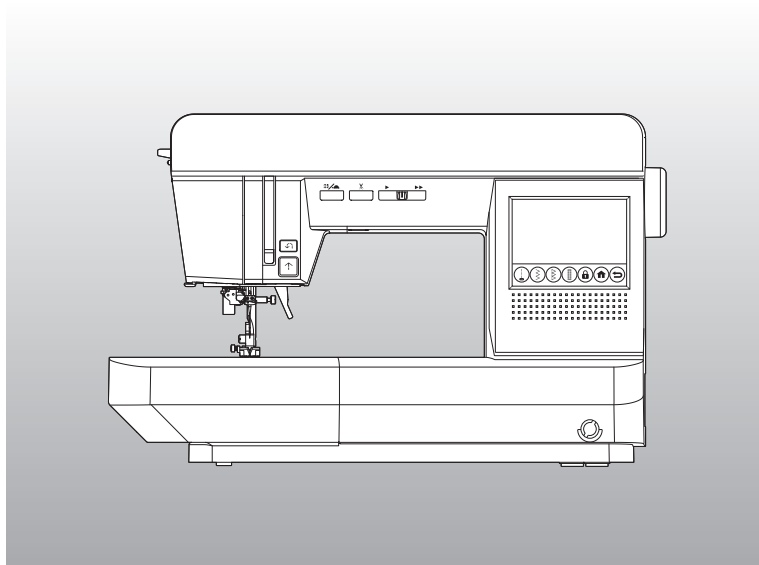


EXP-9000



Instruction Manual

HappyJapan

INSTRUCTION MANUAL

This sewing machine is intended for household use.

IMPORTANT SAFETY INSTRUCTIONS

When using a sewing machine, basic safety precautions should always be followed, including the following. Read all instructions before using.

DANGER - To reduce the risk of electric shock:

Never leave unattended when plugged in. Always unplug this 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 sewing machine only for its intended use as described in the instruction manual. Use only attachments recommended by the manufacturer as contained in the instruction 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 the sewing machine to the nearest authorized local dealer for examination, repair, electrical or mechanical adjustment.
4. Never operate the sewing machine with any air openings blocked. Keep ventilation openings of the sewing machine and foot controller free from the accumulation of lint, dust, and loose cloth.
5. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
6. Always use the proper needle plate. The wrong plate can cause the needle to break.
7. Do not use bent needles.
8. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
9. Switch the sewing machine off ("0") when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot, etc.
10. Always unplug sewing machine from the electrical outlet when removing covers, lubricating, or when making any other user servicing adjustments mentioned in the instruction manual.
11. Never drop or insert any object into any opening.
12. Do not use out doors.
13. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
14. To disconnect, turn the power switch to the off position ("0"), then remove plug from outlet.
15. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
16. If the power cord of this appliance is damaged, it must be replaced with a special cord by your authorized local dealer.
17. Don't use the machine if it's wet.
18. If the LED lamp is broken, it must be replaced by the manufacturer or its local dealer in order to avoid a hazard.
19. Never place anything on the foot control.
20. Keep the instruction at a suitable place that close to the machine, and hand it over if you give the machine to a third party.

SAVE THESE INSTRUCTIONS

This sewing machine is not to be used 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 being supervised not to play with the appliance.

SERVICING OF DOUBLE-INSULATED PRODUCTS

In a double-insulated product, two systems of insulation are provided instead of grounding. No grounding means is provided on a double-insulated product, nor should a means for grounding be added to the product. Servicing a double-insulated product requires extreme care and knowledge of the system, and should be done only by qualified service personnel. Replacement parts for a double-insulated product must be identical to the parts they replace. A double-insulated product is marked with the words "DOUBLE INSULATION" or "DOUBLE INSULATED." The symbol  (square within a square).



Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Please note that on disposal, this product must be safely recycled in accordance with relevant National legislation relating to electrical/electronic products.

Contact your local government for information regarding the collection systems available.

When replacing old appliances with new ones, the retailer may be legally obligated to take back your old appliance for disposal free of charge.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

- * In order to always provide you with the latest sewing performance, we may change the appearance, design, or accessories of this sewing machine without prior notice as necessary.
- * Please note that it is prohibited to reproduce the contents of the "Instruction Manual" without permission.
- * The contents of the "Instruction Manual" may be changed without prior notice as necessary.
- * If you notice any suspicious points or errors regarding the contents of the "Instruction Manual," please contact your local dealer.
- * Please contact your local dealer for information on repairs, warranty, and sold separately items for this sewing machine.

INFORMATION FOR EMBROIDERY UNIT

This sewing machine can sew beautiful embroidery by attaching the embroidery unit. (Sold separately)

The embroidery unit can sew many embroideries such as one-point embroideries, large-size embroideries and can sew letter embroidery. (Built-in patterns are vary depending on the model.)

For models that support USB flash memory, you can also save the supported embroidery data to a USB flash memory and load it into an embroidery unit.

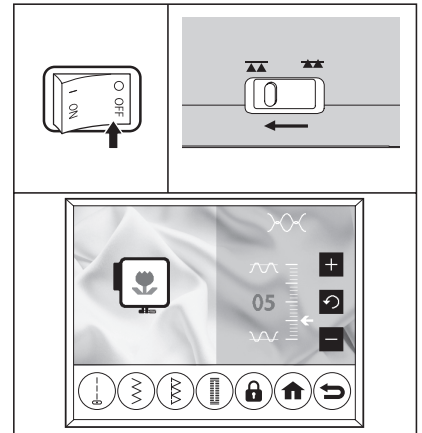
Ask for your local dealer for more information of the embroidery unit.

- When you attach the embroidery unit, turn off the power switch of sewing machine and lower the drop feed lever to the left.
- After attaching the embroidery unit to the sewing machine, turn on the machine. The thread tension when embroidering using the unit is displayed on the LCD screen of the sewing machine. You can adjust the thread tension using the buttons on the control panel.
- You can do the following operation on the sewing machine;
 - Start/Stop
 - Thread cut
 - Needle up-down/Slow
 - Speed control
 - Bobbin winding
 - Lock / Unlock

If you attach the embroidery unit, the needle stop position will be set to the up position. Also, the needle position will set to the left.

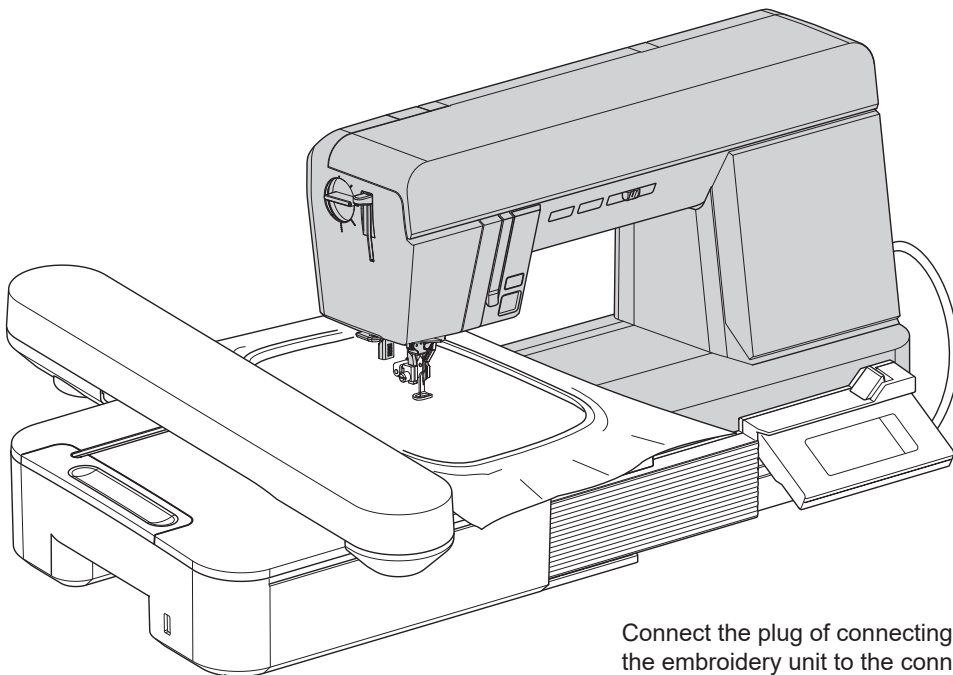
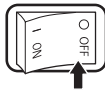
Refer to the instruction manual provided with the embroidery unit for more instruction.

After embroidery sewing, raise the drop feed lever to the right.




CAUTION: To prevent injury to persons.

When you attach the embroidery unit, turn off the power switch of sewing machine.



Connect the plug of connecting cord of the embroidery unit to the connecting port of sewing machine.

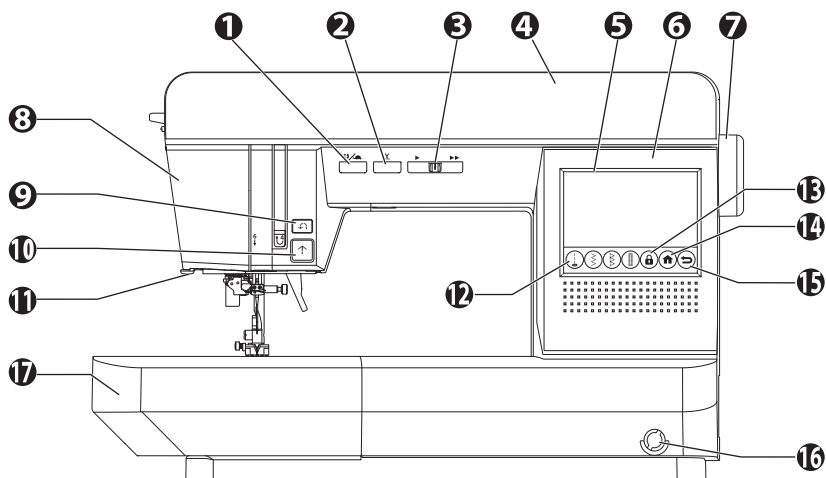
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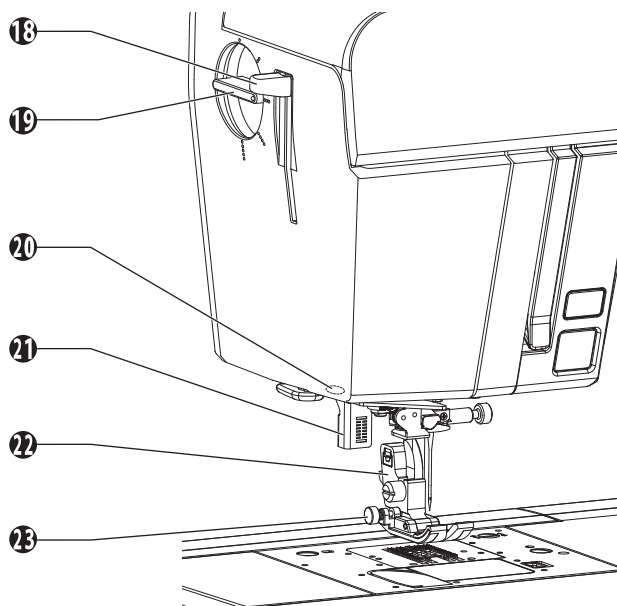
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MAIN PARTS

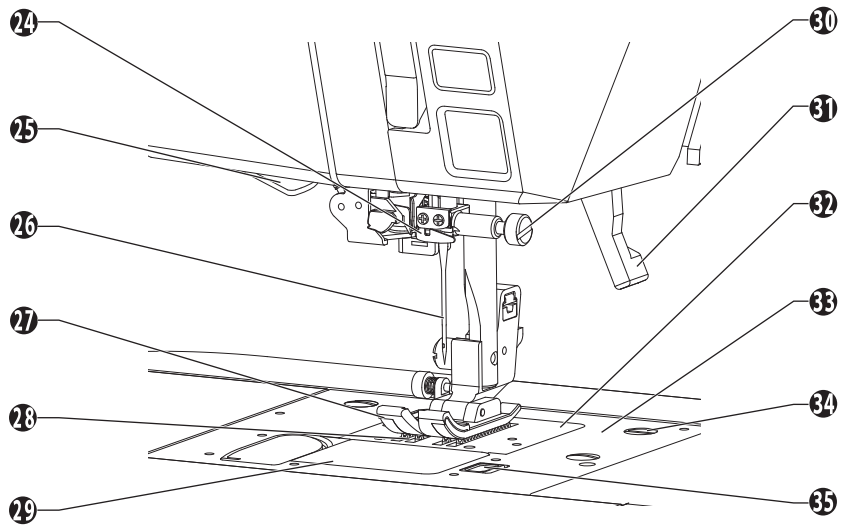
1. Needle Up-Down/Slow Button
2. Thread Cutter Button
3. Speed Control Button
4. Top Cover
5. LCD Screen
6. Control Panel
7. Hand Wheel
8. Face Plate
9. Reverse Button
10. Start/Stop Button
11. Thread Cutter
12. Direct Selection Button
13. Safety Lock Button
14. Home Button
15. Return Button
16. Knee Lifter Lever Socket
17. Extension Table (Accessory Case)



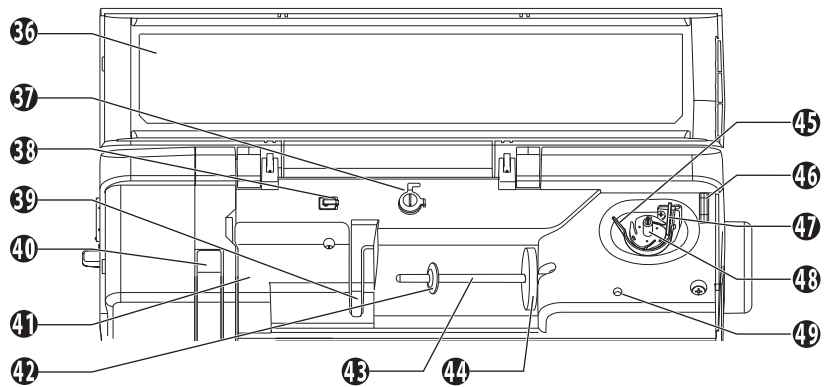
18. Needle Threader Lever
19. Pressure Regulator
20. Hole for the Loupe
21. Buttonhole Lever
22. Presser Foot Holder
23. Lock Button



- 24. Needle Bar Thread Guide
- 25. Needle Threader Guide
- 26. Needle
- 27. Presser Foot
- 28. Feed Dog
- 29. Bobbin Cover
- 30. Needle Clamp Screw
- 31. Presser Foot Lifter
- 32. Standard Needle Plate
- 33. Needle Plate
- 34. Needle Plate Stopper Lever
- 35. Bobbin Cover Latch

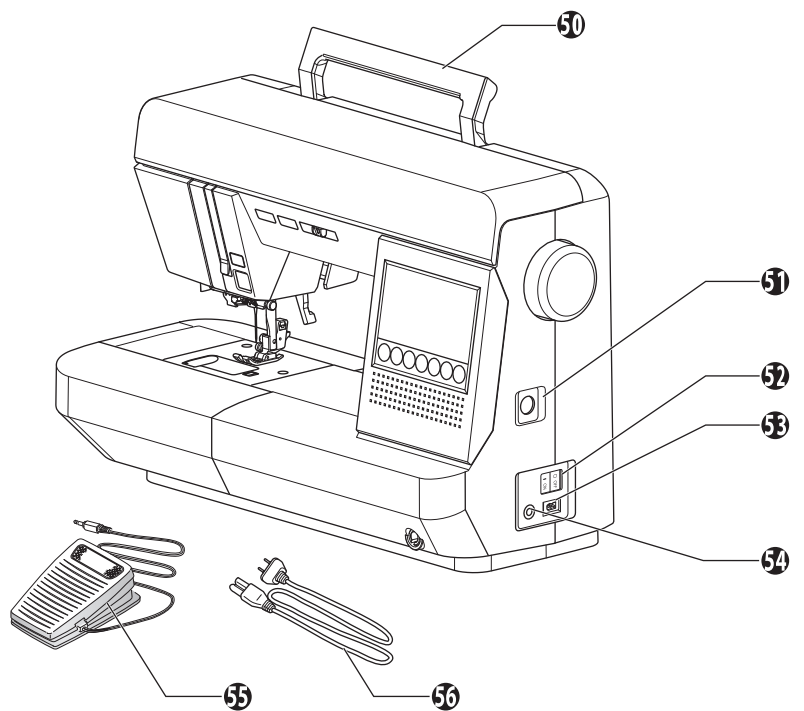


- 36. Pattern Chart
- 37. Bobbin Winder Thread Guide
- 38. Threading Guide
- 39. Thread Guide
- 40. Thread Take-up lever (Inside)
- 41. Thread Tension Regulator (Inside)
- 42. Small Spool Cap
- 43. Spool Pin
- 44. Felt Washer
- 45. Bobbin Guide
- 46. Thread Cutter
- 47. Bobbin Winder Stop
- 48. Bobbin Winder Spindle
- 49. Auxiliary Spool Holder



* To open the top cover, lift up the front of cover.

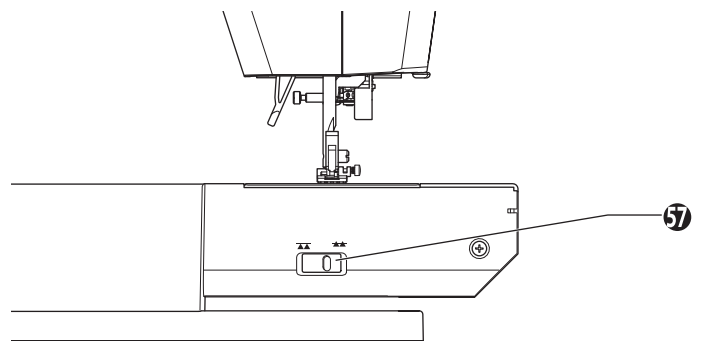
- 50. Handle
- 51. Connecting Port for Embroidery Unit
- 52. Power Switch
- 53. Terminal Box
- 54. Foot Controller Jack
- 55. Foot Controller
- 56. Power Line Cord



REAR VIEW

- 57. Drop Feed Lever

* The Drop Feed Lever is only accessible after the extension table is removed.

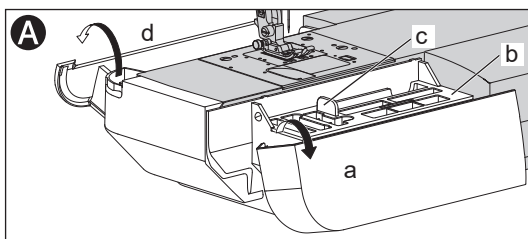


EXTENSION TABLE

A. OPENING THE ACCESSORY CASE

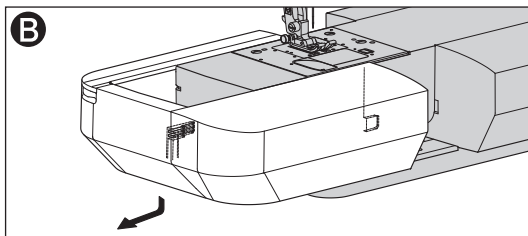
Grasp the front/rear Lid and pull outwards.

- a: Front Lid
- b: Tray
- c: Tab
- d: Rear Lid



B. REMOVING THE EXTENSION TABLE

Hook your finger to the left bottom side of extension table and slide it to the left. To attach, insert to the right.



ACCESSORIES

Accessories are provided in the accessory case.

On the accessory tray (Front case)

1. Satin Foot (B)
2. Overcasting Foot (C)
3. Blind Foot (D)
4. Zipper Foot (E)
5. Driver for Needle Plate
6. 4 Bobbins (1 is in the machine)
7. Seam Ripper
8. Straight Stitch Foot

Under the accessory tray (Front case)

Lift up the tray (a) by holding the tab (b). There is a compartment underneath.

9. Screw Driver
10. Brush
11. Quilting Bar
12. Spool Cap
13. Felt Washer
14. Auxiliary Spool Pin
15. Needle Pack

In the rear accessory case

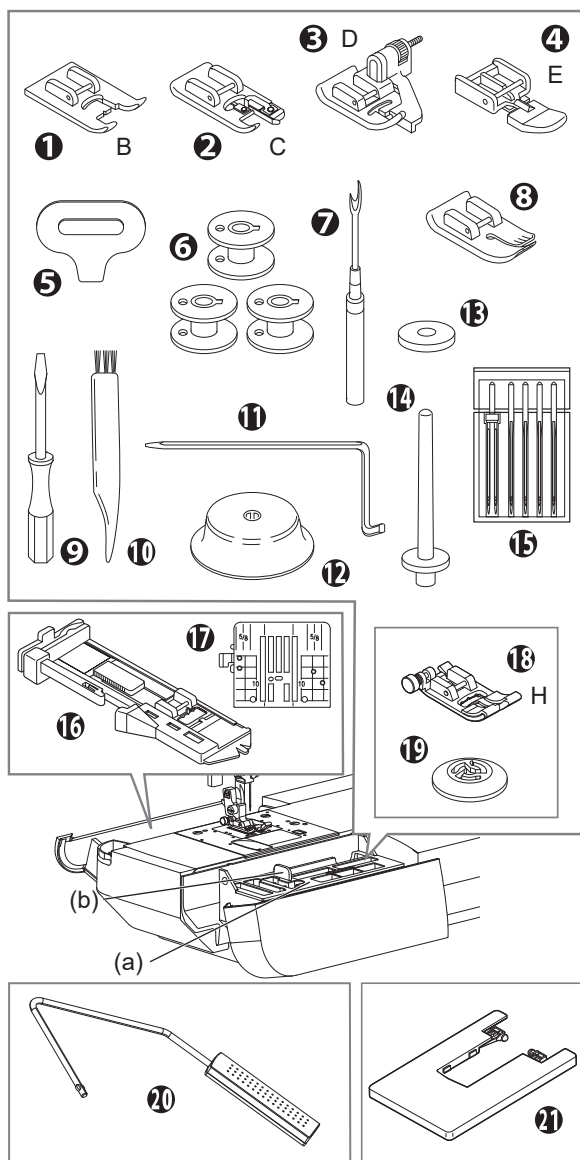
16. Buttonhole Foot
17. Straight Stitch Needle Plate

On the machine when delivered

18. Regular Foot (H)
19. Small Spool Cap

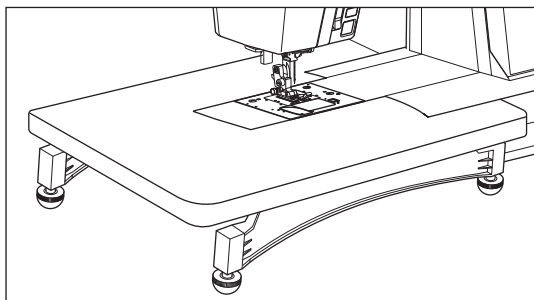
Inside the packaging box

20. Knee Lifter Lever
21. Extra wide table

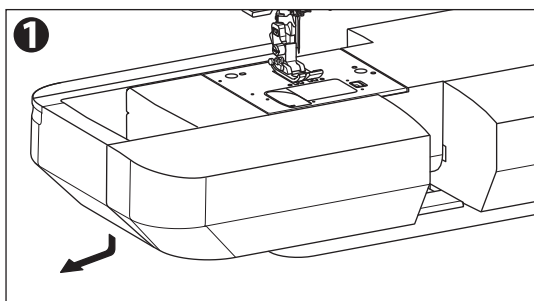


EXTRA WIDE TABLE

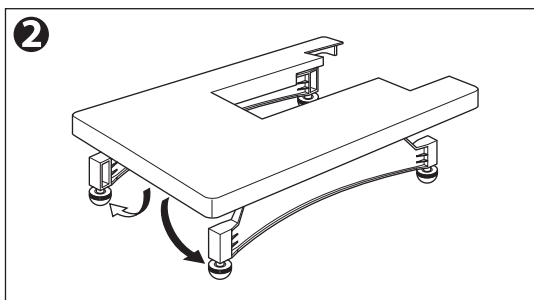
If you need wide sewing space, attach the extra wide table as shown.
Set the machine and extra wide table on a stable table.



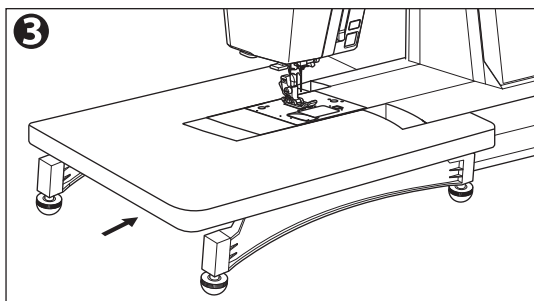
1. Remove the extension table (See page 8).



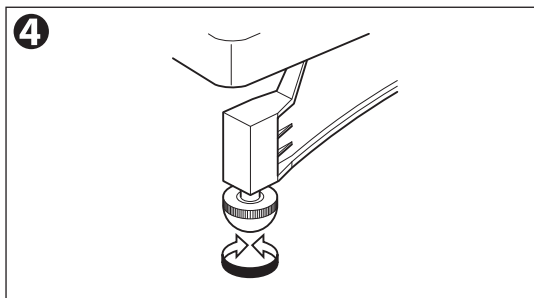
2. Stand up the two legs of extra wide table.



3. Insert wide table to the machine sliding to the right.



4. Turn the leg adjusters to adjust the height.



CONNECTING THE MACHINE

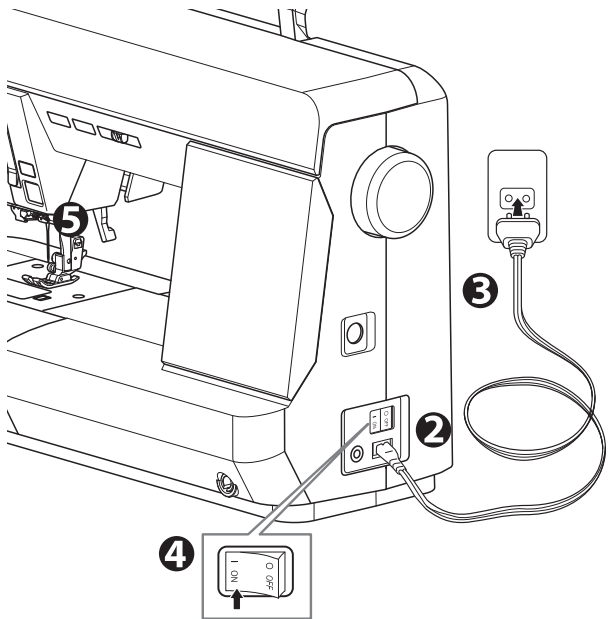
1. Place machine on stable table.
2. Connect the power line cord to the machine by inserting the 2-hole plug into the terminal box.
3. Connect the power line plug to the electric outlet.
4. Turn on the power switch.

⚠ DANGER: To reduce the risk of electric shock.

Never leave unattended when plugged in. Always unplug this machine from the electric outlet immediately after using and before maintenance.

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

Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.



5. LED lights will light up when switch is turned on.
The home screen will be displayed on the LCD screen. (See page 17)
6. To disconnect, turn the power switch to the off position (Symbol **O**), then remove plug from outlet.

FOOT CONTROLLER

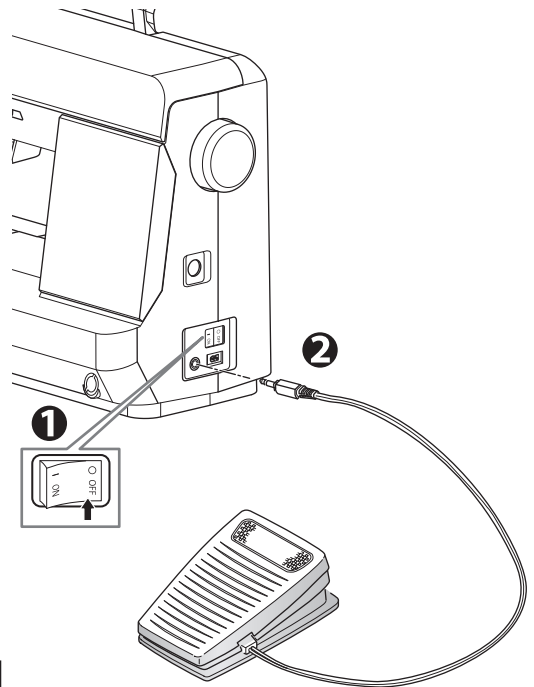
Use of foot controller will permit control of start, stop and speed with your foot.

When the foot controller is connected, start/stop button will be deactivated. (See page 12)

1. Turn off the power switch. (Symbol **O**)
2. Push foot controller plug into the jack on machine.
3. Place foot controller at your feet.
4. Turn on the power switch.
5. LED lights will light up when switch is turned on.
6. The harder you press the foot controller, the faster the machine will sew. The machine will stop when foot controller is released.

NOTE:

- The speed control button adjusts the maximum speed. If you want to speed up, slide it to the right.
- The machine will not start unless you select a pattern and lower the presser foot. (See page 12)



Tap Function

When you press and release the foot controller quickly, the needle position will be changed.

NOTE: Needle stop position will not be changed.



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

1. Turn off the power when connecting the foot controller to the machine.
2. Handle the foot controller with care and avoid dropping it on the floor. Be sure not to place anything on top of it.
3. Use only foot controller provided with this machine. (Type C-9001 manufactured by CHIEN HUNG TAIWAN Ltd)

FUNCTION OF EACH PART

A. START/STOP BUTTON

The machine will start running when start/stop button is pressed and will stop when pressed the second time. The machine will rotate slowly at start of sewing.

MONITOR LAMP

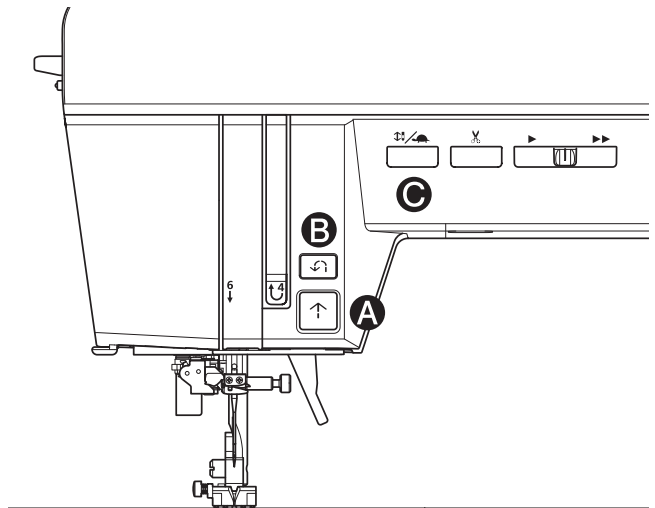
Green Light "ON": Ready to sew or to wind the bobbin.

Red Light "ON": The machine will not start even when start/stop button is pressed.

- No pattern selected.
- Presser foot is not in down position or buttonhole lever is not lowered.
- The lock is engaged.

NOTE:

- If upper thread is not threaded, machine will stop after a few turns. (Upper thread sensor)
- The upper thread sensor may also operate and stop the machine if the bobbin thread is not set correctly or if it runs out.
- When the foot controller is connected, start/stop button will be deactivated.
- If the buttonhole lever is not lowered correctly, the buttonhole, bar-tack or darning will stop after 2-3 stitches. (See pages 55 - 57, 61)
- See page 19 for instructions on how to unlock.



B. REVERSE BUTTON

The machine will continue to sew in reverse at low speed while this button is pressed and stop when this button is released. See page 38.

NOTE:

- When the foot controller is connected, the speed of the reverse stitch depending on the conditions when this button is pressed.

While stepping on the foot controller ;

the speed of reverse stitch doesn't slow down. Adjust the speed with the foot controller.

While releasing the foot controller ;

the speed of reverse stitch slows down.

- While stepping on the foot controller, sewing doesn't stop even if you release the reverse button. To stop sewing, release the foot controller.
- Depending on the speed, after you press the reverse button, the machine will sew half the stitch length and then the reverse stitch.

C. NEEDLE UP-DOWN/SLOW BUTTON

While NOT sewing, needle position will be changed up or down by pressing this button.

While sewing, by pressing this button, machine will sew in slow speed. Pressing this button again, the speed will return.

NOTE:

Needle stop position when sewing is finished or when sewing is stopped varies depending on the setting. To change the needle stop position, see page 18.

