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Chicago 5
Chicago 7

Instruction Manual Sewing

Safety Instructions

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IMPORTANT

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

Please read the instruction manual carefully before using this machine.

Keep the instruction manual at a suitable place with the machine and hand it over if you give the machine to a third party.

When the machine is not in use or left unattended, always disconnect the machine from the power supply system. Unplug it from the outlet.

DANGER!

To reduce the risk of electric shock:

1. Never leave the machine unattended when it is plugged in.
2. Always unplug this machine from the electric outlet immediately after using and before cleaning.
3. LED RADIATION: Do not view directly with optical instruments Class.

WARNING!

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

1. The machine mustn't be used by children under 8 or by people with reduced physical, sensory or mental capabilities or if there is a lack of experience and knowledge how to operate the machine. Unless they have been given instruction concerning the use of the machine and the involved risks by a person who is responsible for their safety.
2. Do not use this machine as a toy. Close attention is necessary when this machine is used by children, near children or people with reduced sensation.
3. Use this machine only for its intended use as described in this manual. Use only accessories recommended by the manufacturer.
4. Children should be supervised to ensure that they do not play with the machine.
5. Never operate this 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 machine to the nearest authorized dealer or service centre for examination, repair, electrical or mechanical adjustment.
6. Never operate the machine with any air openings blocked. Keep ventilation openings of the machine and the foot control free from accumulation of lint, dust, and loose cloth.
7. Keep fingers away from all moving parts. Special care is required around the machine needle.
8. Always use the proper stitch plate. The wrong plate can cause needle
9. Do not use bent needles.
10. Do not pull or push the fabric while sewing. This can result in needle breakage.

Safety Instruction

11. Switch the machine off ("O") when making any adjustments in the needle area, such as threading or changing the needle, threading the bobbin, or changing the presser foot, and the like.
12. Always unplug the machine when performing cleaning or maintenance work such as replacing the sewing light or when making any other user maintenance adjustments mentioned in the instruction manual (disconnect the power plug). Cleaning and maintenance work must not be carried out by children without supervision.
13. Never drop or insert any object into any openings.
14. Use this machine only in dry and protected areas. Never operate the machine in a damp or wet environment.
15. Do not operate the machine where aerosol spray products are being used or where oxygen is being administered.
16. To disconnect, turn the power switch to ("O")(off), then remove the plug from the outlet. Do not unplug by pulling the cord, instead grasp the plug to pull it from the outlet.
17. If the supply cord of the foot control is damaged, it must be replaced by the manufacturer or an appropriate service agent or a similar qualified person in order to avoid endangerment.
18. Never place anything on the foot control.
19. When replacing the light bulb, always use the same type.
20. The machine may only be used in combination with a foot control of the type C-9000.
21. The sound pressure level during normal operation is lower than 75dB(A).
22. This machine is provided with double insulation (except U.S.A/Canada). Use only identical replacement parts. See instructions for Servicing of double-insulated products.

SERVICING OF DOUBLEINSULATED PRODUCTS

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

The symbol  may also be marked on the product.

SAVE THESE INSTRUCTIONS!



ATTENTION!

- This machine is intended for household use only. If used intensively or commercially, regular cleaning and especially attentive care is required.
- Signs of wear and tear owing to intensive or commercial use are not covered automatically, even if they occur within the warranty period. The decision on how to deal with any such cases rests with the local authorised servicing staff.



NOTE

If the machine is stored in a cold room, it should be brought to a warm room about one hour before use.

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For technical and product improvement reasons, the machine's features, parts and accessory are subject to unannounced changes and alterations at any time. The accessory included can differ from country to country.



Environmental protection

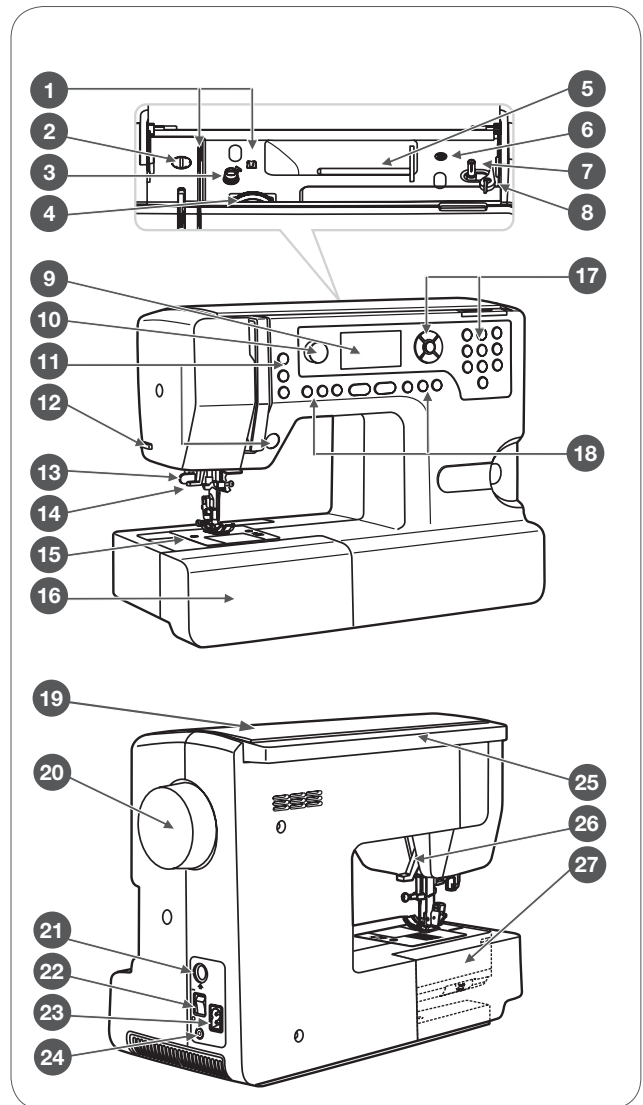
BERNINA is committed to the protection of the environment. We strive to minimize the environmental impact of our products by continuously improving product Design and our technology of manufacturing. Do not dispose of electrical machines as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available.

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

When replacing old machines with new ones, the retailer is legally obligated to take back your old machine for professional disposal free of charge.

Details of the sewing machine

- 1 Thread guide
- 2 Presser foot pressure
- 3 Bobbin winder pre-tension
- 4 Thread tension dial
- 5 Spool pin
- 6 Hole for second spool pin
- 7 Bobbin winder spindle
- 8 Bobbin winder stopper
- 9 LCD display
- 10 Speed dial
- 11 Operation buttons
- 12 Thread cutter
- 13 One-step buttonhole lever
- 14 Needle threader
- 15 Stitch plate
- 16 Sewing table and accessory box
- 17 Selection buttons
- 18 Function buttons
- 19 Top cover
- 20 Handwheel
- 21 Embroidery module connector
- 22 Power switch
- 23 Power cord
- 24 Foot control connector
- 25 Handle
- 26 Presser foot lever
- 27 Feed dog lever



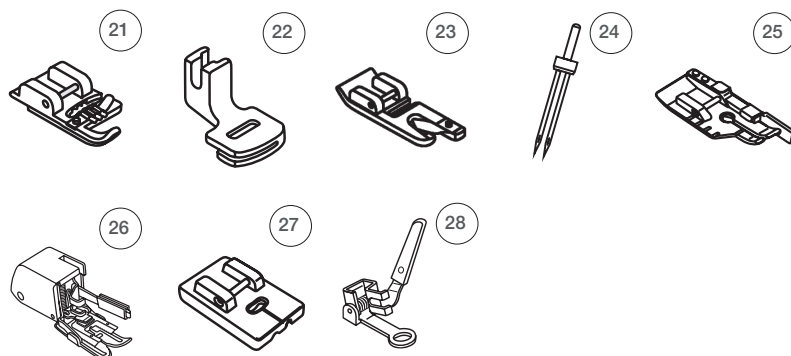
Accessories

- 1 Zigzag foot (T)
- 2 Buttonhole foot (D)
- 3 Blindstitch foot (F)
- 4 Button-sew-on foot (H)
- 5 Overlock foot (E)
- 6 Embroidery foot (A)
- 7 Zipper foot (I)
- 8 Brush & Seam ripper
- 9 Needle Set (3x)
- 10 Bobbin cases (3x)
- 11 Screwdriver
- 12 Seam guide
- 13 L-Screw driver
- 14 Spool pin long (V)
- 15 Spool pin felt
- 16 Spool holder (large)
- 17 Spool holder (small)
- 18 Dust Cover
- 19 Spool net (2x)
- 20 Scissors



Optional

- 21 Cording foot (M)
- 22 Gathering foot
- 23 Hemmer foot (K)
- 24 Twin needle
- 25 Quilting foot 1/4"
- 26 Walking foot
- 27 Invisible Zipper foot
- 28 Darning/Embroidery foot



Connecting the Machine

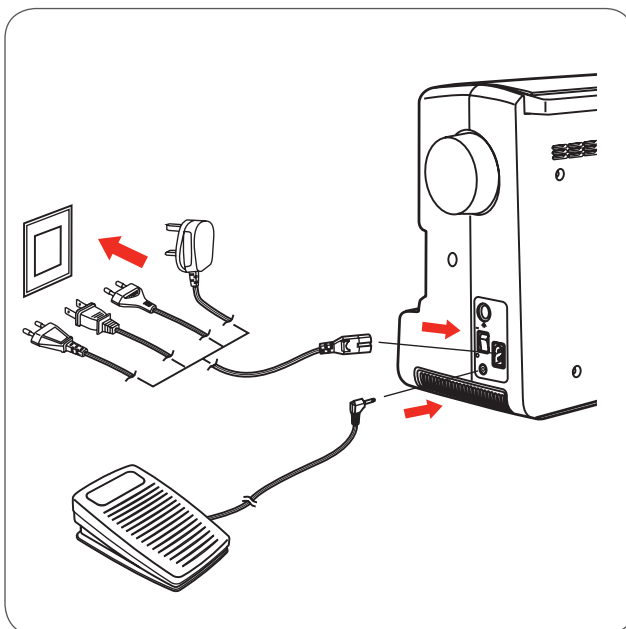
Before connecting the power supply, make sure that the voltage and frequency shown on the rating plate is conforming with your mains power.

- Place the machine on a stable table.
- Connect the power line cord to the machine by inserting the 2-hole plug into the mains plug socket.
- Connect the power line plug to the wall outlet.
- Turn on the power switch.
 - The sewing lamp will light up when the switch is turned on.



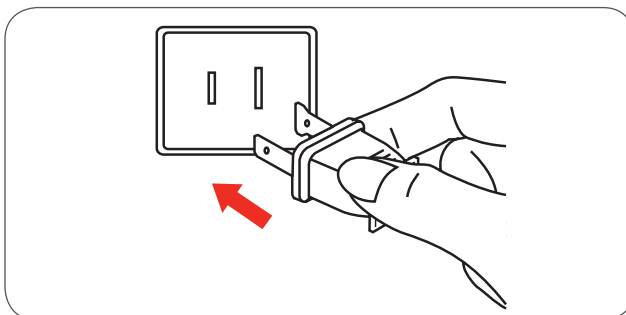
ATTENTION!

Always make sure that the machine is unplugged from power source and the main switch is on «O». When the machine is not in use and before inserting or removing parts.



Polarized plug information

This appliance has a polarized plug (one blade wider than the other), to reduce the risk of electrical shock; this plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.



Foot Control

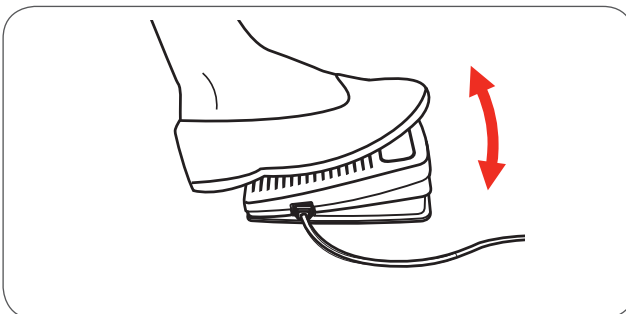
With the sewing machine turned off, insert the foot control plug into its connector on the sewing machine.

- Turn on the sewing machine, and then slowly depress the foot control to start sewing.
- Release the foot control to stop the sewing machine.



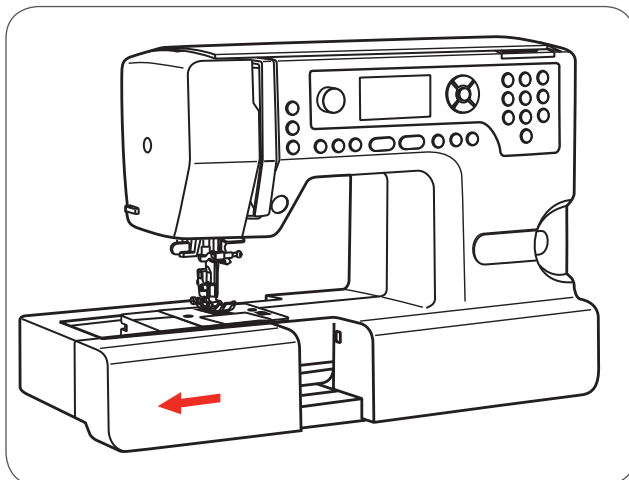
ATTENTION!

Consult a qualified electrician if in doubt as how to connect the machine to the power source. Unplug the power cord when the machine is not in use.



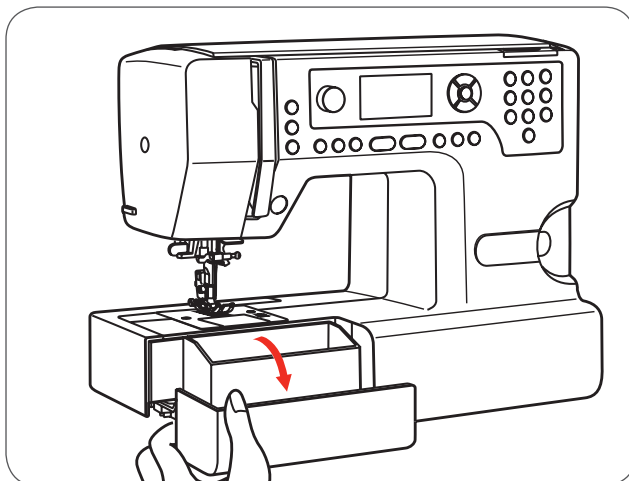
Sewing Table

- Keep the snap-in sewing table horizontal, and pull it in the direction of the arrow.

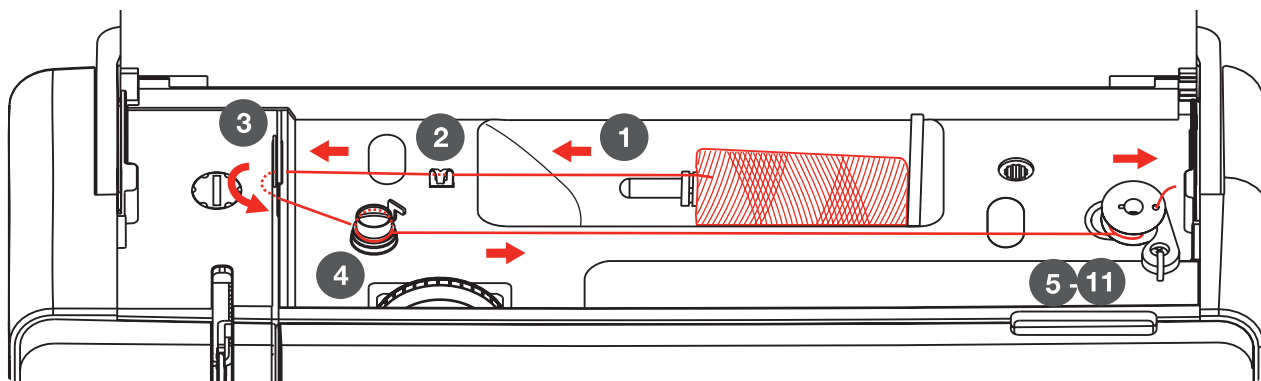


The inside of the snap-in sewing table is used as an accessory box.

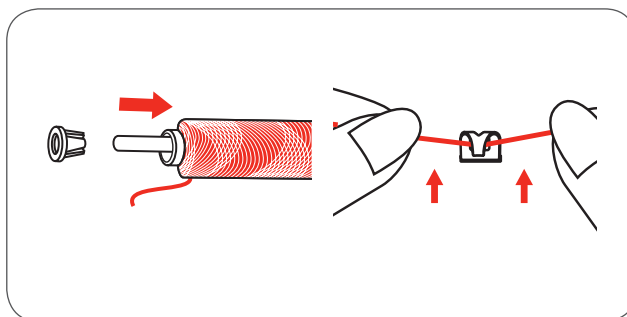
- To open the accessory box, tilt the cover towards you.



Winding the Bobbin



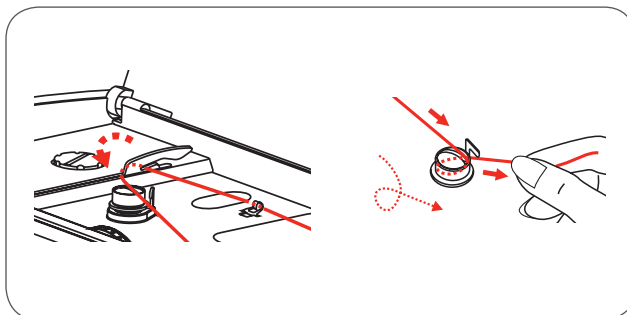
- Place the thread and spool holder onto the spool pin. For smaller spools of thread use the small spool holder.
- Snap the thread into the upper thread guide.



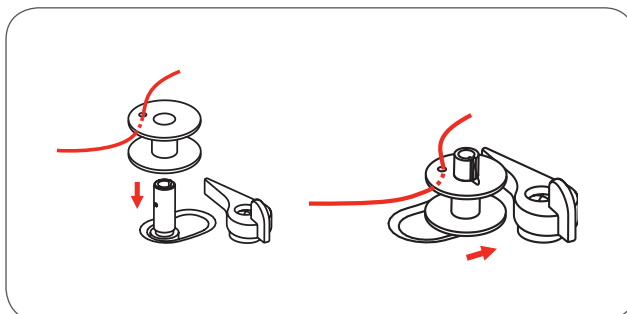
NOTE

If using special thread which winds quickly off the spool attach a net to the spool before using and use the larger spool holder. Reduce the thread tension if necessary.

- Wind the thread clockwise around the bobbin winder tension disc.

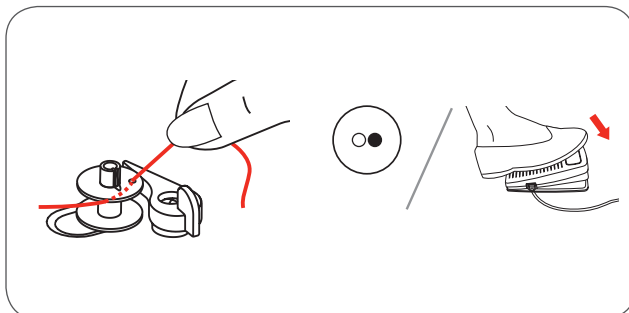


- Insert the thread end through one of the inner holes in the bobbin as illustrated and place the empty bobbin on the spindle.
- Push the bobbin to right.

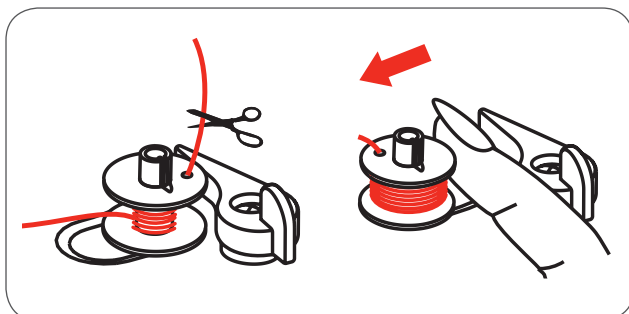


Machine Setup

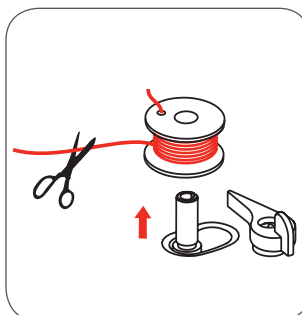
- Hold the thread tail securely in one hand.
- Press on the foot control or the Start/Stop button to start winding the bobbin.
 - After the bobbin has wound a few turns, stop the machine.



- Cut the thread near the hole of the bobbin.
- Continue filling the bobbin until it is full.
 - The motor stops automatically when the bobbin is full.
- Press the Start/Stop button or release the foot control to stop the machine.
- Push the bobbin winder spindle to left.



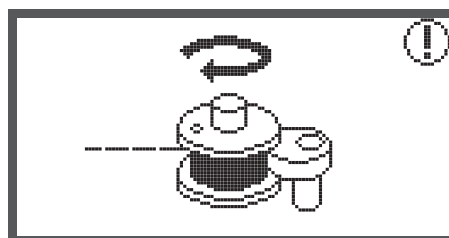
- Cut the thread and then remove the bobbin.



NOTE

When the bobbin winder spindle is pushed to the right (bobbin winding position), this message is shown on the LCD display. It will disappear from the LCD display when the bobbin winder spindle is pushed back to the left into the sewing position.

In embroidery mode (Chicago 7) winding the bobbin can only be operated using start/stopp button.



Inserting the Bobbin

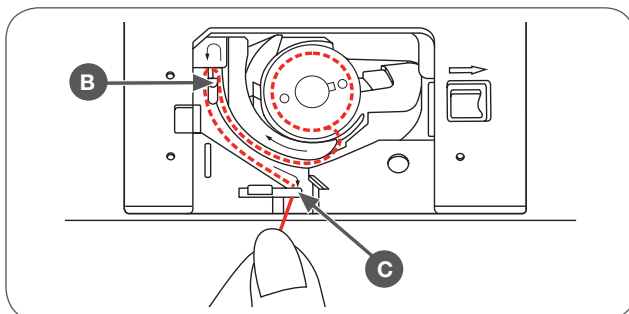
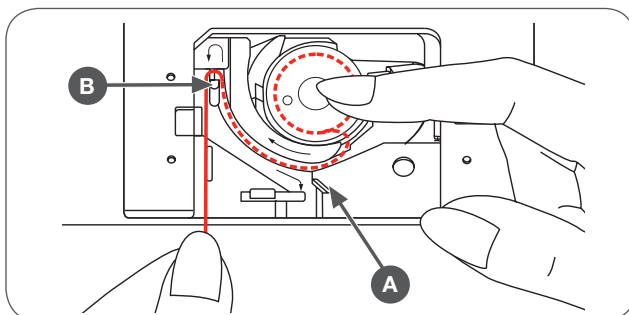
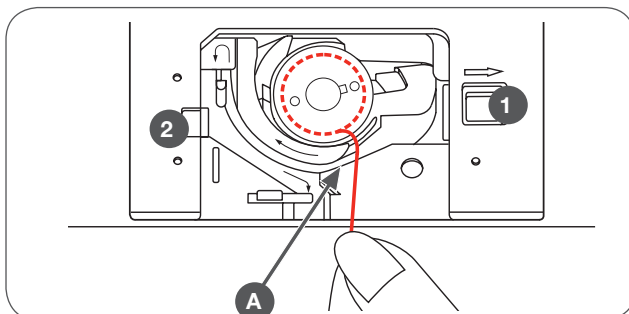
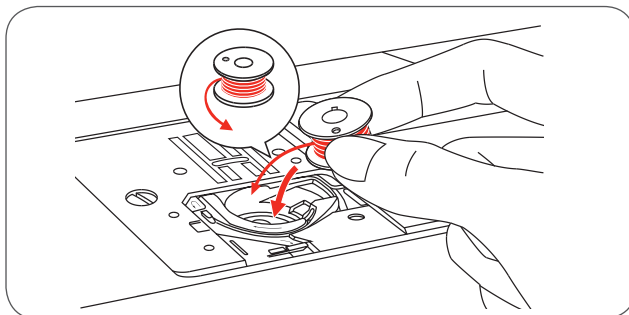


ATTENTION!

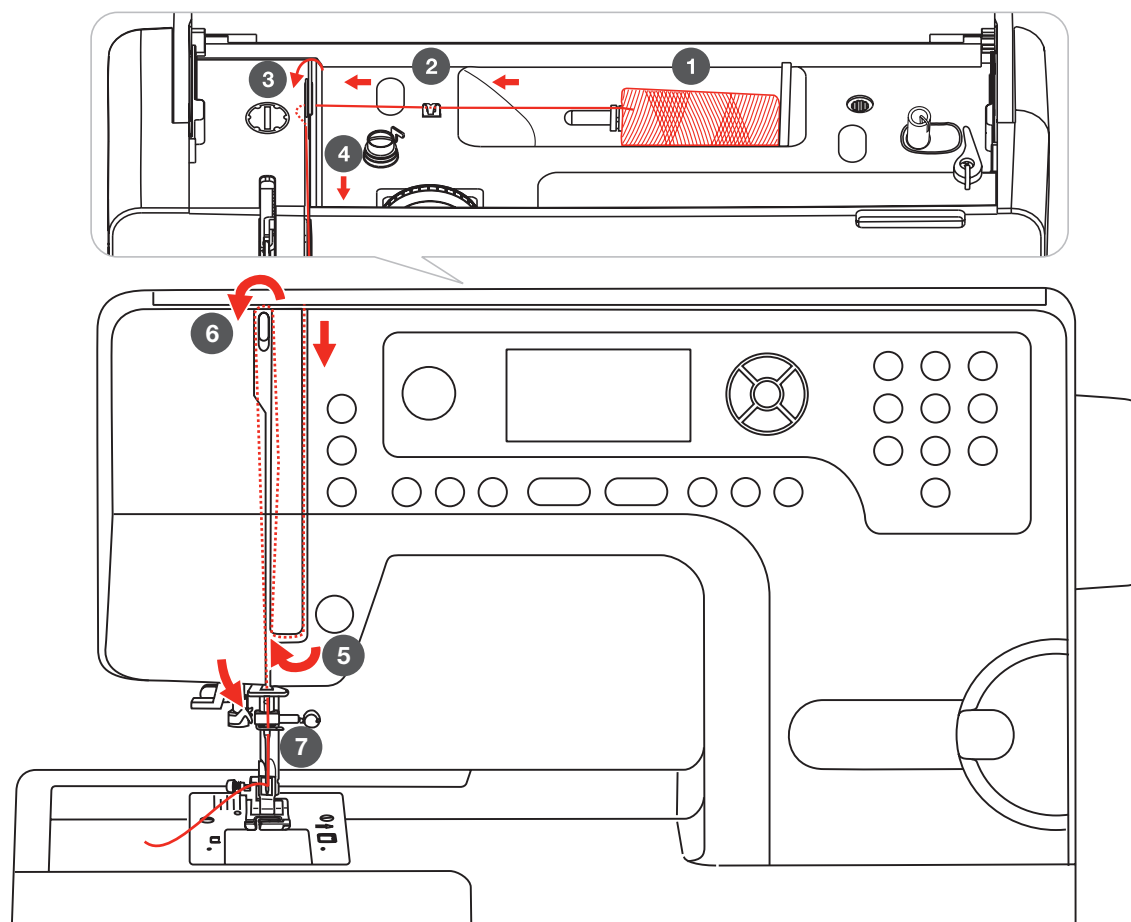
Turn power switch to «O» before threading or unthreading the machine.

The thread take-up lever must be in the highest position when threading. Incorrect threading can cause damages to the machine!

- When pushing the locking knob (1), the bobbin cover opens.
- The bobbin cover can be pulled out of the guide (2).
- Inserting the bobbin in the bobbin holder with the thread running in counter-clockwise direction.
- Pull the thread along the arrow marking through the slit under the finger (A) as far as the pulley (B).
- To make sure that the thread is pulled into the tension spring of the bobbin holder, press a finger slightly onto the bobbin while pulling. As a check you must feel a resistance in the thread feed.
- Pull the thread at the arrow markings into the stitch plate thread guide from (B) to (C).
 - To cut off excess thread pull the thread back over the cutting-off blade at point (C).
 - When closing, insert the lid in the guide (2) on the left. Afterwards press down on the right until the locking knob (1) engages.



Threading the Upper Thread



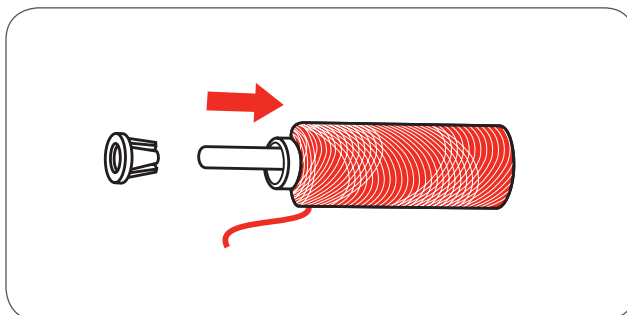
NOTE

It is important to carry out the threading correctly as by not doing so several sewing problems can occur.

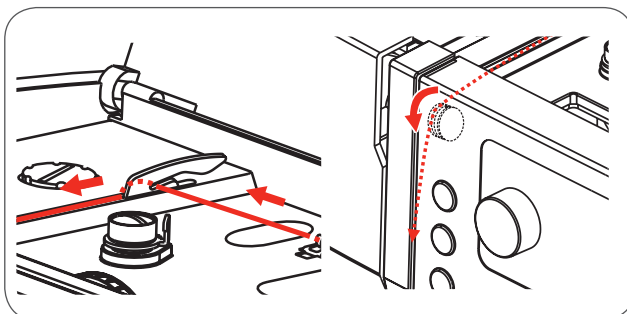
**ATTENTION!**

Start by raising the needle to its highest point, and also raise the presser foot to release the tension discs.

