



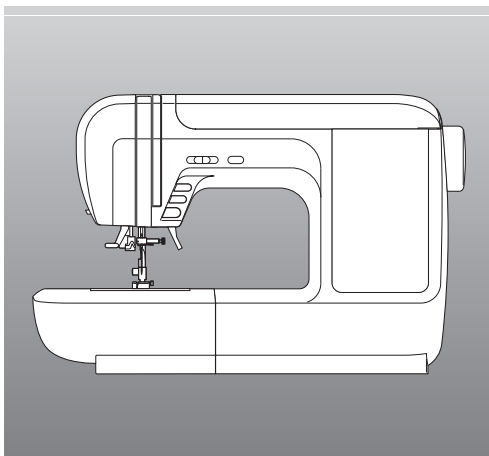
www.matri.eu

INSTRUCTION MANUAL

Type A 420

Type B 422

Type C 424



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 this manual. Use only attachments recommended by the manufacturer as contained in this 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 dealer or service center 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. Never drop or insert any object into any opening.
6. Do not use outdoors.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. To disconnect, turn the power switch to the off position (symbol **O**), then remove plug from outlet.
9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
10. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
11. Always use the proper needle plate. The wrong plate can cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
14. Switch the sewing machine off (symbol **O**) when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot.
15. 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.
16. Handle the foot controller with care and avoid dropping it on the floor. Be sure not to place anything on top of it.
17. Use only the handle to lift and move the machine.
18. Do not expose the machine or machine plastic case to sunlight directly. Also, do not keep it in a very warm or damp place.

SAVE THESE INSTRUCTIONS

Servicing should be performed by an authorized service representative.

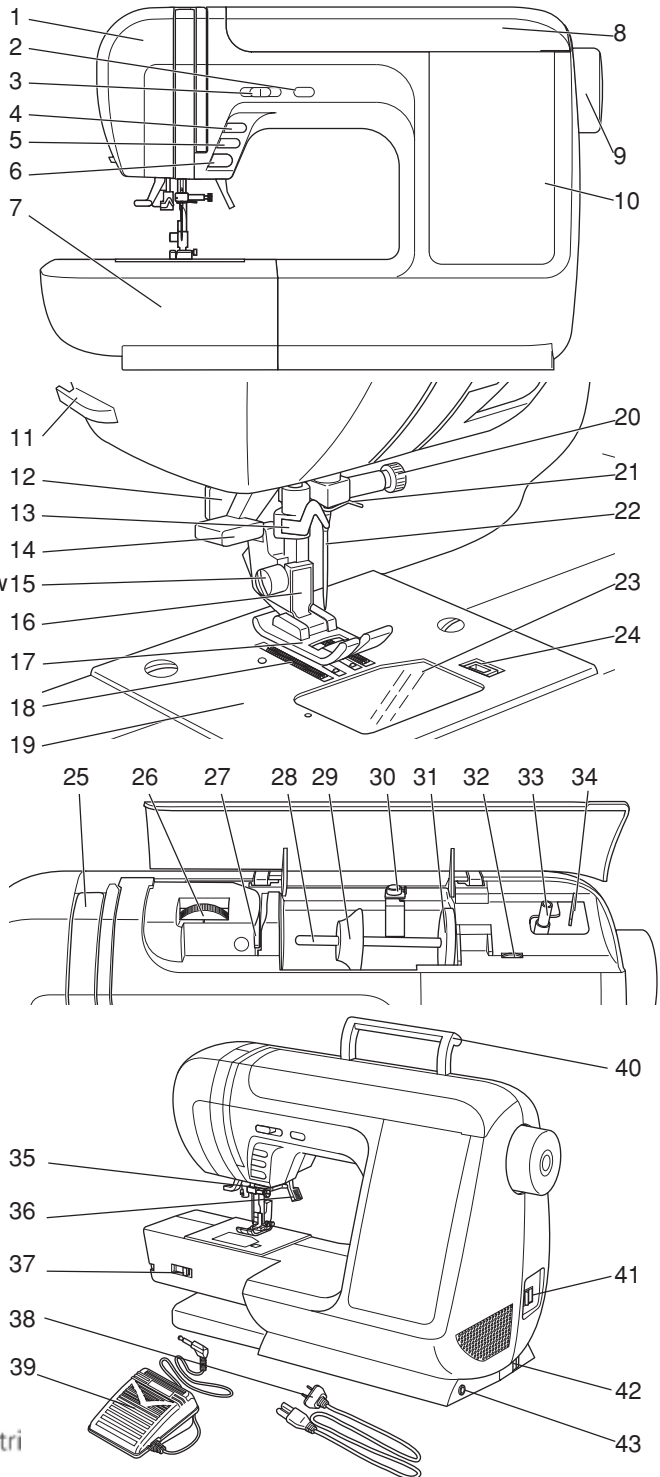
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MAIN PARTS

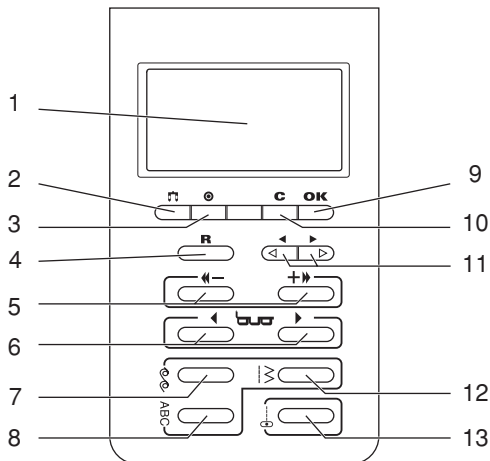
1. Light Cover
2. -TYPE A-
Thread Cutter Button
- Type B, C-
Needle Up-Down Button
3. Speed Control Button
4. -TYPE A-
Needle Up-Down/Slow
Button
- TYPE B, C-
Slow Button
5. Reverse Button
6. Start/Stop Button
7. Extension Table
8. Top Cover
9. Hand Wheel
10. Control Panel
11. Thread Cutter
12. Buttonhole Lever
13. Needle Threader
14. Needle Threader Lever
15. Presser Foot Thumb Screw
16. Presser Foot Holder
17. Presser Foot
18. Fabric Feed Dogs
19. Needle Plate
20. Needle Clamp Screw
21. Needle Bar Thread Guide
22. Needle
23. Bobbin Cover
24. Bobbin Cover Latch
25. Thread Take-Up Lever
(Inside)
26. -TYPE B, C-
Thread Tension Regulator
27. Thread Guide Plate
28. Spool Pin
29. Spool Cap
30. Bobbin Winder Thread
Guide
31. Felt Washer
32. -TYPE A, B-
L. C. D. Contrast Control
33. Bobbin Winder Shaft
34. Bobbin Winder Stop
35. Thread Cutter
36. Presser Foot Lifter
37. Drop Feed Lever
38. Power Line Cord
39. Foot Controller
40. Handle
41. Power Switch
42. Terminal Box
43. Controller Jack



CONTROL PANEL

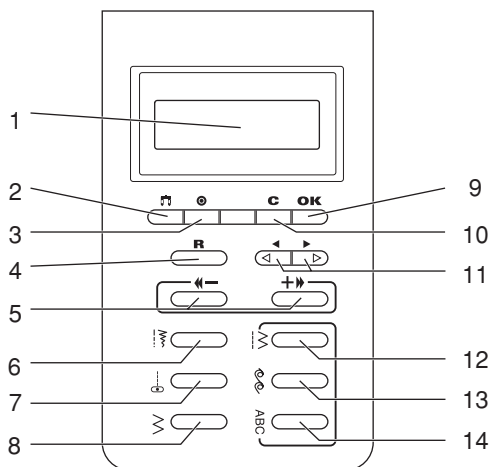
-TYPE A-

1. Liquid Crystal Display (L. C. D.)
2. Twin Needle Button
3. Tack Button
4. Read Button
5. Up-Down Buttons
6. Tab Buttons
7. Decorative Stitch Button
8. Letter Stitch Button
9. OK Button
10. Clear Button
11. Cursor Buttons
12. Utility Stitch Button
13. Straight Stitch Button



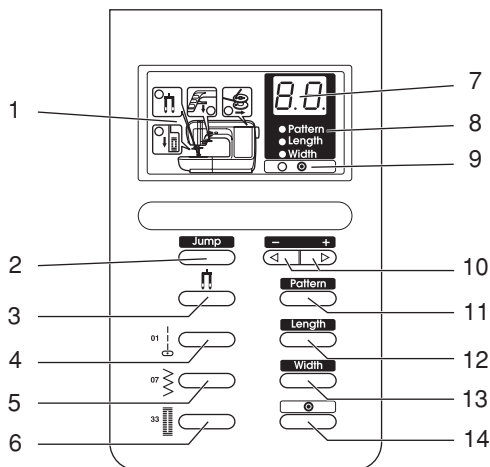
-TYPE B-

1. Liquid Crystal Display (L. C. D.)
2. Twin Needle Button
3. Tack Button
4. Read Button
5. Up-Down Buttons
6. Length / Width Button
7. Straight Stitch Button
8. Zigzag Stitch Button
9. OK Button
10. Clear Button
11. Cursor Buttons
12. Utility Stitch Button
13. Decorative Stitch Button
14. Letter Stitch Button



-TYPE C-

1. Monitor Window
2. Jump Button
3. Twin Needle Button
4. Straight Stitch Button
5. Zigzag Stitch Button
6. Buttonhole Button
7. Stitch Number Indicator
8. Stitch Mode Indicator
9. Tack Stitch Indicator
10. Up-Down Buttons
11. Pattern Number Mode Button
12. Stitch Length Mode Button
13. Stitch Width Mode Button
14. Tack Stitch Button



CONNECTING THE MACHINE



DANGER: To reduce the risk of electric shock.

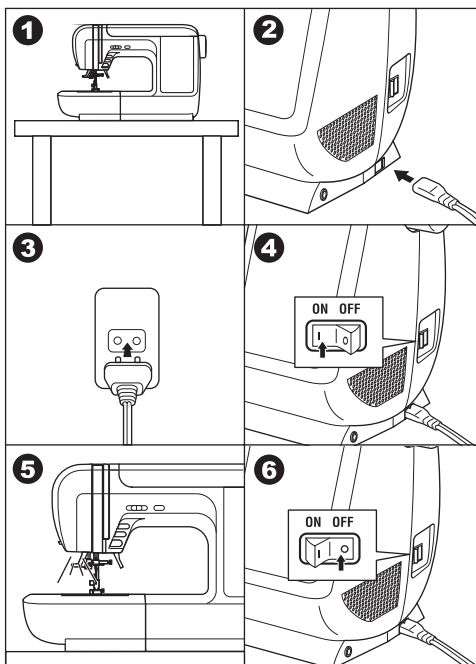
Never leave unattended when plugged in. Always unplug this machine from the electric outlet immediately after using and before maintenance.



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.

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.
5. A lamp will light up when switch is turned on.
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.

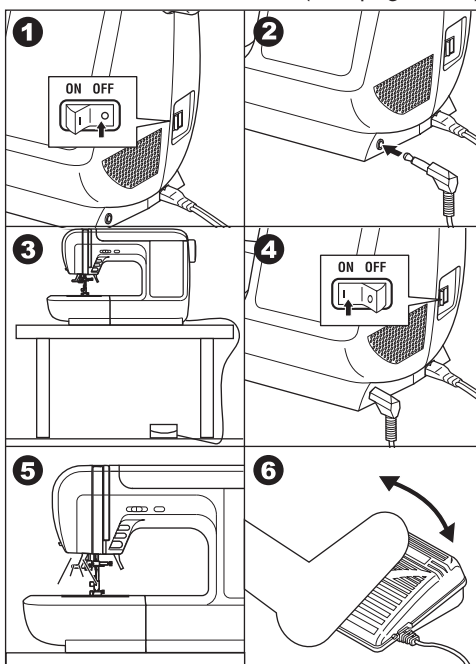
When the foot controller is connected, start/stop button will be deactivated. (See page 8, 10)

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. A lamp 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.



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 4C-337B)



ACCESSORIES

Accessories are provided in the accessory case.

(See next page, [EXTENSION TABLE])

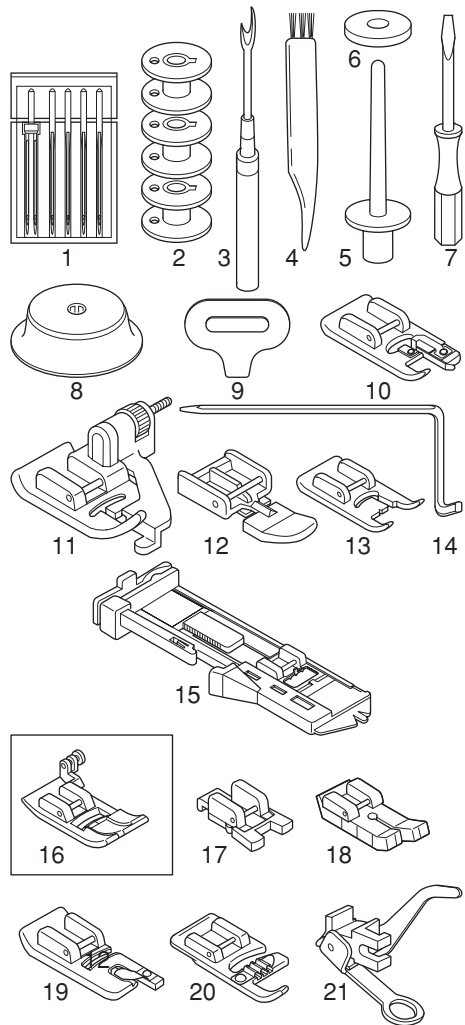
1. Needle Pack
2. 4 Bobbins (1 is in the machine)
3. Seam Ripper
4. Brush
5. Extra Spool Pin
6. Felt
7. Screw Driver
8. Thread Cap (On the machine when delivered)
9. Driver for Needle Plate
10. Overcasting Foot (C)
11. Blind Foot (D)
12. Zipper Foot (E)
13. Satin Foot (B)
14. Quilting Bar
15. Buttonhole Foot
16. Regular Foot (A) (On machine when delivered)

-TYPE A & B-

17. Button Sewing Foot

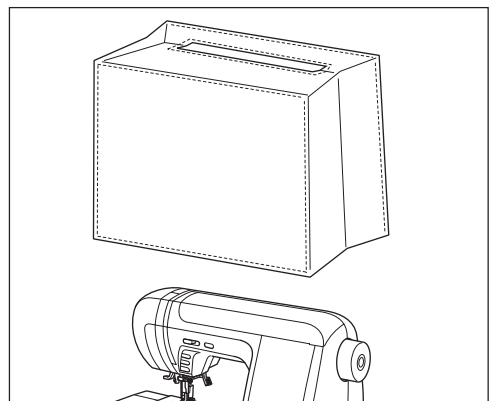
-TYPE A-

18. Straight Stitch / Quilting Foot
19. Narrow Hemming Foot
20. Cording Foot
21. Darning Embroidery Foot



DUST COVER

Cover the machine with dust cover when it is not to be used.



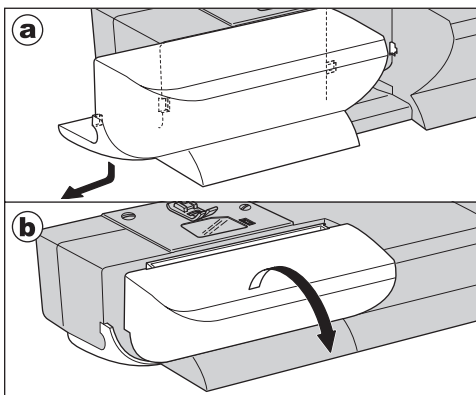
EXTENSION TABLE

a. 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.

b. OPENING THE ACCESSORY CASE

Hook your finger to the this side of accessory case and pull toward you.



CHANGING THE PRESSER FOOT

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

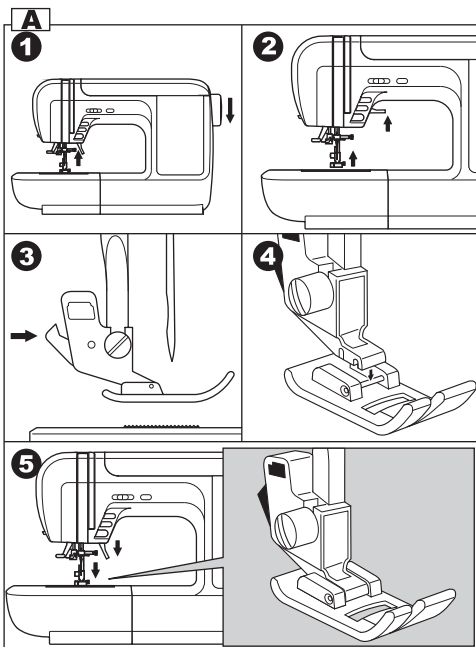


CAUTION: To prevent accidents.

Turn off the power switch before you change the presser foot.

A. Changing the presser foot

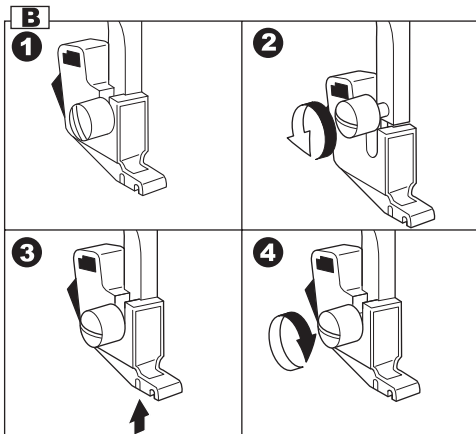
1. Turn the hand wheel toward you until the needle is at its highest point.
2. Raise the presser foot lifter.
3. Remove the presser foot by pushing the presser foot release lever toward you.
4. Place desired foot with its pin directly under the slot in presser foot holder.
5. Lower the presser foot lifting lever and the presser foot will snap into place.



B. Removing the presser foot holder


When cleaning around the feed dog or attaching extra foot (option), you may remove the presser foot holder.

1. Remove the presser foot.
2. Loosen the presser foot thumb screw and remove the presser foot holder.
3. To replace the holder, pull up the holder as far as it will go from bottom of presser bar.
4. Tighten the thumb screw.

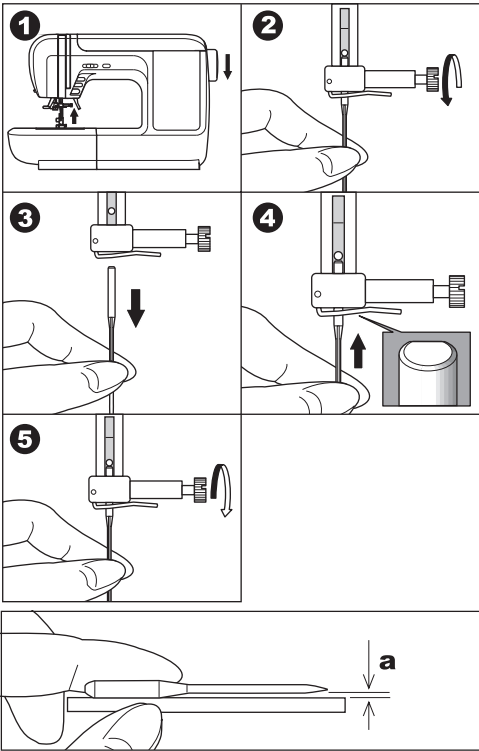


INSERTING THE NEEDLE —

Select a needle of the right type and size for the fabric to be sewn.

 **CAUTION: To prevent accidents.**
Turn off the power before removing the needle.

- 1. Turn the hand wheel toward you until the needle is at its highest point.
 - 2. Loosen the needle clamp screw.
 - 3. Remove the needle.
 - 4. Insert new needle into needle clamp with the flat side to the back and push it up as far as it will go.
 - 5. Tighten the needle clamp screw.
- a. Do not use the bent or blunt needle. Place needle on a flat plate and check straightness.



FABRIC, THREAD AND NEEDLE TABLE —

Select size of thread and needle in accordance with fabric to be sewn.

Type of Fabric	Thread Size	Needle Size
Light Weight - thin 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	Ctn 50 - 80 Silk 50 Syn 50 - 80	11/80-14/90
Heavy Weight - gabardine, tweed, denim, corduroy	Ctn 40 - 50 Silk 50 Syn 50 - 60	14/90-16/100
Stretch - double knit, tricot, spandex, jersey	Syn 50 - 80 Silk 50 Thread for knit	11/80-14/90 Needle for knit and synthetic fabric



Use a Home sewing machine needle.

- TYPE A -

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 bobbin winding.

Red Light "ON" Presser foot is not in down position or buttonhole lever is not lowered.

If the red light is on, the machine will not start even when start/stop button is pressed.

Note:

When the foot controller is connected, start/stop button will be deactivated.

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.

Note:

When the foot controller is connected, machine will sew in reverse (at low speed) while this button is pressed. When released, machine will sew forward.

C. NEEDLE UP-DOWN / SLOW BUTTON

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

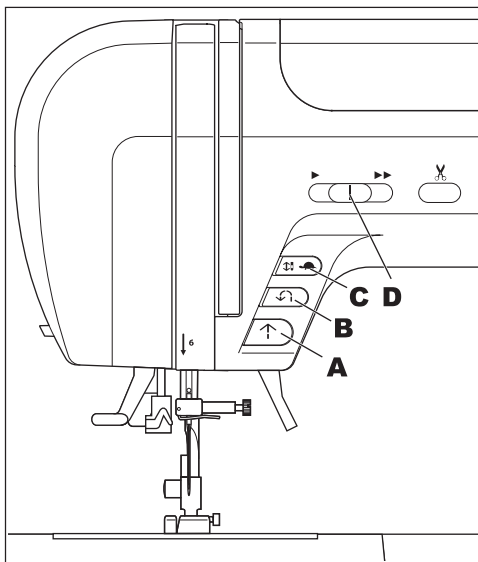
While sewing, by pressing this button, machine will sew in slow speed. Pressing this button again, the speed will return.

