhaus font
- Galant font
- Typist font
- Brush font
- First Grade font
- Hollowblock font (upper case only)
- Jupiter font (upper case only)

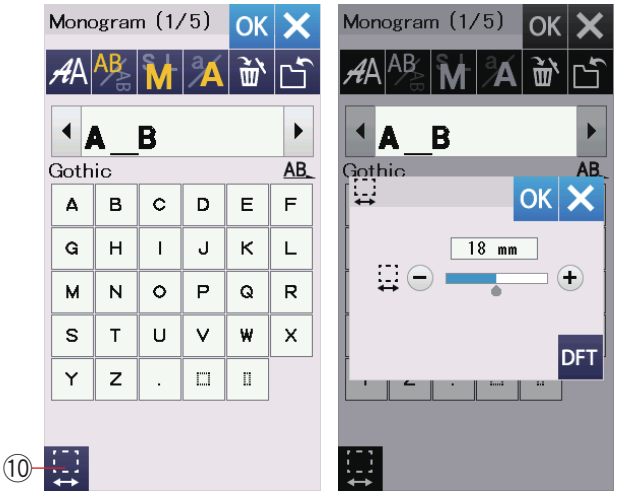
Page 2 of 2
- Micro Gothic font
- Cyrillic 1
- Cyrillic 2
- Cyrillic 3
- Mincho
- Marumoji
- Border patterns
- Normal Sew patterns (patterns similar to ordinary stitches)
- 2-Letter
- 3-Letter

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

Browse pages with the previous/next page keys.
You can enter alphabet letters, numbers, symbols and European letters.

③ Previous page key
④ Next page key

NOTE:
The height of Micro Gothic font is approximately 5 mm.



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 **Delete key**
Press this key to delete the character above the cursor or the character in front of the cursor.

⑥ **Save file key**
Pressing this key opens the save file window and allows you to save the text or monogram as a file.

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.

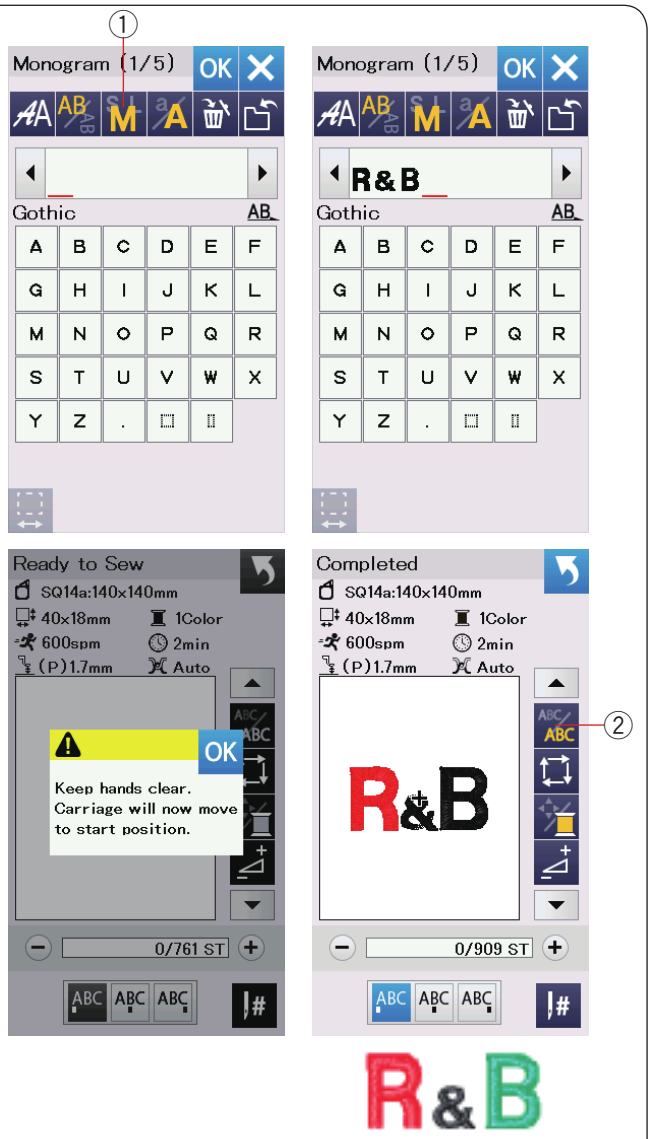
⑨ **X key**
Press this key to exit the monogram entry.

⑩ **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.



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.

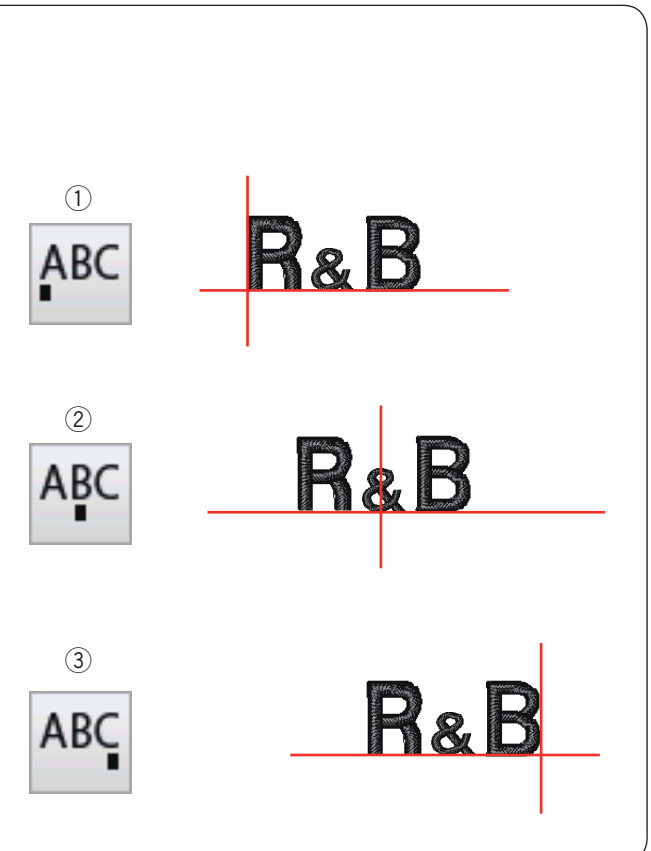
Press the letter size key and select medium size.

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

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

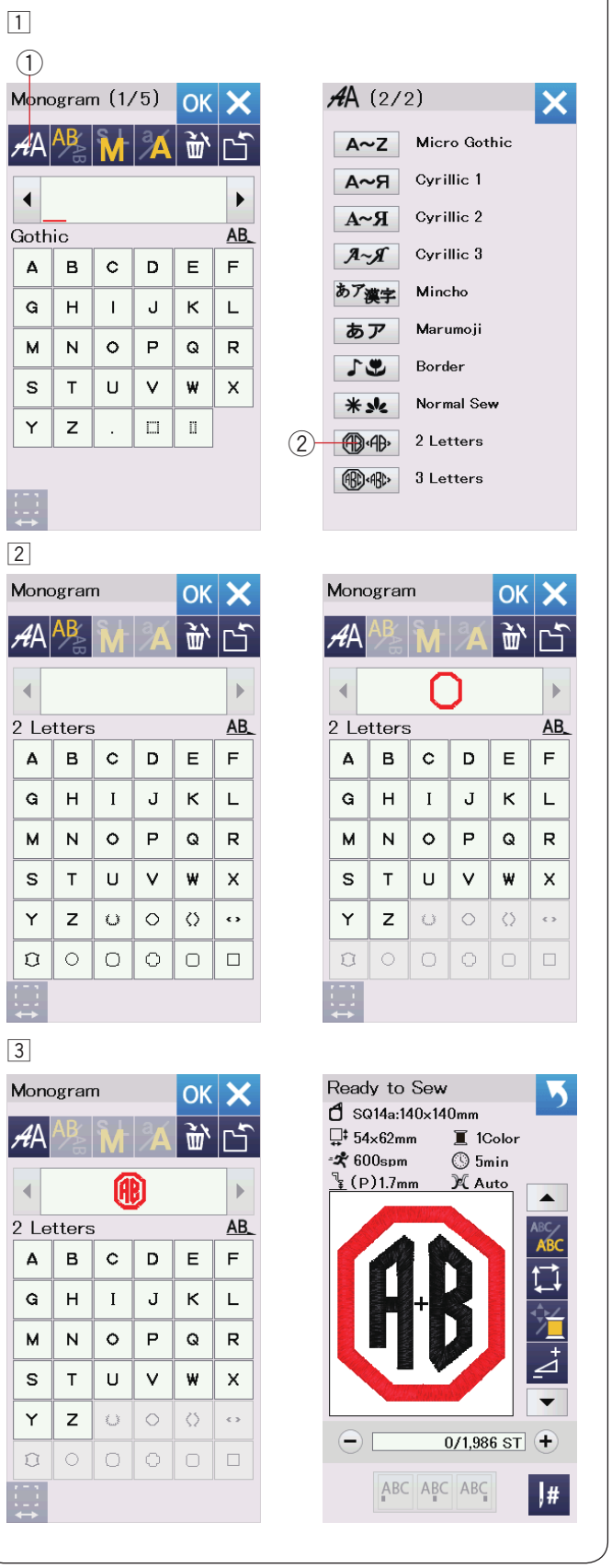
① Left Justify
Press the ABC key to start sewing from the left end reference line on the template.

② Center Justify
Press the ABC key to sew in the center of the hoop.

③ Right Justify
Press the ABC key to sew from the right end reference line on the template.

2-Letter monogram

Example: 2-Letter in an octagon



1 Press the font selection key ①.
Select 2-letter ②.

2 Select the octagon.

3 Enter “**A**” and “**B**”.
Press the OK key and a warning message will appear.
Press the OK key and the carriage moves to the starting position.
The hoop confirmation window will appear.
Press the OK key.
The screen changes to the ready to sew window.

NOTE:
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

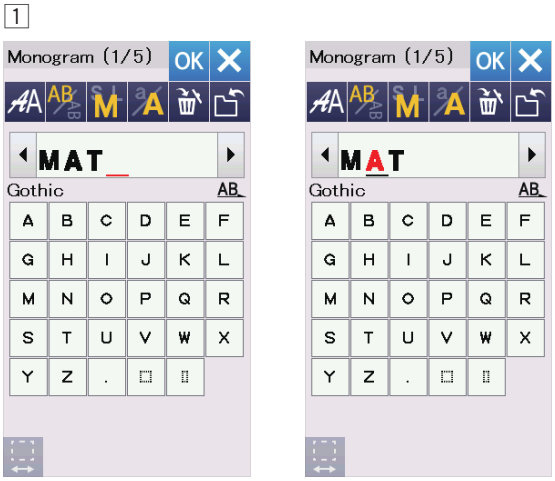
Deleting a character: Deleting “**R**” from “**MART**”

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

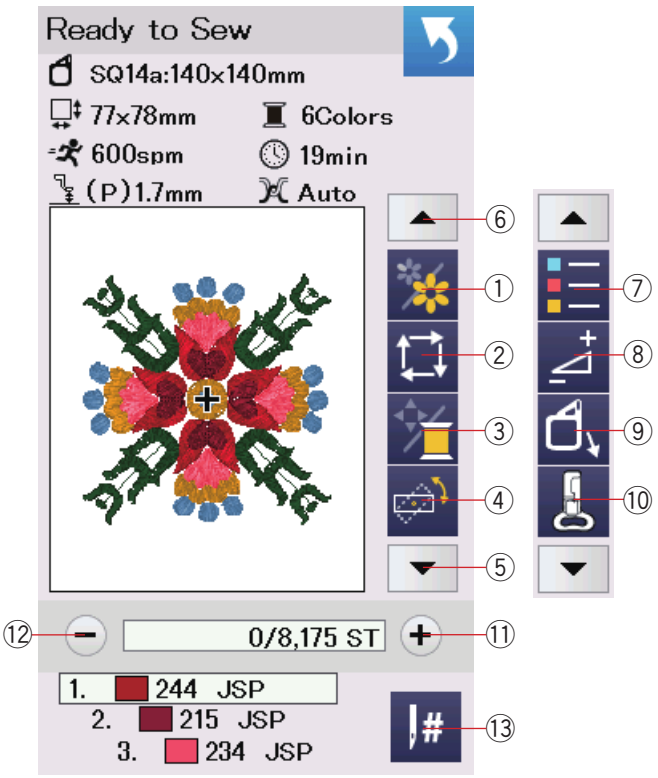
2 Press the delete key ① and letter “**R**” is deleted.

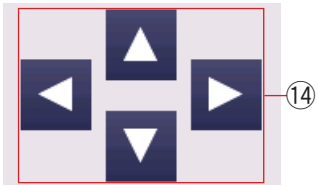
Inserting a character: Inserting “**E**” into “**MAT**”

1 Press the cursor key to move the cursor under “**A**”.



2 Enter “**E**”.
The letter “**E**” is inserted before “**A**”.



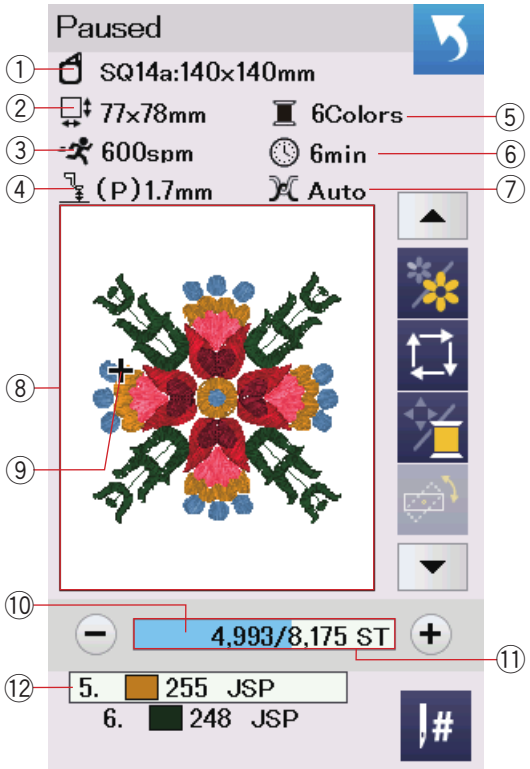


Ready to Sew Window

The ready to sew window shows embroidery function keys and information on the selected pattern.
Press the down arrow key ⑤ or up arrow key ⑥ to show the next set of function keys (⑦ to ⑩).

Function keys

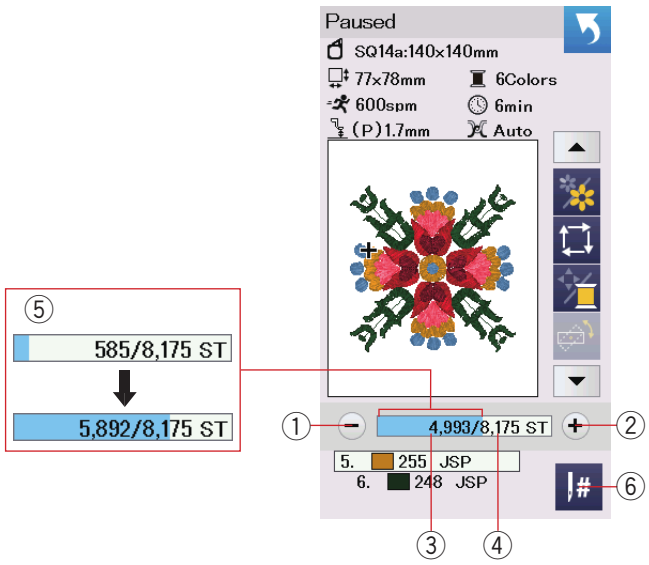
① Color section key
② Trace key
③ Thread color/Jog key
④ Fine position/angle adjustment key
⑤ Down arrow key
⑥ Up arrow key
⑦ Color list key
⑧ Adjust key
⑨ Hoop back key
⑩ Embroidery foot key
⑪ Stitch forward key
⑫ Stitch back key
⑬ Jump key
⑭ Jog keys

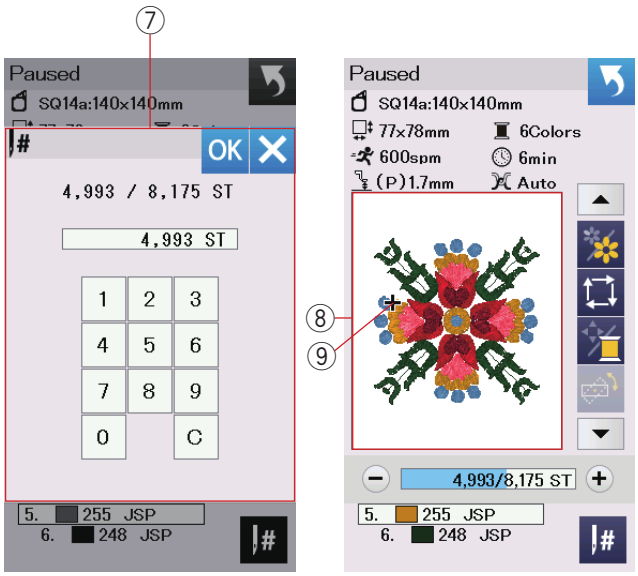


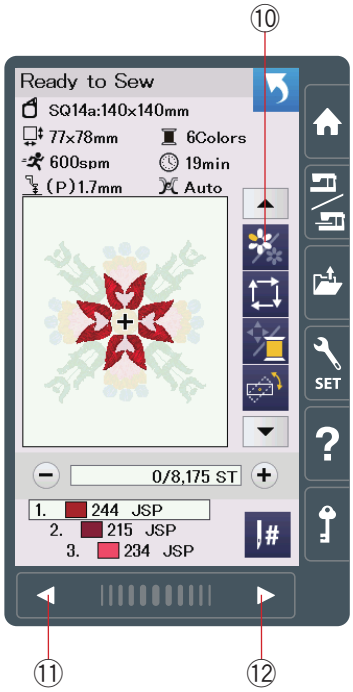
Pattern information

The visual touch screen displays the following details:

① Hoop size
② Dimension of the design
③ Maximum sewing speed
④ Embroidery foot height
⑤ Number of thread colors (layers)
⑥ Required sewing time
⑦ Tension setting
⑧ Preview window
⑨ Cross mark (current sewing point)
⑩ Progress bar
⑪ Stitch count
⑫ Thread color







Stitch back/forward keys

Press the "–" key ① to move the hoop back to a previous sewing point.
Press the "+" key ② 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, 100 or 500 stitches at a time. The stitch count ③ and the total number of stitch count ④ are displayed in the stitch count window.
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
③ Stitch count
④ Total number of stitch count

The pale blue bar in the stitch count window is the progress bar. The progress bar ⑤ appears when the stitch count increases, and indicates the progress of the embroidery sewing project. When the project is completed, the progress bar returns to 0.

⑤ Progress bar

Jump key

If you want to jump to the desired sewing point directly, press the jump key ⑥ and the numeric keypad window ⑦ will open. Enter the desired stitch count number and press the OK key.
The hoop moves to the sewing point you entered.

⑥ Jump key
⑦ Numeric keypad window

Cross mark

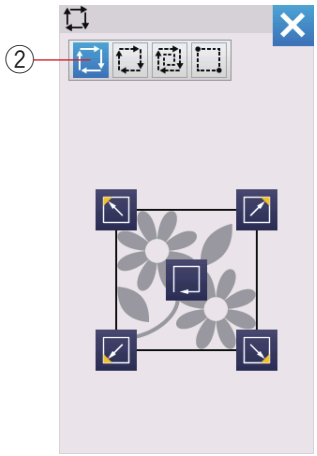
The cross mark ⑨ in the preview window ⑧ indicates the current sewing point. Press the preview window ⑧ to hide the cross mark.

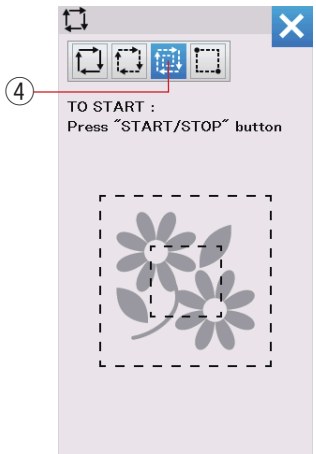
⑧ Preview window
⑨ Cross mark (Current sewing point)

Color section key

Press this key ⑩ 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 ⑫. To view the previous color section, press the previous page key ⑪.
If you want to sew the specific color section only, press the next/previous color keys until the desired section is displayed.

⑩ Color section key
⑪ Previous page key
⑫ Next page key





Trace key

You can check the size of the embroidery area by tracing the pattern outline without stitching or with basting stitches. You can also customize the tracing and basting size.

Press the trace key and the trace option window will open.

① Trace key

NOTE:
The machine will baste around the embroidery area with a 5 mm allowance when keys are pressed. However, the allowance will be null if the pattern spreads over the maximum limit of embroidery area.

NOTE:
Lower the presser foot if the presser foot is raised with the presser foot lifter when tracing and basting.

The following 4 options are available:

1. Trace without stitching

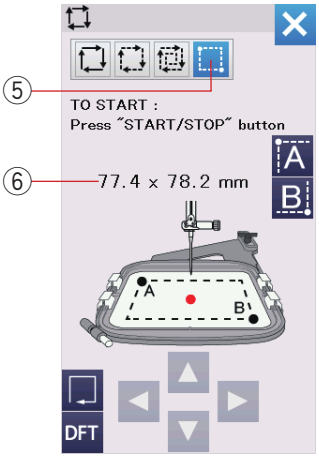
Press the key ② to open the trace without stitching window.
Press the trace key to start tracing or press one of the keys to move the hoop to a corner.

2. Trace and baste (single)

Press the key ③ 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 ④ 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.



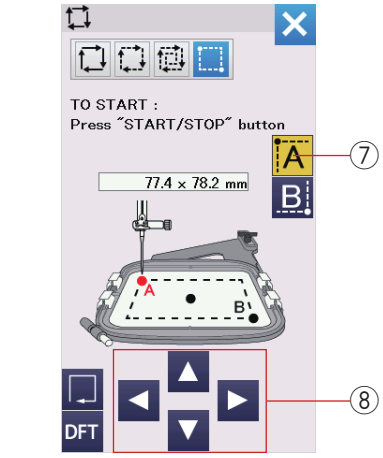
4. Custom trace and baste

The machine will baste around the embroidery area with a 5 mm allowance when keys are pressed. However, you can customize the tracing and basting area size by pressing key ⑤.

You can set the tracing and basting area by indicating the left upper corner and lower right corner of the tracing and basting area.

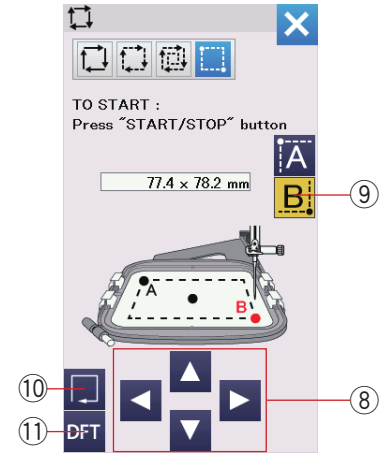
Press the key ⑤ to open the custom trace and baste window.

The size of the tracing and basting area is displayed in the center of the window ⑥.



Press the key ⑦ and a warning message will appear. Press the OK key and the carriage moves to the left upper corner of the basting area.

Press jog keys ⑧ to move the carriage to the desired position.



Press the key ⑨ and the carriage moves to the right lower corner of the basting area.