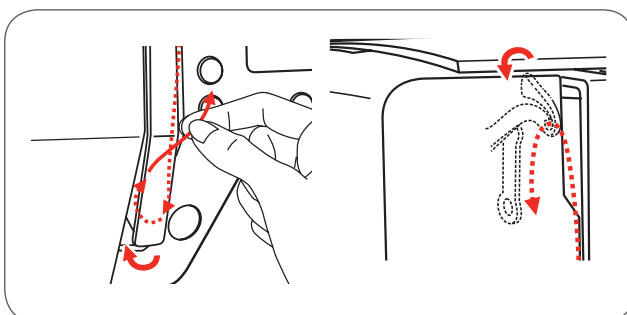
- Place the thread spool on the spool pin so that the thread comes from the front of the spool, then place the spool cap at the end of the spool pin.



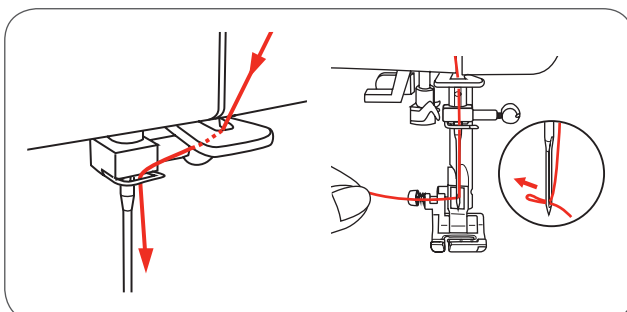
- Pull the thread from the spool through the upper thread guide.
- Guide the thread around the thread guide pulling the thread through the pre-tension spring as illustrated



- Then lead it further down and around the bottom part of the take-up lever cover.
- Pull it up and insert the thread from the right to the left through the slotted eye of the take-up lever and then take it downwards again.



- Guide the thread through the wire loop.
- Pull the end of the thread through the needle from the front to the rear, and pull out about 10 cm of thread.
- Use the face plate thread cutter to cut excess needle thread.
- Use the needle threader to thread the needle (refer to next page for instruction).



Needle Threader

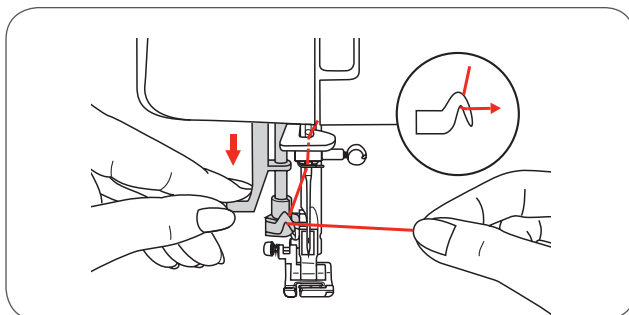


ATTENTION!

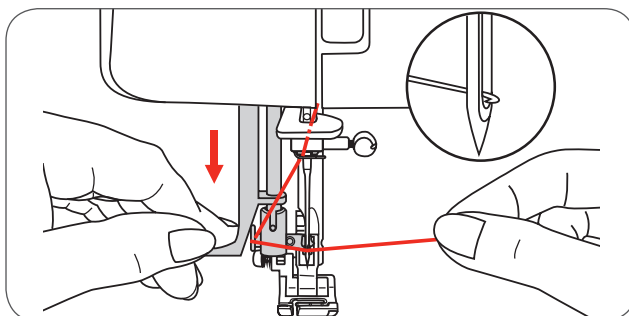
Raise the needle to its highest position and lower the presser foot.

Turn power switch to the off position «O»!

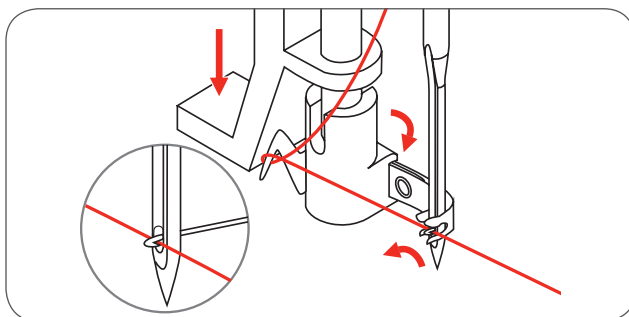
- Lower the needle threader lever slowly and pull the thread through the thread guide as illustrated and then to the right.



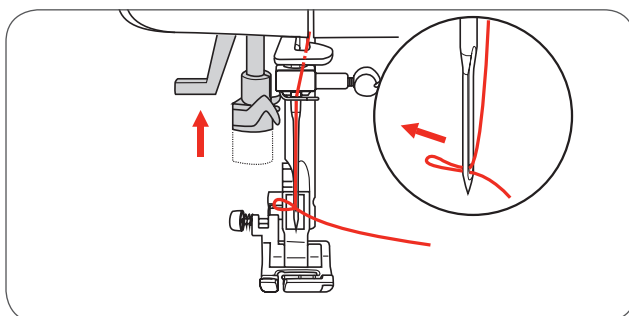
- The needle threader automatically turns to the threading position and the hook pin passes through the needle eye.



- Pull the thread to the right, guiding it to the front of the needle



- Hold the thread loosely and release the lever slowly.
 - The hook will turn and pass the thread through the needle eye forming a loop.
 - Pull the thread through the needle eye.



Replacing the Needle



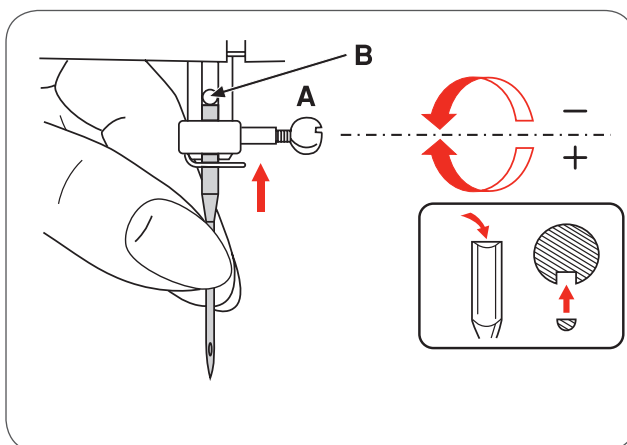
ATTENTION!

Turn power switch to off («O») when carrying out the following operation!

Change the needle regularly, especially if it is showing signs of wear and tear or if it is causing problems.

Insert the needle following the illustrated instructions.

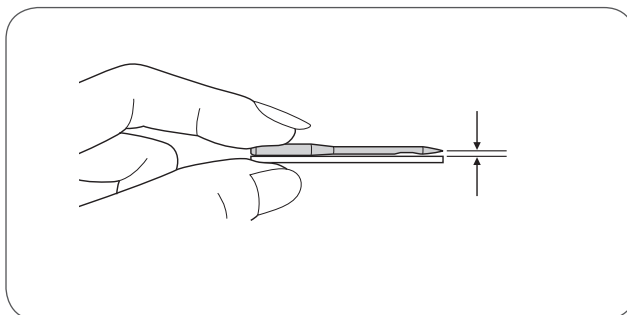
- A Loosen the needle clamp screw and tighten it again after inserting the new needle. The flat side of the shaft must be at the back.
- B Insert the needle as far up as it will go.



Needles must be in perfect condition

Problems can occur with:

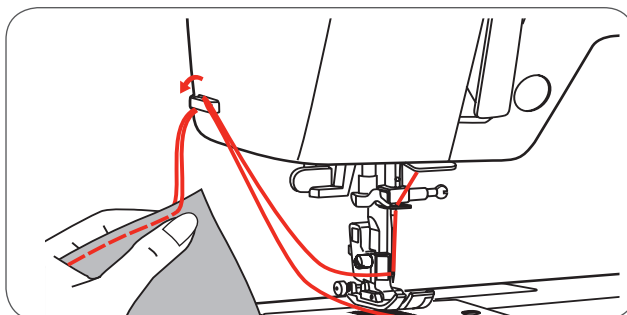
- Bent needles
- Blunt needles
- Damaged points



Thread Cutter

The thread cutter serves two purposes:

1. Cut the thread after threading the needle
 2. Cut the thread after finishing a seam.
- To cut the thread after completing your work raise the presser foot.
 - Remove the fabric, draw the threads to the left side of the face cover and cut using the thread cutter.
 - The threads are cut at the proper length to start the next seam.



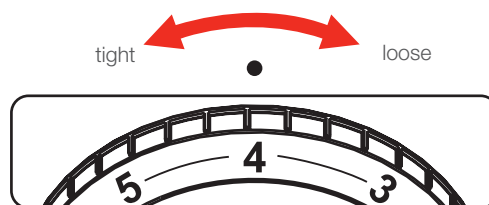
Thread Tension

Basic thread tension setting: «4»

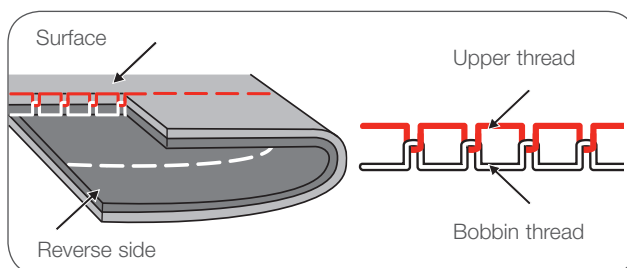
- To increase the tension, turn the dial to the next number up.
- To reduce the tension, turn the dial to the next number down.

Appropriate setting of tension is important to good sewing.

With any decorative sewing you will always obtain a nicer stitch formation and less fabric puckering when the upper thread appears on the wrong side of your fabric.

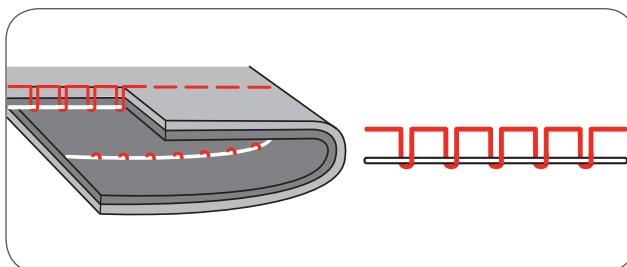


Normal thread tension for straight stitch sewing.



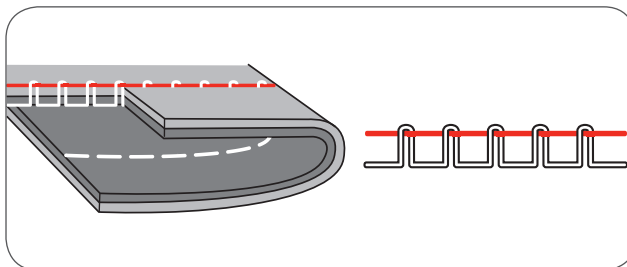
Thread tension is too loose for straight stitch sewing.

- Turn dial to higher number.

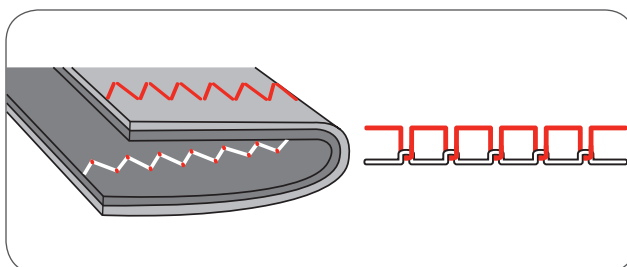


Thread tension is too tight for straight stitch sewing.

- Turn dial to lower number.



Normal thread tension for zig-zag and decorative sewing.

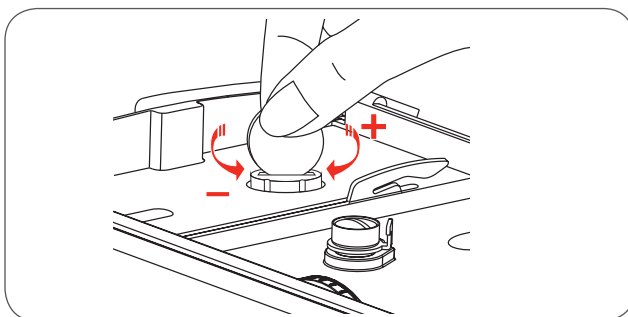


Altering Presser Foot Pressure

The presser foot pressure of the machine has been pre-set and requires no particular re-adjustment according to the type of fabric (light-or-heavy weight).

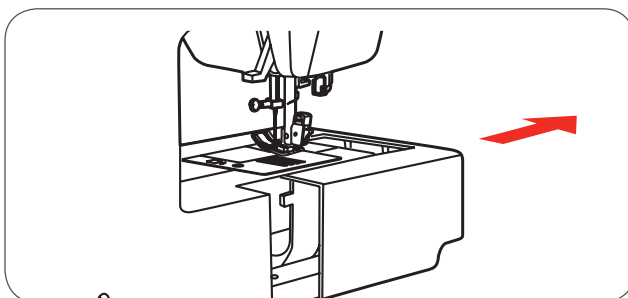
However, if you need to alter the presser foot pressure, turn the presser foot pressure adjusting screw using a coin.

- For sewing very thin fabric, loosen the pressure by turning the screw counter-clockwise, and for heavy fabric, tighten by turning it clockwise.
- To return to initial pressure foot setting turn the presser foot pressure adjusting screw to become flush with the face cover.



Raising or Dropping the Feed dog

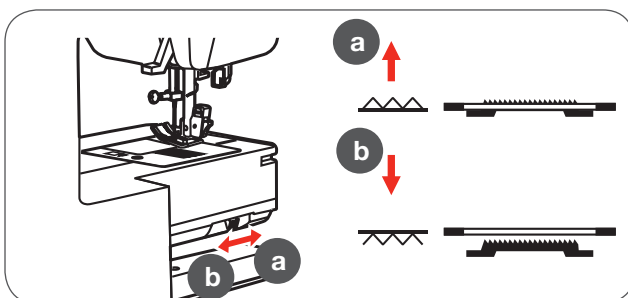
With the sewing table detached, the feed dog lever can be located on the back of the free arm.



Sliding the lever to position (a) will raise the feed dog.

Sliding the lever to position (b) will lower the feed dog, for example during button sewing or freehand embroidery.

- If you wish to continue sewing normally, slide the lever to position (a) in order to raise the feed dog.
- The feed dog will not be raised if you do not turn the handwheel, even if the lever is slid to the right.
- Make a complete turn to raise the feed dog.



Changing the Presser Foot



ATTENTION!

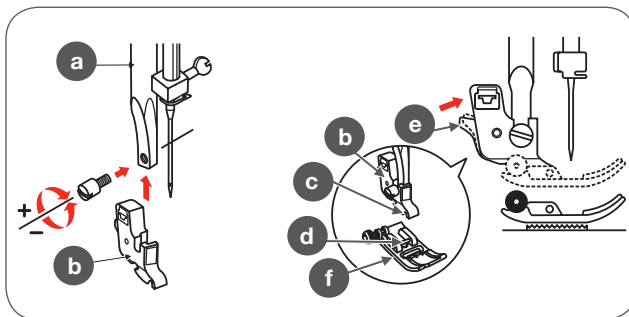
Turn power switch to off («O») when carrying out any of the following operations!

Attaching the presser foot holder

- Raise the presser foot bar (a).
- Attach the presser foot holder (b) as illustrated.

Attaching the presser foot

- Lower the presser foot holder (b) until the cut-out (c) is directly above the pin (d).
- Press the black lever (e).
- Lower the presser foot holder (b) and the presser foot (f) will engage automatically.

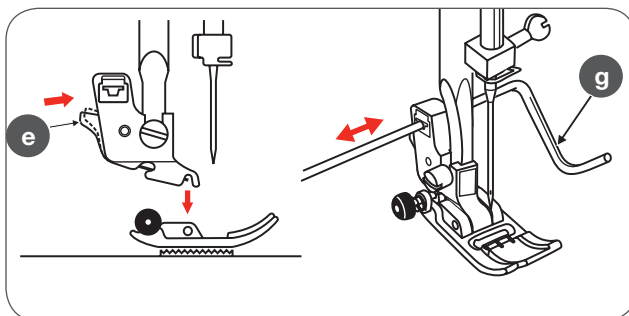


Removing the presser foot

- Raise the presser foot.
- Press the black lever (e) and the foot will disengage.

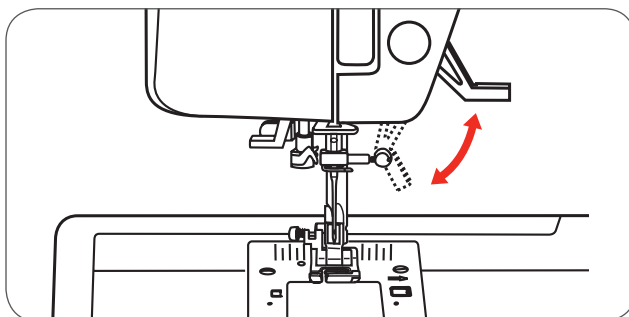
Attaching the edge/quilting guide

- Attach the edge/quilting guide (g) in the slot as illustrated.
- Adjust according to the need for hems, pleats, etc.

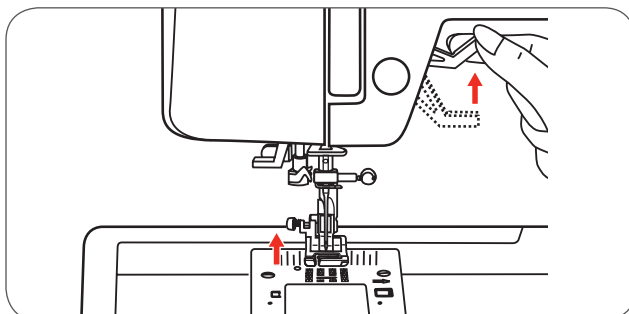


Two-Step Presser Foot

There are two raising levels of the presser foot. Lifting the foot up to the first level is used to place the fabric under the foot for sewing.



The second level is only used in embroidery mode to remove the hoop easily.



NOTE

The needle must always be at the highest position.

Needle, Fabric, Thread Selection Guide



NOTE

The thread is chosen according to the purpose. For a perfect sewing result, thread and fabric quality play an important role. It is recommended to use quality brands. Care must be taken when choosing needle and thread. The correct needle size depends on the selected thread and fabric. The fabric weight and type determine the thread weight, needle size and point form.

Needle size	Fabrics	Thread
9-11/65-75	Light-weight fabrics such as thin cottons, voile, serge, silk, muslin, Qiana, interlocks, cotton knits, tricots, jerseys, crepes, woven polyester, shirt & blouse fabrics.	Light-weight thread in cotton, nylon or polyester.
12/80	Medium-weight fabrics such as cotton, satin, kettlecote, sailcloth, double knits, lightweight woolens.	Most threads sold are medium size and suitable for these fabrics and needle sizes. Use polyester threads on synthetic materials and cotton on natural woven fabrics for best results. Always use the same thread for upper and lower thread.
14/90	Medium-weight fabrics-cotton duck, woolen, heavier knits, toweling, denims.	
16/100	Heavy-weight fabrics such as canvas, woolens, outdoor tent and quilted fabrics, denims, upholstery material (light to medium).	
18/110	Heavy woolens, overcoat fabrics, upholstery fabrics, some leathers and vinyls.	Heavy-weight thread, carpet thread. (Use heavy foot pressure with large numbers.)

Important Sewing Information



NOTE

Twin needles can be purchased for utility and decorative work. European needles show sizes 65, 70, 80 etc. American and Japanese needles show size 9, 11, 12 etc. Replace needle regularly (approximately after every second garment) and/or when thread breakage or skipped stitches occur.

Needles	Explanation	Type of fabric
HA x 1 15 x 1	Standard sharp needles. Sizes range thin to large. 9 (65) to 18 (110)	Natural woven fabrics-wool, cotton, silk, etc. Qiana. Not recommended for double knits.
15 x 1/130/ 705H	Semi-ball point needle, large eye. 9 (65) to 18 (110)	Natural and synthetic woven fabrics, polyester blends. Knits-polyesters, interlocks, tricot, single and double knits. Can be used instead of 15 x 1 for sewing all fabrics.
15 x 1/ 130/705H (SUK)	Full ball point needle. 9 (65) to 18 (110)	Sweater knits, Lycra, swimsuit fabric, elastic.
130PCL/705H-LR/LL	Leather needles. 12 (80) to 18 (110)	Leather, vinyl, upholstery. (Leaves smaller hole than standard large needle.

Presser Foot Application Chart

The twin needle is being suggested with certain stitches for more creativity

Presser Foot	Application	Needle	Presser Foot	Application	Needle
Zigzag foot (T) 	General sewing, Patchwork stitches, Decorative stitching, Smocking, Fagoting, etc.		Darning/Embroidery foot* 	Darning, Free embroidery Mono-gramming	
Zipper foot (I) 	Inserting zippers		Blindstitch foot (F) 	Blind hem stitching 	
Button sew-on foot (H) 	Button sewing-on 		Hemmer foot (K)* 	Narrow hemming	
Buttonhole foot (D) 	Buttonhole sewing 		Cording foot (M)* 	Cording 	
Embroidery foot (A) 	Satin stitch sewing 		Invisible Zipper foot* 	Inserting invisible zippers	
Overlock foot (E) 	Overcasting 		Gathering foot* 	Gathering	
Quilting foot 1/4" * 	Quilting and Patch-work sewing		Walking foot* 	This foot helps to prevent uneven feeding with very delicate fabrics	
			Twin needle* 		

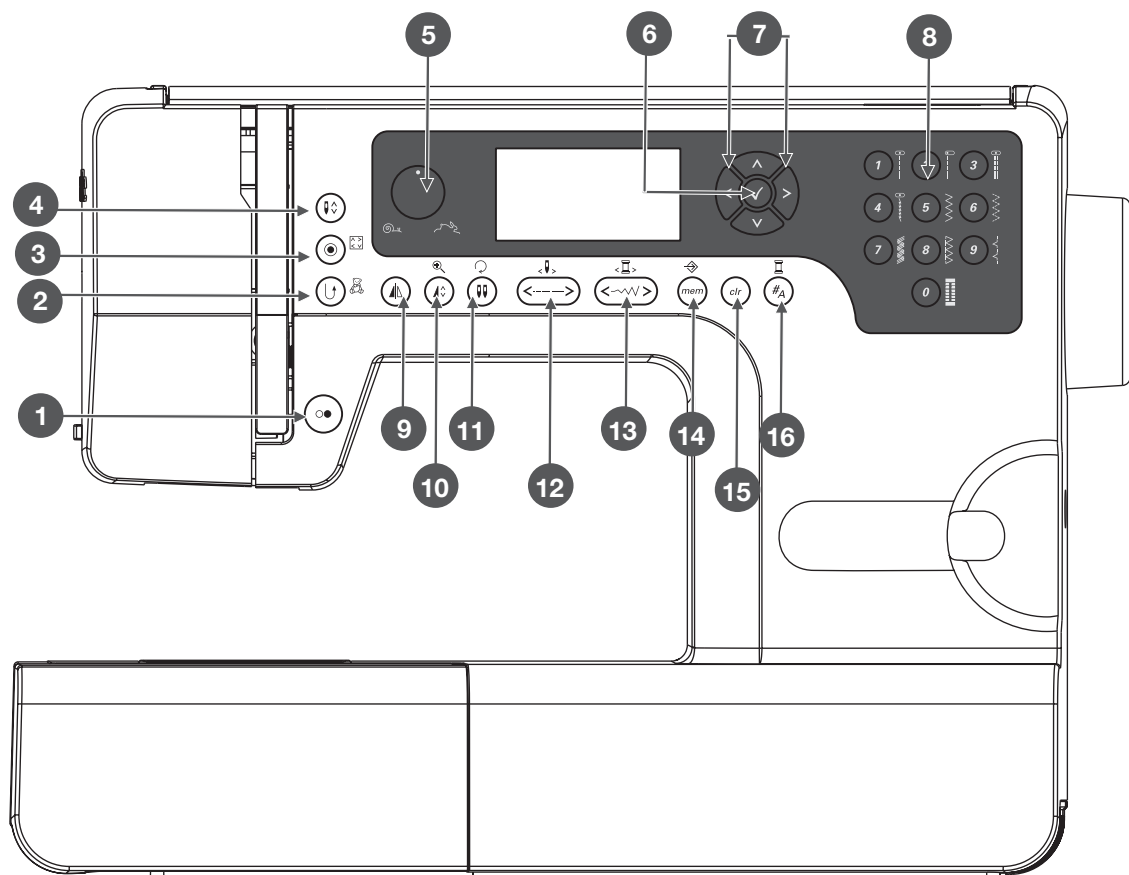


NOTE

* Available as optional accessories

Display Explanation & Operating Functions

Buttons Explanation



- 1 Start/Stop button
- 2 Reverse/Exit button
- 3 Auto-lock/Trace button
- 4 Needle up/down button
- 5 Speed dial
- 6 OK button
- 7 Arrow buttons
- 8 Direct pattern selection and Number buttons
- 9 Mirror image button
- 10 Elongation/Resize button
- 11 Twin needle/Rotate button
- 12 Stitch length adjustment/Stitch forward/back button
- 13 Stitch width adjustment/Colour forward/back button
- 14 Memory/Setup button
- 15 Clear/Return button
- 16 Pattern group selection/Colour setup button



NOTE

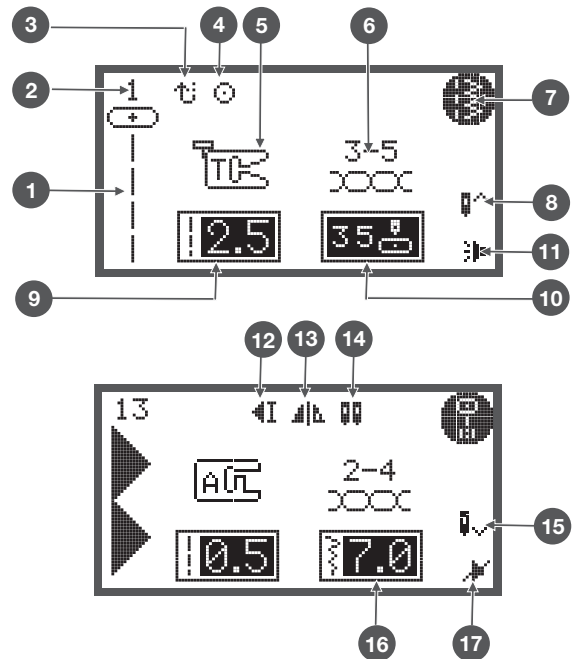
The icon on the button is for sewing mode, and the icon on the side of the button is for embroidery mode.

Information on the LCD Display

Normal Mode

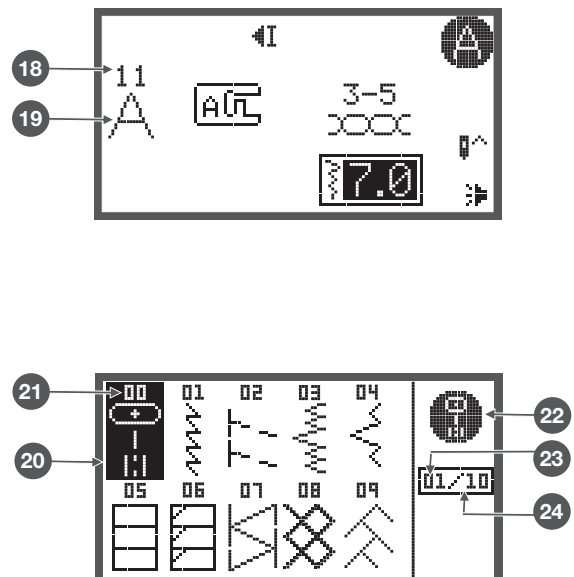
Normal mode display

- 1 Pattern
- 2 Pattern number
- 3 Reverse
- 4 Auto-lock
- 5 Recommended presser foot
- 6 Recommended tension
- 7 Pattern group
- 8 Needle up position
- 9 Stitch length
- 10 Needle position
- 11 Sound on
- 12 Auto-stop
- 13 Mirror image
- 14 Twin needle
- 15 Needle down position
- 16 Stitch width
- 17 Sound off
- 18 Alphabet number
- 19 Alphabet



Normal Mode display - pattern browser display

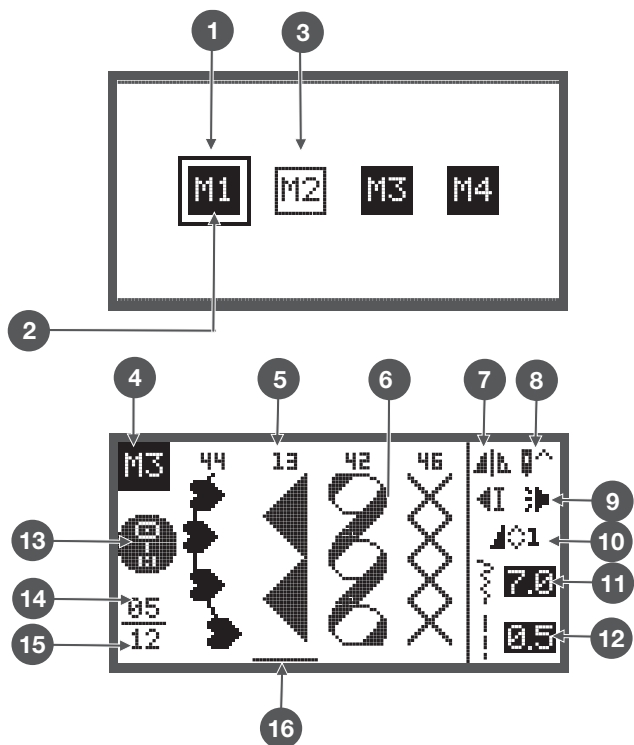
- 20 Pattern
- 21 Pattern number
- 22 Pattern group
- 23 Current page
- 24 Total page



Memory Mode

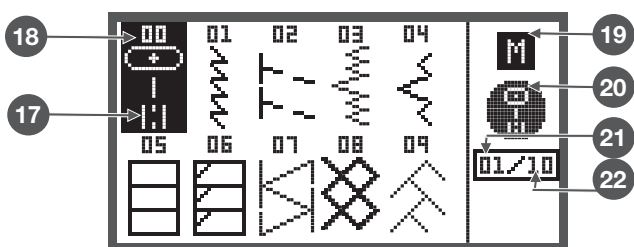
Memory mode display

- 1 Selected memory (framed)
- 2 Memory containing stitches
- 3 Empty memory
- 4 Current memory
- 5 Pattern number and pattern
- 6 Auto-stop
- 7 Mirror image
- 8 Needle up position
- 9 Sound on
- 10 Elongation
- 11 Stitch width
- 12 Stitch length
- 13 Pattern group
- 14 Current memory unit
- 15 Total of memory units
- 16 Memory cursor



Memory Mode display - pattern browser display

- 17 Pattern
- 18 Pattern number
- 19 Memory model
- 20 Pattern group
- 21 Current page
- 22 Total page



Function Buttons

Start/Stop button

- Press the Start/Stop button to start the machine.
- Press again to stop it. The machine will move slowly at the start of sewing.
 - This way you may operate the machine without foot control.