D. 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.



E. THREAD CUTTER BUTTON

Press this button after sewing to cut the upper and bobbin threads.

The machine will cut both threads automatically.

CAUTION

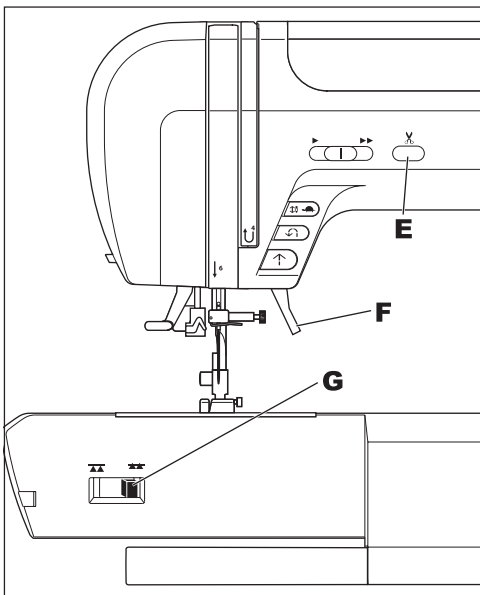
1. Do not press this button when there is no fabric in the machine or no need to cut the threads. The thread may tangle, resulting in damage.
2. Do not use this button when cutting thread thicker than #30, nylon thread or other speciality threads.

In this case, use the thread cutter (H)

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

The fabric feed dogs 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 fabric feed dogs.

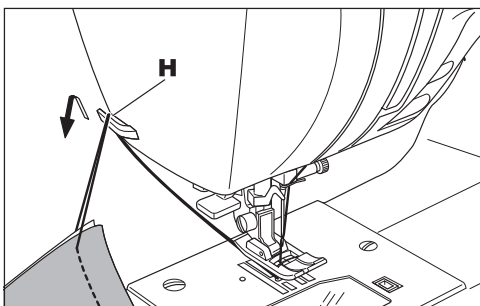
For ordinary sewing, move the lever to the right. This raises feed dogs to their highest position. For most sewing, the lever should be in this position.

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

H. THREAD CUTTER

Use this cutter if the thread cutter button is not used.

1. Raise the presser foot 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.

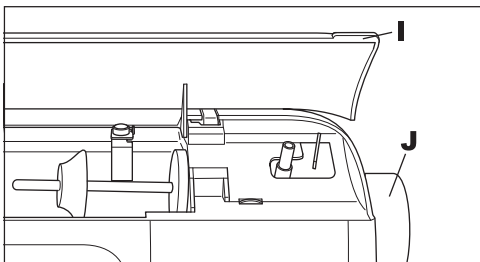


I. TOP COVER

To open the top cover, lift up the right side of cover.

J. HAND WHEEL

By turning the hand wheel, the needle will raise or lower. You should turn hand wheel toward you.



- TYPE B, C -

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 bobbin winding.

Red Light “ON” Presser foot is not in down position or buttonhole lever is not lowered.

If the red light is on, the machine will not start even when start/stop button is pressed.

Note:

When the foot controller is connected, start/stop button will be deactivated.

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.

Note:

When the foot controller is connected, machine will sew in reverse (at low speed) while this button is pressed. When released, machine will sew forward.

C. SLOW BUTTON

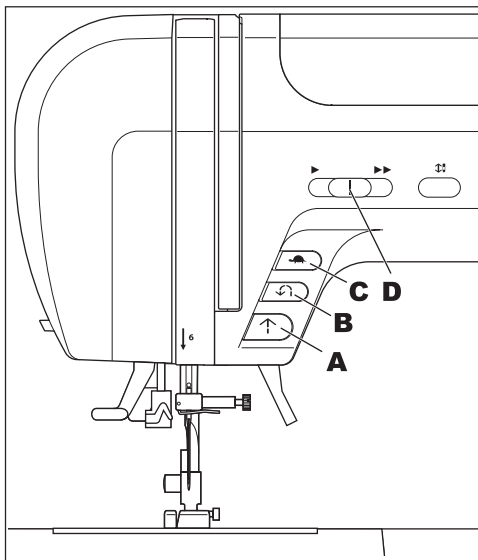
While sewing, by pressing this button, machine will sew in slow speed. Pressing this button again, the speed will return.

D. 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.



E. NEEDLE UP-DOWN BUTTON

Needle stop position will be changed up or down by pressing this button.

F. PRESSER FOOT LIFTER

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

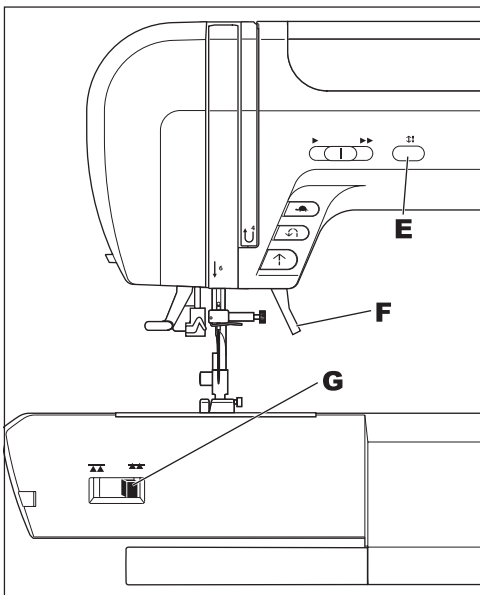
Note: Machine will not start when the presser foot is lifted. (Except for bobbin winding)

G. DROP FEED LEVER

The fabric feed dogs 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 fabric feed dogs.

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

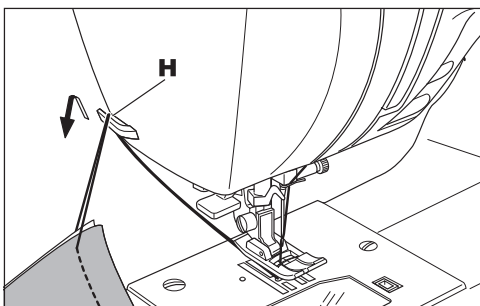
For darning or free motion embroidery or whenever fabric is to be moved by hand, move the lever to the left to lower the fabric feed dogs.



H. THREAD CUTTER

After sewing, you can cut threads using the thread cutter.

1. Raise the presser foot 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.

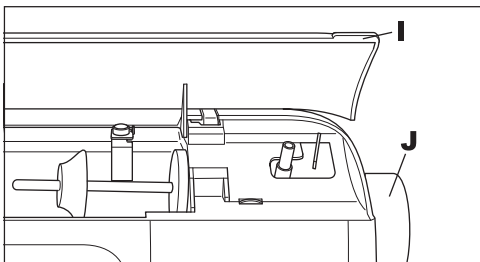


I. TOP COVER

To open the top cover, lift up the right side of cover.

J. HAND WHEEL

By turning the hand wheel, the needle will raise or lower. You should turn hand wheel toward you.



- TYPE A -

TO SELECT A UTILITY PATTERN

This machine has 52 utility patterns.
These patterns are separated into 4 groups.
(See page 58 or inside of the top cover [PATTERN CHART].)

When you turn on the machine, straight stitch will be selected and indicated on the L. C. D..
C. D..

A. CONTRAST OF THE L.C.D.

The contrast of the L.C.D is adjusted by turning the L.C.D. contrast control dial.

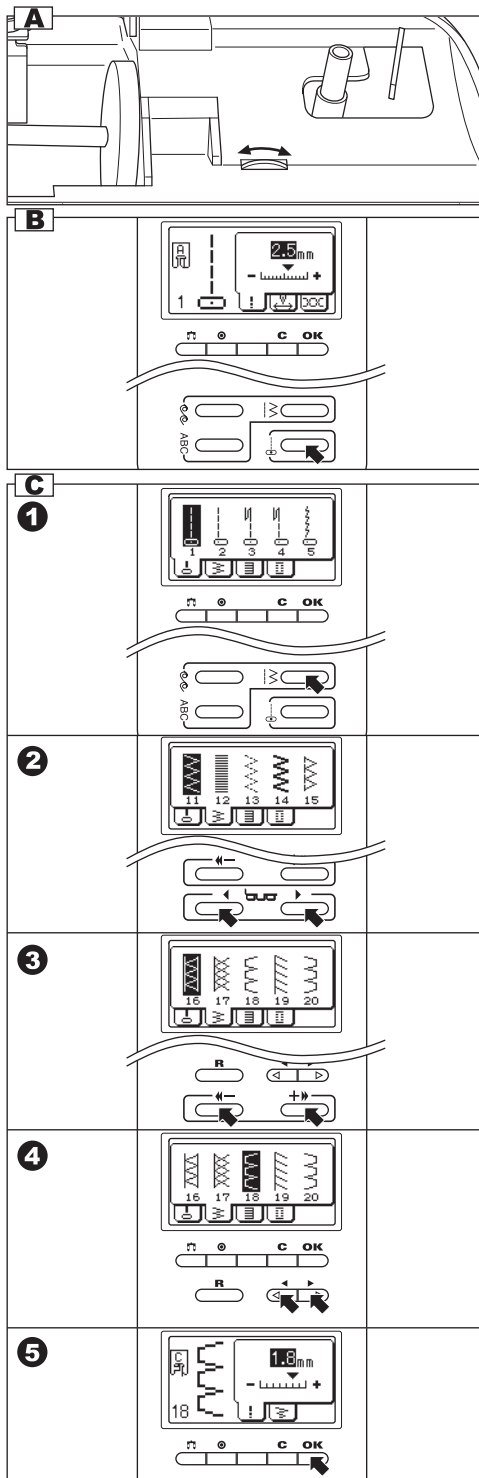
B. STRAIGHT STITCH BUTTON

Whenever you can select straight stitch directly by pressing the straight stitch button.

C. TO SELECT A UTILITY PATTERN

1. Press the utility stitch button.
First 5 patterns of utility stitch will appear on the L.C.D..
2. By pressing the tab (>) or (<) button, utility 4 groups will change incrementally or decrementally.
Select a group you want to sew.
3. By pressing the up (+>>) or down(<<-) button, 5 patterns will change incrementally or decrementally.
Press these buttons until desired pattern will appear.
4. Press the cursor (>) or (<) button to highlight the pattern you desire.
Note:
When the most right or left side pattern is highlighted, by pressing the cursor (>) or (<) button, next or previous 5 patterns of its group will appear.
5. Press the OK button.
The L.C.D. screen will indicate the informations of selected pattern. (Next page)

To select decorative or letter stitch patterns,
See page 44 [DECORATIVE AND LETTER STITCH SEWING].



D. INFORMATIONS OF SELECTED PATTERN

When pattern is selected, L.C.D. will indicate following informations.

a. Stitch Pattern

b. Pattern Number

c. Suitable Presser Foot

Indicated presser foot is one of suggested foot for normal sewing. You can use other presser foot according to the purpose of sewing described in this booklet.

d. Stitch Length and Width

By pressing the tub buttons (e), these informations will change as follows.

f. Stitch Length

Preset stitch length is indicated as a highlighted number.
For shorter stitch length, press the down (<<-) button.
For longer stitch length, press the up (+>>) button.

g. Stitch Width

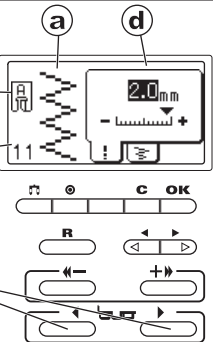
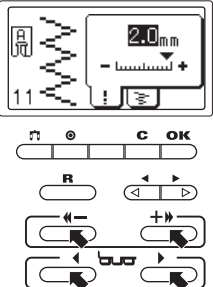
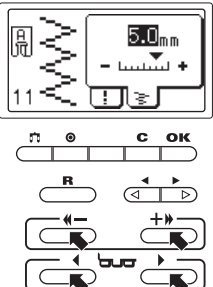
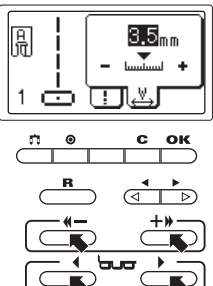
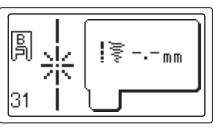
Preset stitch width is indicated as a highlighted number.
For narrower stitch width, press the down (<<-) button.
For wider stitch width, press the up (+>>) button.

g-1. Needle Position Control

When straight stitch patterns has been selected, up-down buttons adjust the needle position.

NOTE:

When the mode of stitch length or width is not appeared (h), its pattern cannot change these settings.

<p>D</p>		
<p>f</p>		
<p>g</p>		
<p>g-1</p>		
<p>h</p>		

- TYPE B -

TO SELECT A UTILITY PATTERN

This machine has 42 utility patterns.
(See page 59 or inside of the top cover [PATTERN CHART].)

When you turn on the machine, straight stitch will be selected and indicated on the L. C. D..

A. CONTRAST OF THE L.C.D.

The contrast of the L.C.D is adjusted by turning the L.C.D. contrast control dial.

B. STRAIGHT STITCH AND ZIGZAG STITCH BUTTONS

Whenever you can select straight stitch or zigzag stitch directly by pressing the straight stitch or zigzag stitch button.

C. TO SELECT A UTILITY PATTERN

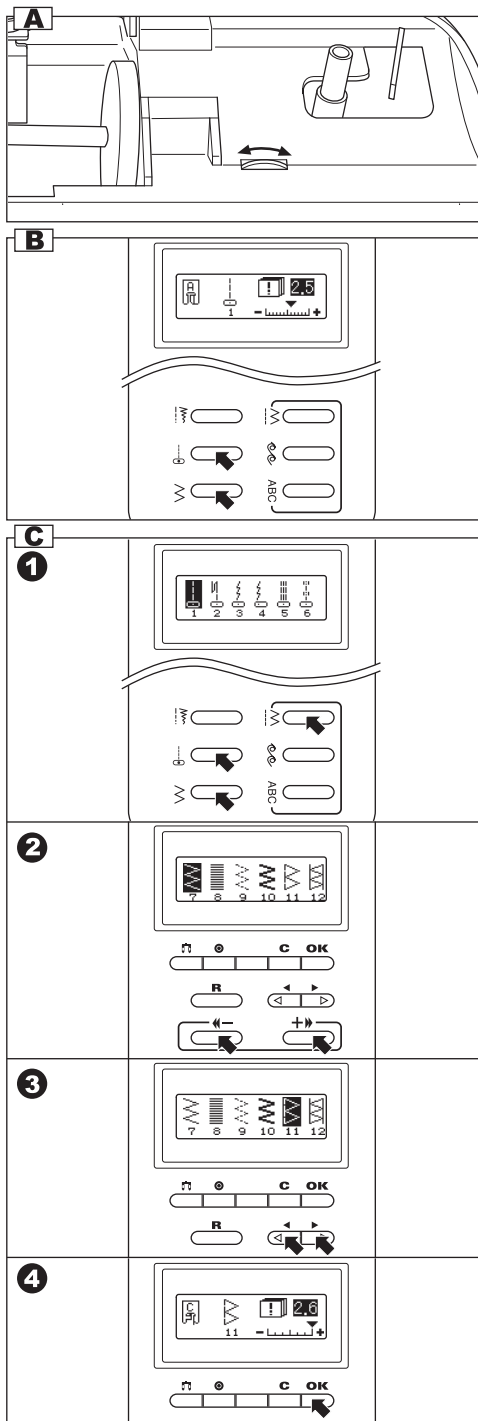
1. Press the utility stitch button.
First 6 patterns of utility stitch will appear on the L.C.D..
2. By pressing the up (+>>) or down(<<-) button, 6 patterns will change incrementally or decrementally.
Press these buttons until desired pattern will appear.
3. Press the cursor (>) or (<) button to highlight the pattern you desire.

Note:

When the most right or left side pattern is highlighted, by pressing the cursor (>) or (<) button, next or previous 6 patterns will appear.

4. Press the OK button.
The L.C.D. screen will indicate the informations of selected pattern. (Next page)

To select decorative or letter stitch patterns, See page 47 [DECORATIVE AND LETTER STITCH SEWING].



D. INFORMATIONS OF SELECTED PATTERN

When pattern is selected, L.C.D. will indicate following informations.

a. Stitch Pattern

b. Pattern Number

c.Suitable Presser Foot

Indicated presser foot is one of suggested foot for normal sewing. You can use other presser foot according to the purpose of sewing described in this booklet.

d. Stitch Length and Width

By pressing the length / width button (e), these informations will change as follows.

f. Stitch Length

Preset stitch length is indicated as a highlighted number.
For shorter stitch length, press the down (<<-) button.
For longer stitch length, press the up (+>>) button.

g. Stitch Width

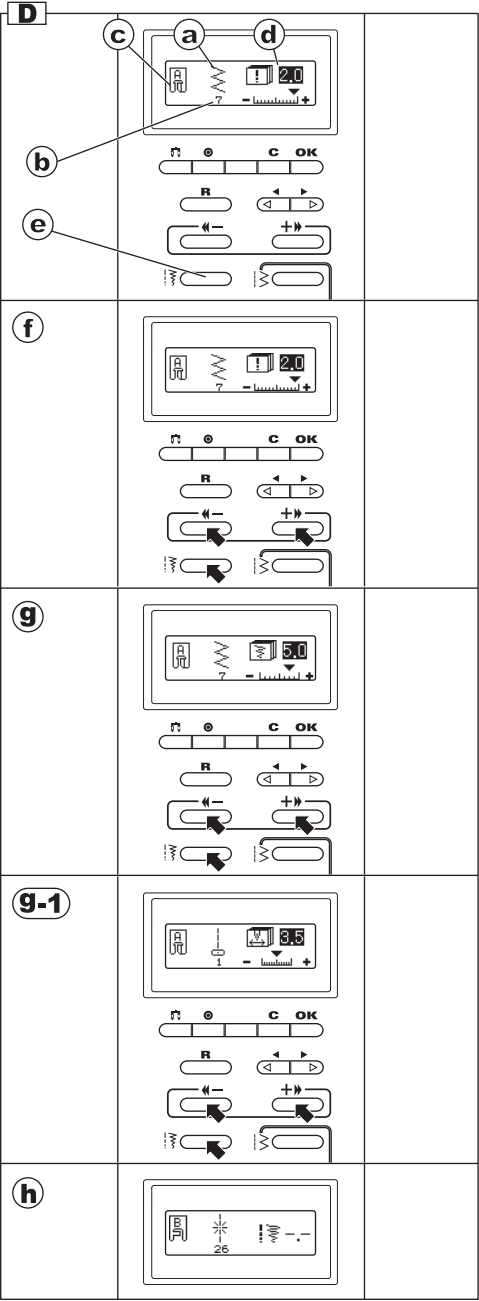
Preset stitch width is indicated as a highlighted number.
For narrower stitch width, press the down (<<-) button.
For wider stitch width, press the up (+>>) button.

g-1. Needle Position Control

When straight stitch patterns has been selected, up-down buttons adjust the needle position.

NOTE:

When the mode of stitch length or width is not appeared (h), its pattern cannot change these settings.



- TYPE C -

TO SELECT A PATTERN

This sewing machine can sew 100 stitch patterns and they are indicated in the pattern chart located inside of the top cover.

Each stitch pattern is numbered from “00” to “99”.

When you turn on the machine, “01” will appear on the display indicating that the straight stitch (center needle position) is selected.

1. STITCH NUMBER INDICATOR

This indicator indicates three stitch mode.

- A. Pattern Number
- B. Stitch Length
- C. Stitch Width

These modes are changed by pressing the each mode button (A-C).

The indicator light (a-c) of selected mode will turn on.

When you change the stitch pattern number, the stitch length and width will be re-set to pre-set length and width.

Therefore, you should select the pattern number first, and next, adjust the length and width.

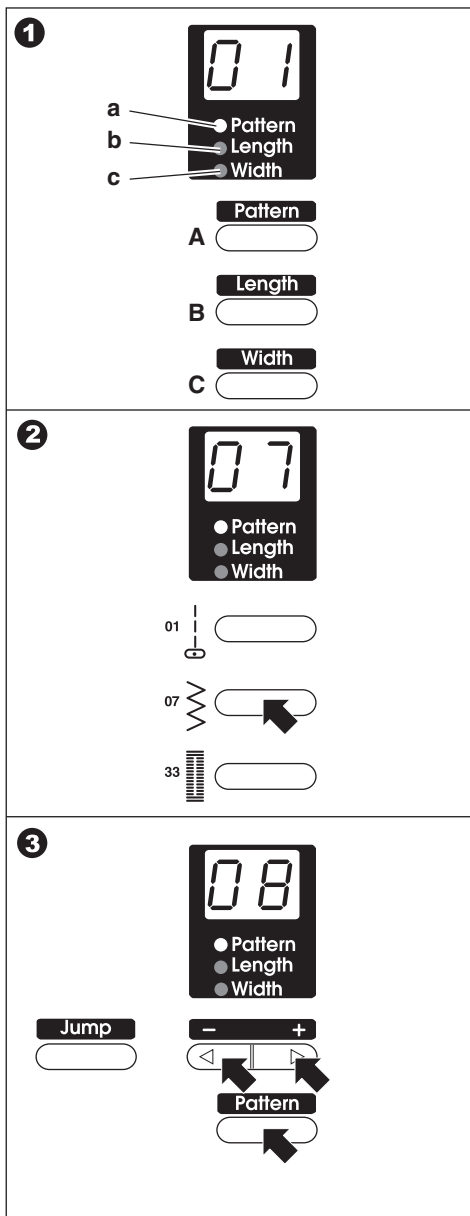
2. TO SELECT STRAIGHT STITCH, ZIGZAG STITCH AND BUTTONHOLE

Whenever you can select straight stitch, zigzag stitch or keyhole buttonhole directly by pressing the each button.