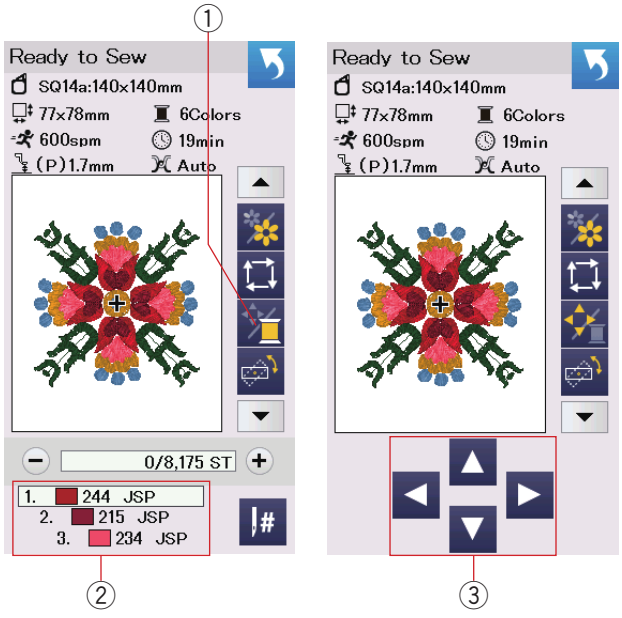
Press jog keys ⑧ to move the carriage to the desired position.

Press the trace key ⑩ to trace the set area without basting.

To trace and baste, press the start/stop button.

To return to the trace and baste area to their default settings, press the default key ⑪.

To close the tracing option window, press the X key.

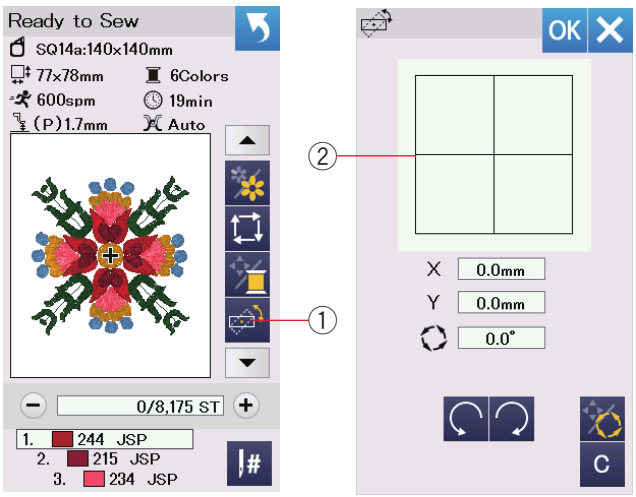


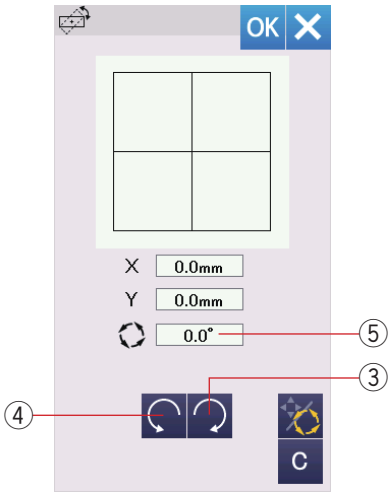
Thread color/Jog key

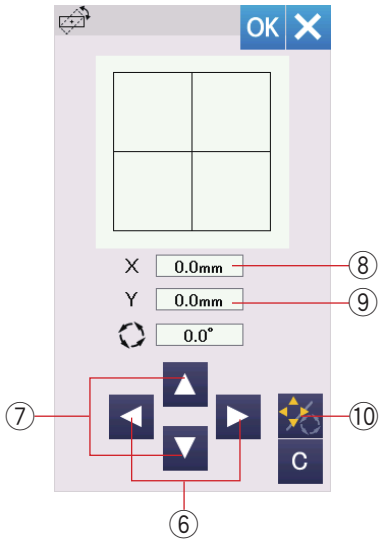
Press the thread color/jog key to show or hide the jog keys. The thread color list of the selected design is displayed when the jog keys are hidden.

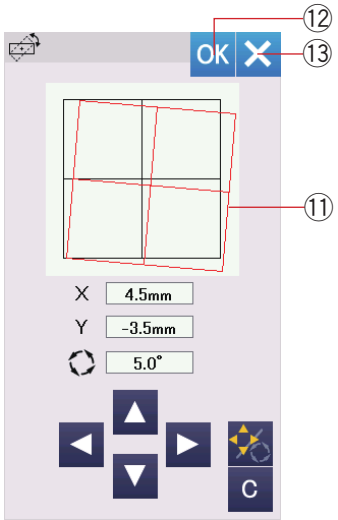
Adjust the hoop position with the jog keys so that the needle position comes right above the center of the reference lines on the fabric.

① Thread color/Jog key
② Thread color list
③ Jog keys









Fine position/angle adjustment key

You can make fine adjustments to the position or angle of the embroidery design without removing the embroidery hoop from the machine.

Press the fine position/angle adjustment key ①.

The original embroidery design position is previewed as a rectangle ②.

Rotating a design

You can make fine adjustments to the angle of the embroidery design.

Press the key ③ to rotate the design 0.5 degrees clockwise.

Press the key ④ to rotate the design 0.5 degrees counterclockwise.

The angle value is displayed in the window ⑤.

> **NOTE:**
> The angle of an embroidery design can be adjusted from -5.0 to 5.0 degrees.
> The angle of the embroidery design cannot be adjusted to exceed the sewing area.

Moving a design

You can make fine adjustments to the position of the embroidery design.

Press the angle/move key ⑩.

The jog keys appear on the screen.

Press the ◀ or ▶ keys ⑥ to move the design 0.5 mm right or left (X window ⑧).

Press the ▲ or ▼ keys ⑦ to move the design 0.5 mm forward or backward (Y window ⑨).

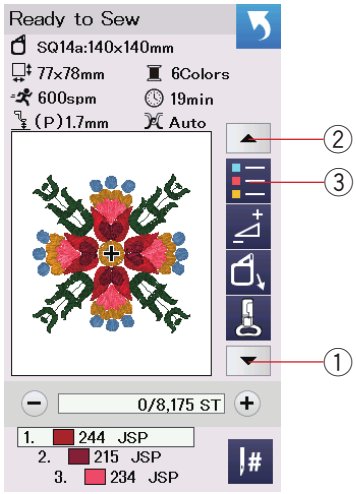
The moving distance from the original position is shown as coordinates in the X and Y windows.

> **NOTE:**
> The position of an embroidery design can be fine adjusted from -5.0 mm to 5.0 mm.
> The position of the embroidery design cannot be adjusted to exceed the sewing area.
> The moving distance from the original position is shown only in millimeters.

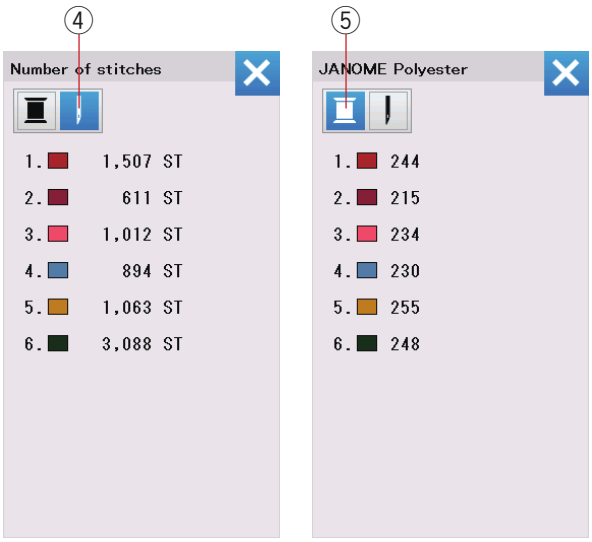
The red rectangle ⑪ appears when you make fine adjustments to the embroidery design, and it shows the difference between the original position and the adjusted position.

Press the OK key ⑫ to apply the fine adjustment.

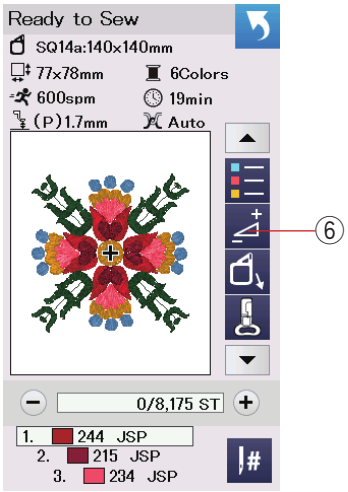
Press the X key ⑬ to cancel the settings.



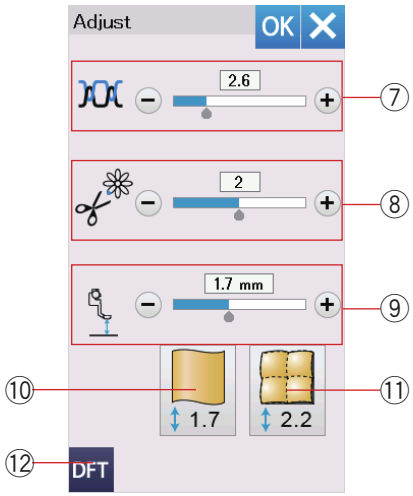
Color list key
Press the down arrow key ① or up arrow key ② to show the next set of function keys.
Press the color list key ③ to view a list of thread colors employed in the selected design.



Press the stitch number key ④ to view a number of stitches for each color in the selected design.
Press the spool key ⑤ to view a list of thread colors employed in the selected design.



Adjust key
Press the adjust key to open the manual setting window. You can adjust the following settings in this window.
⑥ Adjust key



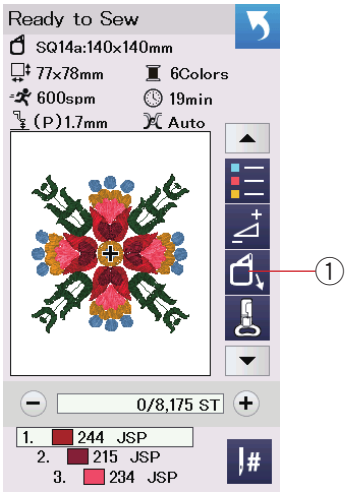
⑦ **Auto thread tension level**
Press the “+” or “–” key to adjust the thread tension to your preference.

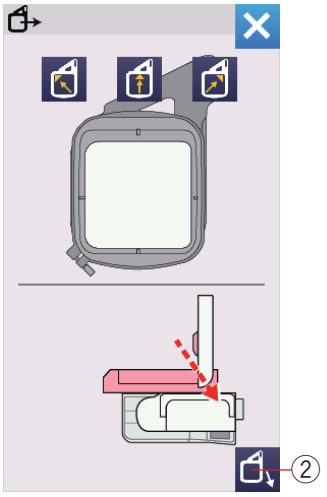
⑧ **Cutting the tails of jump threads**
This option can be used when the “jump thread cutting length” setting or “cutting command“ is activated (refer to page 154).
Press the “+” or “–” key to adjust the tail length of jump thread.

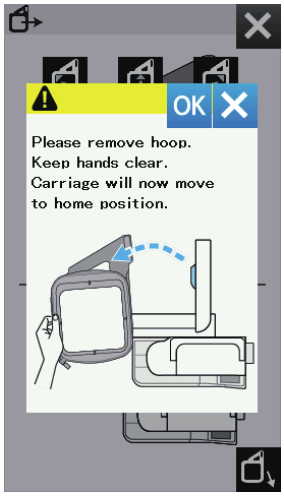
⑨ **Embroidery foot height**
Press one of the fabric icon keys (⑩ or ⑪)to select the recommended height or press the “+” or “–” key to fine tune the foot height.
⑩ Plain fabric key
⑪ Quilting key

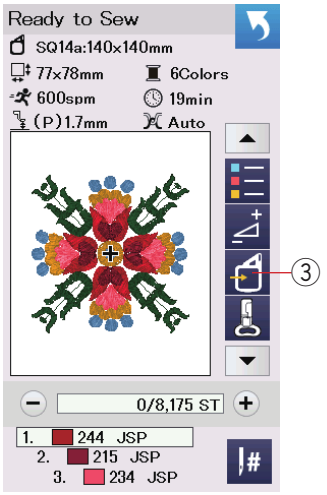
To return the manual settings to their default settings, press the default key ⑫.

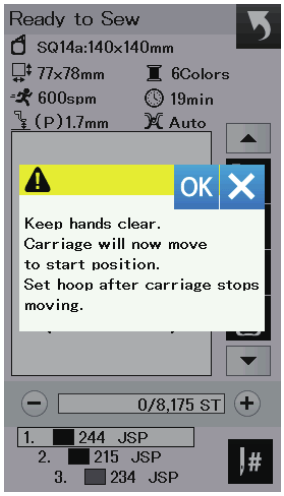
Press the OK key to apply the settings.
Press the X key to cancel the settings.









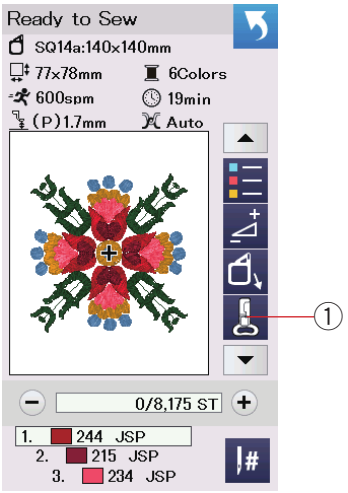


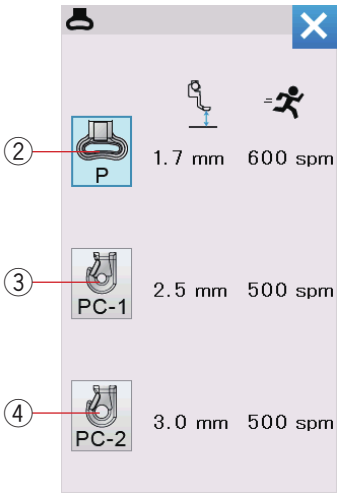
Hoop back key

Press the needle up/down button to raise the needle at its highest position if the needle is in down position.
Press the hoop back key ①. The embroidery foot will be raised automatically, and the hoop back option window will open.
Press the key ② and the confirmation window open.
Press the OK to move the carriage back to the home position and return to the Ready to Sew screen. 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

Press the hoop back key ③ or the start/stop button.
The caution message appears.
Press the OK key and the hoop will go back to the original position.





Embroidery foot key

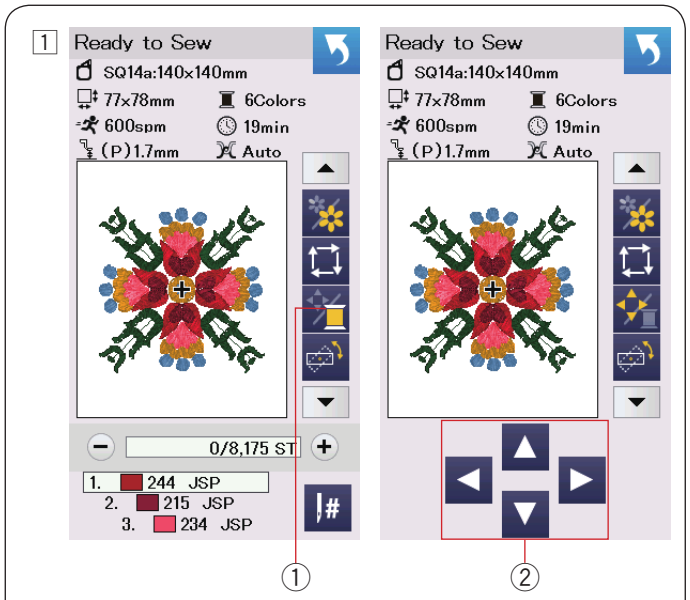
Press this key to open the embroidery foot window. Press one of the presser foot icon key (②, ③ or ④). The presser foot height and the sewing speed will be automatically adjusted to suit the selected presser foot.

① Embroidery foot key
② Embroidery foot (P)
③ Couching foot (PC-1)
④ Couching foot (PC-2)

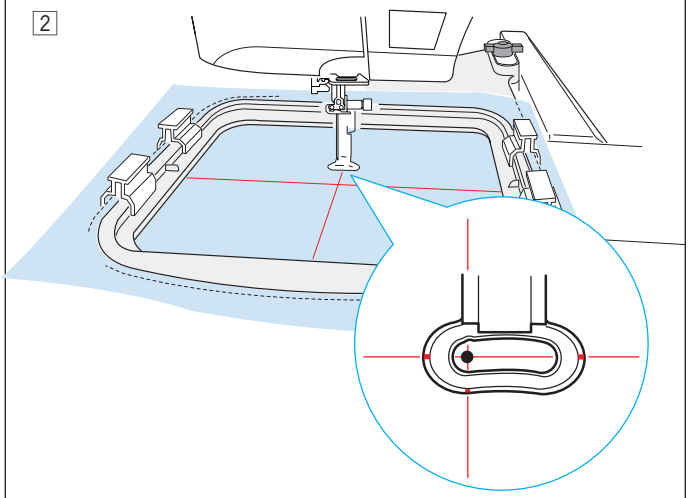
NOTE:
Select and attach couching feet (PC-1 or PC-2) only when selecting Couching Designs (refer to page 149).

Starting to Sew Embroidery

1 Select the desired pattern.
Press the thread color/Jog key ①. The jog keys appear.
① Thread color/Jog key
② Jog key



2 Adjust the hoop position with the jog keys so that the needle position comes right above the center of the centerlines on the fabric.

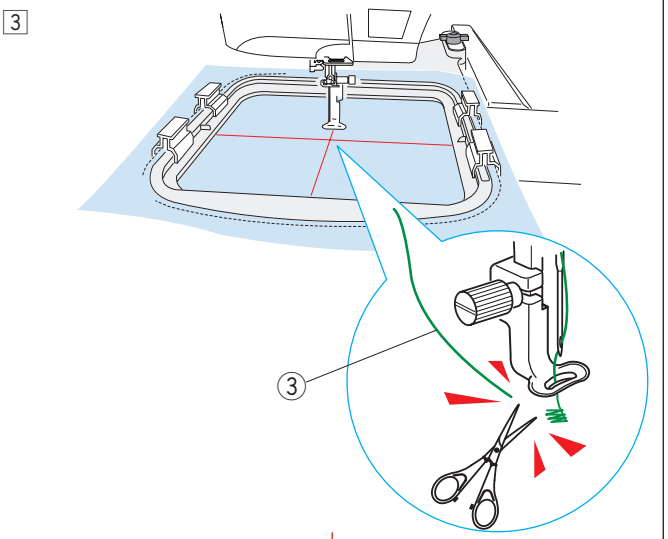


3 Press the start/stop button and sew 5 to 6 stitches.
Press the start/stop button again to stop the machine.

The presser foot will be raised automatically.
Cut the loose thread close to the beginning of the starting point.
③ 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.

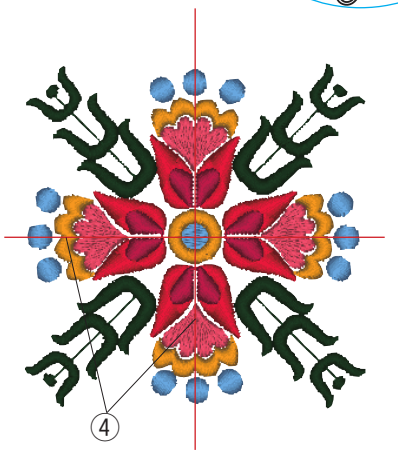
You can adjust the sewing position with the jog keys during the sewing if necessary.
Press the start/stop button to stop the machine.
Press the jog keys to move the hoop at the desired position. Press the start/stop button again to continue sewing.



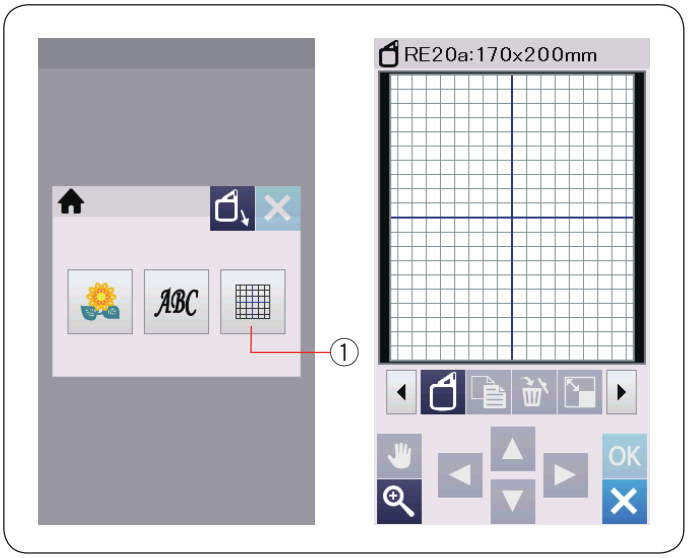
NOTE:
The needle drop position will resume the original position after all the color sections are finished.

Sewing results

The embroidery pattern is sewn against the centerlines on the fabric as shown.
④ Centerlines on the fabric



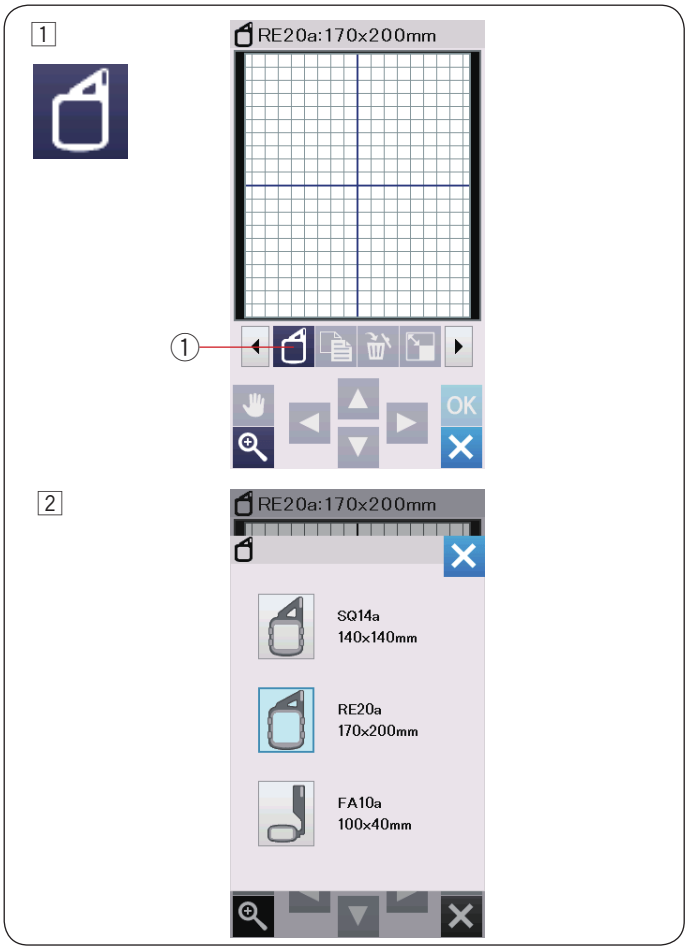
NOTE:
Refer to page 154 for how to set auto thread cutting.



Editing Mode

In the editing mode, you can edit and combine patterns to create original embroidery designs.
Press the editing mode key ① and the editing window for the hoop RE20a will open.

① Editing mode key



Selecting a hoop size

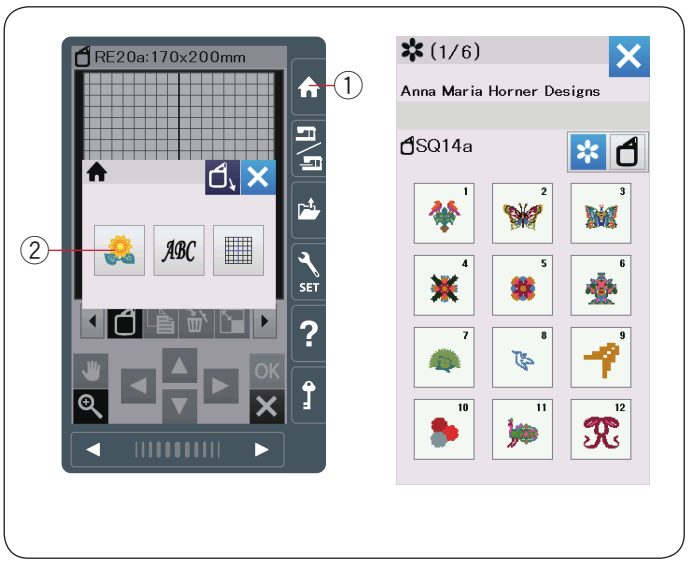
You can select other hoop sizes.