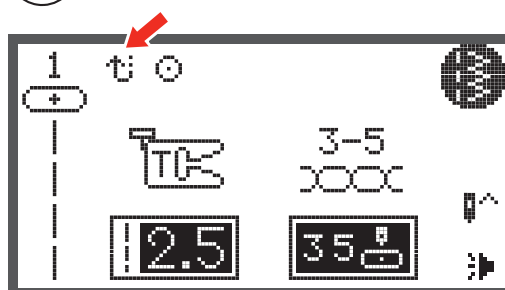
Reverse

Reverse is pressed to sew in reverse.

The icon «Reverse» on the LCD indicates reverse sewing.

Only the Direct Group Patterns 1 – 5 and A Group Patterns 00 can be sewn in reverse.

- If you press the Reverse/Exit button before starting to sew
 - the machine will permanently sew in reverse. Press the button again to sew forward.
- If you press the reverse button during sewing
 - it will sew in reverse as long as the reverse buttons is pressed.



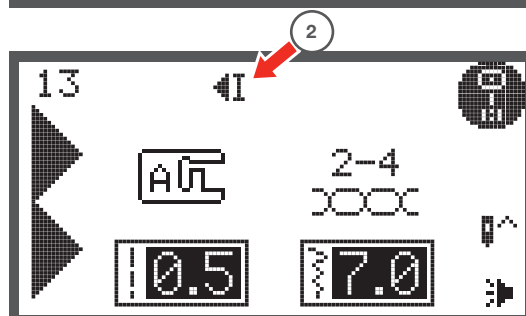
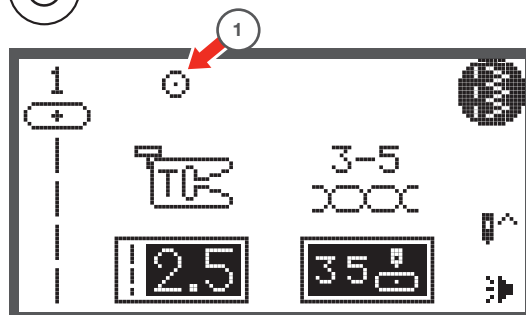
Auto-Lock

When the Direct Group Patterns 1-4 and A Group Patterns 00 are selected, the machine will immediately sew 3 securing stitches when the Auto-Lock button is pressed, then it will stop automatically.

- 1 The LCD display shows the symbol until the machine is stopped.

Except for Direct Group Patterns 0-4 and A Group Patterns 00, 86-99, press the Auto-Lock button, the machine will sew 3 securing stitches at the end of the current pattern and then stop automatically.

- 2 The LCD display shows the symbol until the machine is stopped.

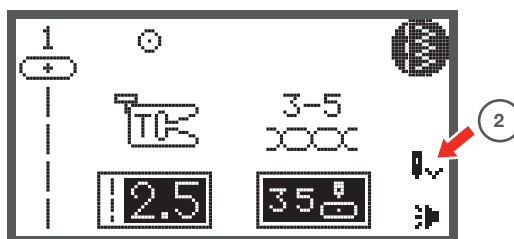
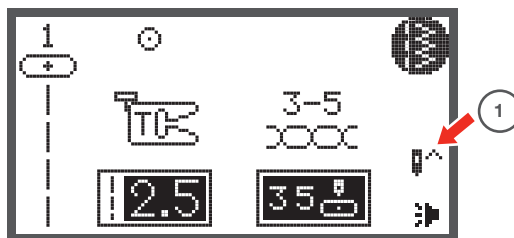


The function will be cancelled if you press the button once again or select another pattern.

Needle up/down button

- By pressing the needle up/down button
 - the needle will either stop in the up position or in the material when stop sewing.

- Press the button so the arrow on the LCD points upward
 - the needle moves to the highest position and will stop there after sewing.
- Press the button so the arrow on the LCD points downwards
 - the needle moves to the lowest position and will stop there after sewing.



NOTE

During sewing, press the needle up/down button, the machine will stop automatically.

Speed Dial

- By adjusting the position of the speed dial
 - the top speed during sewing may be limited.

The position of the speed dial defines the sewing speed when the foot control is pressed down completely.



- For higher speed: Turn the dial clockwise
- For slower speed: Turn the dial counter-clockwise

When the machine is run via the Start/Stop button the position of the speed dial defines the actual sewing speed.



NOTE

Speed setting is applied exclusively in sewing mode.

Arrow buttons

Use the buttons to select desired pattern, function... etc.



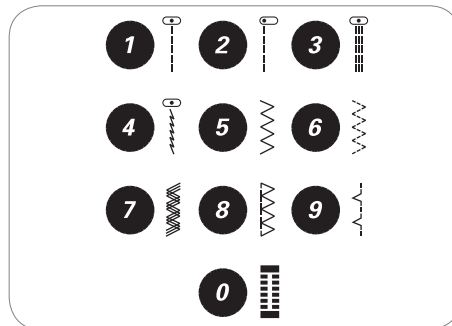
OK button

- Press this button to confirm the selection.
 - In the Normal Mode press the button to enter the pattern browser.
 - In the Memory Mode press the button to enter the pattern browser.



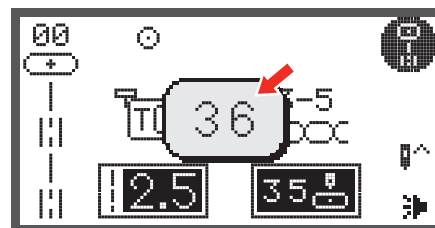
Direct pattern selection

- Press the buttons to select the practical stitch patterns shown beside the numbers when the Direct Mode is set.



Number buttons

- Press the buttons to select the practical stitch patterns at set Pattern Group directly.

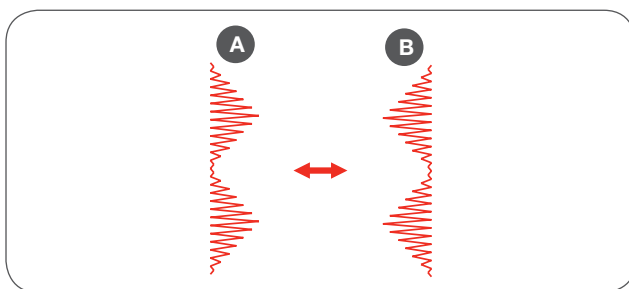


Mirror image button

- Except for Direct Group Pattern 0 and the A Group patterns 86-99, the other patterns can be mirror-imaged by pressing the mirror image button.
 - The machine will continue to sew the mirrored pattern until the mirror button is pressed again.
 - The mirror function will also be canceled if the pattern is changed.

A Normal pattern

B Mirror-imaged pattern



Elongation

- A Group Patterns 13-36 can be elongated up to five times its normal length by pressing the elongation button.

When the width or length of the stitch is changed, a greater variety of patterns is available.



Twin needle

Except for the Direct Group Patterns 0 and the A Group patterns 86-99, the patterns can be sewn in two parallel lines of the same stitch using the twin needle.

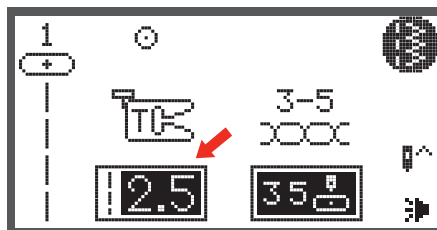
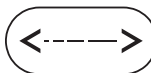
- Press the twin needle button and the machine automatically reduces the maximum width for twin needle sewing.
- Press the button again to return to single needle sewing.



Stitch length adjustment

When you select a stitch, the machine will automatically set the recommended stitch length which will be indicated by numbers on the LCD display.

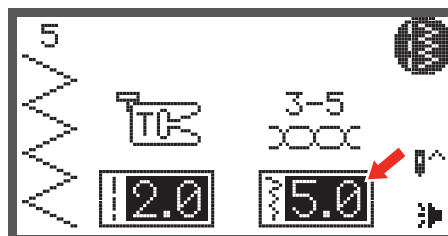
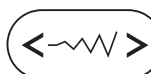
- The stitch length can be altered by pressing the stitch length adjustment button.
- To shorten the stitch length, press the «-» button (left). For a longer stitch length, press the «+» button (right). The stitch length can be altered from «0.0 to 4.5». Certain stitches have a limited stitch length.



Stitch width adjustment

When selecting a stitch, the machine will automatically set the recommended stitch width, which will be indicated by numbers on the LCD display.

- The stitch width can be regulated by pressing the stitch width adjustment button.
- For a narrower stitch, press the button left.
- For a wider stitch, press the button right.
 - The stitch width can be altered from «0.0 to 7.0». Certain stitches have a limited stitch width.



When Direct Patterns 1-4 and A Group Pattern 00 are selected, the needle position is regulated by the stitch width adjustment buttons.

- Press the button left and the needle moves to the left.
- Press the button right and the needle moves to the right.
 - The number will be changed from left position «0.0» to extreme right position «7.0».
 - The pre-set center needle position will be indicated as «3.5».



Memory

- Press the memory button to enter the Memory Mode and program the combinations of characters or decorative stitches.
 - The Direct Group Patterns and the A Group patterns 86-99 can't be programed.



Clear/Return button

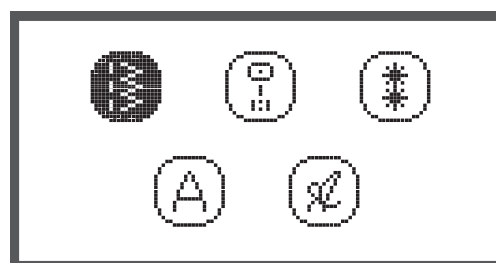
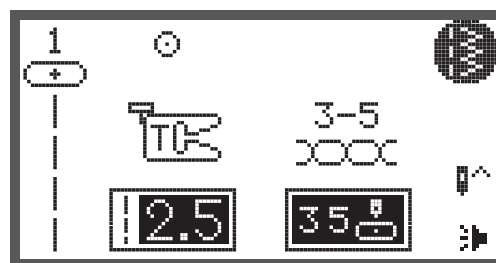
- If an incorrect pattern or memory file is selected, press this button to clear it or to return to the previous display.



Pattern group selection

The LCD display shows the Direct Group Patterns when you turn on the machine.

- Press the pattern group selection button, the LCD display enters the pattern group selection display automatically. Use the arrow buttons to select the desired group of stitches.

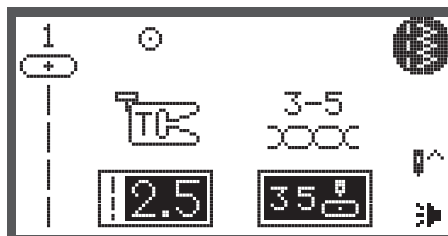


- Direct Group Patterns
- A Group Patterns
- B Group Patterns
- C1 Group Patterns: Block Style Alphabet
- C2 Group Patterns: Script Style Alphabet

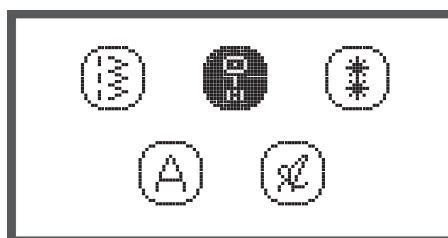
How to select a stitch

The LCD display shows the Direct Group Patterns when switching on the machine.

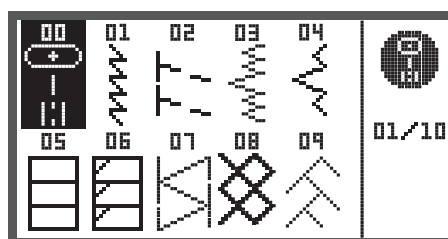
- Press number buttons to select a pattern shown next to the number buttons or press the pattern group selection button to select the desired pattern group.



- Use the arrow buttons to select the desired pattern group and press the OK button.



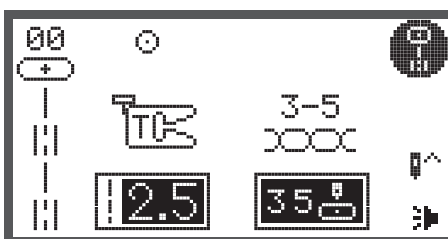
- Use either the arrow buttons or the number buttons to select the desired pattern.



- When using the arrow buttons, press the OK button after the desired stitch was selected to go back to Sewing Mode.



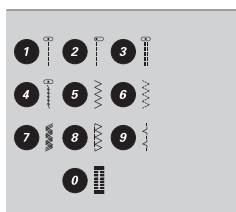
- When using the number buttons, the machine will automatically set the stitch and go back to Sewing Mode.


































































































Stitches Overview

Stitches






Direct Patterns

	1	2	3	4	5	6	7	8	9	0
---	---	---	---	---	---	---	---	---	---	---





































































































A - Group Patterns

Utility stitches	00	01	02	03	04	05	06	07	08	09	10	11	12											
																								
Satin stitches	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
																								
Decorative Satin stitches	37	38	39	40	41	42	43	44	45															
																								
Cross stitches	46	47	48	49	50	51	52	53	54	55														
																								
Quilt stitches	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75				
																								
Decorative stitches	76	77	78	79	80	81	82	83	84	85														
																								
Buttonhole stitches	86	87	88	89	90	91	92	93																
																								
Bar tack stitches	94																							
																								

A - Group Patterns

Eyelet stitches	95 96
	 
Button sewing stitches	97
	
Darning stitches	98 99
	 

B - Group Patterns

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

C1 Group Patterns: Block Style Alphabet

1 2 3 4 5 6 7 8 9 0

37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

a b c d e f g h i j k l m n o p q r s t u v w x y z

63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
 Ä Å Æ Ñ Ö Ø Ç Ü ä å æ ë è é ê ñ ö õ ø ì ç ü ũ ß &

89 90 91 92 93 94 95 96 97

? ! , , . - ()

01 02 03 04 05 06 07 08 09 10

1 2 3 4 5 6 7 8 9 0

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

a b c d e f g h i j k l m n o p q r s t u v w x y z

63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88

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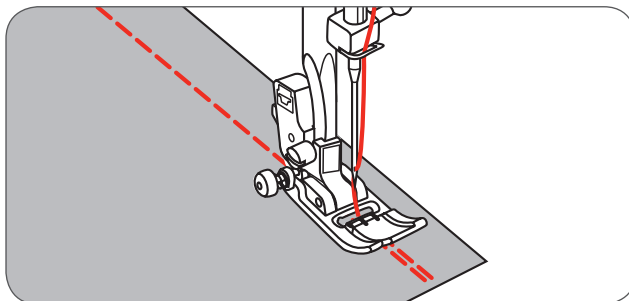
89 90 91 92 93 94 95 96 97

? ! _ ' , . - ()

Reverse

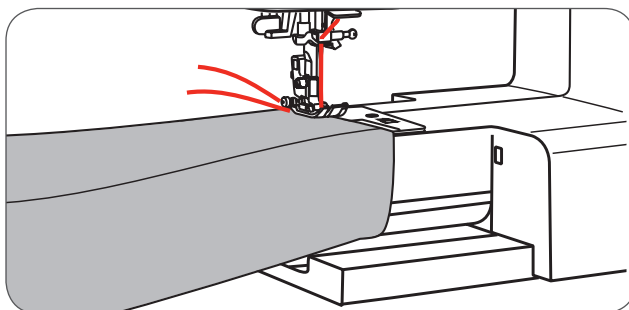
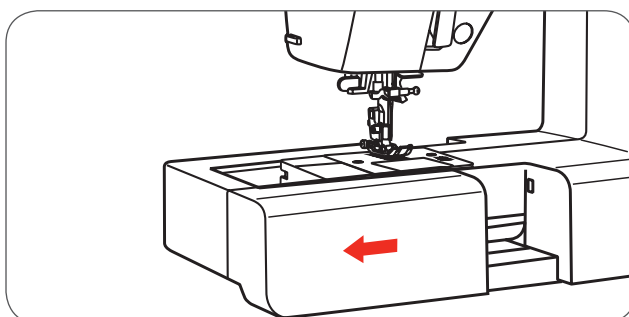
Reverse stitching is used to secure the threads at the beginning and at the end of a seam.

- Press the reverse button and sew 4-5 stitches.
 - The machine will sew forward when the button is released.



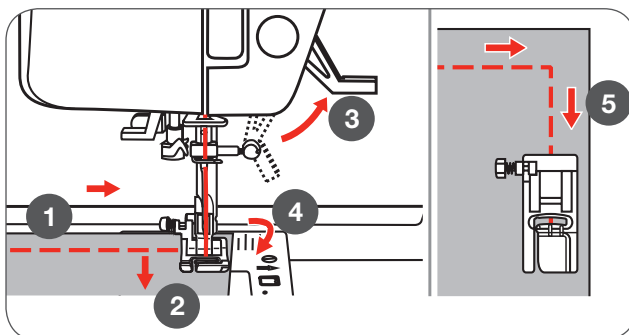
Free arm

Free-arm sewing is convenient for sewing tubular areas such as pant hems and cuffs.



Sewing corners

- 1 Stop the sewing machine when you reach a corner.
- 2 Lower the needle into the fabric manually or by pressing the needle up/ down button once.
- 3 Raise the presser foot.
- 4 Use the needle as a pivot and turn the fabric.
- 5 Lower the presser foot and resume sewing.

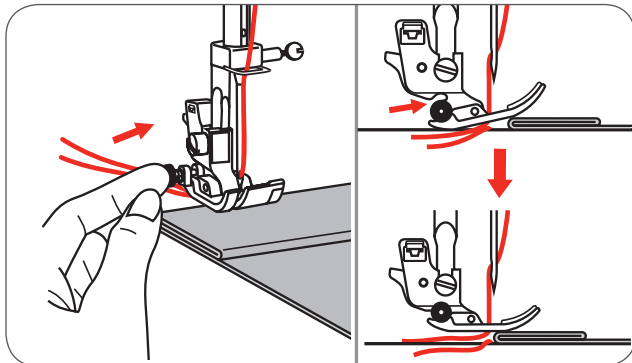


Sewing on the heavy fabric

The black button on the left side of the presser foot will lock the presser foot in a horizontal position if you push it in before lowering the presser foot. This ensures even feeding at the beginning of a seam and helps when sewing multiple layers of fabric such as sewing over seams when hemming jeans.

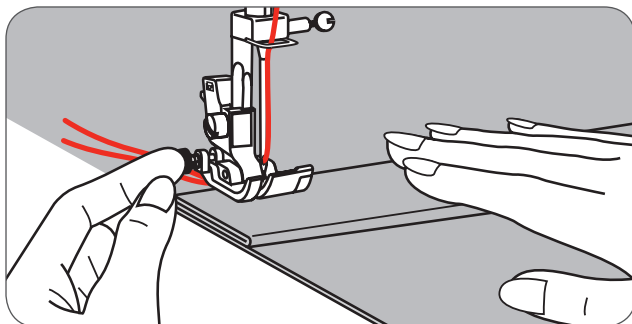
When you reach the point of an increased thickness, lower the needle and raise the presser foot.

- Press the toe of the foot and push in the black button, then lower the foot and continue sewing.

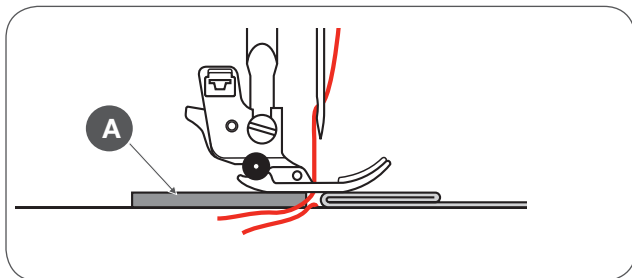


The black button releases automatically after sewing few stitches.

You can also place another piece of fabric with the same thickness at the back of the seam. Or support the presser foot while feeding by hand and sewing towards the folded side.



A Cardboard or thick fabric



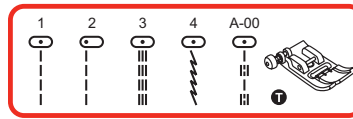
Straight Stitches and Needle Position

Changing the needle position

These settings apply to the Direct Group Pattern 1-4 and the A Group Pattern 00 only.

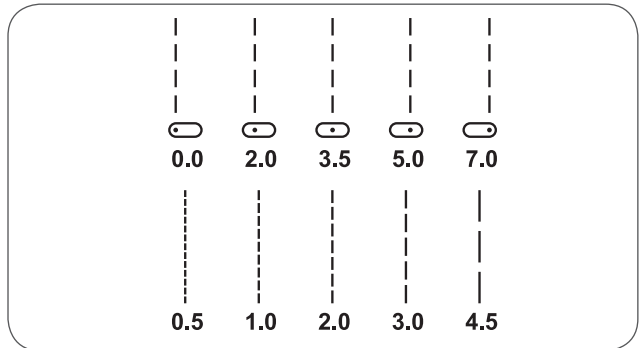
The pre-set position is «3.5», center position.

- Press the stitch width button to enter the stitch width adjustment mode.
 - When you turn the selector wheel counter-clockwise, the needle position will move to the left.
 - When you turn the selector wheel clockwise, the needle position will move to the right.



Altering the stitch length

- Press the stitch length button to enter the stitch length adjustment mode.
 - To shorten the stitch length, turn the selector wheel counter-clockwise.
 - For a longer stitch length, turn the selector wheel clockwise.



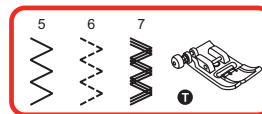
In general, the thicker the fabric, thread and needle, the longer the stitch should be.

Zig-zag Stitches

Altering the stitch width

The maximum zig-zag stitch width for zig-zag stitching is «7.0»; however, the width can be reduced with any patterns.

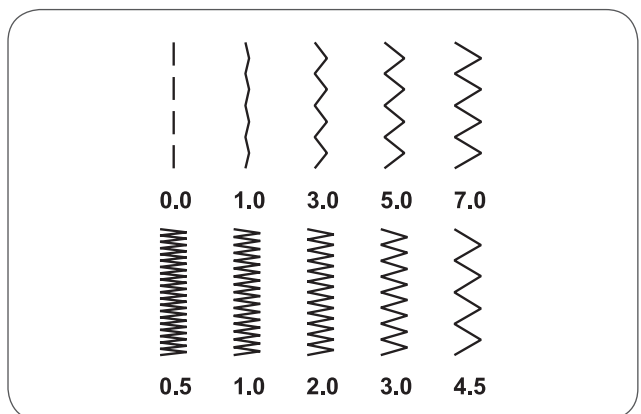
- Press the stitch width button to enter the stitch width adjustment mode,
 - the stitch width can be altered from «0.0 to 7.0mm».



Altering the stitch length

The density of zig-zag stitches increase- as the setting of stitch length approaches «0.3».

Neat zig-zag stitches are usually achieved at «1.0-2.5». Closed up zig-zag stitches (close together) look like satin stitches.

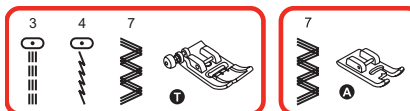


Triple Straight Stretch Stitch

The triple straight stretch stitch is strong and flexible and ensures a durable seam without breaking.

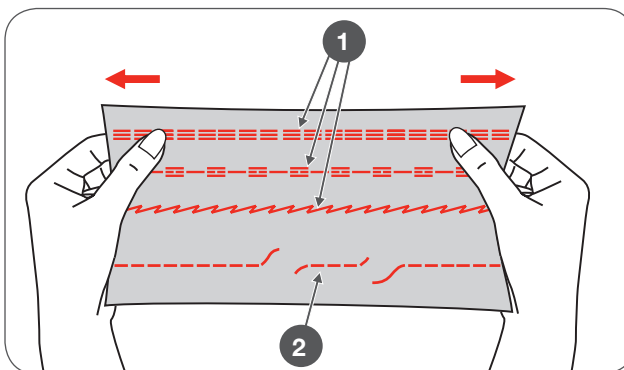
Suitable for highly elastic and knit fabrics but also for heavy fabrics such as denim.

These stitches can also be used as a decorative top stitching.

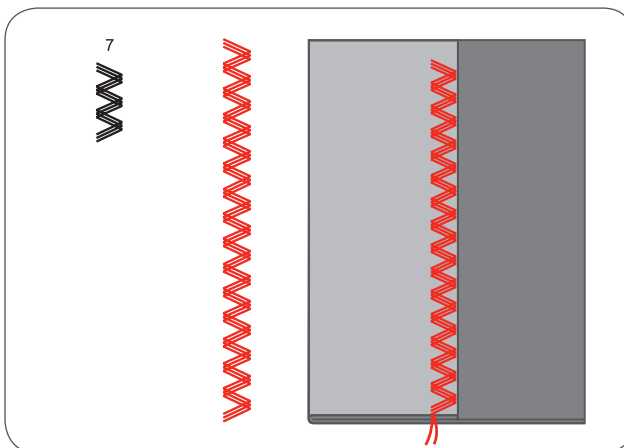
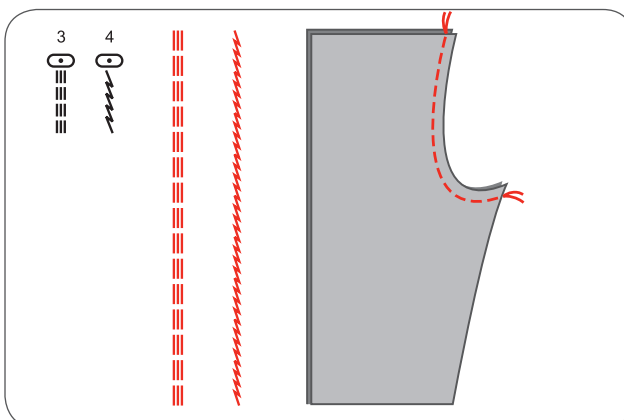


The triple straight stretch stitch is used to add triple reinforcement to stretch and hardwearing seams.

- 1 Triple straight stretch stitch
- 2 Straight stitch



The triple zig-zag stretch stitch is suitable for firm fabrics like denim, poplin, duck, etc.



Overlock Stitches

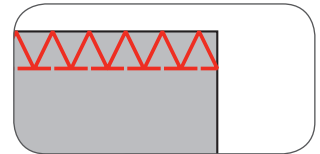
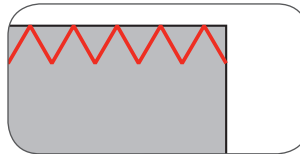
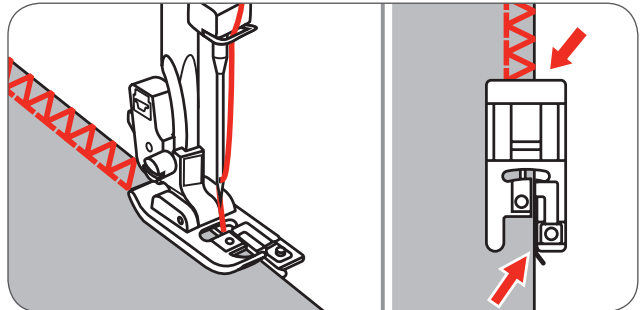
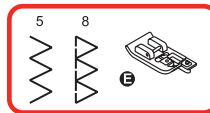
Change the presser foot to the overlock foot (E).

Sew the fabric with the fabric edge against the guide of the overlock foot.



ATTENTION!