3. TO SELECT OTHER STITCH PATTERN

1. Press the Pattern Number Mode Button.
Indicator light will turn on and pattern number will appear on the display.
(If this mode has been selected already, it is need not to press this button.)
2. Select the pattern number you want to sew by pressing the up-down buttons.
Use jump button to jump pattern number.
(See next page)

You cannot change the pattern number while sewing.



4. JUMP BUTTON

Whenever you press this button, indicator changes to pattern number mode and pattern number jumps to next 10 digit.

Pressing this button, pattern number jumps 10 numbers up.



4

10

● Pattern
● Length
● Width

Jump

5. PATTERN CHART

All stitch patterns and numbers are described in below chart.
And also, preset stitch length and width are indicated.
See next page if you want to change these settings.
Straight stitches (No. 00, 01, 02, 03, 04, 06) will indicate the needle position instead of the stitch width.

Number	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
Pattern																				
Length	2.5	2.5	2.5	2.5	2.6	2.6	3.0	2.0	0.5	1.0	2.6	2.0	2.0	1.8	1.8	2.6	1.8	2.6	2.6	2.6
Width	0.0	3.5	0.0	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	7.0	7.0	2.5	5.0	5.0	3.0	6.0	7.0	7.0
Number	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Pattern																				
Length	1.6	2.6	--	--	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.0	0.5	0.5	0.5	2.4	1.0	1.8	0.5
Width	7.0	7.0	7.0	3.0	5.0	6.0	4.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	2.5	7.0	7.0
Number	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
Pattern																				
Length	0.5	0.5	0.5	0.5	0.5	1.6	0.5	0.5	0.5	0.5	1.6	1.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Width	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Number	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Pattern																				
Length	2.6	2.6	2.4	2.6	2.6	2.6	2.6	2.6	1.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Width	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Number	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Pattern																				
Length	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	--
Width	7.0	7.0	7.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0	0.0

17

6. STITCH LENGTH

When you select the pattern number, suitable stitch length will be preset automatically. If you want to change this, adjust as follows.

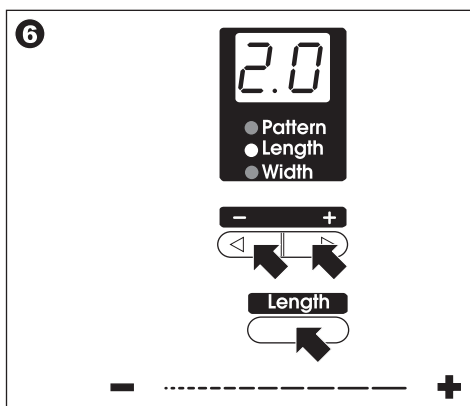
1. Press the Stitch Length Mode Button.
Indicator light will turn on and stitch length will appear on the display.

2. Adjust the stitch length by pressing the Up-Down buttons.

For longer stitch length, press the “+” button.

For shorter stitch length, press the “-” button.

You can adjust stitch length while sewing.



7. STITCH WIDTH

When you select the pattern number, suitable stitch width will be preset automatically. If you want to change this, adjust as follows.

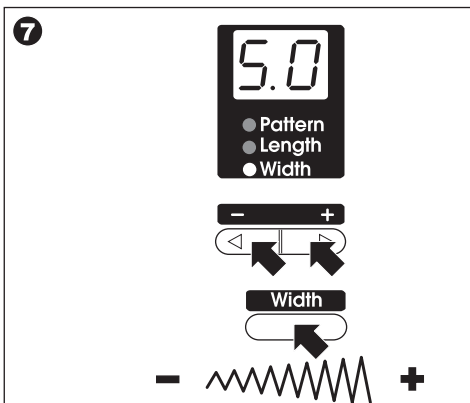
1. Press the Stitch Width Mode Button.
Indicator light will turn on and stitch width will appear on the display.

2. Adjust the stitch width by pressing the stitch selection buttons (a-d).

For wider stitch width, press the “+” button.

For narrower stitch width, press the “-” button.

You can adjust stitch width while sewing.



NEEDLE POSITION

Straight stitches (No. 00, 01, 02, 03, 04, 06) will change the needle position instead of the stitch width.

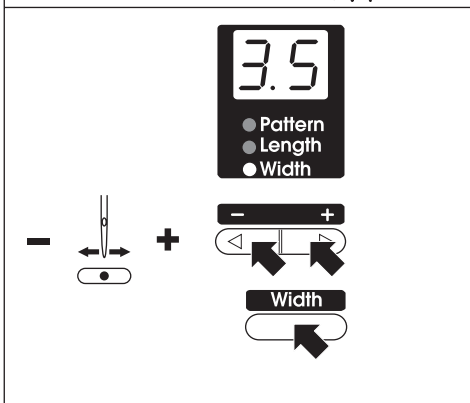
0.0: Left needle position

3.5: Center needle position

7.0: Right needle position

To move the needle position to the right, press the “+” button.

To move the needle position to the left, press the “-” button.



8. MONITOR WINDOW

This machine indicates the condition of machine.

1. Twin needle setting.

Green light turn on

When twin needle button is pressed, this light will turn on and stitch width will be reduced.

See page 51 for twin needle sewing.

2. Presser Foot Lifter

Red light blink

Start button is pressed although the presser foot is not lowered.

or

After buttonhole sewing, start button is pressed although presser foot is not raised to return to original position.

3. Bobbin Winding

Green light turn on

Bobbin winder spindle is pushed to the right. (Bobbin winding mode)

Green light blink

Bobbin winding is full

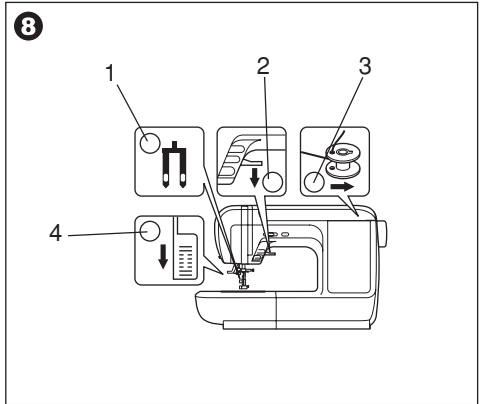
4. Buttonhole Lever

Red light blink

When buttonhole sewing, start button is pressed although the buttonhole lever is not lowered correctly.

or

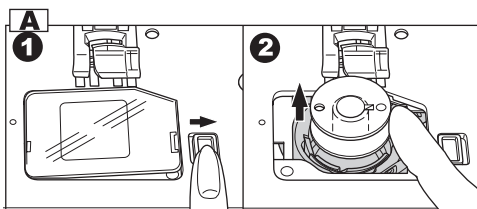
After buttonhole sewing, start button is pressed although presser foot is not raised to return to original position.



BOBBIN SETTING

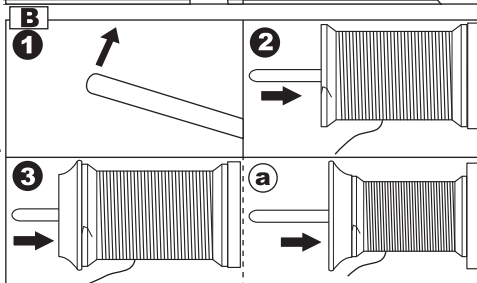
A. REMOVING THE BOBBIN

1. Pull the bobbin cover latch to the right and remove the bobbin cover.
2. Lift up the bobbin from the machine.



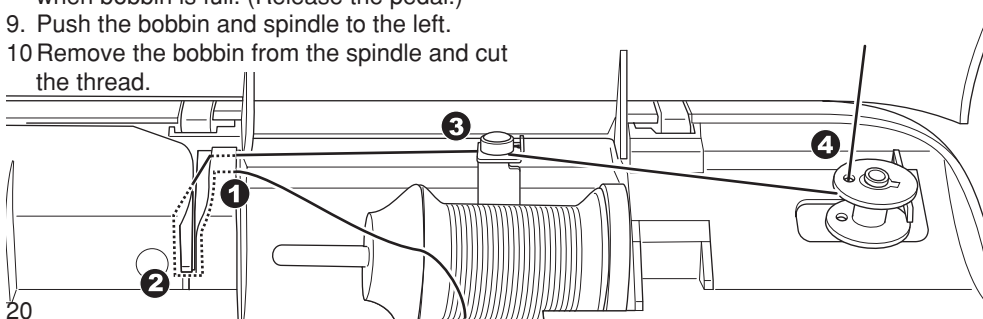
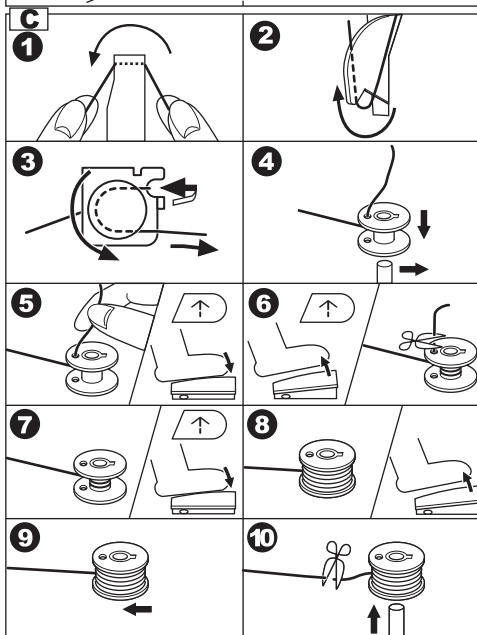
B. SETTING SPOOL OF THREAD ON SPOOL PIN

1. Pull up the left end of spool pin.
2. Set the spool of thread on spool pin so that the thread unrolls from the front of the spool.
3. Set the spool cap on spool pin as far as it will go.
 - a: Reverse spool cap direction according to the size of spool.



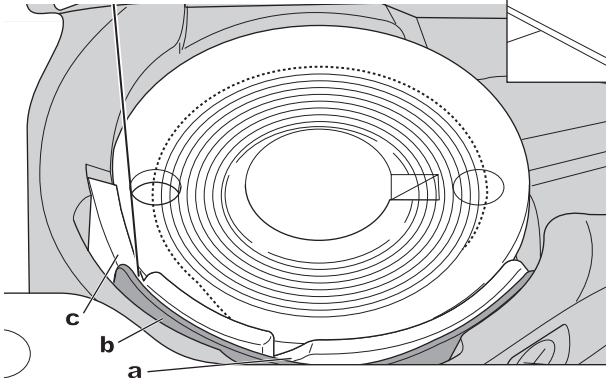
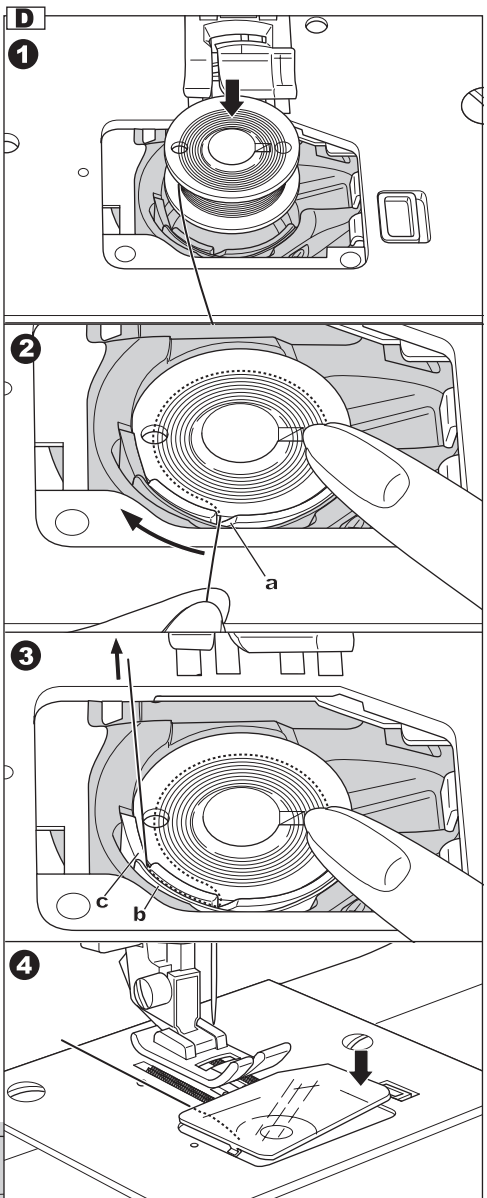
C. WINDING THE BOBBIN

1. Hold thread in both hands and hook thread to the guide from rear opening.
2. Bring thread frontward and pass through the thread guide plate from right to left.
3. Bring thread to the right and pass thread to the thread guide from under side. Pass through under tension disc in counter-clockwise.
4. Insert thread through hole in bobbin and place the bobbin on bobbin winder spindle. Push bobbin to the right to engage bobbin winder. L.C.D. will indicate the bobbin winding mode.
5. Hold the end of the thread and start the machine by pressing the start/stop button or pressing the foot controller pedal.
6. After the bobbin winds a few turns, stop the machine by pressing the start/stop button or releasing the foot controller pedal. Cut the thread near hole.
7. Start the machine again.
8. The bobbin winding will stop automatically when bobbin is full. (Release the pedal.)
9. Push the bobbin and spindle to the left.
10. Remove the bobbin from the spindle and cut the thread.



D. INSERTING THE BOBBIN

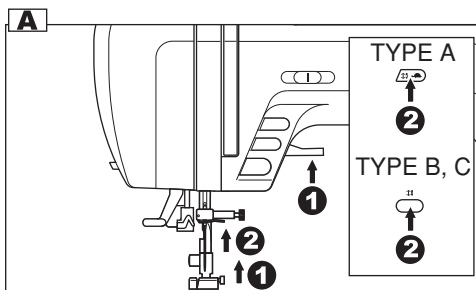
1. Place bobbin into bobbin holder with the thread unwinding counter clockwise.
2. Draw thread into notch (a) with holding the bobbin.
3. Pull thread toward the left and along the inside of spring (b) until it slips into notch (c) being sure that thread does not slip out of notch (a).
4. Pull thread out about 10 cm.
Replace the bobbin cover. Set the left tab into the hole in needle plate and push the right side of bobbin cover down until it clicks into place.



THREADING THE MACHINE

A. PREPARING TO THREAD MACHINE

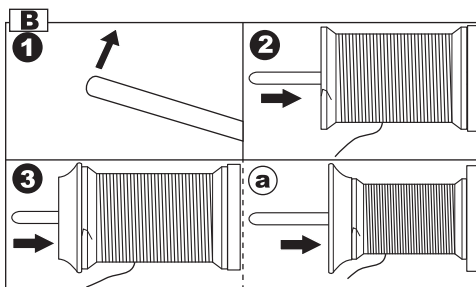
1. Raise the presser foot lifter.
2. Press the needle up-down button and set the needle in up position.
(Keep this position until needle eye threading.)



B. SETTING SPOOL OF THREAD ON SPOOL PIN

Open the top cover and set spool as below.

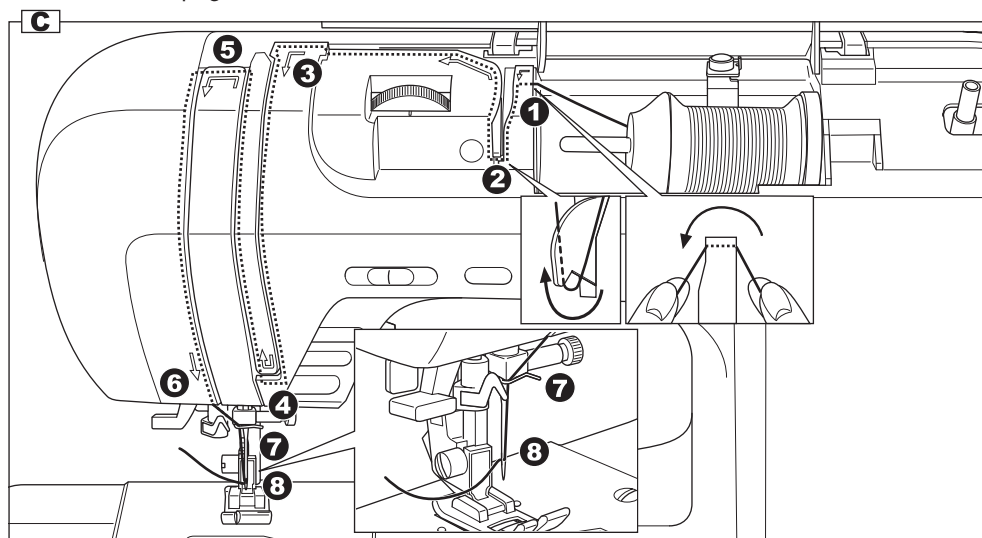
1. Pull up the left end of spool pin.
2. Set the spool of thread on spool pin so that the thread unrolls from the front of the spool.
3. Set the spool cap on spool pin as far as it will go.
a: Reverse spool cap direction according to the size of spool.



C. THREADING THE UPPER THREAD

1. Hold thread in both hands and pass thread to the guide from rear opening.
2. Bring thread frontward and pass through the thread guide plate from right to left.
3. Bring thread to the left and pull down thread toward you along the slit.
4. Bring thread right to left and pull up thread.
5. To thread the take-up lever, draw thread up and bring thread back down again from right to left along the slit.
6. Pull thread downward along the slit.
7. Draw thread through thread guide from right side opening.
8. Pass through needle eye from front to back.

Refer to next page for instructions on how to use needle threader.



D. THREADING THE NEEDLE EYE

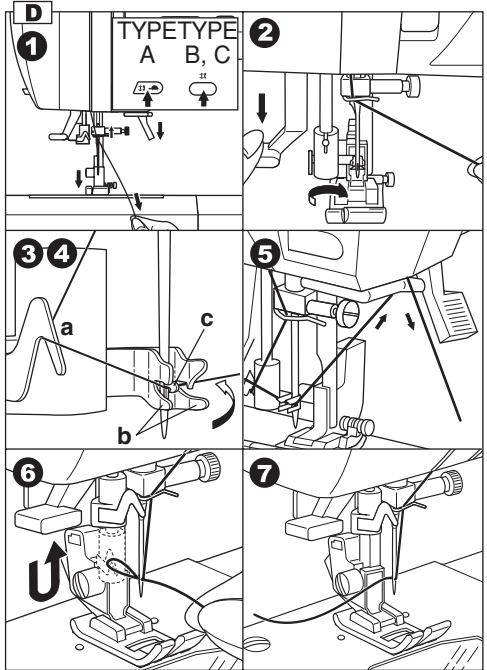


CAUTION: To prevent accidents.

Do not rotate the hand wheel when threader lever is lowered.

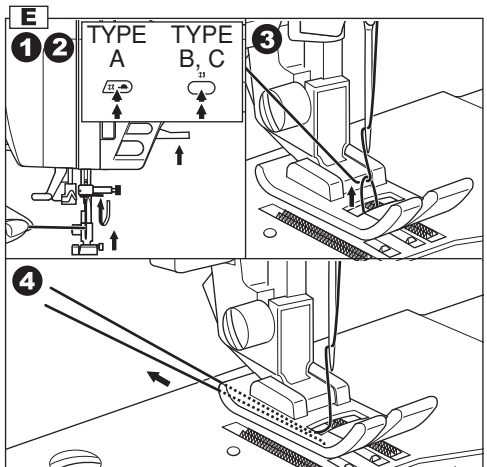
Note: The needle threader is used for needle sizes 11/80 - 16/100 and thread sizes 50-100.

1. Pull thread from needle bar thread guide until front of extension table.
Lower the presser foot.
NOTE: Check that the needle is raised.
If it is not so, raise needle by pressing needle up-down button.
2. Lower the threader lever.
Lever will stop at lower position.
The threader will turn and the hook pin will go through the needle eye.
3. Draw thread through thread guide (a) and pull toward the right.
4. Draw thread into the guide (b).
Thread will be hooked to the (c).
5. Hook the thread to the thread cutter from back to front. Pull and cut thread.
6. Lower the lever once more and release the lever. Hook will turn and pass thread through needle eye while making a loop.
7. Pull thread out about 10 cm from needle eye.



E. DRAWING UP THE BOBBIN THREAD

1. Raise the presser foot.
2. Hold thread loosely and press needle up-down button twice from up position.
The hand wheel will turn one complete turn.
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.



STARTING TO SEW

The machine will be set to sew straight stitch when power switch is turned on.

TYPE A	1	---
TYPE B	1	---
TYPE C	01	●



CAUTION: To prevent accidents.

While sewing, special care is required around the needle.

As machine automatically feeds the fabric, do not pull nor push fabric.

A. START AND END OF SEAM

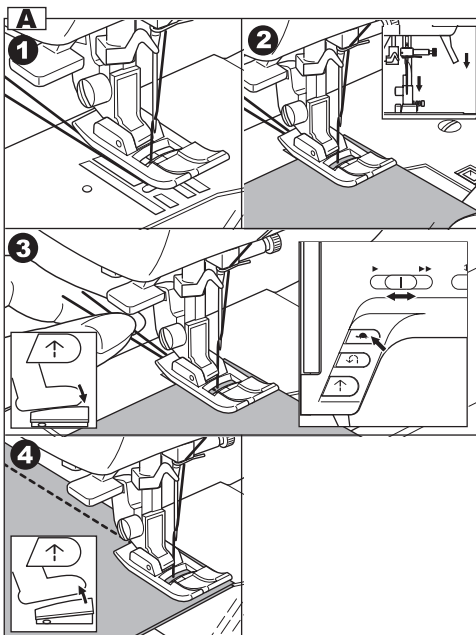
1. Check the presser foot [Regular Foot (A)]. Refer to page 6 for changing the presser foot.
2. Place the fabric under the presser foot and lower the presser foot.
3. Hold back both threads and press the start/stop button or press the foot controller pedal.
Keep holding threads after sewing a few stitches.
Lightly guide the fabric while sewing.
You can regulate the sewing speed by sliding the speed control button.
Also, you can reduce the sewing speed by pressing the slow button.
4. When you reach end of seam, press the start/stop button to stop sewing or release the foot controller pedal.