1 Press the hoop selection key ① and the hoop selection window will open.

① Hoop selection key

2 Press the hoop icon key to select the desired hoop.
Select the desired hoop.
The screen will return to the editing window.

NOTE:
In the editing mode, you cannot select patterns larger than the size of the selected hoop.

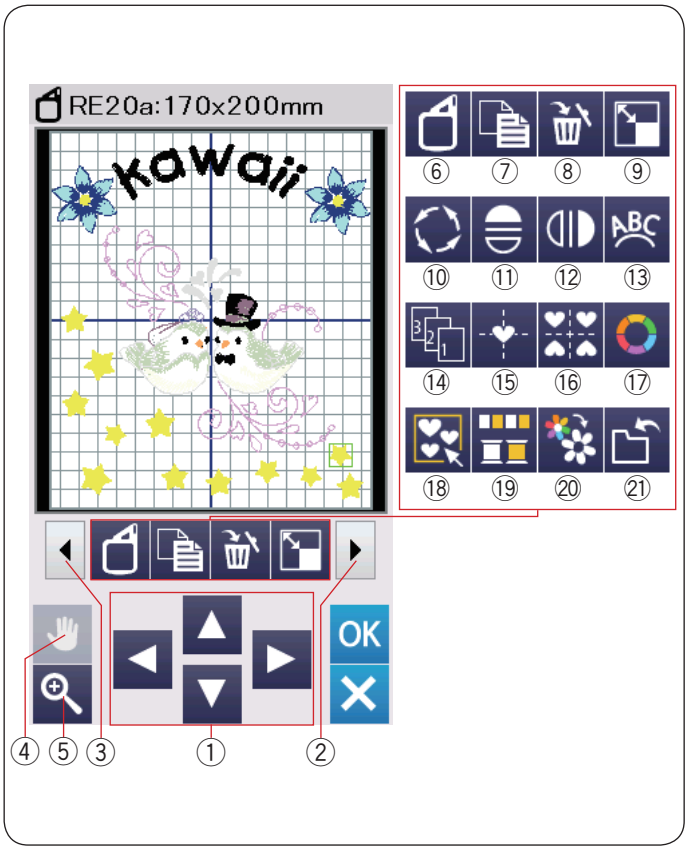


Opening the embroidery designs

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 home key ①.
Press the built-in design key ②.
Select the desired pattern from the design chart (refer to pages 168-177).

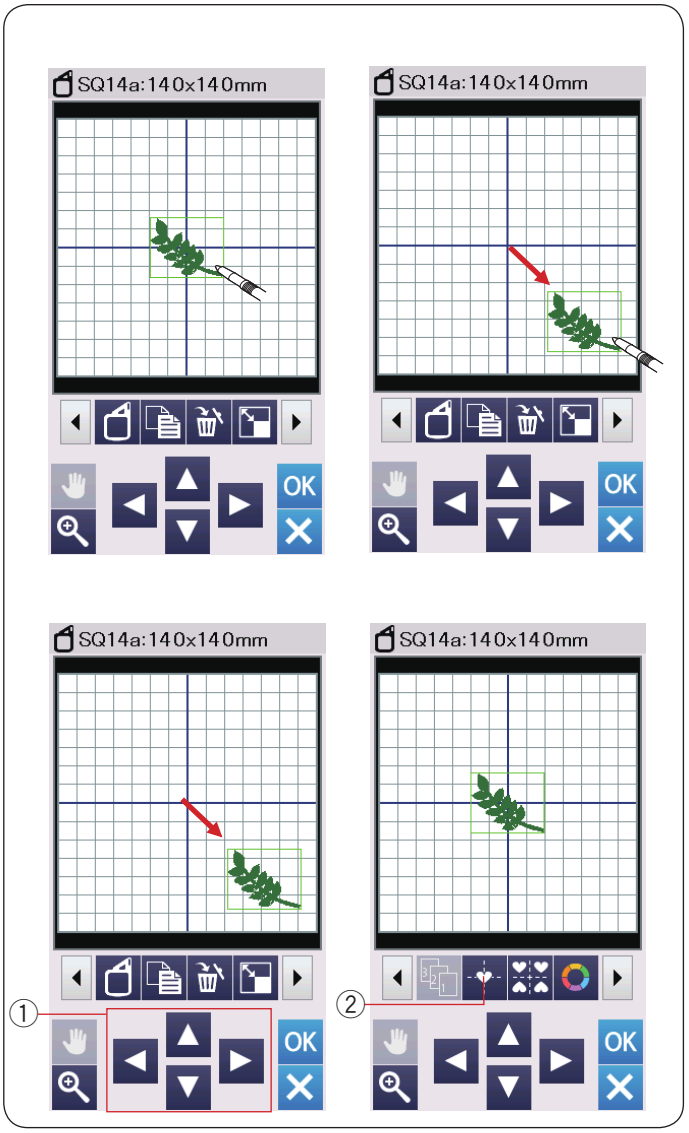
① Home key
② Built-in design key



Editing tool bar information

The editing tool bar contains the following keys as shown. Press the next set key ② to show the next set of editing tools. Press the previous set key ③ to show the previous set of editing tools.

① Layout keys
② Next set key
③ Previous set key
④ Scroll key
⑤ Zoom key
⑥ Hoop selection key
⑦ Duplicate key
⑧ Delete key
⑨ Resize key
⑩ Rotate key
⑪ Horizontal mirror image key
⑫ Vertical mirror image key
⑬ Arc key
⑭ Sewing order key
⑮ Center position key
⑯ Corner layout key
⑰ Custom color key
⑱ Group key
⑲ Color group key
⑳ Single color sewing key
㉑ Save file key (refer to page 157)



Selecting a pattern

To select the pattern to edit, press on the pattern image in the editing window.
The green 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.

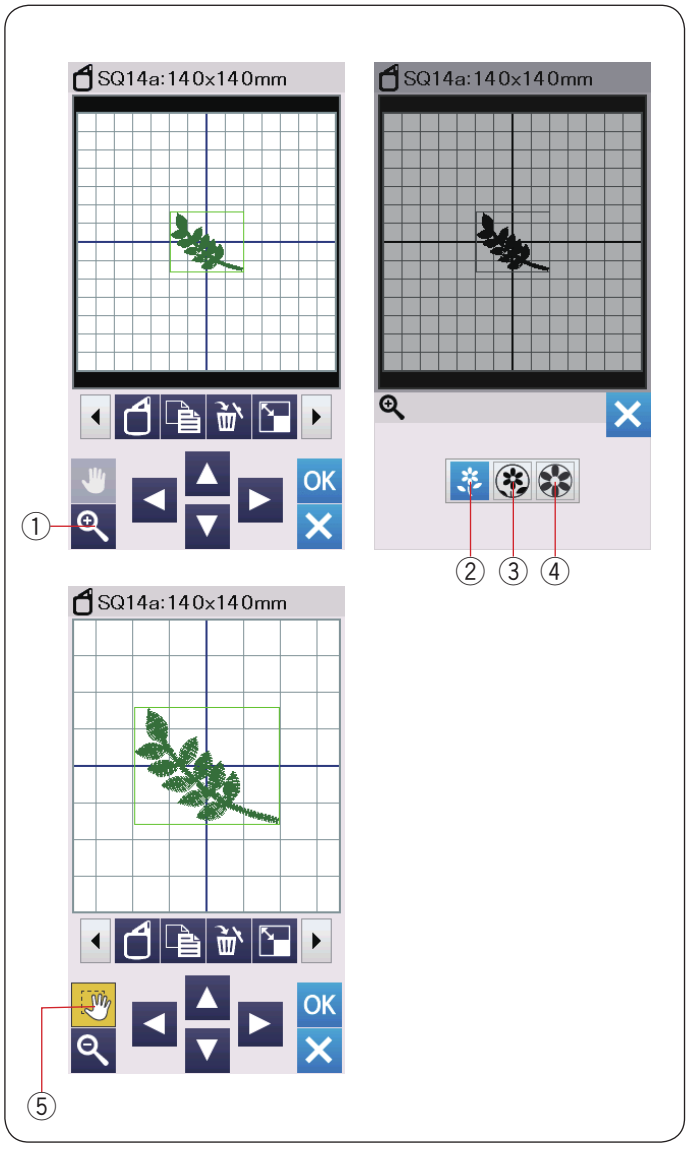
NOTE:
Do not drag the pattern on the screen with a sharp pointed object.

You can move the selected pattern also by pressing the layout keys.
Press the layout keys ① to move the pattern to the desired position in the editing window.

Press the center position key ② to move the pattern to the center of the editing window.

① Layout keys
② Center position 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.



Zooming in the editing window

Press the zoom key to open the zoom in/out window. Select the view size from normal, large or largest by pressing one of the view size keys.

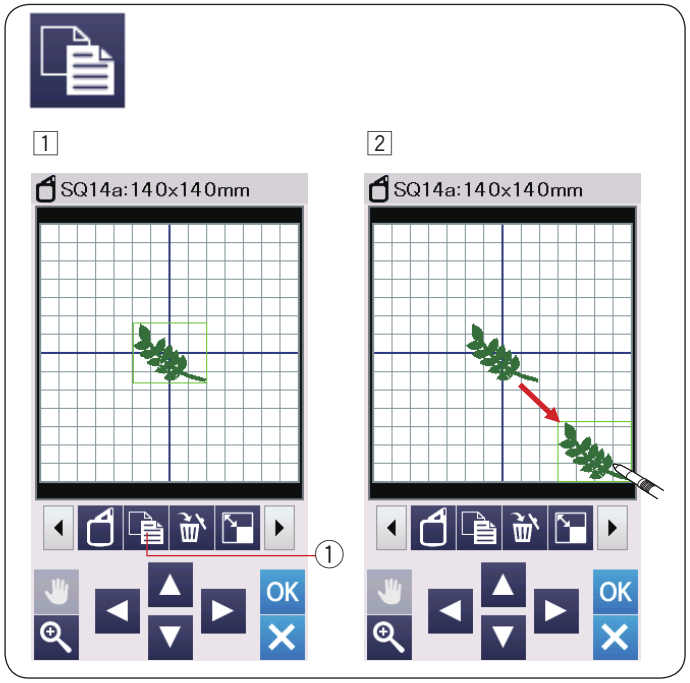
① Zoom key
② Normal view size key
③ Large view size key
④ Largest view size key

The scroll function is activated automatically when zoomed in.

To scroll the magnified window, drag the window in the desired direction.

Press the scroll key to cancel the scroll command.

⑤ Scroll key

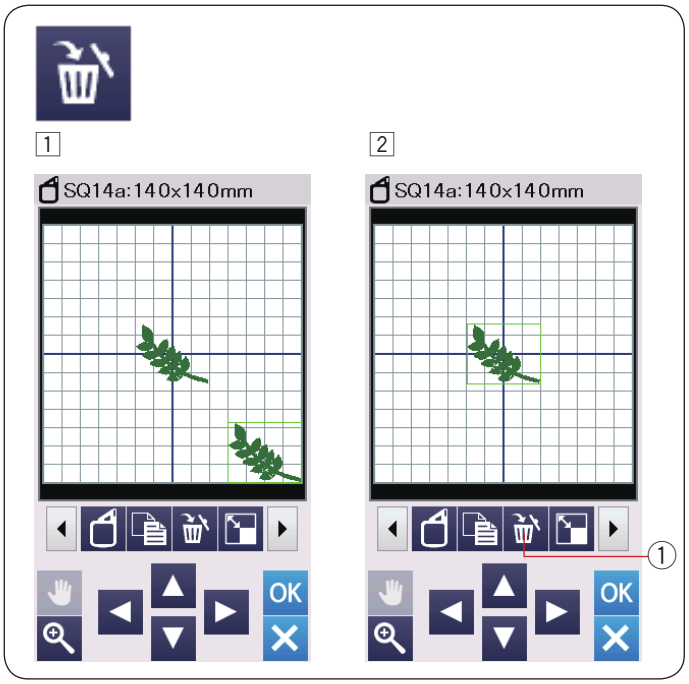


Duplicating a pattern

1 Press the duplicate key to make a copy of the selected pattern.

① Duplicate key

2 The duplicated pattern will be superimposed over the original pattern. Move the duplicate to show the original pattern.

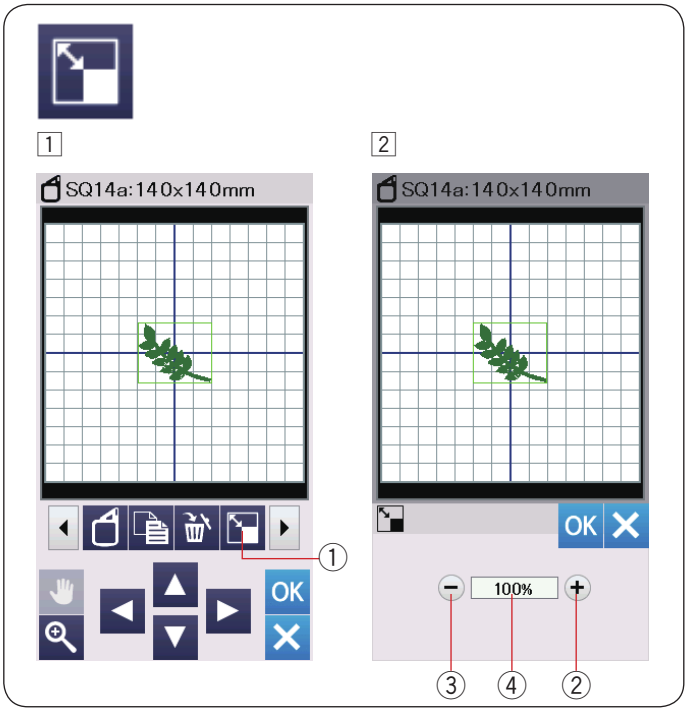


Deleting a pattern

1 Press on the pattern to delete.

2 Press the delete key ① to delete the selected pattern.

① Delete key

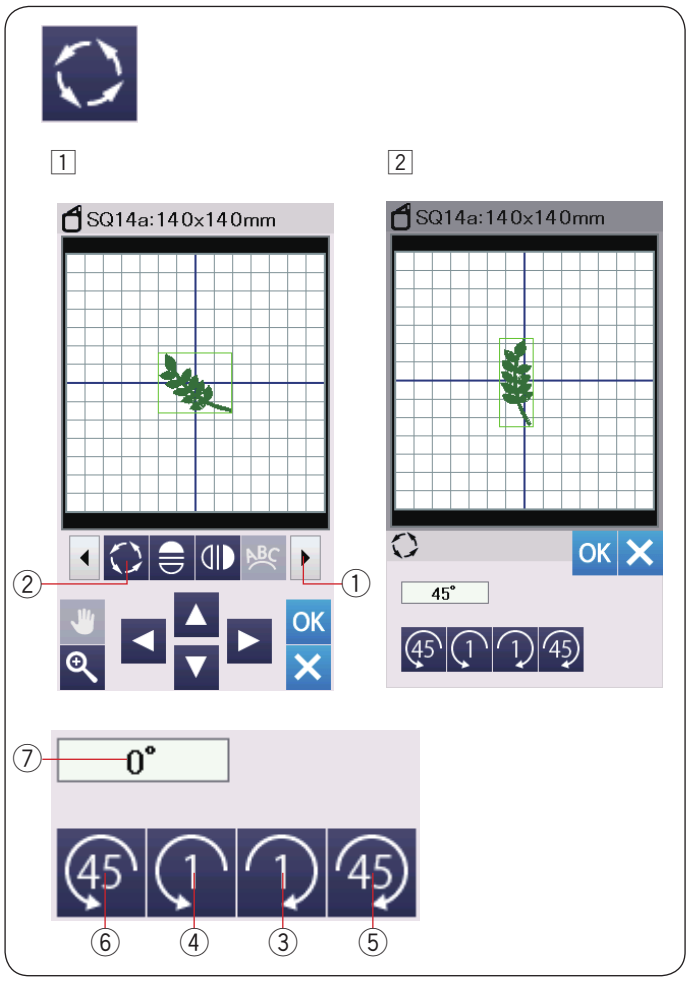


Resizing a pattern

1 Press the resize key to open the resize option window.

① Resize key

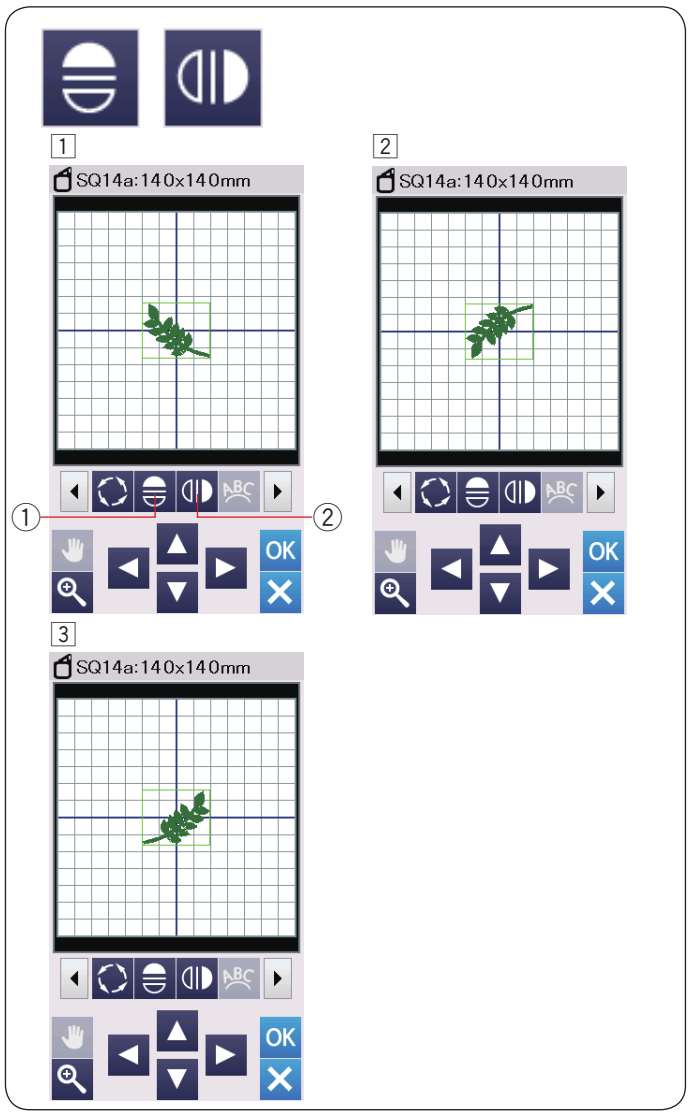
2 You can change the embroidery pattern size from 80% to 120% of the original size.
Press the “+” key ② to enlarge the pattern size.
Press the “–” key ③ to reduce the pattern size.
The size will change 1% each time you press the “+” or “–” key. To change the size quickly, press and hold the “+” or “–” key.
The scale of a resized pattern is displayed in percentage ④.
Press the OK key to confirm the new size.



Rotating a pattern

1 Press the next set key ① to show the next set of editing tools.
Press the rotate key ② to open the rotation option window.
② Rotate key

2 Press the key ③ to rotate the selected pattern 1 degree clockwise.
Press the key ④ to rotate the selected pattern 1 degree counterclockwise.
Press the key ⑤ to rotate the selected pattern 45 degrees clockwise.
Press the key ⑥ to rotate the selected pattern 45 degrees counterclockwise.
The angle of a rotated pattern is displayed in the window ⑦.
Press the OK key to confirm.



Flipping a pattern

1 Press the vertical or horizontal mirror image key.
① Horizontal mirror image key
② Vertical mirror image key

2 Press the key ① to create the horizontal mirror image of a selected pattern.

3 Press the key ② to create the vertical mirror image of a selected pattern.

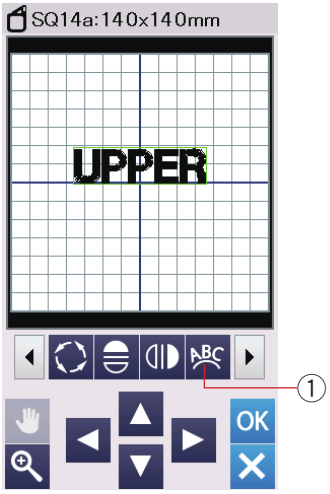
Monogramming in an arc

In the editing mode, you can make a monogram in an upper or lower arc.

1 Enter the characters and press the OK key.

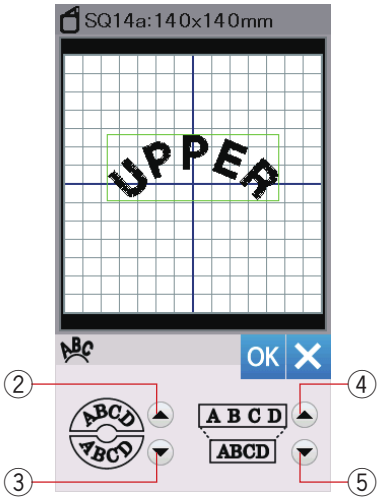
1

2

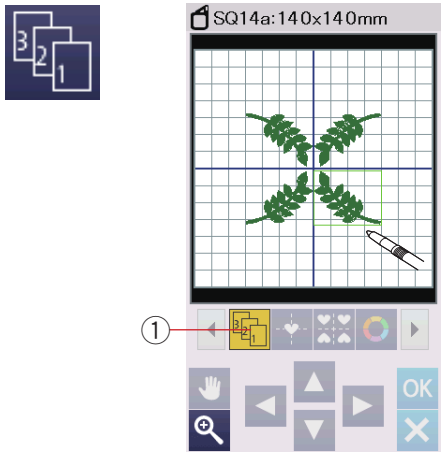


2 The entered characters are displayed in the editing window.
Press the arc key and the arc layout window will open.
① Arc key

3



3 Press the upper arc key ② to make an upper arc.
Press the lower arc key ③ to make a lower arc.
Press the enlarge key ④ to make an arc longer.
Press the shorten key ⑤ to make an arc shorter.
Press the OK key to confirm.
② Upper arc key
③ Lower arc key
④ Enlarge key
⑤ Shorten key

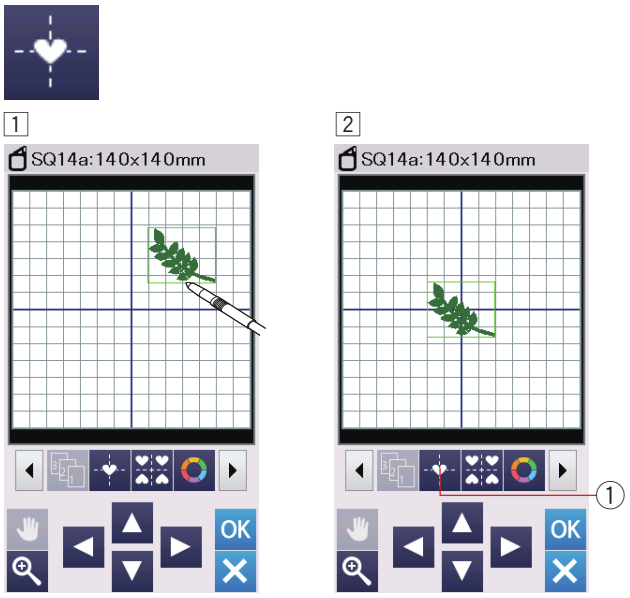


Sewing order

You can change the sewing order of a pattern combination.

Press the sewing order key ① 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 ① again to return to the previous screen.