D. THREAD CUTTER BUTTON

Press this button after sewing to cut the upper and lower bobbin threads. The machine will cut both threads automatically.

CAUTION:

- * Do not press this button when there is no fabric in the machine or if there is no need to cut the threads. The thread may tangle, resulting in damage.
- * Do not use this button when cutting thread thicker than #30, nylon thread or other specialty threads. In this case, use the thread cutter (d). See page 41.

E. SPEED CONTROL BUTTON

The machine will sew faster when the button is slid to the right (▶▶), and sew slower when button is slid to the left (◀).

NOTE:

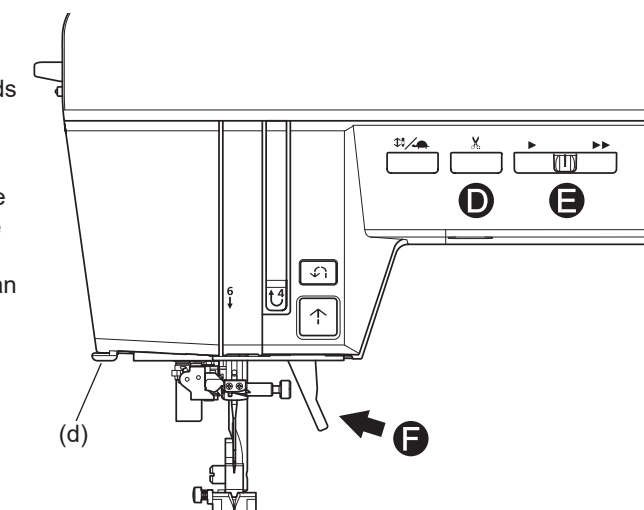
When the foot controller is connected, this button limit the maximum speed.

F. PRESSER FOOT LIFTER

The presser foot is lifted up or down by this lever.

NOTE:

Machine will not start when the presser foot is lifted.
(Except for bobbin winding)



G. DROP FEED LEVER

NOTE:

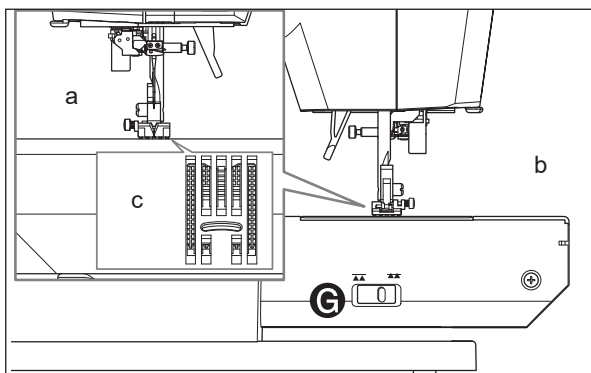
- The Drop Feed Lever is only accessible after the extension table is removed.
- If you raise the feed dog, the feed dog will rise when you start sewing.
 - a: View from frontward
 - b: View from backward
 - c: Feed dog

The feed dog project up through the needle plate, directly below the presser foot. Their function is to move the fabric being sewn. The drop feed lever controls the feed dog.

For ordinary sewing, move the lever to the right. This raises feed dog to their highest position. For most sewing, the lever should be in this position.

For darning or free motion embroidery or whenever fabric is to be moved by hand, move the lever to the left to lower the feed dog.

Also, lower the feed dog when embroidering using the sold separately embroidery unit. (See page 2)



H. PRESSURE REGULATOR

The correct pressure allows fabrics to feed properly while sewing. The setting of the presser foot pressure is determined mainly by the weight of the fabric being sewn. For lightweight fabrics such as sheers, batiste, voile, etc. the pressure is decreased. For heavyweight fabrics like denim or canvas, the pressure is increased.

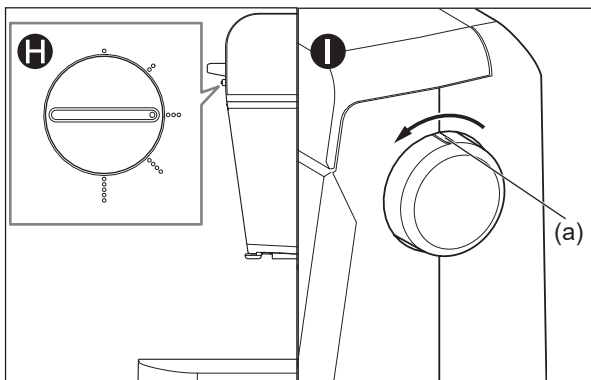
To increase the pressure, turn dial to 5. (○○○○○)

To decrease the pressure, turn dial to 1. (○)

For most fabrics, turn dial to 3. (○○○)

Turn the dial after lowering the presser foot.

After sewing with different pressing pressure, please return to 3. (○○○)



I. HANDWHEEL

When you turn the handwheel towards you, the needle will move up and down. Use this when you want to manually move the needle up and down, such as when sewing one stitch at a time.

When the needle is in the upper position, the mark (a) on the hand wheel will also be in the upper position.

NOTE:

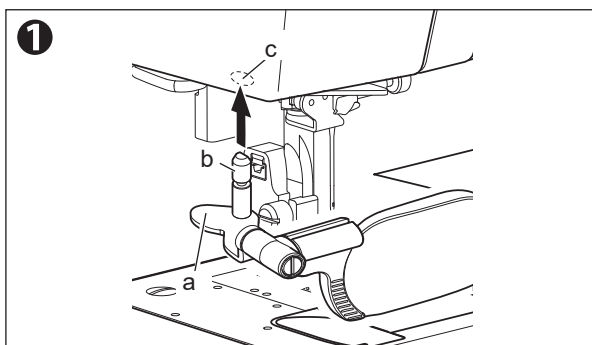
Be sure to turn the handwheel toward you. Turning it in the opposite direction may cause the thread to become tangled.

LOUPE (Sold separately)

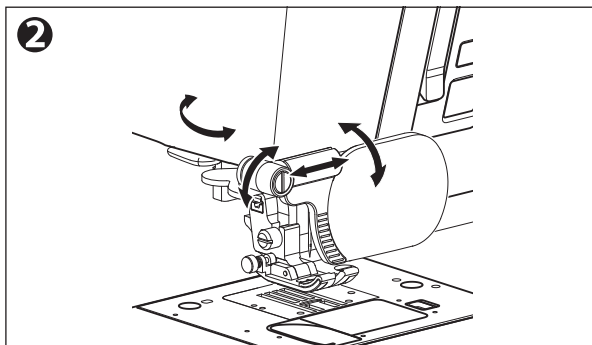
Using a loupe makes it easier to see around the needle as it passes through the needle hole.
For purchasing the loupe, please contact your local dealer.

ATTACH THE LOUPE

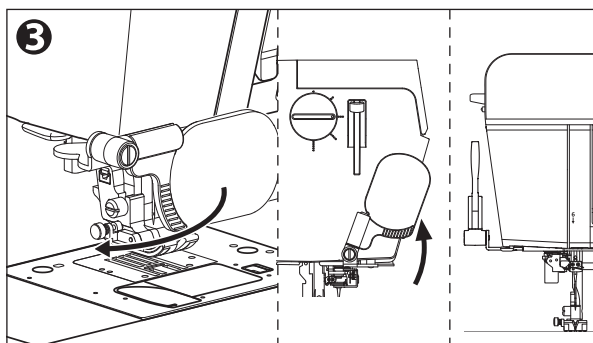
1. Holding the knob (a) of the loupe and insert its shaft (b) to the hole for the loupe (c) until the shaft stops.



2. Move the loupe to adjust the position and make it easier to see around the needle.



3. Before starting sewing, move the loupe to the side of the face plate so that it does not interfere with sewing.



CAUTION: To prevent injury to persons.

It is dangerous to sew while using the loupe. Use the loupe only when the machine is stopped.

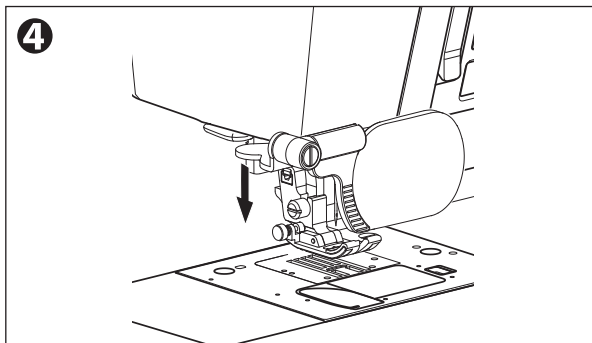
REMOVE THE LOUPE

4. Hold the knob and pull out the loupe downward.

NOTE:

Be sure to remove the loupe when putting the dust cover on.

If you don't remove it, it will hit inside the cover.



DANGER: To prevent injury to persons.

Do not look at the sun through the loupe. There is a risk of blindness.

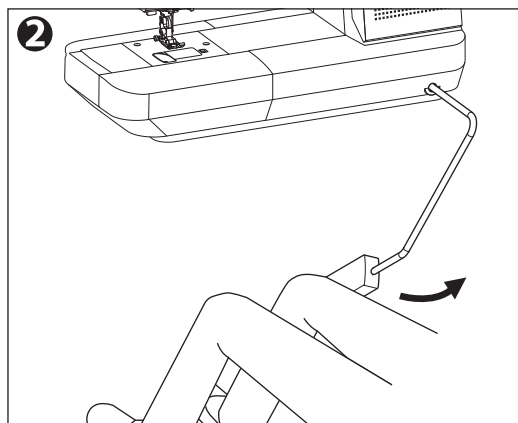
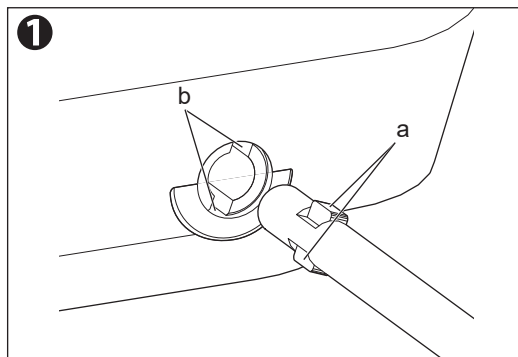
WARNING: To reduce the risk of fire.

Do not leave the loupe in direct sunlight. It may cause a fire.

KNEE LIFTER LEVER

By attaching the knee lifter lever to the machine, you can lift or down the presser foot by your knee.

1. Insert the knee lifter lever into the socket of machine so that the convexes (a) of the lever fit into the slits (b) of the socket.
2. Press the lever to the right to lift up the foot. Release the lever to lower the foot.



CAUTION: To prevent the accidents.

- Insert the knee lifter lever all the way into the socket. If it is not inserted correctly, it may come off during use.
- Do not touch the knee lifter lever while sewing. Needle may break or sewing may jam.

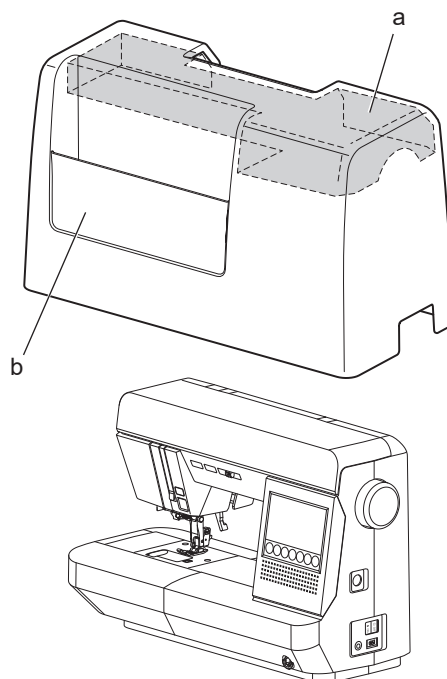
DUST COVER

Cover the machine with dust cover when it is not in use.

NOTE:

Do not remove the styrofoam (a) from the inside of the dust cover.

b: Pocket



HOME SCREEN

When you turn on the power, the display will indicate the home screen.

All operating is started from this screen.

A. Utility Stitch Button

To select utility stitch, touch this button first. See page 20.

B. Decorative/Letter Stitch Button

You can combine decorative and letter stitches. See page 71.

C. Memory Button

This sewing machine can memorize combined decorative/letter stitches. To call the memorized decorative/letter stitch, touch this button. See page 77.

D. Guide Button

You can know how to winding bobbin, setting bobbin, threading upper thread and changing the presser foot and changing the needle plate from this button. See page 18.

E. Direct Selection Button

You can select the basic utility stitch directly by these buttons. See page 20.

F. Safety Lock Button

Touch this button to lock the machine. See page 19.

G. Home Button

Pressing this button all the time, you can come back to the home screen.

H. Return Button

You can return to one step back by touching this button.

NOTE:

If you touch the direct selection button and then touch the return button, the stitch selection screen for utility stitch patterns will be displayed.

I. Setting Button


By touching this button, you can turn on/off the setting of beep, LED light, needle stop position or twin needle mode.

i1 Beep

Default setting: ON

To turn on the beep sound, touch the ON button.

To turn off the beep sound, touch the OFF button.

**CAUTION: To prevent injury to persons.**

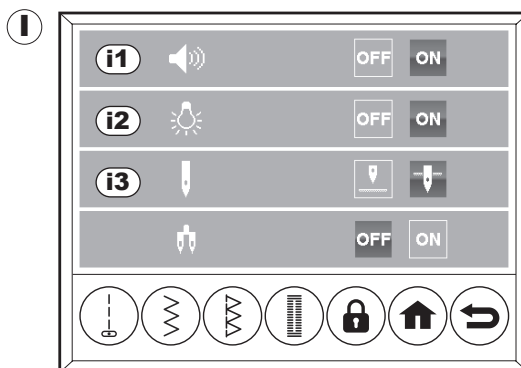
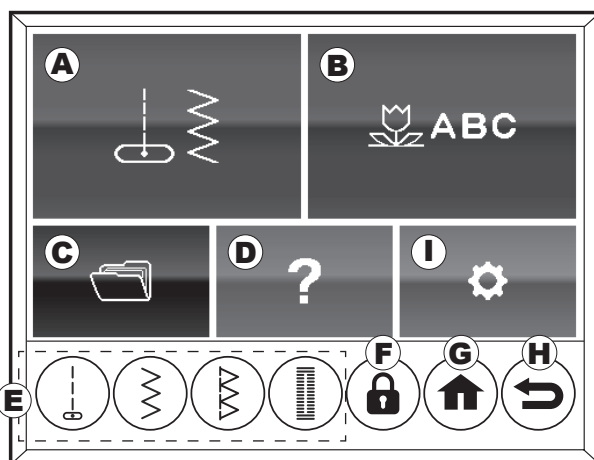
If you turn off beep, the warning sound will not sound when you operate the machine incorrectly. Pay attention to operation.

i2 LED light

Default setting: ON

To turn on the LED light, touch the ON button.

To turn off the LED light, touch the OFF button.



i3 Needle Stop Position

Default setting: Down

Touch the (⬇️) button to set the needle stop position to up position.

Touch the (⬆️) button to set the needle stop position to down position.

i4 Twin needle mode

Default setting: OFF

Twin needle mode will limit the stitch width to avoid that the twin needle hits the needle plate. See page 69 for twin needle sewing.

To turn on the twin needle mode, touch the ON button. The twin needle icon will appear on the top right side of display.

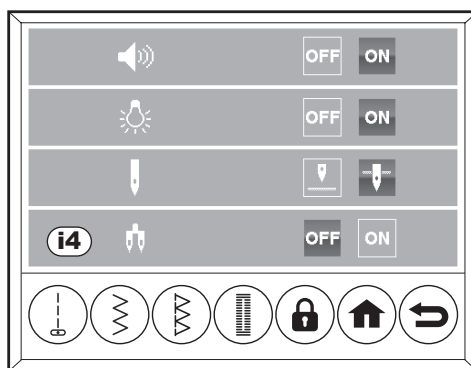
To turn off the twin needle mode, touch the OFF button.

NOTE:

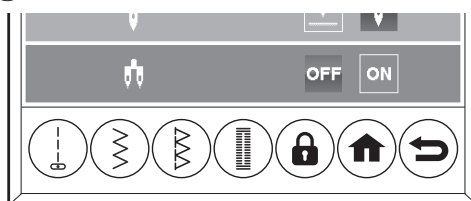
If you have attached the straight stitch needle plate, you cannot select the twin needle mode.

After settings are completed, touch the home button or return button.

If you turn off the power at setting mode, these settings are not remained.



a



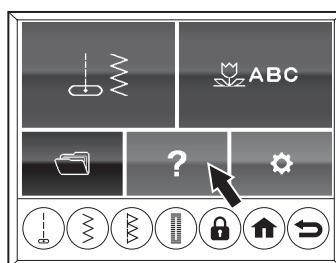
HOW TO USE THE GUIDE BUTTON

When you touch the guide button at home screen, you can know "Winding the bobbin, Setting the bobbin, Threading the upper thread, Changing the presser foot" and Changing the needle plate.

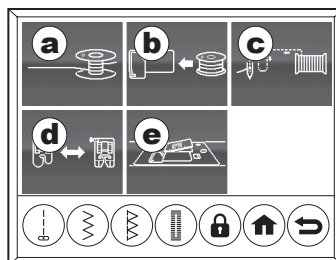
1. Touch the guide button at the Home Screen.
The guide menu will appear.
 - a. Winding the bobbin.
 - b. Setting the bobbin.
 - c. Threading the upper thread.
 - d. Changing the presser foot.
 - e. Changing the needle plate.
2. Touch the menu button you want to know.
First instruction will start.
Menu icon and page number / total page number will be indicated top of the display.
3. You can see the instruction again by touching the (▶️) button.
To see the next instruction, touch the (▶️) button.
To see the previous instruction, touch the (◀️) button.

You can operate the machine with seeing the instructions.

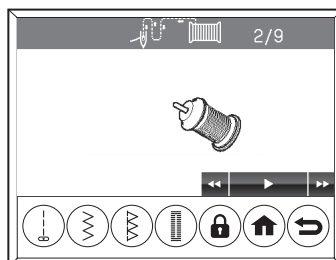
1



2



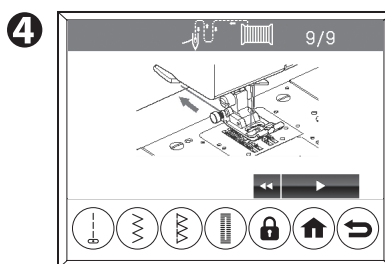
3



<<Continued on next page.>>

<<Continued from previous page.>>

4. (▶) button will disappear when last instruction is finished. Touch the home button to return the home screen.
(Touch the return button to go guide menu.)



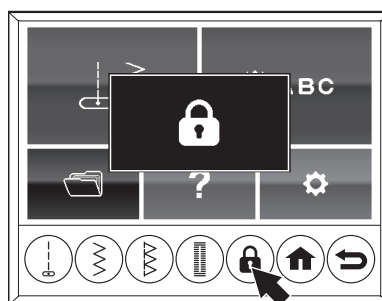
HOW TO USE THE SAFETY LOCK BUTTON

Touch the safety lock button to lock the machine.
While the lock is operating, all buttons other than the safety lock button cannot be operated, and the machine does not operate.

The following operations must be performed with the machine turned off, but you can do so without turning off the power by locking the machine. These operations can be performed while preserving the stitch width (needle position), stitch length, mirror, elongate, and thread tension settings.

Release the lock when you are done.

- Attaching/removing the foot controller
- Attaching/removing the presser foot and presser foot holder
- Attaching/removing the needle
- Threading the upper and lower threads



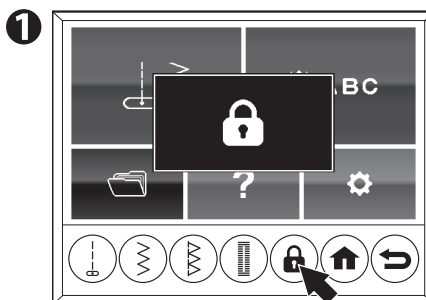
To lock the machine

Touch the safety lock button.

A message will be displayed indicating that the lock is in progress. The start/stop button (monitor lamp) lights red.

NOTE:

- While the lock is operating, all buttons other than the safety lock button cannot be operated.
- If you turn off the power of machine while it is locked and then turn it on again, the lock will be released.

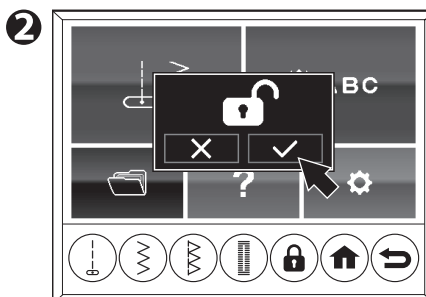


To unlock the machine

1. Touch the safety lock button.

2. When a confirmation message appears, touch (✓) to unlock.

To cancel the release, touch (✗).

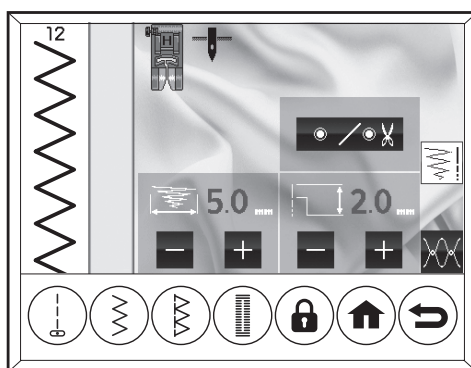
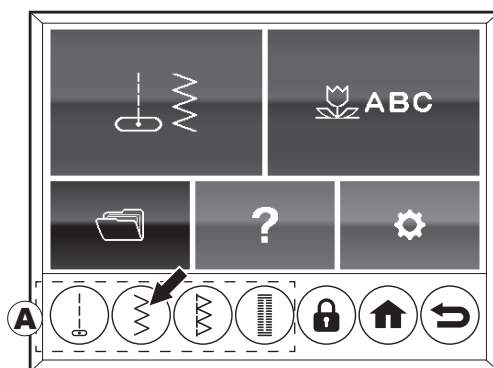


TO SELECT A PATTERN (UTILITY STITCH PATTERN)

This machine can sew 64 utility stitch patterns. See inside of top cover and see "PATTERN CHART" on page 88.

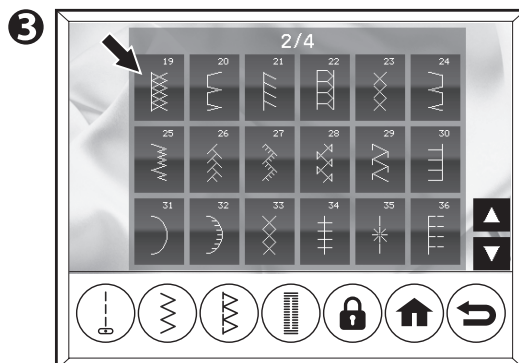
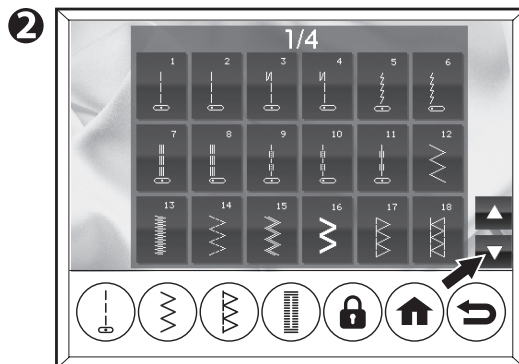
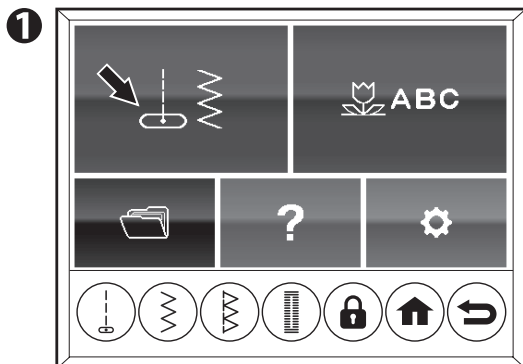
DIRECT SELECTION BUTTONS

You can select basic utility stitch by touching these buttons (A). Selected stitch will be indicated in the screen.



SELECTING OTHER UTILITY STITCH

1. Touch the utility stitch button at home screen.
First stitch selection screen will appear.
There are four Stitch selection screens.
2. Select screen by touching the or button.
3. Touch the stitch button directly.
Selected stitch will be indicated. (See page 21)



STITCH SETTING SCREEN (STITCH WIDTH/LENGTH)

When you select the stitch, display will indicate stitch setting screen.

A. Stitch Number

B. Stitch Pattern

According to the setting (width, length, mirroring and elongation), stitch pattern will be reshaped.

C. Suitable Presser Foot

According to the setting, another foot may be recommended.

D. Needle Stop Position

The needle stop position set on the setting screen is indicates.

Up position: 

Down position: 

E. Lock Stitch/Cut Button

(See page 39)

F. Stitch Width

Preset stitch width is indicated when stitch is selected in green color.

Touch the "-" button (c) to make the stitch narrower and touch the "+" button (d) to make it wider.



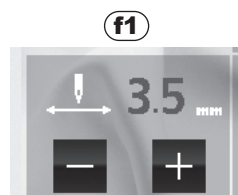
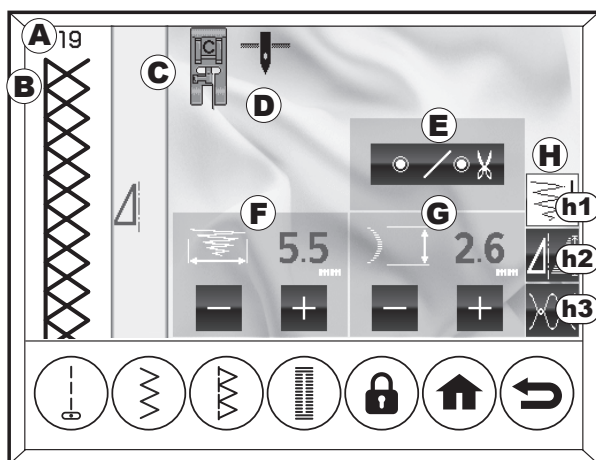
f1 Needle Position

When straight stitch (No 1-4, 7-11) is selected, needle position is indicated. By pressing the [+] or [-] button, needle position will move. (0.0 is most left, 7.0 is most right and 3.5 is center.)



CAUTION: To prevent injury to persons.

- When using the straight stitch foot, do not change the needle position from the automatic setting. It is dangerous for the needle to hit the presser foot.
- The needle position cannot be changed when the straight stitch needle plate is attached.



G. Stitch Length

Preset stitch length is adjusted when stitch is selected in green color.

Touch the "-" button to make the stitch finer and touch the "+" button to make it coarser.



The display of the stitch length varies depending on the pattern.

For details, see "PATTERN CHART" on page 88.



: The length of one stitch of the pattern is displayed. (Example 1)



: The overall length of the pattern (the length of one unit of the pattern) is displayed. (Example 2)

For one unit of each pattern, see "PATTERN CHART" on page 88. Touch "+" to make the stitches finer and shorten the overall length, and touch "-" to make the stitches coarser and lengthen the overall length.

NOTE:

- When you reached the value maximum or minimum, beep sound will be generated. (If you set the buzzer so that it does not sound, it will not sound. For details, see "Setting Button" on page 17.)
- The maximum and minimum values vary depending on the pattern.
- When the mode of stitch length or width is not appeared, its pattern cannot change these settings.
- You can change the stitch width/length with sewing.

H. Setting screen change button

There are 3 editing screens.

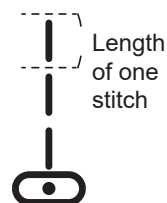
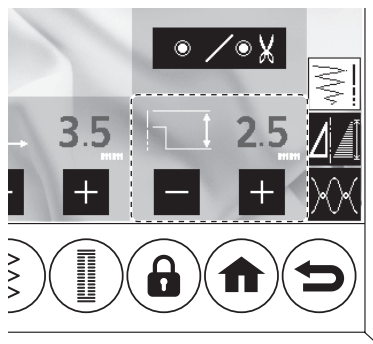
h1 Stitch Width/Length (This screen)

h2 Mirror/Elongate (See page 23)

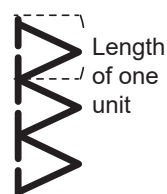
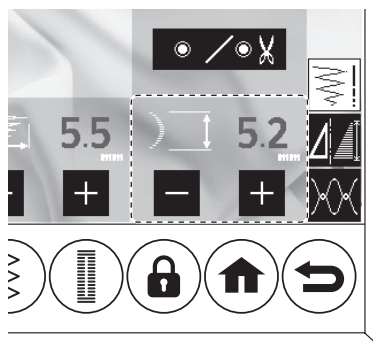
If this button is not appeared, selected stitch cannot set the mirror/elongate.

h3 Thread Tension (See page 24)

Example 1



Example 2



STITCH SETTING SCREEN (MIRROR/ELONGATE)

When you touch the Mirror/Elongate button, editing screen will change to mirror/elongate mode.

A. Stitch width, length and thread tension.

(See page 21, 22 and 24)

B. Mirror button

By touching this button, stitch will mirror as following.

- Mirror horizontal (left to right)
 - Original (green color)
 - Mirror horizontal (left to right)
- Mirror vertical (top to bottom)
 - Original (green color)
 - Mirror vertical (top to bottom)
- Mirror horizontal and vertical
 - Original (green color)
 - Mirror horizontal (left to right)
 - Mirror vertical (top to bottom)
 - Mirror horizontal and vertical

C. Elongation

By touching this button, you can sew elongated stitch.

- Original (green color)
- Elongated

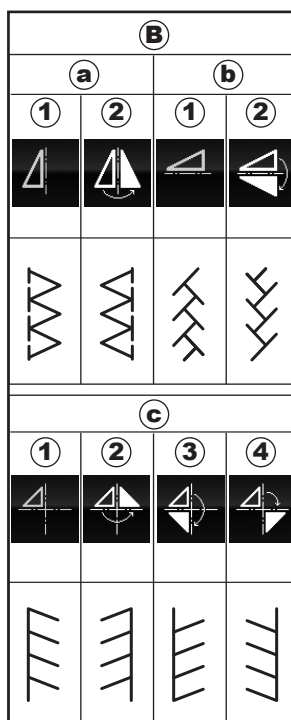
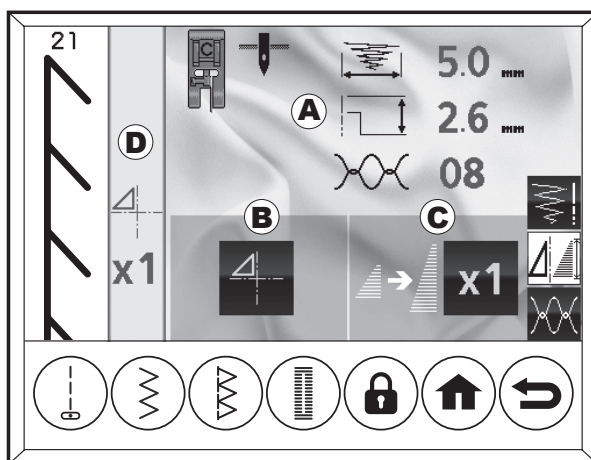
NOTE:

If Mirror or elongate button is not indicated, this stitch cannot change it.

The pattern chart inside of top cover or "PATTERN CHART" on page 88 is indicating the mirror/elongate. Mirror and elongation cannot be changed while sewing.

D. Mirror and elongation

The state of mirror and elongation is indicated in this line.



STITCH SETTING SCREEN (THREAD TENSION)

This machine adjusts the thread tension automatically when pattern is selected.

However, you can change the thread tension by touching the thread tension button.

A. Stitch Width and Length

(See page 21, 22)

B. Thread tension

To increase the tension, touch the [+] button.

To decrease it, touch the [-] button.

The value will change and arrow will move up or down. Preset value is indicated in green.

C. Preset thread tension

Upper and bobbin thread will lock approximately in the middle of fabric.

D. When thread tension is increased.

Bobbin thread will appear on the right side of fabric.

E. When thread tension is decreased.

Upper thread will appear on the wrong side of fabric.