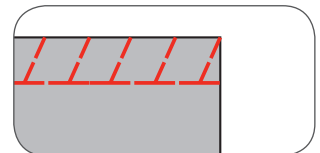
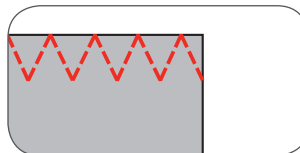
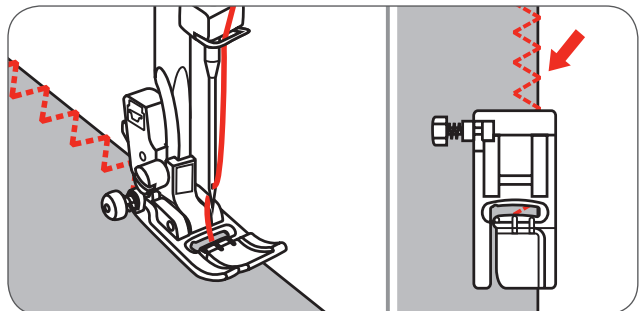
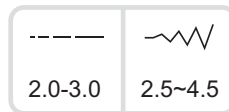
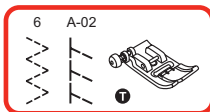
The overlock foot should be used to sew with Direct Group Patterns 5 and 8 only. Do not set the stitch width narrower than «5.0». It is possible that the needle could hit the presser foot and break when sewing other patterns and width.



Using the Zigzag foot

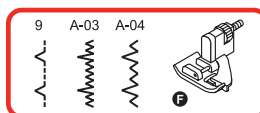
Change the presser foot to the Zigzag foot (T).

When sewing the overlock using the Zigzag foot, sew along the edge of the fabric so that the needle drops over the edge of the fabric on the right side.



Blind Hem

- 9 : Blind hem/ lingerie for firm fabrics
- A-03 : Blind hem for stretch fabrics
- A-04 : Blind hem for stretch fabrics



Fold the fabric as illustrated with the wrong side up.
First perform an overlock stitch as shown in left picture.

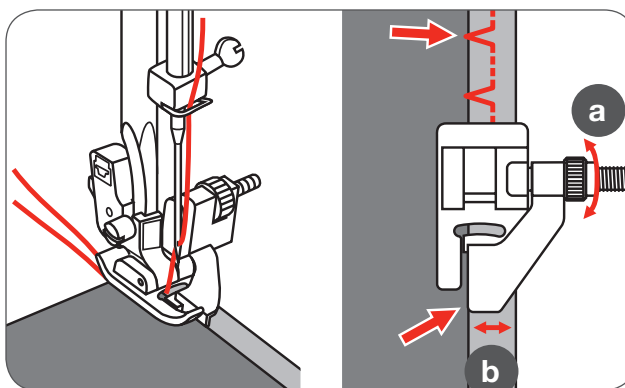
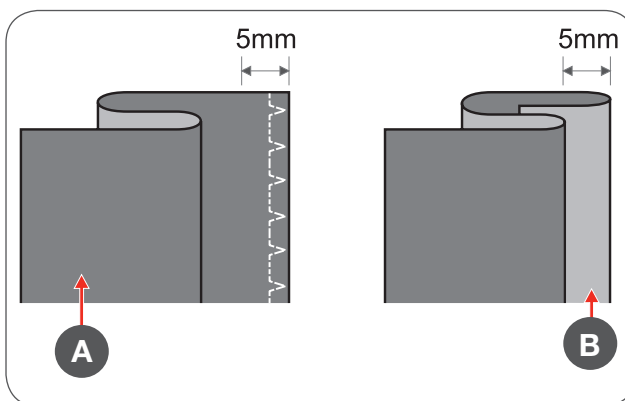


NOTE

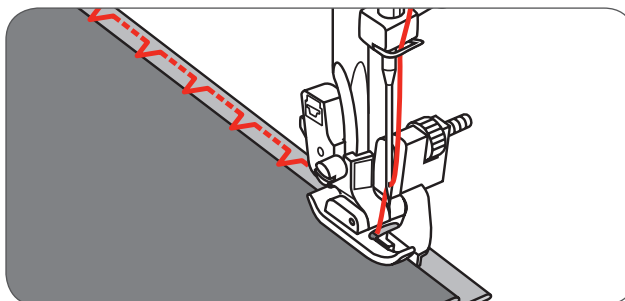
It takes practice to sew blind hem. Always sew a test sample first.

- Place the fabric under the foot.
- Turn the handwheel forward manually until the needle swings fully to the left.
 - It should just pierce the fold of the fabric.
- If it does not, adjust the stitch width accordingly.
- Adjust the guide (b) by turning the knob (a) so that the guide just rests against the fold.
- Sew slowly, guiding the fabric carefully along the edge of the guide.

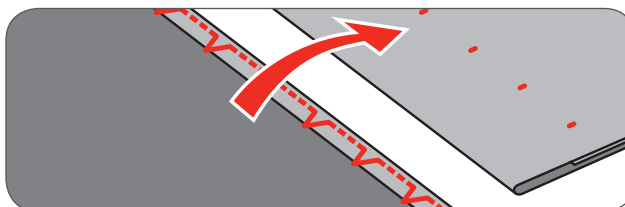
- A Wrong side of the fabric
- B Right side of the fabric



- Sew slowly, guiding the fabric carefully along the edge of the guide.



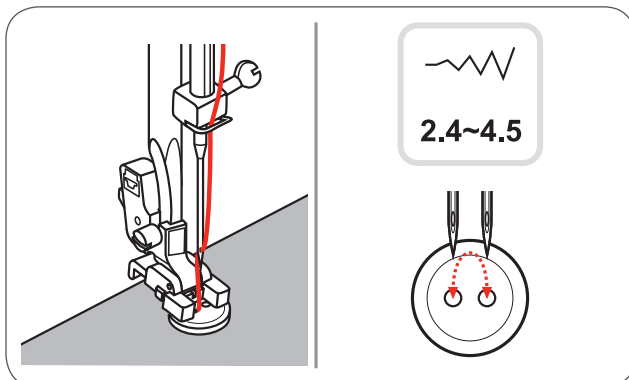
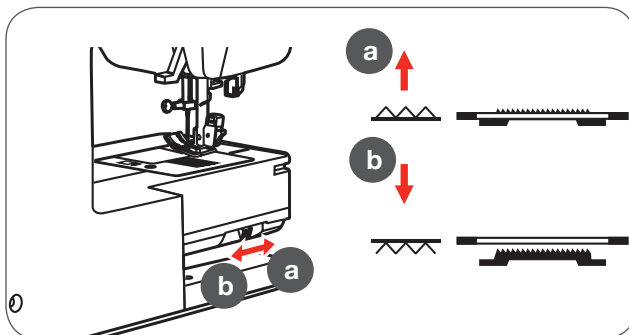
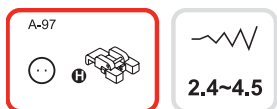
- Turn over the fabric.



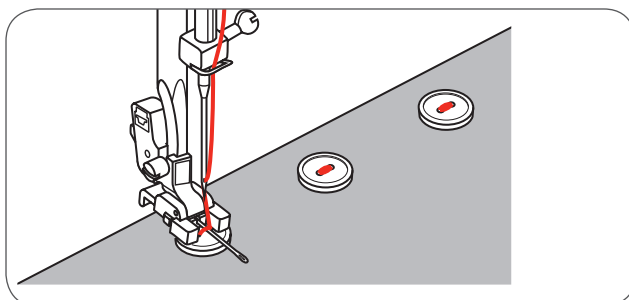
Button Sewing-on

Change the presser foot to the button sewing-on foot.

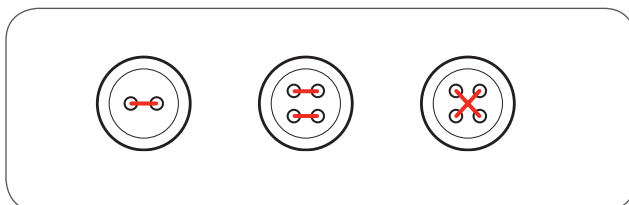
- Move the feed dog control to lower the feed dog (b).
- Position the work under the foot.
- Place the button in the desired position, lower the foot.
- Select zig-zag pattern.
- Adjust the stitch width to «2.5-4.5» according to the distance between the two holes of the button.
- Turn the handwheel to check that the needle goes cleanly into the left and right holes of the button.
- Before sewing, press the Auto-lock button to sew securing stitches automatically at the beginning and at the end of the stitch.



- If a shank is required, place a darning needle on top of the button and sew.



- For buttons with 4 holes, sew the front two holes first, push the work forward and then sew the back two holes.

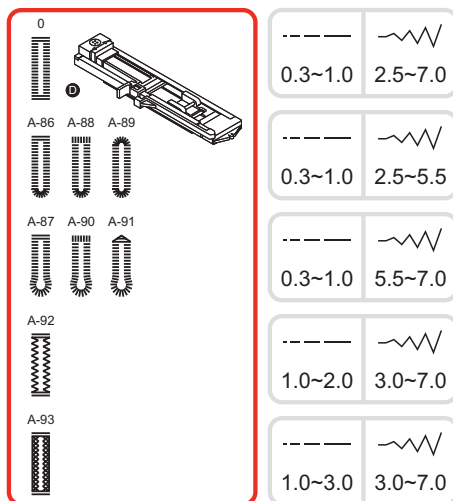


NOTE

After having finished the work, move the feed dog control (a) to raise the feed dog.

Buttonhole Stitching

- 0 : For thin or medium fabric
- A-86 : For thin or medium fabric
- A-87 : For suits or overcoats
- A-88 : For horizontal buttonholes on thick fabrics
- A-89 : For thin or medium fabric
- A-90 : For thick coats
- A-91 : For jeans or trousers
- A-92 : For jeans or stretch fabric with a coarse weave
- A-93 : For stretch fabric

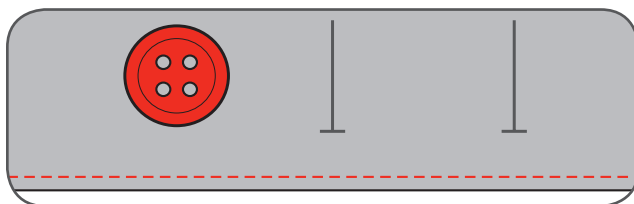


NOTE

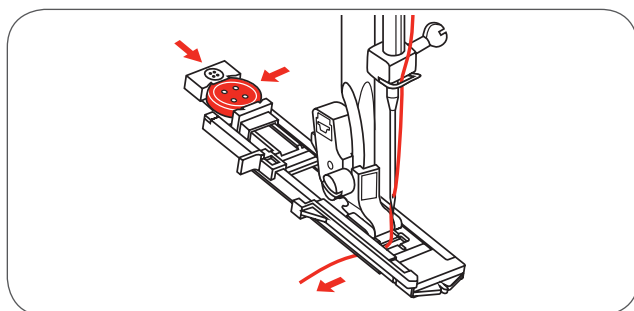
Before sewing a buttonhole on your project, practice on a scrap piece of the same type of fabric.

- Mark the positions of the buttonhole on the fabric.

The maximum buttonhole length is 3cm (1 3/16 inch). (Total of diameter + thickness of button.)

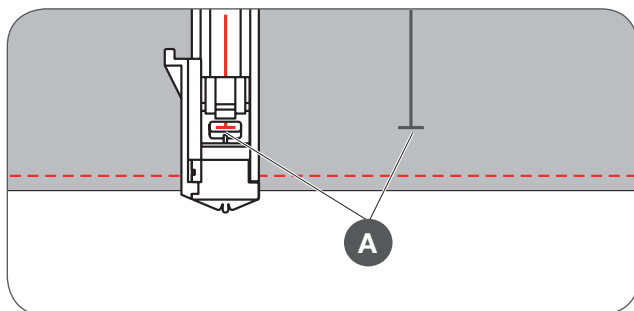


- Attach the buttonhole foot, then pull out the button holder plate and insert the button.
- The size of the buttonhole is determined by the button inserted in the button plate.
- The thread should be passed through the hole in the presser foot, then be placed under the foot.

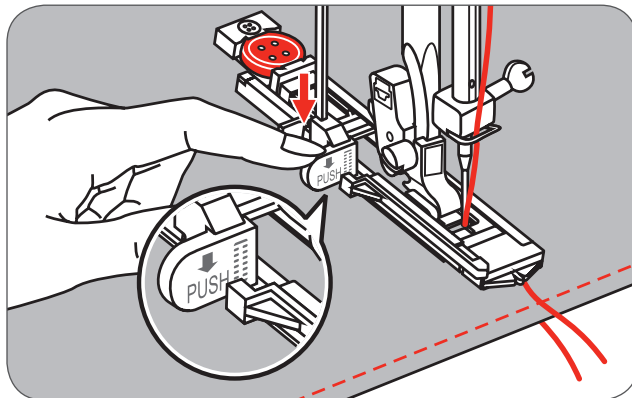


- Select the buttonhole stitch.
- Adjust the stitch width and the stitch length to the desired width and density.

A Starting point

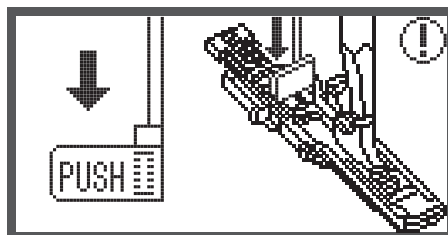


- Position the fabric under the presser foot so that the centerline's mark is aligned with the center of the buttonhole foot.
- Lower the buttonhole lever.



NOTE

The buttonhole stitch was selected and the Start/Stop button was pressed while the buttonhole lever is raised, the LCD will display the warning message to remind you to lower the buttonhole lever.

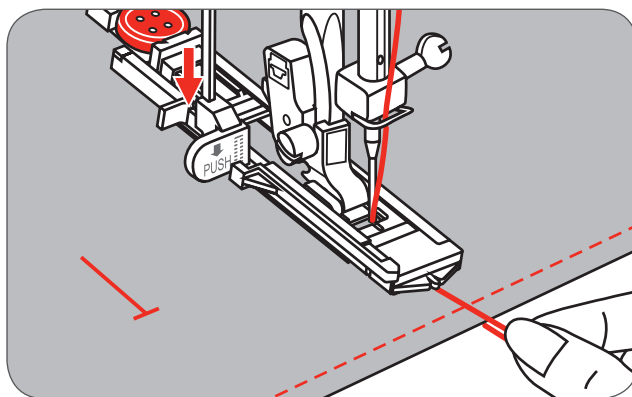


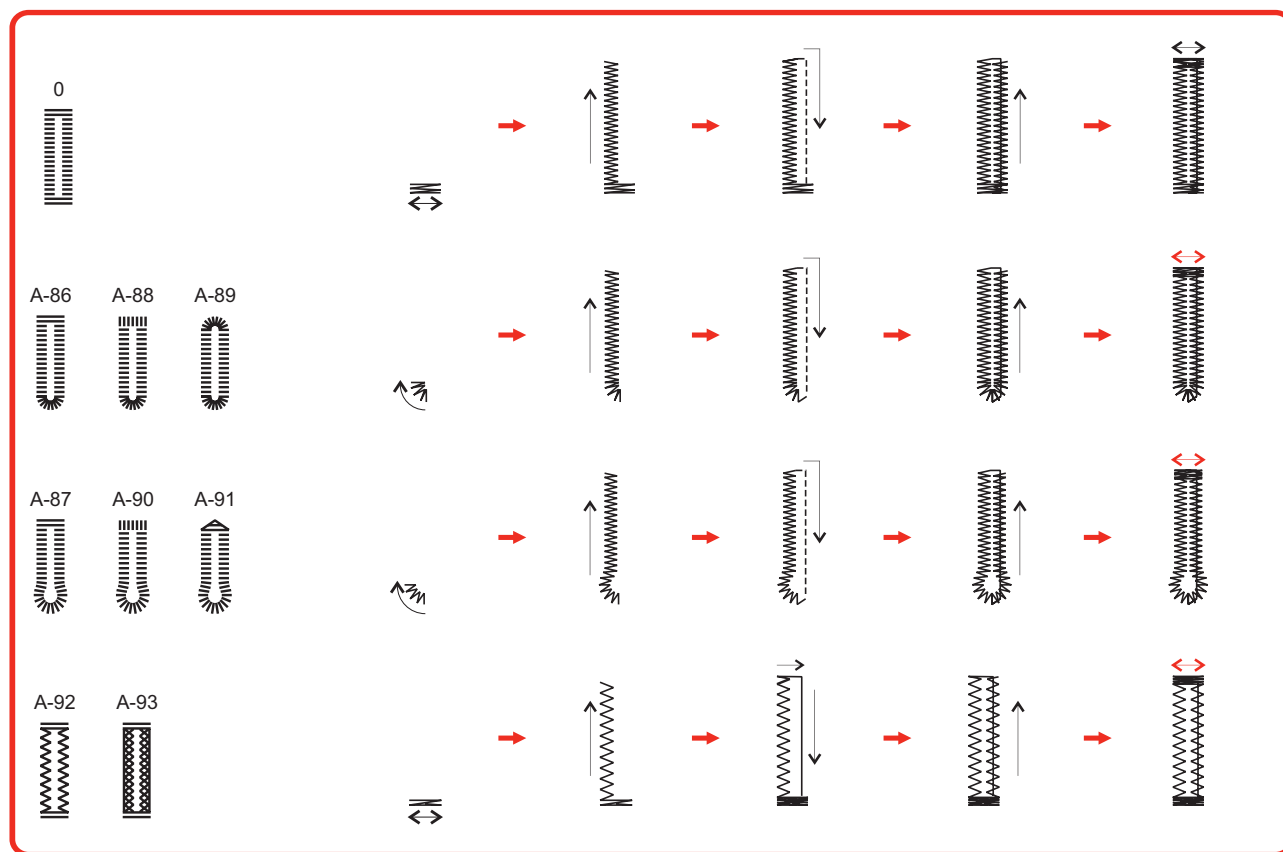
- Hold the upper thread slightly and start sewing.



NOTE

Gently feed the fabric by hand. Before stopping, the machine will automatically sew a securing stitch after the buttonhole is sewn.





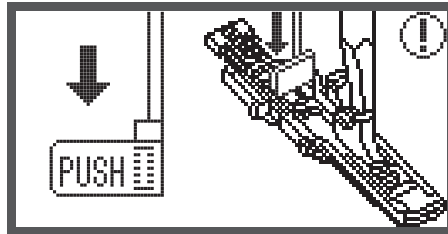
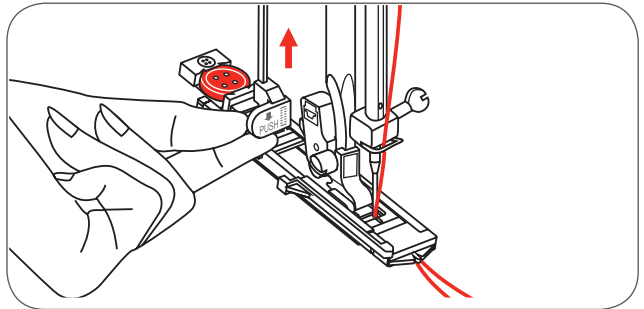
Buttonholes are sewn from the front of the presser foot to the back, as shown.

- Raise the presser foot and cut the thread.
- To sew over same buttonhole, raise the presser foot (it will return to original position).
- After sewing the buttonhole, raise the buttonhole lever until it stops.

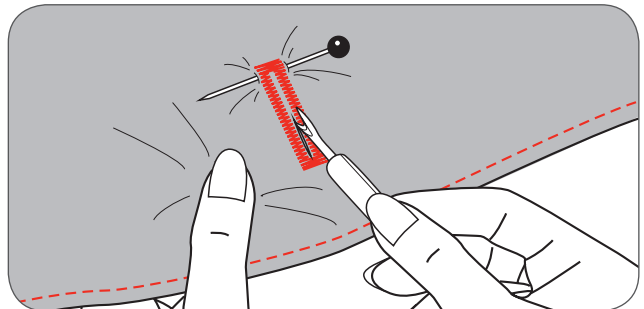


NOTE

When having finishing and another stitch is selected (other than the buttonhole, bartack or darning stitch) and the Start/Stop button is pressed while the buttonhole lever is lowered, the LCD will display the warning message which reminds you to raise the buttonhole lever.



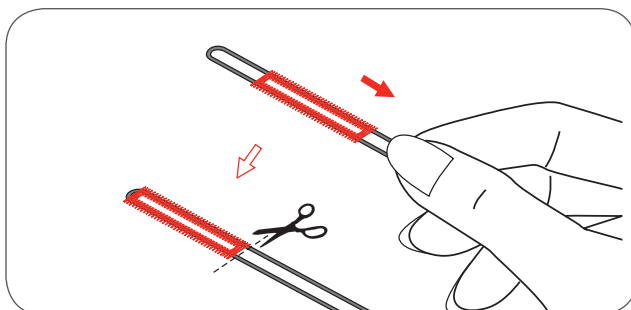
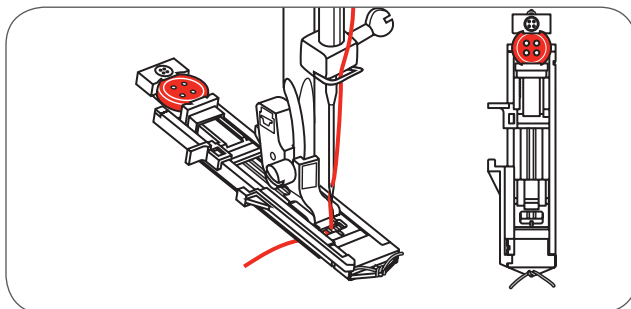
- Cut the slit of the buttonhole being careful not to cut any stitches on either side.
- Use a pin as a stopper at the bartack so you do not cut too much.



Buttonholes on stretch fabrics

When sewing buttonholes on stretch fabric, hook a heavy thread or a cord under the buttonhole foot.

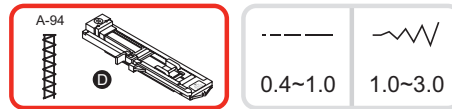
- Attach the buttonhole foot and hook the cord at the back of the presser foot.
- Bring the two cord ends to the front of the foot and insert them in the grooves, then temporarily tie them there. Lower the presser foot and start sewing.
- Set the stitch width to match the diameter of the cord.
- Once the sewing is completed, pull the cord gently to remove any loose parts, then trim off any excess.



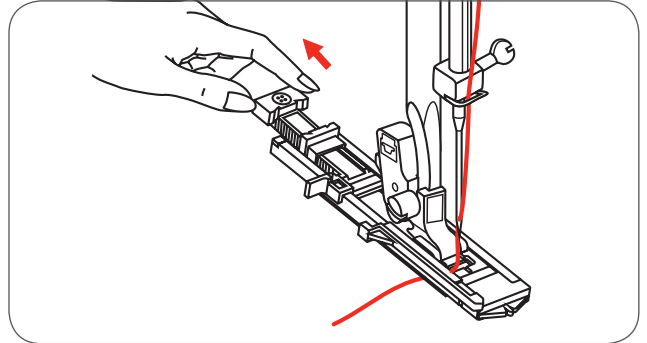
NOTE

It is recommended to use stabilizer on the backside of the fabric.

Bartack stitch

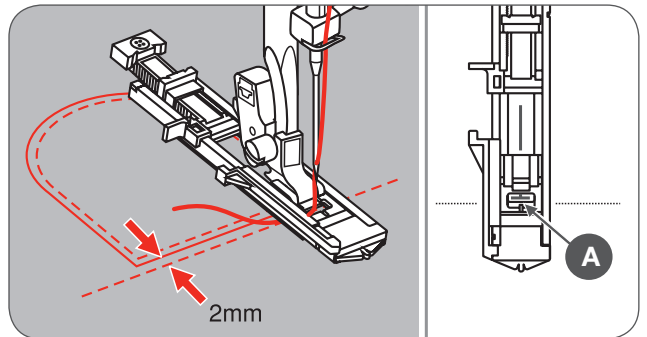


- Extend the button guide plate and set to the desired bartack length.
- Adjust the stitch width and stitch length to personalize the stitches.

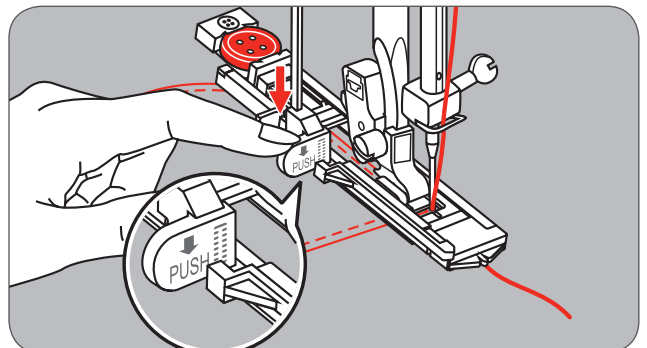


- Position the fabric so that the needle is 2mm (1/16 inch) in front of the pocket opening and then lower the presser foot lever.

A Starting point

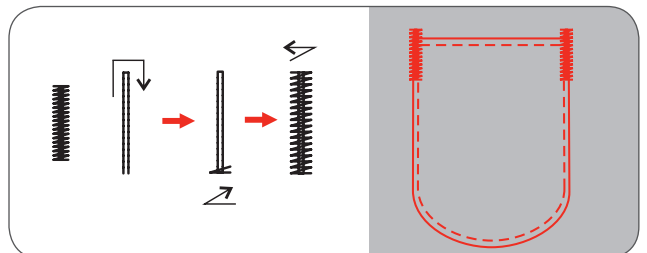


- Lead the upper thread down through the hole in the presser foot.
- Pull down the buttonhole lever and position it behind the bracket on the buttonhole foot.
- Gently hold the end of the upper thread in your left hand and start sewing.



Sewing procedure for bartack is illustrated.

This is an example of sewn bartacks at pocket corners.

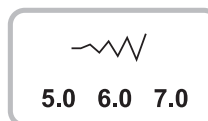
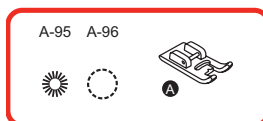


Eyelet Stitch

* The eyelet punch tool is not included with the machine.

Select pattern 60 to obtain the eyelet stitch.

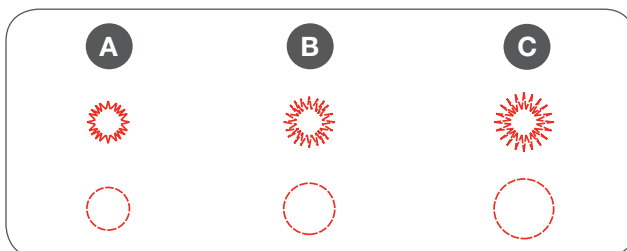
Attach the satin stitch foot (A).



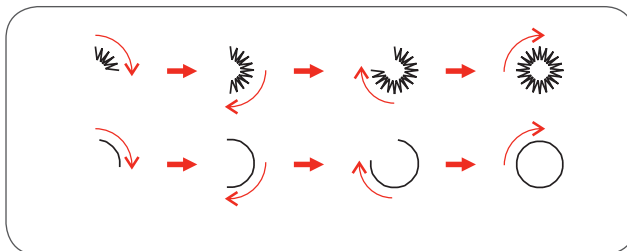
- Press the «-» or «+» stitch width adjustment button to select the eyelet size.

Size of eyelet:

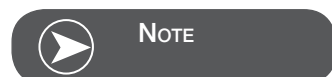
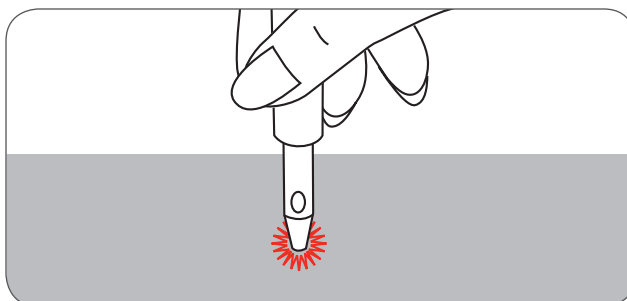
- | | | |
|---|---------|--------------------|
| A | Small: | 5.0mm (3/16 inch) |
| B | Medium: | 6.0mm (15/64 inch) |
| C | Large: | 7.0mm (1/4 inch) |



- Position the needle in the fabric at the beginning of the stitching, and then lower the presser foot lever.
 - Once the sewing is completed, the machine sews the securing stitches automatically, then stops.



- Make a hole at the center using an eyelet punch tool.



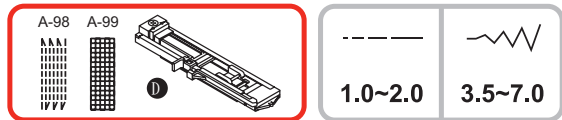
If thin thread is used, the stitching may be too loose. If this occurs, sew the eyelet twice one on top of the other.

Darning Stitch

A-98: Simple darning stitch in thin and medium fabrics

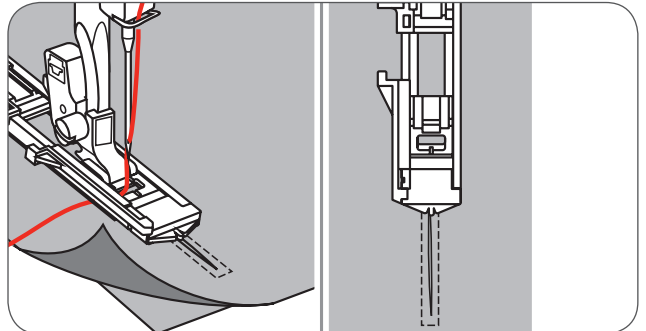
A-99: Reinforced darning stitch in heavy fabrics

- Select the A Group Patterns 98 or 99 to obtain the darning stitch.
- Change to the buttonhole foot.



Baste the upper fabric and the under fabric together.