- TYPE A -

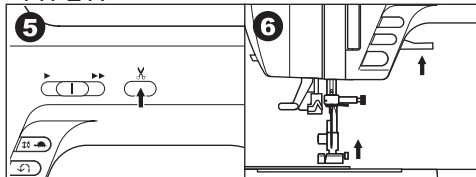
5. Press the thread cutter button.
6. Raise the presser foot lifter and remove the fabric.

- TYPE B, C -

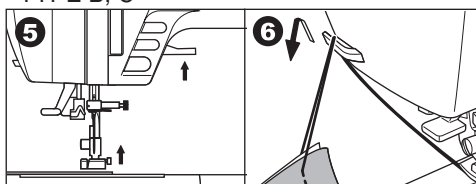
5. Raise the presser foot lifter.
6. Remove the fabric and cut threads with the thread cutter, back to front.



- TYPE A -



- TYPE B, C -



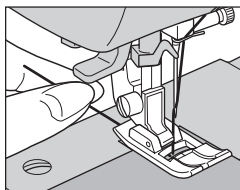
- TYPE A ONLY -

CAUTION

1. 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.
2. Do not use the thread cutter button when cutting thread thicker than #30, nylon thread or other speciality threads. In this case, use the thread cutter located on the left side of the machine. (See page 9)

NOTE

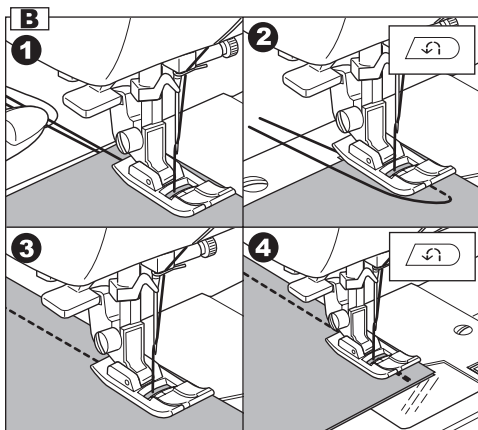
After you cut the threads by using the thread cutter button, hold upper thread only at the next starting of seam. (No need to draw up the bobbin thread)



B. REVERSE STITCHING

Reverse stitching is used for reinforcing the ends of the seams.

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. (Press the foot controller pedal if attached) Sew 4-5 reverse stitches.
3. Release the reverse button and press the start/stop button (or press the pedal) 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:

- TYPE A -

The pattern No. 3 and No. 4 have a built-in reverse stitch. See page 29 to sew this stitch.

- TYPE B -

The pattern No. 2 have a built-in reverse stitch. See page 29 to sew this stitch.

- TYPE C -

The pattern No. 03 and 04 have a built-in reverse stitch. See page 29 to sew this stitch.

C. AUTO TACK STITCH

You can sew tack stitch at the beginning and end of the stitch.

1. Press the Tack button.
 - TYPE A, B -
Tack mark "⊙" will appear on the L.C.D..
 - TYPE C -
Tack stitch indicator will turn on.
2. Start to sew.
Machine will sew tacking automatically and start to sew the selected pattern.
3. When you reach the end of seam, press the reverse button once.
Machine will sew tacking and stop automatically.
4. If you want to cancel this function, press the tack button again.
 - TYPE A, B -
Tack mark will disappear.
 - TYPE C -
Tack stitch indicator will turn off.

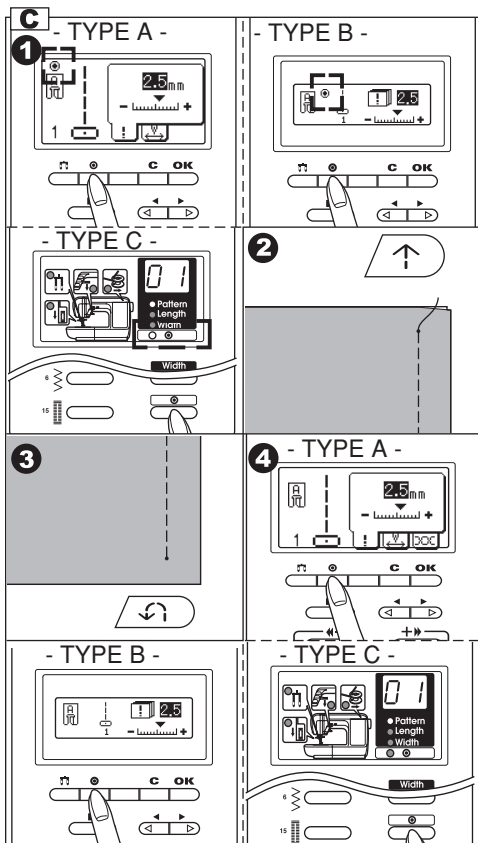
- TYPE A, B -

This function can use all utility patterns.

- TYPE C -

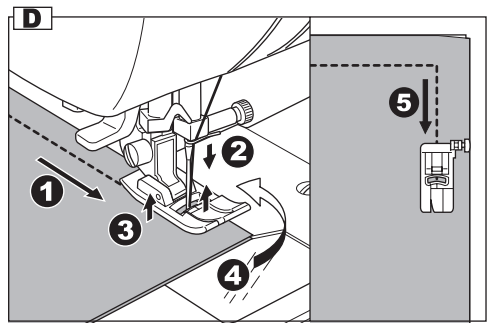
You can sew tack stitch manually by selecting the pattern No. 99.

This stitch will sew tack stitch only and stop automatically.



D. TURNING CORNERS

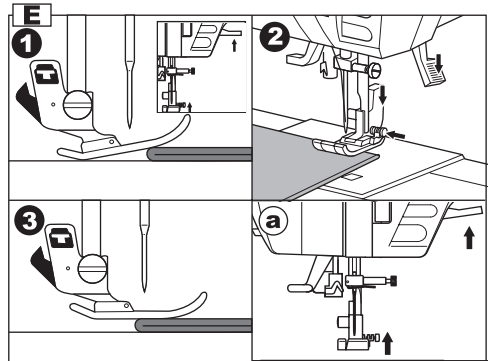
1. Stop the machine when you reach a corner. The machine will stop the needle into the fabric.
2. Raise the presser foot.
3. Use the needle as a pivot and turn fabric.
4. Lower the presser foot and resume sewing.



E. SEWING HEAVY FABRIC

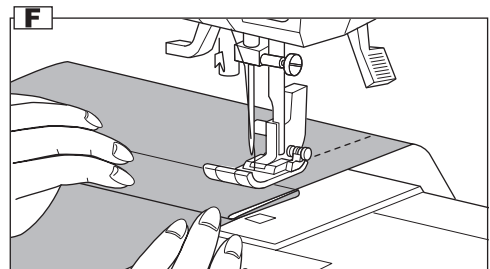
When sewing heavy fabrics, the toe end of presser foot tends to lift up and sewing cannot be started smoothly. In such case, set as follows.

1. Raise the presser foot.
 2. Push the lock button located on the right side of regular foot and lower the foot.
 3. Start sewing.
As presser foot hinge is locked, fabric will be feeded smoothly.
- a. The presser bar lifter can be raised 1step higher for placing heavy materials under the presser foot easily.



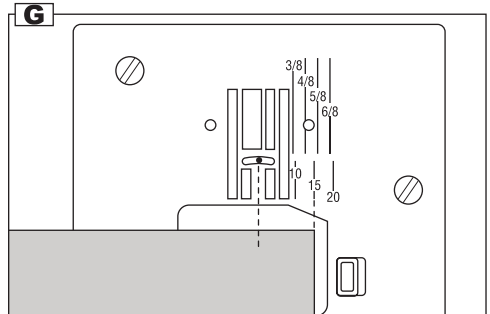
F. SEWING OVER OVERLAPPED AREAS

Guide the fabric with your hand when sewing over overlapped areas.



G. 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.



- TYPE A -

THREAD TENSION

This machine adjust the thread tension automatically when pattern is selected. However you can change the thread tension as follows.

1. Press the tab button until tension mode will appear.
2. To increase the upper thread tension, press the Up (+>>) button.
To decrease the upper thread tension, press the Down (<<-) button.

Preset tension is "0" (highlighted).
The mark "▼" is indicating the absolute thread tension.

When another stitch pattern is selected, thread tension will return to preset.

A. Preset thread tension

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

B. When thread tension is increased.

Bobbin thread will appear on the top side of fabric.

C. When thread tension is decreased.

Upper thread will appear on the bottom side of fabric.

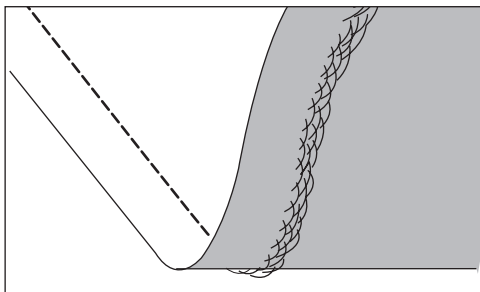
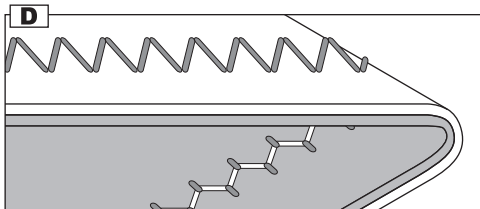
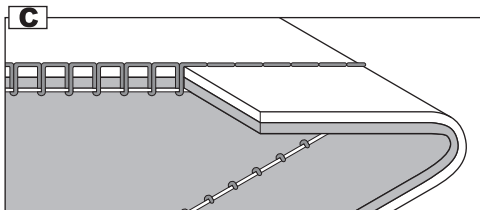
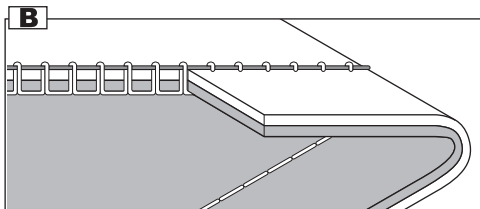
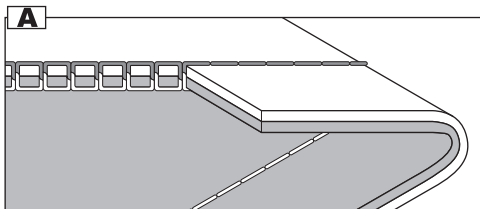
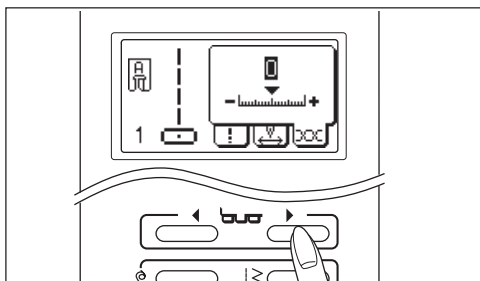
D. Thread tension except for straight stitch

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

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

E. Helpful Hints

1. If your sewing appears as shown on drawing, stitches on top side of fabric are good but bottom side tends to look like a towel, it could be that the upper thread is not threaded correctly. Refer to page 22 for correct threading.
2. Although the thread tension is preset, bobbin thread appear on top side of fabric, it could be that the bobbin setting is no correctly. Refer to page 21 for correct setting.



- TYPE B, C -

ADJUSTING THE THREAD TENSIONS

Normally, when upper thread regulating dial is set to [AUTO], thread tensions will be satisfactory for most all sewing.

If it is difficult to obtain correct tensions depending on the type of fabric and threads being used, adjust the upper thread tension dial to settings shown below.

A. Correct Thread Tensions

Upper and bobbin threads should lock approximately in the middle of fabric.

B. When bobbin thread appears on top side of fabric.

Turn the tension dial to the left (-).

C. When upper thread appears on the bottom side of fabric.

Turn the tension dial to the right (+).

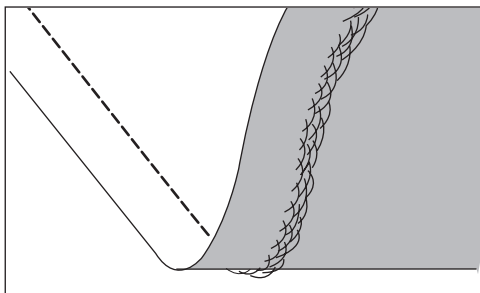
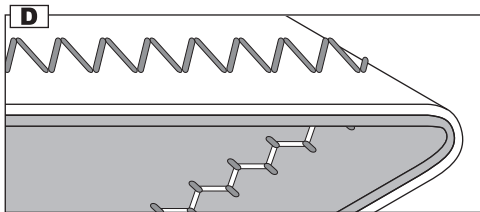
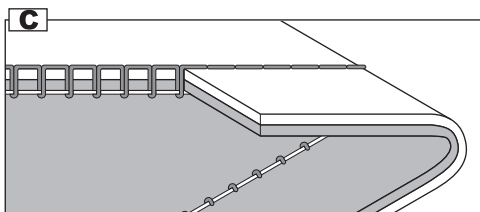
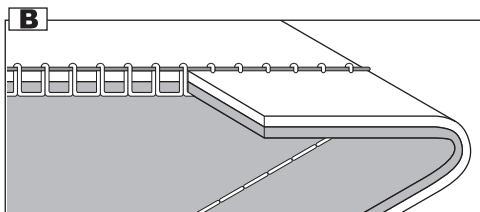
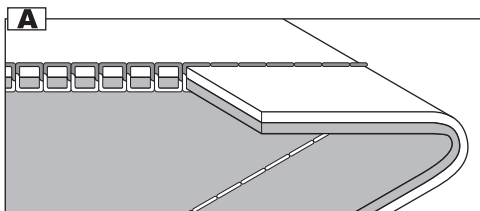
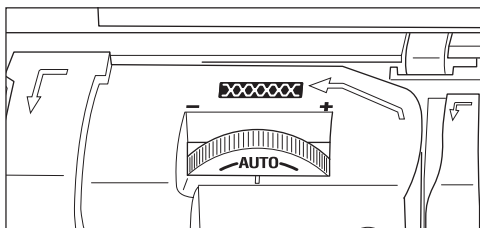
D. Thread Tension for Zigzag Stitches

To sew zigzag stitches, the thread tension should be set to a slightly weaker tension than when sewing straight stitches.

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

Helpful Hint

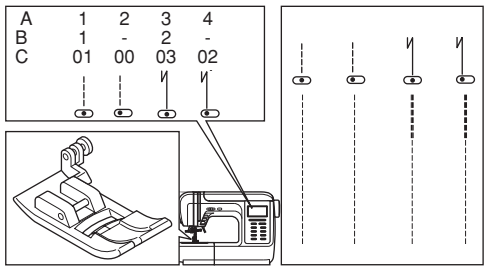
If your sewing appears as shown on drawing, stitches on top side of fabric are good but bottom side tends to look like a towel, it could be that the upper thread is not threaded correctly (especially threading of the upper thread tension regulator may not be correct.) Refer to page 22 for correct threading.



STRAIGHT STITCH SEWING

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

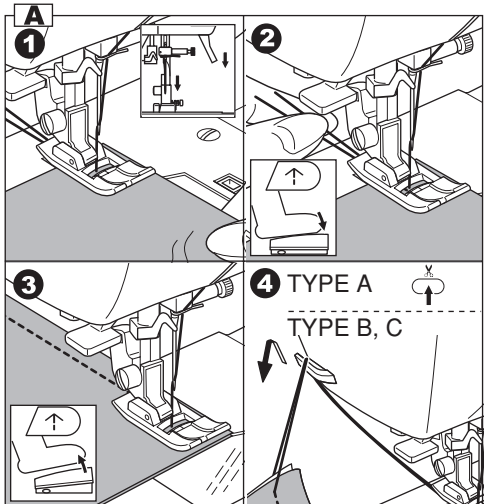
A	B	C	
1	1	01	Straight stitch (center needle position)
2	-	00	Straight stitch (left needle position)
3	2	03	Straight stitch with auto-reverse stitch (center needle position)
4	-	02	Straight stitch with auto-reverse stitch (left needle position)



Regular Foot (A)

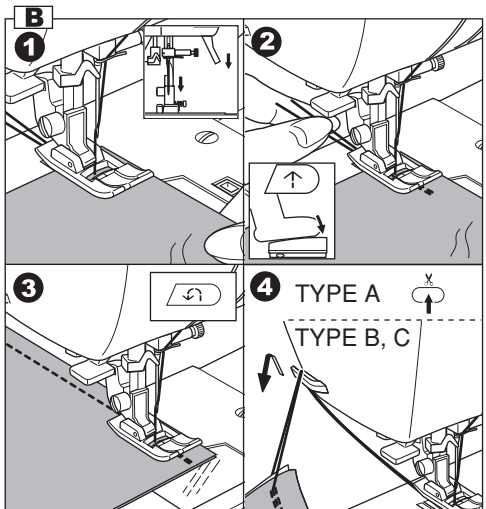
A. Straight Stitch

1. Position the fabric under the presser foot and lower it.
2. Hold the upper thread and bobbin thread loosely and start sewing.
Place hand lightly on the fabric while sewing.
3. When you reach the end of seam, stop sewing.
4. - TYPE A -
Press the thread cutter button.
- TYPE B -
Raise the presser foot and cut thread.



B. Straight Stitch With Auto-reverse Stitch

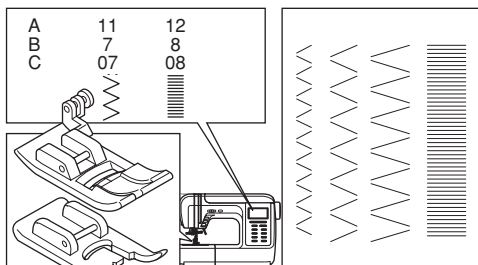
1. Position the fabric under the presser foot and lower it.
2. Hold the upper thread and bobbin thread loosely and start sewing.
Machine will sew 4-5 stitches forward and sew 4-5 stitches backward and continue sewing forward.
3. When you reach the end of seam, press the reverse button once.
Machine will sew a few stitches backward and sew a few stitches forward and stop automatically.
4. - TYPE A -
Press the thread cutter button.
- TYPE B -
Raise the presser foot and cut thread.



ZIGZAG STITCH SEWING —

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

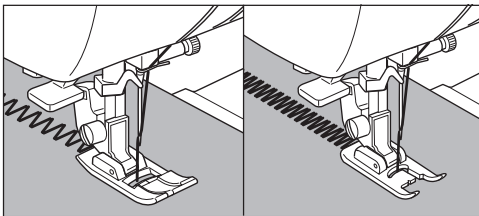
A	B	C	
11	7	07	Zigzag Stitch: Regular Foot (A)
12	8	08	Satin Stitch: Satin Foot (B)



Zigzag stitches are very good for joining two pieces of fabrics and sewing various decorative patterns.

SATIN STITCHING

When machine is set to satin stitch, it will preset to closer stitches than the normal zigzag stitch. Attach the satin foot for this stitch.

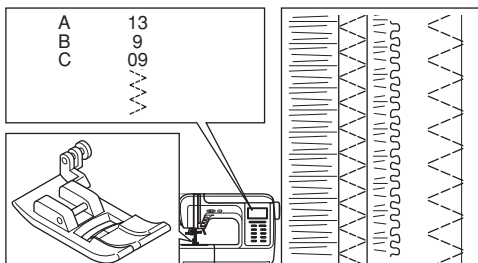


MULTI-STITCH ZIGZAG —

Used for sewing on elastic band and overcast stitching on knit fabrics.

A	B	C	
13	9	09	Multi-Stitch Zigzag

Regular Foot (A)

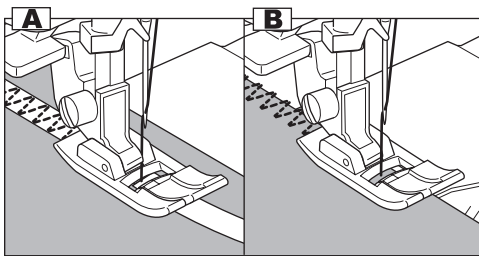


A. Elastic Band Sewing

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

B. Overcast Stitching

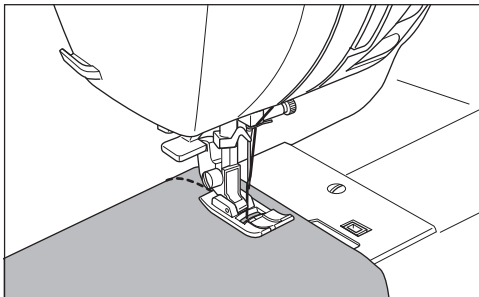
Used for easy to ravel and knit fabrics. Needle should fall on extreme edge of fabric. Refer to page 31 for overcast.



FREE ARM SEWING —

By simply removing the extension table, machine becomes a free arm machine making hard to reach areas readily accessible.

Refer to page 6 for Removing The Extension Table.