F. Thread tension except for straight stitch

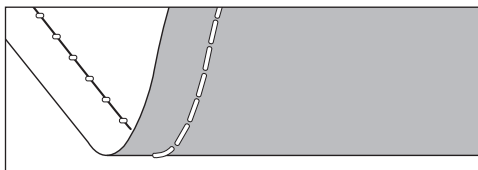
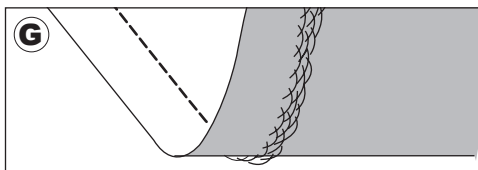
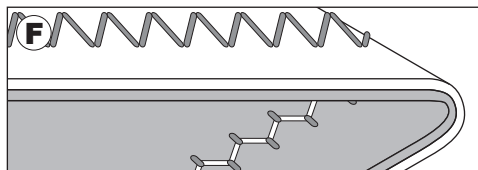
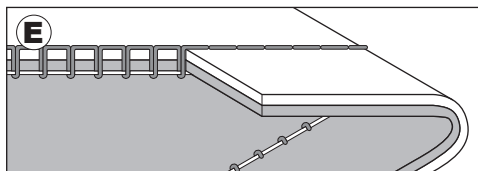
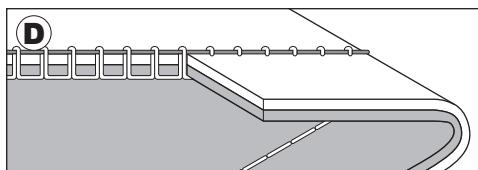
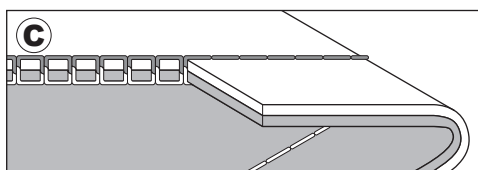
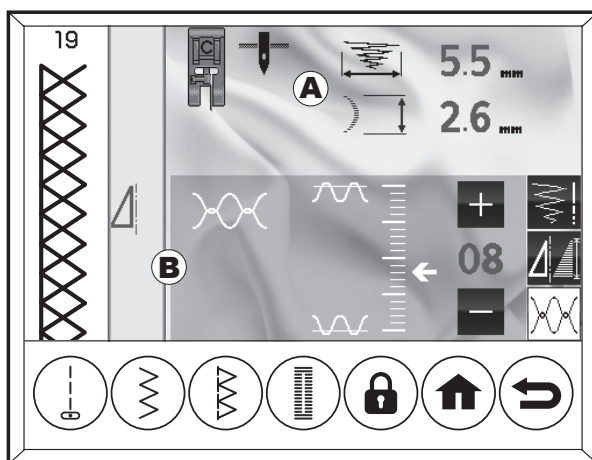
Thread tension except for straight stitch is set to a slightly decrease tension than when sewing straight stitch.

You will obtain a nicer stitch when upper thread appears on wrong side of fabric.

G. Helpful Hints

If your sewing appears as shown on drawing, stitches on right side of fabric are good but wrong side tends to look like a towel, it could be that the upper thread is not threaded correctly. See page 28 for correct threading.

* Also, if the bobbin thread comes out on the front side of the fabric even though the thread tension is set to the automatic setting value, the way of setting bobbin is wrong. See page 27 and set the bobbin correctly.



BOBBIN SETTING

CAUTION: To prevent injury to persons.

Be sure to lock the machine with the safety lock button before operating. After completing the operation, unlock the machine.

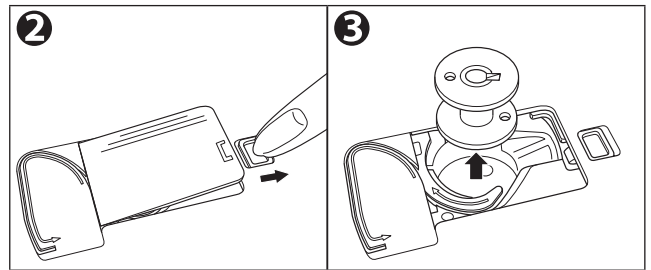


A. REMOVING THE BOBBIN

1. Raise the presser foot lifter.
2. Pull the bobbin cover latch to the right and remove the bobbin cover.
3. Lift up the bobbin from the machine.

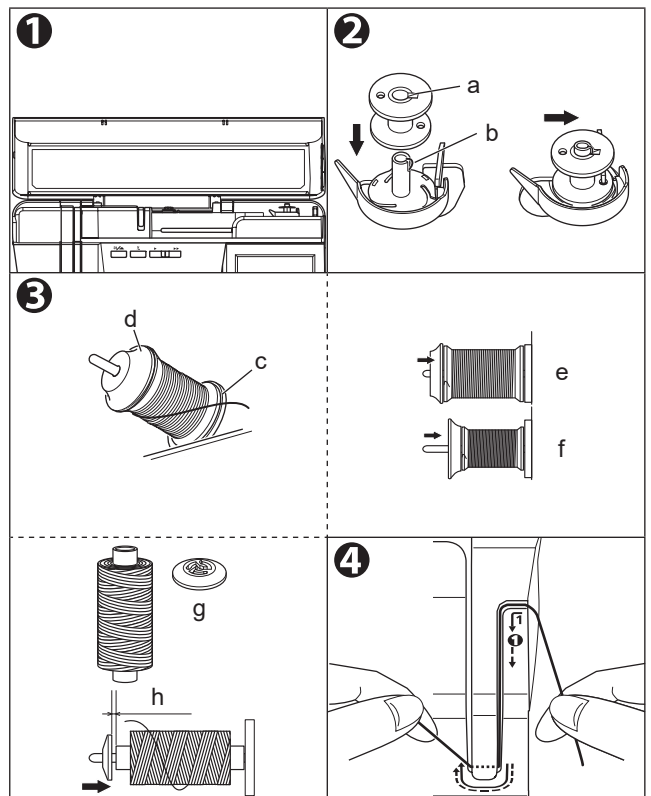
NOTE:

Use the plastic bobbin dedicated to this model.

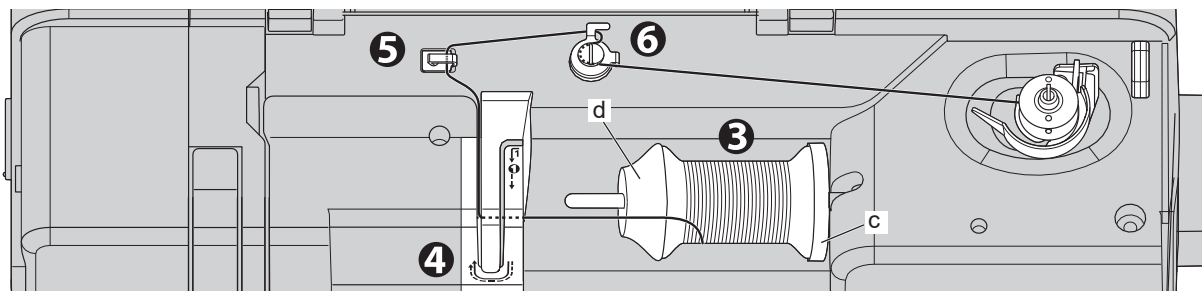
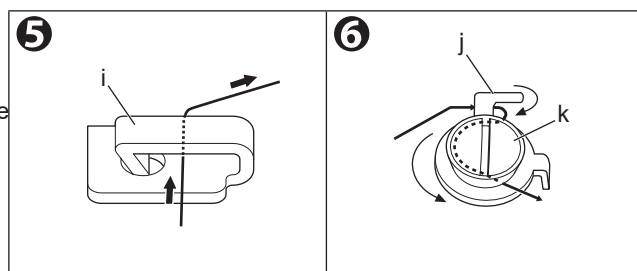


B. WINDING THE BOBBIN

1. Open the top cover.
2. Place the bobbin on the bobbin winder spindle so that the groove (a) on the bobbin fits to the spring (b) on the spindle. Push bobbin to the right to engage bobbin winder. (LCD screen will indicate the bobbin winder mode.)
3. Set the felt washer (c) to the right side of spool. Set the spool of thread on spool pin so that the thread unrolls from the front of the spool. Set the spool cap (d) on spool pin as far as it will go. Reverse spool cap direction according to the size of spool.
e: Large Spool f: Small Spool
Use the small spool cap (g) when you use cross wound thread. Leave small opening between cap and spool as illustrated (h) for smooth thread feeding.
4. Hold thread in both hands and hook thread to the guide from rear opening. Bring thread frontward and pass through the thread guide from right to left.



5. Bring thread backward and pass through the threading guide (i) from left to right.
6. Bring thread to the right and pass thread through the thread guide (j) from rear side. Pass thread under tension disc (k) in counter clockwise direction.



7. Hold the thread by your left hand and wind the thread to the bobbin 4-5 times clockwise.

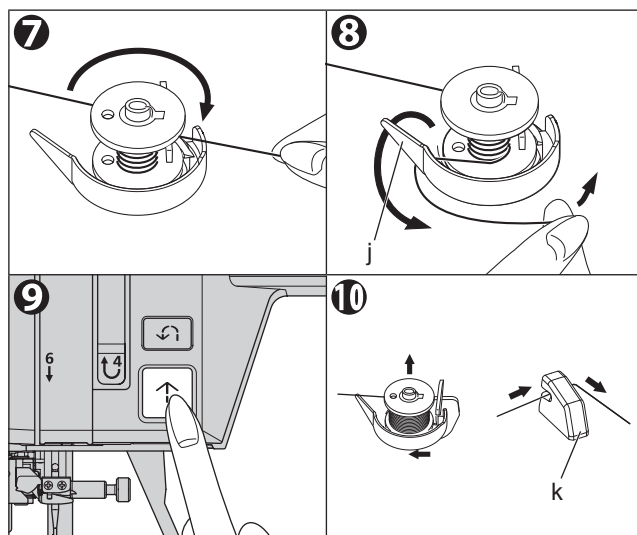
NOTE:

Be sure to wrap the thread clockwise. If you wind the thread in the opposite direction by mistake, the thread will not wind onto the bobbin.

8. Hook the thread under the front wing of the bobbin guide (j) from left to right and cut the thread.

9. Start the machine by pressing the start/stop button or pressing the foot controller. The bobbin winding will stop automatically when bobbin is full. (Release the foot controller.)

10. Push the bobbin and spindle to the left. Remove the bobbin from the spindle. Hook thread to the thread cutter (k) from left-back to right-front.



C. INSERTING THE BOBBIN

CAUTION: To prevent injury to persons.

Be sure to lock the machine with the safety lock button before operating. After completing the operation, unlock the machine.



1. Place bobbin into bobbin holder (a) with the thread unwinding counter clockwise.

NOTE:

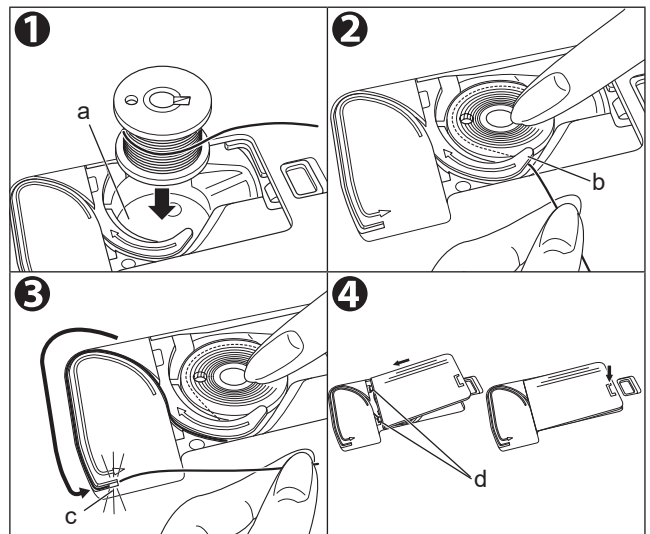
Be careful not to make a mistake in the direction of the thread.

2. Draw thread into notch (b) with holding the bobbin.
3. Pull thread along the groove from up to down. Pull thread to the right to cut the thread (c).
4. Replace the bobbin cover. Set the left tabs (d) into the holes in needle plate and push the right side of bobbin cover down until it clicks into place.

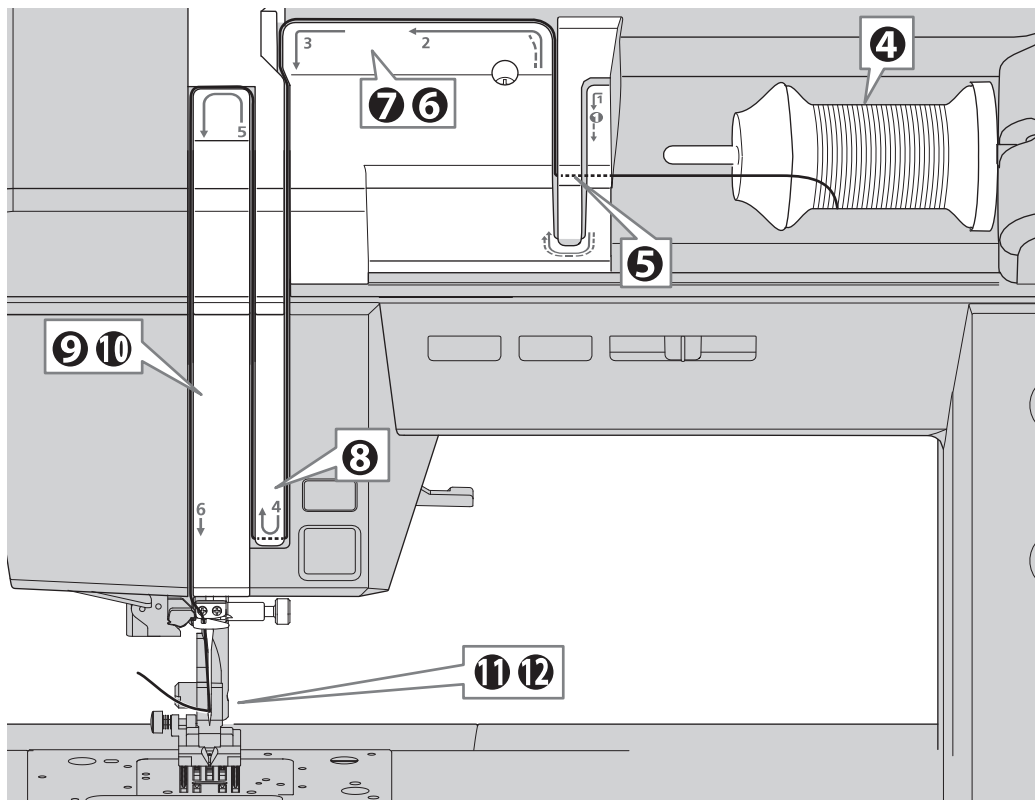
NOTE:

This machine can start to sew without drawing up the bobbin thread.

If you want to draw up the bobbin thread, see page 42.



THREADING THE MACHINE

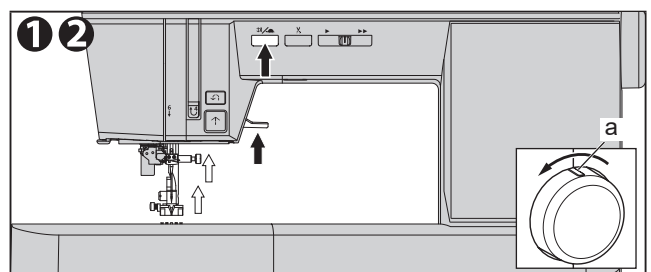


A. PREPARING TO THREAD MACHINE

1. Raise the presser foot lifter.
2. Raise the needle to its highest position by pressing the needle up/down button or turning the hand wheel toward you.
When the needle is definitely up, the mark (a) on hand wheel will also be at the top.
Be sure to check that the mark is on top.

(Keep this position until needle eye threading.)

3. Touch the safety lock button to lock the machine.



CAUTION: To prevent injury to persons.

Be sure to lock the machine with the safety lock button before operating. After completing the operation, unlock the machine.



B. SETTING SPOOL OF THREAD ON SPOOL PIN

4. Open the top cover and set spool as below.

- Pull up the left end of spool pin.
- Set the spool of thread on spool pin so that the thread unrolls from the front of the spool.
- Set the spool cap on spool pin as far as it will go. (See illustration.)

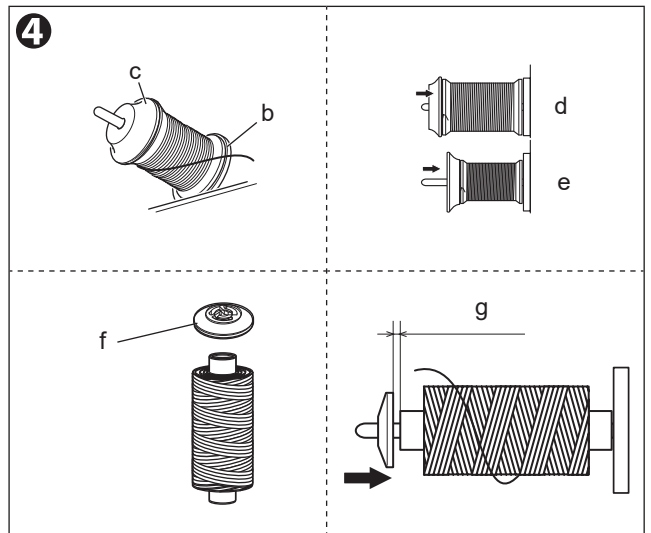
b: Felt Washer c: Spool Cap

Reverse spool cap direction according to the size of spool.

d: Large Spool e: Small Spool

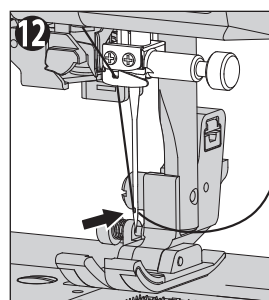
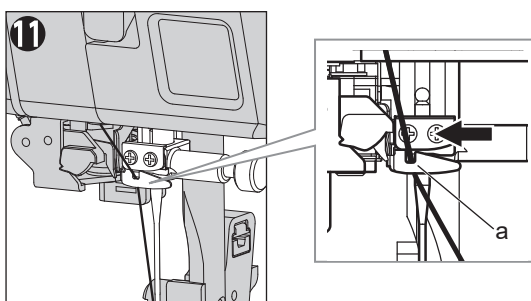
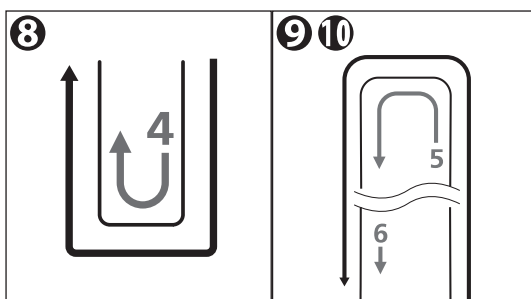
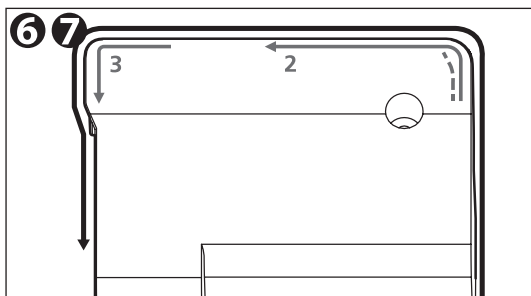
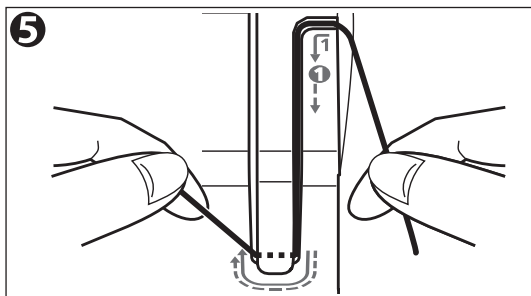
Use the small spool cap (f) when you use cross wound thread. When using the spool cap (c), the thread may not be cut by the thread cutter or the thread tension may not be adjusted properly.

Leave small opening between cap and spool as illustrated (g) for smooth thread feeding.



C. THREADING THE UPPER THREAD

5. Hold thread in both hands and pass thread to the guide from rear opening and pass through front opening from right to left.
6. Bring thread backward and pass through from right to left.
7. Bring thread to the left and pull-down thread toward you along the slit.
8. Bring thread right to left and pull up thread.
9. To thread the take-up lever, draw thread up and bring thread back down again from right to left along the slit.
10. Pull thread downward along the slit.
11. Pass the thread through the groove (a) of the needle bar thread guide from the right side when facing the front.
12. Pass through needle eye from front to back.
See next section for instructions on how to use needle threader.



D. THREADING THE NEEDLE EYE

NOTE:

The needle threader is used for needle sizes 11/80 - 16/100 and thread sizes 50- 100.

CAUTION: To prevent the accidents or the injury to persons.

- Do not put your fingers under the needle.
- Make sure the needle is installed correctly. If it is not installed correctly, threading may not be possible or it may cause malfunction. (See page 36)
- Do not rotate the hand wheel when needle threader lever is lowered.
- Needle threader cannot be used when using special threads such as transparent nylon threads.
- The needle threader cannot be used when the separately sold loupe is attached.

1. Raise the presser foot lifter and the needle.

When the needle is definitely up, the mark (a) on hand wheel will also be at the top.

Be sure to check that the mark is on top.

2. Touch the safety lock button to lock the machine.

CAUTION: To prevent injury to persons.

Be sure to lock the machine with the safety lock button before operating. After completing the operation, unlock the machine.

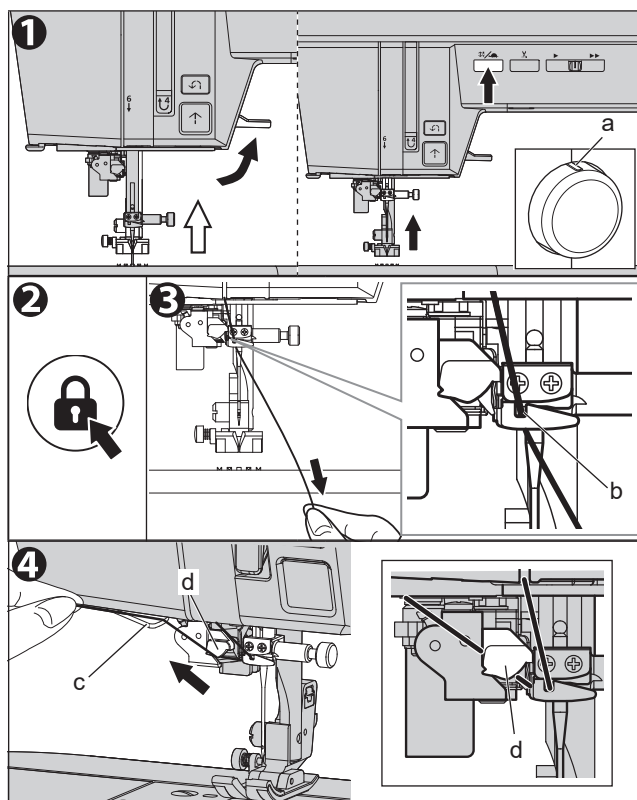


3. Pass the thread through the groove (b) of the needle bar thread guide from the right side when facing the front.

Pull thread from needle bar thread guide and continue gently pulling thread downwards until you reach the front of the extension table.

4. Pull up the thread and pass it through the needle threader guide (c) from right to left.

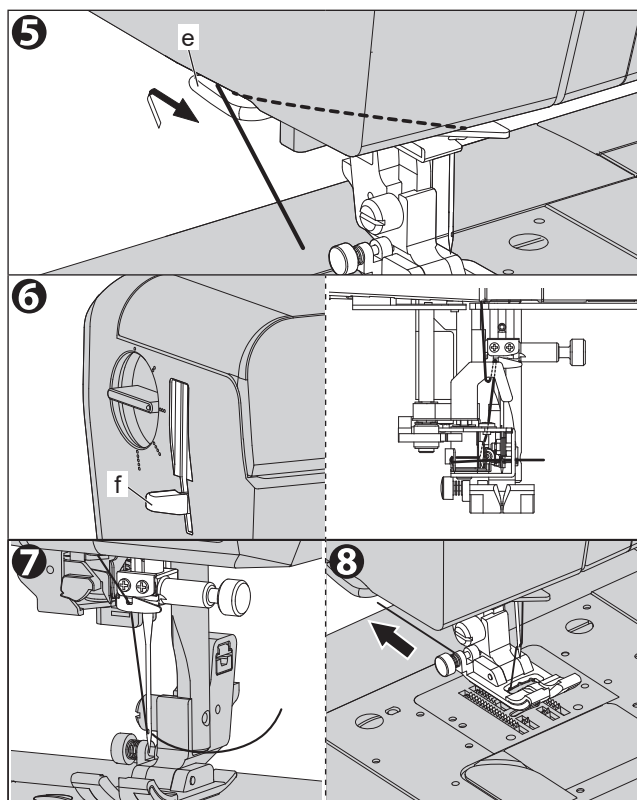
At this time, if the thread is pulled taut, it will automatically pass through the thread holder (d).



NOTE:

Make sure that the thread passes through the thread holder (d). If the thread does not pass through the thread holder, it will not enter the eye of the needle.

5. Hook the thread to the thread cutter (e) from back to front. Pull and cut thread.
6. Lower the needle threader lever.
Push the needle threader lever (f) all the way down.
The needle threader equipment will go down and it will pass the thread through the needle eye.
7. Release the needle threader lever.
The condition of the thread passing through the eye of the needle is;
 - A. looped:
Pull the loop and pull out the thread end.
 - B. getting caught in the threader:
Remove the caught thread from the threader and pull out the end of the thread.
8. Pass the thread under the presser foot, and pull it back about 10 cm.




CHANGING THE PRESSER FOOT

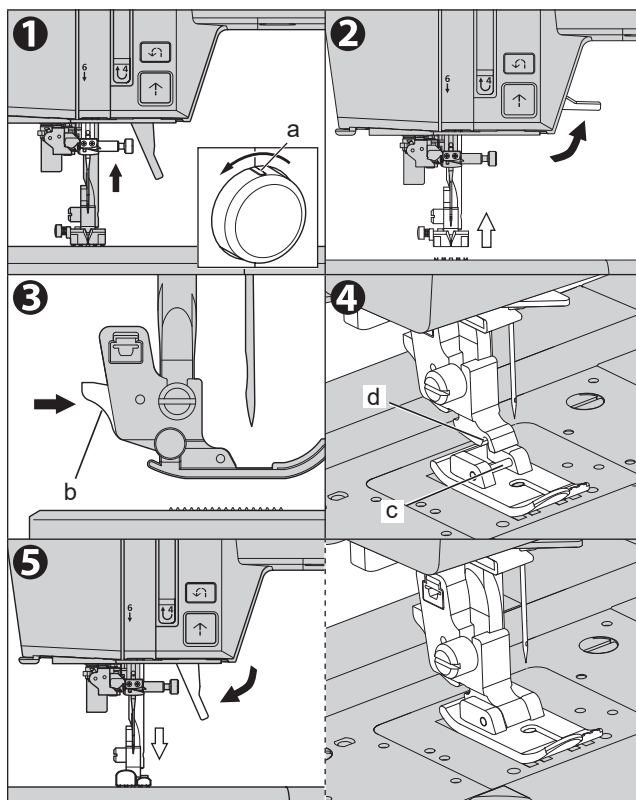
The presser foot must be changed according to the stitch you sew, or work you do.

A. CHANGING THE PRESSER FOOT

Use the appropriate presser foot for each sewing pattern or purpose. See page 43, confirm the presser foot for each pattern.

| | |
|--|---|
| <p>CAUTION: To prevent injury to persons. Turn off the power switch or touch the safety lock button to lock the machine before you change the presser foot.</p> |  |
|--|---|

1. Turn the hand wheel toward you until the needle is at its highest point.
The mark (a) of hand wheel comes to the top.
2. Raise the presser foot lifter.
3. Remove the presser foot by pushing the presser foot release lever (b) toward you.
Presser foot will come off.
4. Place desired foot with its pin (c) directly under the slot (d) in presser foot holder.
5. Lower the presser foot lifter and the presser foot will snap into place.
The pin fits in the slot.
If it does not fit completely, try pressing the presser foot release lever.



B. REMOVING THE PRESSER FOOT HOLDER

Remove the presser foot holder when you clean the machine or attaching extra foot (commercially available).

CAUTION: To prevent injury to persons.

Turn off the power switch or touch the safety lock button to lock the machine before carrying out the below operation.



1. Remove the presser foot.

See the previous section "CHANGING THE PRESSER FOOT".

2. Loosen the presser foot holder screw (a) and remove the presser foot holder with driver for needle plate.

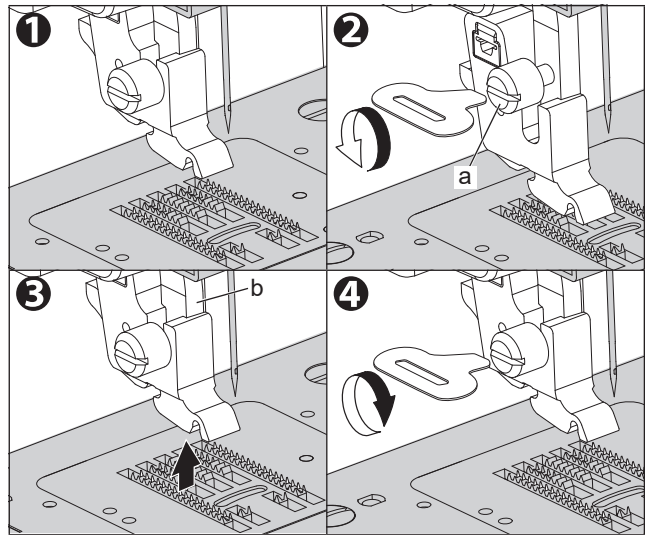
Presser foot holder will come off.

3. To replace the holder, pull up the holder as far as it will go from bottom of presser bar (b).

4. Tighten the presser foot holder screw with driver for needle plate.

NOTE:

Do not tighten too strongly using a commercially available large screwdriver. It will be the cause of the failure.



FABRIC, THREAD AND NEEDLE TABLE

Select thread size and needle size according to the type of fabric and thickness.

| Type of Fabric | | Thread Size | Needle Size |
|----------------------|---|---|---|
| Light Weight | georgette, organdy, voile, taffeta, silk, etc. | Ctn #80 - 100 Silk 60 - 80 Syn 80 - 100 | 9/70-11/80 |
| Medium Weight | gingham, pique, linen, cotton, satin, thin corduroy, velvet, etc. | Ctn 50 - 80 Silk 50 Syn 50 - 80 | 11/80-14/90 |
| Heavy Weight | gabardine, tweed, denim, quilted fabric, corduroy, etc. | Ctn 30 - 50 Silk 50 Syn 30 - 60 | 14/90-16/100 |
| Stretch | double knit, tricot, spandex, jersey, etc. | Syn 50 - 80 Silk 50 Thread for knit | 11/80-14/90 Needle for knit and synthetic fabric |

Use a Home sewing machine needle.

INSERTING THE NEEDLE

CAUTION: To prevent injury to persons.

Turn off the power switch or touch the safety lock button to lock the machine before carrying out the below operation.



Putting a cloth over the needle plate prevents you from dropping the needle into the machine.

1. Turn the hand wheel toward you until the needle is at its highest point.

The mark (a) of the hand wheel comes to the top.