① Sewing order key



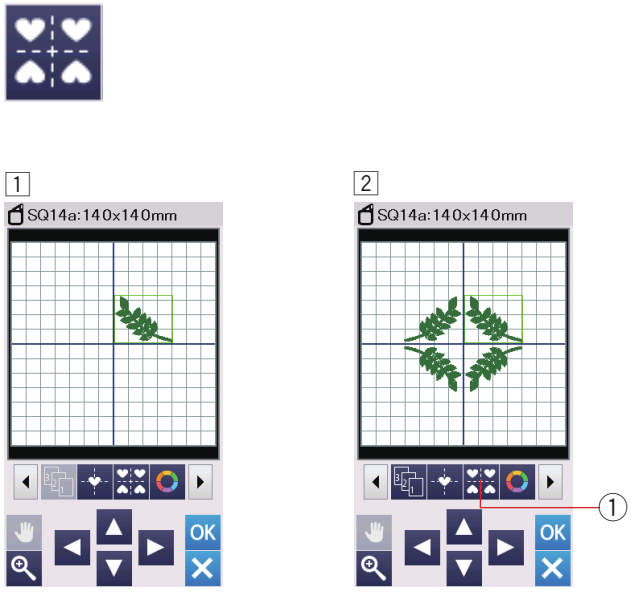
Center positioning

You can move the selected pattern to the center position.

1 Press on the pattern to move.
2 Press the center position key ① to move the selected pattern to the center position.

① Center position key

NOTE:
When using the embroidery hoop FA10a, the selected pattern will be moved to the center of the limited embroidery area if the embroidery area is limited with the opening width key (see page 148).



Corner layout

1 Select pattern Favorite Designs FA10a-3.
Move the design up and to the right.

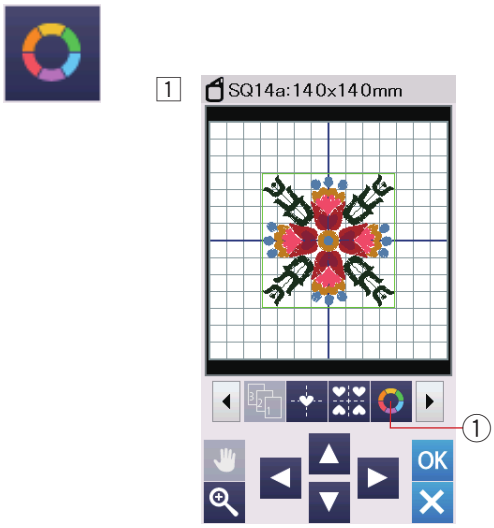
2 Press the corner layout key.
The pattern will automatically be copied and placed symmetrically into 4 corners.

① Corner layout key

Customizing the display colors

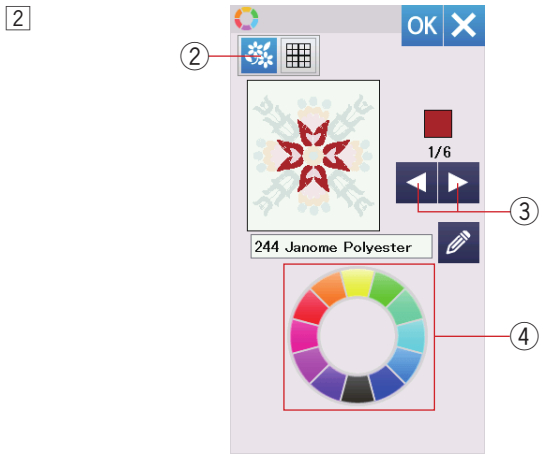
You can simulate the colors of the actual fabric and threads on the screen by customizing the colors of the design image and editing window.

1 Press the custom color key and the custom color window will open.
① Custom color key



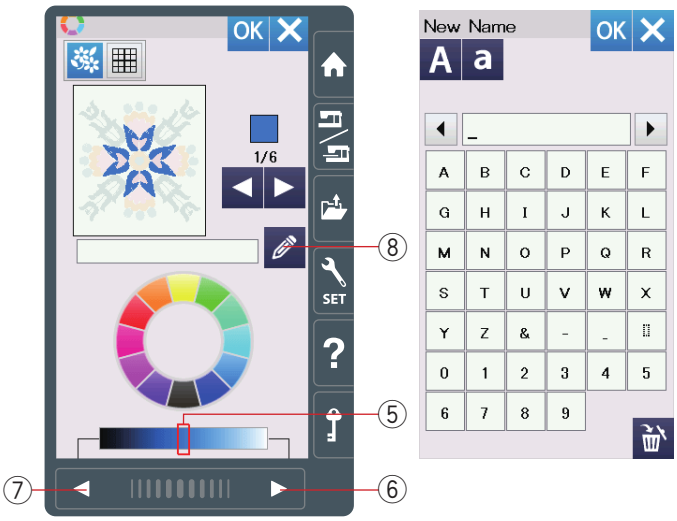
2 If you wish to change the color of the design pattern, press the design color key.
Press the scroll keys until the desired section is displayed in the preview window.
② Design color key
③ Scroll keys

To select the hue, press one of the 12 color tiles.
④ Color tiles

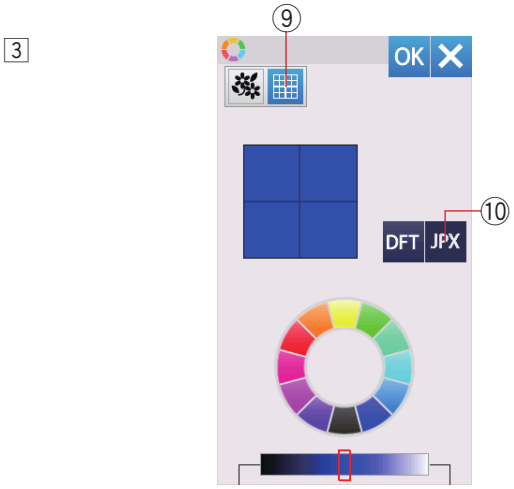


To change the shade of the selected color, press next page key, previous page key, or drag the slider to the left or right.
⑤ Slider
⑥ Next page key
⑦ Previous page key

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



3 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 next page key, previous page key, or drag the slider to the left or right.
⑨ Background color key

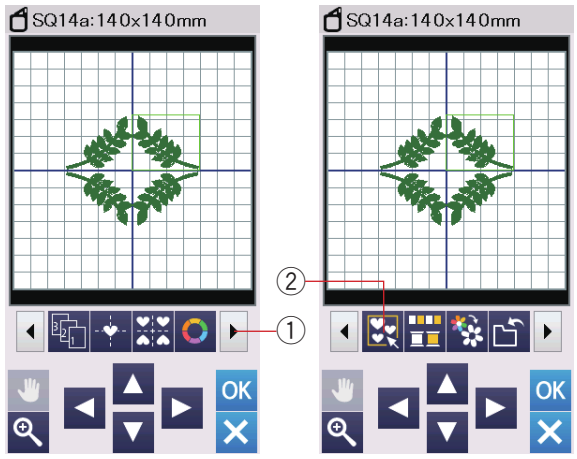


NOTE:
If a design in *.JPX format has a background image, you can display the background image in the editing window by pressing the background image key.
⑩ Background image key

Grouping patterns

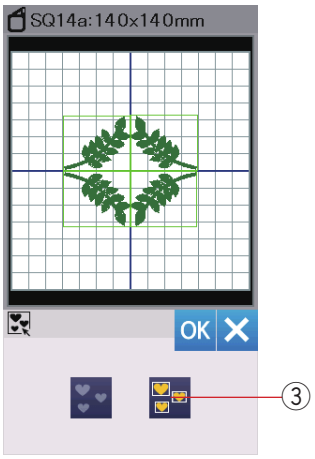
1 You can group patterns together.
Press the next set key ① to show the next set of editing tools.
Press the group key ② and the grouping option window will open.
① Next set key
② Group key

1



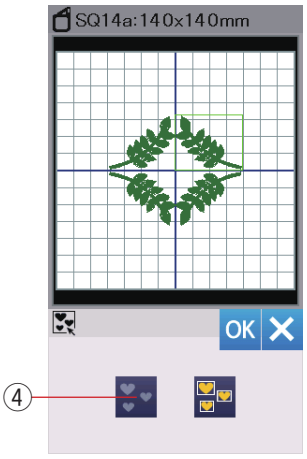
2 Press the group all key ③ and press the OK key to group all the patterns in the editing window.
③ Group all key

2



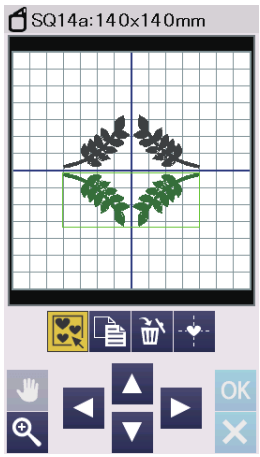
3 If you wish to group the selected patterns only, select the desired patterns by pressing on the pattern images.
Press the selected pattern again to deselect the pattern. To deselect all the patterns, press the deselect key ④.
Press the OK key to group the selected patterns.
④ Deselect key

3



4 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.

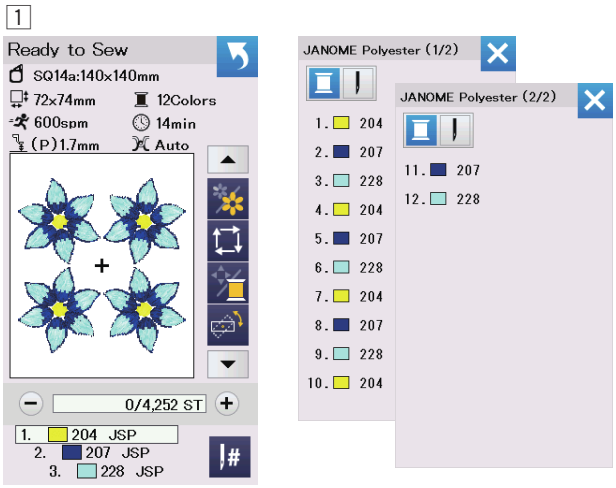
4



Color grouping

When combining duplicated patterns, you can reduce the number of color sections with color grouping.

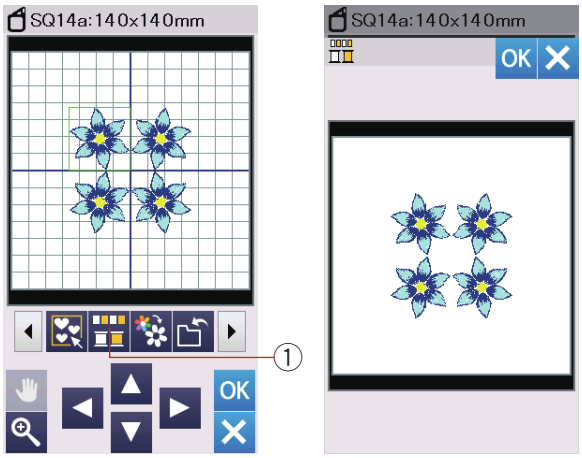
1 For example, the combined design pattern has 12 color sections.



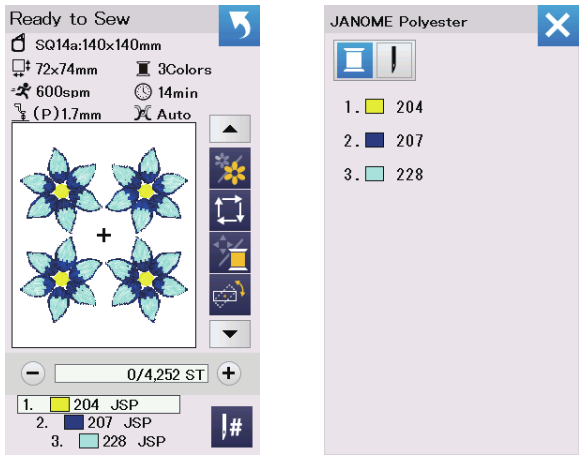
2 Press the color group key ① and the color grouping window will open.

Press the OK key to unite all color sections of the same color and the ready to sew window opens.

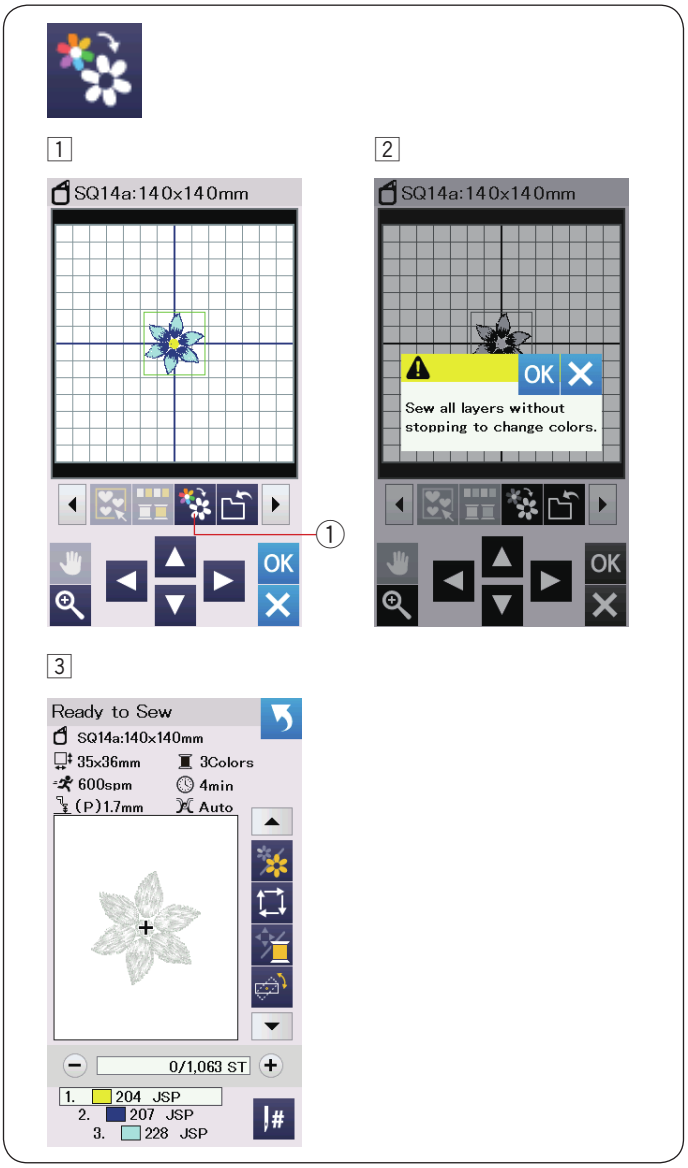
① Color group key



3 The number of color sections is reduced to 3.



NOTE:
Color grouping will be cancelled when returning to the editing window.



Single color sewing

If you want to sew a pattern or a pattern combination in one color only, press the single color sewing key ①. The machine will not stop until the entire design is sewn.

1 Press the single color sewing key ①.
2 Press the OK key.

3 The design(s) will be displayed in gray.
Press the start/stop button to start single color sewing. The design will be sewn without stopping for color change.

Embroidery Lace Designs

You can attach the lace pieces in the “Designs for water soluble stabilizer” category to a background fabric with the lace designs in the “Designs for fabric” category to achieve a three-dimensional appearance.

Example: Butterfly design (FA10a-1)

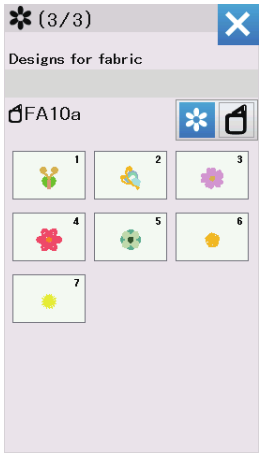
1

Attach the water soluble stabilizer to the hoop.
Be sure that the stabilizer is stretched tightly in the hoop. Select “Designs for water soluble stabilizer”.
Press the page key. Select the design FA10a-1 and sew.

Remove the water soluble stabilizer from the hoop.
Trim away the water soluble stabilizer surrounding the design pattern with scissors.

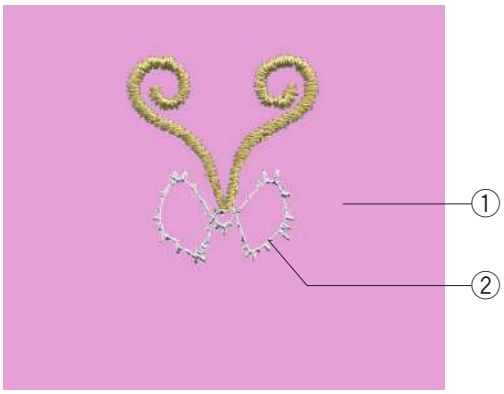
Remove the water stabilizer by soaking the butterfly wing design into a bowl of warm water.

2



Attach the background fabric to the carriage.
Select “Designs for fabric”.
Press the page key. Select the design FA10a-1 and sew the first and second sections (color).

3



The second section is the placement guide for placing butterfly wings.
① Background fabric
② Placement guide (second section)

4

Place the butterfly wings piece which was created in procedure 1 above so that the butterfly wings are aligned with the placement guide.
Use tape to hold the design for your convenience.

NOTE:
Be sure that the lace piece to be attached is completely dried out after removing from water.

5 Sew the third section (color) over the design. The butterfly wings are attached to the background fabric. Sew the rest of the section (color) and remove the tape to complete the design.

NOTE:
The other butterfly design also requires a combination of the water soluble stabilizer design FA10a-2 and the fabric design FA10a-2. Place the butterfly wing piece on the placement guide and continue sewing.

Placement guides of “Designs for fabric”

Each embroidery design in Designs for fabric category contains a placement guide section for placing designs for water soluble stabilizer.

After the placement guide is sewn, the machine will sew over the lace piece with the next section (color) to hold the piece.

The placement guides and their sewn orders are indicated below. Place the desired lace piece on the placement guide and hold it with tape. Sew over the lace piece with the next section to hold the piece.

FA10a-1

2nd section

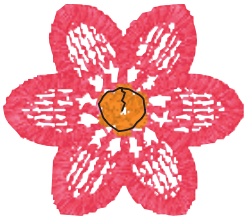
FA10a-2

4th section

FA10a-3

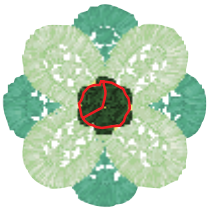
2nd section

FA10a-4



2nd section

FA10a-5

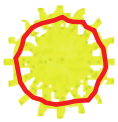


3rd section

FA10a-6

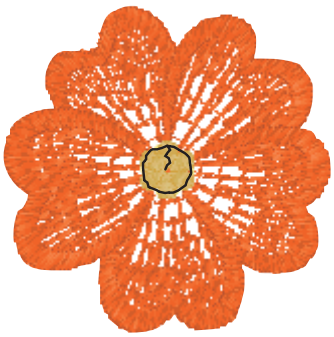
1st section

FA10a-7



1st section

SQ14a-1



2nd section

SQ14a-2

2nd section

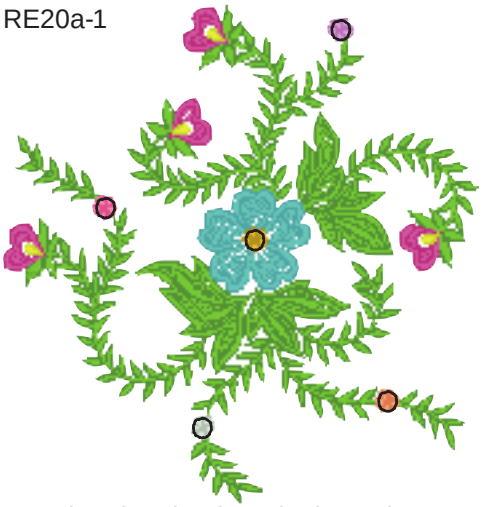
SQ14a-3

3rd section

SQ14a-5

4th and 6th sections

RE20a-1



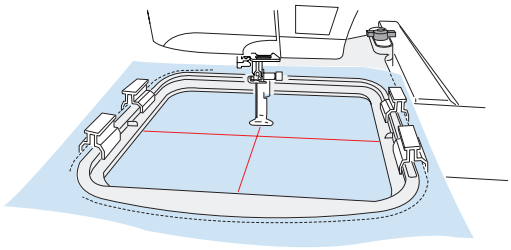
5th, 6th, 7th 8th and 9th sections

Lace Design RE20a-1 (Designs for water soluble stabilizer)

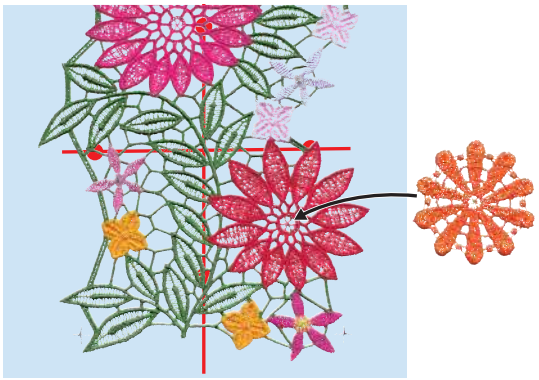
You can attach up to 4 flower designs to the large lace design (Designs for water soluble stabilizer) RE20a-1.

1

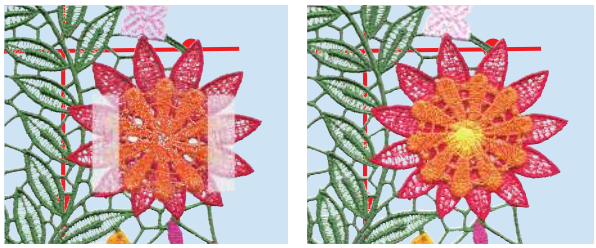
1 Prepare the flower designs you want to attach before sewing the lace design RE20a-1. Select the desired flower designs from the “Designs for water soluble stabilizer” category, and sew them to the water soluble stabilizer. Remove the water stabilizer by soaking the flower designs into a bowl of warm water.

2 

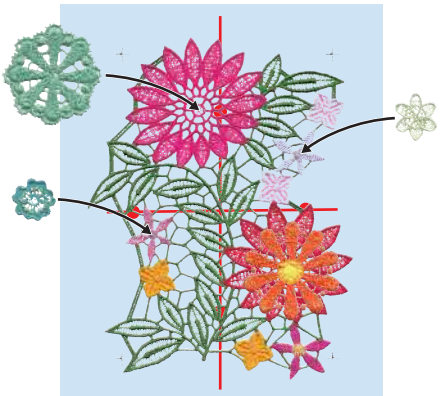
2 Draw centerlines on the water soluble stabilizer with tailor’s chalk. Set the water soluble stabilizer in the hoop RE20a and attach the hoop to the carriage. Select the RE20a-1 design (Designs for water soluble stabilizer).

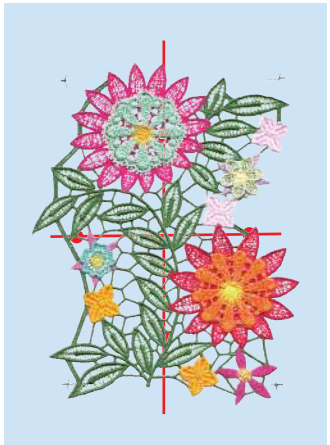
3 

3 Sew until the 11th section (color). The 11th section is the placement guide for placing flower designs. Place one of the flower design pieces which was created in procedure 1 above so that the flower design is aligned with the placement guide.

4 

4 Use tape to hold the design for your convenience. Sew the 12th section (color) over the design. The flower design is attached to the large lace RE20a-1 design.

5 

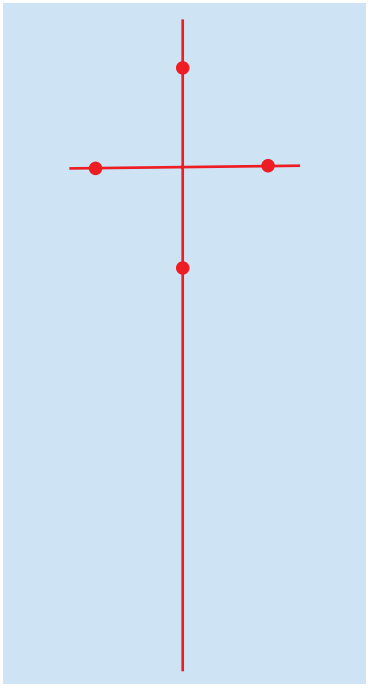


5 Sew the rest of the sections. The 13th, 15th and 17th sections are the placement guides. Place the flower designs created in procedure 1 and sew over flower designs (same as done in procedure 4).
Remove the design from the hoop.
Remove the water stabilizer by soaking the overall design into a bowl of warm water to complete the design.