OVERCASTING- OVERLOCKING

A. USING THE OVERCASTING FOOT

A	B	C	
11	7	07	Stitch Width 5.0-6.0
15,16,17	11,12,13	11,12	Stitch Width 5.0-7.0
18,19	14,15	14,15	

Overcasting Foot (C)

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

- This pattern is used for preventing ravelling of fabrics.
- These patterns can sew overcasting and regular stitches at the same time. Therefore it is convenient for sewing easy to ravel and stretch fabrics.
- This pattern is suitable for overcasting thin or lightweight fabrics.



CAUTION: To prevent accidents.

Overcasting foot should be used for sewing above patterns only and do not change the stitch width narrower than 5.0. It is possible that needle could hit the presser foot and break when sewing other patterns and width.

B. USING THE REGULAR FOOT

A	B	C
11, 13	7, 9	07,09,13

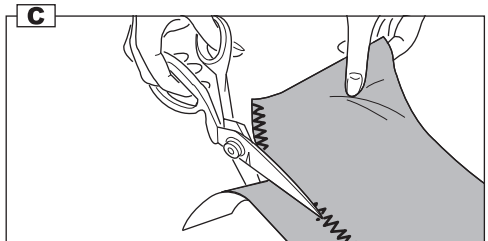
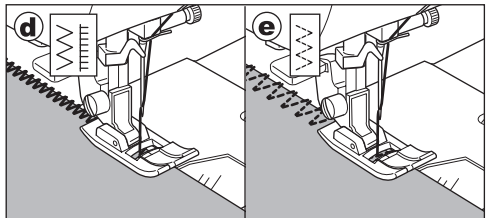
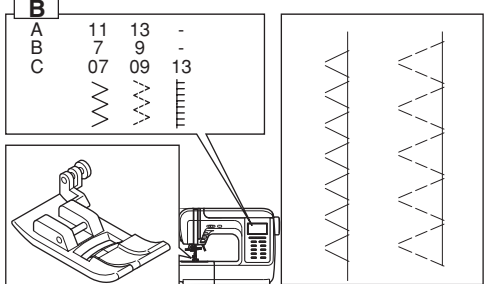
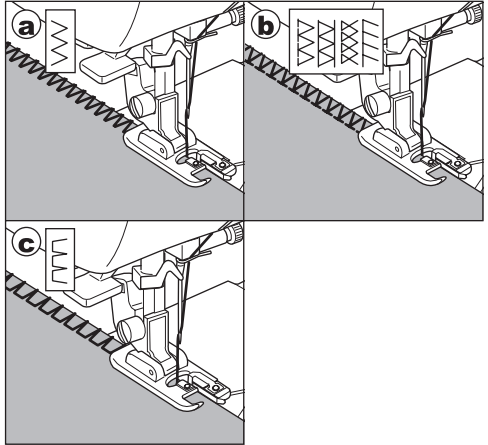
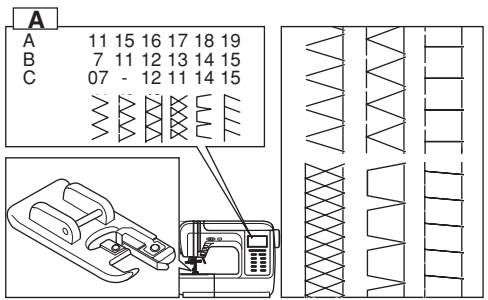
Regular Foot (A)

Place fabric so that needle will fall nearest to edge of fabric when using the Regular Foot.

- For narrower zigzag width (Width=2.0-4.5).
- When sewing easy to ravel or stretch fabrics.

C. NOTE:

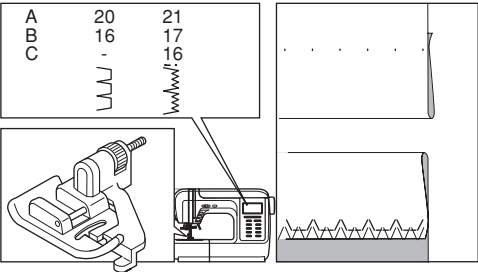
You can also cut off the excess material after sewing the inside of fabric.
Be careful not to cut thread when cutting excess materials.



BLIND HEM STITCHING

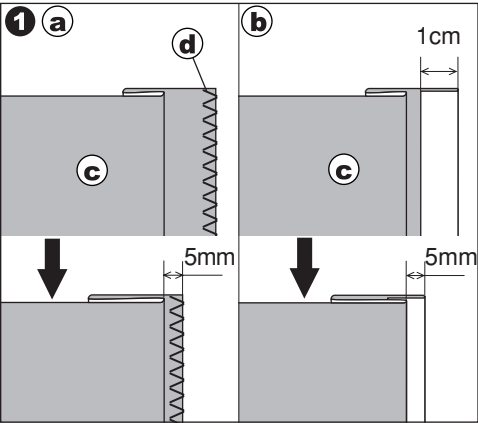
This stitch will sew without stitches showing on right side of fabric.

A	B	C	
20	16	-	Blind hem for regular fabric.
21	17	16	Blind hem for regular or stretch fabric.

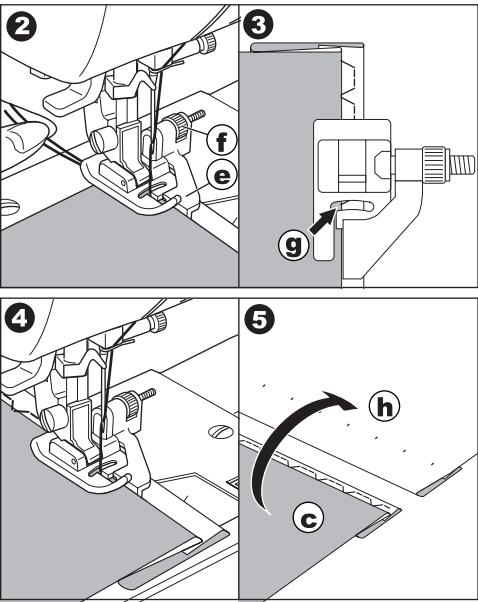


Blind Foot (D)

1. Fold the fabric as shown on drawing.
 - a. Medium, Heavy weight fabric
 - b. Light weight fabric
 - c. Wrong side of fabric
 - d. Overcasting

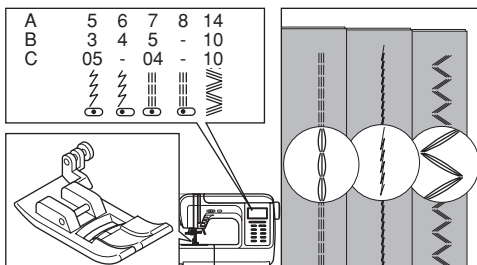


2. The guide (e) on the blind foot ensures even feeding of the fabric when blind hem stitching. The guide (e) is adjusted by turning the adjusting screw (f).
3. Place fabric so that the straight stitches (or small zigzag stitches) are on the protruding hem edge and the large zigzag stitches just catch one thread of the folded edge (g). Turn the screw so that the guide barely touches the folded edge of fabric.
4. Lower the presser foot and sew hem, guiding fabric evenly along the guide.
5. Turn the fabric over when you have completed sewing.
 - c. Wrong side of fabric
 - h. Right side of fabric



ELASTIC STITCH SEWING.

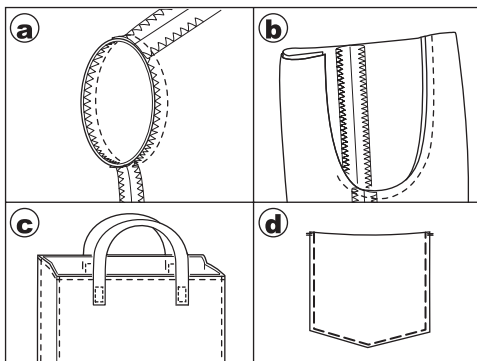
It assures you of a stitch that is strong and flexible and will give with the fabric without breaking. Good for easy to ravel and knit fabrics. It is good for joining durable fabrics such as denims.



- | A | B | C | |
|----|----|----|--|
| 5 | 3 | 05 | Stem stitch for stretch fabrics (Center needle position) |
| 6 | 4 | - | Stem stitch for stretch fabrics (Left needle position) |
| 7 | 5 | 04 | Straight stretch stitch (Center needle position) |
| 8 | - | - | Straight stretch stitch (Left needle position) |
| 14 | 10 | 10 | Rick-rack Stitch |

Regular Foot (A)

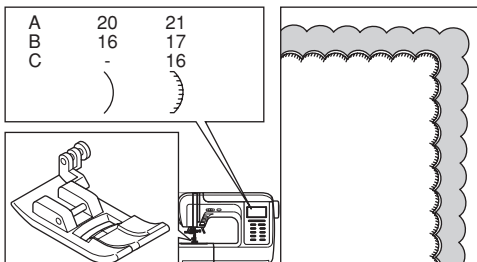
We recommend that you use a needle for knit and synthetic fabrics to prevent stitch skippings and thread breakages.



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

SCALLOP STITCH

- | A | B | C | |
|----|----|----|----------------|
| 27 | 21 | 20 | Scallop hem |
| 28 | 22 | 21 | Scallop edging |

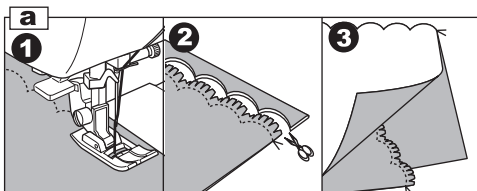


Regular Foot (A)

This stitch is used to sew edge on women and children's wear and table cloths.

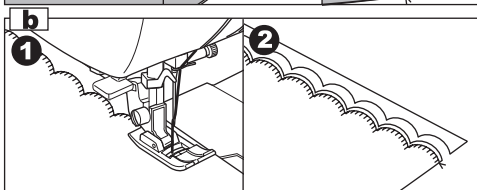
a. SCALLOP HEM

1. Fold the fabric right sides together in and sew along the edge.
2. Cut the fabric along the seam leaving an allowance of 3 mm (1/8") for seaming. Notch the allowance.
3. Turn fabric over and push out the curved seam to the surface and press it.



b. SCALLOP EDGING

1. Sew on hem line.
2. Trim fabric close to stitching taking care not to cut the thread.



INSERTING ZIPPERS

CENTERED INSERTION

A	B	C
1	1	01

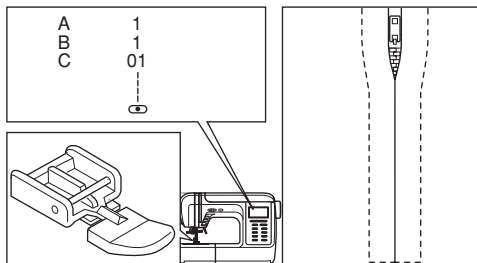
Straight stitch (center needle position)

Zipper Foot (E)

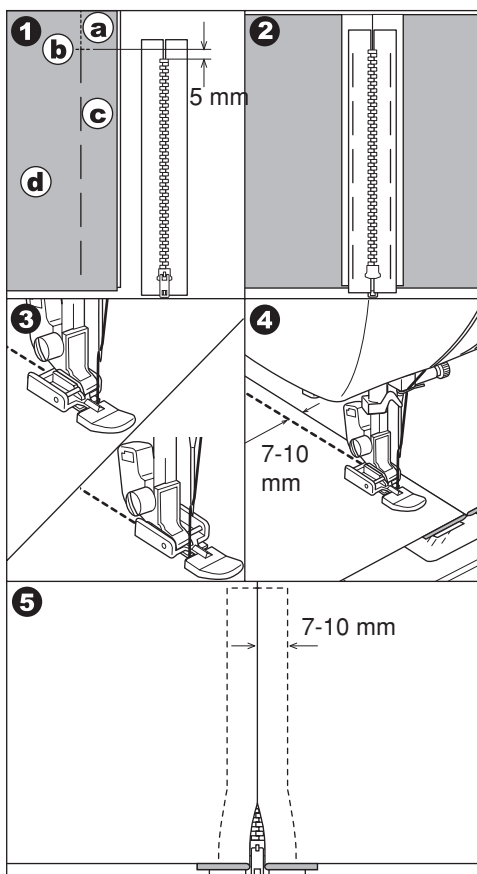


CAUTION: To prevent accidents.

Zipper foot should be used for sewing center needle position straight stitch only. It is possible that needle could hit the presser foot and break when sewing other patterns.



1. Baste the zipper opening to the seam line.
a: Top stitch,
b: End of opening,
c: Basting
d: Wrong Side of fabric
2. Press open the seam allowance.
Baste the zipper tape.
Place the open zipper face down on the seam allowance with the teeth against the seam line.
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 bottom to top.
5. Stitch across the lower end and right side of zipper.
Remove the basting and press.



INSERTING ZIPPERS

LAPPED INSERTION

A	B	C	
1	1	01	Straight stitch (center needle position)

Zipper Foot (E)



CAUTION: To prevent accidents.

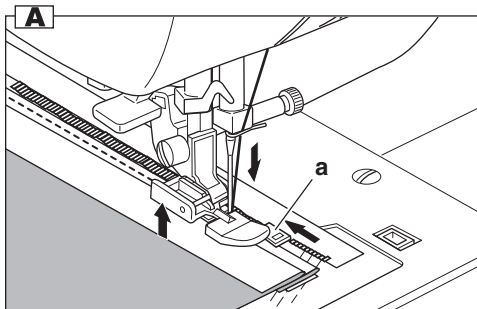
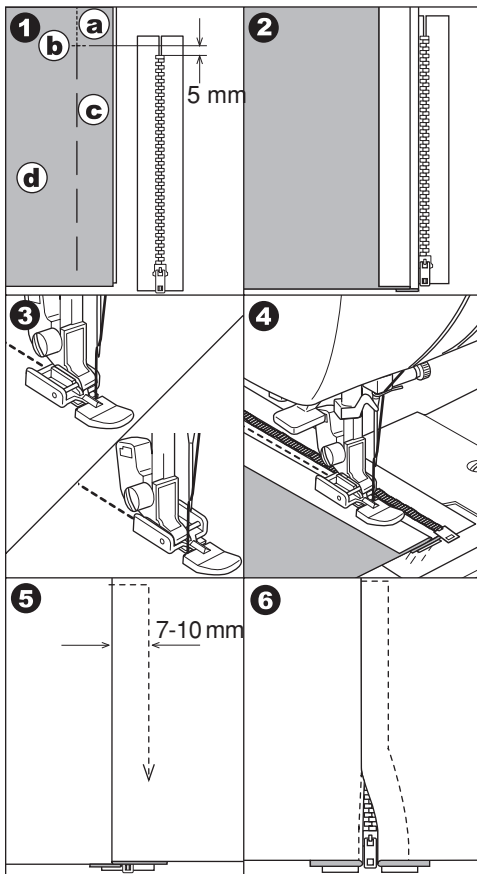
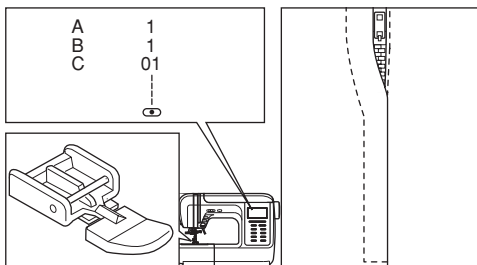
Zipper foot should be used for sewing center needle position straight stitch only. It is possible that needle could hit the presser foot and break when sewing other patterns.

1. Baste the zipper opening to the seam line.
 - 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 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 the left side of zipper from bottom to top.
5. Turn the fabric right side out stitch across the lower end and right side of zipper.
6. Stop about 5 cm from the top of zipper. Remove the basting and open the zipper. Stitch the remainder of the seam.

A. TO OPEN THE ZIPPER WHILE STITCHING

1. Stop stitching before you reach the slider.
2. Lower the needle into fabric.
3. Raise the presser foot and open the zipper.
4. Lower the presser foot and continue stitching.

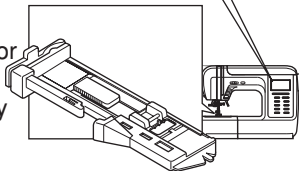
a. Slider



BUTTONHOLE SEWING —

A	B	C	
38	27	33	Bar-tack Buttonhole (Narrow) for light to medium weight fabrics
39	34	-	Bar-tack Buttonhole (Wide) for large buttons
40	35	34	Keyhole Buttonhole for heavy weight fabrics
41	36	-	Keyhole Buttonhole with reinforced bar tack
42	37	-	Tapered Keyhole Buttonhole
43	38	35	Round Ended Buttonhole (Narrow) for light to medium weight fabrics
44	39	-	Round Ended Buttonhole (Wide) for large buttons
45	40	-	Round Ended Buttonhole with cross bar
46	-	-	Both Round Ended Buttonhole
47	-	-	Decorative Buttonhole
48	41	-	Stretch Buttonhole
49	-	36	Heirloom Buttonhole
50	-	-	Bound Buttonhole (See page 38)

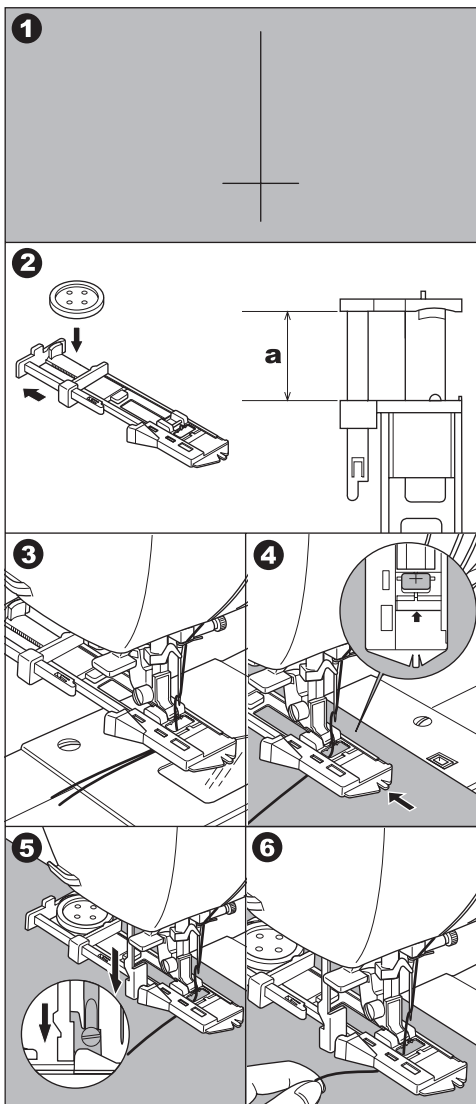
A	38	39	40	41	42	43	44	45	46	47	48	49	50
B	33	34	35	36	37	38	39	40	-	-	41	-	-
C	33	-	34	-	-	35	-	-	-	-	-	36	-

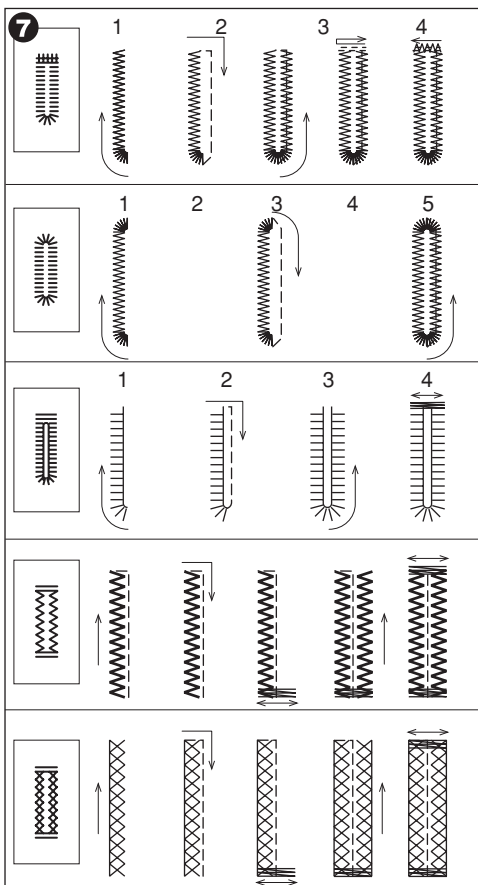
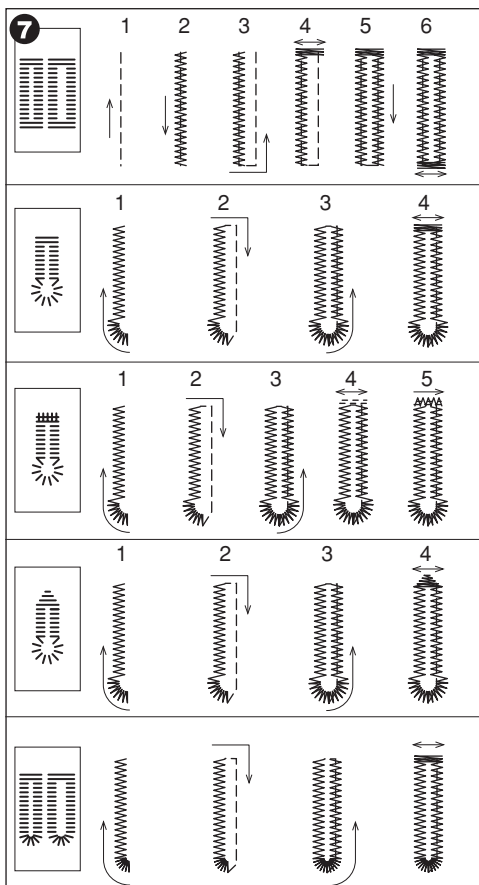


Buttonhole Foot (F)

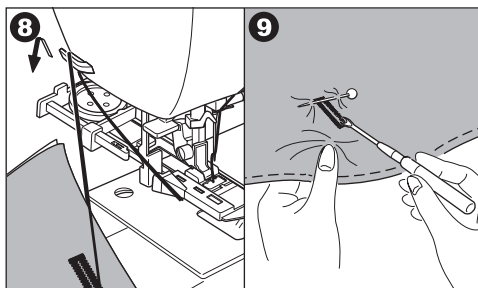
1. Mark position and length of buttonhole on fabric.
2. Set button on the base.
 - * If button does not fit on the base, adjust slide on base to diameter of button plus thickness of button.
$$a = \text{Length of button} + \text{thickness}$$
3. Pass upper thread through the hole of buttonhole foot and bring upper and bobbin threads 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.
5. Lower the buttonhole lever completely.