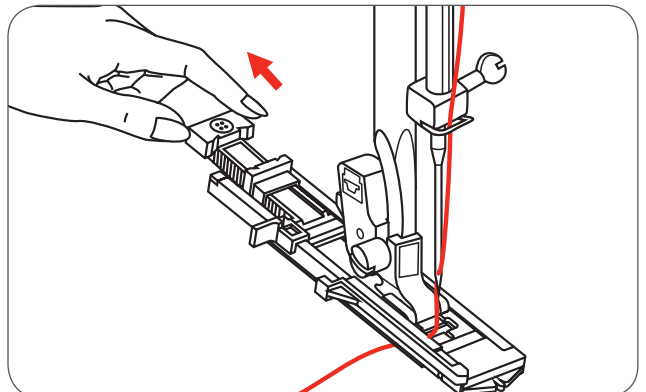
- Select the needle position.
- Lower the presser foot over the center of the tear.



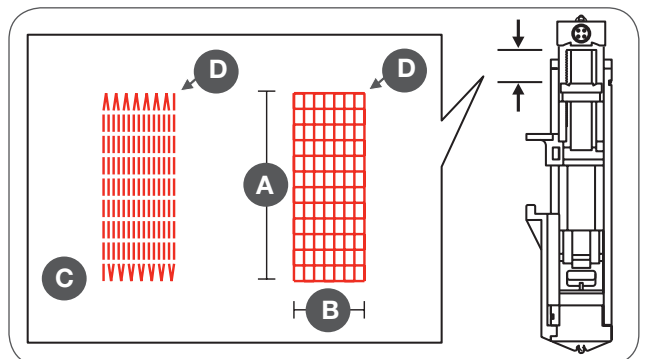
- Pull the button holder to rear.
- Adjust the button guide plate on the buttonhole foot to the desired length.

The size of one darning sequence is variable.

However, the maximum sewing length is 2.6cm (1 inch) and the maximum sewing width is 7mm (9/32 inch).



- A The length of sewing.
- B The width of sewing.
- C Start
- D Stop



Basic Sewing Procedures

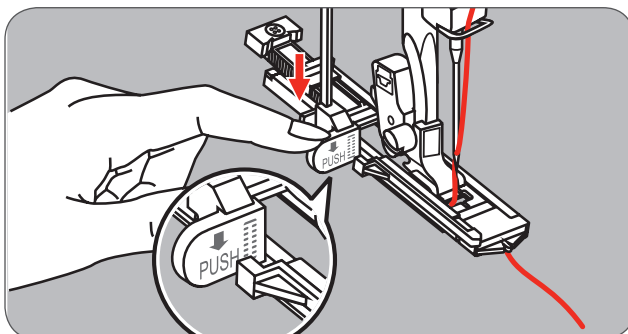
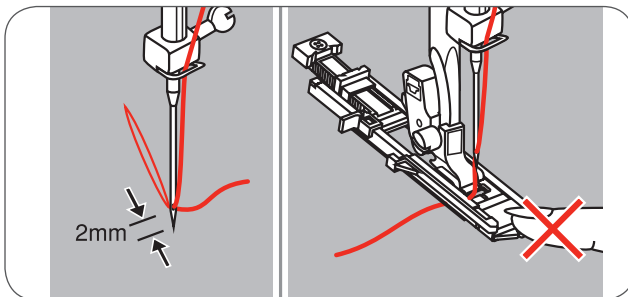
Position the fabric so that the needle is 2mm (1/16 inch) in front of the area to be darned, and then lower the presser foot.



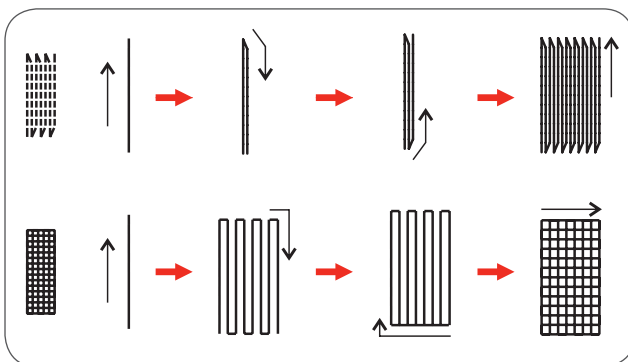
NOTE

When lowering the presser foot, do not push the front of the presser foot, otherwise the darning will not be sewn in the correct size.

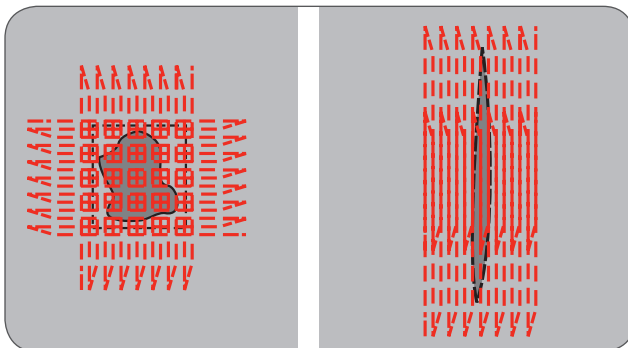
- Lead the upper thread down through the hole in the presser foot.
- Pull down the buttonhole lever.
- The buttonhole lever is positioned behind the bracket on the buttonhole foot.
- Gently hold the end of the upper thread in your left hand, and then start sewing.



Darning stitches are sewn from the front of the presser foot to the back, as shown.



- If the sewing range is too big to sew,
 - then we recommend to sew the area several times (or cross sew) to get better sewing result.

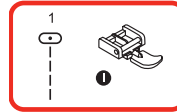


Zipper Insertion*



ATTENTION!

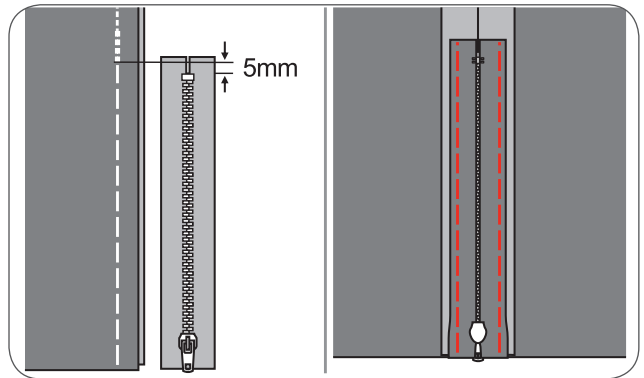
The zipper foot should be used for sewing with center needle position, straight stitch only. It is possible that the needle could hit the presser foot and break when sewing other patterns.



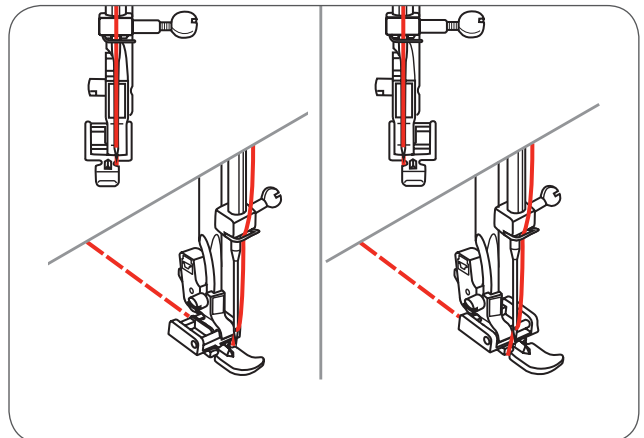
Inserting a centered zipper

Baste the zipper opening on the garment.

- Press open the seam allowance.
- Place the zipper face down on the seam allowance with the coils against the seam line.
- Baste the zipper tape.

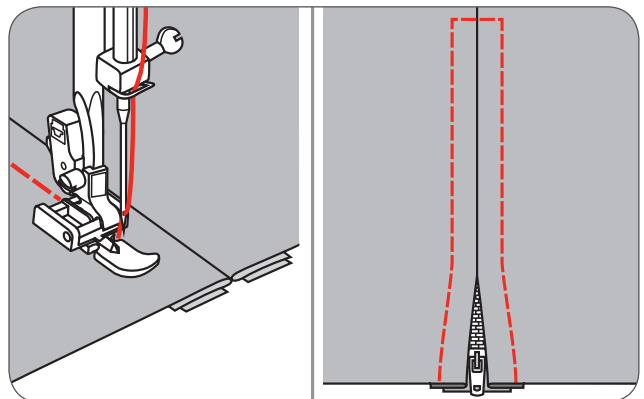


- Attach the zipper foot.
- Attach the right side of the presser foot pin to the holder when sewing the left side of the zipper.
- Attach the left side of the presser foot pin to the presser foot holder when sewing the right side of the zipper.



Stitch the left side of the zipper from top to bottom.

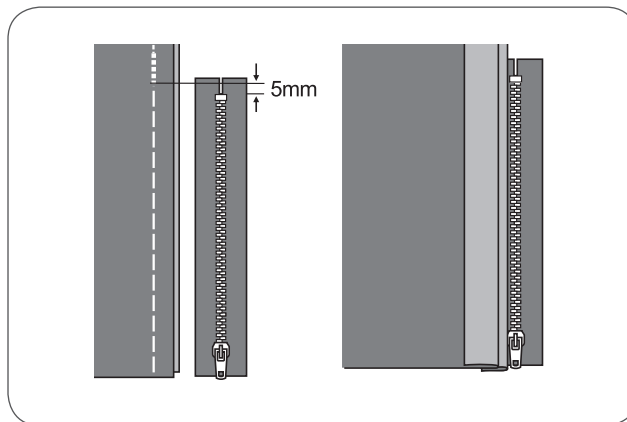
- Stitch across the lower end and right side of the zipper.
- Remove the basting and close the zipper.



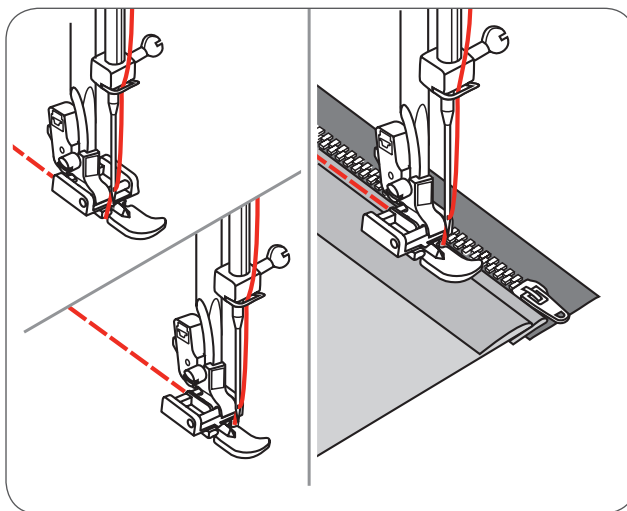
Inserting a side zipper

Baste the zipper opening on the garment.

- Fold seam allowance back to the left.
- Form a 3mm-fold of the right seam allowance.

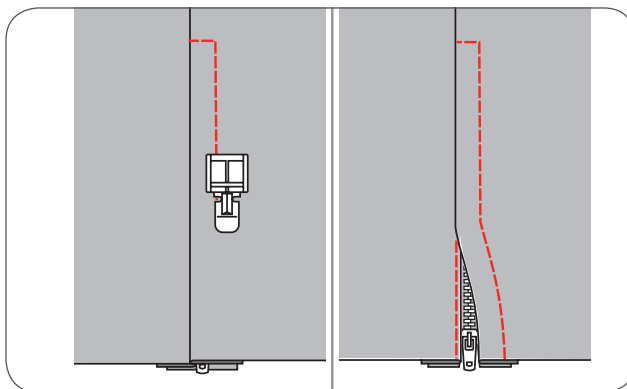


- Attach the zipper foot.
- Attach the right side of the presser foot pin to the holder when sewing the left side of the zipper.
- Attach the left side of the presser foot pin to the presser foot holder when sewing the right side of the zipper.



Stitch the left side of zipper from the bottom to the top.

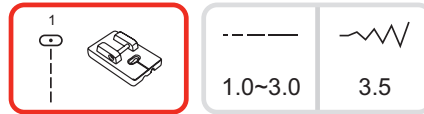
- Turn the fabric right side out, stitch across the lower end and right side of zipper.
- Stop about 5cm (2 inches) from the top of zipper.
- Remove the basting and open the zipper.
- Stitch the remaining seam.



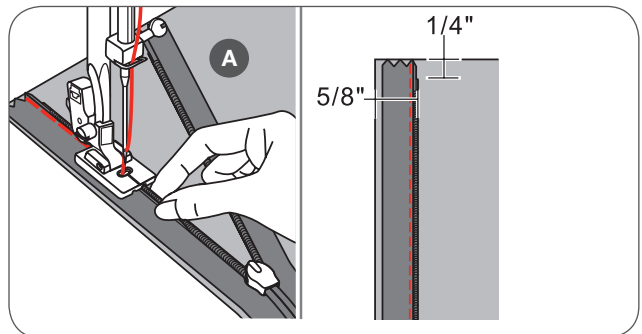
Invisible zipper insertion

* The invisible zipper foot accessory is optional. It is not included with this machine.

This foot is used to insert invisible zippers so that they are covered by the seam, and therefore hidden.



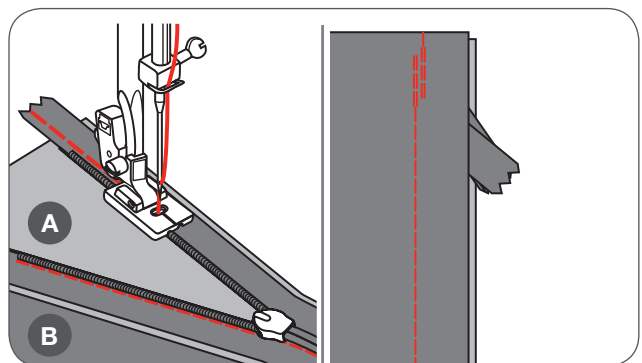
- Attach the invisible zipper foot to the machine.
- Adjust needle center position and select the straight stitch.
 - The stitch length depends on the fabric.
- Vary from 1,0 to 3,0mm.
- Place the open zipper face - down on right side of fabric as shown in the picture.
- Align the fabric edge with the 5/8 inch marking line on the stitch plate.
- Place the zipper 6mm (1/4 inch) below raw edge of garment.
- With right-hand groove of the foot over the zipper coils, sew along the zipper until the foot hits the zipper pull.
- Remove the garment from the machine.



To attach the other half of the zipper, align the fabric edge with the 5/8 inch marking line on the stitch plate as shown in the picture.

With the left-hand groove of the foot over the zipper coils, sew along the zipper until the foot hits the zipper pull.

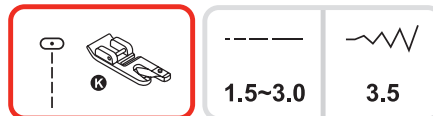
- Close zipper.
- Fold the fabric that the zipper is on the right hand side out of the way as shown in the picture.
- Use a pin to fix the fabric.
- Change to the regular sewing foot and sew along the zipper as closely as possible using straight stitch.
- At last secure with some forward and reverse stitches.



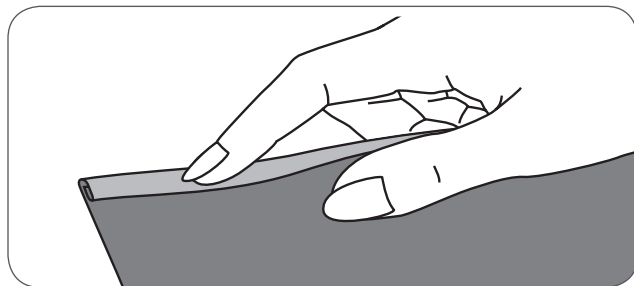
- A Right side of the fabric
- B Wrong side of the fabric

Narrow Hemming

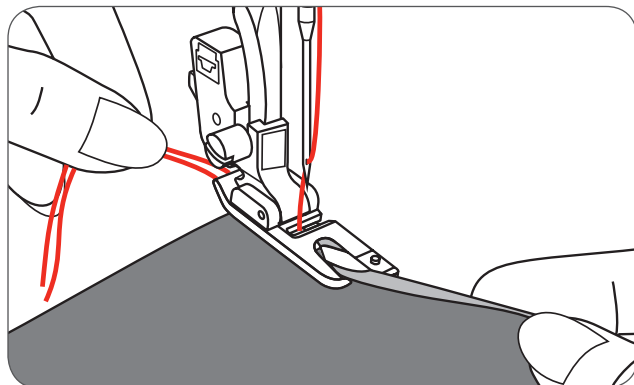
* The hemmer foot accessory is optional. It is not included with this machine.



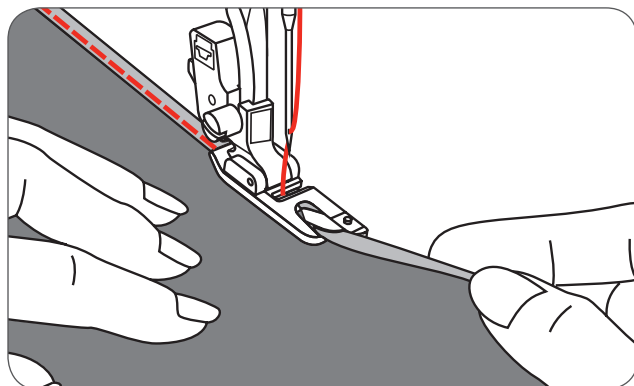
- Fold the edge of the fabric over about 3mm, then fold it over again 3mm for about 5cm along the edge of the fabric.



- Position the needle in the fold by turning the handwheel towards you, and lower the presser foot.
- Sew several stitches and raise the presser foot.
- Insert the fabric fold into the spiral opening of the hemmer foot.
- Move the fabric back and forth until the fold forms a scroll shape.



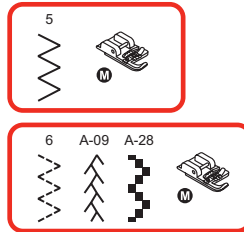
- Lower the presser foot and start sewing slowly guiding the raw edge of the fabric in front of the hemmer foot evenly into the opening of the foot.



Cording

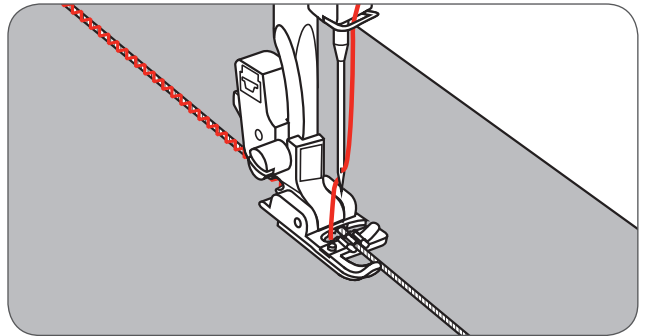
* The cording foot accessory is optional. It is not included with this machine.

Sew over one strand of cording to create a pretty swirled design on a jacket or vest or sew over three strands of cording for border trims. Pearl cotton, knitting yarn, embroidery floss, lace thread, fine wool or lily yarn can be used for cording.



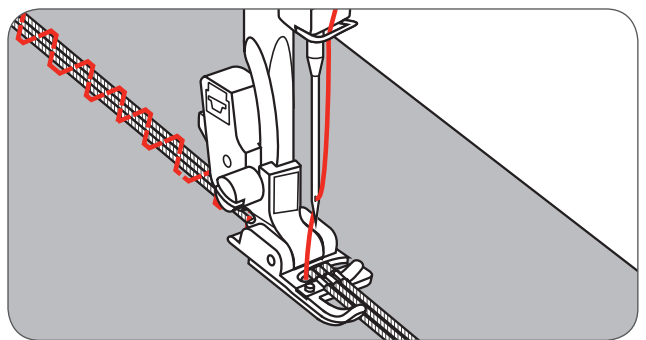
Single cording

- Mark the design on the fabric. Insert the cord in the center groove of the cording foot from the right side opening.
- Pull the cord about 5cm (2 inches) behind the foot.
- The grooves under the foot will hold the length of the cord in place while the stitches are being formed over the cord.
- Select the stitch and adjust the stitch width so that the stitches just cover the cord.
- Lower the foot and sew slowly, guiding the cord over the design.

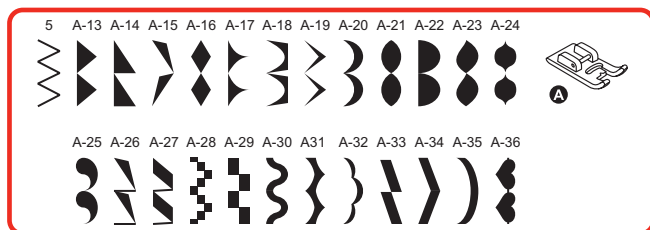


Triple cording

- Push the sewing thread to the left and insert three cords into the grooves of the foot and pull about 5cm (2 inches) of the cords behind the foot.
- Select the desired pattern and adjust the stitch width so that the stitches just cover the cords. Lower the foot and sew slowly guiding the cords.



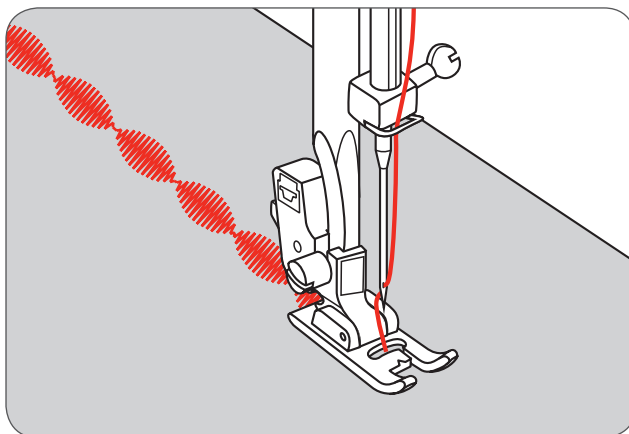
Satin Stitch Sewing



---	~~~~~
0.3~2.0	2.5~7.0

Use the satin stitch foot for satin stitching and sewing decorative stitches. This foot has a full indentation on the sole which allows both easy sewing over the thickness of the stitches formed by closely spaced zig-zag stitches and even feeding of the fabric.

- To tailor the satin or decorative stitch pattern, you may adjust the length and width of the pattern by pressing the stitch length and width adjustment buttons.
 - Experiment with fabric scraps until you get the desired length and width.

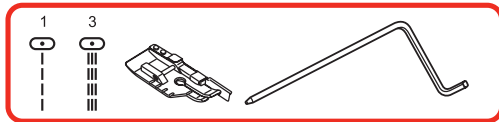


NOTE

When working with thin fabrics it is recommended to reinforce the wrong side using a stabilizer.

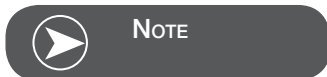
Quilting

* The 1/4" quilting foot accessory is optional. It is not included with this machine.



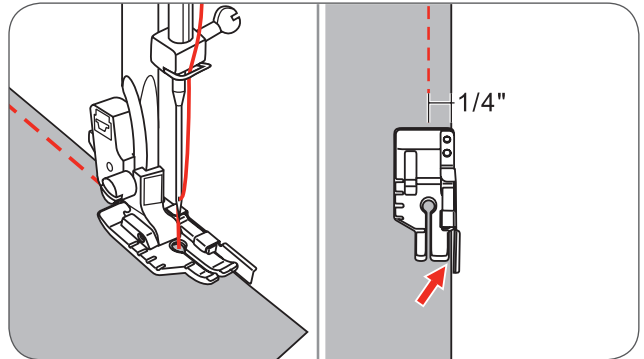
Patchwork stitching

Align the edges of the fabric with the inside edge of the guide on the side of the foot for accurate 1/4" piercing of the needle.



NOTE

Only the straight stitch in center position can be used.

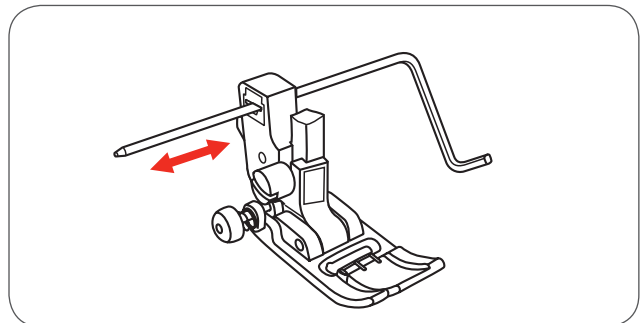


The inside of the toes provides an accurate 1/8" seaming guide.

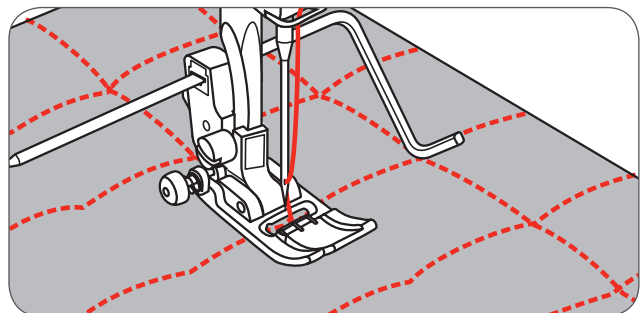
The foot has 1/4" markings both behind the needle and in front of the needle for accurate pivoting of corners.

Using the edge/quilting guide

- Insert the edge/quilting guide in the presser foot holder as illustrated and set the space as you desire.



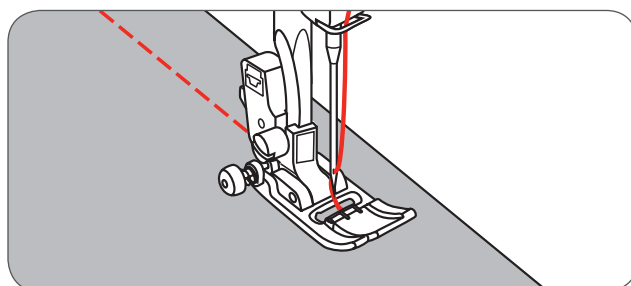
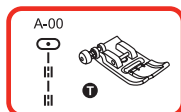
- Sew the first row and move over the fabric to sew subsequent rows with the guide riding along the previous row of stitching.



Hand look quilting

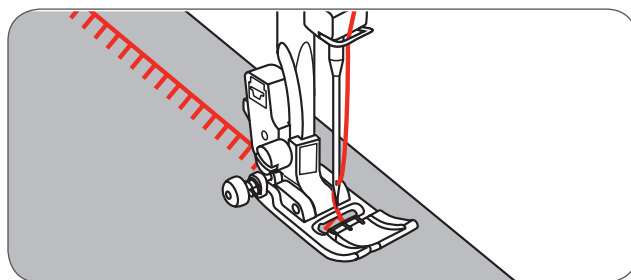
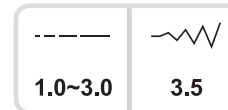
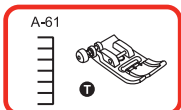
You can imitate the look of a hand look quilt stitch by using monofilament thread in the needle, 30 or 40 weight cotton thread in the bobbin, and by increasing the thread tension.

The thread tension depends on the thickness of your batting.



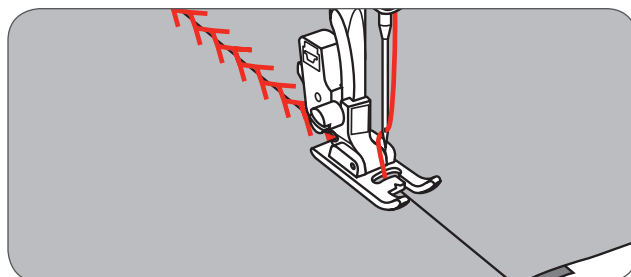
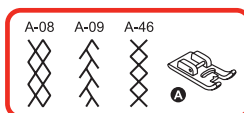
Blanket (Quilting Applique)

For all fabrics and all types of work.



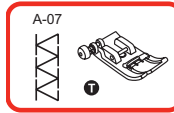
Patchwork stitching

- Place the two pieces of fabric with the right side together and sew with the straight stitch.
- Open the seam allowance and press it flat.
- Place the center of the presser foot on the seam line of the joined pieces of fabric and sew over the seam.



Fagoting

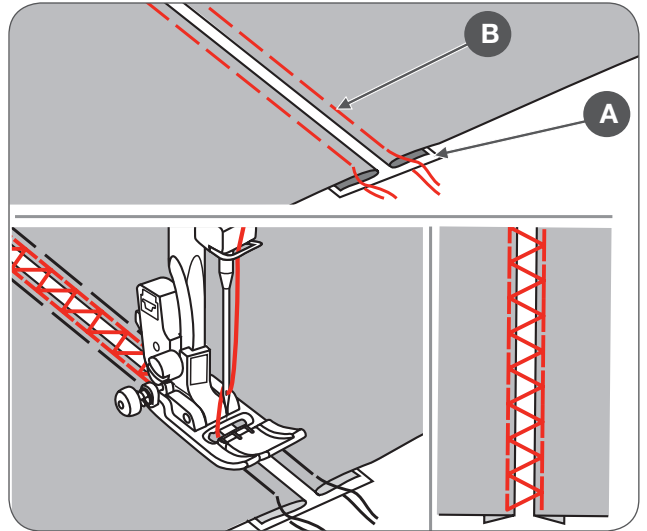
Separate the folded edges of the fabric pieces with a gap of 4mm (1/8 inch) and baste them onto a piece of thin paper or water-soluble stabilizer sheet.



Align the center of the presser foot with the center of the two pieces of fabric and begin sewing.