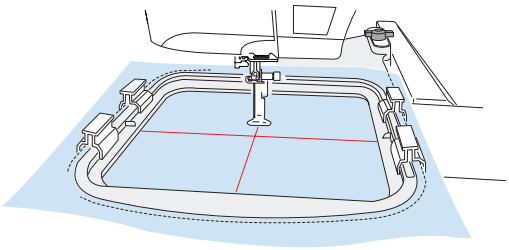
Connecting Lace Design RE20a-1 (Designs for water soluble stabilizer)

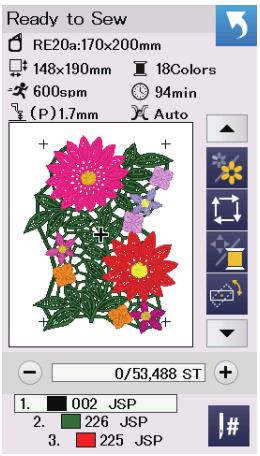
You can connect the large lace design RE20a-1 vertically or horizontally.

Example: Connecting the Lace Design RE20a-1 vertically

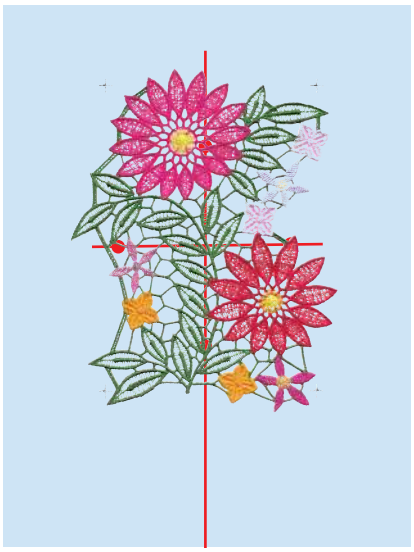
1 

1 Draw centerlines on the water soluble stabilizer with tailor's chalk.
The water soluble stabilizer and vertical line should be long enough to connect following patterns.

2 

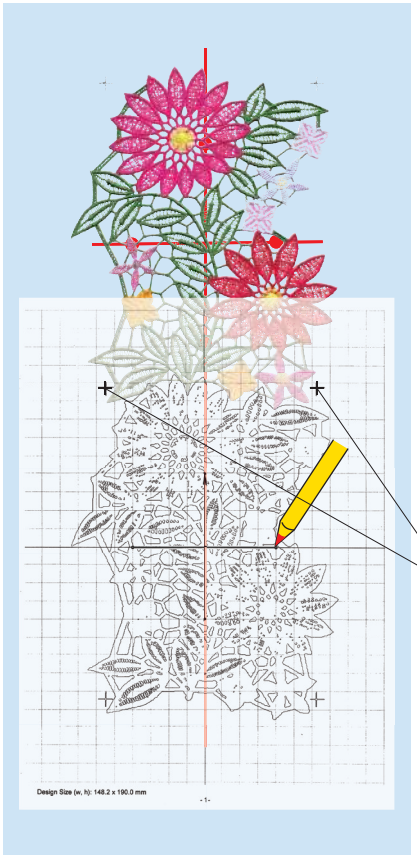


2 Set the water soluble stabilizer in the hoop RE20a and attach the hoop to the carriage.
Select the design RE20a-1 (Designs for water soluble stabilizer).

3 

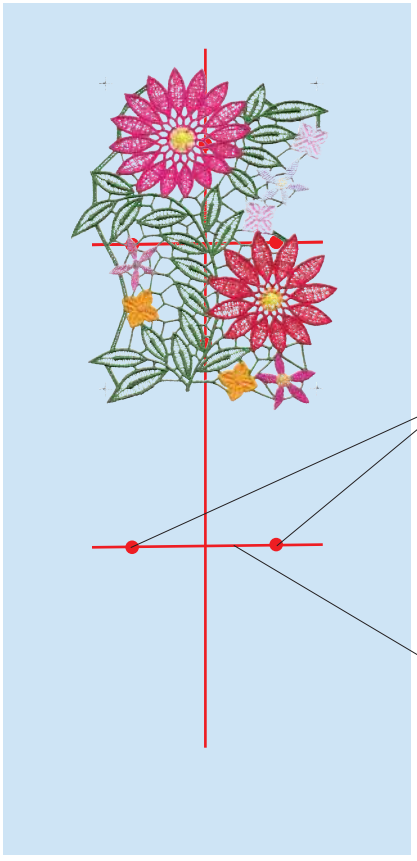
3 Press the start/stop button and sew.
Remove the hoop from the carriage and the stabilizer from the hoop.

4



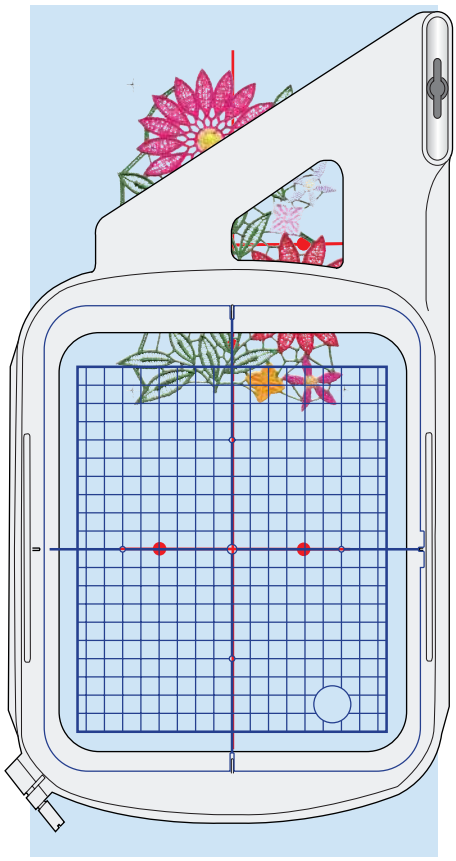
4 Place the template sheet on the fabric.
Align the cross marks of the sewn pattern and template sheet. To print out the template sheet, refer to on-screen help of EmbroideryEditor in Acutools S.
① Cross mark

5



5 Mark the points of the horizontal centerline for the second pattern.
Draw the horizontal centerline.
② Points
③ Horizontal centerline

6



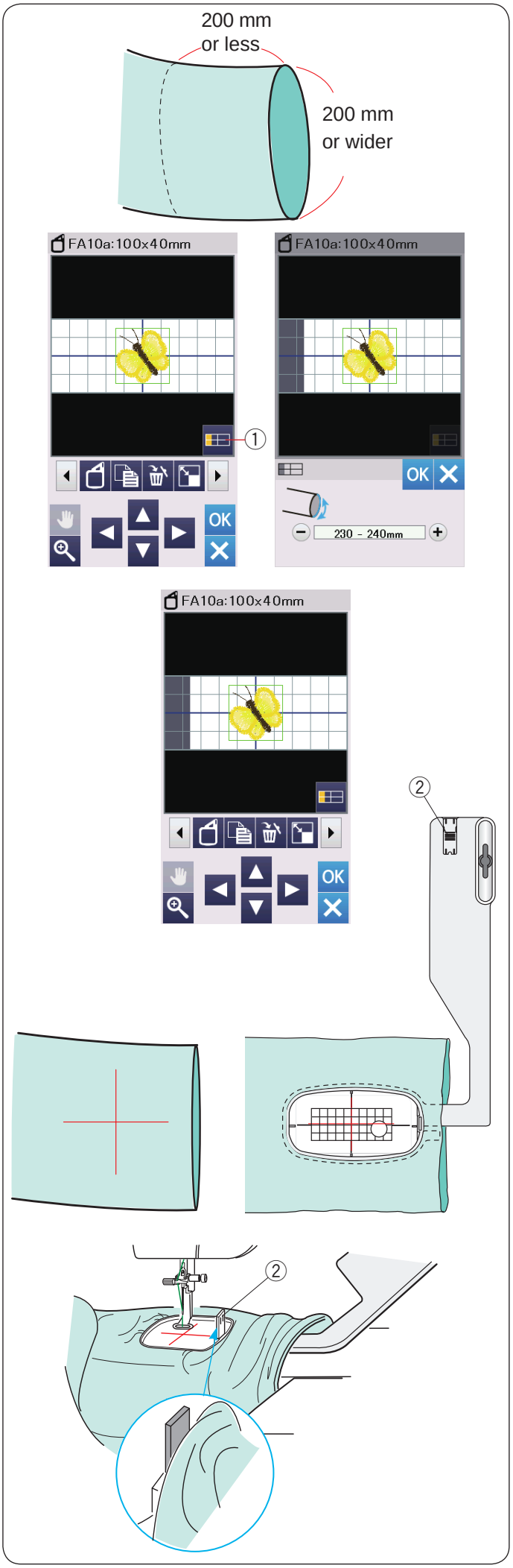
6 Set the stabilizer in the hoop and adjust the fabric position to match the centerlines for the second pattern and template.
Attach the hoop to the carriage and press the start/stop button.
The cross marks will be sewn for the first pattern.
Adjust the hoop position with the jog keys or Fine position/angle adjustment key if necessary (refer to page 126).

Press the start/stop button to sew the rest of patterns.

7

7 Remove the stabilizer from the hoop.
Trim away the water soluble stabilizer surrounding the design pattern with scissors.

Remove the water soluble stabilizer by soaking the design in a bowl of warm water to complete the design.



Free Arm Embroidery
The free arm hoop FA10a 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 200 mm (8″) or wider.
The area to be embroidered should be within 200 mm (8″) from the opening.

Opening width:
If the opening width is 200–250 mm the embroidery area should be limited in order to prevent fabric from restraining hoop movement.
Press the opening width key and select the opening width by pressing “+” or “–” key.
Press the OK key and the area limits will be indicated.
① Opening width key

Free arm embroidery
Draw centerlines on the fabric with tailor’s chalk.

Open the editing window and select the hoop FA10a.
Select small designs which can be opened.

Press the OK key to open the ready to sew window.

Remove the extension table.

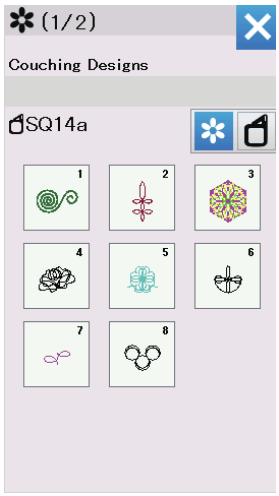
Set the garment in the hoop FA10a as shown.
Position the garment so that the centerlines match those on the template in the hoop.

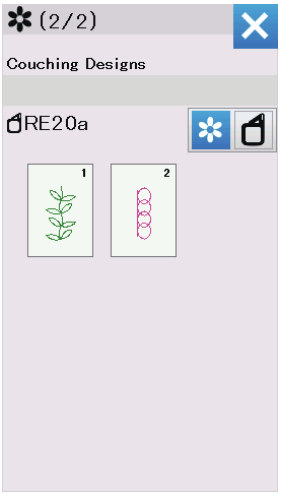
Place the garment over the free arm of the machine and attach the hoop FA10a to the carriage.

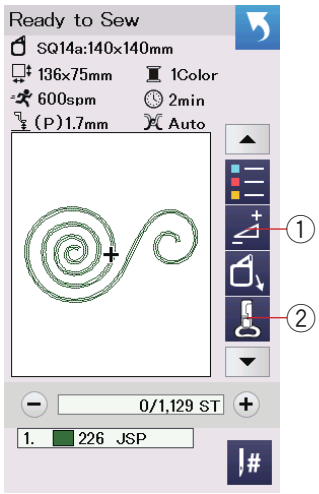
Roll up the cuff so that it will not jam at the neck of the free arm.
Insert the blocking plate into the inner hoop to prevent the cuff from overlapping the embroidery area.
② Blocking plate

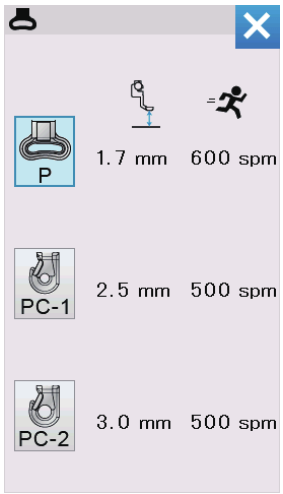
Press the start/stop button to sew making sure that the garment can move freely around the free arm.

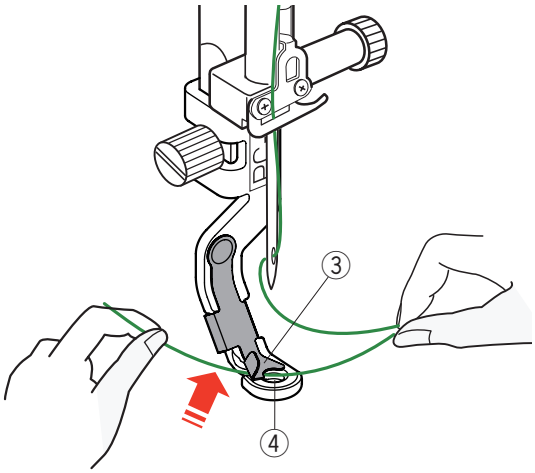
Remove the hoop from the carriage when sewing is finished. Remove the garment from the free arm.

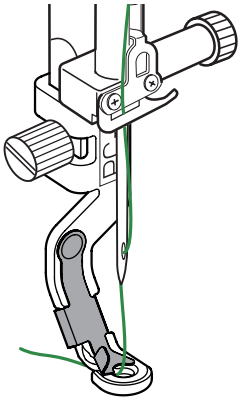












Couching Designs

Enjoy embellishing your work with yarns.
Use the couching foot PC-1 or PC-2 for the couching designs.
For weight 3 yarn (light), use the couching foot PC-1.
For weight 4 yarn (medium) use the couching foot PC-2.

NOTE:

- Use the weight 3 yarn (light) or weight 4 yarn (medium) for the couching design project.
- Do not sew on a hard string.
- Test sew to check the sewing results.
- Do not use the single color sewing key for the couching designs.
- Use the same color thread for the bobbin and the needle thread as the yarns for the best result.

Select one of the couching design.
In the ready to sew window, press the embroidery foot key ②.
Select the couching foot PC-1 for the weight 3 yarn (light).
Select the couching foot PC-2 for the weight 4 yarn (medium).
The presser foot height and sewing speed will be automatically adjusted to suit the selected couching design sewing.

If the yarn layers become too thick, press the adjust key ① and adjust the presser foot manually (refer to page 127).

CAUTION:
Press the lockout key to lock the machine when attaching/removing the presser foot, yarn guide, and threading the threads and yarns to the machine.

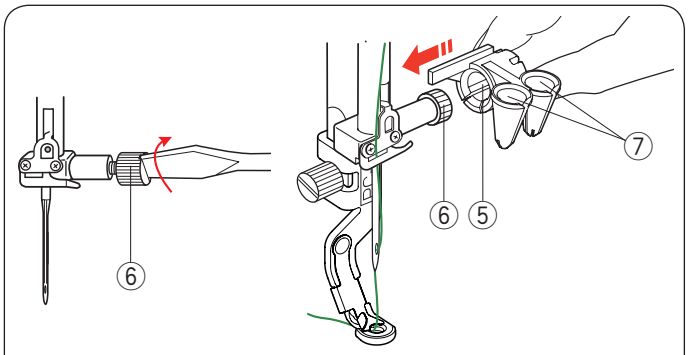
Preparation

Attach the selected couching foot to the machine.
To attach the couching foot, refer to page 23.

Turn the handwheel toward you.
Be sure that the needle through the center of the couching foot.

Hold the thread with both of your hands.
Slide the thread under the plate, and slip it into the presser foot hole.

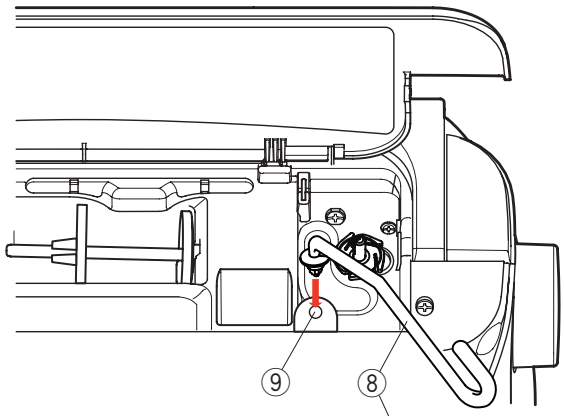
③ Plate
④ Presser foot hole



Retighten the needle clamp screw firmly with the screwdriver.
Slide the yarn guide ⑤ onto the needle clamp screw ⑥ firmly with the mouths ⑦ of the yarn guides up as shown.

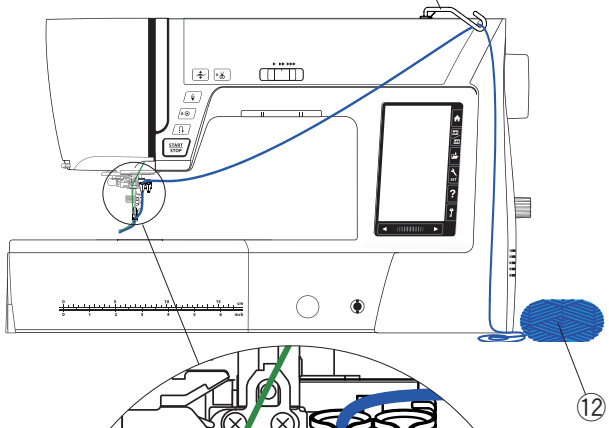
⑤ Yarn guide
⑥ Needle clamp screw
⑦ Mouths

NOTE:
Be careful not to turn the needle clamp screw when sliding the yarn guide onto the needle clamp screw.



Insert the yarn guide bar ⑧ into the hole for the additional spool pin ⑨.
Turn the yarn guide to the right until it stops.

⑧ Yarn guide bar
⑨ Hole for the additional spool pin

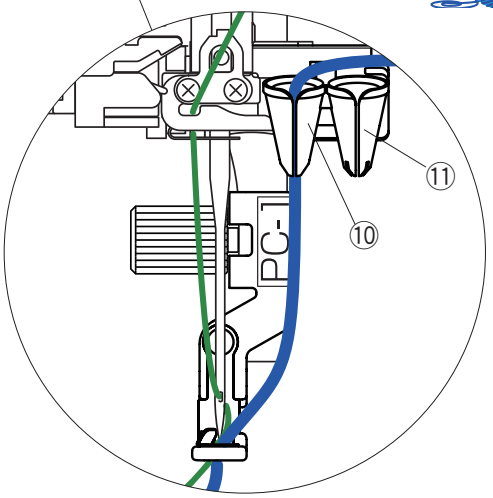


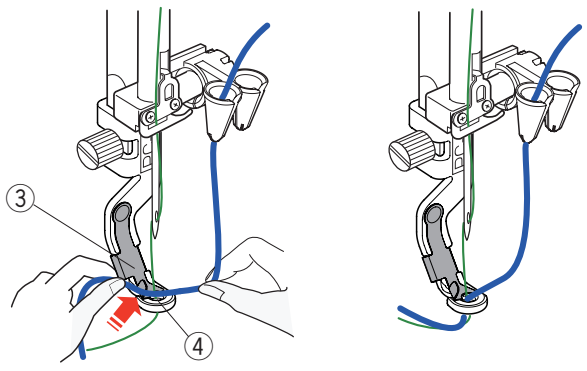
Pass the yarn through the yarn guide bar.

Thread the yarn by passing it through the slit on the mouth.
Thread the yarn through the left mouth for the couching foot PC-1 ⑩.
Thread the yarn through the right mouth for the couching foot PC-2 ⑪.

⑩ Mouth for couching foot PC-1
⑪ Mouth for couching foot PC-2

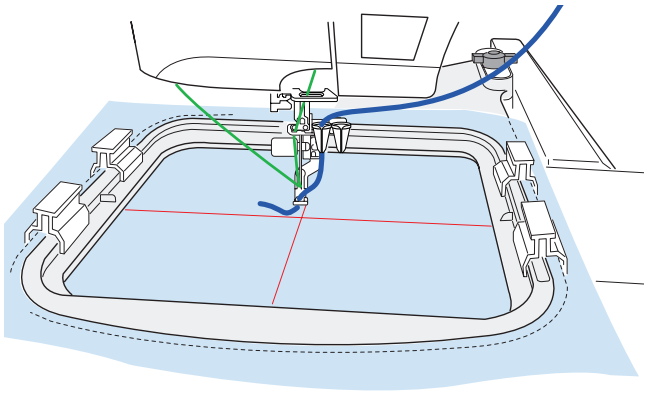
Unwind the ball of yarn ⑫ and splay out the yarn on a sewing table to ensure smooth feeding without tangling.

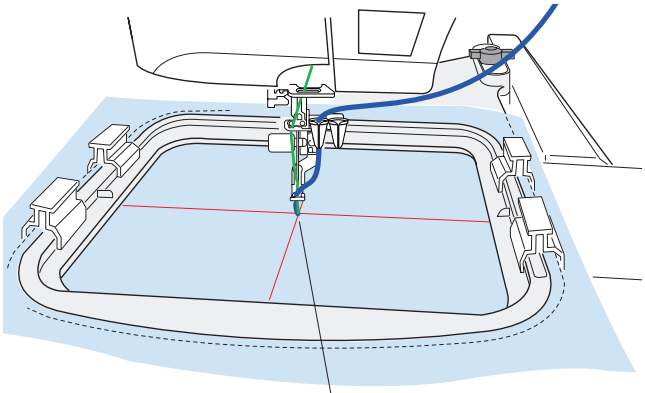


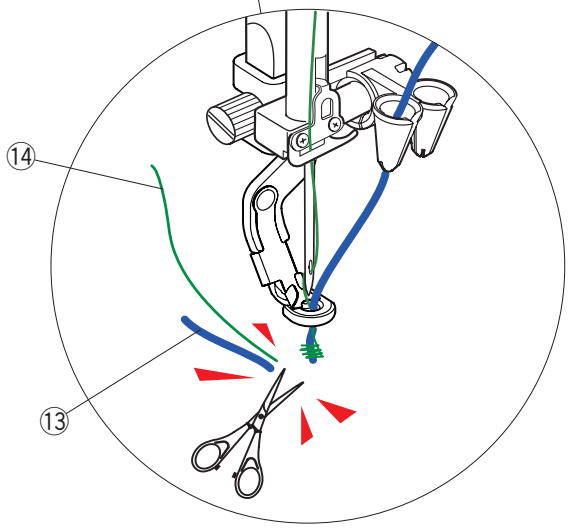


Hold the yarn with both of your hands.
Slide the yarn under the plate, and slip it into the presser foot hole.
Draw the yarn and needle thread to the rear.

③ Plate
④ Foot hole







To sew:

NOTE:
The knots may appear at some points of a ball of yarn. Be careful not to feed the knot of yarn into the mouth of the yarn guide while sewing.

Set the fabric to the hoop.
Attach the hoop to the carriage.

Press the start/stop button and sew 5 to 6 stitches.
Press the start/stop button again to stop the machine.