2. Lower the presser foot lifter.

3. While holding the needle with your left hand, loosen the needle clamp screw with the included screwdriver.

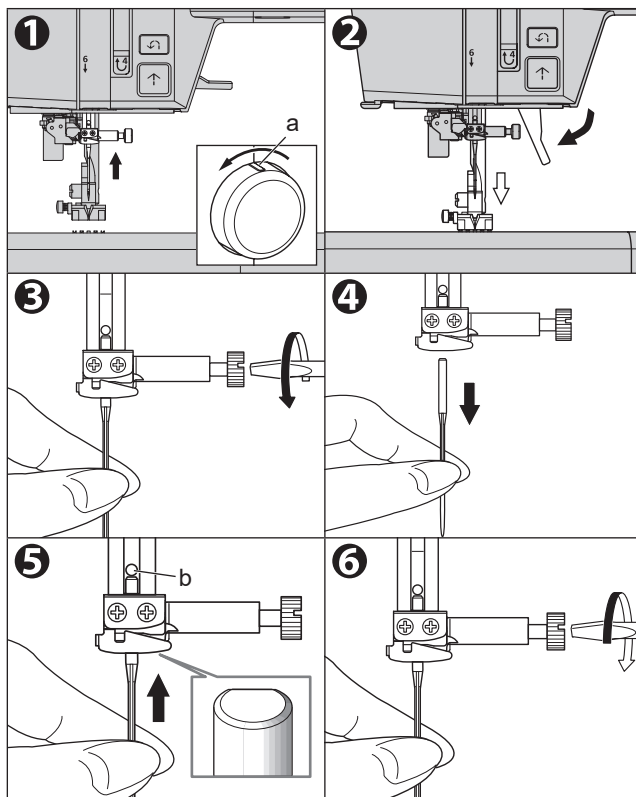
4. Remove the needle.

5. Insert new needle into needle clamp with the flat side to the back and push it up as far as it will go.

CAUTION: Make sure the needle touches the pin (b).

6. After lightly tightening the needle clamp screw with your fingers, tighten the screw with the included screwdriver.

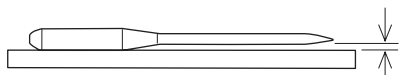
CAUTION: Do not over-tighten with a commercial screwdriver.



CAUTION: To prevent injury to persons.


- Do not use a bent needle or a needle with a collapsed tip.

Before installing the needle, place the needle on a flat surface such as a needle plate and check for any problems.



- If the needle is not installed correctly, threading or sewing may not be possible, the needle may break, or the machine may malfunction.

STARTING TO SEW

Turning on the machine, select the straight stitch  (center) is selected. See page 20.

A. START AND END OF SEAM

1. Check the presser foot [Regular Foot (H)].
See page 33 for changing the presser foot.

NOTE:

When sewing straight stitch on thin or stretchy fabrics, you can use the straight stitch needle plate and the straight stitch foot to achieve a beautiful finish. See page 45.

2. Raise up the needle by pressing the needle up-down button or turning the hand wheel toward you.
3. Place the fabric under the presser foot and lower the presser foot.
The monitor lamp turns on green.
4. Hold back upper thread and press the start/stop button or press the foot controller.
Keep holding thread after sewing a few stitches.
Lightly guide the fabric while sewing.

You can regulate the sewing speed by sliding the speed control button even during sewing. Also, you can reduce the sewing speed by pressing the slow button.

CAUTION: To prevent injury to persons.

- Pay attention to the point of the needle.
- Do not pull or push strongly as the cloth is automatically sent by the machine.

5. When you reach end of seam, press the start/stop button to stop sewing or release the foot controller.
The stop position of the needle differs depending on the setting.

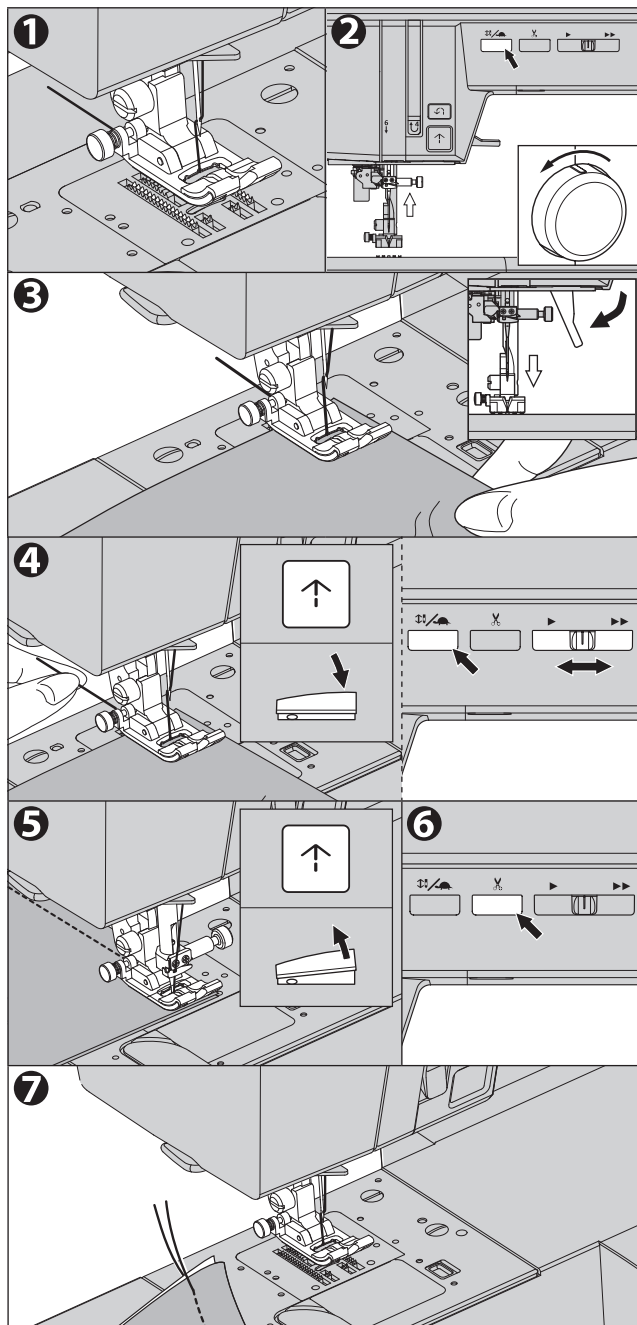
6. Press the thread cutter button.

When needle stop position is

- up: the needle down once, cuts the thread and goes up.
- down: the threads are cut and the needle goes up.

At this time, even if the needle rises upwards, the setting of the stop position does not change.

7. Raise the presser foot lifter and remove the fabric.



Upper Thread Sensor

If upper thread is broken or missing, machine will stop automatically and message will appear.

Rethread the upper thread and resume sewing.



CAUTION: To prevent accidents.

- Do not press the thread cutter button when there is no fabric in the machine or no need to cut the threads. The thread may tangle, resulting in damage.
- Do not use the thread cutter button when cutting thread thicker than #30, nylon thread or other specialty threads.

In this case, use the thread cutter located on the left side of the machine. (See page 41)

B. REVERSE STITCHING

Reverse stitching is used for reinforcing the beginning and ends of the stitch.

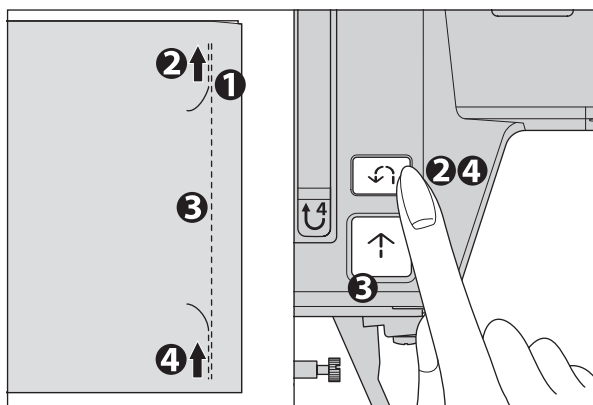
You can sew reverse stitch with the reverse button.

(The machine will continue sewing reverse stitching while you are pressing the button. When you release the button, reverse stitching will stop.)

1. Place the fabric in position where back stitching is to be made and lower the presser foot.
2. Press and hold the reverse button.
Sew 4-5 reverse stitches.
3. Release the reverse button and press the start/stop button (or press the foot controller). Machine will change to forward sewing.
4. When you reach the end of seam, press and hold reverse button and sew 4-5 reverse stitches.

NOTE:

- When the foot controller is connected and the pedal is pressed, machine will sew in reverse while this button is pressed. When released, machine will sew forward. (See page 12)
- Depending on the speed, after you press the reverse button, the machine will sew half the stitch length and then the reverse stitch.
- Utility stitch patterns No.3 and No.4 are straight stitches with automatic reverse stitches. (See page 44)



C. AUTO LOCK STITCH, AUTO LOCK STITCH & CUT

You can sew lock stitch at the beginning and end of the stitch by touching the lock stitch/cut button once. Also, you can cut threads automatically after the lock stitching end by touching the lock stitch/cut button twice.

1. Select stitch pattern.

- Touch the lock stitch/cut button once if you want to sew only lock stitching.
- Touch the lock stitch/cut button twice if you want to sew lock stitching and cut threads.

● is displayed on the LCD screen.

● ✂ is displayed on the LCD screen.

You can cancel them by touching this button again.

2. Start to sew.

The machine will sew lock stitch automatically and start to sew the selected pattern.

You can interrupt sewing by pressing the start/stop button.

R: Right side of fabric

W: Wrong side of fabric

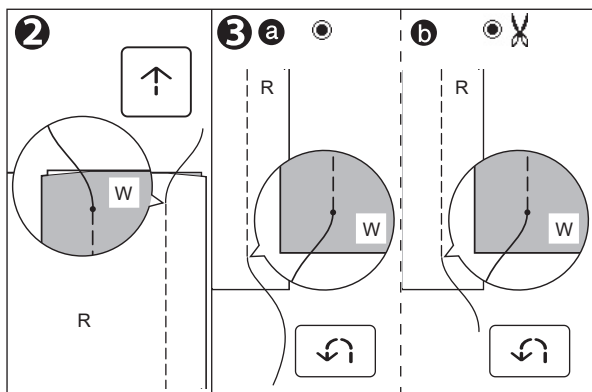
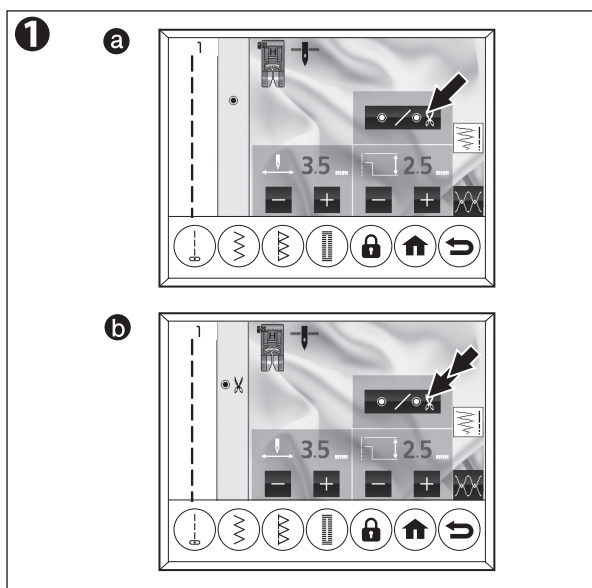
3. When you reach the end of seam, press the reverse button once.

- The machine will sew lock stitch and stop automatically.
- The machine will sew lock stitch, cut the thread and stop automatically.

Utility stitch No.3, 4, 48-64 are including the reverse stitch or lock stitch.

In these case, lock stitch/cut button will be set auto cut only.

See pages 43, 45, 55-61, 67.



D. TURNING CORNERS

1. Stop the machine when you reach a corner.

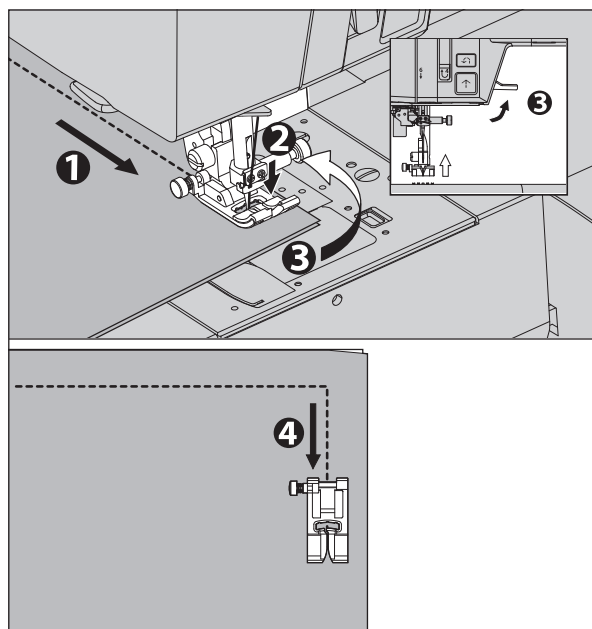
2. Lower the needle into the fabric by:

Pressing the needle up/down button or turning hand wheel toward you.

3. Raise the presser foot.

Use the needle as a pivot, turn fabric and set toward you want to sew.

4. Lower the presser foot and resume sewing.



E. SEWING HEAVY FABRIC



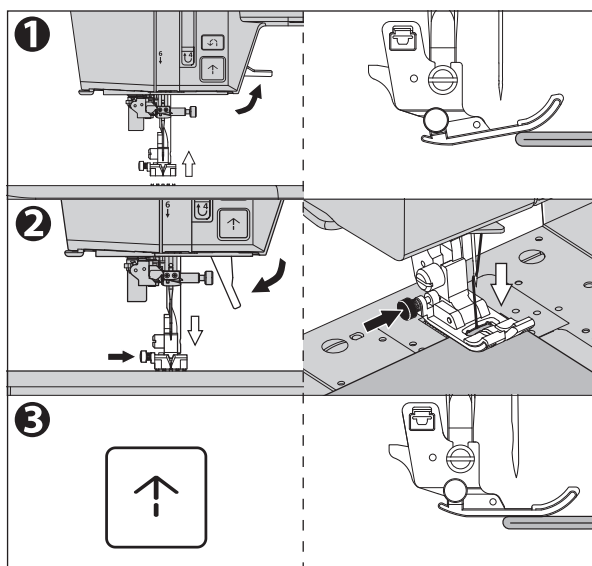
CAUTION: To prevent the accidents or the injury to persons.

Forcing fabric with a thickness of 6 mm or more under the presser foot may cause the needle to break and cause injury.

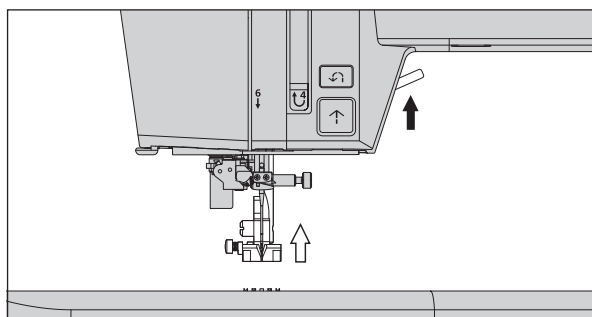
e-1. START SEWING THICK FABRIC

When sewing heavy fabrics, the toe end of presser foot tends to lift up and sewing cannot be started smoothly. In such case, set as follows.

1. Raise the presser foot.
2. Push the lock button located on the left side of regular foot and lower the foot.
3. Start sewing.
As presser foot hinge is locked, fabric will be fed smoothly.
As sewing progresses, it will be unlocked automatically.

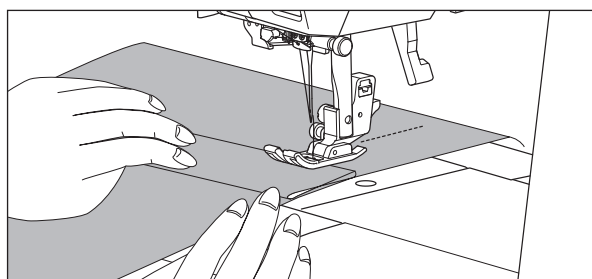


If you raise the presser foot lifter further and raise the foot further one step, you can easily sew a thick cloth. At this time, the raised presser foot is not fixed. When you release the presser foot lifter, the presser foot returns to the position raised in step 1.



e-2. SEWING OVER OVERLAPPED AREAS

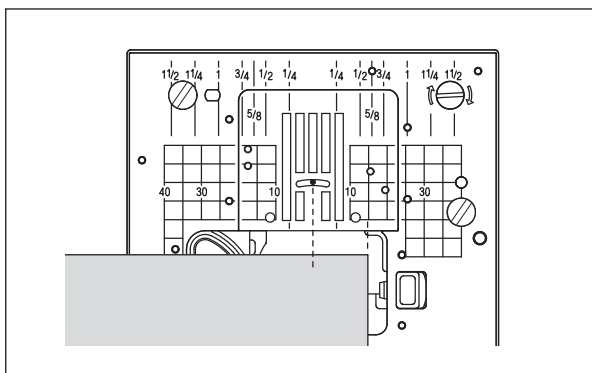
Guide the fabric with your hand when sewing the fabric overlaps or has differences.



F. WIDTH OF SEAM ALLOWANCE

Guide lines on the needle plate indicate the distance from the center needle position.

To keep the width of seam allowance, guide fabric edge aligning this guide line.

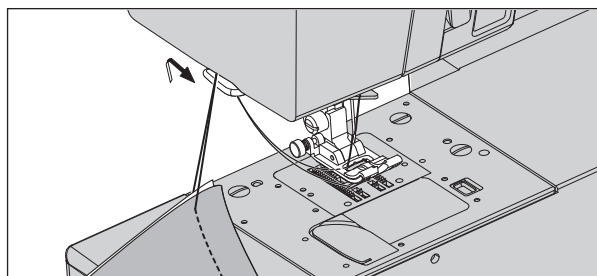


G. THREAD CUTTER

After sewing, if you do not use the thread cutter button, you can cut threads using the thread cutter.

In the following cases, use the thread cutter to cut the thread instead of using the thread cutter button.

- When using thick thread thicker than #30.
- When using special thread such as nylon thread.
- When you want to take a long thread at the end of sewing.



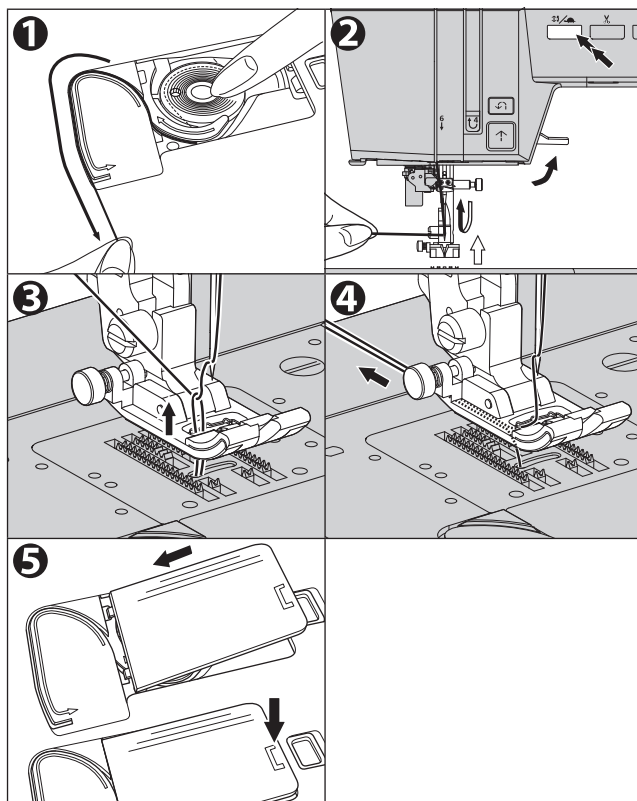
1. Raise the presser foot and needle, and bring fabric and threads backward after sewing.
2. Hook the threads to the thread cutter from back to front.
3. Pull fabric and cut threads.

H. IF YOU WANT TO DRAW UP THE BOBBIN THREAD

This machine can start to sew without drawing up the bobbin thread.

If you want to start sewing with longer bobbin thread, draw up the bobbin thread as follows.

1. Insert the bobbin into the bobbin holder and pass thread as instructed on page 27. But do not cut the thread.
2. Raise the presser foot.
Hold thread loosely and press the needle up-down button twice from up position.
The hand wheel will make one revolution toward you.
If the safety lock is activated, unlock it first.
3. Pull upper thread lightly. Bobbin thread will come up in a loop.
4. Pull both upper and bobbin threads about 10 cm toward the back of presser foot.
5. Replace the bobbin cover. (See page 27)

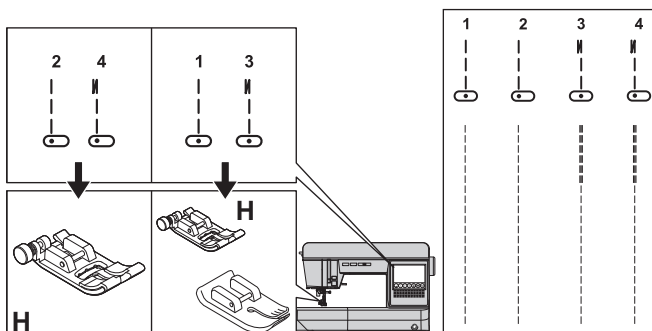


STRAIGHT STITCH SEWING

Straight stitch patterns should be selected to suit the type of fabric being sewn.

| Stitch | | Presser Foot |
|--------|--|-------------------------|
| 2 | Straight stitch (Left needle position) | Regular Foot (H) |
| 4 | Straight stitch with auto-reverse stitch (Left needle position) | |
| 1 | Straight stitch (Center needle position) | Regular Foot (H) |
| 3 | Straight stitch with auto-reverse stitch (Center needle position) | Straight Stitch Foot |

The needle position can be changed by adjusting the stitch width. (See page 21)



CAUTION: To prevent injury to persons.

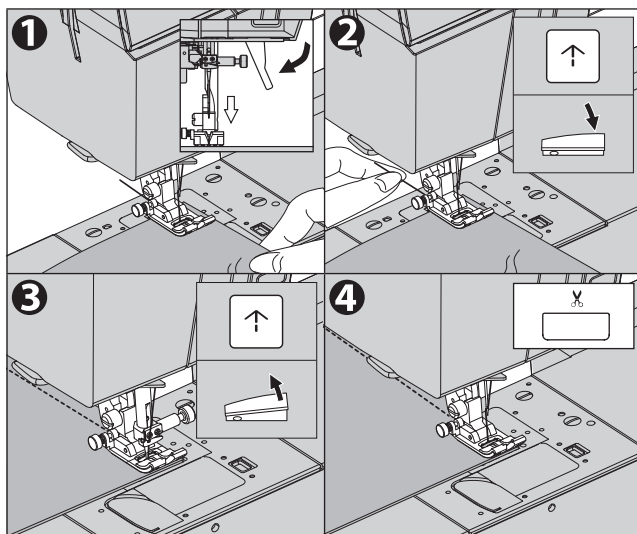
When using the straight presser foot for utility stitch patterns No.1 and 3, do not change the needle position from the automatic setting. It is dangerous for the needle to hit the presser foot.

A. STRAIGHT STITCH

1. Position the fabric under the presser foot.
Lower the presser foot.
2. Hold the upper thread loosely and start sewing.
Place hand lightly on the fabric while sewing.
3. When you reach the end of seam, stop sewing.
4. Press the thread cutter button.

NOTE:


If you use the straight stitch needle plate, the fabric will not sink into the holes in the needle plate, and you will be able to finish more beautifully.
For details on how to use it, see "STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)" on page 45.

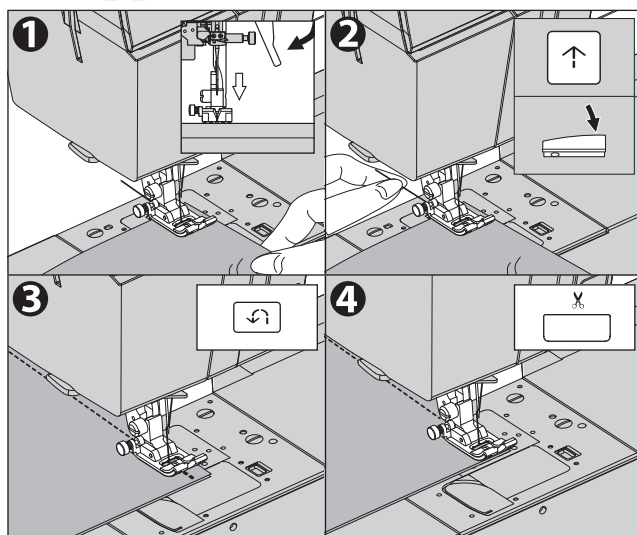


B. STRAIGHT STITCH WITH AUTO-REVERSE STITCH ()

1. Position the fabric under the presser foot.
Lower the presser foot.
2. Hold the upper thread loosely and start sewing.
The machine will sew 4-5 stitches forward and
sew 4-5 stitches backward and continue sewing
forward.
3. When you reach the end of seam, press the
reverse button once.
The machine will sew a few stitches backward
and sew a few stitches forward and stop
automatically.
4. Press the thread cutter button.

NOTE:

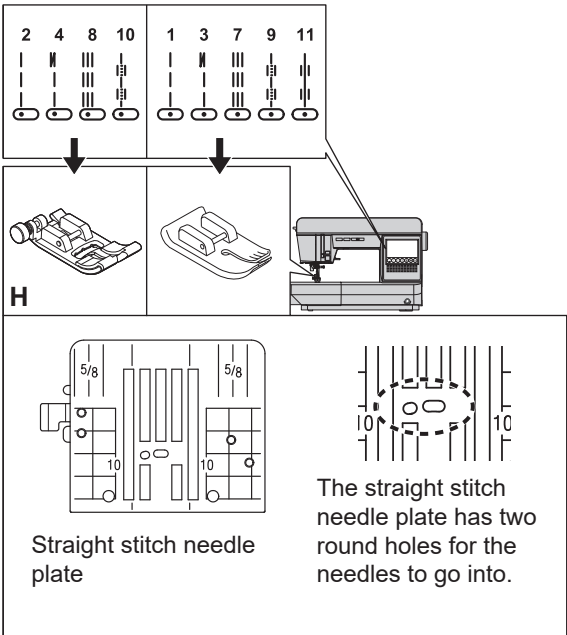
If you touch the lock stitch/cut button before start sewing, the machine will cut threads automatically at the end of seam. (LCD screen indicates  mark)



STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)_____


When sewing straight stitch on thin or stretchy fabrics, using the straight stitch needle plate prevents the fabric from sinking into the hole in the needle plate, you can finish it better.

| Stitch | | Presser Foot |
|--------|--|----------------------|
| 2 | Straight stitch (Left needle position) | Regular Foot (H) |
| 4 | Straight stitch with auto-reverse stitch (Left needle position) | |
| 8 *1 | Straight stretch stitch (Left needle position) | |
| 10 *2 | Hand look Quilting Stitch (Left needle position) | |
| 1 | Straight stitch (Center needle position) | Straight Stitch Foot |
| 3 | Straight stitch with auto-reverse stitch (Center needle position) | |
| 7 *1 | Straight stretch stitch (Center needle position) | |
| 9 *2 | Hand look Quilting Stitch (Center needle position) | |
| 11 *2 | | |



*1 Utility stitch patterns 7 and 8 are mainly used for stretch reinforcement stitches. For details, see "ELASTIC STITCH SEWING" on page 48.


*2 Utility stitch patterns 9, 10 and 11 are mainly used for quilt stitching. For details, see "HAND LOOK QUILTING STITCH" on page 50.

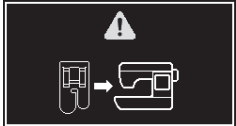
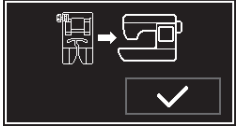
**CAUTION: To prevent injury to persons.**

- The needle position cannot be changed when the straight stitch needle plate is attached.
- Before you start sewing, be sure to check that the correct presser foot is attached for the selected pattern. If the wrong presser foot is used, the needle may hit the presser foot and break, resulting in injury.

CAUTION:

If you reselect the pattern, a message may appear asking you to check the presser foot.

- When changing from straight stitches 1, 3, 7, 9, 11 of the center needle position to straight stitches 2, 4, 8, 10 of the left needle position, the following message is displayed. Make sure the regular foot is attached. After confirming, touch  to clear the message.
- The following message is displayed when changing from straight stitches 2, 4, 8, and 10 of left needle position to straight stitches 1, 3, 7, 9, and 11 of the center needle position. Make sure that the straight presser foot is attached.



<<Continued from previous page.>>

NOTE:

Only usable patterns can be selected when the straight stitch needle plate is attached.

- Patterns that cannot be used are displayed in gray on the utility stitch selection screen.
- If you select a pattern that cannot be used, a beep will sound to notify you. (If you set the operation sound to be silent, it will not sound. For details, see "Setting Button" on page 17.)
- If you select a pattern that cannot be used and attach the straight stitch needle plate, the LCD screen will change to the utility stitch selection screen.

A. HOW TO REMOVE THE STANDARD NEEDLE PLATE

1. Press the needle up/down button or turn the hand wheel toward you to raise the needle. At this time, the hand wheel mark will come up.

2. Turn off the power switch. (Symbol **O**)



CAUTION: To prevent injury to persons.
Failure to turn off the power switch may result in injury.

3. Raise the presser foot lifter and remove the presser foot. For how to remove the presser foot, see "CHANGING THE PRESSER FOOT" (page 33).

4. Using the included driver for needle plate, turn the needle plate stopper lever (a) clockwise (approximately 30°) until it stops rotating.



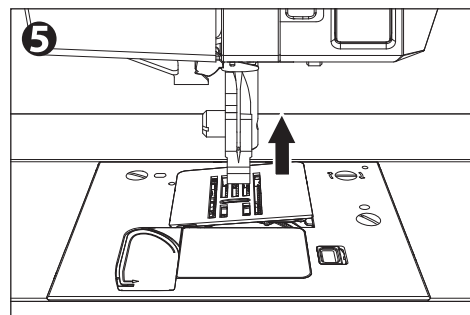
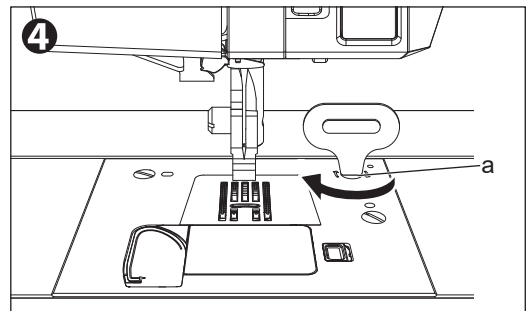
CAUTION: To prevent the accidents or the injury to persons.
Do not turn the needle plate stopper lever (a) too hard. It may be damaged.

5. Lift the right side of the raised standard needle plate and remove it.



CAUTION: To prevent the accidents or the injury to persons.
Be careful not to hit the feed dog with the standard needle plate. The feed dog may be chipped or crushed.

*Follow the same procedure when removing the straight stitch needle plate.



B. HOW TO ATTACH THE STRAIGHT STITCH NEEDLE PLATE

1. Insert the tab (b) on the left side of the straight stitch needle plate into the needle plate.



CAUTION: To prevent the accidents or the injury to persons.

Be careful not to hit the feed dog with the straight stitch needle plate. The feed dog may be chipped or crushed.

2. Push down the right side of the straight stitch needle plate that has floated up to fit it.

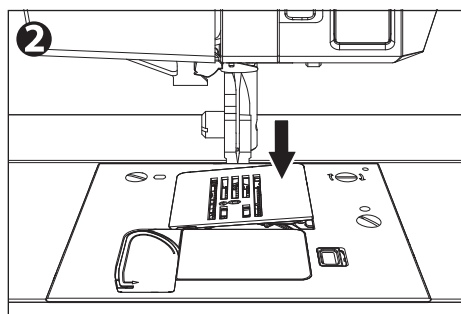
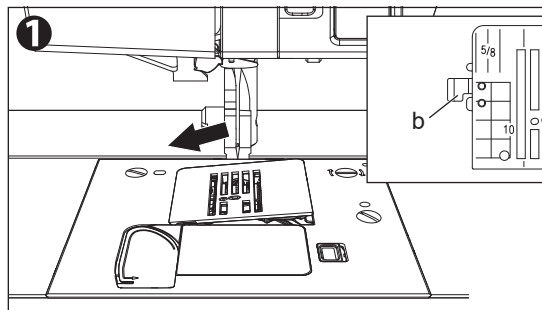
NOTE:

Press the straight stitch needle plate firmly until you hear a click.



CAUTION: To prevent the accidents or the injury to persons.

After attaching the presser foot, turn on the power, select the pattern, slowly turn the hand wheel toward you, and check that the needle does not hit the presser foot and the straight stitch needle plate before starting sewing.