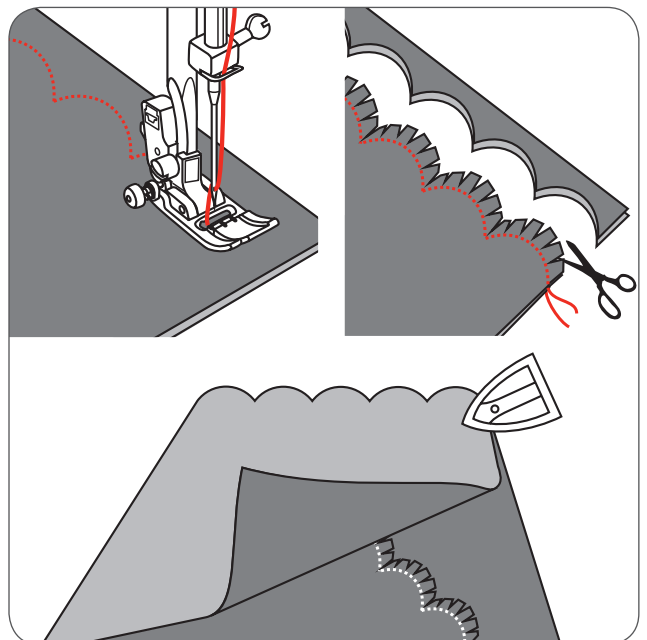
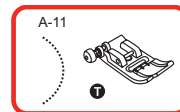
After sewing, remove the paper.

- A Thin paper
- B Basting



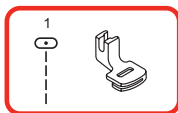
Scallop Stitch

- Stitch along the edge of the fabric, making sure not to sew directly on the edge of the fabric.
 - For better results, apply spray starch onto the fabric and press with a hot iron before it is sewn.
- Trim along the stitches.
- Be careful not to cut the stitches.



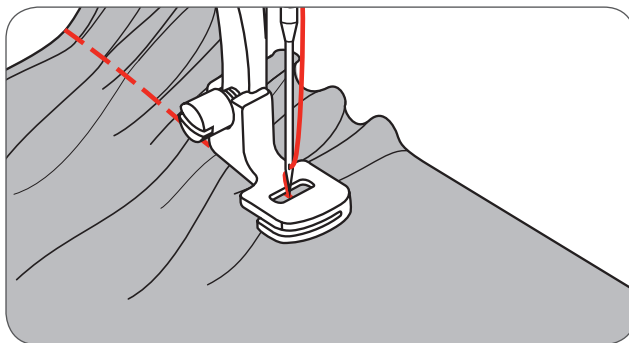
Gathering

* The gathering foot accessory is optional. It is not included with this machine.



Gathered fabric

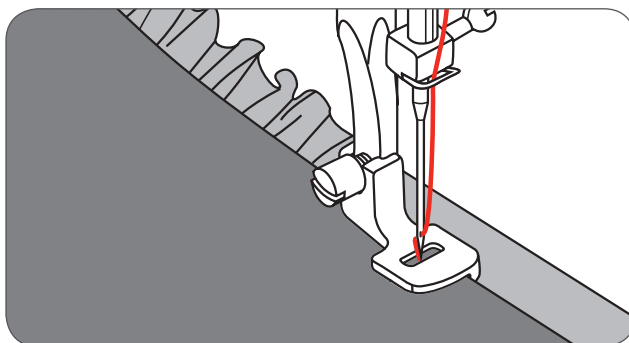
- Remove the presser foot holder and attach the gathering foot, lowering the tension setting to below 2.
- Place the fabric to be gathered under presser foot to the right of the presser foot.
- Sew a row of stitches, keeping the raw edge of fabric aligned with the right edge of the foot.
 - The stitches make the fabric gather automatically.
 - Suitable for light to medium weight fabrics.



To gather and attach gathered fabric in one step

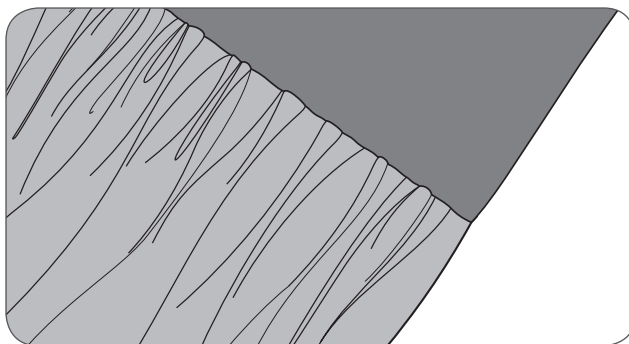
Look closely at the gathering foot to see a slot on the bottom. When using the slot, you can gather the bottom layer of the fabric while attaching it to a flat top layer, such as the waistband on a dress bodice.

- Remove the presser foot holder and attach the gathering foot.
- Place the fabric to be gathered with the right side up under the foot.
- Place the top layer of the fabric with the right side down in the slot.
- Guide the two layers as illustrated.

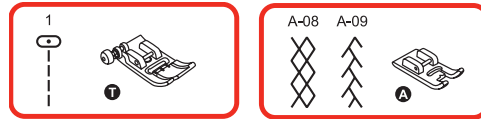


NOTE

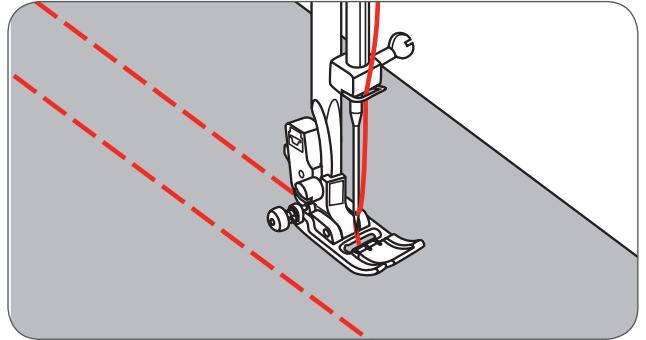
When testing the machine for adjustments to achieve desired density, work with an extra 10" allowance of the fabric, trims or elastic. This makes it easier to determine the necessary adjustments and how much change is needed for your project. Always test on your project fabric and on the same grainline which will be used in your finished project. Using the crossgrain of the fabric will make prettier pleats than the straight of grain. Sew at slow to medium speed for better fabric control.



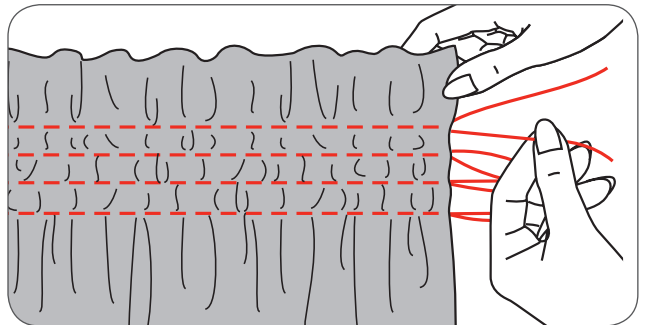
Smocking



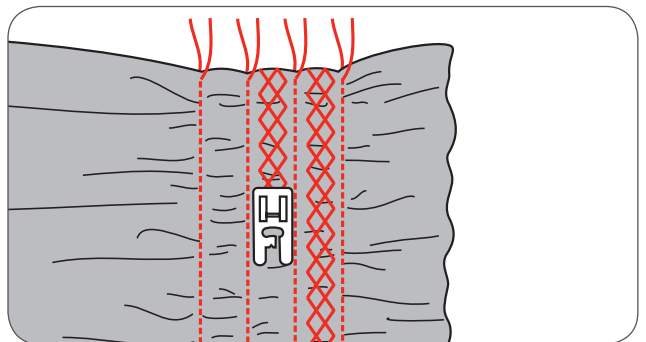
- Adjust the stitch length to 4mm and loosen the thread tension.
- Use the Zigzag foot to sew straight lines 1cm (3/8 inch) apart from each other, across the area to be smoked.



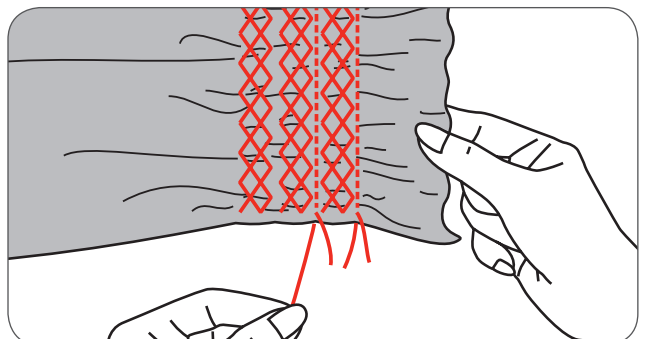
- Knot the threads along one edge.
- Pull the bobbin thread and spread the pleats evenly. Secure the threads at the other end.



- Reduce the tension, if necessary and sew decorative pattern stitches between the straight seams.



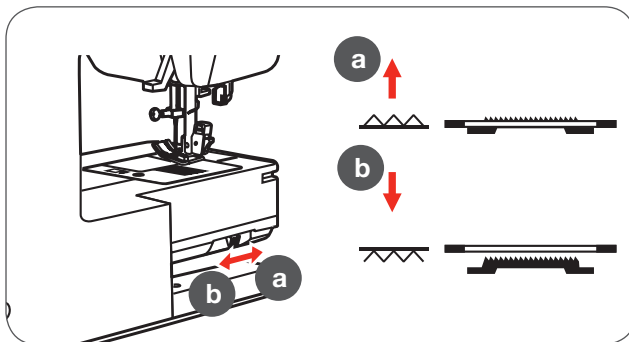
- Pull out the gathering stitches.



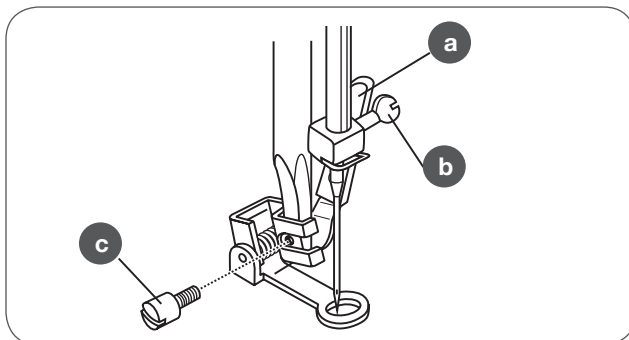
Free Motion Darning, Embroidery and Monogramming



- Move the feed dog control to lower the feed dog (b).



- Remove the presser foot holder, and attach the darning foot to the presser foot holder bar.
- The lever (a) should be behind the needle clamp screw (b). Press the darning foot on firmly from behind with your index finger and tighten the screw (c).



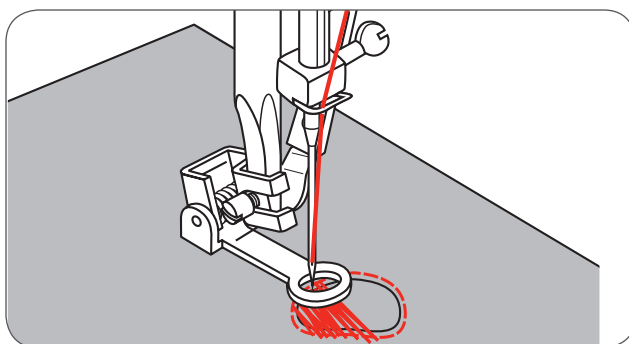
Darning

- First sew around the edges of the hole (to secure the threads).
- Working from left to right, sew over the hole in a constant and continuous movement.
- Turn the work by 1/4 (90°) and sew over the first stitching moving the work slowly over the hole to separate the rows and to avoid big gaps between them.



NOTE

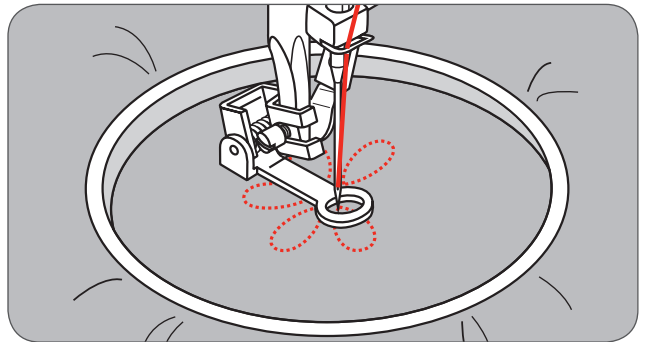
Free motion darning is accomplished without the internal feed system of the sewing machine. The movement of the fabric is controlled by the operator. It is necessary to coordinate sewing speed and movement of fabric.



* The embroider hoop is not included with the machine.

Embroidery

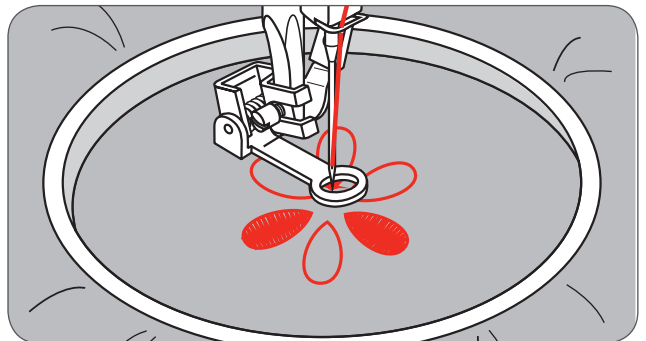
- Select the zig-zag stitch pattern and alter the stitch width as desired.
- Stitch along the outline of the pattern by moving the embroidery hoop.
 - Make sure to maintain a constant speed.



- Fill in the pattern working from the outline towards the inside.
 - Keep the stitches close together.

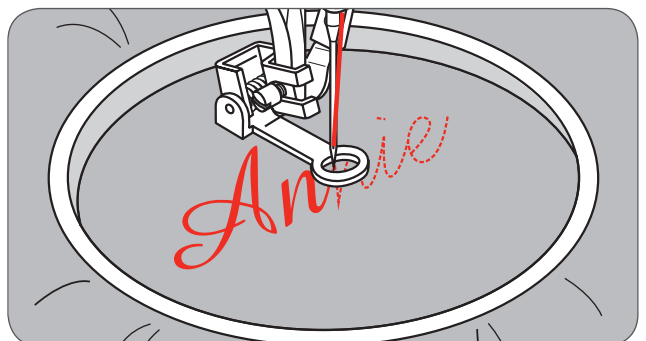
You will get longer stitches by moving the hoop faster and shorter stitches by moving the hoop slower.

- Finish with securing stitches at the end by pressing the Auto-lock button.



Monogramming

- Select the zig-zag stitch pattern and alter the stitch width as desired.
- Sew at a constant speed, moving the hoop slowly along the lettering.
- When the letter is finished, finish with securing stitches at the end by pressing the Auto-lock button.



Walking Foot

* The walking foot accessory is optional. It is not included with this machine.

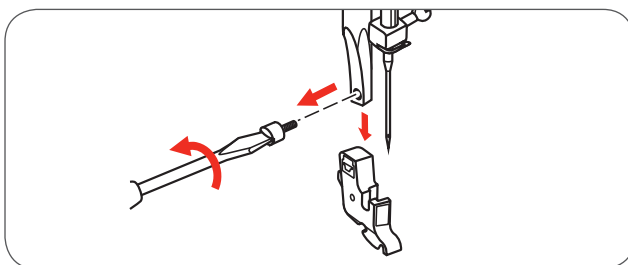
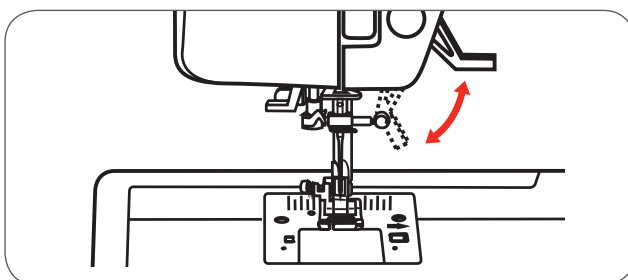
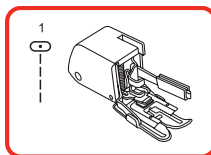
Always try to sew without the walking foot accessory first as it should be used only when necessary.

It is easier to guide the fabric and you have a better view of the seam when using the standard, regular foot on your machine.

Your sewing machine offers excellent stitch quality on a wide range of fabrics from delicate chiffons to multiple layers of denim.

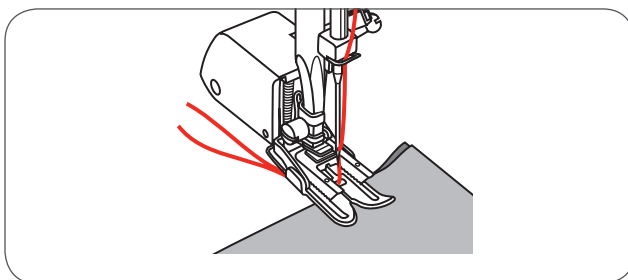
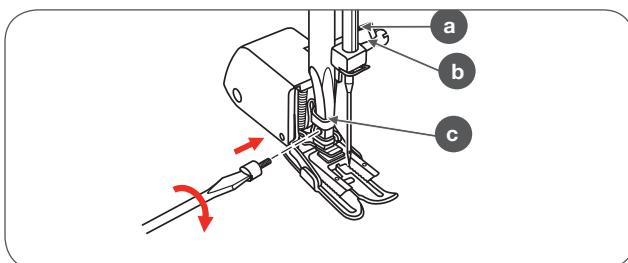
The Walking foot accessory equalizes the feeding of the upper and lower layers of fabric and improves the matching of plaids, stripes and patterns. It also helps to prevent uneven feeding of very delicate fabrics.

- Lift the presser foot lifter to raise the presser foot bar.
- Remove the presser foot holder by unscrewing the presser foot bar attaching screw counter-clockwise.



Attach the Walking foot to the machine as follows:

- The arm (a) should fit into the needle attaching screw and clamp (b) above.
- Slide the plastic attaching head (c) from the left to the right so that it fits into the presser foot bar.
- Lower the presser foot bar.
- Replace and tighten (clockwise) the presser bar attaching screw.
- Make sure both the needle attaching screw and the presser foot bar attaching screw are tightly fixed.
- Draw the bobbin thread up and place both the bobbin thread and the needle thread behind the walking foot attachment.



Mirror image stitch pattern



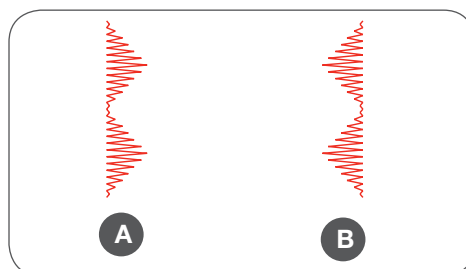
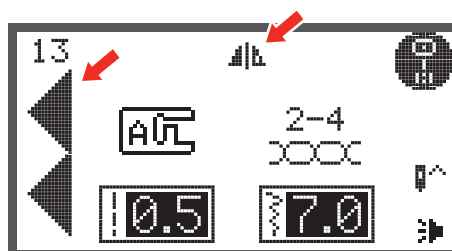
NOTE

Direct Group Pattern 0 and A Group Patterns 86-99 can't be mirrored.

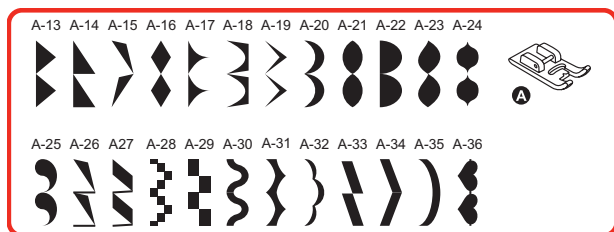
- Select the desired pattern.
- Press the mirror image button.
 - The symbol for mirroring appears on the LCD display.

The machine will continue to sew the displayed pattern mirrored until the mirror image button is pressed again or the pattern is changed.

- A Normal pattern sewing
- B Mirror pattern sewing

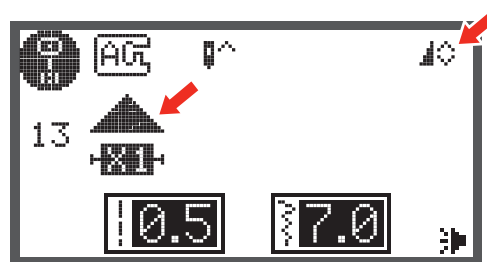


Elongation

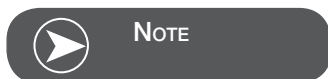


The stitch can be elongated up to five times its normal length by pressing the elongation button.

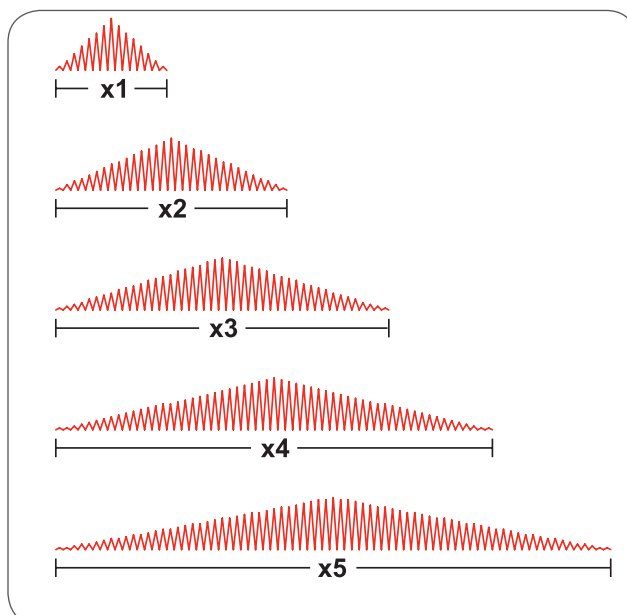
- Select the desired pattern.
- Press the elongation button.
 - The symbol for elongation appears on the LCD display.
- Press the elongation button several times to adjust the elongation as desired.
- The machine will continue to sew the displayed pattern until the elongation button is pressed again or the pattern is changed.



When the width or length of the stitch is changed, a larger variety of patterns are available.



A Group Patterns 13-36 can be elongated and mirrored simultaneously.



Twin Needle Sewing



NOTE

Twin needles must be purchased separately. They are not include with this machine.

- Insert the Twin needle.



ATTENTION!

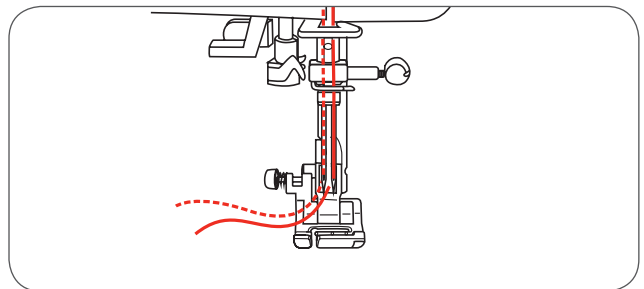
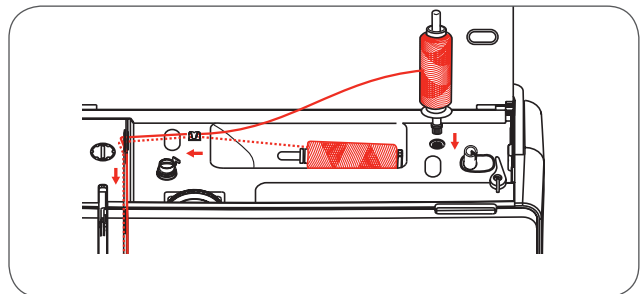
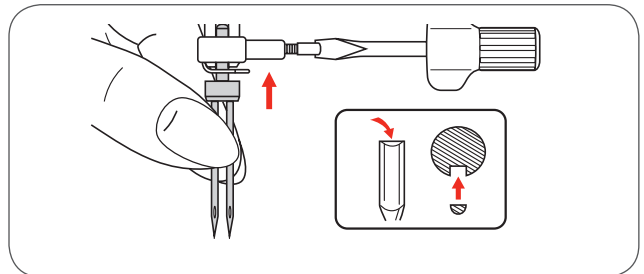
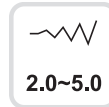
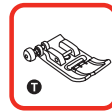
When using Twin needles, use the Zigzag foot.

- Use only Twin needle assemblies with max. 2mm needle distance (i.e. bernette part number 502020.62.91).
- Follow the instructions for single-needle threading using the horizontal spool pin.
- Thread through the left needle.
- Insert the spool pin (included with the accessories) in the hole on the top of the machine.
- Thread along the same path, and make sure NOT to omit the thread guide above the needle and pass thread through the right needle.
- Thread each needle separately.

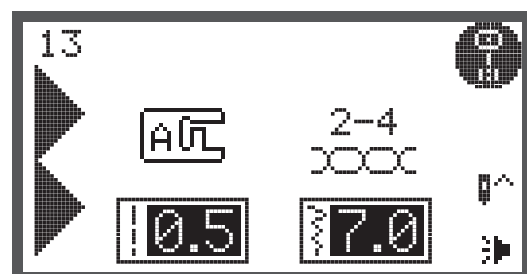


NOTE

Make sure that the two threads used to thread the Twin needle are of the same weight. You can use one or two colors.

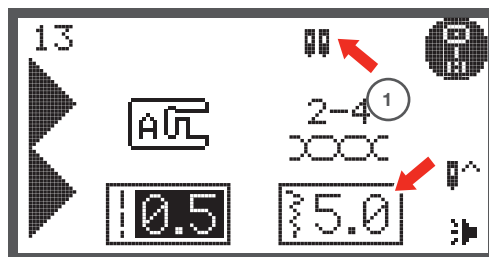


- Select a pattern. (E.g. A Groupe Pattern 13)
- All stitch patterns can be used with Twin Needle except for Direct Group Patterns 0 and A Group Patterns 86-99.



Special Functions

- Press the twin needle button.
 - The LCD display shows the twin needle symbol (1) and the machine reduces the maximum stitch width for twin needle sewing to 2mm automatically.



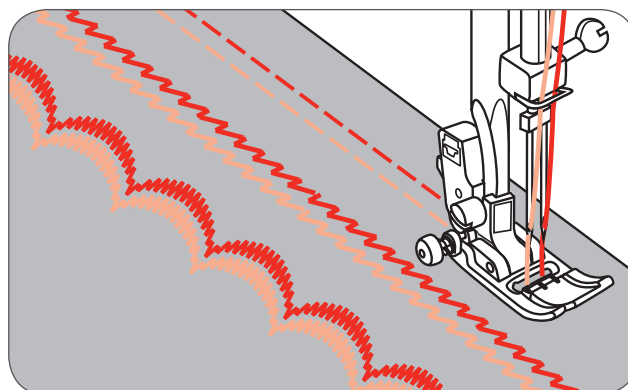
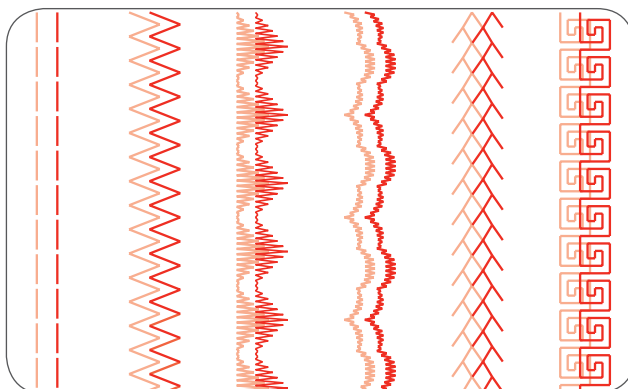
- Start to sew and two lines of stitches are sewn parallel to each other.



NOTE

When sewing with the twin needle, always proceed slowly and make sure to maintain a low speed to ensure a good stitch formation.

When twin needle sewing has been selected, it will remain active even the stitch pattern is changed. To deactivate twin needle sewing press the twin needle button again.



Memory

Several stitch patterns can be combined in one sewing sequence using the memory function.

- These pattern sequences can be stored for later use.
- Even when the sewing machine is switched off the memory contents are retained.



NOTE

Multiple patterns selecting from pattern groups can be combined together.



A Group Patterns



B Group Patterns



Block Style Alphabet (C1-Group Patterns)



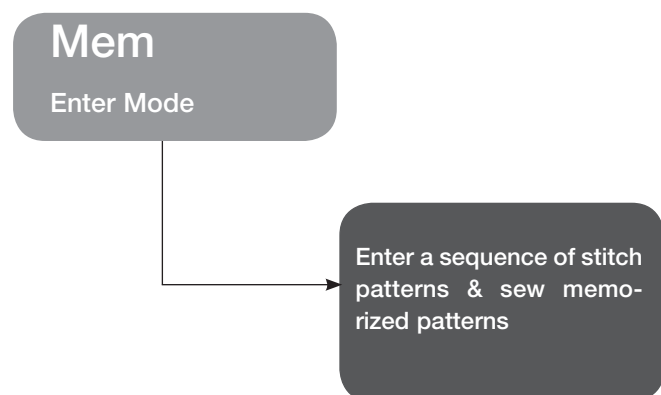
Script Style Alphabet (C2-Group Patterns)

Direct Group Patterns and A Group Patterns 86-99 can't be stored in the memory.

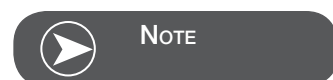
This machine has 4 memories and each of them can store up to 20 stitches.

All the units in the memory can be edited in their functions such as stitch length, stitch width, elongation, mirror image and Auto-Lock, except when sewing with the twin needle.