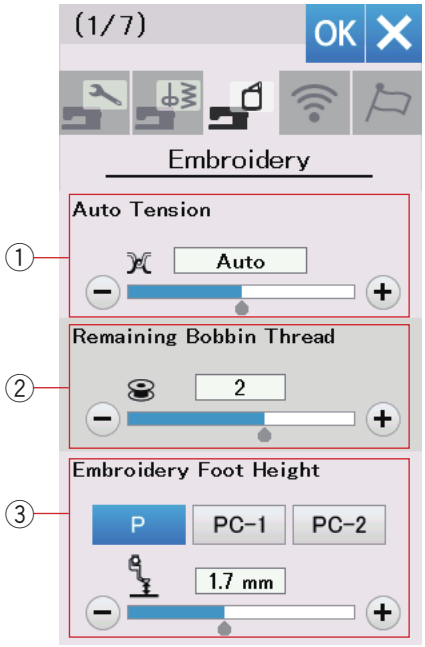
Cut the loose yarn ⑬ and thread ⑭ to the beginning of the starting point.
Press the start/stop button to start sewing again.
⑬ Loose yarn
⑭ Loose thread

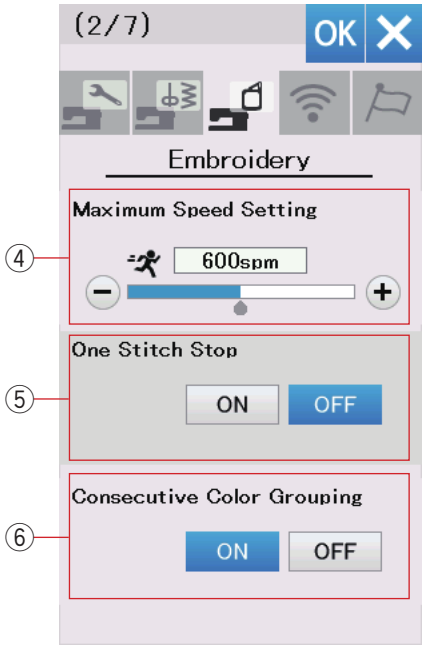
The machine will stop (and trim the threads if the auto thread cutting is activated) automatically when the first color section is finished.

Change the thread to the next color and yarn.
Sew the next section.

NOTE:
Remove the couching foot when finished couching design. The needle may strike the couching foot when switching the ordinary sewing mode.

NOTE:
When you combine couching designs, it is necessary to stop the machine and trim the excess yarn after the yarn jumps to the next couching design.





CUSTOMIZING EMBROIDERY MODE SETTINGS

Embroidery Mode Settings

Press the embroidery setting mode key (refer to page 94).

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 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.
You can select the type of embroidery foot to set the embroidery foot height from P, PC-1 or PC-2 by pressing the corresponding key.

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

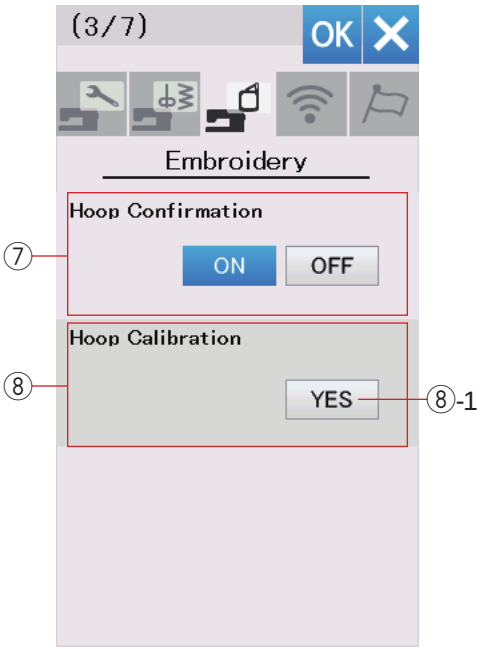
④ Maximum embroidery speed
The maximum embroidery sewing speed can be set from 400 to 800 spm in 100 spm intervals by pressing the "+" or "–" key. (Sewing speed can be varied with the speed control slider even while running the machine.)

NOTE:
Reduce the sewing speed when sewing patterns with narrow zigzag stitches that tend to warp at high speeds.

⑤ 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.

⑥ 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 a file or going to the ready to sew window. This function is invalid when combining the built-in designs and externally 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.



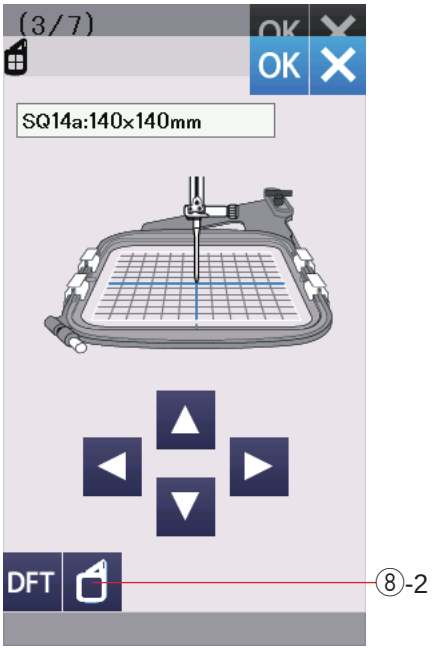
⑦ Hoop confirmation on/off

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.

⑧ 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.

⑧-1 YES key

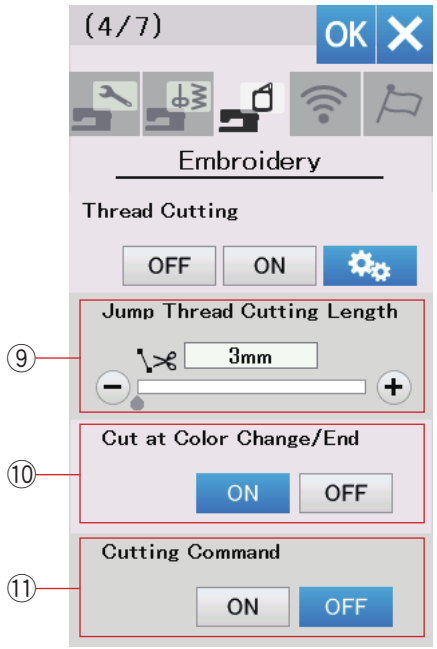


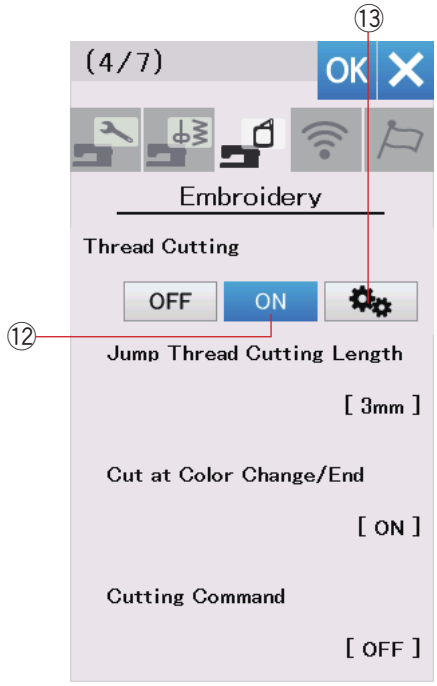
The carriage moves to the center position.
Press the hoop selection key to open the hoop selection window.

⑧-2 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.

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





Thread cutting

There are 3 thread cutting options for embroidery.

⑨ **Jump thread cutting length**

When this option is turned on, the machine trims the jump threads if the jump thread length is the same or more than the set value. Jump thread cutting length can be set from 3 mm to 30 mm or off.

⑩ **Cut at color change/end**

When this option is turned on, the machine trim the thread when it stops to change the thread to the next color.

⑪ **Cutting command**

When this option is turned on, the machine trim the threads at the trim code if the imported stitch data file contains a trim command (cutting command).

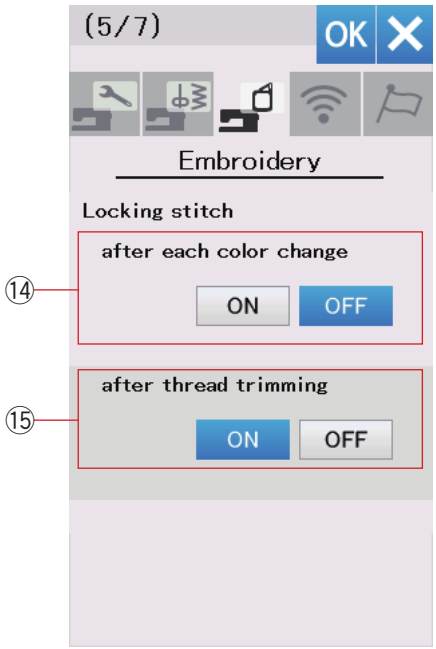
⑫ **Easy setting**

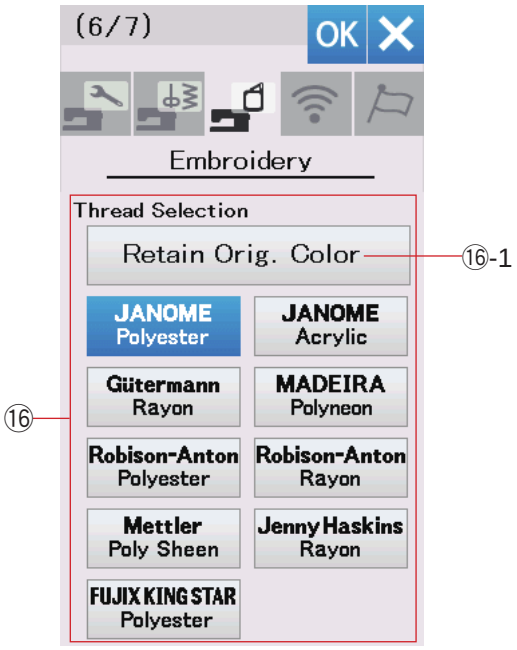
When this setting is turned on, the machine will trim the threads if the jump thread is 3 mm or longer, or when the machine stops to change the thread to the next color. Press the OK key to confirm the easy setting.

⑬ **Advanced setting**

When this setting is turned on, you can configure the Jump thread cutting ⑨, Cut at color change/end ⑩, and Cutting Command ⑪ options individually.

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





NOTE:
You do not need to change Locking stitch function settings when using built-in embroidery designs.

⑭ Locking stitch ON/OFF (after each color change)
The threads may ravel if the stitch data does not contain locking stitches at the beginning of each color section. To avoid raveling, insert locking stitches at the beginning when this function is turned ON.

⑮ Locking stitch ON/OFF (after thread trimming)
If you turn ON the thread cutting (refer to the previous page “Thread cutting”), the machine will insert locking stitches after the jump to avoid threads from raveling.

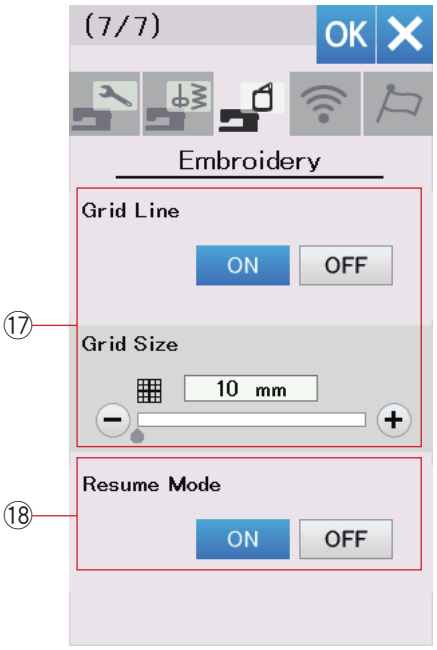
Press the next page key to go to the next menu.

⑯ Thread selection
There are 9 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.

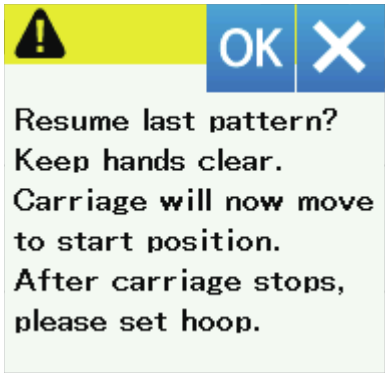
⑯-1 Retain original color key

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



⑰ Grid line on/off
Turn this option on to show grid in the editing window.
The grid size can be altered from 10 to 30 mm with the "+" or "–" key when this option is on.
Turn this option off to hide the grid.

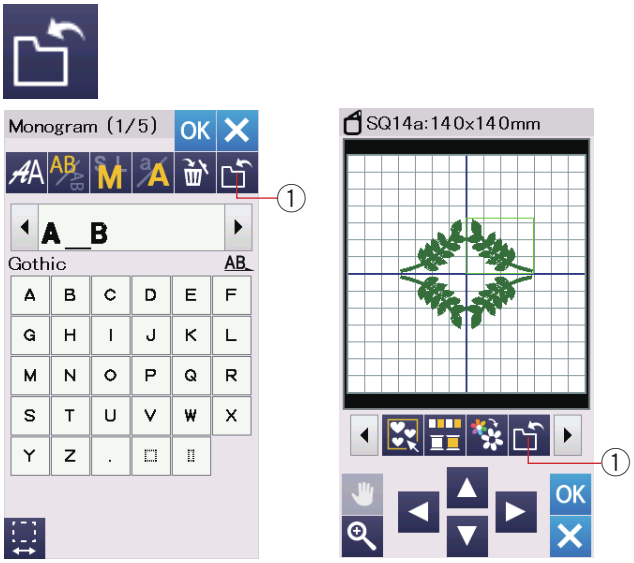
⑱ Resume mode
When Resume Mode is turned on, the last pattern sewn before turning the power off will resume when you turn the power on again.

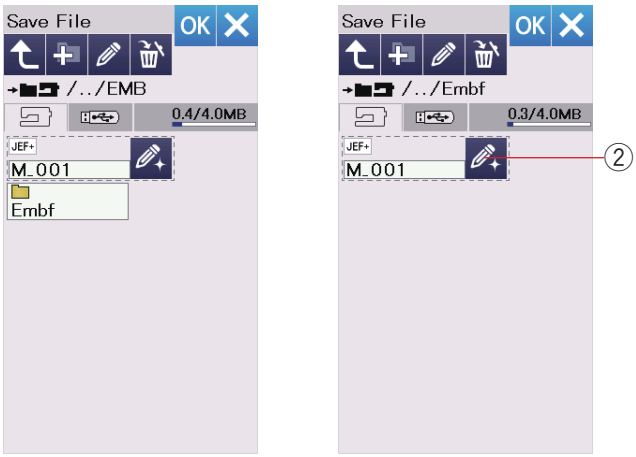


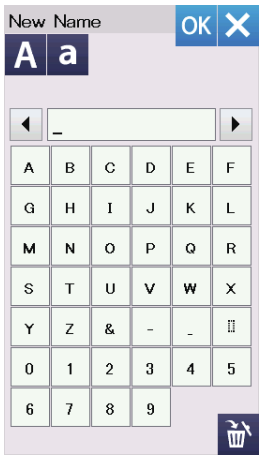
When you turn the power on, the confirmation window opens. Press the OK key to resume the last pattern.

NOTE:
When the auto-off timer is turned on, the resume mode will be automatically turned on and cannot be changed (refer to page 97).

After customizing the settings, press the OK key to enable the new settings.
To exit the setting mode without changing the settings, press X key.







Saving and Opening a File

NOTE:
Always back up your data to an external device in case a problem occurs.

You can save original embroidery designs as files in the built-in memory and/or USB flash drive.

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

① Save file key

A folder labeled “Embf” 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.....

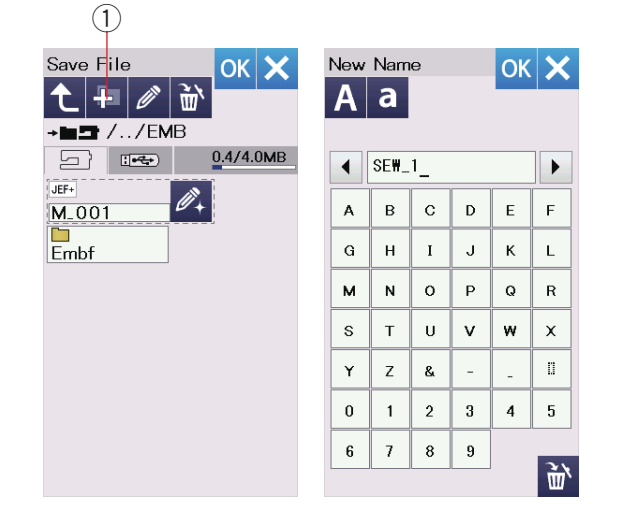
Press the OK key and the file is saved in the selected folder.

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.



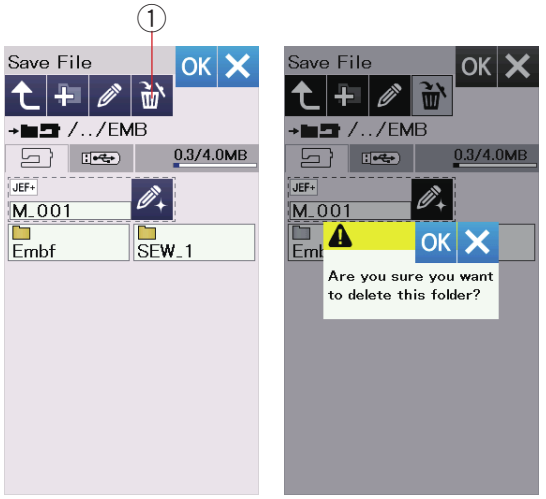
Creating a new folder

Press the new folder key and the keyboard window will open.

① New folder key

Enter a folder name and press the OK key.

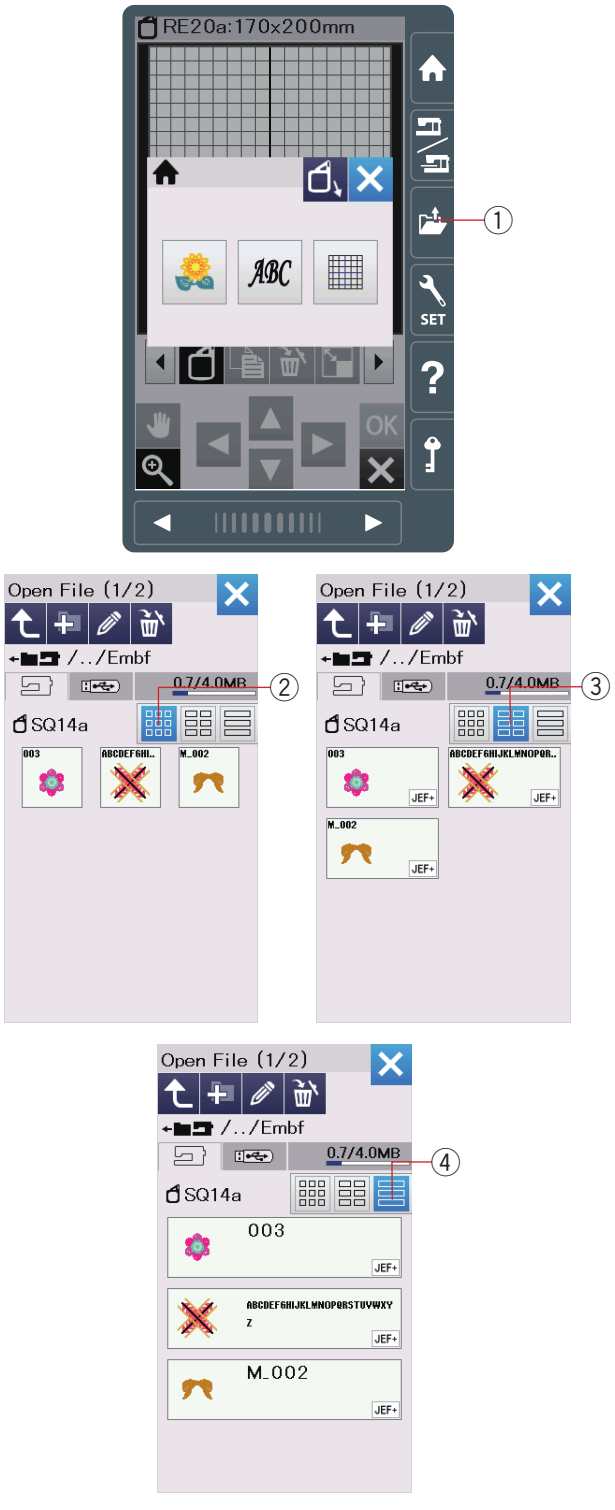
A new folder is created under the assigned name.



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.

① Delete key



Opening a file

To open 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.
The default view is “small icon” view.
In this view, many files can be displayed at once, and file attributes are not shown on the icons.
To open the file, press the file icon.

The file attributes can be shown on the file icon.
To show the file attribute, press the “large icon” key or “file list” key.

② Small icon key
③ Large icon key
④ File list key

There are 8 file attributes as follows:

JEF : *.JEF (Janome embroidery format)

JEF+ : *.JEF+ (editable Janome embroidery format)

JPX : *.JPX (editable Janome embroidery format)

JPX : *.JPX (*.JEF+ with a background bitmap image)

JPX : *.JPX (Acufil embroidery format)

JPX : *.JPX (Cutwork embroidery format)

: *.JPX (Free-arm embroidery format)

DST :*.DST (Tajima embroidery format)

To hide file attribute, press the small icon key.

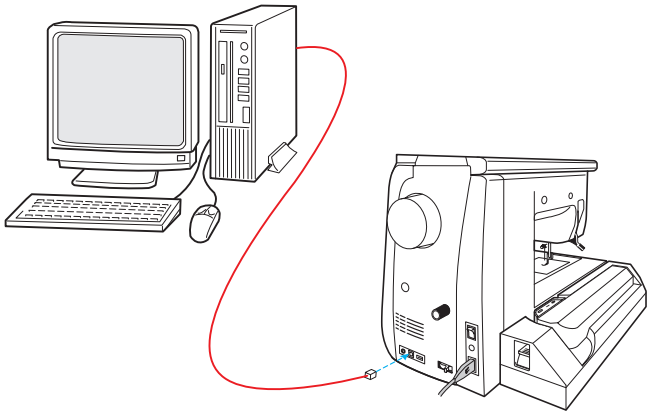
NOTE:
Tajima (*.DST) format does not have thread color information. Janome’s thread color will be assigned automatically when opening.

Changing a name of the file or folder

Press the rename key and select the file or folder for which you wish to change the 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 enter a name that already exists, the message “The same name exists.” will appear.
Press the X key and enter another name.



Direct PC-Link

You can connect your sewing machine to a PC with the USB cable included in the standard accessories.

You need to install EmbroideryEditor and the USB driver for your sewing machine on your computer.

Embroidery Editor and the USB driver are available in the Acutools S CD-ROM included in the standard accessories.

Start up your sewing machine and PC, and insert the type “A” USB connector into the PC.
Insert the type “B” connector into your sewing machine.

You can send original stitch patterns created with Stitch Composer and original embroidery design data from a PC to your sewing machine.

Refer to on-screen help of EmbroideryEditor for more details.

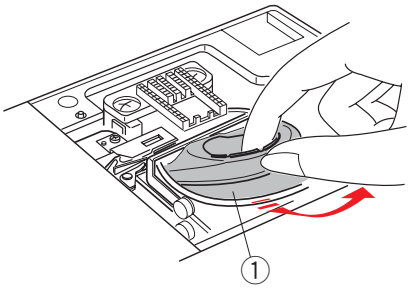
CAUTION:
Do not turn the power off or disconnect the USB cable while the data transfer is in progress, as this will cause loss of data and can damage the machine’s memory.

CARE AND MAINTENANCE

Cleaning the Hook Area

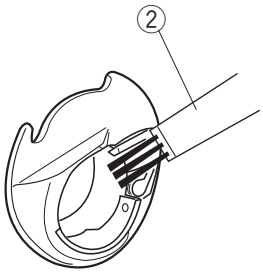
Clean the hook area at least once a month.
Remove the needle plate (refer to page 24).
Turn the power switch off and unplug the machine.
Remove the needle and presser foot.

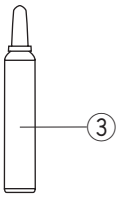
CAUTION:
Do not dismantle the machine in any way other than as explained in this section.