Note: Machine will not start to sew if buttonhole lever is not lowered properly or buttonhole foot is not positioned correctly.
6. Hold upper thread lightly and start the machine.





7. Machine will sew the buttonhole in the order as shown and stop automatically after sewing.
8. Raise the presser foot and cut thread.
To sew over same buttonhole, raise presser foot to return to original position.
9. Cut center of buttonhole being careful not to cut stitches on either side. Use a pin as a stopper.

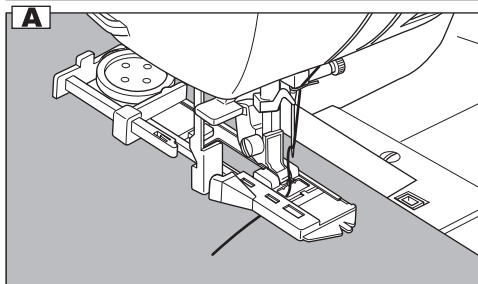


CAUTION: To prevent accidents.
When using seam ripper, do not put your finger in the path of ripper.

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.



- TYPE A ONLY -

BOUND BUTTONHOLE

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

No. 50 Bound Buttonhole

Buttonhole Foot (F)

1. Cut a patch of fabric 2.5 cm wide, 1 cm longer than the finished 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 previous page)
Machine will sew the buttonhole in the order as shown and stop automatically after sewing.

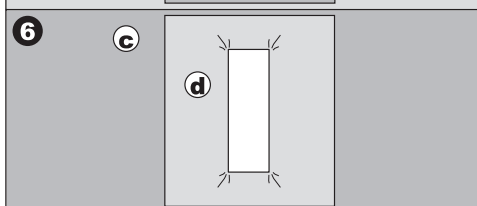
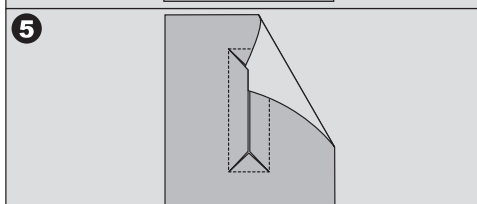
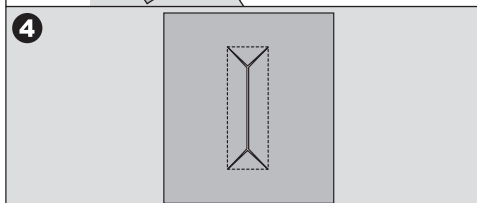
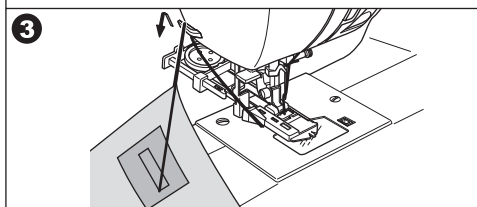
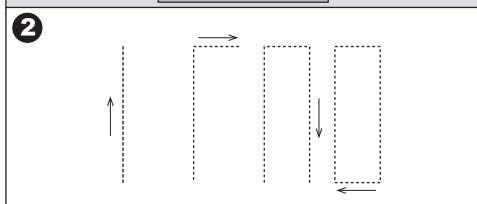
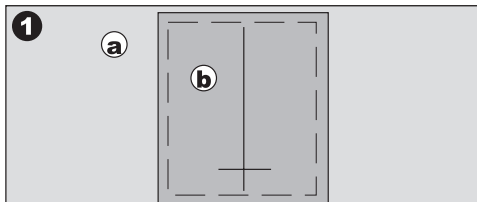
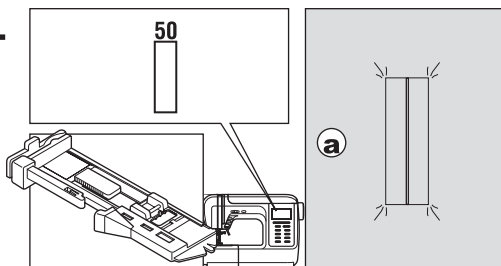
3. Raise the presser foot and cut thread.

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.

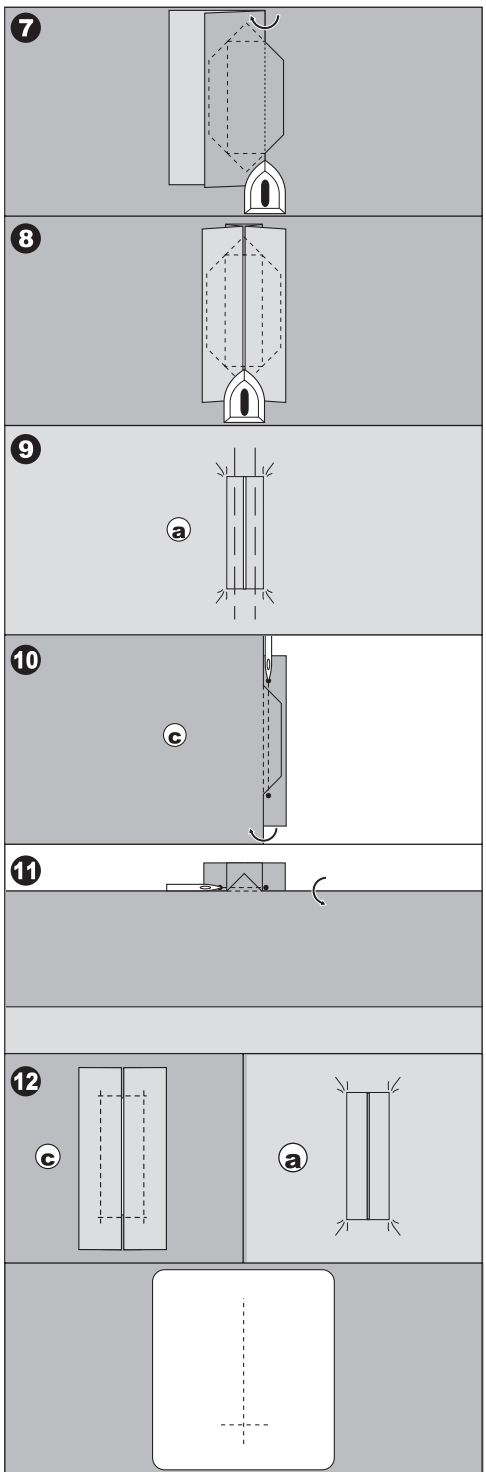
12. Press and trim the patch to within 5 mm of the stitching.

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.



- TYPE A, B -

SEWING ON BUTTONS

A **B**
11 7

Button Sewing Foot

1. Lower the feed dogs 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 and 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 accidents.

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

5. Sew approximately 10 stitches at slow speed.
6. Raise the foot and cut the threads remaining about 2 inches 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.

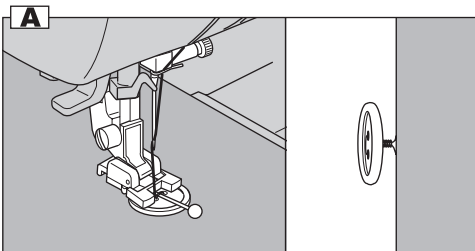
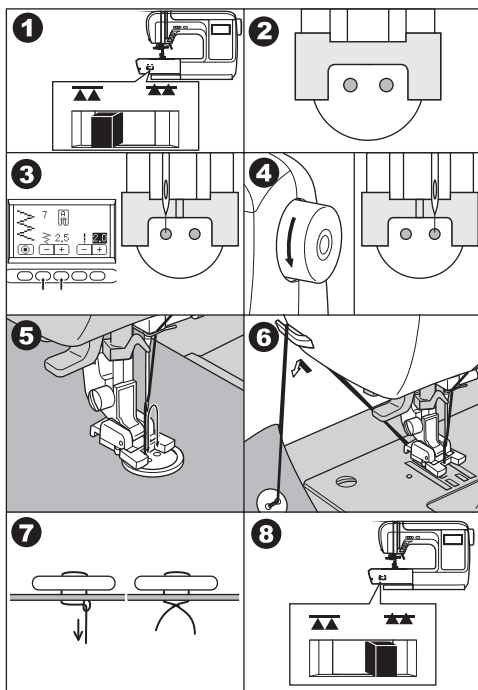
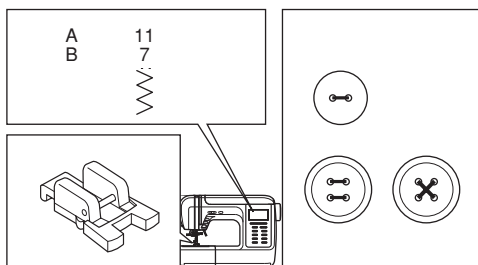
Note:

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.



- TYPE C -

SEWING ON BUTTONS

No. 23 Regular Foot

1. Lower the feed dogs by moving the drop feed lever to the left.
2. Attach the regular foot and align two holes of button with slot of presser foot.
3. Push the button located on the right side of foot and lower the foot to hold the button securely.
4. Adjust the stitch width so that the needle enters the left hole of button.
5. Turn hand wheel by hand so needle enters the second hole. You may need to adjust the stitch width again.

CAUTION: To prevent accidents.
Make sure that the needle does not hit the button during sewing. Otherwise needle may break.

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

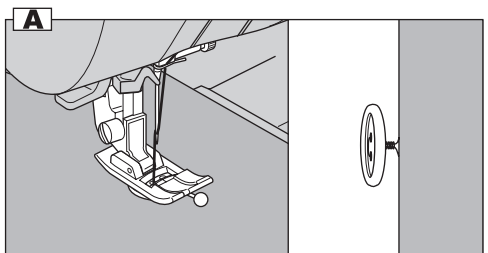
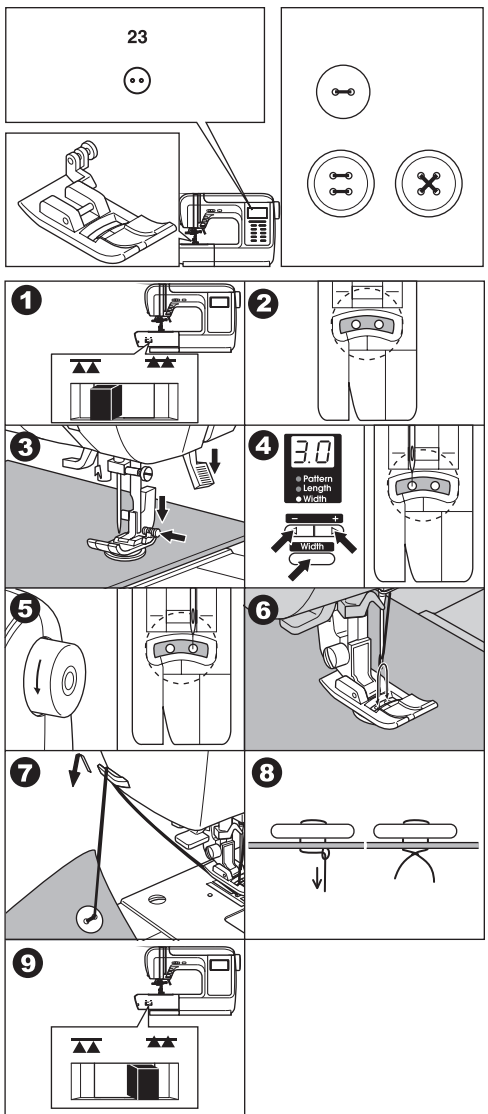
Note:

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.



- TYPE A - 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.

No. 1 Straight stitch (Center Needle Position)

Straight Stitch / Quilting Foot, Quilting Bar

CAUTION: To prevent accidents.
When you use Straight stitch / Quilting foot, do not move the needle position from center.

A. Joining the pieces of fabric

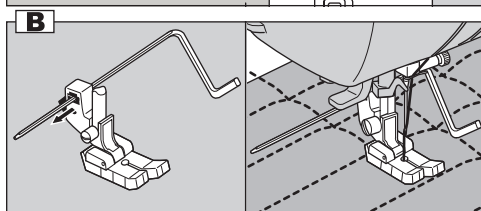
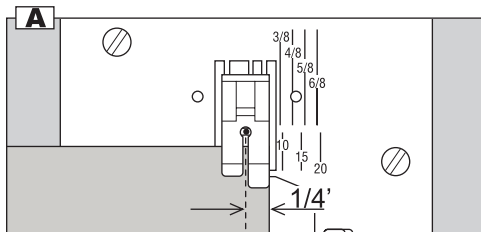
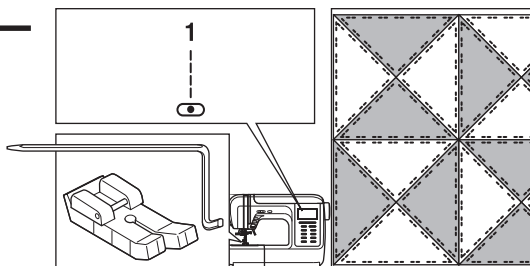
Join the pieces of fabric using Pattern No. 1 with a seam allowance of 1/4 inch (6.3 mm)

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.

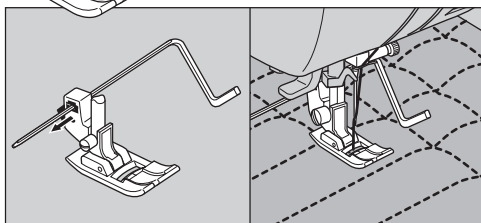
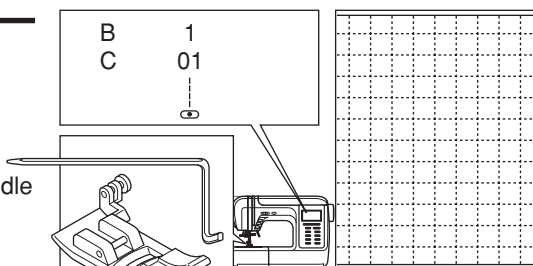


- TYPE B, C - QUILTING

B **C**
1 01 Straight stitch (Center Needle Position)

Regular Foot (A), Quilting Bar

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



HAND LOOK QUILTING STITCH

A	B	C	
9	6	06	Hand look Quilting Stitch (center needle position)
10	-	-	Hand look Quilting Stitch (left needle position)

Regular Foot (A)

Use invisible nylon sewing thread or very lightweight thread that matches the fabric on top.

Place thread that contrasts to the color of the fabric on the bobbin.

- TYPE A -

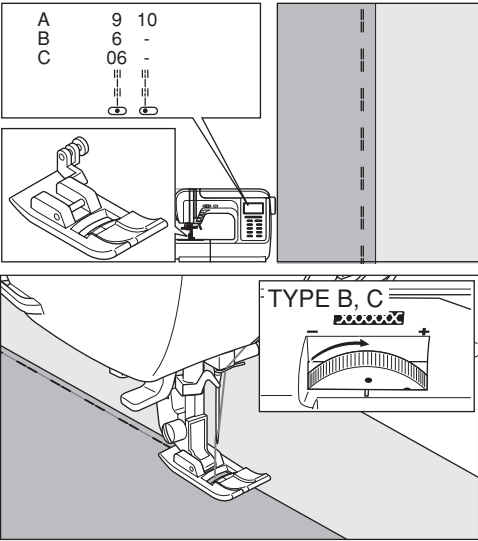
The thread tension will be set to the maximum when this pattern is selected.

When you sew, bobbin thread will pull to the top and give the appearance of a traditional hand quilting stitch.

- TYPE B, C -

Increase the thread tension to the maximum.

When you sew, bobbin thread will pull to the top and give the appearance of a traditional hand quilting stitch.



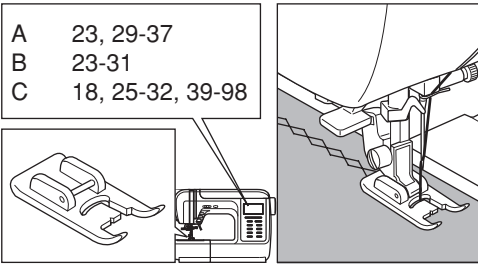
UTILITY DECORATIVE STITCHES

Use for decorative hems and decorative stitching on shirt fronts.

A	B	C
23, 29-37	23-31	18, 25-32, 39-98

Satin Foot (B)

When sewing very thin fabrics, it is suggested that you use interfacing on the backside of fabric.



DECORATIVE AND LETTER STITCH SEWING

This machine has 76 decorative patterns and 2 style letter patterns (Block and script). See page 58 or inside of the top cover [PATTERN CHART]. You can combine and sew them easily.

A. TO SELECT DECORATIVE AND LETTER PATTERN

1. a. DECORATIVE PATTERN:

Press the decorative stitch button.

First 4 patterns of decorative stitch will appear on the center line of L.C.D..

b. LETTER PATTERN

By Pressing the letter stitch button, letter style will change as below.

Block letter

Script letter

- By pressing the tab button, tab group will change incrementally or decrementally. Press these buttons until desired group will appear.
- By pressing the up (+>>) or down (<<-) button, 2-7 patterns will change incrementally or decrementally. Press these buttons until desired pattern will appear.
- Press the cursor (>) or (<) button to highlight the pattern you desire.

Note:

When the most right or left side pattern is highlighted, by pressing the cursor (>) or (<) button, next or previous patterns will appear.

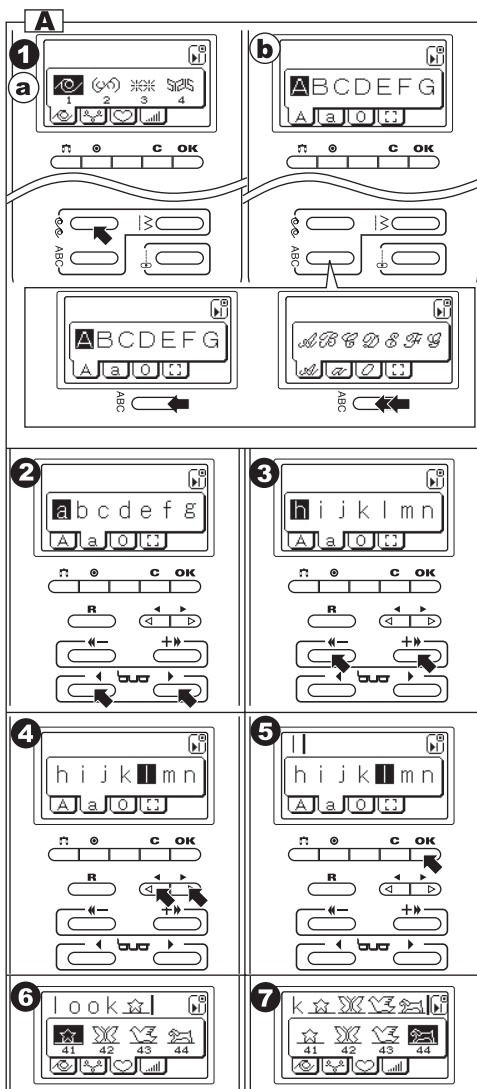
- Press the OK button. One unit of decorative pattern or one letter pattern will be memorized. Selected pattern (unit) will appear on the upper side of L.C.D..

Note:

One unit of decorative pattern is indicated on the page 58.

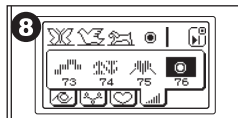
- According to this procedure, select next patterns you desire. L.C.D. will indicate selected patterns on top side in selected order. Machine can memorize 60 patterns maximum.

- As selected patterns over the indicating area, disappear from the screen, you can check them by pressing the Read button. (See below)



8. Note;

The pattern "76" of decorative pattern is Tack stitch. To prevent raveling, it may be better to memorize the tack stitch at the end of decorative pattern. (Letter patterns are having built-in tack stitch.)



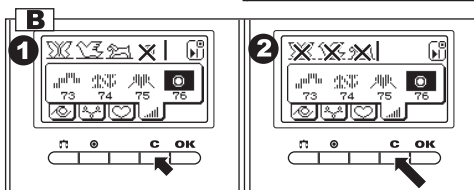
B. TO DELETE SELECTED PATTERN

1. If you selected undesired pattern, press the clear (C) button short time (less than 0.5 sec.).

Machine will delete the last selected pattern.

2. If you want to delete all patterns, press the clear (C) button long time (over 0.5 sec.).

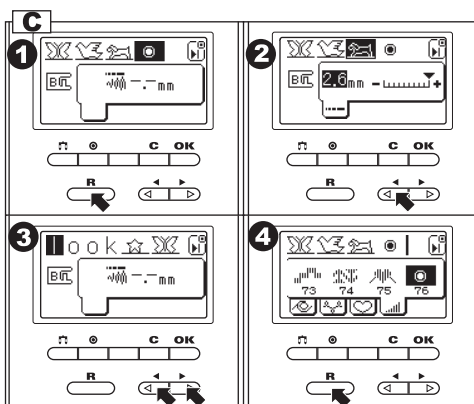
Machine will delete all selected patterns.



C. TO CHECK SELECTED PATTERNS

You can check selected patterns as following.

1. Press the read (R) button.
Last selected pattern will be highlighted.
2. Press the cursor (<) button.
Highlight will move one pattern to the left.
3. Check selected patterns by pressing cursor (<) or (>) button.
4. Press the read (R) button again to return to selecting mode.