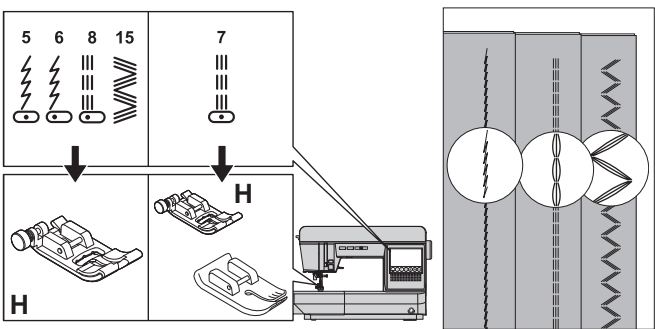


*Follow the same procedure when installing the standard needle plate.

ELASTIC STITCH SEWING

It assures you of a stitch that is strong and flexible and will give with the fabric without breaking. Good for easy to ravel and knit fabrics. It is good for joining durable fabrics such as denims.

| Stitch | | Presser Foot |
|--------|--|--|
| 5 | Stem stitch for stretch fabrics (Center needle position) | Regular Foot (H) |
| 6 | Stem stitch for stretch fabrics (Left needle position) | |
| 8 | Straight stretch stitch (Left needle position) | |
| 15 | Rick-rack Stitch | |
| 7 | Straight stretch stitch (Center needle position) | Regular Foot (H) Straight Stitch Foot |




We recommend that you use a needle for knit and synthetic fabrics to prevent stitch skipping and thread breakages.

Examples of items that commonly use these fabrics are:

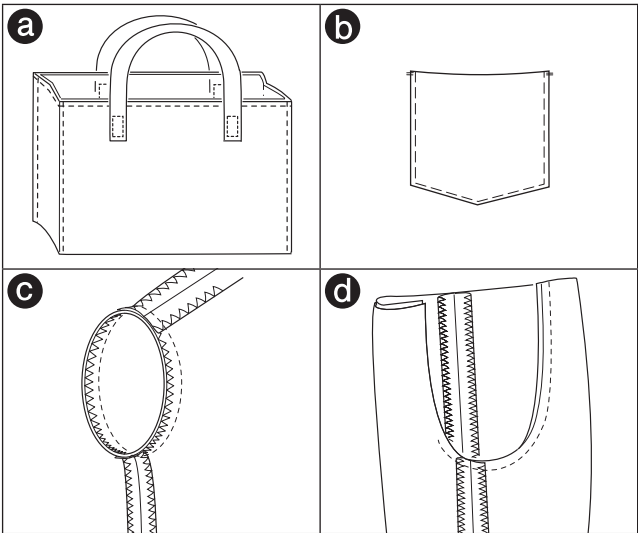
- a. Bag
- b. Pocket
- c. Jacket
- d. Trousers

Utility stitch pattern 7 can also be used with the straight stitch foot.

**CAUTION: To prevent injury to persons.**

When using the straight stitch foot for utility stitch pattern No.7, do not change the needle position from the automatic setting. The needle hits the presser foot and is dangerous.

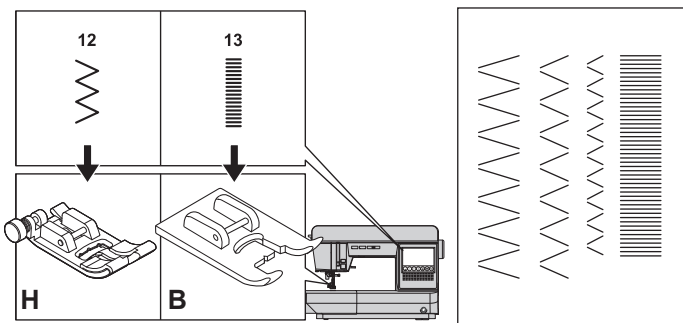
NOTE:
When using utility stitch patterns No.7 and 8, if you use the straight stitch needle plate, the fabric will not sink into the holes in the needle plate, and you will be able to finish more beautifully. In this case, it is more effective to use the straight presser foot for utility stitch pattern No.7.
For details on how to use it, see "STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)" on page 45.



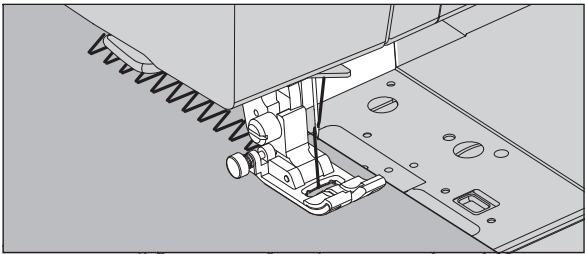
ZIGZAG STITCH SEWING

This machine can sew zigzag stitches of various widths and lengths by changing the settings of the stitch width and stitch length.

| Stitch | | Presser Foot |
|--------|---------------|------------------|
| 12 | Zigzag stitch | Regular Foot (H) |
| 13 | Satin stitch | Satin Foot (B) |

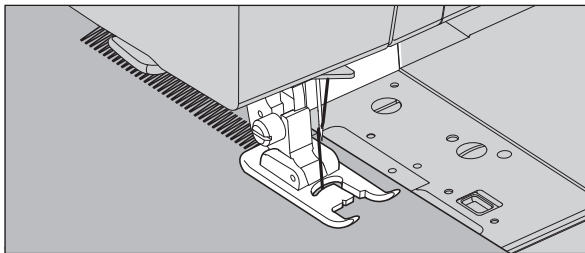


Zigzag stitches are suitable for joining two pieces of fabrics, overcasting and sewing various decorative stitch pattern.
See page 52 for overcasting.



SATIN STITCHING (No. 13)

When you sew the satin stitch (¹³), it will preset to closer stitches than the normal zigzag stitch. Attach the satin foot for this stitch.



HAND LOOK QUILTING STITCH

| Stitch | | Presser Foot |
|--------|---|---|
| 10 | Hand look Quilting Stitch (Left needle position) | Regular Foot (H) |
| 9, 11 | Hand look Quilting Stitch (Center needle position) | Regular Foot (H) Straight Stitch Foot |

A. Utility stitch No.9, 10

When using the hand look quilting stitch, use invisible nylon thread or very lightweight thread for the upper thread.


For bobbin thread, use the thread of color scheme matches the fabric. Increase the thread tension. When you sew, bobbin thread will pull to the top and give the appearance of a traditional hand quilting stitch.

B. Utility stitch No.11

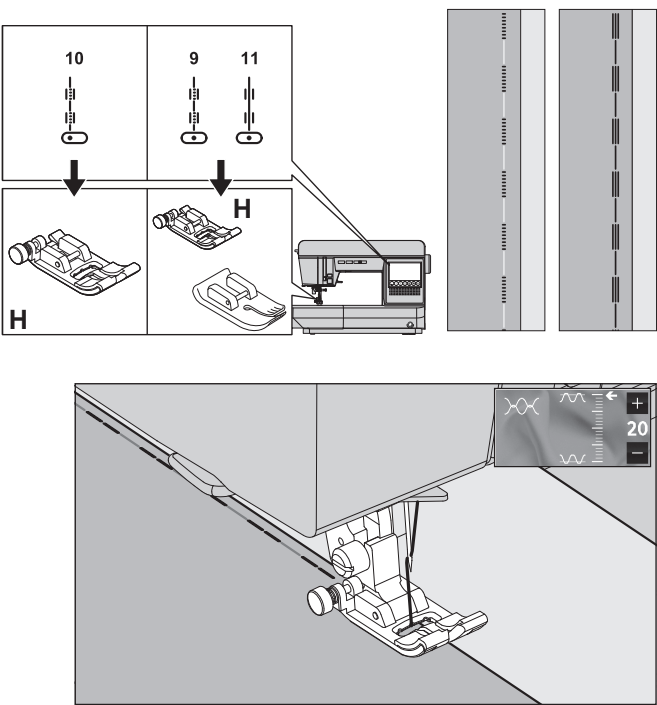
This stitch sews single stitch and triple stitch alternately.

NOTE:

- Use only for medium or heavy weight fabric because thread tension is strong.
- When using utility stitch patterns No.9-11, if you use the straight stitch needle plate, the fabric will not sink into the holes in the needle plate, and you will be able to finish more beautifully. For details on how to use it, see "STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)" on page 45.

**CAUTION: To prevent accidents.**

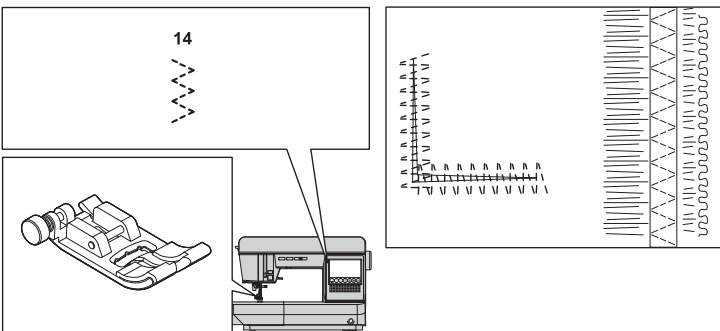
When using the straight stitch foot for utility stitch pattern No.9 and 11, do not change the needle position from the automatic setting. The needle hits the presser foot and is dangerous.



MULTI-STITCH ZIGZAG

This stitch pattern is used to mend a broken fabric or to sew elastic bands.

| Stitch | | Presser Foot |
|--------|---------------------|------------------|
| 14 | Multi-Stitch Zigzag | Regular Foot (H) |

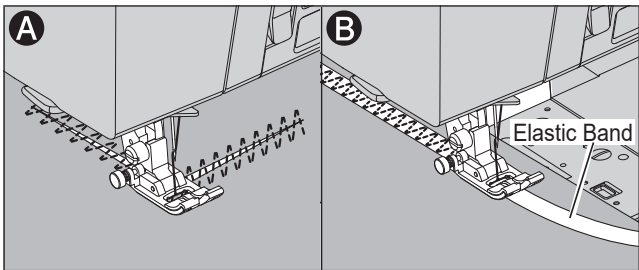


A. MENDING

Shorten the length of the stitch and sew.

B. ELASTIC BAND SEWING

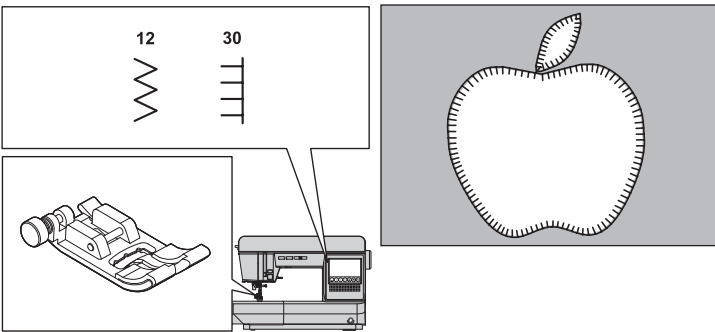
Pull elastic band in front and back of needle while sewing.



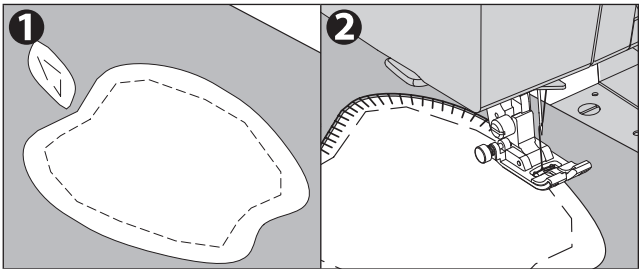
APPLIQUE

Sew firmly a commercially available or self-made applique on the cloth.

| Stitch | | Presser Foot |
|--------|-----------------|------------------|
| 12 | Zigzag Stitch | Regular Foot (H) |
| 30 | Applique Stitch | |

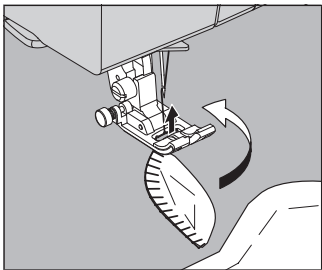


1. Fix applique on fabric.
With fabric glue, fusible iron-on or basting stitches.
2. Sew the edge of the applique to the fabric like overcasting sewing.
When the angle is steep, narrow the width of the stitch.



When sewing sharp angles


Bring needle to lowest position and raise the presser foot. Use the needle as pivot and turn fabric.



OVERCASTING-OVERLOCKING

Prevents fraying of the raw edge of all fabrics.

| Stitch | Presser Foot |
|--|----------------------|
| 12, 17 - 21 (width: the automatic settings or over) | Overcasting Foot (C) |
| 12(width: narrow), 14, 22 | Regular Foot (H) |

**CAUTION: To prevent injury to persons.**

Overcasting foot should be used for sewing above patterns (12, 17 - 21). At this time, set the stitch width to a value greater than or equal to the automatic setting.

Before sewing, turn the hand wheel toward you and confirm the needle does not hit the presser foot.

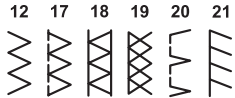
The needle may hit the presser foot and break when sewing other patterns and width.

A. USING THE OVERCASTING FOOT

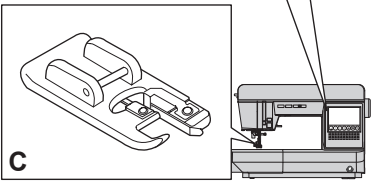
Press fabric against the guide plate of the overcasting foot so that needle falls near the edge of seam.

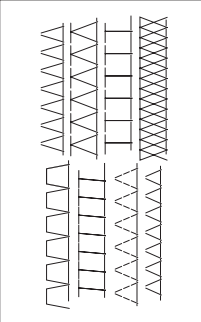
- a. Use as a fray stopping method.
- b. These patterns can sew overcasting and regular stitches at the same time.
Use the regular foot for towel cloth or knitted fabric as the claw of the overcasting foot may get caught in the cloth.
- c. This pattern is suitable to prevent fraying of light-weight or medium-weight fabrics.

12 17 18 19 20 21




width: the automatic settings or over



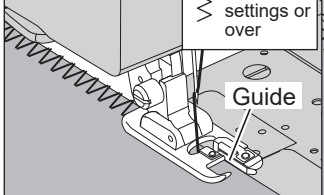


A **a**

12



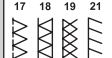
width: the automatic settings or over



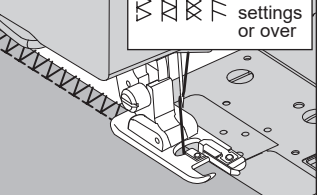
Guide

b

17 18 19 21




width: the automatic settings or over

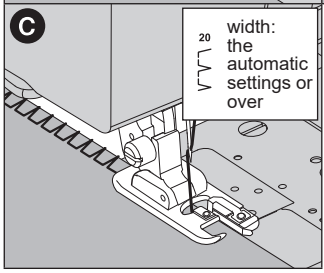


c

20



width: the automatic settings or over



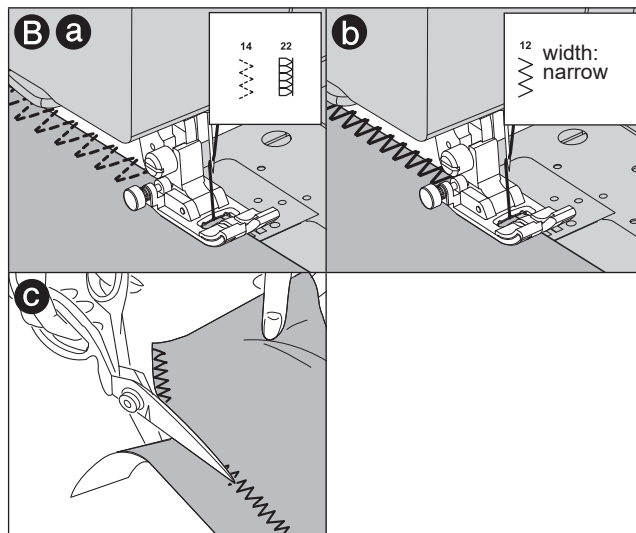
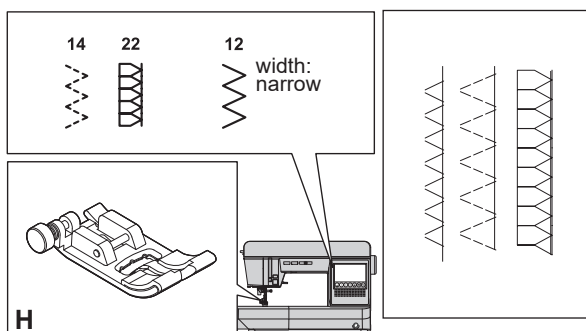
B. USING THE REGULAR FOOT

Place fabric so that needle will fall nearest to edge of fabric when using the regular foot.

- Use for thick or stretch cloth.
- Use for narrow zigzag width.
- You can also cut off the excess material after sewing the inside of fabric.

NOTE:

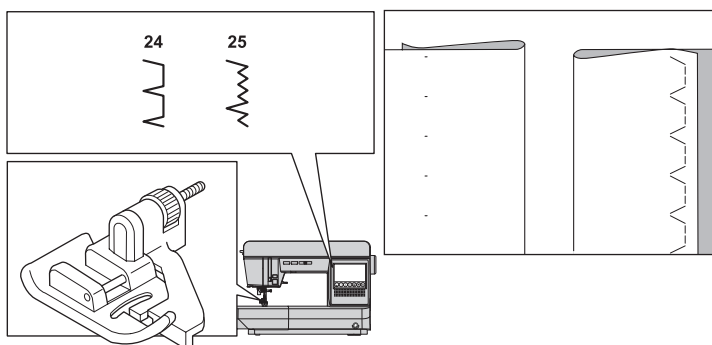
Be careful not to cut the sewn thread when cutting excess materials.



BLIND HEM STITCHING

This stitch will sew without stitches showing on right side of fabric.

| Stitch | | Presser Foot |
|--------|---|----------------|
| 24 | Blind hem for regular fabric | Blind Foot (D) |
| 25 | Blind hem for regular or stretch fabric | |



1. Fold the fabric as shown on the right.

a: Medium, Heavy weight fabric

b: Light weight fabric

c: Wrong side of fabric

d: Overcasting

Be careful that the right and wrong side of the finished product to be correct.

2. Set the fabric so that the guide (e) of the blind foot follows the fold line (g) of the fabric. The guide (e) is adjusted by turning the adjusting screw (f).

3. Adjust the position of guide so that the needle sticks slightly into the fold line (g) of the fabric when it comes to the most left side of fabric.

When you turn the screw toward you, the guide will move to the right, turning it to the far side moves the guide to the left.

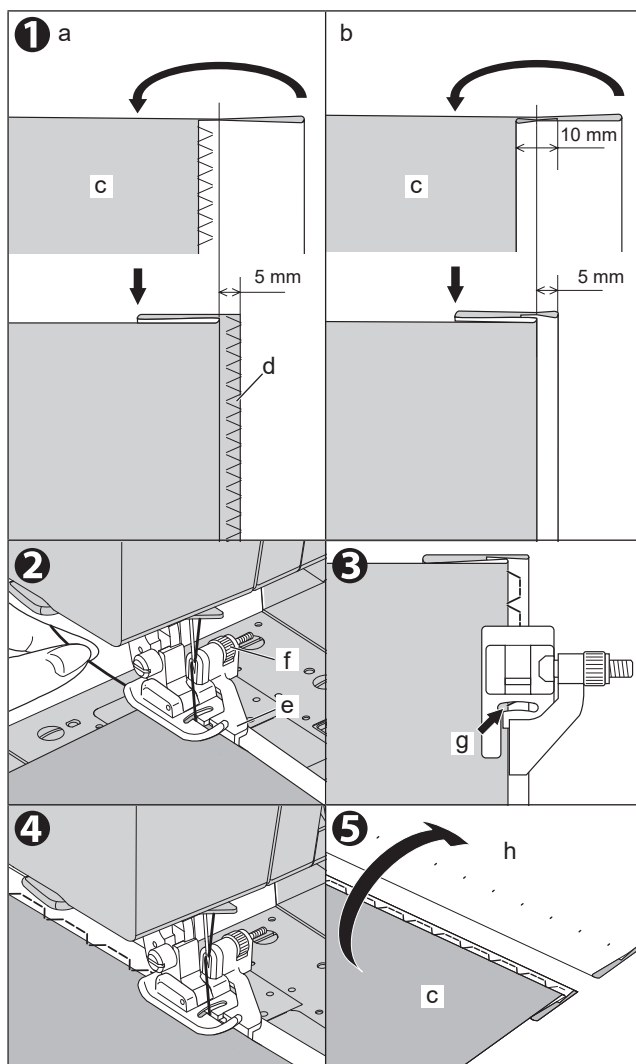
If select a pattern when the needle position is up, the needle comes to the most left side of fabric.

4. Sew edge along the guide.

5. Turn the fabric over when you have completed sewing.

c: Wrong side of fabric

h: Right side of fabric



BUTTONHOLE SEWING

You can sew 13 types of buttonholes.

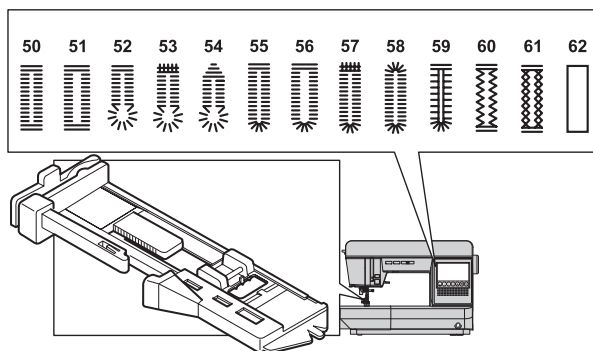
You can change the width of each buttonhole in 2 - 4 steps.

For instructions on how to sew bound buttonholes, see page 57.

The buttonhole foot is stored on the back side of the extension table.

Be sure to try sewing on the same fabric that you will actually be sewing to check the result.

| Stitch | Presser Foot |
|---|-----------------|
| 50 Bar-tack Buttonhole for light to medium weight fabrics | Buttonhole Foot |
| 51 Bar-tack Buttonhole (Wide) for large buttons | |
| 52 Keyhole Buttonhole for heavy weight fabrics | |
| 53 Keyhole Buttonhole with reinforced bar-tack | |
| 54 Tapered Keyhole Buttonhole | |
| 55 Round Ended Buttonhole (Narrow) for light to medium weight fabrics | |
| 56 Round Ended Buttonhole (Wide) for large buttons | |
| 57 Round Ended Buttonhole with cross bar | |
| 58 Both Round Ended Buttonhole | |
| 59 Decorative Buttonhole | |
| 60 Stretch Buttonhole | |
| 61 Heirloom Buttonhole | |
| 62 Bound Buttonhole | |



1. Mark position and length of buttonhole on fabric.

a: Starting position of the sewing

2. Set button on the base.

* If button does not fit on the base, adjust slide on base to diameter of button plus thickness of button.

b: Length of button + thickness

3. Pass upper thread through the hole of buttonhole foot and bring upper thread to the left.

4. Position fabric under presser foot so that the center line mark is in the center of the buttonhole foot. Lower the foot.

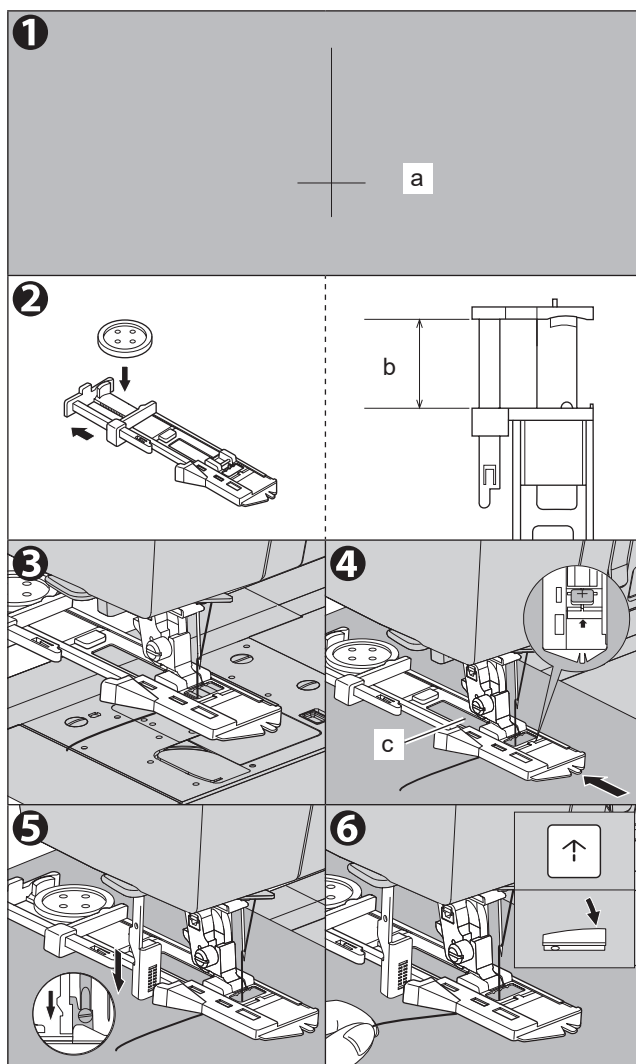
c: Push the frame of the presser foot to the backward so that there is no space between the frame and the presser foot.

5. Lower the buttonhole lever completely.

NOTE:

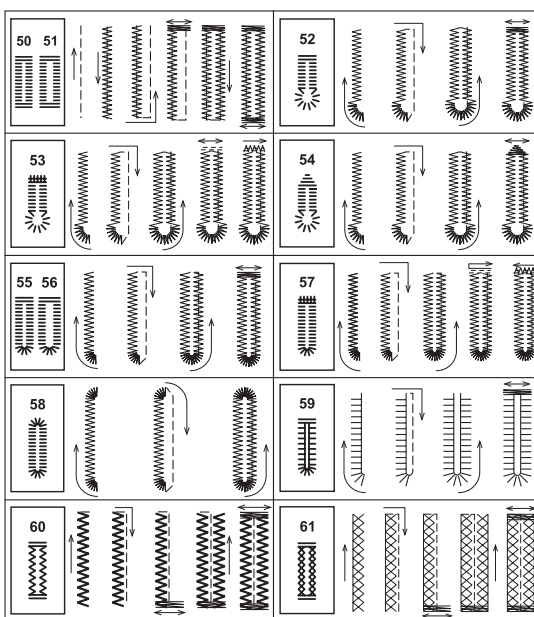
If you do not lower the buttonhole lever properly, the monitor lamp lights red, it sews 2 or 3 stitches and stops.

6. Hold upper thread lightly and start the machine.



7. The machine will sew the buttonhole in the order as shown and stop automatically after sewing.

7



8. Press the thread cutter button and raise the presser foot to remove the fabric.

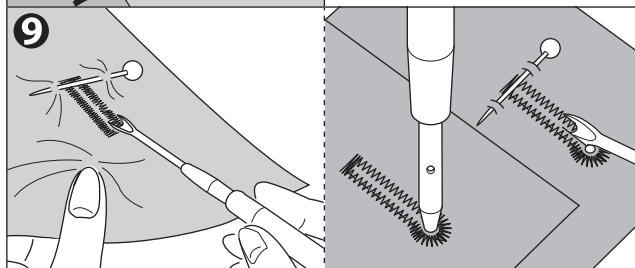
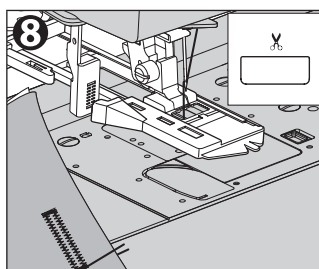
To sew over the same buttonhole, raise presser foot to return to original position.

NOTE:

If you touch the lock stitch/cut button before start sewing, the machine will cut threads automatically at the end of seam. (LCD screen indicates ✂ mark)

9. Cut center of buttonhole being careful not to cut stitches on either side. Use a pin as a stopper. For utility stitch No.52 - 54, a hole is punched with a commercial eyelet punch and then cut with the seam ripper for a clean finish. When opening the keyhole, lay cardboard under the cloth.

No.60, 61: Cut and remove the thread of center (jump-stitch).



CAUTION: To prevent injury to persons.

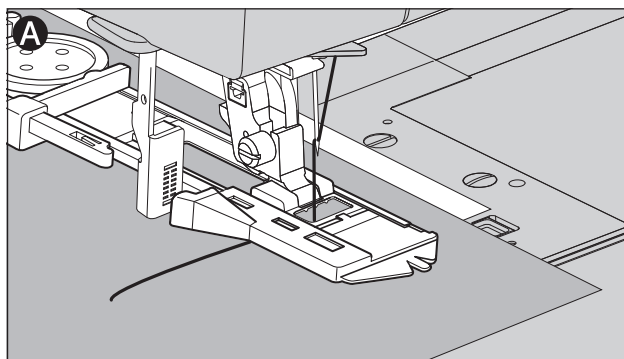
When using seam ripper, do not put your finger in the path of ripper.

A. WHEN SEWING STRETCH FABRIC

It is suggested that you use interfacing on the backside of the fabric.

NOTE:

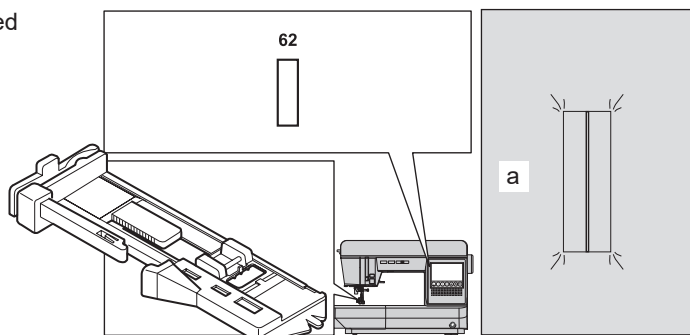
Density of buttonhole legs may be adjusted with stitch length control.



BOUND BUTTONHOLE

A bound buttonhole provides a professional tailored touch to woman's dresses, suits and coats.

| Stitch | | Presser Foot |
|--------|------------------|-----------------|
| 62 | Bound Buttonhole | Buttonhole Foot |




1. Cut a patch of fabric 2.5 cm wide, 1 cm longer than the buttonhole.
Baste a patch so that the center line of patch will align with the center line mark of buttonhole.

- a. Right side of fabric
- b. Wrong side of patch

2. Lower the buttonhole lever and sew buttonhole.
(See page 55)
Machine will sew the buttonhole in the order as shown and stop automatically after sewing.

3. Press the thread cutter button and raise the presser foot to remove the fabric.

NOTE:

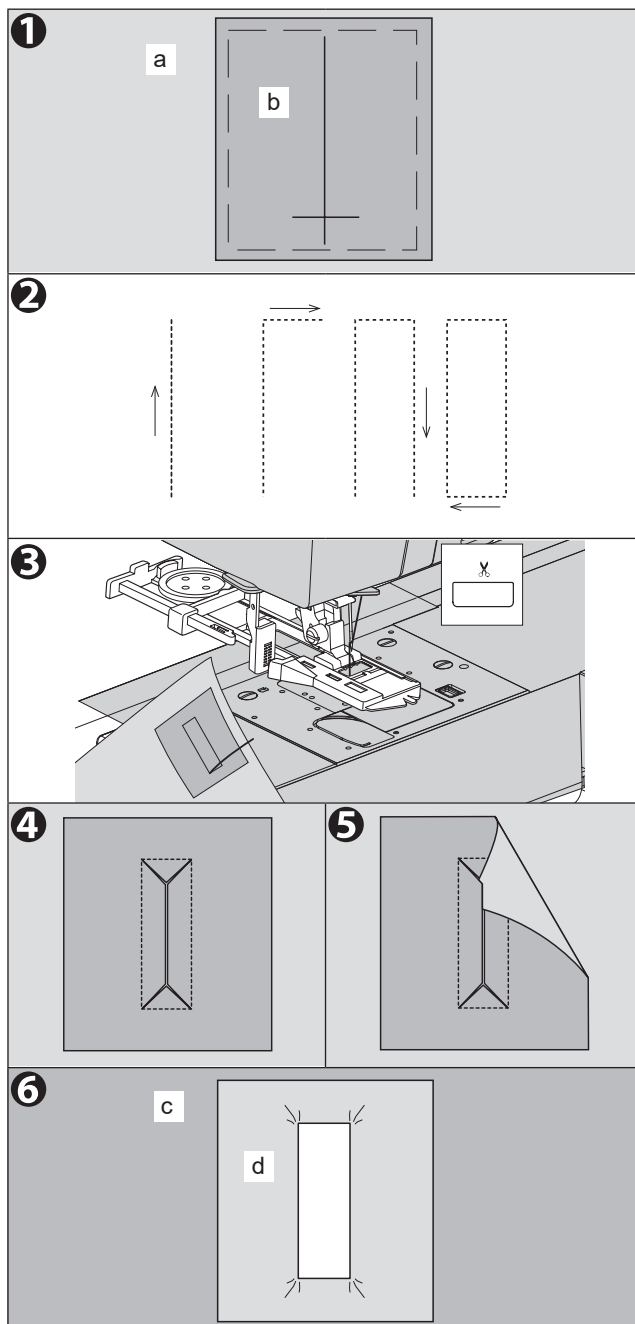
If you touch the lock stitch/cut button before start sewing, the machine will cut threads automatically at the end of seam. (LCD screen indicates  mark)

4. Carefully cut through the center of buttonhole to within 3 mm of each end. Cut diagonally to each corner as shown.
Remove the basting.