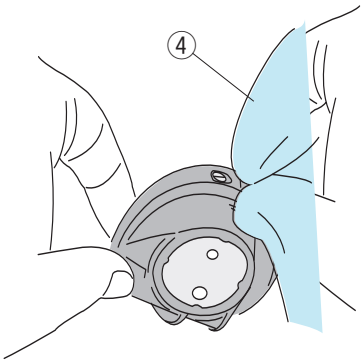


Take out the bobbin and bobbin holder.

① Bobbin holder

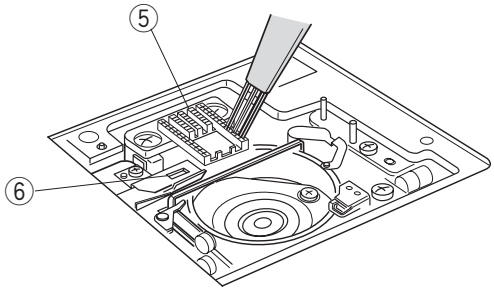






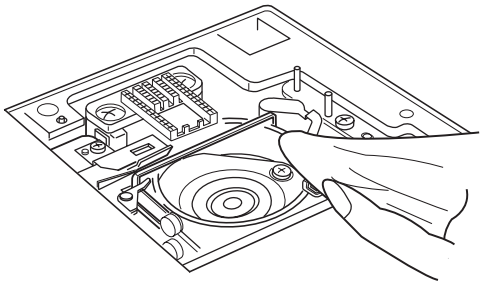
Clean the bobbin holder with a lint brush.
Apply a few drops of the bobbin holder cleaner (included in the standard accessories) to a soft cloth and wipe the bobbin holder both inside and outside.

② Lint brush
③ Bobbin holder cleaner
④ Soft cloth

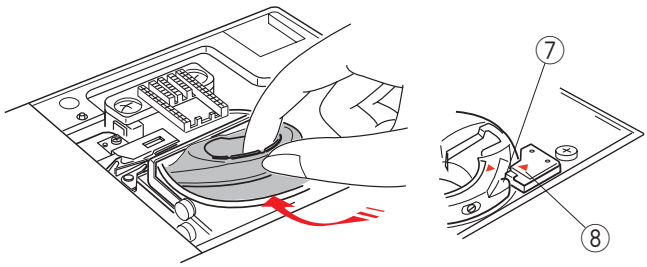


Clean the feed dog and auto thread cutter device with the lint brush.

⑤ Feed dog
⑥ Auto thread cutter device



Clean the inside and lip of the hook race with a soft cloth.



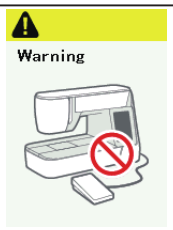
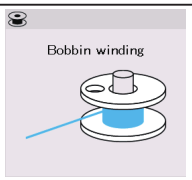
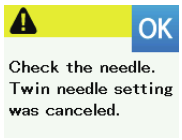
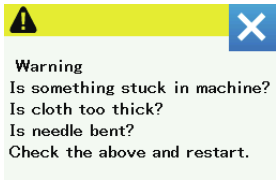
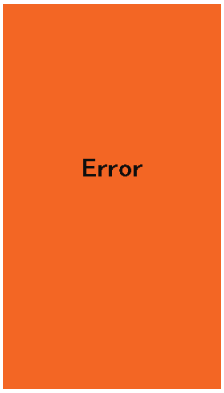
Insert the bobbin holder so that the knob fits next to the stopper in the hook race.
Insert the bobbin.

⑦ Knob
⑧ Stopper

Attach the needle plate, presser foot and needle.

Problems and Warning Signals

If the visual touch screen shows a warning sign, follow the guidance below.

Warning Sign	Cause	Try this
	The start/stop button is pressed with the foot control connected.	Disconnect the foot control.
	The foot control is out of order.	Contact the service center or the store from whom the machine was purchased.
	The bobbin winder spindle is shifted to the right.	Shift the bobbin winder spindle to the left for stitching.
	The machine will stop if the buttonhole is sewn without lowering the buttonhole lever.	Lower the buttonhole lever and start the machine again.
	The twin needle key is pressed when the twin needle sign is indicated on the LCD screen.	Replace the twin needle with a single needle and press the OK key.
	The machine is started without lowering the feed dog with button sewing selected.	Lower the feed dog.
	The machine is started with the feed dog lowered.	Raise the feed dog unless you want to sew with the feed dog lowered.
	The needle plate is removed.	Attach the needle plate. Check if the needle plated is attached properly.
	The machine is halting due to overload.	Wait for at least 15 seconds to restart. Remove tangled threads around take-up lever, hook race and automatic thread cutting mechanism.
	The machine is malfunctioning.	Contact the service center or the store from whom the machine was purchased.

Troubleshooting

Condition	Cause	Reference
The machine is noisy.	1. Thread is jammed in the hook area. 2. The feed dog is packed with lint.	See page 160. See page 160.
The needle thread breaks.	1. The needle thread is not threaded properly. 2. The needle thread tension is too tight. 3. The needle is bent or blunt. 4. The needle is inserted incorrectly. 5. The thread is too heavy for the needle. 6. The needle thread was not set in the thread holder when embroidery sewing started.	See page 16. See page 37. See page 19. See page 19. See page 19. See page 115.
The bobbin thread breaks.	1. The bobbin thread is not threaded properly in the bobbin holder. 2. Lint has collected in the bobbin holder. 3. The bobbin is damaged and does not turn smoothly.	See page 15. See page 160. Replace the bobbin.
The needle breaks.	1. The needle is inserted incorrectly. 2. The needle is bent or blunt. 3. The needle clamp screw is loose. 4. The needle thread tension is too tight. 5. The needle is too fine for the fabric being sewn. 6. An inappropriate presser foot for the selected pattern is being used. 7. The fabric was pulled toward you when sewing free motion quilting with the free motion quilting open-toe foot QO.	See page 19. See page 19. See page 19. See page 37. See page 19. Use the correct foot. See page 92.
Visual Touch Screen is not clear.	1. The contrast of the screen is not adjusted properly.	See page 94.
Skipped stitches	1. The needle is inserted incorrectly. 2. The needle is bent or blunt. 3. The needle and/or threads are not suitable for the fabric being sewn. 4. A blue needle is not being used for sewing stretch, very fine or synthetics. 5. The needle thread is not threaded properly. 6. The needle is defective (rusted, burr on needle eye or tip). 7. The embroidery hoop is not set properly. 8. The fabric is not stretched tightly enough on the embroidery hoop. 9. A purple needle is not being used for sewing thick fabrics, denims and across the hem.	See page 19. See page 19. See page 19. See page 19. See page 16. Change the needle. See page 115. See page 114. See page 19.
Seam puckering	1. The needle tension is too tight. 2. The needle thread or the bobbin thread is not threaded correctly. 3. The needle is too heavy for the fabric being sewn. 4. The stitch length is too long for the fabric. 5. The stitch width is too wide. 6. The stabilizer is not being used.	See page 37. See pages 15-17. See page 19. Make stitches shorter. Reduce the stitch width. Use the stabilizer.
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 160. Use the dual feed foot. Make stitches longer. See page 26.
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. 4. The start/stop button is used for ordinary sewing with the foot control plugged in.	See page 9. See page 160. Replace the foot control. See page 9.

Condition	Cause	Reference
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.	Remove the object. See page 106.
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 37. See page 36. See page 105. Use an interfacing. See page 115. See page 106. See page 114. Stop the machine and free the fabric. Trim the jump thread. Adjust the foot height (see page 152).
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. 4. Buttonhole lever is not lowered.	See page 46. See page 105. Use an interfacing. See page 44.
Pattern selection keys do not work.	1. The key position is out of alignment.	See page 95.
The machine cannot connect to the wireless LAN access point.	1. The wireless router device does not comply with IEEE802.11b/g/n wireless standard. 2. The wireless router device using WEP security, and encryption type or/and key index is not set correctly.	See page 102. See page 102.
The machine's Wi-Fi connection is unstable.	1. The wireless router device's DHCP option is not turned on. 2. A microwave oven, bluetooth devices or cordless phones is being used between the machine and the access point.	See page 102. See page 102.
The visual touch screen swells.	1. The machine has exposed to high humidity and high temperature.	Use and store the machine in a cool and dry area.
USB flash drive does not function.	1. The memory bank of the USB flash drive is damaged. 2. The USB flash drive is not compatible with the machine.	See page 95. Change the USB flash drive.

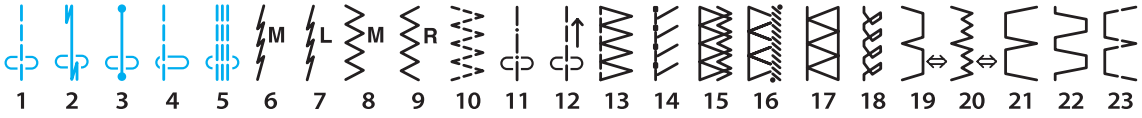
It is not abnormal for a faint humming sound to be heard from the internal motors.
The LCD screen and function key area may become warm after several hours of continuous use.

IMPORTANT:
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 an area of high humidity, near a radiator or in direct sunlight.
Make sure to store the embroidery carriage arm before turning off the power switch.

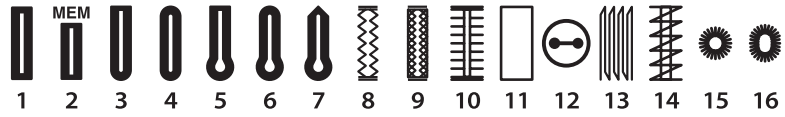
STITCH CHART

Ordinary Sewing

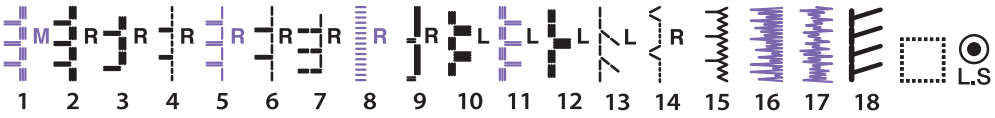
Utility (U)



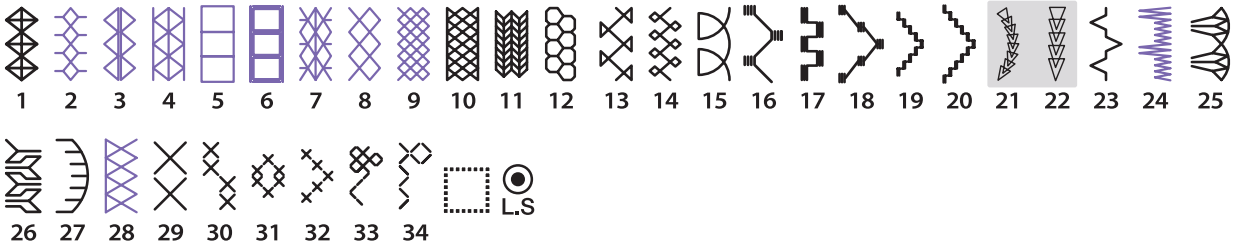
Buttonhole (B)



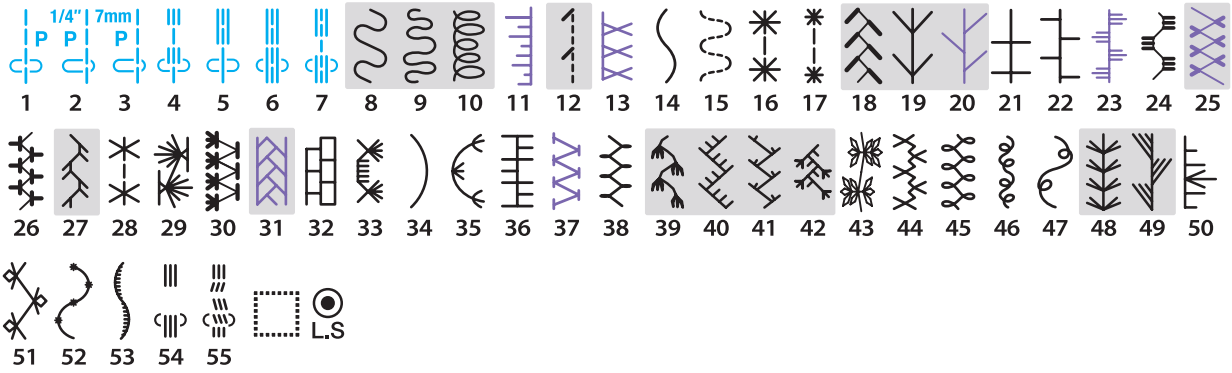
Applique (A)



Heirloom (H)

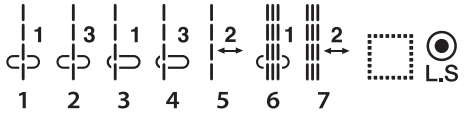


Quilt (Q)



Satin (S)

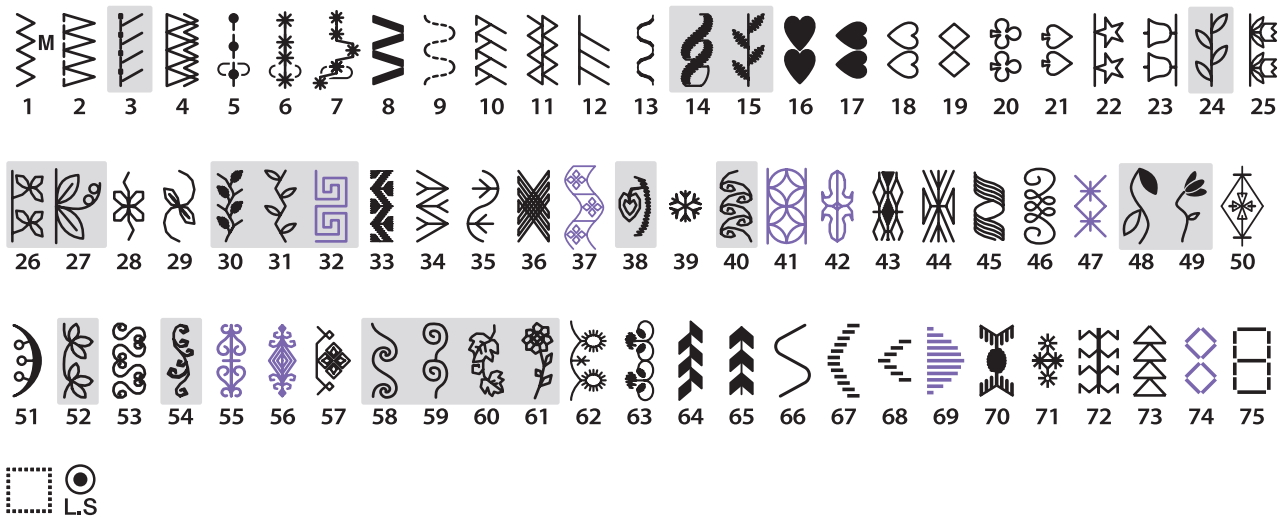
Bridge (BR)



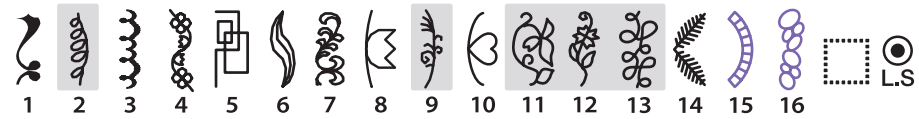
* Stitch patterns in blue can be used with the straight stitch needle plate.
* Stitch patterns in purple can be tapered.
* Stitch patterns shaded in light grey can be flipped vertically (Horizontal mirror image).

STITCH CHART
Ordinary Sewing

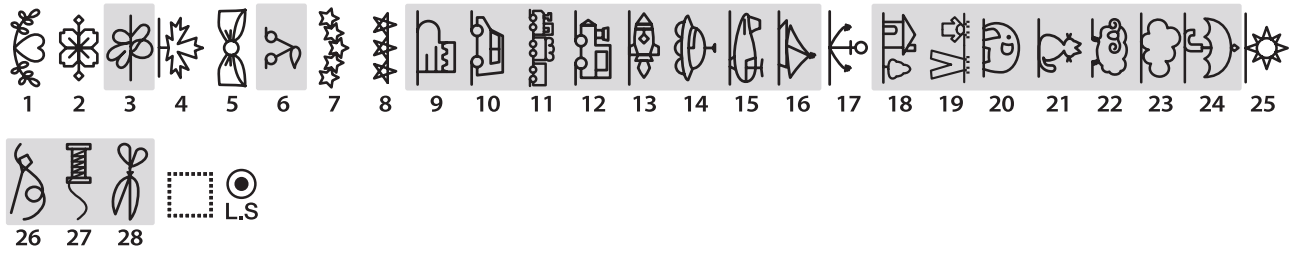
Decorative (D)



Long (L)



Pictograph (P)

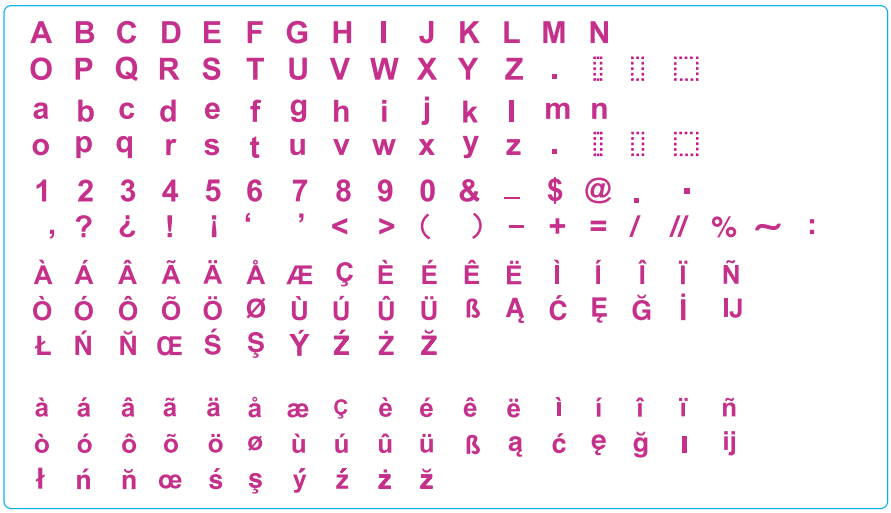


Play (PL)

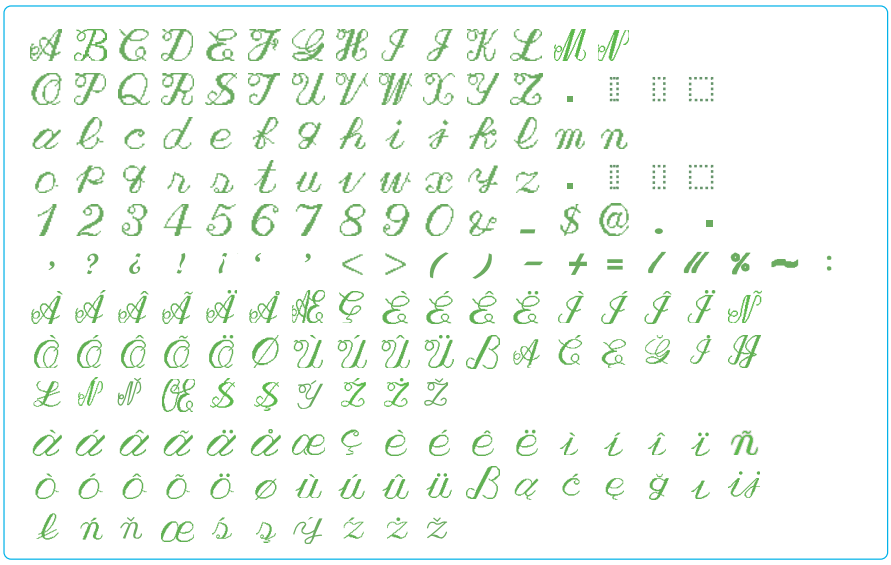
* Stitch patterns in purple can be tapered.
* Stitch patterns shaded in light grey can be flipped vertically (Horizontal mirror image).

STITCH CHART
Ordinary Sewing

Block

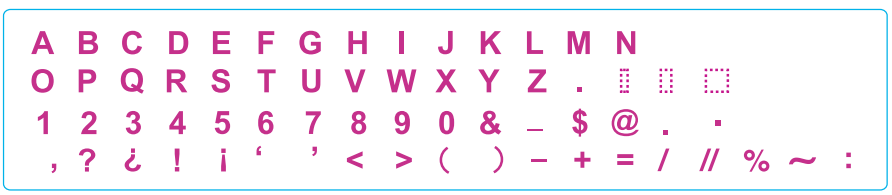


Script



Broadway

Block (9 mm)



STITCH CHART
Ordinary Sewing

Cyrillic

А Б В Г Ґ Д Ѓ Ђ Е Є Ё Ж З S И І Ї Й Ѝ J К Л Љ
М Н Њ О Ө П Р С Т Ћ У Ў Ф Х Ц Ч Џ Ш Щ Ъ Ы
Ь Э Ю Я . ⿲ ⿰⿺

а б в г ґ д ѓ ђ е є ё ж з s и і ї й ѝ j к л љ
м н њ о ө п р с т ћ у ў ф х ц ч џ ш щ ъ ы
ь э ю я . ⿲ ⿰⿺

1 2 3 4 5 6 7 8 9 0 & _ $ @ . • , ? ¿ ! ¡ ‘ ’
< > ( ) – + = / // % ~ :

Mincho (9mm)

あ い う え お か き く け こ さ し す せ そ
た ち つ て と な に ぬ ね の は ひ ふ へ ほ
ま み む め も や ゆ よ ら り る れ ろ わ を
ん 、 。 ぁ ぃ ぅ ぇ ぉ っ ゃ ゅ ょ ー ⿲ ⿰⿺
が ぎ ぐ げ ご ざ じ ず ぜ ぞ だ ぢ づ で ど
ば び ぶ べ ぼ ぱ ぴ ぷ ぺ ぽ ゔ
ア イ ウ エ オ カ キ ク ケ コ サ シ ス セ ソ
タ チ ツ テ ト ナ ニ ヌ ネ ノ ハ ヒ フ ヘ ホ
マ ミ ム メ モ ヤ ユ ヨ ラ リ ル レ ロ ワ ヲ
ン 、 。 ァ ィ ゥ ェ ォ ッ ャ ュ ョ ー ⿲ ⿰⿺
ガ ギ グ ゲ ゴ ザ ジ ズ ゼ ゾ ダ ヂ ヅ デ ド
バ ビ ブ ベ ボ パ ピ プ ペ ポ ヴ

Marumoji (9mm)

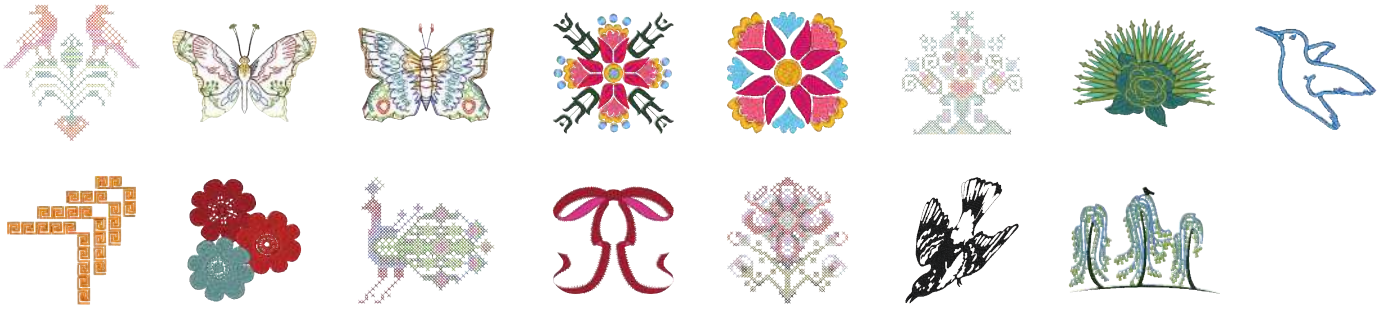
あ い う え お か き く け こ さ し す せ そ
た ち つ て と な に ぬ ね の は ひ ふ へ ほ
ま み む め も や ゆ よ ら り る れ ろ わ を
ん 、 。 ぁ ぃ ぅ ぇ ぉ っ ゃ ゅ ょ ー ⿲ ⿰⿺
が ぎ ぐ げ ご ざ じ ず ぜ ぞ だ ぢ づ で ど
ば び ぶ べ ぼ ぱ ぴ ぷ ぺ ぽ ゔ
ア イ ウ エ オ カ キ ク ケ コ サ シ ス セ ソ
タ チ ツ テ ト ナ ニ ヌ ネ ノ ハ ヒ フ ヘ ホ
マ ミ ム メ モ ヤ ユ ヨ ラ リ ル レ ロ ワ ヲ
ン 、 。 ァ ィ ゥ ェ ォ ッ ャ ュ ョ ー ⿲ ⿰⿺
ガ ギ グ ゲ ゴ ザ ジ ズ ゼ ゾ ダ ヂ ヅ デ ド
バ ビ ブ ベ ボ パ ピ プ ペ ポ ヴ

Symbol

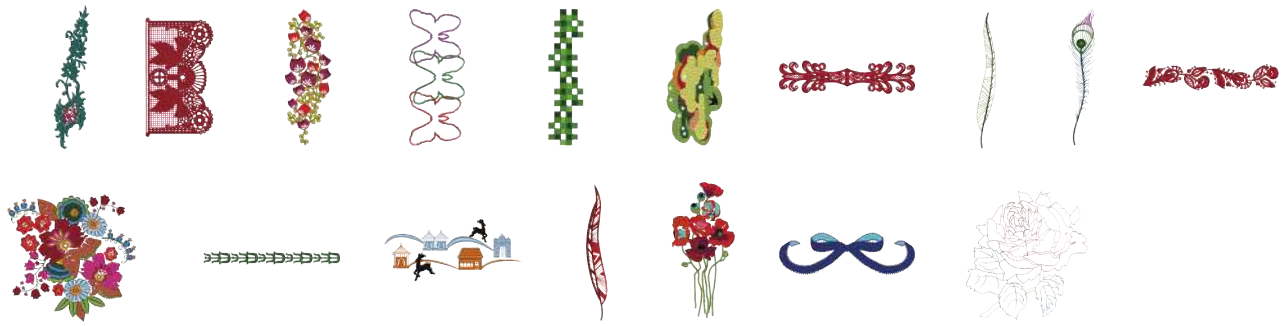
DESIGN CHART
Embroidery

Pattern images are not to scale.