D. ADJUSTING STITCH LENGTH AND WIDTH

You can adjust the stitch width and length of each decorative pattern.

1. Press the read (R) button.
2. Select the pattern (highlight) you want to adjust by pressing the cursor buttons.
3. Press the tab button until the mode you want to adjust will appear.

Mode a. Stitch Length can be adjusted.

Mode b. Stitch Width can be adjusted.

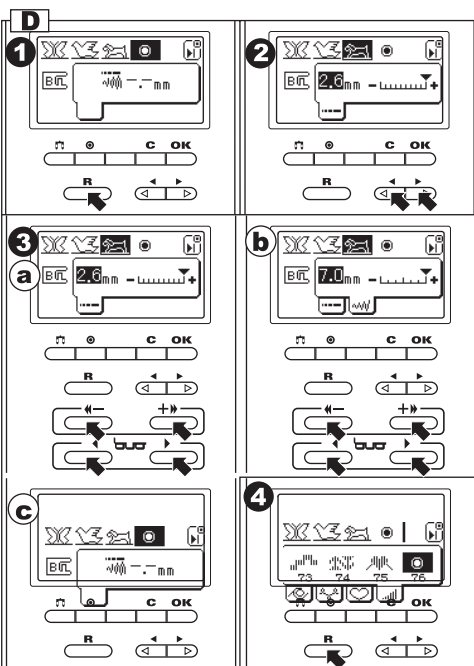
Adjust each setting by pressing the up (+>>) or down (<<-) button.

The procedures to adjust them are same as adjusting utility stitch, see page 13 to adjust the length and width.

Note:

The letter patterns and some decorative patterns can not change the length and width. In this case, the mark c will appear.

4. Press the read (R) button again to return to selecting mode.




E. TO SEW SELECTED PATTERNS


Sewing mode (Single / Repeat)

You can change the sewing mode alternately by pressing the tack button.

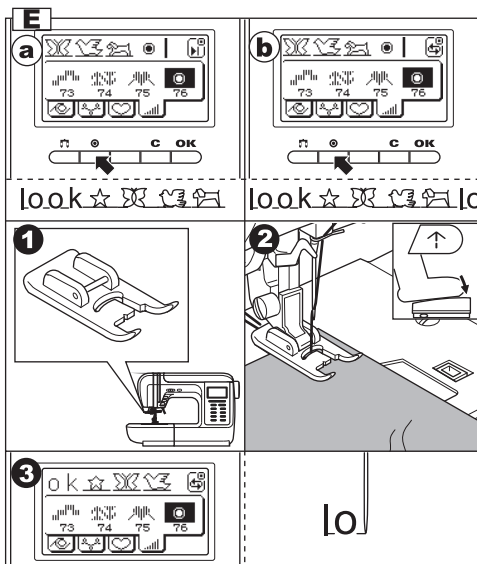
a. Single mode (Pre-set)

The mark “” will appear on the L.C.D.. Machine will stop automatically after sewing selected patterns one time.

b. Repeat mode

The mark “” will appear on the L.C.D.. Machine will sew selected patterns repeatedly until you stop the machine. Set to this mode when you sew one or more decorative pattern repeatedly.

1. Attach the satin foot (B) when sewing decorative and letter stitch.
2. Lower the presser foot and start sewing.
3. Machine will indicate the sewing pattern on the top left side of LCD.



Note

If you change the sewing mode at the middle of sewing, it may change after sewing one memorized patterns completely.

F. TIPS

a. To sew selected patterns from beginning.

When you stop sewing at the middle of patterns, you may want to restart selected patterns.

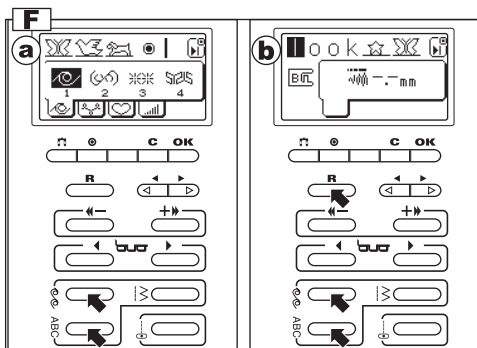
In such case, press the Decorative or Letter stitch button.

b. To recall selected patterns

Machine will be retaining the selected patterns if you select the utility pattern. To recall these patterns, press the Decorative or Letter stitch button and then press the Read button.

Machine will recall selected patterns and set to check mode.

In this case, sewing mode will return to single mode.



DECORATIVE AND LETTER STITCH SEWING

This machine has 48 decorative patterns and 2 style letter patterns (uppercase and lowercase). See page 59 [PATTERN CHART]. You can combine and sew them easily.

A. TO SELECT DECORATIVE AND LETTER PATTERN

1. a. DECORATIVE PATTERN:

Press the decorative stitch button.
First 4 patterns of decorative stitch will appear on the lower line of L.C.D..

b. LETTER PATTERN

By pressing the letter stitch button, letter style will change as below.

Upper Case

Lower Case

2. By pressing the up (+>>) or down(<<-) button, 4 or 6 patterns will change incrementally or decrementally.

Press these buttons until desired pattern will appear.

3. Press the cursor (>) or (<) button to highlight the pattern you desire.

Note:

When the most right or left side pattern is highlighted, by pressing the cursor (>) or (<) button, next or previous patterns will appear.

4. Press the OK button. One unit of decorative pattern or one letter pattern will be memorized.

Selected pattern (unit) will appear on the upper side of L.C.D..

Note:

One unit of decorative pattern is indicated on the page 59.

5. According to this procedure, select next patterns you desire.

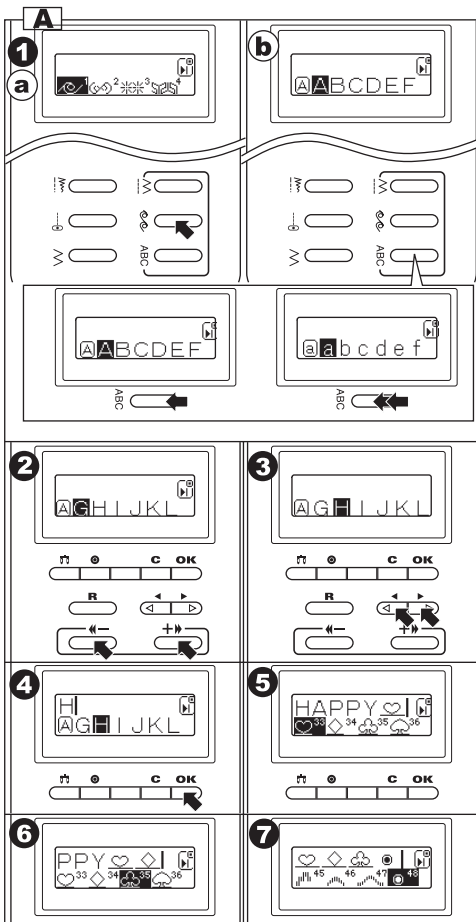
L.C.D. will indicate selected patterns on top side in selected order.

Machine can memorize 40 patterns maximum.

6. As selected patterns over the indicating area, disappear from the screen, you can check them by pressing the Read button. (See below)

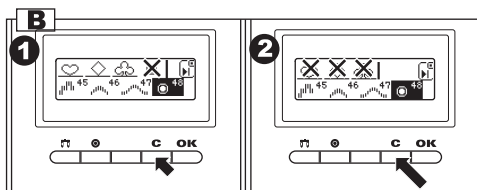
7. Note;

The pattern "48" of decorative pattern is Tack stitch. To prevent ravelling, It may be better to memorize the tack stitch at the end of decorative pattern. (Letter patterns are having built-in tack stitch.)



B. TO DELETE SELECTED PATTERN

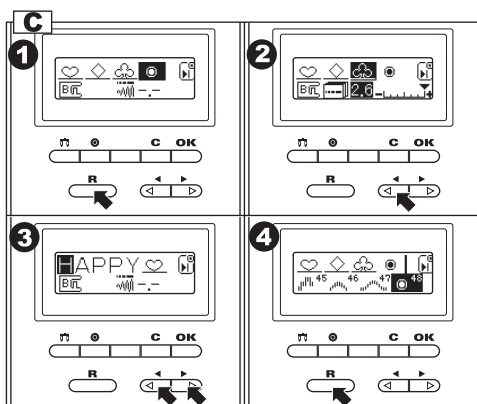
1. If you selected undesired pattern, press the clear (C) button short time (less than 0.5 sec.).
Machine will delete the last selected pattern.
2. If you want to delete all patterns, press the clear (C) button long time (over 0.5 sec.).
Machine will delete all selected patterns.



C. TO CHECK SELECTED PATTERNS

You can check selected patterns as following.

1. Press the read (R) button.
Last selected pattern will be highlighted.
2. Press the cursor (<) button.
Highlight will move one pattern to the left.
3. Check selected patterns by pressing cursor (<) or (>) button.
4. Press the read (R) button again to return to selecting mode.



D. ADJUSTING STITCH LENGTH AND WIDTH

You can adjust the stitch width and length of each decorative pattern.

1. Press the read (R) button.
2. Select the pattern (highlight) you want to adjust by pressing the cursor buttons.
3. Press the length / width button until the mode you want to adjust will appear.
Mode a. Stitch Length can be adjusted.
Mode b. Stitch Width can be adjusted.

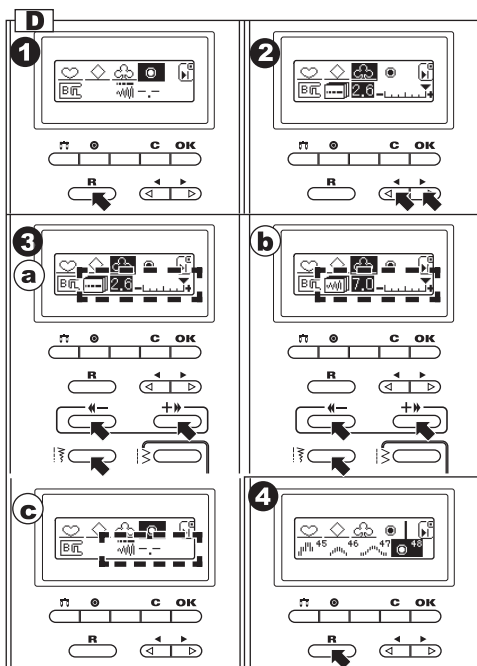
Adjust each setting by pressing the up (+>>) or down (<<-) button.

The procedures to adjust them are same as adjusting utility stitch, see page 15 to adjust the length and width.

Note:

The letter patterns and some decorative patterns can not change the length and width. In this case, the mark c will appear.

4. Press the read (R) button again to return to selecting mode.




E. TO SEW SELECTED PATTERNS


Sewing mode (Single / Repeat)

You can change the sewing mode alternately by pressing the tack button.

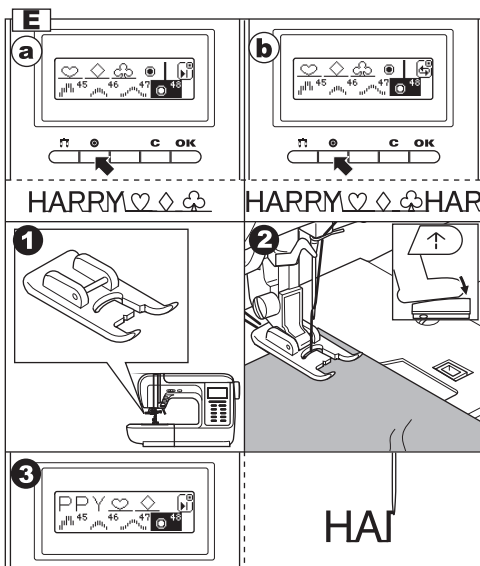
a. Single mode (Pre-set)

The mark “” will appear on the L.C.D.. Machine will stop automatically after sewing selected patterns one time.

b. Repeat mode

The mark “” will appear on the L.C.D.. Machine will sew selected patterns repeatedly until you stop the machine. Set to this mode when you sew one or more decorative pattern repeatedly.

1. Attach the satin foot (B) when sewing decorative and letter stitch.
2. Lower the presser foot and start sewing.
3. Machine will indicate the sewing pattern on the top left side of LCD.



Note

If you change the sewing mode at the middle of sewing, it may change after sewing one memorized patterns completely.

F. TIPS

a. To sew selected patterns from beginning.

When you stop sewing at the middle of patterns, you may want to restart selected patterns.

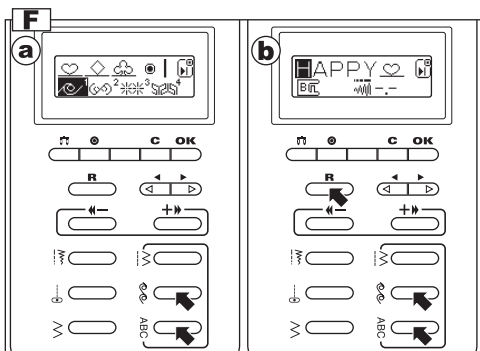
In such case, press the Decorative or Letter stitch button.

b. To recall selected patterns

Machine will be retaining the selected patterns if you select the utility pattern. To recall these patterns, press the Decorative or Letter stitch button and then press the Read button.

Machine will recall selected patterns and set to check mode.

In this case, sewing mode will return to single mode.



APPLIQUE

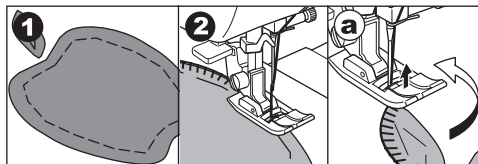
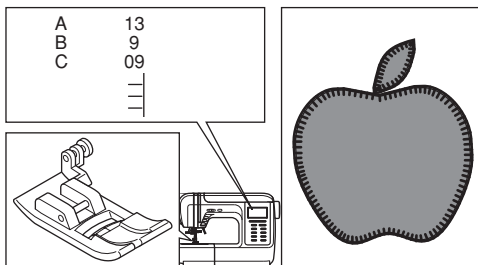
A	B	C
26	18	24

Regular Foot (A)

1. Fix applique on fabric with fabric glue, fusible iron-on or basiting stitches.
2. Sew edge of applique, while dropping the needle as close to the edge as possible. The straight stitch is almost entirely sink-stitched and a hand-made effect is obtained.

a. When sewing sharp angles

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



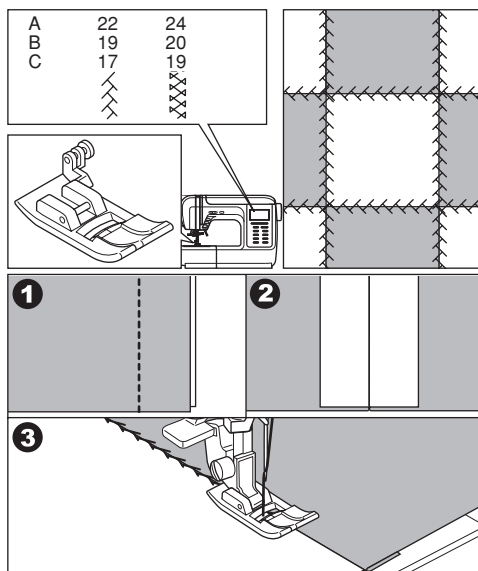
PATCH WORK

For additional decorative purposes, use different kind of materials.

A	B	C
22,24	19,20	17,19

Regular Foot (A)

1. Place two pieces of fabric right sides together and sew a long straight stitch.
2. Press the seam open.
3. Be sure that stitches fall on both sides of fabric.



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.

All patterns except Buttonholes, bar-tack and darning, may be sewn with a twin needle.

Regular or Satin Foot

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.

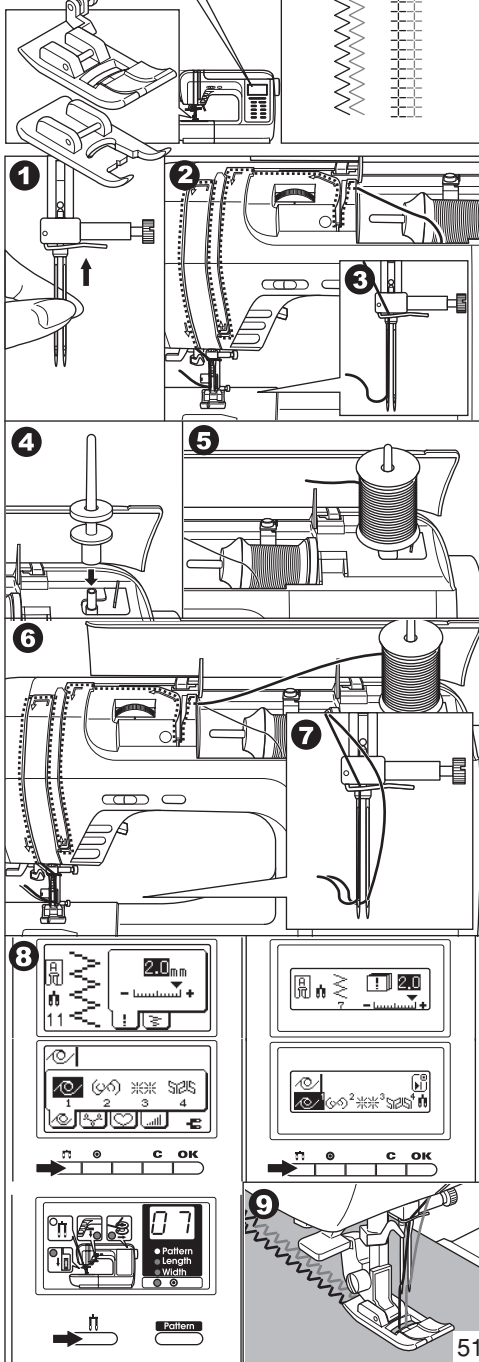
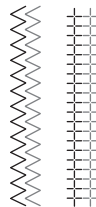
- Remove the single needle and insert twin needle.
- Thread first thread as usual following threading route.
- Thread the left needle eye by hand from front to back.
- Place the Extra Spool Pin with felt washer on bobbin winder spindle.
- Place second spool of thread.
- Thread second thread the same as first.
- 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.
- Press the twin needle button.
 - TYPE A, B - Twin needle mark will appear on L.C.D.
 - TYPE C - Twin needle indicator will turn on.

The stitch width will be reduced automatically.

CAUTION: To prevent accidents.
If you did not press the twin needle button, needle may hit the needle plate and break.

- Always test sew selected stitch,
- Sew project.

All patterns except Buttonholes, bar-tack and darning



AUTOMATIC BAR-TACK / DARNING

You can sew automatic bar-tack and darning using the buttonhole foot.

A	B	C
51	42	37
Bar-tack, to reinforce areas that will be subject to strain, such as pocket corners.		
52	-	38
Darning, mending and other applications.		

Buttonhole Foot (F)

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

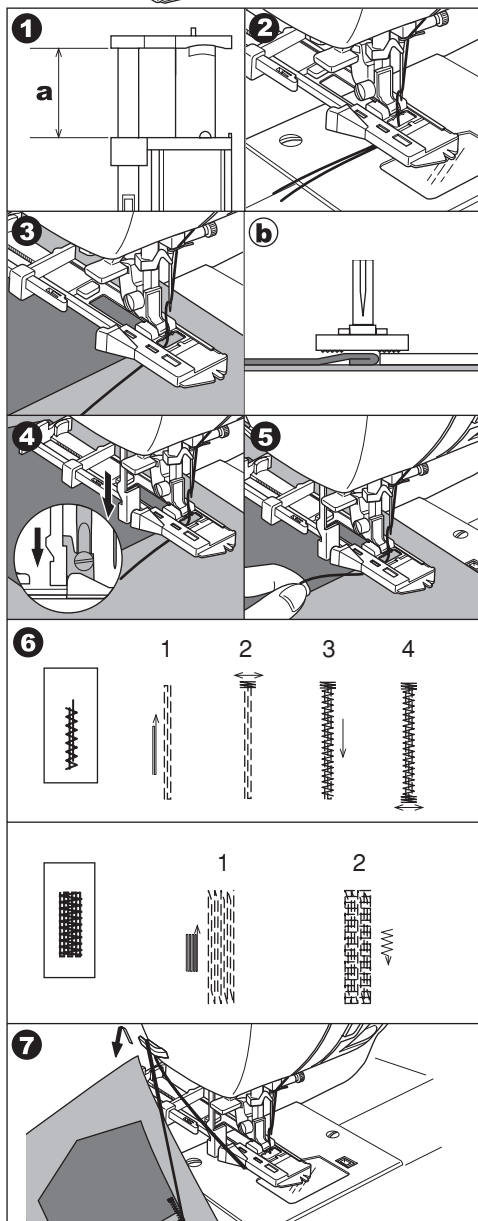
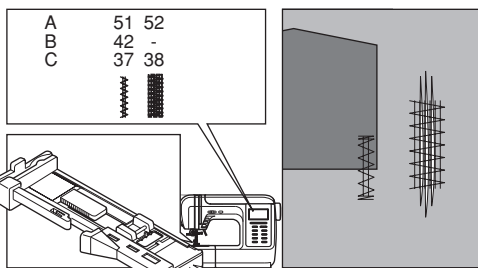
a= Length of bar-tack / darning

2. Pass upper thread through the hole of buttonhole foot and bring upper and bobbin threads to the left.
3. Position fabric under presser foot so that the starting point comes this side. Lower the foot.
- b. When you sew bar-tack on edge of thick fabric such as pocket, place same thickness fabric or cardboard beside the fabric.
4. Lower the buttonhole lever completely.

Note

Machine will not start to sew if buttonhole lever is not lowered properly or buttonhole foot is not positioned correctly.