5. Draw the patch through the opening to the underside.

6. Turn the fabric and pull the patch so that the buttonhole will shape rectangle.
Press the patch.

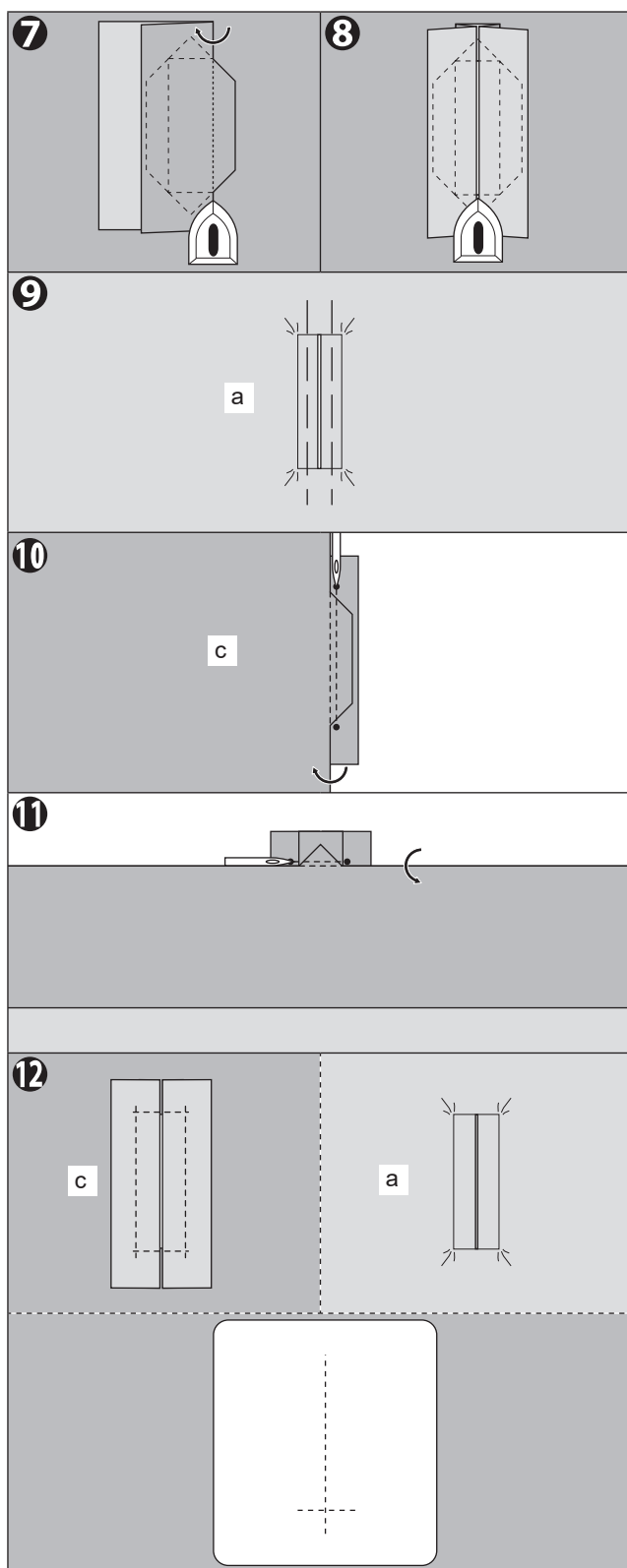
- c. Wrong side of fabric
- d. Right side of patch



7. Turn the patch and press the side seam allowance.
8. Fold each side of the patch to form pleats that meet at the center of the buttonhole and cover the opening. Press the patch.
9. Turn the fabric to right side and baste along the center of each fold.
 - a. Right side of fabric
10. Fold the fabric and stitch along the seams on each side, just a needle width from the original stitching line. Remove the basting.
 - c. Wrong side of fabric
11. Fold the fabric another direction and stitch the triangular ends on the original stitching line.
12. Press and trim the patch to within 5 mm of the stitching.
 - a. Right side of fabric
 - c. Wrong side of fabric

NOTE:

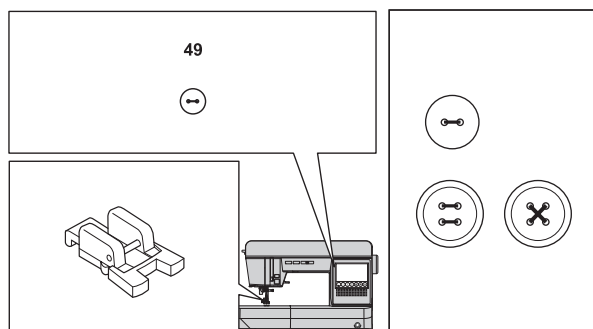
When sewing weaker fabric, previously sewing, cut a patch of fusible interfacing 3 cm wide 2 cm longer than the buttonhole. Fuse to wrong side over each buttonhole marking.



BUTTON SEWING

| Stitch | Presser Foot |
|--------|--------------------------------------|
| 49 | Button Sewing Foot (sold separately) |

For purchasing the button sewing foot, please contact your local dealer.



1. Lower the feed dog by moving the drop feed lever to the left.
2. Attach the button sewing foot and align two holes of button with slot of presser foot. Then, lower foot to hold the button securely.
3. Adjust the stitch width so that the needle enters the left hole of button.
4. Turn hand wheel by hand so needle enters the second hole. You may need to adjust the stitch width again.

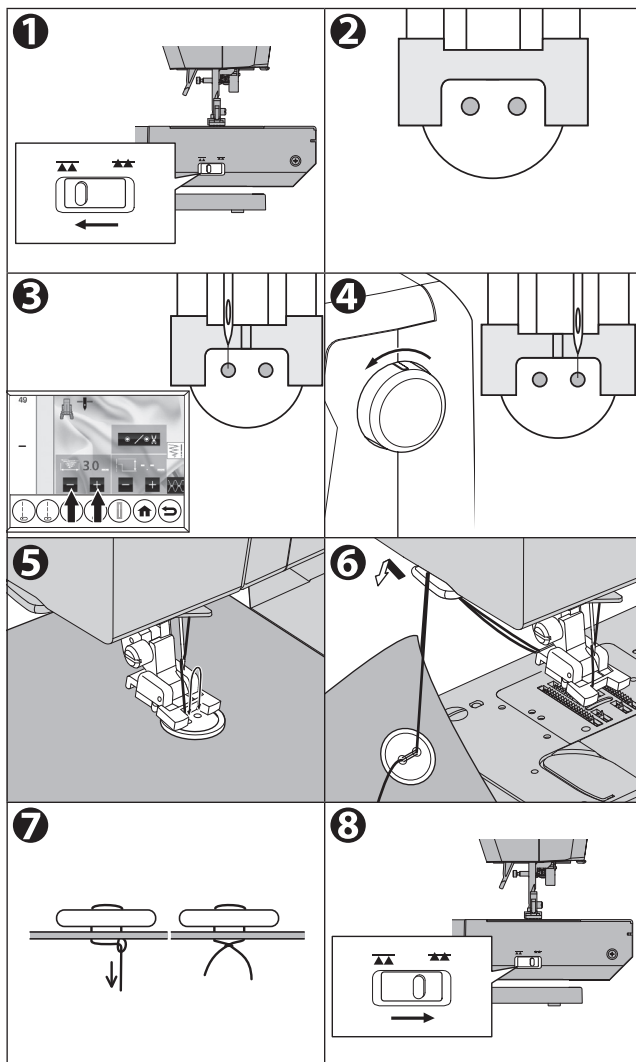
CAUTION: To prevent injury to persons.

Make sure that the needle does not hit the button during sewing. Otherwise needle may break.

5. Sew stitches at slow speed until machine stops automatically.
6. Raise the needle and foot, then cut the threads remaining about 10 cm to the fabric.
7. Pull the end of bobbin thread and pull upper thread to the wrong side of fabric. Tie them together.
8. After sewing, move the drop feed lever to the right.

NOTE:

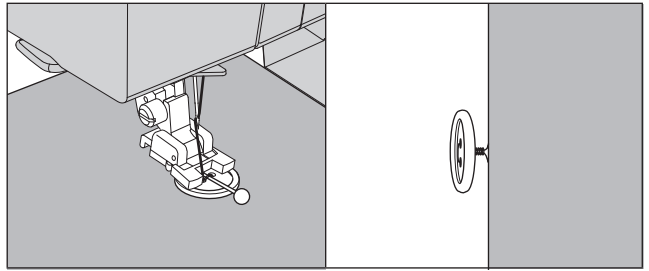
To sew a 4-hole button, follow the procedure above for the first two holes. Then lift presser foot slightly and move fabric to permit stitching the other two holes, either independently, or criss-cross over the first two holes.



A. THREAD SHANK

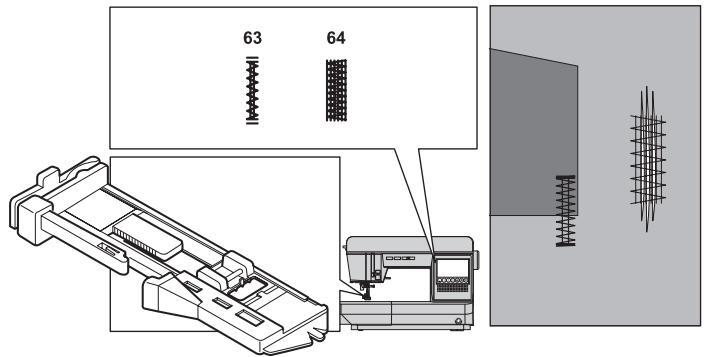
Sew-through buttons on coats and jackets should have a thread shank to make them stand away from the fabric. Place a straight pin or sewing machine needle on top of button between the holes, and sew over the pin or needle.

Pull thread to back of button and wind around stitches to form a firm shank. Tie thread ends securely.



AUTOMATIC BAR-TACK/DARNING

| Stitch | Presser Foot |
|--|-----------------|
| 63 Bar-tack, to reinforce areas that will be subject to strain, such as pocket corners. | Buttonhole Foot |
| 64 Darning, mending and other applications. | |



1. Adjust slide on base according to the length of bar-tack / darning.

a= Length of bar-tack / darning

2. Pass upper thread through the hole of buttonhole foot and bring upper thread to the left.

3. Position fabric under presser foot so that the starting point comes this side.
Lower the foot.

* When you sew bar-tack on the edge of thick fabrics such as a pocket, place some fabric of the same thickness or a piece of cardboard (b) beside the fabric.

4. Lower the buttonhole lever completely.

NOTE:


If you do not lower the buttonhole lever properly, the monitor lamp lights red, it sews 2 or 3 stitches and stops.

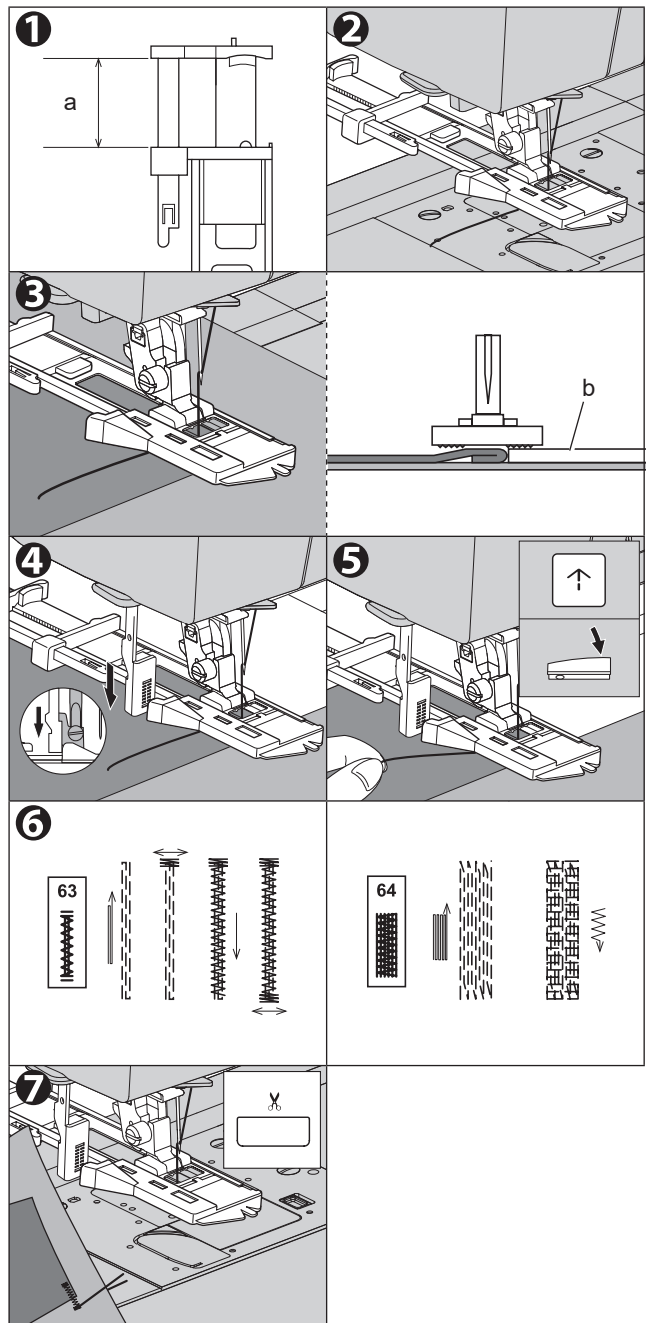
5. Hold upper thread lightly and start the machine.

6. The machine will sew bar-tack or darning as shown.
And machine will stop automatically.

7. Press the thread cutter button and raise the presser foot to remove the fabric.

NOTE:

If you touch the lock stitch/cut button before start sewing, the machine will cut threads automatically at the end of seam. (LCD screen indicates  mark)

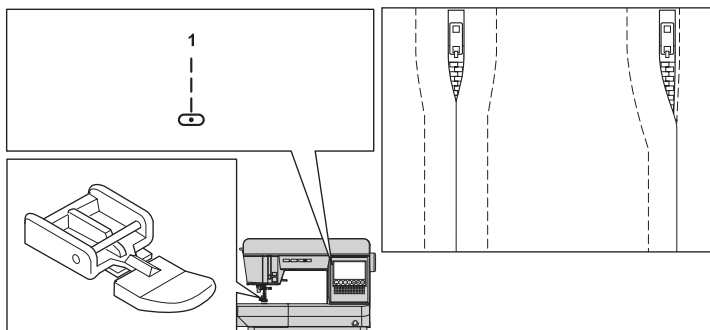


INSERTING ZIPPERS (CENTERED INSERTION / LAPPED INSERTION)

| Stitch | Presser Foot |
|---|-----------------|
| 1 Straight stitch (Center needle position) | Zipper Foot (E) |

NOTE: What is "baste"?

Before sewing the fabric with a sewing machine, temporarily sew it with long and loose stitches so that the fabric does not shift.



CAUTION: To prevent injury to persons.

Zipper foot should be used for sewing center needle position straight stitch only. Do not change the needle position from the center, which is the automatic setting. Before sewing, turn the hand wheel toward you and confirm the needle does not hit the presser foot. It is possible that needle could hit the presser foot and break when sewing other patterns.

A. CENTERED INSERTION

1. Baste the front sides of the fabrics so they face each other. Sew until end of opening.

a: Top stitch
b: End of opening
c: Basting
d: Wrong Side of fabric

2. Press open the seam allowance.

Baste the zipper tape.
d: Wrong Side of fabric
e: Wrong Side of zipper

Place the zipper face down on the seam allowance.
Match the center of the zipper with the seam line and baste it.
Pull the slider toward you.

3. Attach the zipper foot.

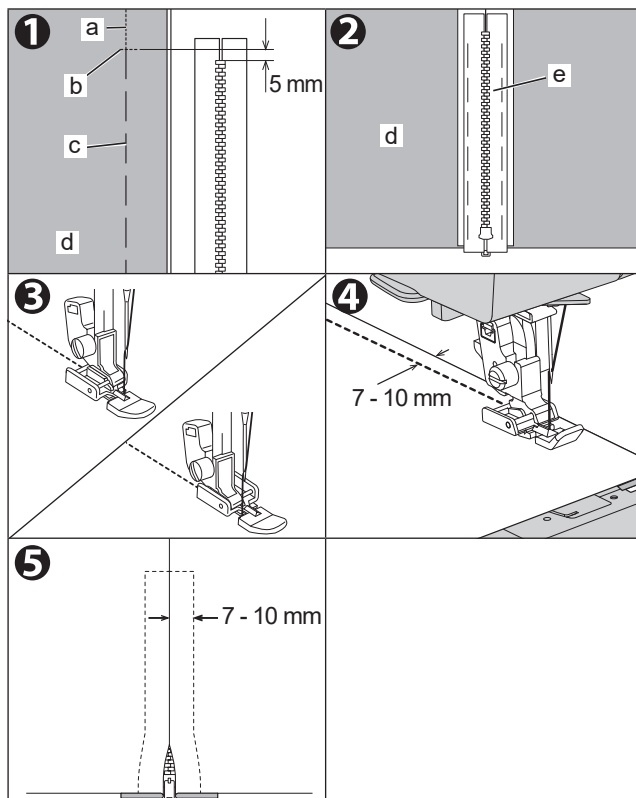
Attach the left side of the presser foot pin to the presser foot holder when sewing the right side of the zipper, and right side of the presser foot pin to the holder when sewing the left side of the zipper.

4. Stitch left side of the zipper from crotch end.

Sew a distance of 7 - 10 mm from the seam.

5. Stitch across the lower end and right side of zipper.

Remove the basting and press.
Sew not only the left side but also the right side.



NOTE:

If you use the straight stitch needle plate, the fabric will not sink into the holes in the needle plate, and you will be able to finish more beautifully.

For details on how to use it, see "STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)" on page 45.

B. LAPPED INSERTION

1. Baste the front sides of the fabrics face so they each other. Sew until end of opening.

a: Top stitch
b: End of opening
c: Basting
d: Wrong Side of fabric

2. Fold back to the left seam allowance.
Turn under the right seam allowance to form a 3 mm fold.

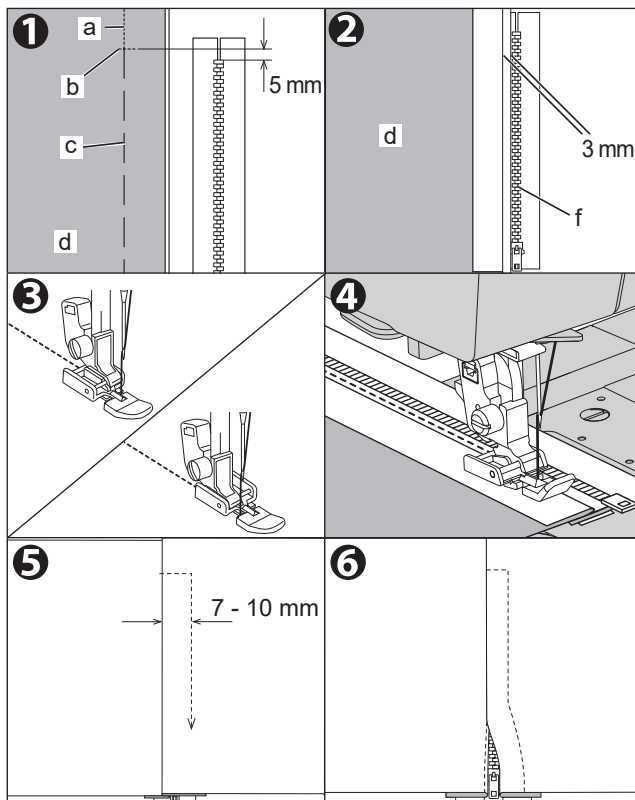
3. Attach the zipper foot.

Attach the left side of the presser foot pin to the presser foot holder when sewing the right side of the zipper, and right side of the presser foot pin to the holder when sewing the left side of the zipper.

4. Stitch left side of the zipper from end of opening.
Sew so that the zipper foot does not hit teeth (f) of zipper.

5. Open the upper cloth, sew the lower end and the right side.
On the right side, sew a distance of 7 - 10 mm from fold of the cloth.

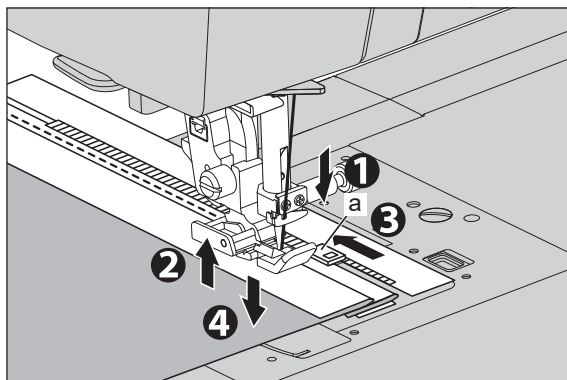
6. Stop about 5 cm from the top of zipper. Remove the basting and open the zipper. Stitch the remainder of the seam.



TO OPEN THE ZIPPER WHILE STITCHING

1. Stop stitching before you reach the slider.
If the needle stop position is up position, lower the needle into fabric.
2. Raise the presser foot.
3. Open the zipper.
4. Lower the presser foot and continue stitching.

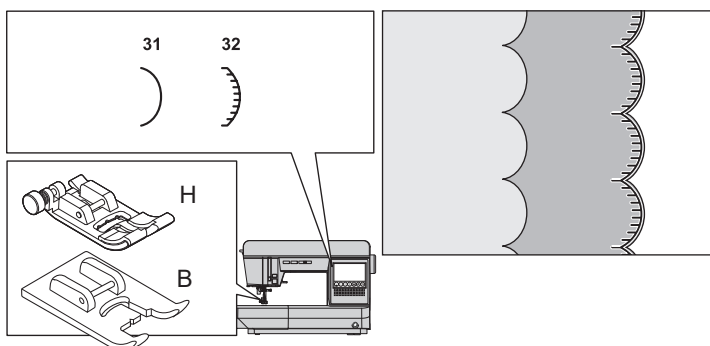
a: Slider



SCALLOP STITCH

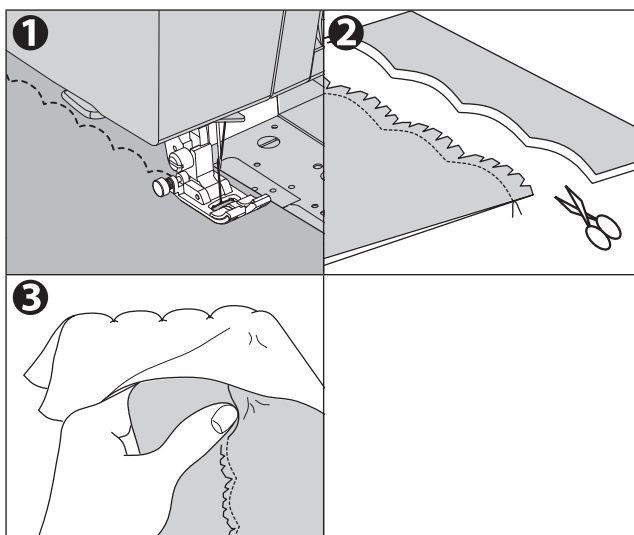
This stitch is used to sew edges on blouse collars and table cloths.

| Stitch | | Presser Foot |
|--------|----------------|------------------------------------|
| 31 | Scallop hem | Regular Foot (H) Satin Foot (B) |
| 32 | Scallop edging | |



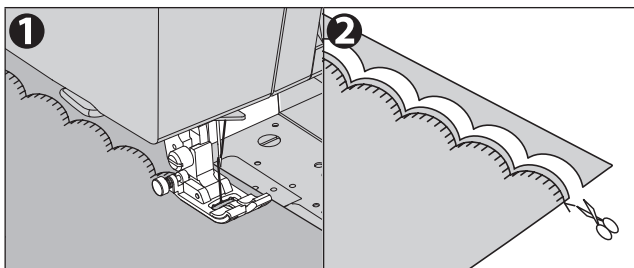
A. SCALLOP HEM


1. Fold the fabric so that the right side is inward and sew the fabric along folded edge.
2. Cut the fabric along the seam leaving an allowance of 3 mm for seaming. Notch the allowance.
3. Turn fabric over, push out the curved seam to the surface and arrange by ironing.



B. SCALLOP EDGING

1. Sew on hem line.
Leave the edge of fabric so that the pattern is not over the edge.
2. Trim fabric close to stitching taking care not to cut the thread.



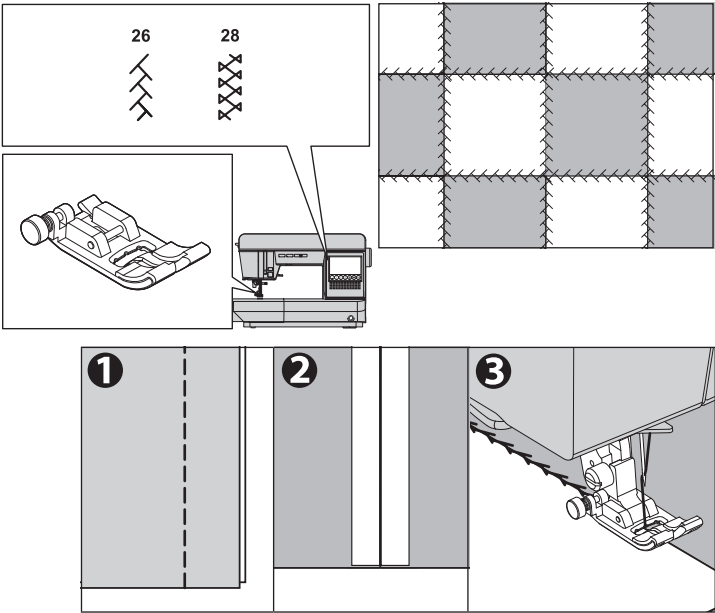
You can also sew scallop pattern with decorative stitch pattern ^{92 93} . In this case, use the satin foot. For details on how to select a decorative stitch pattern, see "DECORATIVE AND LETTER STITCH SEWING" on page 71.

PATCH WORK

Patch work is used to seam various fabrics and decorate them.

| Stitch | Presser Foot |
|--------|------------------|
| 26, 28 | Regular Foot (H) |

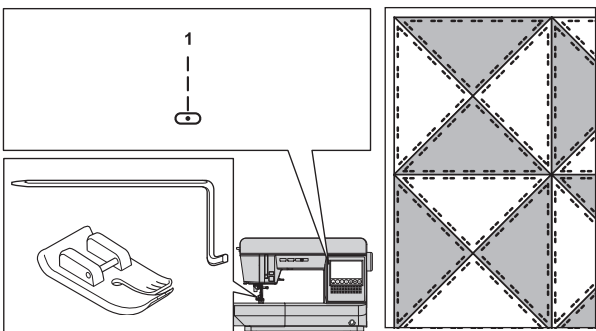
1. Face the two fabrics with their right sides facing each other and sew them.
2. Press open the seam allowance.
3. Sew so that the pattern extends over the both fabrics.



QUILTING

A quilt always consists of three layers of material. The top middle and bottom. The top layer is formed by multiple geometrically shaped pieces of materials joined together.

| Stitch | | Presser Foot |
|--------|---|--------------------------------------|
| 1 | Straight stitch (Center needle position) | Straight Stitch Foot Quilting Bar |

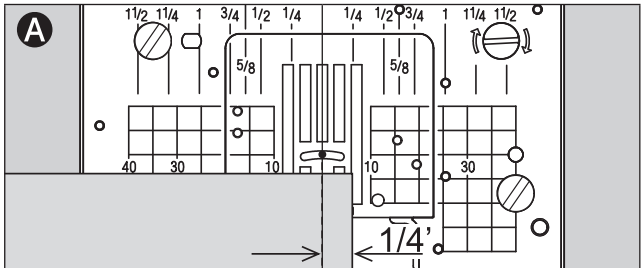


CAUTION: To prevent accidents.

Straight stitch foot should be used for sewing center needle position straight stitch only. Do not change the needle position from the center, which is the automatic setting. Before sewing, turn the hand wheel toward you and confirm the needle does not hit the presser foot. It is possible that needle could hit the presser foot and break when sewing other patterns.

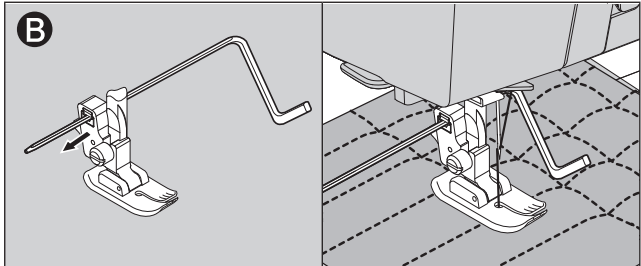
A. JOINING THE PIECES OF FABRIC

Join the pieces of fabric using Pattern No.1 with a seam allowance of 6.3 mm (1/4").



B. QUILTING

Sew three layers of material. Use quilting bar to sew successive rows. Insert quilting bar into the hole of presser foot holder and set the space as you desire.



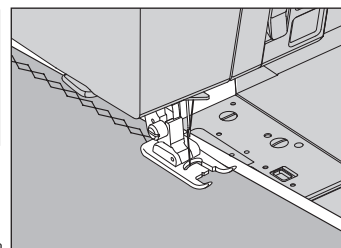
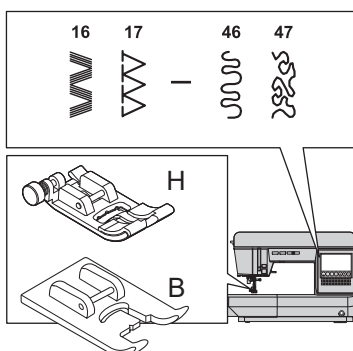
NOTE:

If you use the straight stitch needle plate, the fabric will not sink into the holes in the needle plate, and you will be able to finish more beautifully. For details on how to use it, see "STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)" on page 45.

UTILITY DECORATIVE STITCHES

Use for such as decorative hems and decorative stitching on shirt fronts. When sewing thin or elastic fabrics, use an interfacing.

| Stitch | Presser Foot |
|---------|------------------|
| 16 - 47 | Regular Foot (H) |
| | Satin Foot (B) |



NOTE:

- The presser foot suitable for each pattern will be displayed in LCD screen.
- You can change the shape and sew using the mirror or elongate mode (two times long). See page 23.

EYELET

This stitch pattern is used for making belt holes and other similar applications.

| Stitch | Presser Foot |
|-----------|----------------|
| 48 Eyelet | Satin Foot (B) |

You can choose the 3 sizes of eyelet by changing the stitch width.

1. Place the fabric under the presser foot and lower it. Start the machine. Machine will sew the eyelet and stop automatically.
2. Press the thread cutter button and raise the presser foot to remove the fabric.