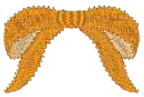
Anna Maria Horner Designs



(SQ14a)



(RE20a)



(FA10a)

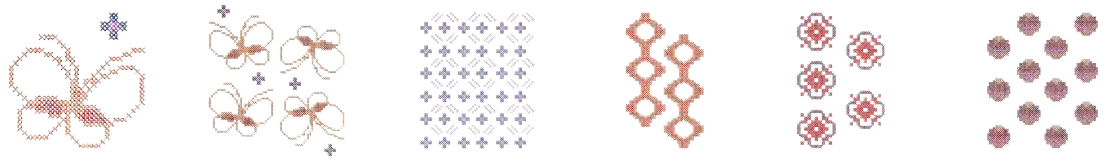
Flourish Alphabet

(SQ14a)

DESIGN CHART
Embroidery

Pattern images are not to scale.

Cross Stitch Designs



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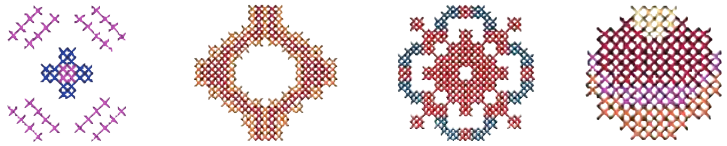
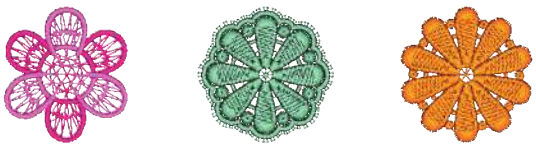


(FA10a)

Embroidery Lace Designs

Designs for water soluble stabilizer



(SQ14a)

(RE20a)

(FA10a)

Designs for fabric

(SQ14a)

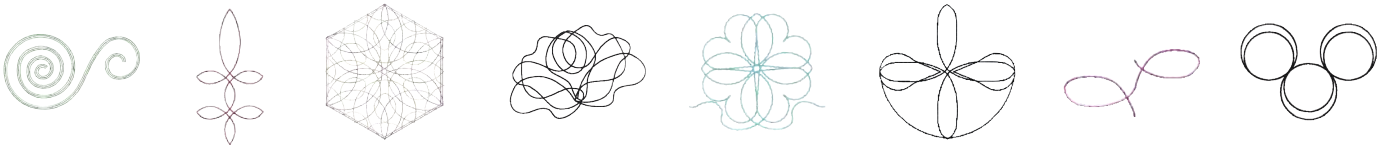
(RE20a)

(FA10a)

DESIGN CHART
Embroidery

Pattern images are not to scale.

Couching Designs



(SQ14a)

(RE20a)

Decorative Designs

(SQ14a)

(RE20a)

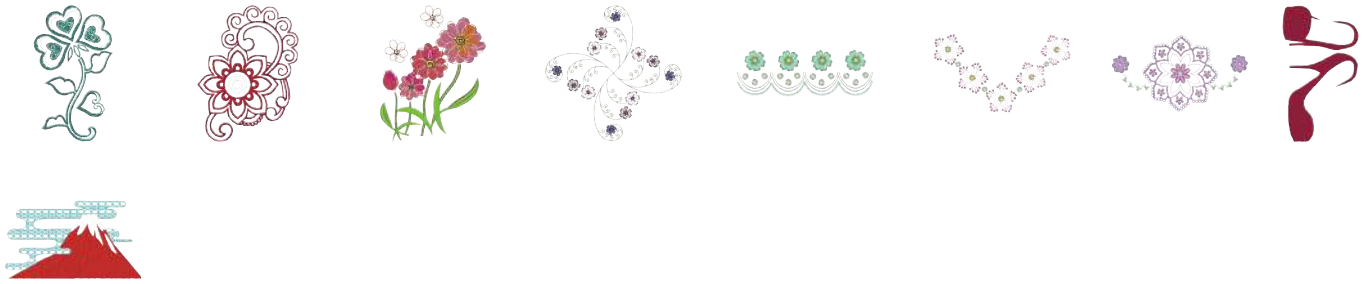
(FA10a)

DESIGN CHART
Embroidery

Pattern images are not to scale.

Favorite Designs

(SQ14a)

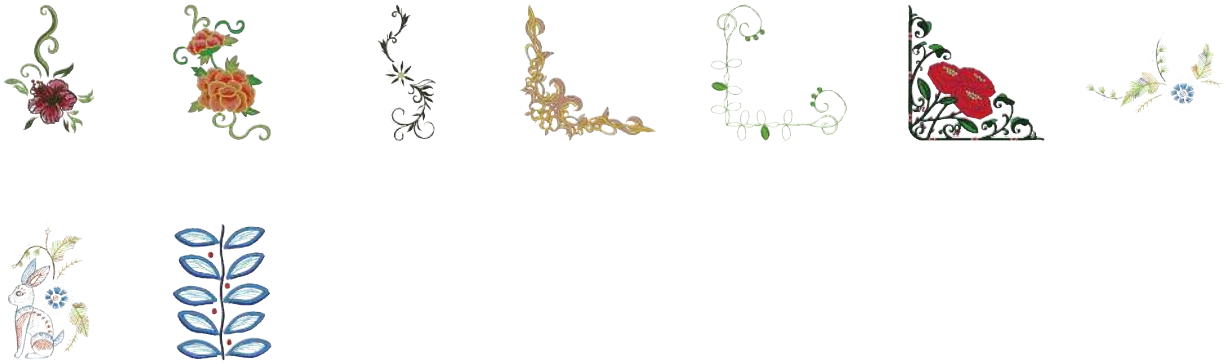


(RE20a)

(FA10a)

Combination Designs

(SQ14a)



(RE20a)

DESIGN CHART
Embroidery

Pattern images are not to scale.

HANA Style Characters Designs

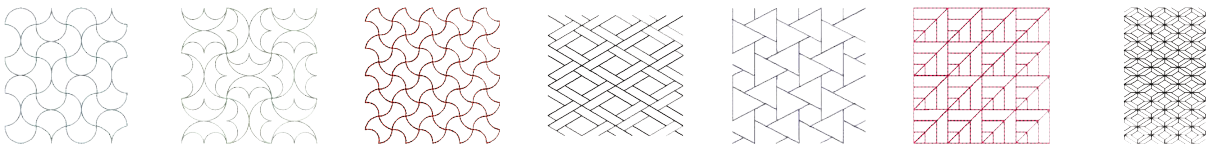
(SQ14a)

Quilting Designs

(SQ14a)

(RE20a)

Sashiko Designs



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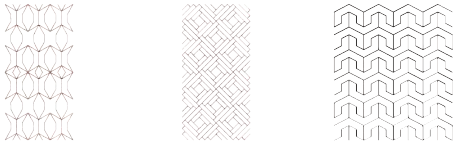


(RE20a)

DESIGN CHART
Embroidery

Pattern images are not to scale.

KANJI Designs

(SQ14a)

(RE20a)

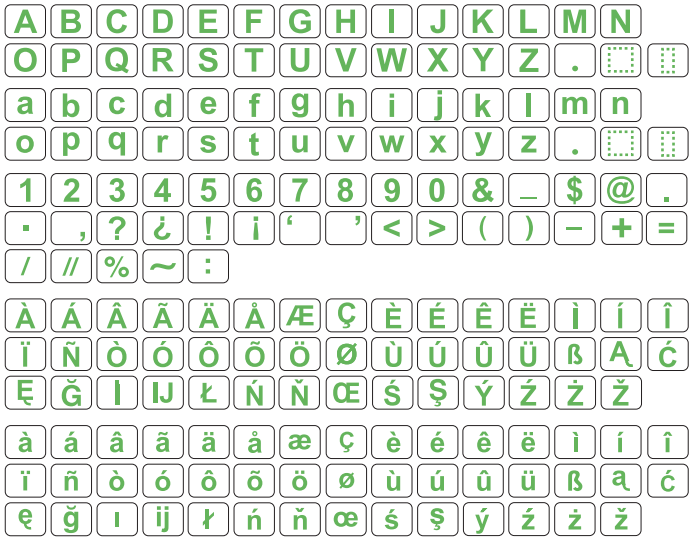
Calibration Pattern

(SQ14a)

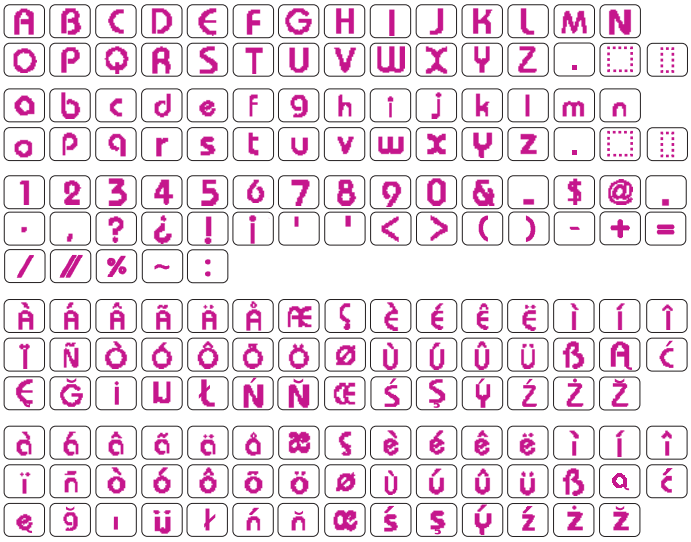
DESIGN CHART

Embroidery

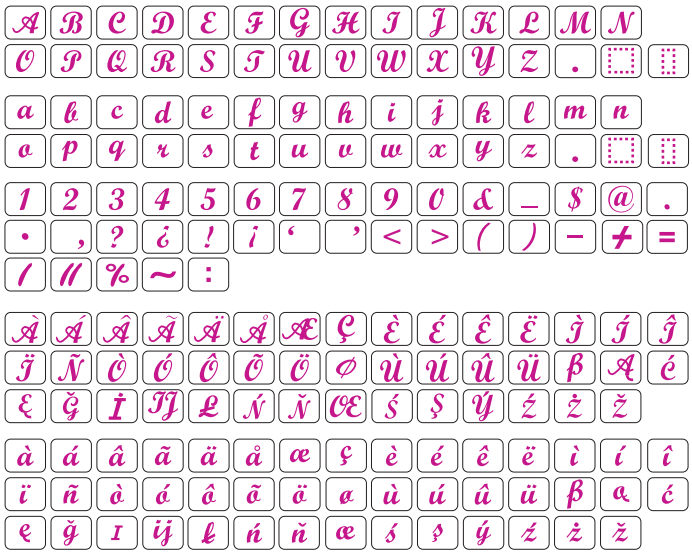
Gothic



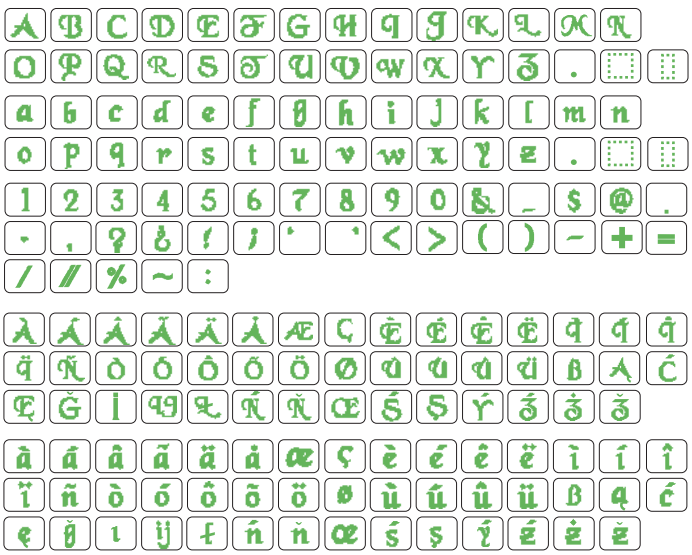
Bauhaus



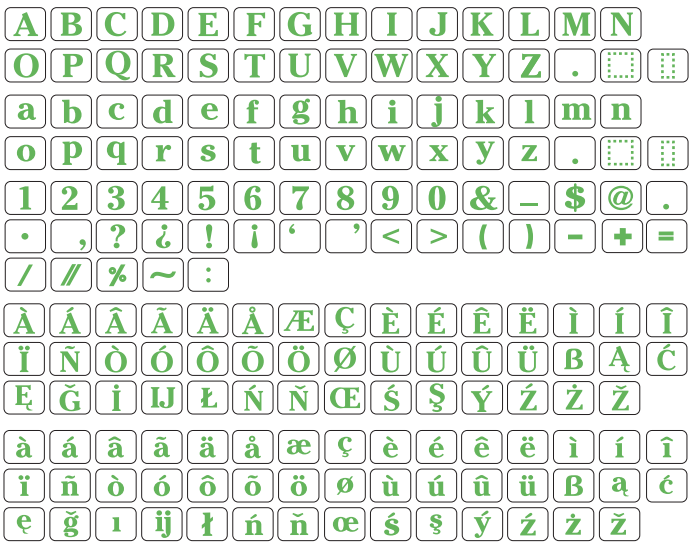
Script



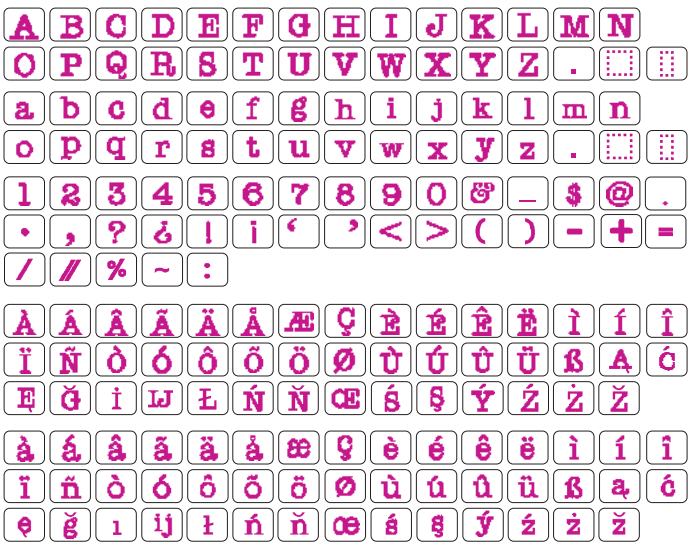
Galant



Cheltenham

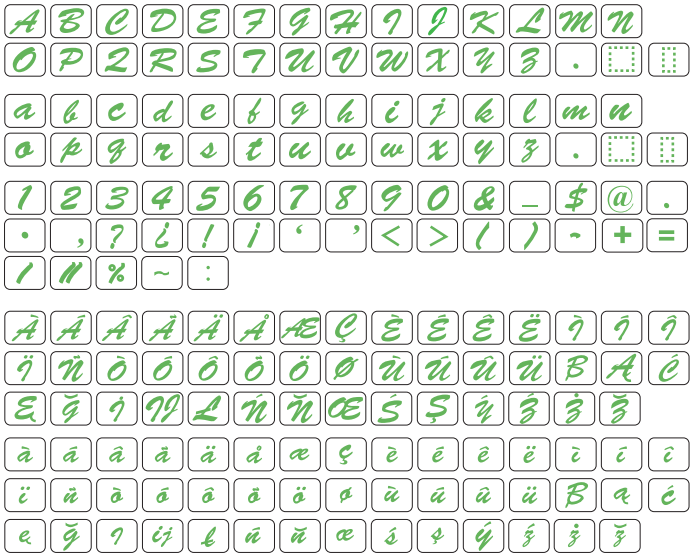


Typist

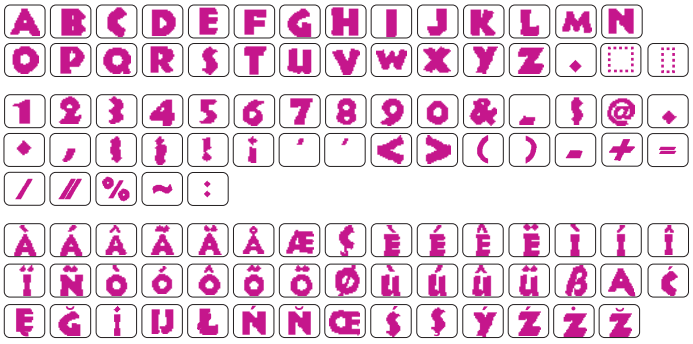


DESIGN CHART
Embroidery

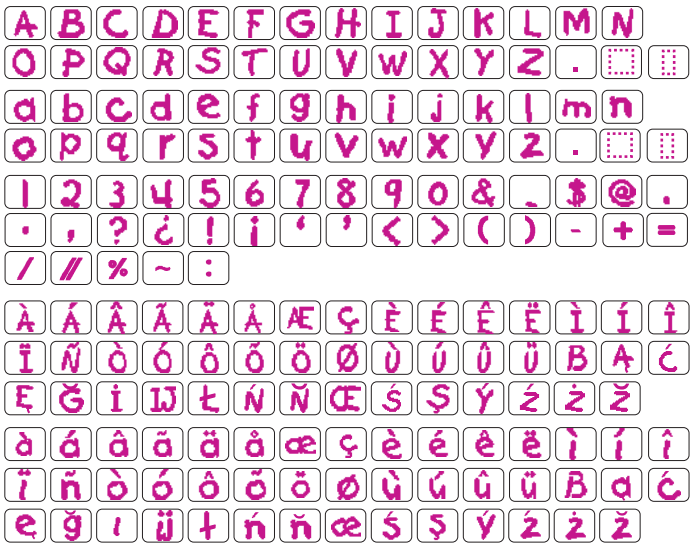
Brush



Jupiter



First Grade



Micro Gothic

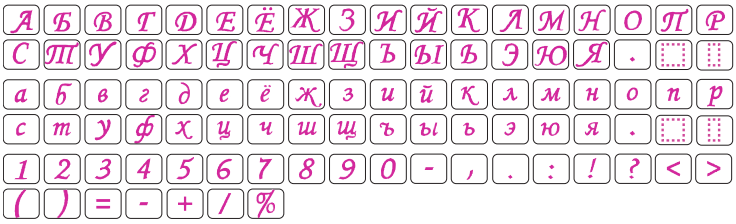
Hollowblock

DESIGN CHART
Embroidery

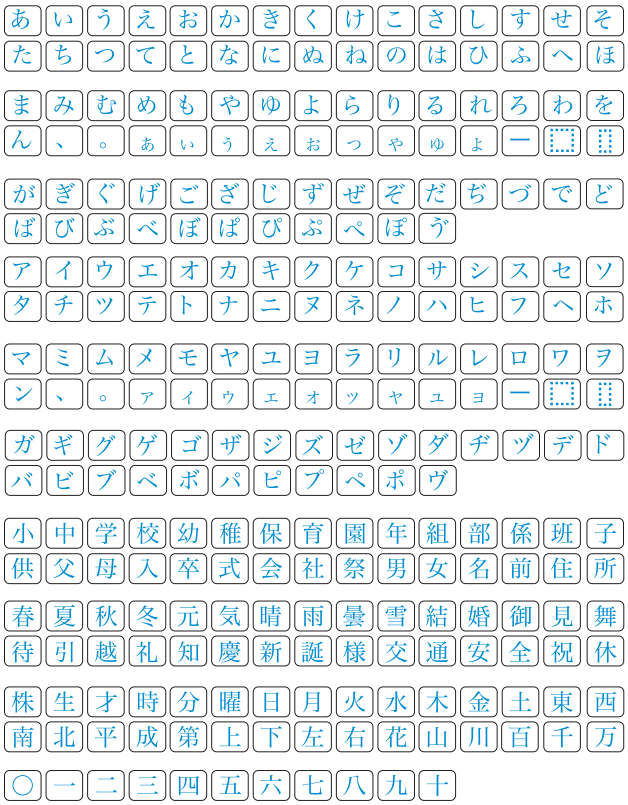
Cyrillic 1

Cyrillic 2

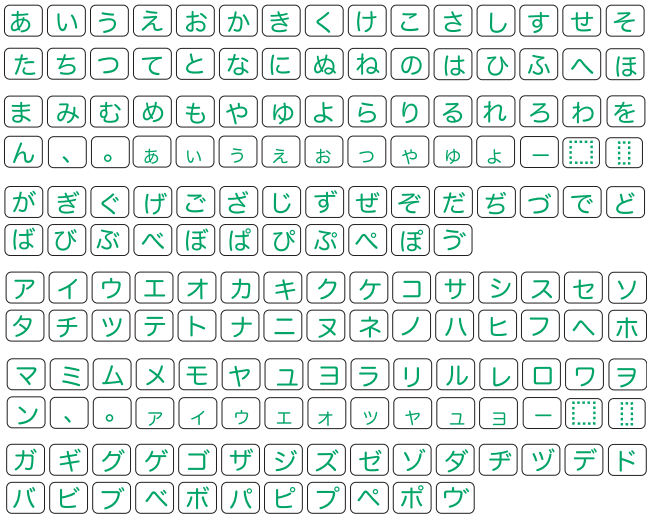
Cyrillic 3



Mincho



Marumoji



DESIGN CHART
Embroidery

Border

Normal Sew

2-letters

3-letters