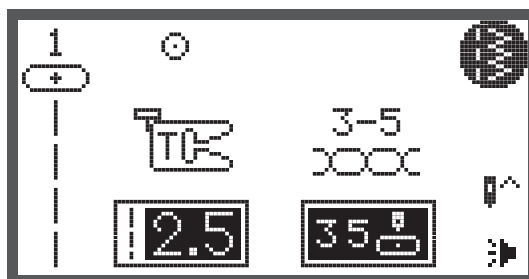
Overview Memory Enter Mode



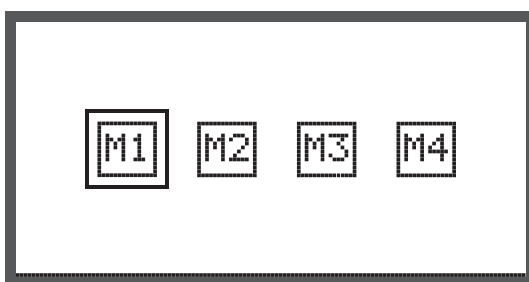
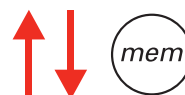
Enter a sequence of stitch patterns in Memory Enter Mode



Requirement: Empty Memory (see page 82 to clear Memory).



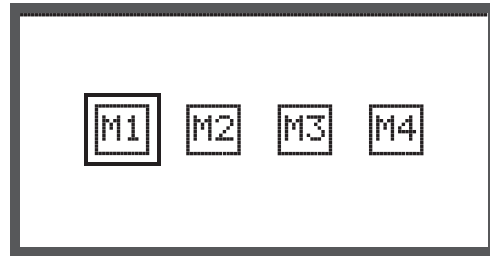
- Press the memory button to enter the Memory Enter Mode.



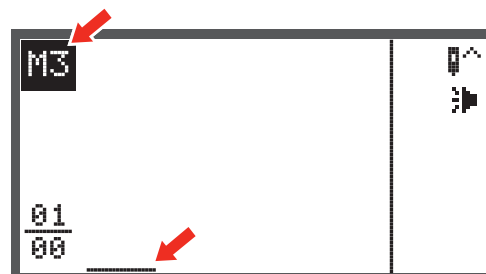
- Use the arrow buttons to select the number of the Memory file.



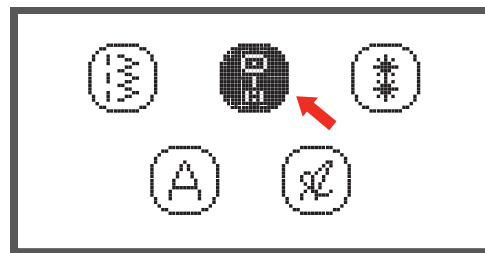
- Press the OK button to enter the selected Memory Module. The cursor is at first memory position for the first pattern to be programmed.



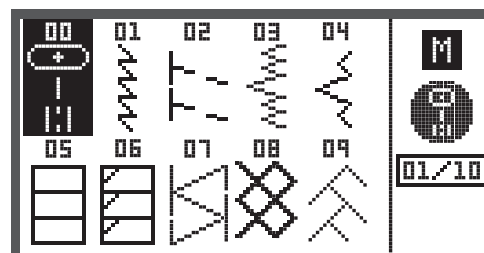
The upper left corner of LCD display shows the number of the Memory file.



- Press the pattern group selection button to enter the pattern group selection display.
- Select the desired pattern group. (E.g. for A Group Patterns)

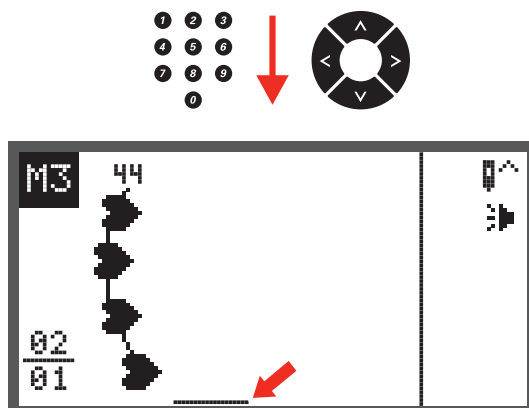


- Press the OK button to enter the pattern browser and the various stitches in the selected pattern group appear.

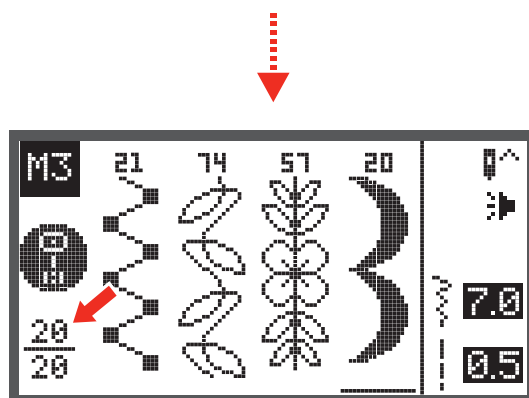


Special Functions

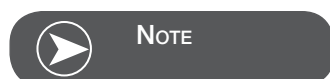
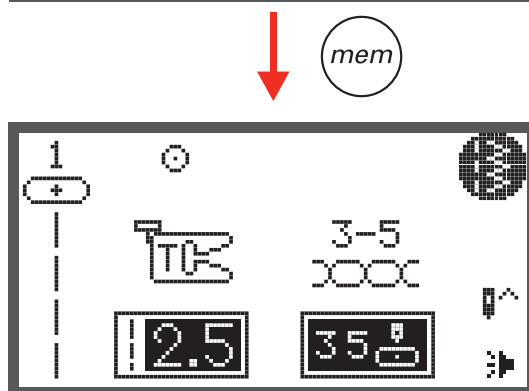
- Press the desired pattern number or use the arrow buttons to select the desired pattern.
- When using the arrow buttons, press the OK button to store the selected stitch.
 - The selected pattern appear on the LCD display and the cursor moves to the next position.
- When pressing the number buttons the machine will automatically store the selected stitch which appears on the LCD display and the cursor moves to next position.
- Repeat the steps for more patterns to be stored in the memory.



After 20 patterns have been selected, the memory is full. If another pattern is selected when the memory is already full the machine will beep to make you aware of it.

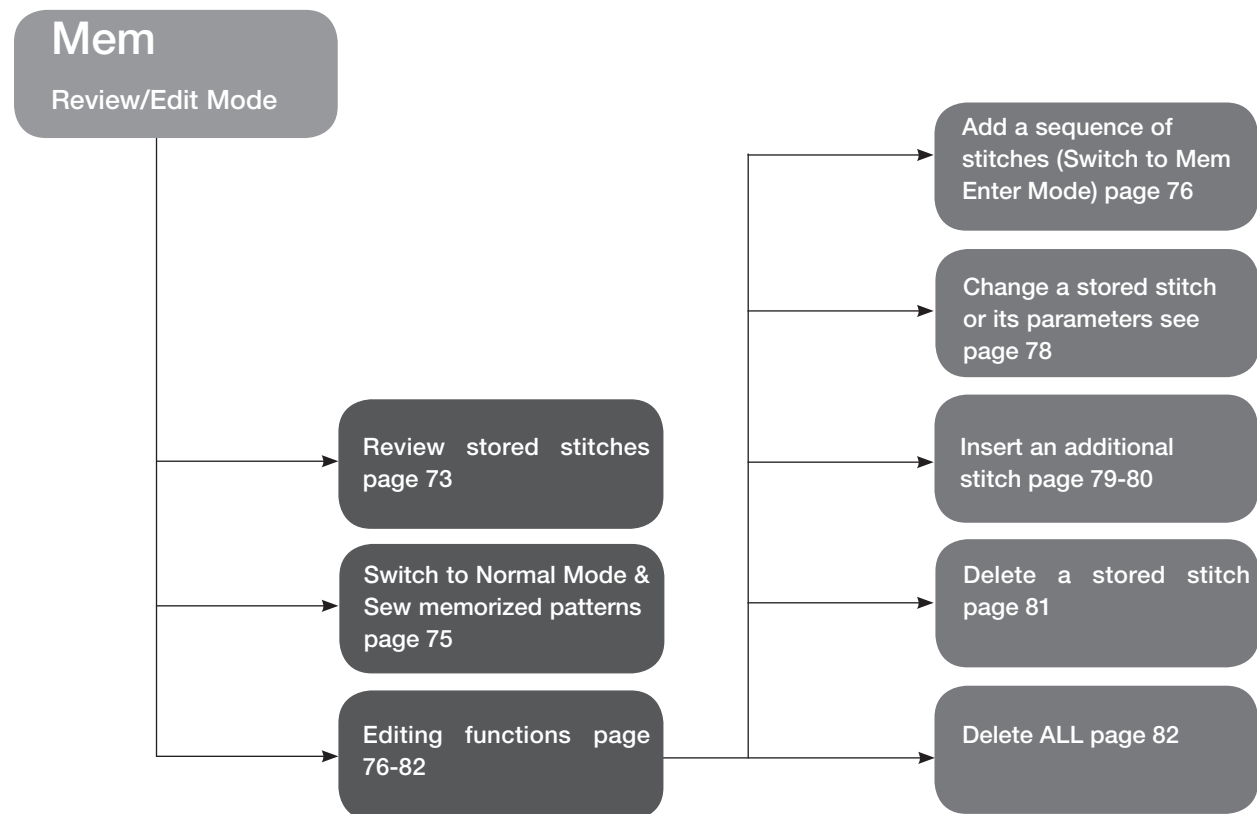


To sew the memorized patterns press Start/Stop button or touch the foot control.



The selected pattern will be cleared from the Memory file when the machine is turned off without having pressed the memory button again after the completed selection.

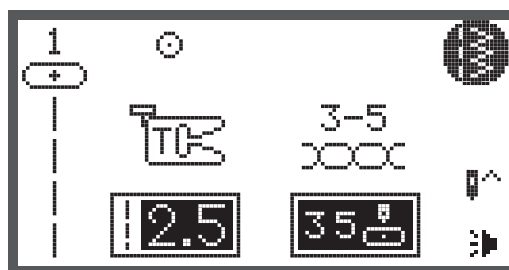
Overview Memory Review/Edit Mode



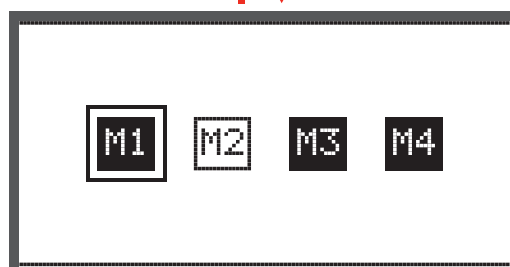
Review stored stitches



Requirement: with existing patterns in Memory.

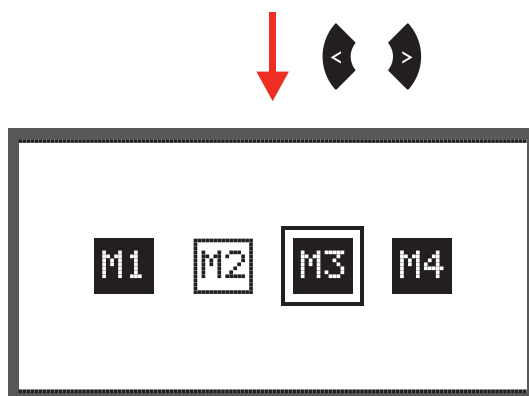


- Press the memory button to enter the Memory Mode.

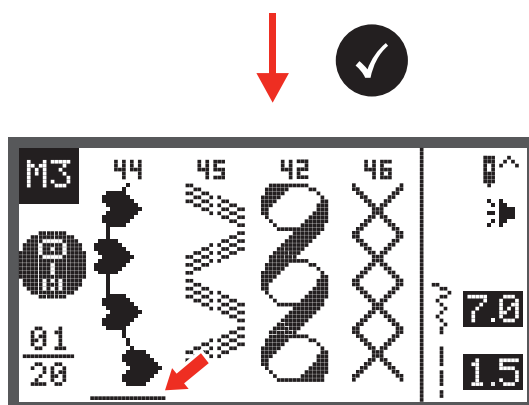


Special Functions

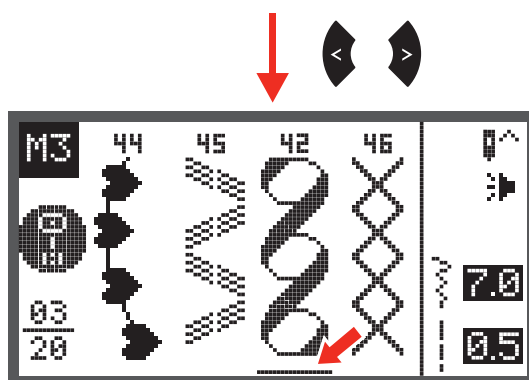
- Use the arrow buttons to choose the desired Memory file.



- Press OK button to enter the selected Memory file. The cursor stays at the first position.



- Use the arrow buttons to move from position to position.



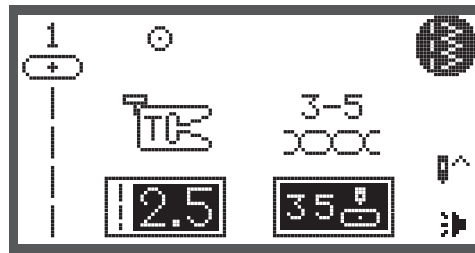
NOTE

Press Start/Stop button or touch the foot control to start the continuous sewing from the current position in the memory.

Switch from Memory Mode to the Normal Mode

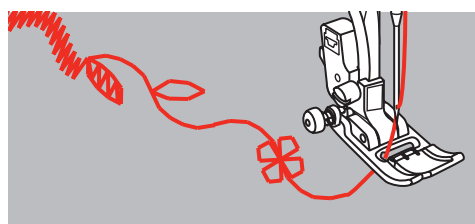
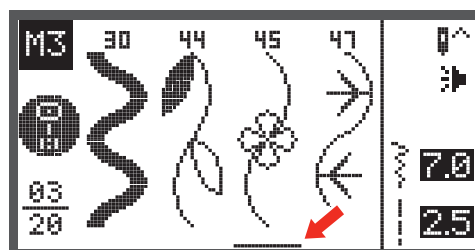
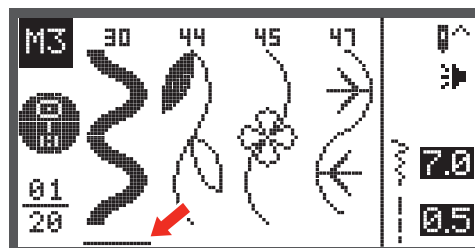
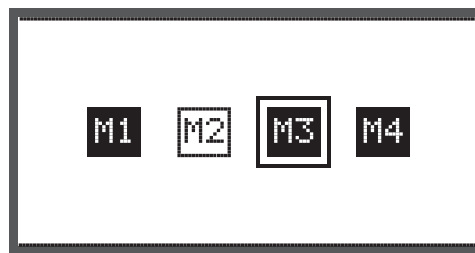
When Memory Mode is active.

- Press the memory button to leave the Memory Mode and return to the Normal Mode.



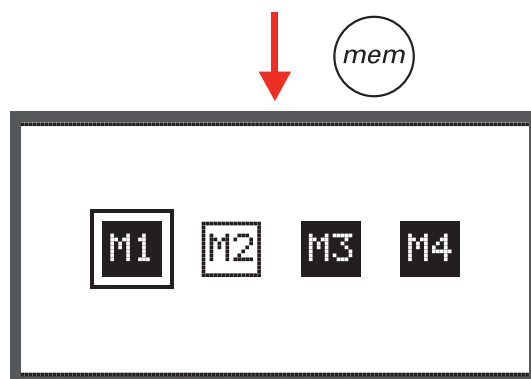
Sew memorized patterns

- Press the memory button to enter the Memory Mode.
- Use the arrow buttons to choose the desired Memory file.
- Press OK button to enter the selected Memory file.
 - The cursor stays at the first position.

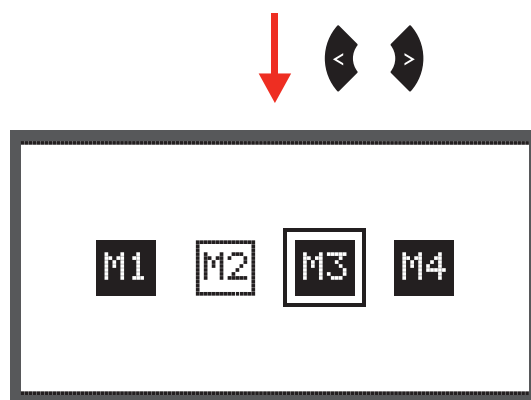


Memory Editing functions - Add a sequence of stitches

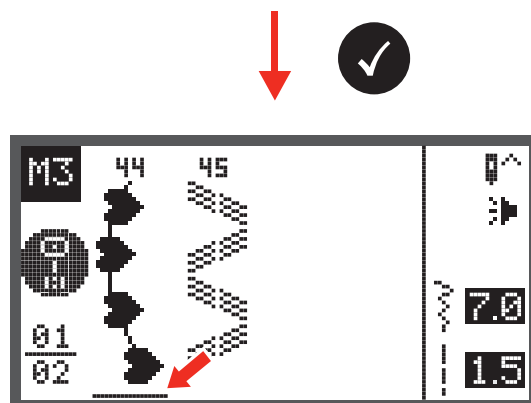
- Press the memory button to enter the Memory Mode.



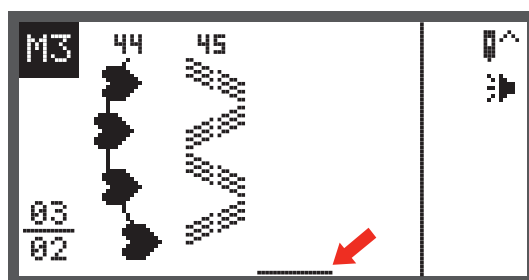
- Use the arrow buttons to select the number of the Memory file (e.g. M3).



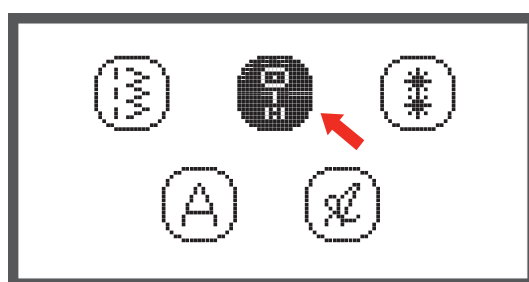
- Press the OK button to enter the selected Memory file and the cursor stays at the first position.



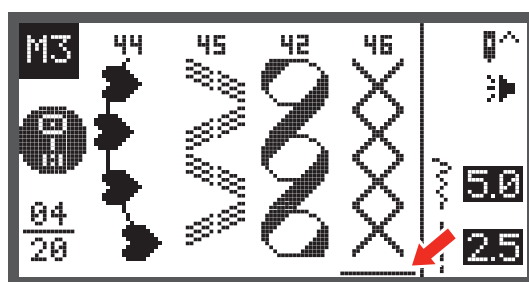
- Use the arrow buttons to move the cursor to next empty position.



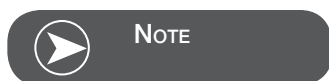
- Press the pattern group selection button to enter the pattern group selection display.



- Proceed according to page 73 to add multiple new stitches.

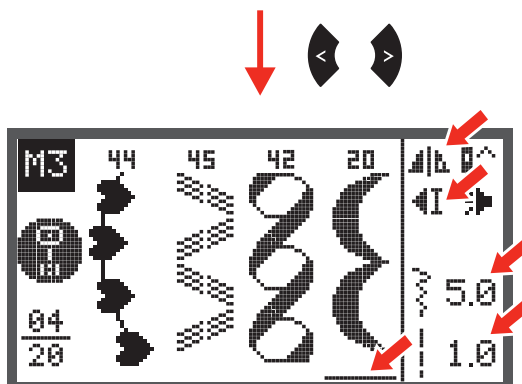
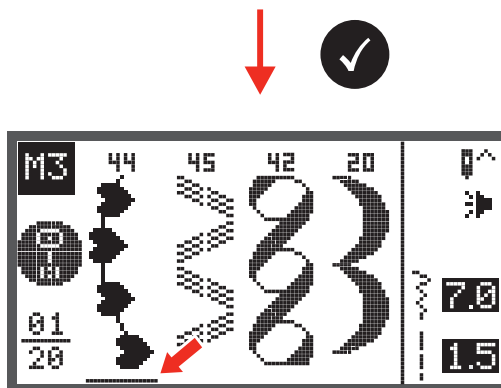
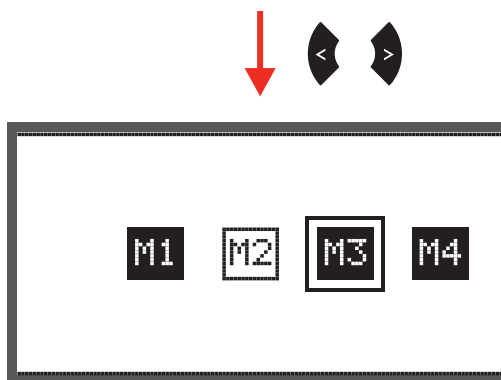
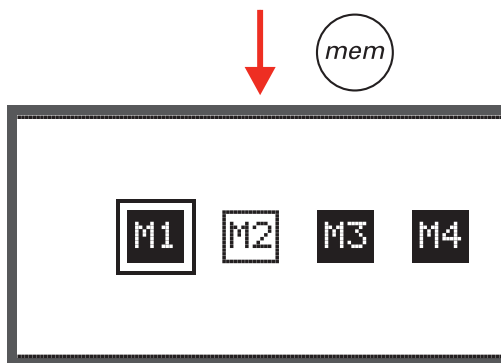


Memory Editing functions - Change a stored stitch or its parameters



Requirement: with existing patterns in Memory.

- Press the memory button to enter the Memory Mode.
- Use the arrow buttons to choose the desired Memory file.
- Press the OK button to enter the selected Memory file.
– The cursor stays at the first position.
- Use the arrow buttons to select the stitch that should be replaced or have its parameters changed.
- To change the stitch press the clr button and then press the pattern group selection button to choose a new stitch.
- To change its parameters press the stitch length, stitch width, mirror image, twin needle or elongation button.



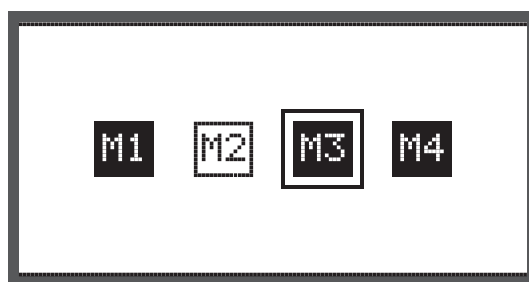
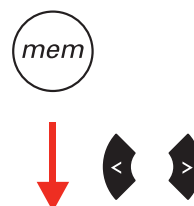
Memory Editing functions - Insert an additional stitch



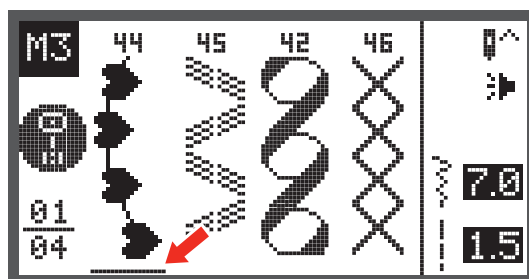
NOTE

Requirement: with existing patterns in Memory.

- Press the memory button to enter the Memory Mode.
- Use the arrow buttons to choose the desired Memory file.

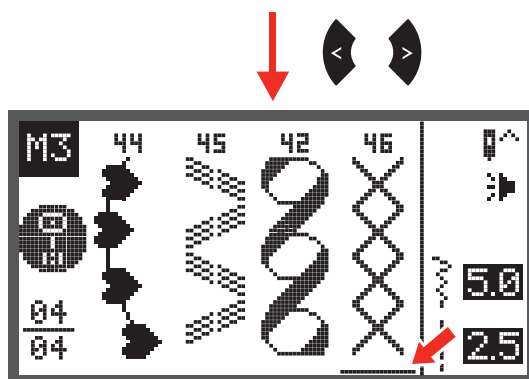


- Press the OK button to enter the selected Memory file.
 - The cursor stays at the first position.

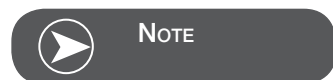
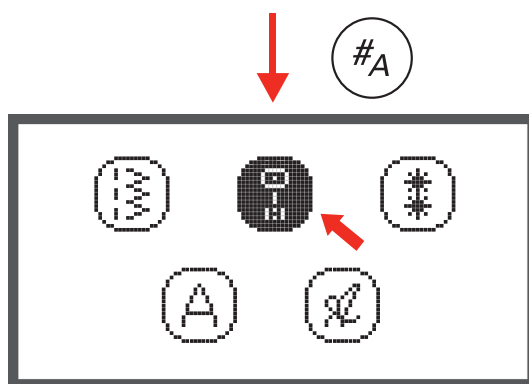


Special Functions

- Use the arrow buttons to move the cursor to the position where you want to insert a new stitch.

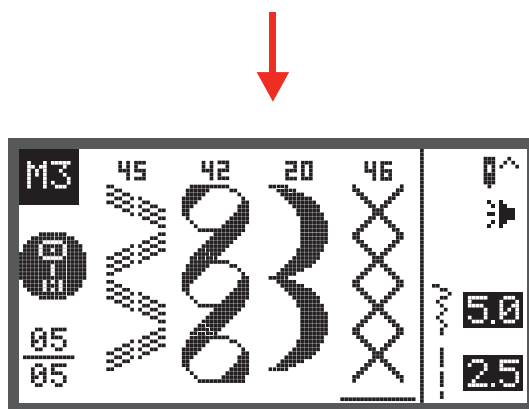


- Press the pattern group selection button to enter the pattern group selection browser and choose a new stitch.



NOTE

The parameters of the selected stitch, such as stitch length, stitch width, mirror image, twin needle and elongation can be altered by pressing the respective button.

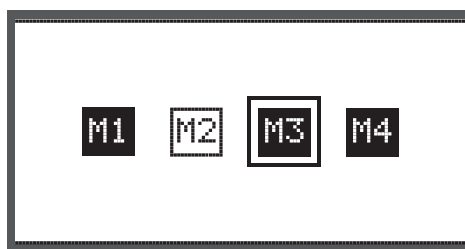


Memory Editing functions - Delete a stored stitch

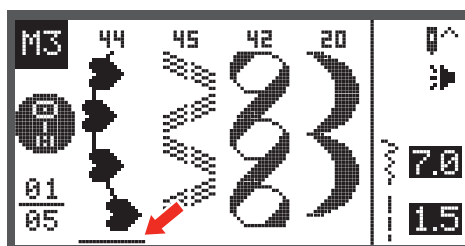
- Press the memory button to enter the Memory Mode.



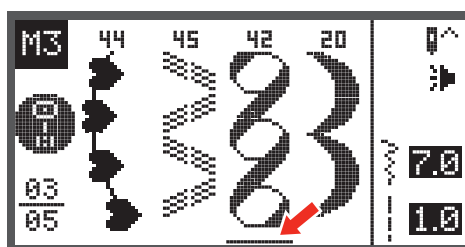
- Use the arrow buttons to choose desired Memory file.



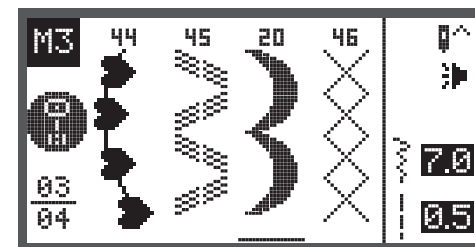
- Press the OK button to enter the selected Memory file.
 - The cursor stays at the first position.



- Use the arrow buttons to select the stitch that should be deleted.

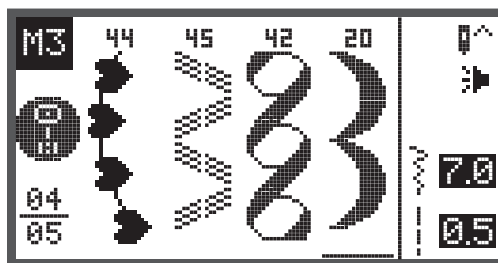


- Press the clr button to delete the pattern and all patterns that come next will move one position forward.



Memory Editing functions - Delete ALL

- Repeat steps from «Delete a stored stitch».



- When pressing the clr button keep it pressed for a few seconds until the machine asks again if everything should be deleted.



- Press the OK button if all patterns should be deleted and the machine returns to the previous Memory file which is empty now.



- Press the clr button if they shouldn't be deleted and the machine returns to the previous Memory file with all stored patterns.



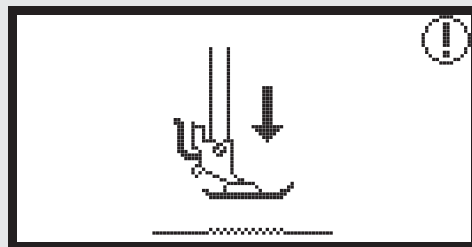
Warning functions

Warning message

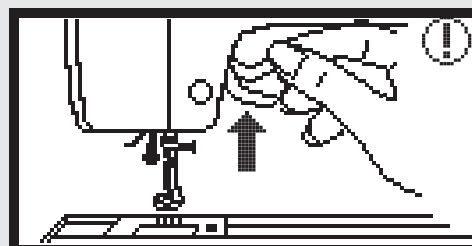
Warning display

Presser foot is not lowered

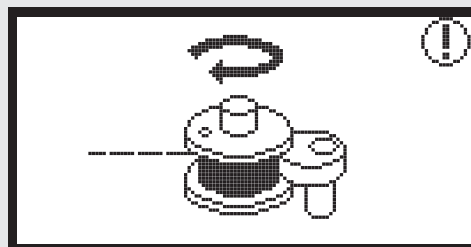
This message is displayed when the Start/stop button or the needle up/down position button is pressed while the presser foot is raised.