5. Hold upper thread lightly and start the machine.
6. Machine will sew bar-tack or darning as shown. And machine will stop automatically.
7. Raise the presser foot lifter and cut the threads.

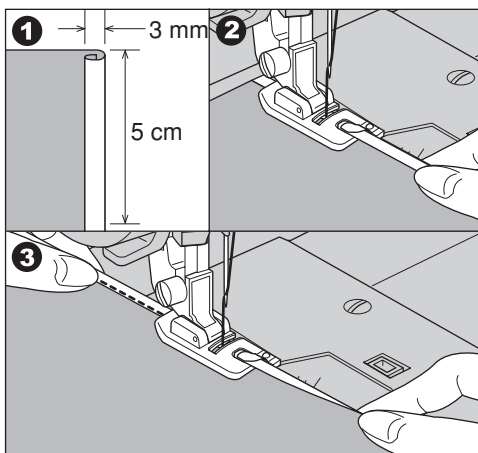
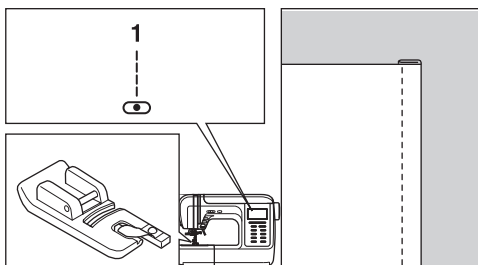


- TYPE A ONLY - NARROW HEMMING

No. 1 Straight Stitch (Center Needle Position)

Narrow Hemming Foot

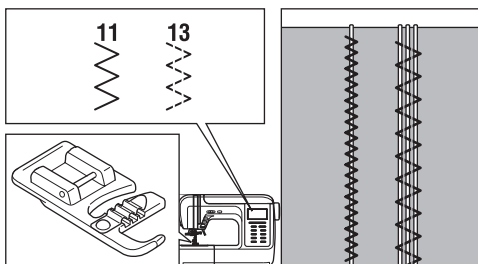
1. Fold edge of fabric over about 3 mm (1/8 inch), then fold it over again 3 mm for about 5 cm (2 inches) along edge of fabric.
2. Insert needle into the fold by rotating the hand wheel toward you, and lower the presser foot. Sew several stitches and raise the presser foot. Insert fabric fold into spiral opening of hemmer foot. Move fabric back and forth until the fold forms a scrolled shape.
3. Lower the presser foot and start sewing slowly with guiding raw edge of fabric in front of hemmer evenly into scroll.



- TYPE A ONLY - CORDING

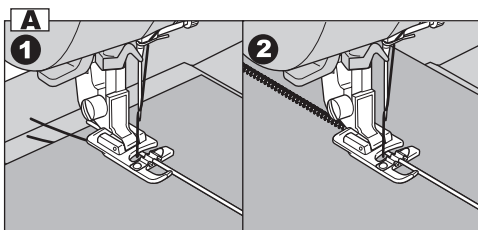
No. 11 Zigzag Stitch for Single Cording
No. 13 Multi Zigzag for Triple Cording

Cording Foot



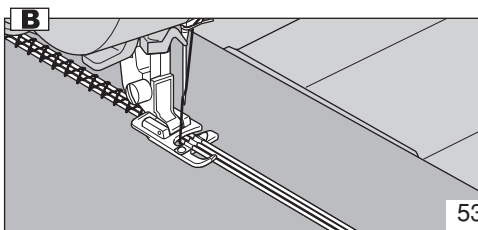
A. SINGLE CORDING

1. Set stitch pattern to No. 11. Insert the cord in the center groove of cording foot from the right side opening. Pull cord about 5 cm (2 inches) behind the foot.
2. Adjust the stitch width so that the stitches are just cover the cord. Lower the foot and sew slowly, guiding the cord.



B. TRIPLE CORDING

Set the stitch pattern to No. 13 and set the stitch width to 6.0-7.0. Insert three cords into the slots of cording foot.



- TYPE A ONLY -

DARNING/FREE-HAND EMBROIDERY

No. 1 Darning/Embroidery Foot

A. ATTACHING THE DARNING/ EMBROIDERY FOOT

1. Lower the feed dogs by moving the drop feed lever to the left.
2. Remove the presser foot and holder.
3. The arm of darning/embroidery foot should ride onto the shaft of the needle clamp screw.
4. Slide the plastic attaching head from your left to right so that it is fitted into the presser bar.
5. Tighten the presser foot thumb screw.

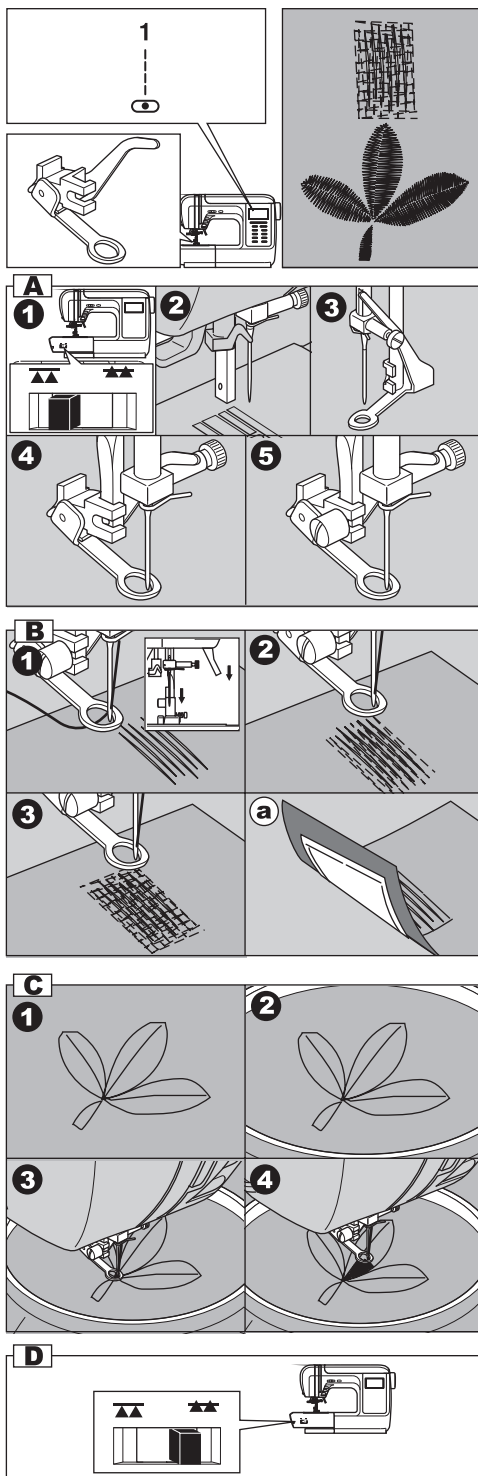
B. DARNING

1. Place fabric under foot and lower it.
 2. Grasp fabric firmly in front and back of area to be darned. Operate machine, moving fabric by hand forward and backward with an even motion, stitching in closely spaced rows over the hole or worn area.
 3. When the area is filled with new stitches, move fabric from side to side in a similar manner to weave or reinforce the stitching.
- a. Note:
Reinforce open areas with an underlay, baste undelay in place before darning.

C. FREE-HAND EMBROIDERY

1. Outline the design for embroidery on the surface of the fabric.
 2. Place design to be embroidered between the two sections of embroidery hoop.
- Note:
Embroidery hoop is not included with this machine.
3. Set embroidery hoop under needle and lower the foot.
 4. Start the machine at medium speed, guiding hoop carefully so needle moves along line of the pattern.

- D. After darning or free-hand embroidery**
Raise the feed dogs by moving the drop feed lever to the right.



- TYPE A, C ONLY - _____

EYELET

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

A C

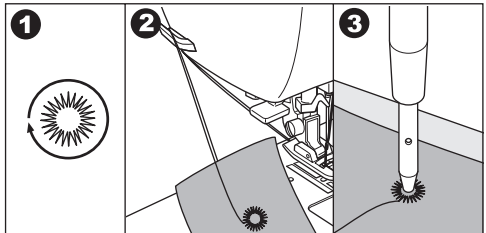
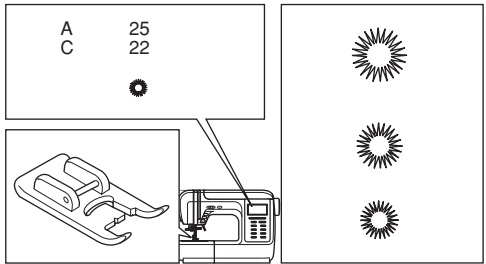
25 22 Eyelet Satin Foot (B)

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

1. Place the fabric under the presser foot and lower it. Start the machine.
Machine will sew the eyelet and stop automatically.
2. Raise the presser foot and cut the threads.
3. Make a hole in the center of the eyelet.

Note

Eyelet punch is not provided with this machine.

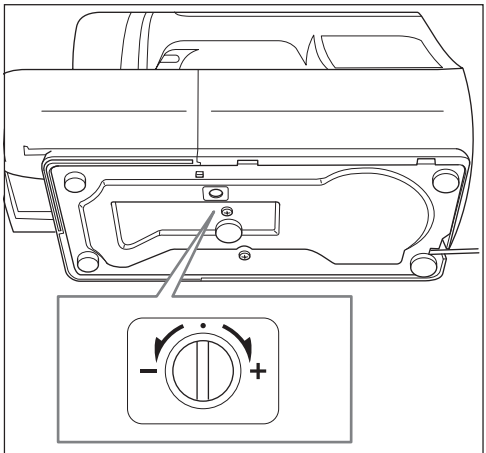


ADJUSTING THE FORWARD AND REVERSE STITCHES _____

Depending on the type of fabric you sew, it may be necessary to adjust the forward and reverse stitches.

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.



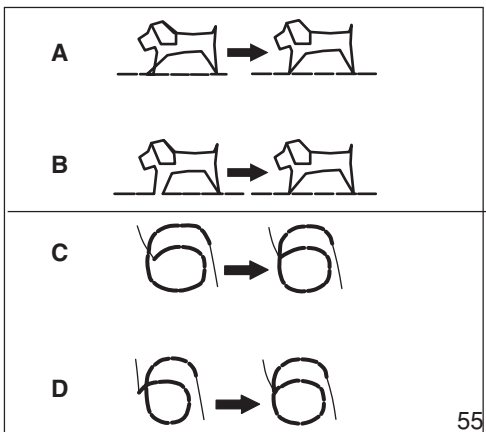
DECORATIVE STITCH PATTERN

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 (-).

- TYPE A, B ONLY -

LETTER STITCH PATTERN

1. If patterns are misformed as illustration (C), turn screw in direction of symbol (+).
2. If patterns are misformed as illustration (D), 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.

CLEANING

If lint and bits of thread accumulate in the hook, this will interfere with the smooth operation of the machine. Check regularly and clean the stitching mechanism when need.

A. Bobbin Holder

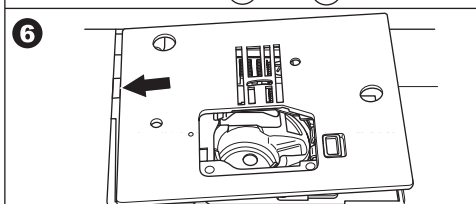
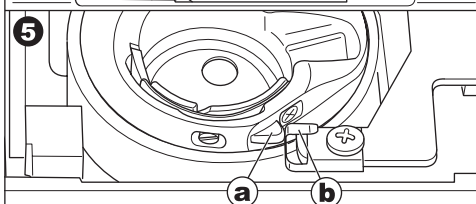
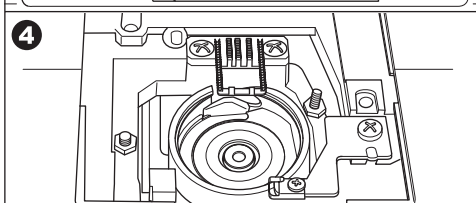
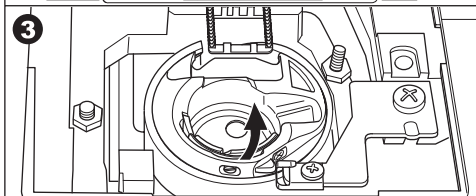
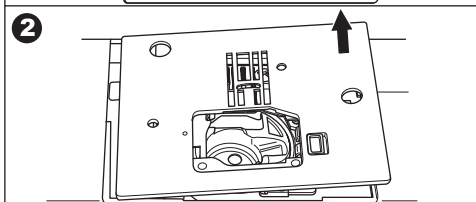
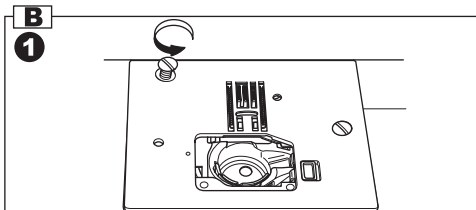
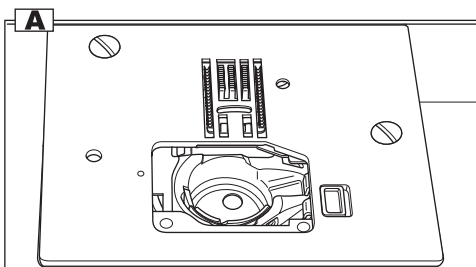
Remove the bobbin cover and bobbin.
Clean the bobbin holder.

B. Hook Race and Feed Dog

1. Remove the needle, presser foot and holder. Remove the bobbin cover and bobbin. Remove the screws holding the needle plate.
2. Remove the needle plate by lifting up the rightt side of the plate.
3. Lift up the bobbin holder and remove it.
4. Clean the hook race, feed dogs and bobbin holder. Also clean them, using a soft, dry cloth.
5. Replace the bobbin holder into the hook race so that the tip (a) fits to the stopper (b) as shown.
6. Replace the needle plate inserting the hook into the machine. Retighten the screws.

Note:

- * This machine is using LED light to light up stitching area. If it is not lightt up, call for your dealer.
- * There is no need to lubricate this machine.



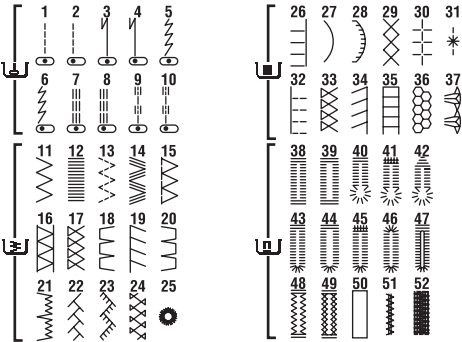
HELPFUL HINTS

PROBLEM	CAUSE	CORRECTION	Page
Upper thread breaks	Machine not properly threaded.	Re-thread machine.	22
	Thread entwined around bobbin.	Remove entwined thread.	21
	Needle inserted incorrectly.	Re-insert needle.	7
	Thread tension too tight.	Readjust thread tension.	27,8
	Thread of incorrect size or poor quality.	Choose correct thread.	7
Lower thread breaks	Bobbin threaded incorrectly.	Re-thread the bobbin.	21
	Bobbin wound unevenly or too full.	Rewind the bobbin.	20
	Dirt on the bobbin holder.	Clean the holder.	56
Machine skips stitches	Needle inserted incorrectly.	Re-insert needle.	7
	Bent or blunt needle.	Insert new needle.	7
	Incorrect size of needle.	Choose correct size needle for fabric.	7
	(on stretch fabric)	(use stretch needle)	
Fabric puckers	Machine not properly threaded.	Re-thread machine.	22
	Bobbin threaded incorrectly.	Re-thread the bobbin.	21
	Blunt needle.	Insert new needle.	7
	Thread tension too tight.	Readjust thread tension.	27.8
Machine makes loose stitches or loops	Bobbin threaded incorrectly.	Re-thread the bobbin.	21
	Machine not properly threaded.	Re-thread machine.	22
	Tension not adjusted properly.	Readjust thread tension.	27.8
Stitch pattern is misformed	Presser foot is not suited for the pattern.	Attach correct foot.	29-
	Thread tension is not balanced.	Adjust the thread tension.	27.8
Threader does not thread needle eye	Needle is not raised.	Raise the needle.	8,11
	Needle inserted incorrectly.	Re-insert needle.	7
	Bent needle.	Insert new needle.	7
Machine does not feed properly	Feed dogs are lowered	Raise the feed dogs	9, 11
	Stitch length not suitable for fabric.	Regulate stitch length.	13,15,18
	Lint and dust accumulated around feed dog.	Clean the feed dog area.	56
Needle breaks	Fabric pulled while sewing.	Do not pull fabric.	24
	Needle is hitting the presser foot.	Select correct foot and pattern.	29-
	Needle inserted incorrectly.	Re-insert needle.	7
	Incorrect size needle or thread for fabric being sewn.	Choose correct size needle and thread.	7
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.	56
Machine will not run	Cord not plugged into electrical outlet.	Insert plug fully into outlet.	4
	Power switch is not turned on.	Turn on the switch.	4
	Bobbin winder spindle is pushed to the right.	Push spindle to the left.	20
	Presser foot is not lowered.	Lower the foot.	9, 11
	Buttonhole Sewing Mode;		
	• Buttonhole lever is not lowered completely.	Lower the buttonhole lever.	36
	• Buttonhole foot is not attached.	Attach the buttonhole foot.	36

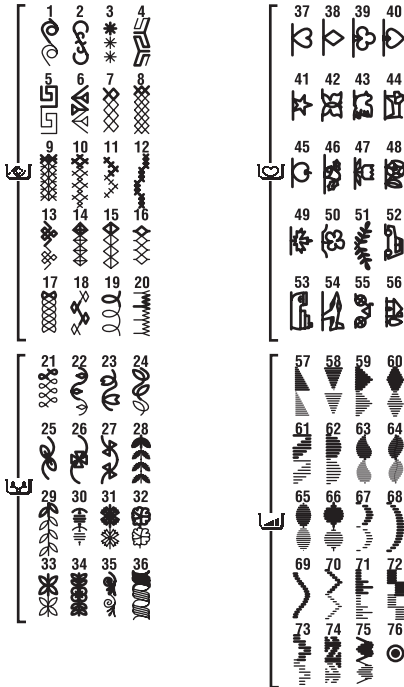
TYPE A PATTERN CHART

Bold part of decorative stitch pattern is one unit of pattern.

UTILITY PATTERN

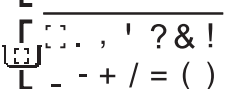
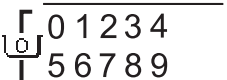
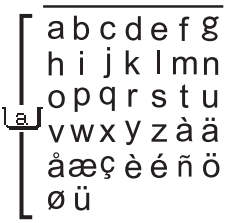
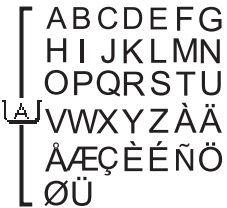


DECORATIVE PATTERN

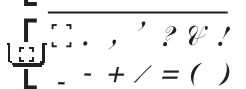
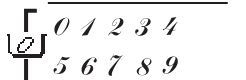
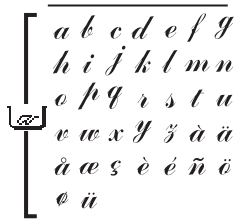
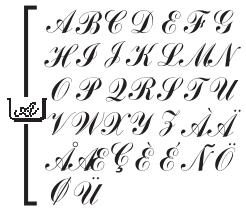


LETTER

GOTHIC X 1 TIME

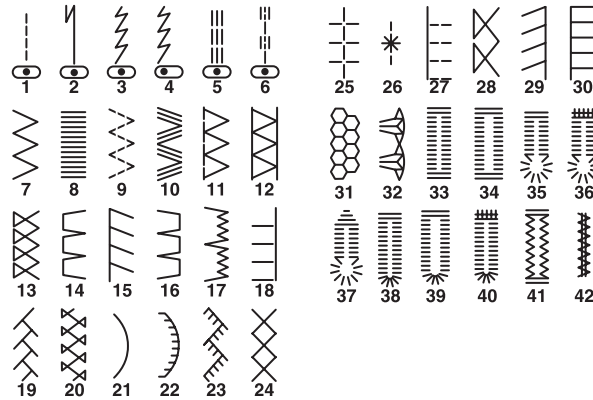


SCRIPT X 2 TIMES



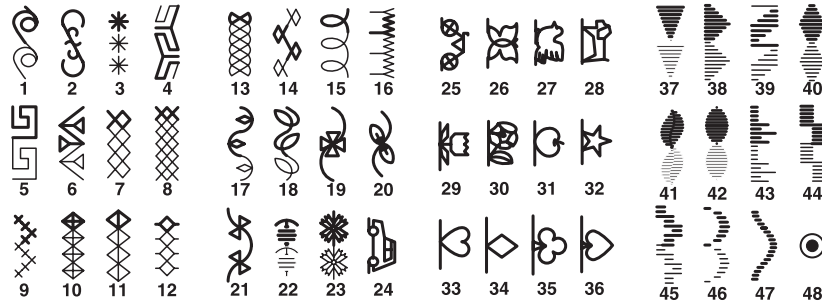
TYPE C PATTERN CHART

UTILITY PATTERN



DECORATIVE PATTERN

Bold part of decorative stitch pattern is one unit of pattern.



LETTER

ABC X 1 TIME ABC X 2 TIMES

A B C D E F	a b c d e f
G H I J K L	g h i j k l
M N O P Q R	m n o p q r
S T U V W X	s t u v w x
Y Z À Ä Å Æ	y z à ä å æ
Ç È É Ñ Ö Ø	ç è é ñ ö ø
Ü 0 1 2 3 4	ü 0 1 2 3 4
5 6 7 8 9 []	5 6 7 8 9 []
. , ' ? & !	. , ' ? & !
- + / = ()	- + / = ()





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