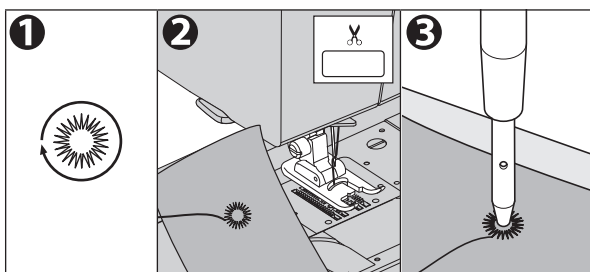
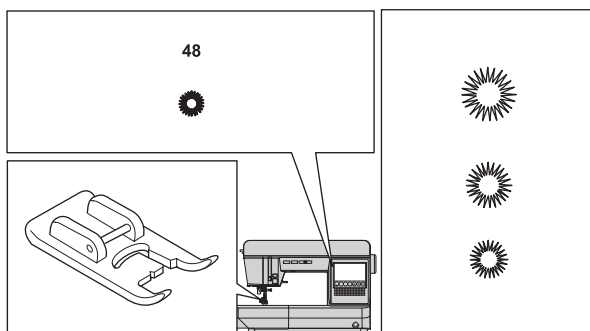
NOTE:

If you touch the lock stitch/cut button before start sewing, the machine will cut threads automatically at the end of seam. (LCD screen indicates ✂ mark)

3. Make a hole in the center of the eyelet. When opening the hole, lay cardboard under the cloth.

NOTE:

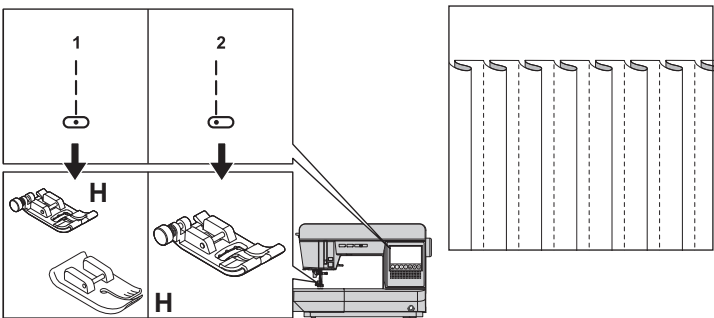
Eyelet punch is not provided with this machine.



PIN TUCK

This pattern is used for decorate blouses etc.

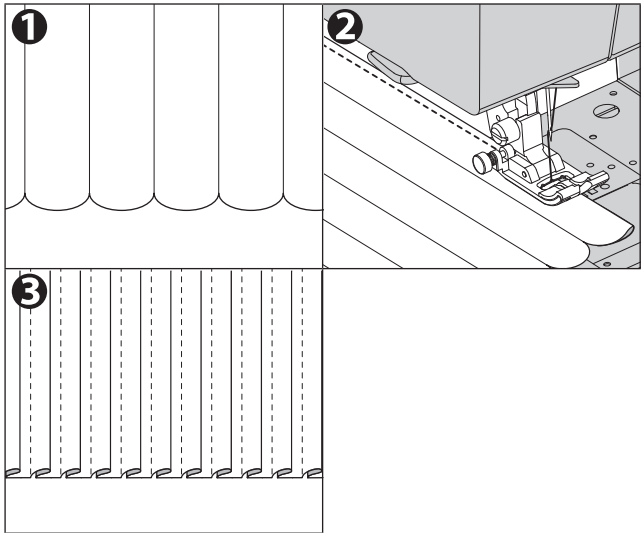
| Stitch | | Presser Foot |
|--------|---|--|
| 1 | Straight stitch (Center needle position) | Straight Stitch Foot Regular Foot (H) |
| 2 | Straight stitch (Left needle position) | Regular Foot (H) |



CAUTION: To prevent injury to persons.
When using the straight presser foot for utility stitch pattern No.1, do not change the needle position from the automatic setting. It is dangerous for the needle to hit the presser foot.

- 1. Arrange the fold of pin tuck by ironing.
- 2. Sew a pin tuck so as not to smooth out the fold.
- 3. Lay the folds in one direction by ironing.

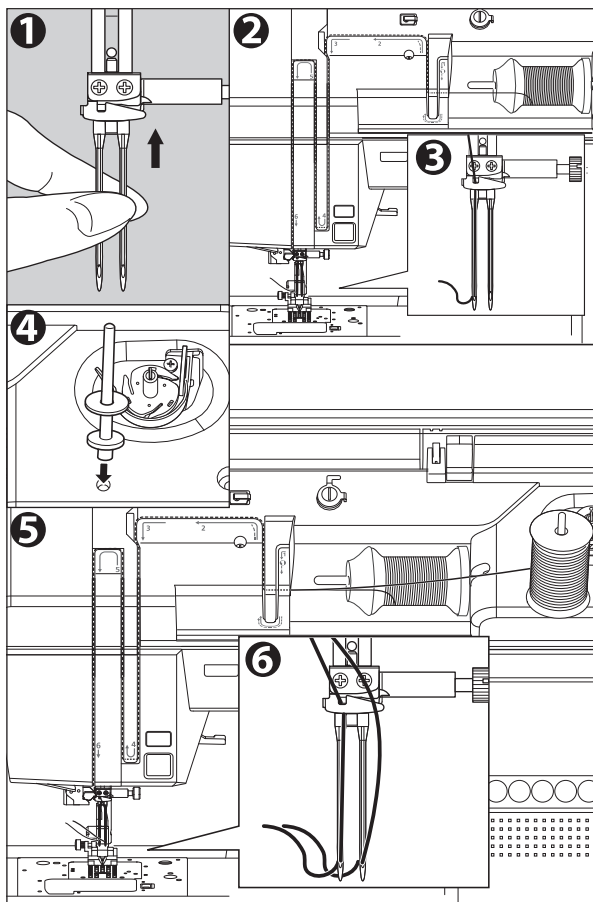
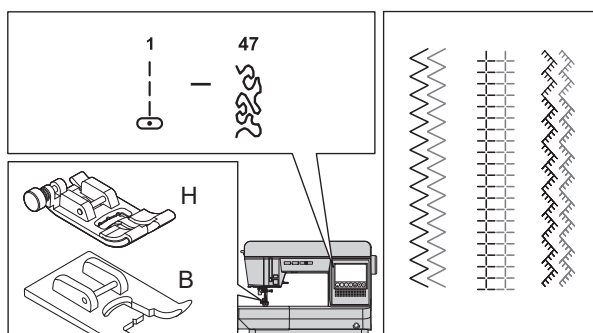
NOTE:
If you use the straight stitch needle plate, the fabric will not sink into the holes in the needle plate, and you will be able to finish more beautifully.
For details on how to use it, see "STRAIGHT STITCH SEWING (WITH STRAIGHT STITCH NEEDLE PLATE)" on page 45.



TWIN NEEDLE SEWING

Interesting decorative stitches can be produced by using twin needles and threading the machine with two different colors of thread. Always make test samples to help you determine the settings best suited to a specific purpose.

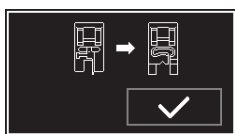
| Stitch | Presser Foot |
|--|------------------|
| All utility stitch patterns except No.48 - 64 and all decorative stitch patterns may be sewn with a twin needle. | Regular Foot (H) |
| | Satin Foot (B) |



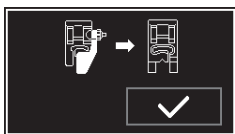
⚠ CAUTION: To prevent accidents.

- Use only needle designed for this machine. Other needles may break.
- The needle threader cannot be used. Thread each needle eye by hand.
- If the following messages a or b are displayed, be sure to replace the presser foot with a satin presser foot. Failure to use the satin presser foot may result in injury or malfunction. (See page 85)

a.



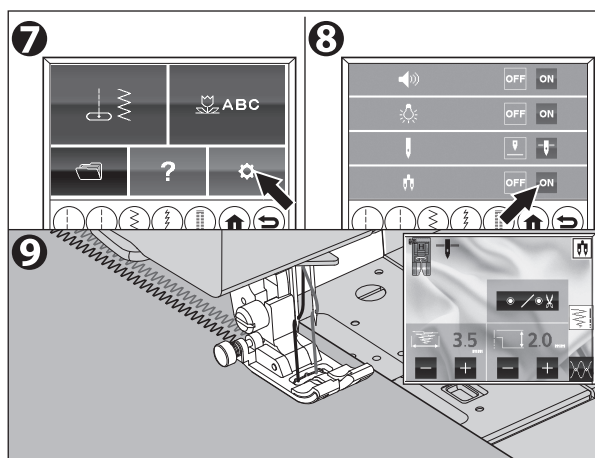
b.



- Lock or turn off the machine whenever you change the needle or presser foot.

1. Remove the single needle and insert twin needle.
2. Thread the first thread as usual, following threading route.
3. Thread the left needle eye by hand from front to back.
4. Push the auxiliary spool pin with felt washer into the hole.
5. Place second spool of thread and thread second thread the same as first.
6. For better sewing results, do not place the thread into the needle bar thread guide.
Thread right needle eye by hand from front to back.

7. Touch the home button and setting button.
8. Touch the the ON button for twin needle mode.
Twin needle mark will be indicated on the screen.
The stitch width will be reduced automatically.



CAUTION: To prevent accidents.

If you did not switch to twin needle mode, needle may hit the needle plate and break.

9. Always test sew selected stitch,

NOTE:

Some stitches look better than others sewn with a twin needle.

10. Sew project.

Twin needle mode will remain until you change it to OFF.

CAUTION: To prevent accidents.

If the machine power is turned off while the twin needle mode is ON, a message will be indicated the next time the power switch is turned on.

Check if the attached needle and setting for the twin needle mode are matching. (See page 85)



NOTE:

- Decorative stitch pattern can also be sewn with a twin needle. See the next page for details on selecting decorative stitch pattern.
- Depending on the type of fabric, when sewing patterns have short stitches, the fabric may not be fed smoothly and the thread may get tangled.
In this case, set the stitch length coarser or lay interfacing under the fabric.
- Twin needle mode cannot be used if the following message is indicated.

- a. You have selected an unsuitable pattern even though the twin needle mode is ON. Follow steps below.

1. Touch [✓]. (See page 85)
2. Do one of the following:
 - 2-a. Turn the power off and on again, and then select the pattern again.
 - 2-b. If you want to sew with a single needle, change the twin needle to single needle and setting for twin needle mode to OFF.

- a.



DECORATIVE AND LETTER STITCH SEWING

This machine has 108 decorative stitch patterns and 3 style letter stitch patterns. See inside of the top cover and see "PATTERN CHART" on page 88. You can combine and sew them easily.

TO SELECT DECORATIVE AND LETTER STITCH PATTERN

1. Touch the decorative/letter stitch button at home screen.
4 group selection buttons will appear on the screen.

2. Touch the desired group selection button.
The first screen of the selected group will appear on the screen.

A. Decorative stitch pattern

By touching the [▲] or [▼] button on the lower right side, next or previous screen will appear. There are 8 screens.

B. Block Letter

C. Script Letter

D. Outline Letter

By touching the [▲] or [▼] button on the lower right side, next or previous screen will appear. There are 4 screens.

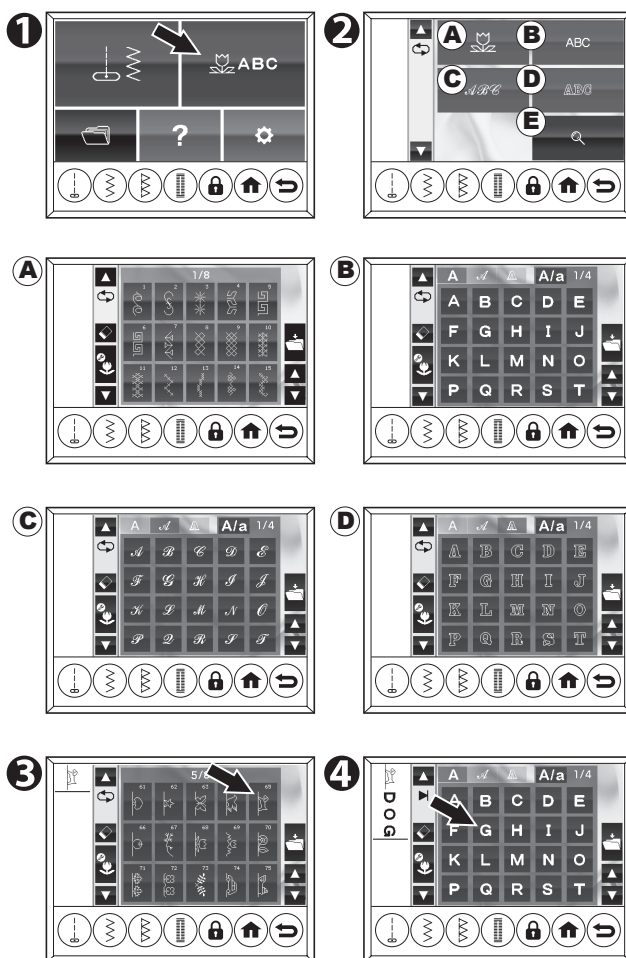
By touching [A/a] button, upper- and lower-case letter screen will appear alternately.

You can also change the font by touching the font tab on the top line of screen.

E. Stitch Out Button

See page 76.

3. Touch the desired pattern directly.
One unit of pattern will be memorized.
Selected pattern will be indicated on the top left side of screen.
One unit of pattern is indicated on the page 88.
One letter is one unit of pattern.
4. Return to the group selection screen by touching the return button and select next desired pattern as same procedure.
Patterns will appear at the left side of the screen in the order selected.
As selected patterns over the indicating area, disappear from the screen, you can check them by touching the cursor buttons. (See page 72)
Machine can memorize 60 patterns maximum.
If you return to home screen, you can recall the selected patterns by touching the decorative/letter stitch button.



TO CHECK SELECTED PATTERNS

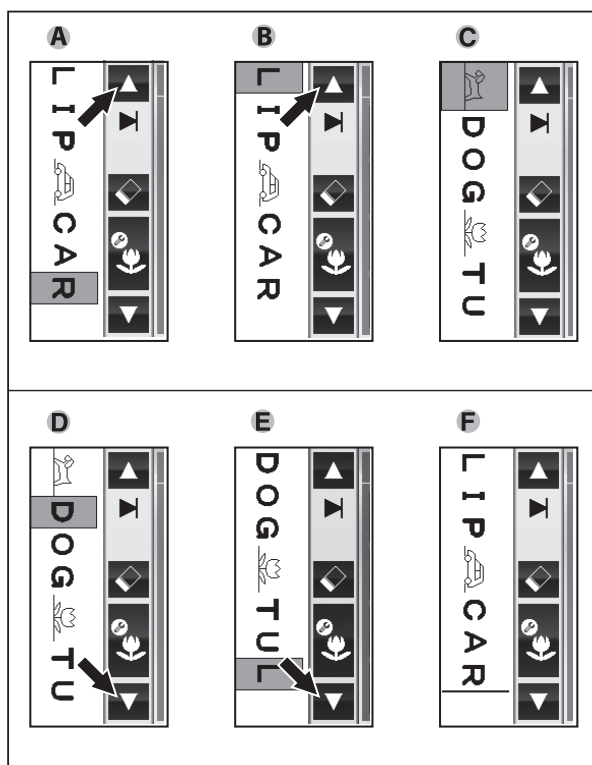
As the length of the string increases, patterns will disappear from view on screen.

You can check patterns by moving the cursor upward or downward using the cursor buttons.

- Touch the cursor up button and cursor will shift to upward. The cursor position will be highlighted.
- When the cursor reached to the top of screen, hidden previous pattern will appear again.
- When the cursor reached to the top of the sequences, beep sound will be heard.
- Touch the cursor down button and cursor will shift to downward.
- When the cursor reached to the end of the screen, hidden next pattern will appear.
- When the cursor reached to the end of the sequences, highlight mark will change to I mark.

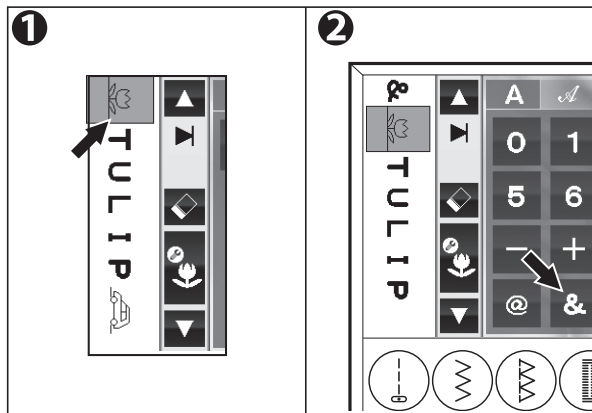
NOTE:

When you reached the value maximum or minimum, beep sound will be generated. (If you set the buzzer so that it does not sound, it will not sound. For details, see "Setting Button" on page 17.)



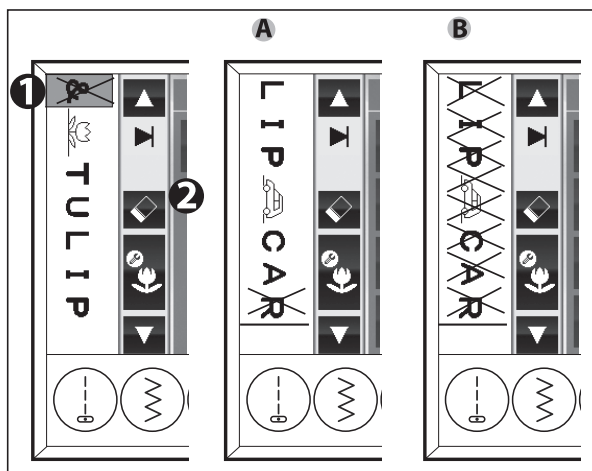
TO INSERT A PATTERN

- Using the cursor buttons, move the cursor to highlight the pattern just next the desired position for the new pattern.
- Select the pattern. It is inserted just before the highlighted pattern.



TO DELETE A PATTERN

- Shift the cursor to the pattern you want to delete.
 - Touch the delete button. Machine will delete the pattern and cursor will shift to next pattern.
- When the cursor is at furthest bottom side, machine will delete just before pattern.
 - If you want to delete all patterns, touch and hold the delete button (over 0.5 sec.). Machine will delete all selected patterns.



TO EDIT EACH PATTERN

You can change the settings (mirror, elongation and stitch width/length) of each stitch pattern.

Also, you can change the thread tension of all combined patterns.

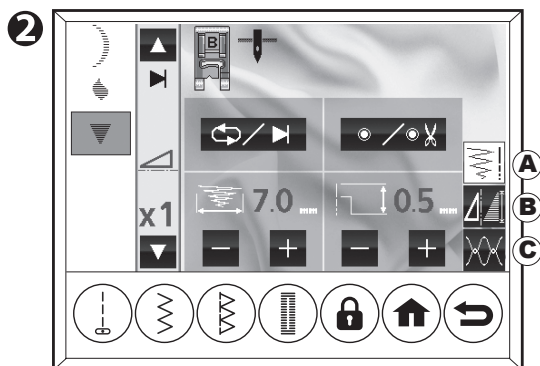
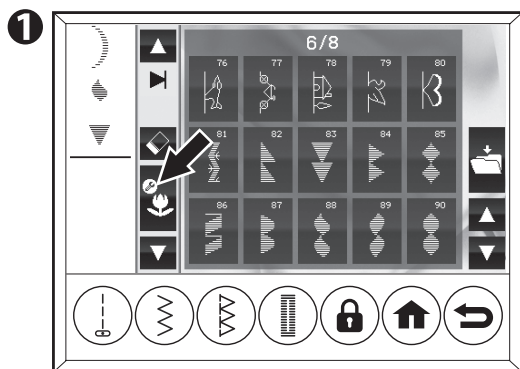
And you can add auto lock stitch and cut function.

See inside of top cover to know the pattern which able to mirror, elongation.

NOTE: Letter stitch patterns cannot change settings (mirror, elongation and stitch width/length).

1. Touch the Edit button on the selection screen.
LCD screen will change to the editing mode (width/length).
2. As you shift the cursor, the settings of each pattern will be indicated.
3. By touching the screen change buttons A, B, C, you can change settings as following.
(Button B will not appear if selected pattern is not having mirror, elongation)

You can return to selecting mode by touching the return button.



A. SINGLE/REPEAT SEWING MODE, LOCK STITCH AND CUT FUNCTION AND STITCH WIDTH/LENGTH

This screen will appear, when the edit button is touched on the selection mode.

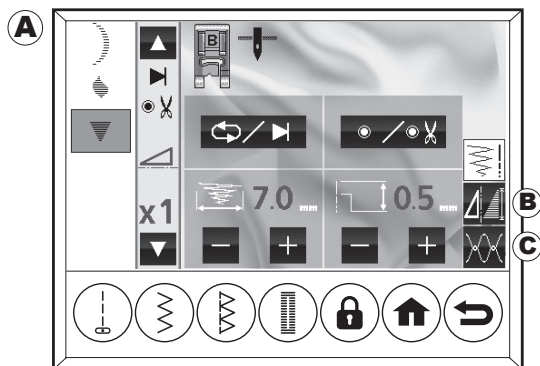
a. SINGLE/REPEAT SEWING MODE

By touching the single/repeat button (↺/↻), the machine will switch the single mode or repeat mode. (See page 79)

The single ▶ or repeat ↺ mark will appear at the left second row of the screen.

NOTE:

- The default setting is repeat mode.
- When you select 2 or more decorative stitches or one letter stitch pattern, the sewing mode automatically changes to the single sewing mode.



b. LOCK STITCH/CUT FUNCTION

If you turn on this function by touching the lock stitch/cut button (🔒/✂️), machine will sew lock stitch and cut threads at the end of sequences.

The lock stitch and cut mark will appear at the left second row of the screen.

To lock stitch: Touch this button once. The mark 🔒 will appear.

To lock stitch and cut thread: Touch this button twice. The mark 🔒✂️ will appear.

To cancel: Touch this button 3 times.

NOTE:

- As letter stitch pattern has built-in lock stitch, you need not add lock stitch at the end of sequence.
- When the repeat sewing mode is selected, the sewing mode automatically changes to the single sewing mode by touching the lock stitch/cut button. (See page 79)
- The settings will be canceled when you return to the home screen.

c. STITCH WIDTH/LENGTH

STITCH WIDTH c1: narrower c2: wider

STITCH LENGTH c3: finer c4: coarser

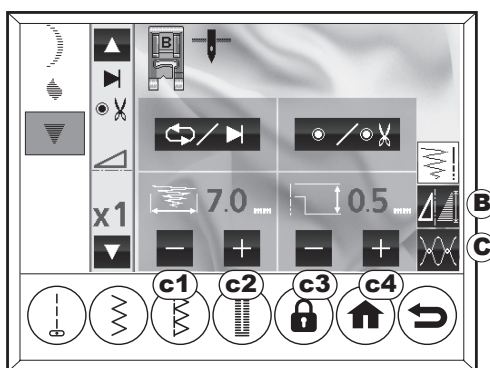
Beep sound will be heard at max. or min. value. If value is not appeared, this pattern cannot change the setting.

Preset stitch length/width is indicated in green color. By shifting the cursor, you can change the width/length of other pattern.

On the top of screen, suitable presser foot, and needle position are indicated.

By touching the button B or C, you can change the setting screen.

You can return to selecting mode by touching the return button.



B. MIRROR, ELONGATION

Touch the mirror, elongation button.

MIRROR

You can sew the pattern in mirror. When you shift the cursor, if the mirror button is appeared, this pattern can sew in mirror.

By touching this button, mirror condition will change as the right chart.

ELONGATION

The elongation button as the right chart is appeared, this pattern can sew elongation.

By touching this button, elongation length will change to 2-5 times long.

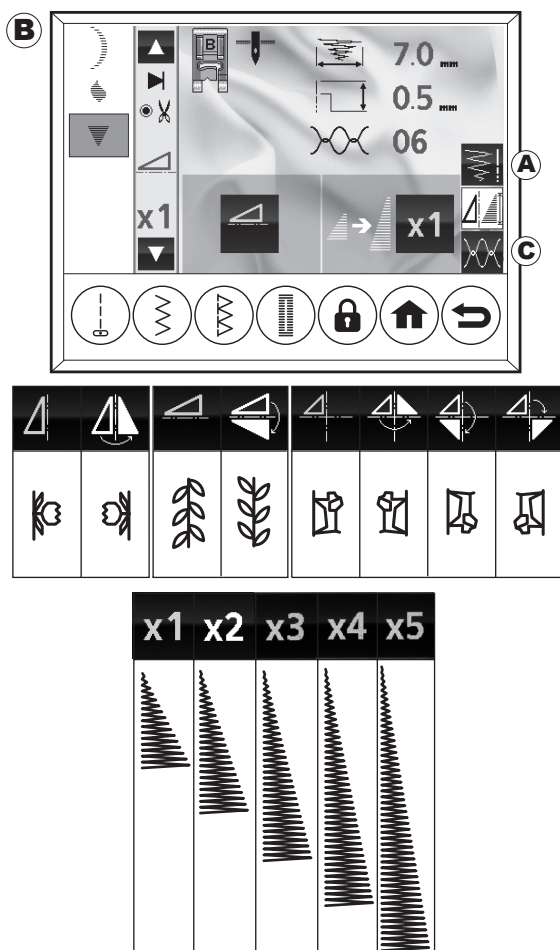
These buttons will not appear if the cursor positioned pattern is not have mirror or elongation.

On the top of screen, suitable presser foot, needle stop position, width/length and thread tension are indicated.

The mark of mirror, elongation are indicated the left second row of screen.

By touching the button, A, C you can change the setting screen.

You can return to selecting mode by touching the return button.



C. THREAD TENSION

When you touch the thread tension button, screen will change to thread tension screen.

You can change the tension of all combined patterns.

THREAD TENSION:

a. Increase upper thread tension

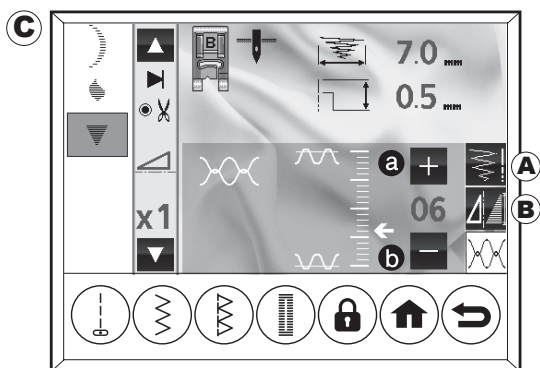
b. Decrease upper thread tension

Preset tension is appeared in green color.

On the top of screen, suitable presser foot, needle stop position and width/length are indicated.

By touching the button, A, B you can change the setting screen.

You can return to selecting mode by touching the return button.



NOTE:

The settings will be canceled when you return to the home screen.

RECALLING SELECTED PATTERNS

If you change the pattern to utility stitch, machine will retain the stitch sequences until the machine is turned off.

To recall these patterns, touch the decorative/letter stitch button. Machine will recall the selected patterns.

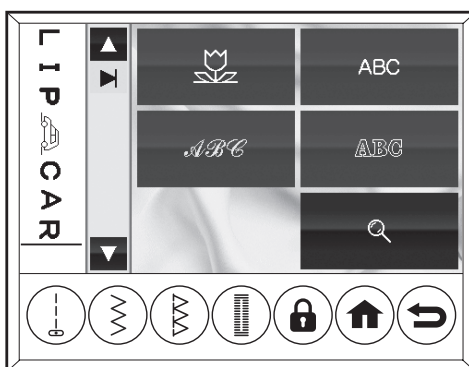
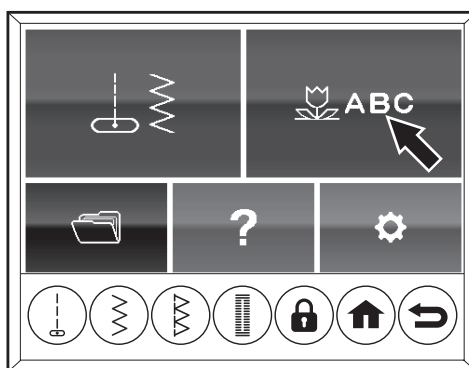
Lock stitch and cut function will be canceled if selected.

To delete the all sequences, touch the delete button long time (See page 72).

NOTE:

When you turn off the power, all sequences will be cleared.

To remain patterns if you turn off the power, see page 77, "SAVING / LOADING SELECTED PATTERNS".

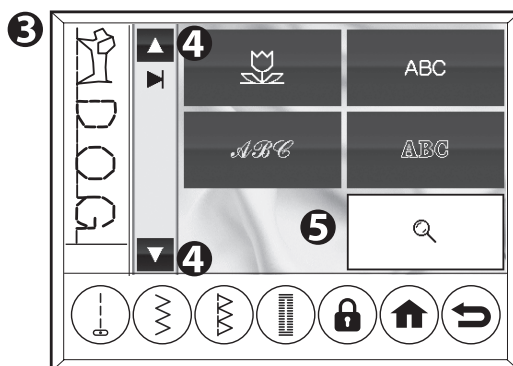
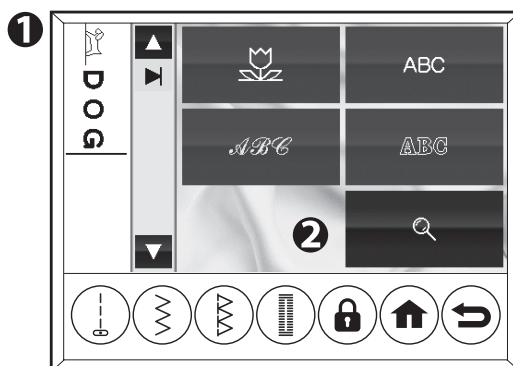


STITCH OUT IMAGE

You can check the stitch out image on the screen.

1. Open the group selection screen.
(By touching the return button at stitch selection screen, group selection screen will appear.)
2. Touch the stitch out button.
3. Stitch out image will be indicated on the left side of screen.
According to the settings (width/length, mirror, elongation), the image will change.
The image may slightly differ than the actual stitch.
4. You can check all patterns by touching the cursor button.
5. Touching the stitch out button again, screen will return to normal image.

You can start sewing at stitch out image screen. At this case, machine will start sewing from cursor position. (See page 78)

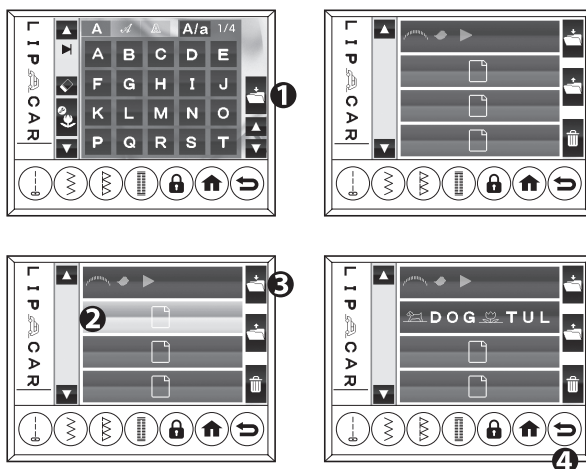


SAVING / LOADING SELECTED PATTERNS

You can save selected stitch sequences into memory. There are four separate memory folders for saving stitch sequences. Memorized patterns remain in the memory if you turn off the machine.

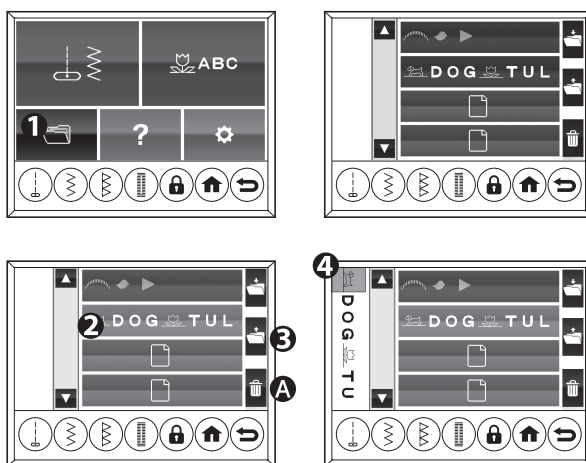
Save to memory

1. Touch the memory button after you have selected patterns.
There are four file buttons.
If file is empty, button is colored gray.
If file is storing patterns, button is colored green and memorized patterns are indicated.
2. Select one of file by touching the file directly.
Selected file will be highlighted.
3. Touch the save button.
Saving message will appear.
If overwrite the memory, machine asks you to overwrite. If yes, touch the [✓] button. If cancel, touch the [✗] button. (See page 85)
When stitches are saved, button is colored green and memorized patterns are indicated.
4. Touch the return button or home button to resume operating.