**Presser foot is not raised**

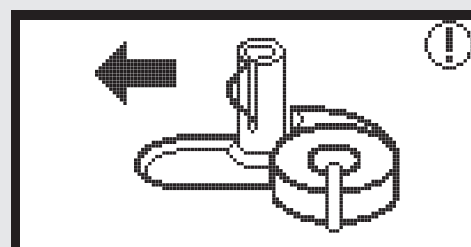
This message is displayed when the embroidery module will initialize while the embroidery foot is lowered.

**Bobbin winding**

This message is displayed when the bobbin winder is winding the bobbin.

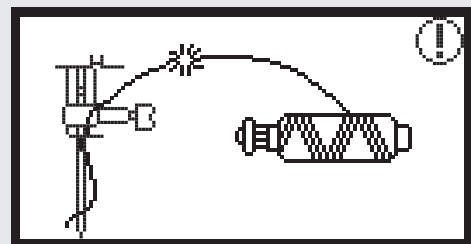
**Push the bobbin winder spindle to the left**

This message is displayed when the bobbin winder spindle is still positioned to the right.

**The upper thread is broken**

This message is displayed when the upper thread is broken.

Please check and rethread the upper thread.

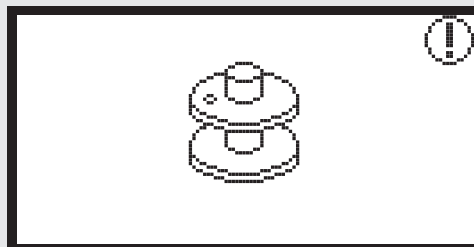


Warning message

Warning display

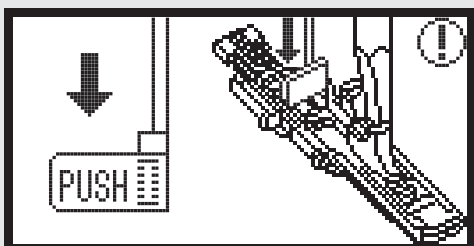
Bobbin thread is low

This message is displayed when the bobbin thread is running out.



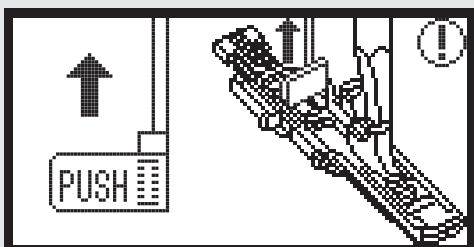
BH lever is not lowered

This message is displayed when the buttonhole or darning stitch was selected and the start/stop button was pressed while the buttonhole lever is raised.

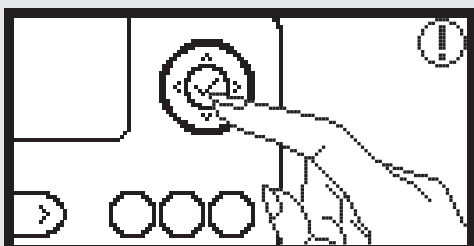


BH lever is not lifted

This message is displayed when the stitch other than the buttonhole or darning stitch was selected and the start/stop button was pressed while the buttonhole lever is down.



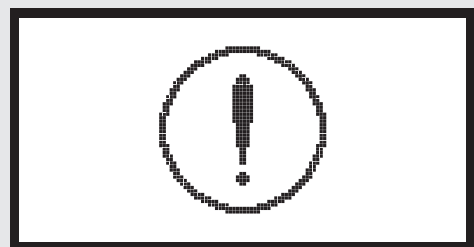
Press the OK button to confirm



The sewing machine is blocked

The exclamation message means that the thread is twisted or jammed or the fabric is too thick and the hand wheel cannot move.

- Please look through the «Trouble shooting guide» on page 88-90 to resolve the problem.



Warning sound

When operating correctly:

1 beep

- When the memory is full with 20 units of designs:
 - 3-short beeps
- When operating incorrectly:
 - 3-short beeps
- When the sewing machine is in trouble and can't sew:
 - 3-short beeps



It means that the thread is twisted or jammed and the hand wheel axle can't move. Please look through the «Trouble shooting guide» to find the solution. After the problem has been solved, the machine will continue sewing.



NOTE

If the problem is still not solved, please contact your local dealer.



ATTENTION!

During sewing, if the thread get jammed inside the hook stopping the needle from moving and you continue pressing the foot control, the security switch will stop the machine completely. In order to restart the sewing machine, you will have to turn the on/off switch to the OFF position and then ON again.

Maintenance

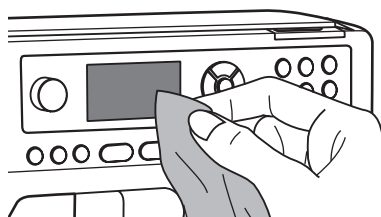
Cleaning the display



ATTENTION!

Disconnect the power cord from the wall socket before cleaning the display and the sewing machine surface, otherwise injury or electrical shock may result.

If the front panel is dirty, wipe it gently with a soft, dry cloth. Do not use any organic solvents or detergents.



Cleaning the sewing machine surface

If the surface of the sewing machine is dirty, lightly soak a cloth in mild detergent, squeeze it out firmly and then wipe the surface. After cleaning it once in this way, wipe the surface again with a dry cloth.



ATTENTION!

This machine is equipped with a 100mW LED lamp. If lamp replacement is needed, please contact the nearest authorized retailer.

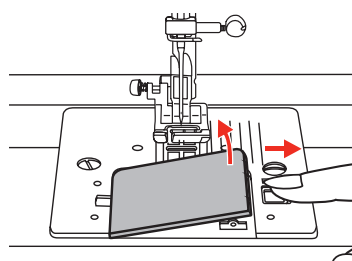
Cleaning the hook

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 necessary.

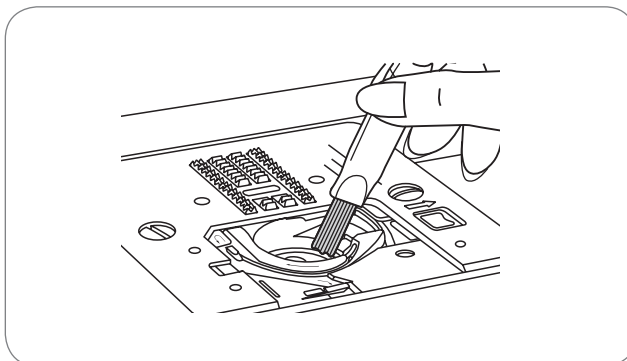


ATTENTION!

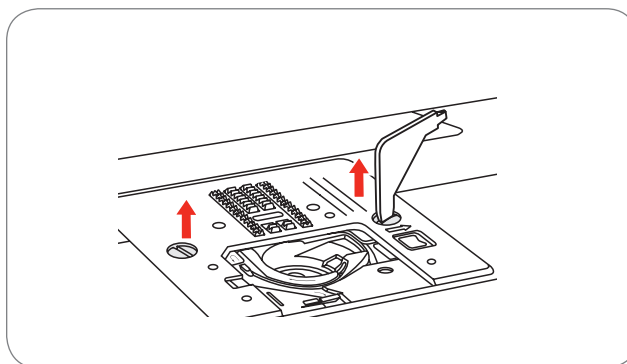
Disconnect the machine from the wall outlet before carrying out any maintenance.



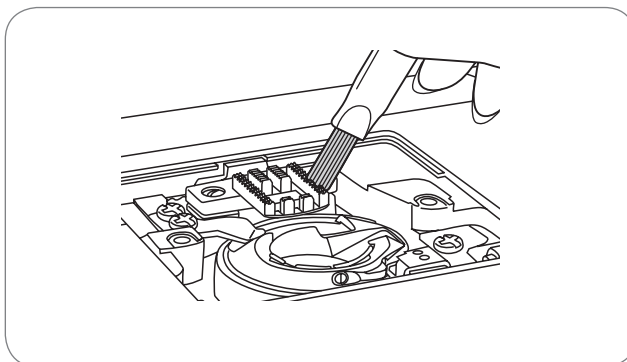
- Clean the bobbin holder with a brush.



- Remove the needle, presser foot and presser foot holder.
- Remove the bobbin cover plate.
- Remove the screw holding the stitch plate and remove the stitch plate.



- Clean the feed dog and bobbin case with a brush. Also clean them, using a soft, dry cloth.



Environmental protection



BERNINA is committed to the protection of the environment. We strive to minimize the environmental impact of our products by continuously improving product Design and our technology of manufacturing. Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available.

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

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

Trouble Shooting

Trouble shooting guide

Before calling for service, check the following items. If the problem can't be solved, contact the place of purchase or your nearest authorized dealer.

Problem	Cause	Correction	Reference
Upper thread breaks	<ul style="list-style-type: none"> The machine is not threaded correctly. 	– Rethread the machine.	12
	<ul style="list-style-type: none"> The thread tension is too tight. 	– Reduce the thread tension. (Lower number).	16
	<ul style="list-style-type: none"> The thread is too thick for the needle. 	– Select a larger needle.	19
	<ul style="list-style-type: none"> The needle is not inserted correctly. 	– Remove and reinsert the needle (flat side towards the back).	15
	<ul style="list-style-type: none"> The thread is wound around the spool pin. 	– Remove the spool and wind thread onto spool.	12
	<ul style="list-style-type: none"> The needle is damaged. 	– Replace the needle.	15
Lower thread breaks	<ul style="list-style-type: none"> The bobbin case is not inserted correctly. 	– Remove and reinsert the bobbin case and pull on the thread. The thread should run easily.	11
	<ul style="list-style-type: none"> The bobbin case is threaded incorrectly. 	– Check both bobbin and bobbin case.	11
Skipped stitches	<ul style="list-style-type: none"> The needle is not inserted correctly. 	– Remove and reinsert needle (flat side towards the back).	15
	<ul style="list-style-type: none"> The needle is damaged. 	– Insert a new needle.	15
	<ul style="list-style-type: none"> The wrong size needle has been used. 	– Choose a needle to suit the thread.	19/20
	<ul style="list-style-type: none"> The foot is not attached correctly. 	– Check and attach correctly.	92-97
	<ul style="list-style-type: none"> The machine is not threaded correctly. 	– Rethread the machine.	12
	<ul style="list-style-type: none"> The presser foot pressure is not strong enough. 	– Adjust the presser foot pressure.	17

Problem	Cause	Correction	Reference
Needle breaks	<ul style="list-style-type: none"> The needle is damaged. 	– Insert a new needle.	15
	<ul style="list-style-type: none"> The needle is not correctly inserted. 	– Insert the needle correctly (flat side towards the back).	15
	<ul style="list-style-type: none"> Wrong needle size for the fabric. 	– Choose a needle to suit the thread and fabric.	19/20
	<ul style="list-style-type: none"> The wrong foot is attached. 	– Select the correct foot.	21
	<ul style="list-style-type: none"> The needle clamp screw is loose. 	– Use the screwdriver to tighten the screw firmly.	15
	<ul style="list-style-type: none"> The presser foot which is attached is not appropriate for the selected type of stitch pattern. 	– Attach the presser foot that is appropriate for the selected type of stitch.	21
	<ul style="list-style-type: none"> The upper thread tension is too tight. 	– Loosen the upper thread tension.	16
Loose stitches	<ul style="list-style-type: none"> The machine is not correctly threaded. 	– Check the threading.	12
	<ul style="list-style-type: none"> The bobbin case is not correctly threaded. 	– Thread the bobbin case as illustrated.	11
	<ul style="list-style-type: none"> Needle/fabric/thread combination is wrong. 	– The needle size must suit the fabric and thread.	19/20
	<ul style="list-style-type: none"> Thread tension is wrong. 	– Correct the thread tension.	16
Seam gathers or puckers	<ul style="list-style-type: none"> The needle is too thick for the fabric. 	– Select a finer needle.	19/20
	<ul style="list-style-type: none"> The stitch length is adjusted incorrectly. 	– Readjust the stitch length.	29
	<ul style="list-style-type: none"> The thread tension is too tight. 	– Loosen the thread tension.	16

Problem	Cause	Correction	Reference
Seam puckering	<ul style="list-style-type: none"> The upper thread tension is too tight. 	– Loosen the thread tension.	16
	<ul style="list-style-type: none"> The upper thread is not threaded correctly. 	– Rethread the machine.	12
	<ul style="list-style-type: none"> The needle is too heavy for the fabric being sewn. 	– Choose a needle to suit the thread and fabric.	19/20
	<ul style="list-style-type: none"> The stitch length is too long for the fabric. 	– Adjust the stitch length.	29
	<ul style="list-style-type: none"> The presser foot pressure is not correctly adjusted. 	– Adjust the presser foot pressure.	17
Patterns/Designs are distorted	<ul style="list-style-type: none"> The correct presser foot is not used. 	– Select the correct foot.	92-97
	<ul style="list-style-type: none"> The upper thread tension is too tight. 	– Loosen the thread tension.	16
The machine jams	<ul style="list-style-type: none"> Thread is caught in the hook. 	– Remove the upper thread and the bobbin case, turn the handwheel backwards and forwards by hand and remove the thread remnants.	86-87
	<ul style="list-style-type: none"> The feed dog is packed with lint. 		
The machine is noisy	<ul style="list-style-type: none"> Lint has collected on the hook or needle bar. 	– Clean the hook and feed dog as described.	86-87
	<ul style="list-style-type: none"> The needle is damaged. 	– Replace the needle.	15
	<ul style="list-style-type: none"> Slight humming sound coming from internal motor. 	– Remove the upper thread and the bobbin case, turn the handwheel backwards and forwards by hand and remove the thread remnants.	86-87
	<ul style="list-style-type: none"> Thread is caught in the hook. 		
	<ul style="list-style-type: none"> The feed dog is packed with lint. 		
Uneven stitches, uneven feed	<ul style="list-style-type: none"> Poor quality thread. 	– Select a better quality thread.	19/20
	<ul style="list-style-type: none"> The bobbin case is threaded incorrectly. 	– Remove the bobbin case, thread and reinsert correctly.	11
	<ul style="list-style-type: none"> Fabric has been pulled. 	– Do not pull the fabric while sewing, let it be fed by the machine.	

Problem	Cause	Correction	Reference
The sewing machine doesn't operate	<ul style="list-style-type: none"> The machine is not turned on. 	<ul style="list-style-type: none"> Turn on the machine. 	7
	<ul style="list-style-type: none"> The machine is not plugged in. 	<ul style="list-style-type: none"> Connect the power line plug to the power outlet. 	7

Stitches Overview

A - Group Stitches

Stitch Pattern	Width (mm)		Length (mm)		Tension	Presser Foot	<div> <div>○ Reverse</div> <div>● Tie off</div> </div>	Auto-Lock (L) Auto-Stop (S)	<div> <div>○ Mirror Width</div> <div>T Presser foot</div> </div>	Twin needle / T Presser foot	MEM
	Auto	Manual	Auto	Manual							
00											
00					3 - 5	T	○	L	○	2.0~5.0 (0.5)	○
01					3 - 5	T	●	S	○	3.0~4.0 (0.5)	○
02					3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
03					3 - 5	F	●	S	○ / T	2.5~5.0 (0.5) / T	○
04					3 - 5	F	●	S	○ / T	2.5~5.0 (0.5) / T	○
05					3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
06					3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
07					3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
08					3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
09					3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
10					3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
11					3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
12					3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
13					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
14					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
15					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
16					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
17					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
18					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
19					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
20					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
21					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
22					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
23					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
24					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
25					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
26					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
27					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
28					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
29					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
30					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
31					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○
32					2 - 4	A	●	S	○	2.5~5.0 (0.5)	○


































Stitches Overview

Stitch Pattern		Width (mm)		Length (mm)		Tension	Presser Foot	<input type="radio"/> Reverse <input type="radio"/> Tie off	Auto-Lock (L) Auto-Stop (S)	<input type="radio"/> Mirror Width <input type="radio"/> T Presser foot	Twin needle / T Presser foot	MEM
33		7.0	2.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
34		7.0	2.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
35		7.0	2.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
36		7.0	2.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
37		7.0	2.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
38		7.0	2.5~7.0 (0.5)	1.5	1.5~3.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
39		7.0	2.5~7.0 (0.5)	1.5	1.5~2.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
40		7.0	4.0~7.0 (0.5)	1.5	1.5~3.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	4.0~5.0 (0.5)	<input type="radio"/>
41		7.0	2.5~7.0 (0.5)	1.5	1.5~3.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
42		7.0	2.5~7.0 (0.5)	1.0	1.0~2.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
43		7.0	2.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
44		7.0	3.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	3.5~5.0 (0.5)	<input type="radio"/>
45		7.0	3.0~7.0 (0.5)	1.5	1.5~3.0 (0.5)	2 - 4	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
46		5.0	2.5~7.0 (0.5)	2.5	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
47		6.0	3.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
48		6.0	2.5~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	5.0 (0.5)	<input type="radio"/>
49		4.0	3.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
50		4.0	3.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
51		6.0	3.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
52		6.0	5.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	5.0 (0.5)	<input type="radio"/>
53		6.0	3.0~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
54		6.0	3.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
55		6.0	5.0~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	5.0 (0.5)	<input type="radio"/>
56		5.0	4.0~7.0 (0.5)	2.5	1.0~4.5 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	4.0~5.0 (0.5)	<input type="radio"/>
57		3.0	2.0~7.0 (0.5)	3.0	3.0~4.5(0.25)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	2.0~5.0 (0.5)	<input type="radio"/>
58		5.0	2.5~7.0 (0.5)	2.0	1.0~4.5 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
59		4.0	2.5~7.0 (0.5)	2.0	1.0~4.5 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
60		3.5	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
61		3.5	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
62		3.5	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
63		3.5	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	2.5~5.0 (0.5)	<input type="radio"/>
64		6.0	3.0~7.0 (0.5)	2.0	1.0~4.5 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
65		7.0	3.0~7.0 (0.5)	1.5	1.0~4.5 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>
66		6.0	3.0~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	<input type="radio"/>	S	<input type="radio"/>	3.0~5.0 (0.5)	<input type="radio"/>

Stitches Overview

Stitch Pattern		Width (mm)		Length (mm)		Tension	Presser Foot	Reverse Tie off	Auto-Lock (L) Auto-Stop (S)	Mirror Width T Presser foot	Twin needle / T Presser foot	MEM
67		5.0	3.0~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	3.0~5.0 (0.5)	○
68		4.0	2.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
69		6.0	3.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	○	3.5~5.0 (0.5)	○
70		5.0	3.5~7.0 (0.5)	1.5	1.5~3.0 (0.5)	3 - 5	A	●	S	○	3.5~5.0 (0.5)	○
71		7.0	1.0~7.0 (0.5)	2.0	1.0~4.0 (0.5)	3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
72		6.0	3.0~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	○	3.0~5.0 (0.5)	○
73		6.0	2.5~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
74		5.0	2.5~7.0 (0.5)	1.0	1.0~4.5 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
75		7.0	2.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
76		6.0	2.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
77		4.5	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
78		7.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
79		7.0	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
80		5.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
81		6.0	2.5~7.0 (0.5)	3.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
82		5.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
83		4.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	○	2.5~5.0 (0.5)	○
84		5.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	A	●	S	○	2.5~5.0 (0.5)	○
85		5.0	4.0~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	●	S	○	4.0~5.0 (0.5)	○
86		5.0	2.5~5.5 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	D	—	—	—	—	—
87		7.0	5.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	D	—	—	—	—	—
88		5.0	2.5~5.5 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	D	—	—	—	—	—
89		5.0	2.5~5.5 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	D	—	—	—	—	—
90		7.0	5.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	D	—	—	—	—	—
91		7.0	5.5~7.0 (0.5)	0.5	0.3~1.0 (0.1)	2 - 4	D	—	—	—	—	—
92		6.0	3.0~7.0 (0.5)	1.0	1.0~2.0 (0.5)	2 - 4	D	—	—	—	—	—
93		6.0	3.0~7.0 (0.5)	1.5	1.0~3.0 (0.5)	2 - 4	D	—	—	—	—	—
94		2.0	1.0~3.0 (0.5)	0.5	0.5~1.0 (0.1)	2 - 4	D	—	—	—	—	—
95		7.0	7.0, 6.0, 5.0	—	—	2 - 4	A	—	—	—	—	—
96		7.0	7.0, 6.0, 5.0	—	—	2 - 4	A	—	—	—	—	—
97		3.5	3.5~4.5 (0.5)	—	—	2 - 4	H	—	—	—	—	—
98		7.0	3.5~7.0 (0.5)	2.0	1.0~2.0 (0.5)	3 - 5	D	—	—	—	—	—
99		7.0	3.5~7.0 (0.5)	2.0	1.0~2.0 (0.5)	3 - 5	D	—	—	—	—	—

B - Group Stitches

Stitch Pattern		Width (mm)		Length (mm)		Tension	Presser Foot	● Reverse ● Tie off	Auto-Lock (L) Auto-Stop (S)	● Mirror Width T Presser foot	Twin needle / T Presser foot	MEM
		Auto	Manual	Auto	Manual							
00		7.0	3.0~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.0~5.0 (0.5)	●
01		6.0	4.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.5~5.0 (0.5)	●
02		7.0	4.0~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
03		5.0	2.5~7.0 (0.5)	2.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
04		6.0	2.5~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
05		5.0	3.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	●
06		7.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
07		7.0	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
08		7.0	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
09		5.0	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
10		7.0	4.0~7.0(0.5)	1.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
11		5.0	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
12		6.0	3.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	●
13		6.0	3.5~7.0 (0.5)	1.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	●
14		7.0	3.0~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	T	●	S	—	3.0~5.0 (0.5)	●
15		5.0	2.5~7.0 (0.5)	2.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
16		6.0	4.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
17		5.0	4.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	●	S	—	4.0~5.0 (0.5)	●
18		5.0	2.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
19		6.0	3.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	●
20		6.0	4.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	●	S	—	4.5~5.0 (0.5)	●
21		5.0	3.0~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	3.0~5.0 (0.5)	●
22		5.0	4.0~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
23		7.0	4.0~7.0 (0.5)	3.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
24		7.0	2.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●
25		7.0	5.0~7.0 (0.5)	2.0	1.5~4.5(0.5)	3 - 5	A	●	S	—	5.0 (0.5)	●
26		7.0	3.5~7.0 (0.5)	3.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	●
27		7.0	4.0~7.0 (0.5)	2.0	1.0~3.0(0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
28		3.0	1.5~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	2.0~5.0 (0.5)	●
29		6.0	4.0~7.0 (0.5)	2.5	1.0~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	●
30		3.5	0.0~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	A	●	S	—	2.0~5.0 (0.5)	●
31		5.0	3.5~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	T	●	S	—	3.5~5.0 (0.5)	●
32		5.0	2.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	●

Stitches Overview

Stitch Pattern		Width (mm)		Length (mm)		Tension	Presser Foot	<div> <div>○</div> Reverse <div>●</div> Tie off </div>	Auto-Lock (L) Auto-Stop (S)	<div> <div>○</div> Mirror Width <div>T</div> Presser foot </div>	Twin needle / T Presser foot	MEM
33		5.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	○
34		7.0	3.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	●	S	—	3.5~5.0 (0.5)	○
35		7.0	3.5~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	○
36		5.0	2.5~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	2.5~5.0 (0.5)	○
37		5.0	2.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	○
38		5.0	3.0~7.0 (0.5)	1.5	1.5~3.0 (0.5)	3 - 5	T	●	S	—	3.0~5.0 (0.5)	○
39		7.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	A	●	S	—	2.5~5.0 (0.5)	○
40		7.0	2.5~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	2.5~5.0 (0.5)	○
41		7.0	2.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	2.5~5.0 (0.5)	○
42		7.0	4.0~7.0(0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	○
43		6.0	4.0~7.0(0.5)	2.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	○
44		7.0	2.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	2.5~5.0 (0.5)	○
45		7.0	3.5~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	T	●	S	—	3.5~5.0 (0.5)	○
46		7.0	3.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	●	S	—	3.5~5.0 (0.5)	○
47		7.0	3.0~7.0 (0.5)	2.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	3.0~5.0 (0.5)	○
48		7.0	2.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	●	S	—	2.5~5.0 (0.5)	○
49		7.0	3.0~7.0 (0.5)	2.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	3.0~5.0 (0.5)	○
50		7.0	3.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	3.5~5.0 (0.5)	○
51		5.0	3.0~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	3.0~5.0 (0.5)	○
52		7.0	3.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	T	●	S	—	3.5~5.0 (0.5)	○
53		7.0	5.0~7.0 (0.5)	2.5	2.0~3.0 (0.5)	3 - 5	A	●	S	—	5.0 (0.5)	○
54		7.0	3.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.0~5.0 (0.5)	○
55		7.0	3.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.0~5.0 (0.5)	○
56		5.0	3.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	○
57		7.0	4.0~7.0 (0.5)	3.0	2.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	○
58		7.0	4.5~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	4.5~5.0 (0.5)	○
59		7.0	3.5~7.0 (0.5)	1.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.5~5.0 (0.5)	○
60		7.0	3.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.0~5.0 (0.5)	○
61		7.0	5.0~7.0 (0.5)	3.0	2.0~3.0 (0.5)	3 - 5	A	●	S	—	5.0 (0.5)	○
62		7.0	4.0~7.0 (0.5)	2.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	○
63		7.0	4.0~7.0 (0.5)	1.5	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	○
64		7.0	4.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.5~5.0 (0.5)	○
65		7.0	4.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	4.0~5.0 (0.5)	○
66		7.0	3.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	●	S	—	3.0~5.0 (0.5)	○

Stitches Overview

Stitch Pattern		Width (mm)		Length (mm)		Tension	Presser Foot	<input type="radio"/> Reverse <input type="radio"/> Tie off	Auto-Lock (L) Auto-Stop (S)	<input type="radio"/> Mirror Width <input type="radio"/> T Presser foot	Twin needle / T Presser foot	MEM
67		7.0	3.0~7.0 (0.5)	3.0	1.0~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	3.0~5.0 (0.5)	<input checked="" type="radio"/>
68		7.0	4.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
69		7.0	5.0~7.0 (0.5)	2.5	2.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	5.0 (0.5)	<input checked="" type="radio"/>
70		7.0	3.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	3.5~5.0 (0.5)	<input checked="" type="radio"/>
71		6.0	3.0~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	3.0~5.0 (0.5)	<input checked="" type="radio"/>
72		7.0	3.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	3.0~5.0 (0.5)	<input checked="" type="radio"/>
73		7.0	2.5~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
74		5.0	3.5~7.0 (0.5)	1.0	1.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	3.5~5.0 (0.5)	<input checked="" type="radio"/>
75		7.0	4.0~7.0 (0.5)	2.5	2.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
76		7.0	4.0~7.0 (0.5)	1.5	1.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
77		7.0	4.0~7.0 (0.5)	2.0	1.5~2.5 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
78		7.0	5.0~7.0 (0.5)	0.5	0.3~1.0 (0.1)	3 - 5	A	<input checked="" type="radio"/>	S	—	5.0 (0.5)	<input checked="" type="radio"/>
79		6.0	2.5~7.0 (0.5)	1.5	1.0~2.5 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
80		3.5	1.5~7.0 (0.5)	3.0	2.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	2.0~5.0 (0.5)	<input checked="" type="radio"/>
81		5.0	2.0~7.0 (0.5)	2.5	1.5~2.5 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	2.0~5.0 (0.5)	<input checked="" type="radio"/>
82		7.0	3.0~7.0 (0.5)	2.0	1.0~2.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	3.0~5.0 (0.5)	<input checked="" type="radio"/>
83		7.0	4.0~7.0 (0.5)	1.5	1.5~4.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
84		5.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
85		5.0	4.0~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
86		7.0	5.0~7.0 (0.5)	3.0	2.0~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	5.0 (0.5)	<input checked="" type="radio"/>
87		5.0	2.5~7.0 (0.5)	2.0	1.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
88		5.0	4.0~7.0 (0.5)	2.5	1.5~2.5 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	4.0~5.0 (0.5)	<input checked="" type="radio"/>
89		5.0	3.5~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	3.5~5.0 (0.5)	<input checked="" type="radio"/>
90		5.0	2.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
91		6.0	5.0~7.0 (0.5)	2.5	2.0~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	5.0 (0.5)	<input checked="" type="radio"/>
92		5.0	2.5~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	A	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
93		5.0	2.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	2.5~5.0 (0.5)	<input checked="" type="radio"/>
94		5.0	4.5~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	4.5~5.0 (0.5)	<input checked="" type="radio"/>
95		7.0	5.0~7.0 (0.5)	2.0	2.0~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	5.0 (0.5)	<input checked="" type="radio"/>
96		7.0	4.5~7.0 (0.5)	3.0	1.5~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	4.5~5.0 (0.5)	<input checked="" type="radio"/>
97		7.0	3.5~7.0 (0.5)	2.5	2.0~2.5 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	3.5~5.0 (0.5)	<input checked="" type="radio"/>
98		6.0	3.5~7.0 (0.5)	2.5	2.0~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	3.5~5.0 (0.5)	<input checked="" type="radio"/>
99		5.0	3.5~7.0 (0.5)	2.0	1.5~3.0 (0.5)	3 - 5	T	<input checked="" type="radio"/>	S	—	3.5~5.0 (0.5)	<input checked="" type="radio"/>

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