CALLING MEMORIZED PATTERNS

1. Touch the memory button at home screen.
2. Memorized patterns are indicated in the file button.
Touch the desired file button.
Selected button will be highlighted.
3. Touch the load button.
Loaded patterns are indicated on the left side of screen.
If other patterns have already been loaded, the machine will ask you if you want to call the memory.
If yes, touch the [✓] button. If cancel, touch the [✗] button. (See page 85)
4. You can sew the loaded patterns.



To delete the memorized patterns

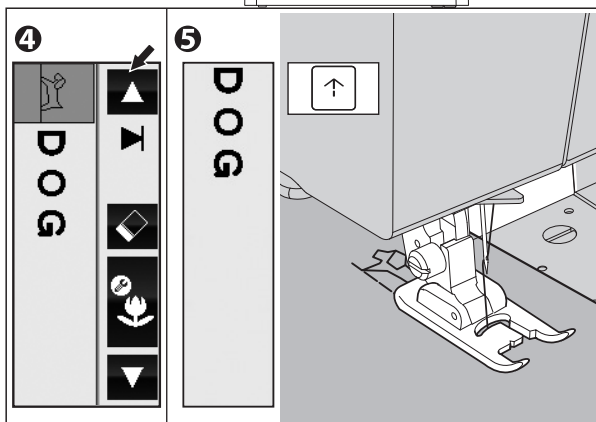
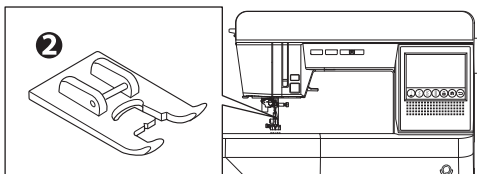
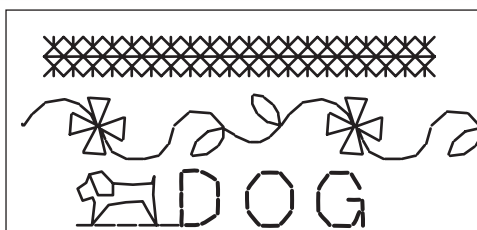
Open the memory screen and select the file to delete.
Touch the delete button (A) and touch the [✓] button.
(See page 85)
The deleted button color will be gray.

SEWING THE SELECTED PATTERNS

NOTE:

- See "FABRIC, THREAD AND NEEDLE TABLE" on page 35 to select the appropriate thread and needle. Of the needles and threads that are suitable for the fabric, you may be able to sew more beautifully if you use a thinner ones.
- When sewing very thin fabrics, it is suggested that you use interfacing on the backside of fabric.

1. Select the decorative and letter stitch pattern you want to sew. (See page 71)
2. Attach the Satin Foot when sewing decorative and letter stitch pattern. (See page 33)
3. Set the selected decorative and letter stitch pattern as necessary. (See page 73)
4. Machine will start sewing from highlighted pattern. You must shift the cursor to the pattern where you wish to start sewing.
(When the "—" mark cursor is indicated on the bottom of selected patterns, machine will start from first pattern.)
5. Lower the presser foot and start sewing.
Machine will indicate the sewing pattern on the top left side of screen.
6. When you have finished sewing, raise the presser foot and pull out the fabric.



You can change the sewing mode by touching the single/repeat button () repeatedly.

A. Single mode (Pre-set when letter or 2 more decorative stitch pattern are memorized.)

The mark  will appear on the LCD screen.

The machine will stop automatically after sewing selected patterns one time.

B. Single with Lock Stitch, Single with Lock Stitch /Cut mode

The mark  or  will appear on the LCD screen by touching the lock stitch/cut button ().

The machine will stop automatically after sewing selected patterns once and lock stitch.

Depending on the lock stitch/cut setting, the thread is automatically cut. (See page 74)

NOTE:

- As letter stitch pattern has built-in lock stitch, you need not add lock stitch at the end of sequence.
- When the repeat sewing mode is selected, the sewing mode automatically changes to the single sewing mode by touching the lock stitch/cut button.

C. Repeat mode (Pre-set when one decorative stitch pattern is memorized.)

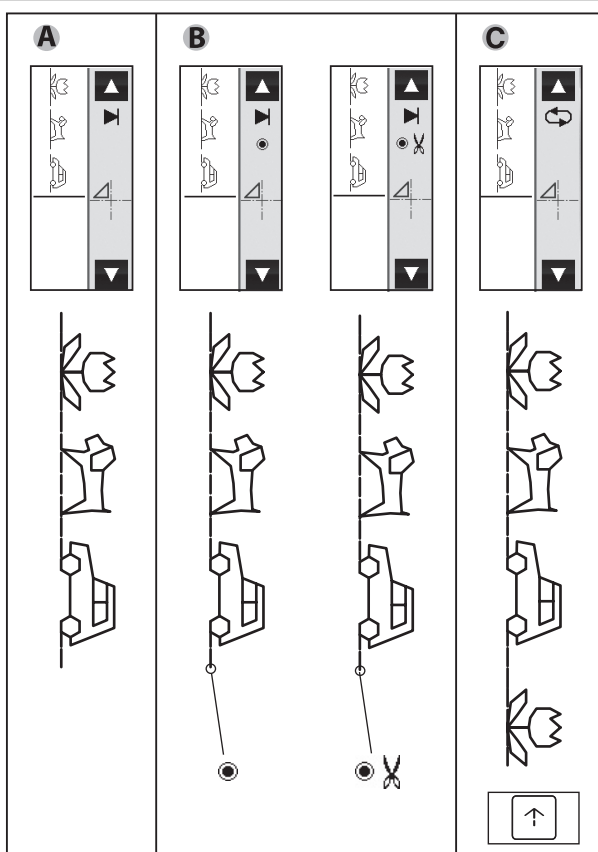
The mark  will appear on the LCD screen.

The machine will sew selected patterns repeatedly until you stop the machine.

Set to this mode when you sew one or more decorative stitch patterns repeatedly.

NOTE:

- At single with lock stitch or single with lock stitch/cut mode, lock stitch will be sewn at top and end of stitches.
- Repeat mode is not possible when lock stitch/cut is set. Please select repeat mode after canceling the setting.
- If you change the sewing mode at the middle of sewing, stop sewing once. Change the sewing mode by touching the single/repeat button and restart.
- When you turn off the power, all memorized decorative and letter stitch patterns will be deleted. If you save it in memory, it will not be deleted even if you turn off the power. See page 77.



TIPS

- a. To sew lock stitch immediately. (at repeat mode)
Stop sewing and press the reverse button. When you restart sewing, the machine will sew lock stitch immediately.

NOTE:

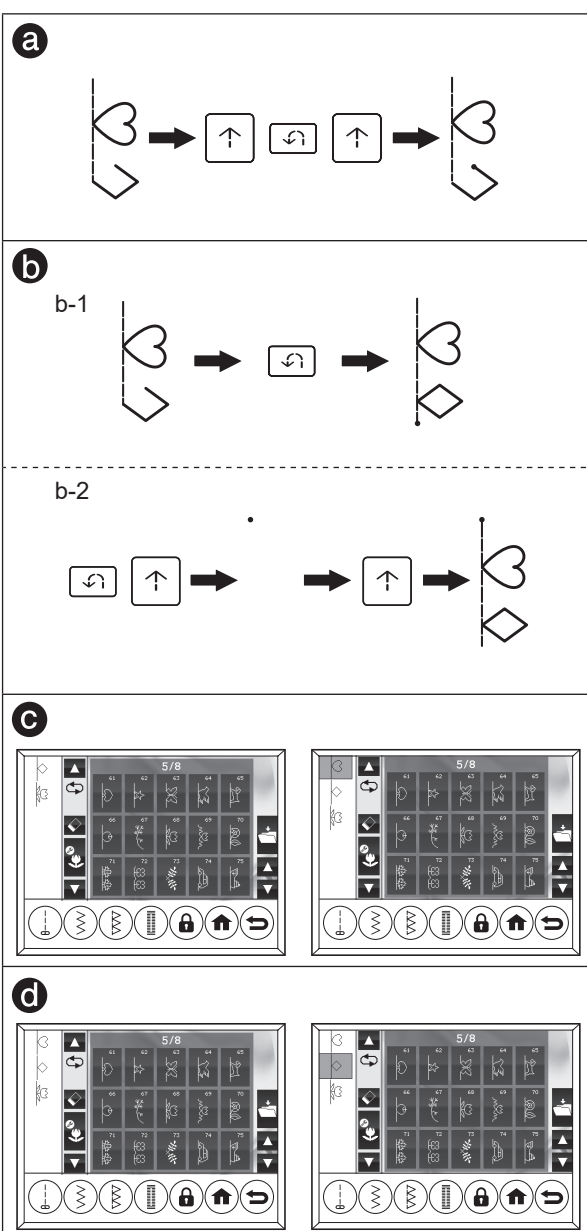
If you want to cancel the lock stitch, press the reverse button again without pressing the start/stop button. The lock stitch setting will be canceled.

- b. To sew lock stitch after one complete pattern. (at repeat mode)
Press the reverse button while sewing memorized patterns.

NOTE:

If you want to cancel the lock stitch, press the reverse button again before finishing sewing the pattern. The lock stitch setting will be canceled.

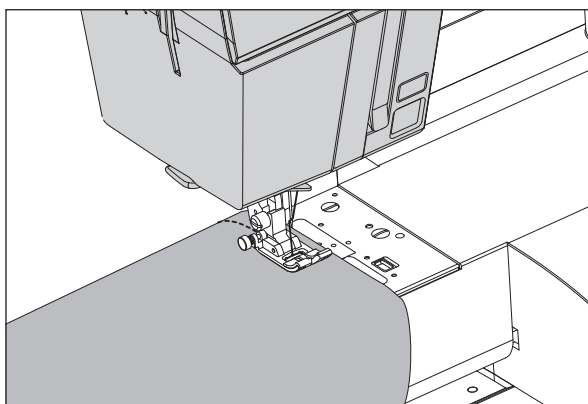
- b-1. The machine will sew one complete pattern and lock stitch.
b-2. If you press the reverse button before you start sewing, you can also lock stitch at the beginning of sewing.
- c. To sew selected patterns from beginning.
When you stop sewing at the middle of patterns, you may want to restart selected patterns. In such case, shift the cursor to the pattern of beginning. Then resume sewing. (See page 72)
- d. To sew from middle of selected patterns.
In such case, shift the cursor to the pattern you want to sew. Then resume sewing. (See page 72)



FREE ARM SEWING

For free arm sewing, just remove the extension table. You can use this machine as a free arm machine. You can easily sew armhole, lower sleeve edge and hem of trousers etc.

- See page 8 for "REMOVING THE EXTENSION TABLE".
- See page 54 for "BLIND HEM STITCHING".



ADJUSTING THE STITCH BALANCE

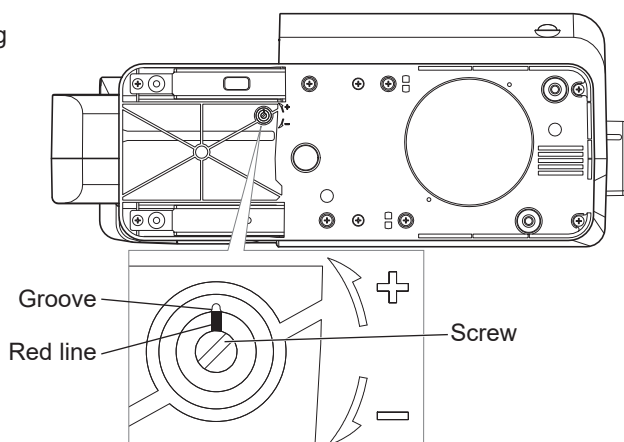
NOTE:

Remove the extension table before making the following adjustment.

Depending on the type of fabric you sew, it may be necessary to adjust the stitch balance. This adjustment is needed when the decorative or the letter stitch pattern is misformed.

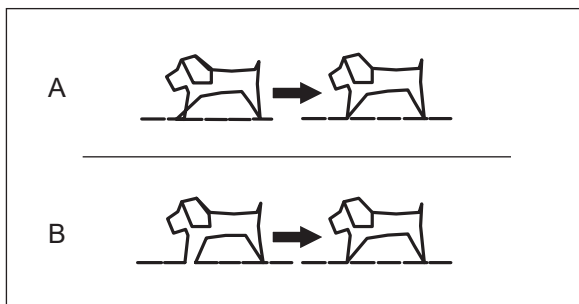
Turn screw which is located bottom of the machine in either direction as may be required.

Adjust it by turning the screw little by little using the red line and the outer groove as a guide.



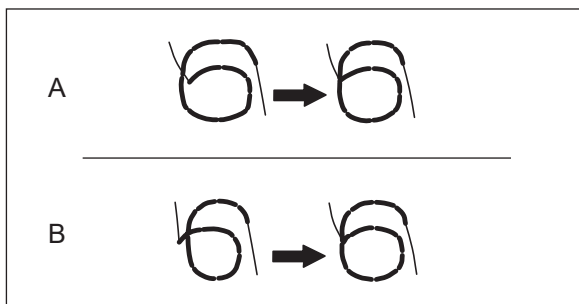
DECORATIVE STITCH PATTERN

1. If patterns are misformed as illustration (A), turn screw in direction of symbol (+).
2. If patterns are misformed as illustration (B), turn screw in direction of symbol (-).



LETTER STITCH PATTERN

1. If patterns are misformed as illustration (A), turn screw in direction of symbol (+).
2. If patterns are misformed as illustration (B), turn screw in direction of symbol (-).



MAINTENANCE



DANGER: To reduce the risk of electric shock.

Disconnect the power line plug from electric outlet before carrying out any maintenance.

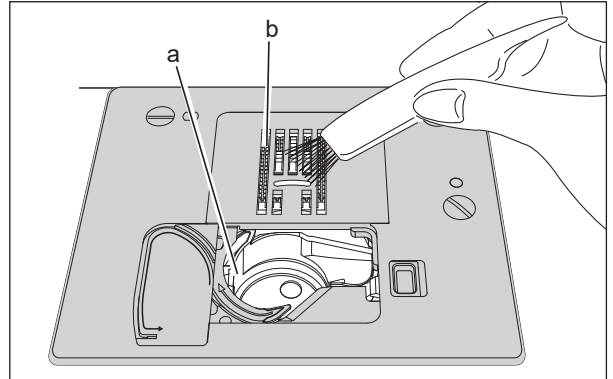
NOTE:

- * This machine is using LED light to light up stitching area. If it is not light up, call your local dealer.
- * There is no need to lubricate this machine.
- * If the machine gets dirty, soak a soft cloth with a small amount of mild detergent and wipe well. Don't use thinner and benzine.

A. BOBBIN HOLDER

Remove the bobbin cover and the bobbin, and clean them with the accessory brush.

- a: Bobbin holder
- b: Feed dog



B. HOOK RACE AND FEED DOG

Remove the needle plate and clean the hook race and the feed dog regularly.



CAUTION: To prevent injury to persons.

- There is a thread cutter device at the lower left of the feed dog under the needle plate. Pay attention because sharp parts are there. Do not touch the thread cutter device directly.
- Pay attention to the point of the needle.

1. Remove the following items.

- Extension table
- Needle
- Presser foot
- Presser foot holder
- Bobbin cover
- Bobbin

a: Driver for needle plate

b: Screws holding the needle plate

2. Remove the needle plate by lifting up the right side of the plate.

3. Lift up the bobbin holder (c) and remove it. d: Thread cutter device



CAUTION: To prevent the accidents or the injury to persons.

- Do not touch the thread cutter device (d).
- Do not remove the brush (e).

4. Clean the hook race (f), feed dog and bobbin holder. Also clean them, using a soft, dry cloth. g: Needle plate sensor h: Pins i: Pins

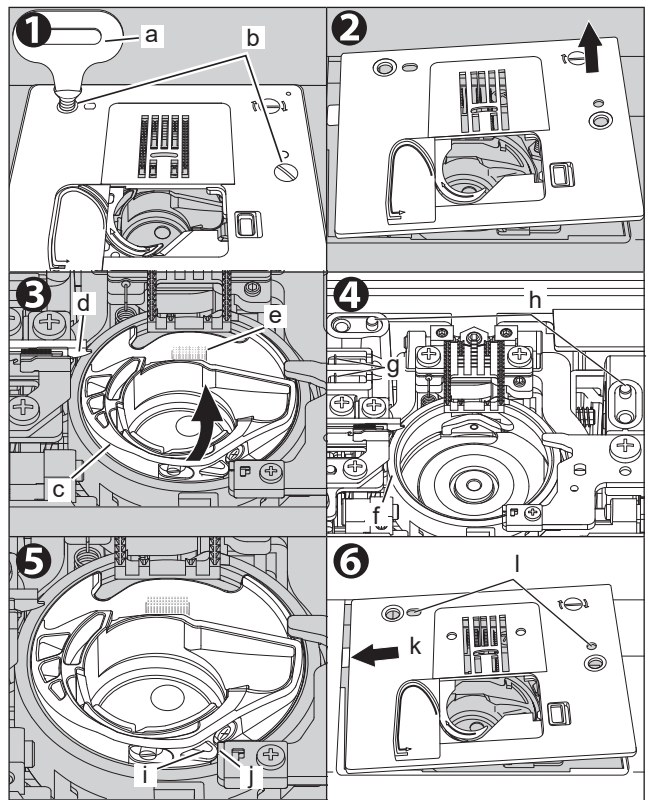


CAUTION: To prevent accidents.













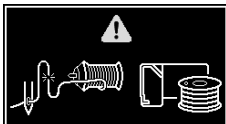

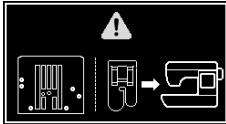
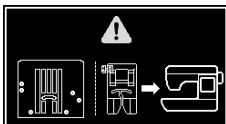
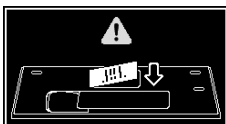
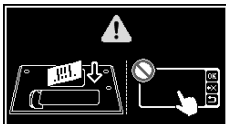


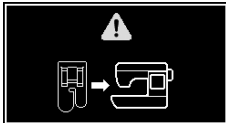
Do not touch the needle plate sensor (g). The sensor may be damaged.

5. Replace the bobbin holder into the hook race so that the tip (i) fits to the stopper (j) as shown.

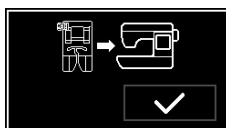
6. Replace the needle plate inserting the hook (k) and holes (l) into the machine. At that time, align the holes (l) with the pins (h). (See step 4) Retighten the screws.



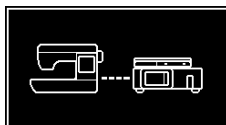
MESSAGE

1. Winding the bobbin. 
2. Select a pattern. 
3. Lower the presser foot. 
4. After sewing buttonhole, raise the presser foot lifter and set the frame of buttonhole foot to starting position. 
5. Lower the buttonhole lever. 
6. Foot controller is connected. 
7. Release the foot controller. 
8. Release the start/stop button. 
9. Release the reverse button. 
10. Release the needle up-down/slow button. 
11. Release the thread cutter button. 
12. Machine cannot memory any more. 
13. Rethread the upper or bobbin thread. 
14. Turn off the power switch and rethread the machine. 
15. The straight stitch needle plate has been attached. Can only be used with utility stitch patterns No.1-4, 7-11. Attach a presser foot appropriate for the pattern. Overcasting foot and buttonhole foot cannot be used. 
16. The standard needle plate has been attached. Make sure you have the correct presser foot attached for the pattern you have selected. 
17. The standard needle plate or the straight stitch needle plate has been removed. Attach the appropriate one. 
18. The standard needle plate or the straight stitch needle plate has been removed on the embroidery mode. Attach the appropriate one. 
- * Displayed only when an embroidery unit (sold separately) is connected.
19. A pattern other than a straight stitch was selected with the straight stitch needle plate attached. 
20. The standard needle plate has been attached in embroidery mode. 
- * Displayed only when an embroidery unit (sold separately) is connected.
21. Make sure that the straight stitch foot is attached. Because the pattern was changed from a straight stitch on the left needle position to a straight stitch on the center needle position. This will be displayed if the straight stitch needle plate is attached. 

22. Make sure that the regular foot is attached.
Because the pattern was changed from a straight stitch on the center needle position to a straight stitch on the left needle position.
This will be displayed if the straight stitch needle plate is attached.

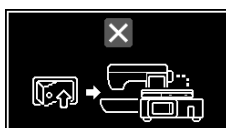


23. The sewing machine is checking the connection between itself and the embroidery machine.



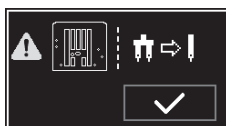
* Displayed only when an embroidery unit (sold separately) is connected.

24. Turn off the power switch and reconnect the embroidery unit.



* Displayed only when an embroidery unit (sold separately) is connected.

25. The straight stitch needle plate has been attached in twin needle mode. Remove the twin needle and replace the single needle.



26. Twin needle mode is in progress. Touch [✓].



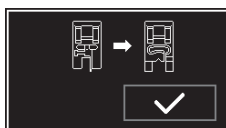
CAUTION: To prevent accidents.

Check if the attached needle and setting for the twin needle mode are matching.

27. The pattern you have selected or are about to select is not compatible with twin needles. Touch [✓] and see page 70.



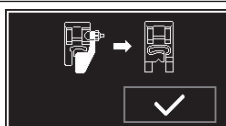
28. Change to the satin foot. The overcasting foot cannot be use. Change to the satin foot and touch [✓]. See page 69.



CAUTION: To prevent the accidents or the injury to persons.

Be sure to use the satin foot to prevent injury or malfunction.

29. Change to the satin foot. The blind foot cannot be use. Change to the satin foot and touch [✓]. See page 69.



CAUTION: To prevent the accidents or the injury to persons.

Be sure to use the satin foot to prevent injury or malfunction.

30. The machine is locked.



31. The machine on the embroider mode, machine is locked.



* Displayed only when an embroidery unit (sold separately) is connected.

32. Because you touched the safety lock button while it was locked, a confirmation message for unlocking was displayed.

Yes: [✓] No: [X]

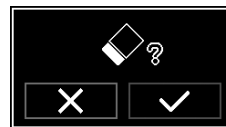


33. Finished saving decorative and letter stitch pattern to memory.



34. Do you Delete memorized patterns?

Yes: [✓] No: [X]

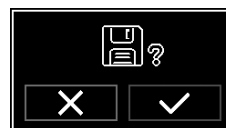


35. Deletion of decorative and letter stitch patterns saved in memory is complete.



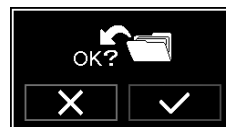
36. Do you Overwrite the memory?

Yes: [✓] No: [X]

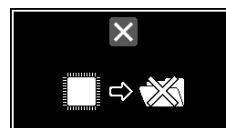


37. Do you Replace the patterns?

Yes: [✓] No: [X]



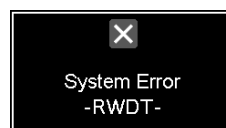
38. System error. If this message continues to appear even after turning the power off and then on again, contact your local dealer.



39. System error. The thread winding switch inside the sewing machine is damaged. (Contact your local dealer)



40. System error. If this message continues to appear even after turning the power off and then on again, contact your local dealer.



HELPFUL HINTS

| PROBLEM | CAUSE | CORRECTION | PAGE |
|--|---|---|--------|
| Upper thread breaks | Machine not properly threaded. | Re-thread machine. | 28 |
| | Thread entwined around the bobbin holder. | Remove entwined thread. | 82 |
| | Needle inserted incorrectly. | Re-insert needle. | 36 |
| | Thread tension too tight. | Readjust thread tension. | 24 |
| | Thread of incorrect size or poor quality. | Choose correct thread. | 35 |
| Bobbin thread breaks | Bobbin threaded incorrectly. | Re-thread the bobbin. | 27 |
| | Thread entwined around the bobbin holder. | Remove entwined thread. | 82 |
| | Dirt on the hook race. | Clean the hook race. | 83 |
| Machine skips stitches | Needle inserted incorrectly. | Re-insert needle. | 36 |
| | Bent or blunt needle. | Insert new needle. | 36 |
| | Incorrect size of needle. | Choose correct size needle for fabric. | 35 |
| | (on stretch fabric) | (use stretch needle) | |
| Fabric puckers | Machine not properly threaded. | Re-thread machine. | 28 |
| | Bobbin threaded incorrectly. | Re-thread the bobbin. | 27 |
| | Blunt needle. | Insert new needle. | 36 |
| | Thread tension too tight. | Readjust thread tension. | 24 |
| Machine makes loose stitches or loops | Bobbin threaded incorrectly. | Re-thread the bobbin. | 27 |
| | Machine not properly threaded. | Re-thread machine. | 28 |
| | Tension not adjusted properly. | Readjust thread tension. | 24 |
| Stitch pattern is misformed | Presser foot is not suited for the pattern. | Attach correct foot. | 43- |
| | Thread tension is not balanced. | Adjust the thread tension. | 24 |
| | Stitch balance is not correct. | Adjust the stitch balance. | 81 |
| Cannot select stitch patterns | The straight stitch needle plate is attached. | Select a pattern that allows use of the straight stitch needle plate. (No.1 – 4, 7 - 11) Or, replace the straight stitch needle plate with the standard needle plate. | 45 |
| Threader does not thread needle eye | Needle is not raised. | Raise the needle. | 12, 14 |
| | Needle inserted incorrectly. | Re-insert needle. | 36 |
| | Bent needle. | Insert new needle. | 36 |
| Machine does not feed properly | Feed dog are lowered. | Raise the feed dog. | 14 |
| | Stitch length not suitable for fabric. | Regulate stitch length. | 21 |
| | Lint and dust accumulated around feed dog. | Clean the feed dog area. | 83 |
| Needle breaks | Fabric pulled while sewing. | Do not pull fabric. | 37 |
| | Needle is hitting the presser foot. | Select correct foot and pattern. | 43- |
| | Needle inserted incorrectly. | Re-insert needle. | 36 |
| | Incorrect size needle or thread for fabric being sewn. | Choose correct size needle and thread. | 35 |
| Machine runs with difficulty | Dirt or lint accumulated in the hook race and feed dog. | Remove the needle plate and bobbin holder and clean the hook race and feed dog. | 83 |

| PROBLEM | CAUSE | CORRECTION | PAGE |
|---|--|---|------------|
| Machine will not run | Cord not plugged into electrical outlet. | Insert plug fully into outlet. | 10 |
| | Power switch is not turned on. | Turn on the switch. | 10 |
| | Upper thread or bobbin thread has broken or missing. | Rethread the upper thread or bobbin thread. | 27, 28 |
| | Monitor lamp | | |
| | ...Green Light | Bobbin winder spindle is pushed to the right. | 26 |
| | ...Red Light | Presser foot is not lowered. | 13 |
| ...Red Light | Buttonhole Sewing Mode; | | |
| | - Buttonhole lever is not lowered completely. | Lower the buttonhole lever. | 55, 57, 61 |
| | - Buttonhole foot is not attached. | Attach the buttonhole foot. | 55, 57, 61 |
| LED not light Beep not sound | Setting is turned OFF. | Turn on setting. | 17 |

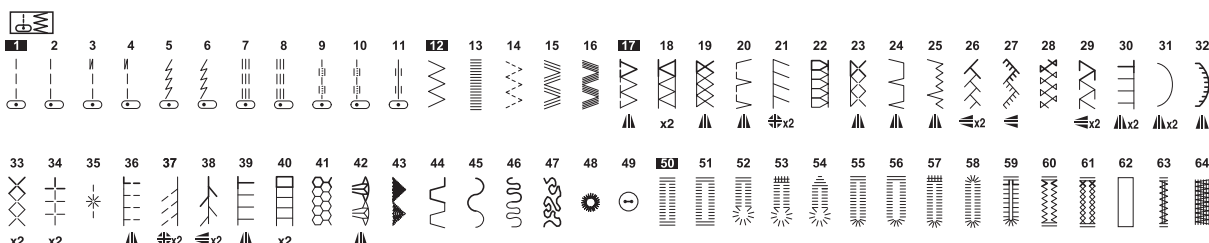
PATTERN CHART

Utility Stitch

The length of some utility stitch patterns is displayed as one unit length for each pattern. (See page 22)

The bold part below is one unit of each pattern.

If the pattern does not have a bold part, the length of one stitch will be displayed on the screen.

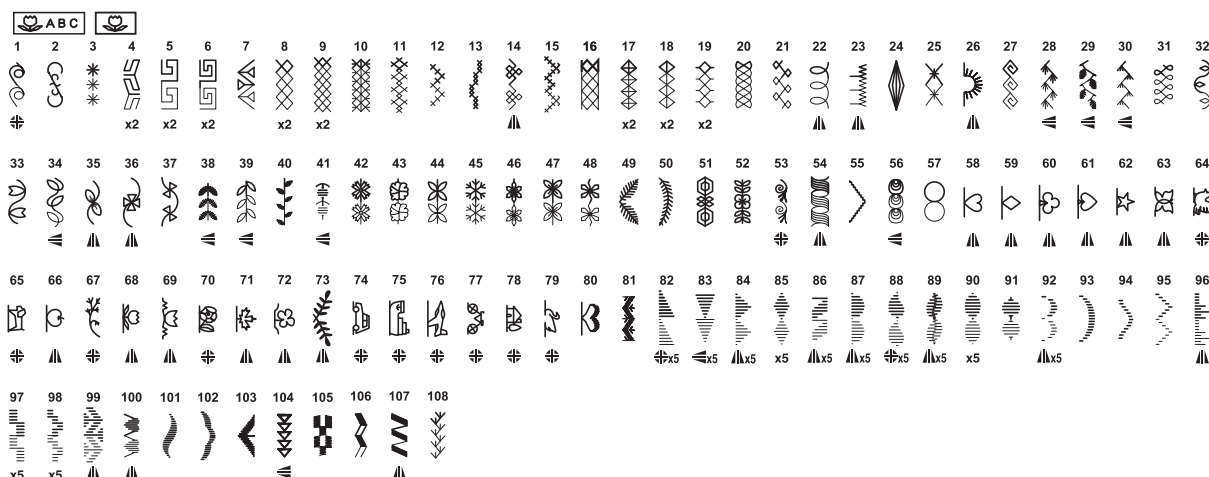


Decorative Stitch

Bold part of decorative stitch pattern is one unit of pattern which will be memorized.

At the pattern (except for No.23, 82-90, 92-98, 101), stitch length is indicated as the length of one unit.

At pattern No.23, 82-90, 92-98, 101, stitch length is indicated as the length of one stitch. (See page 22)



Letter Stitch



ABCDEFGHIJKLMNOPQRSTUVWXYZÀÄÅÆÇÈÉÊËÑÖØÜ

abcdefghijklmnopqrstuvwxyzàäåæçèéêëñöøü

[] _ 0 1 2 3 4 5 6 7 8 9 - + = ? ! @ & () / . , ' ; :

ABCDEFGHIJKLMNOPQRSTUVWXYZÀÄÅÆÇÈÉÊËÑÖØÜ

abcdefghijklmnopqrstuvwxyzàäåæçèéêëñöøü

[] _ 0 1 2 3 4 5 6 7 8 9 - + = ? ! @ & () / . , ' ; :

ABCDEFGHIJKLMNOPQRSTUVWXYZÀÄÅÆÇÈÉÊËÑÖØÜ

abcdefghijklmnopqrstuvwxyzàäåæçèéêëñöøü

[] _ 0 1 2 3 4 5 6 7 8 9 - + = ? ! @ & () / . , ' ; :

SPECIFICATIONS

| | |
|--|-----------------|
| Rated voltage | 100–240V |
| Nominal consumption | 55W |
| Frequency | 50-60Hz |
| Light | LED |
| Machine dimensions (mm) Length x Width x Height | 475 x 186 x 300 |
| Net weight (kg) | 8.7 |

