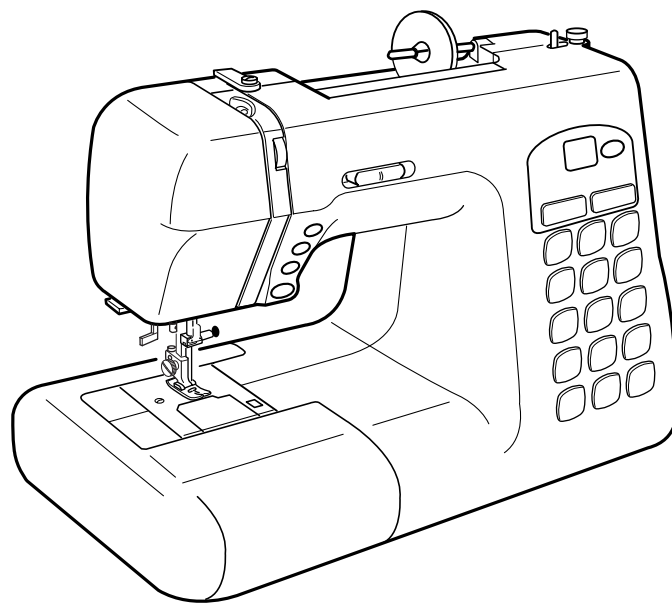


INSTRUCTION BOOK



IMPORTANT SAFETY INSTRUCTIONS

This sewing machine is not a toy. Do not allow children to play with this machine.

The machine is not intended for use by children or mentally infirm persons without proper supervision.

This sewing machine is designed and manufactured for household use only.

Read all instructions before using this sewing machine.

DANGER— To reduce the risk of electric shock:

1. An appliance should never be left unattended when plugged in. Always unplug this sewing machine from the electric outlet immediately after using and before cleaning.
2. Always unplug before replacing a sewing machine bulb. Replace bulb with same type rated 12 Volts, 5 Watts.

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

1. Do not allow children to play with the machine. The machine is not intended for use by children or infirmed persons without proper supervision.
Do not allow to be used as a toy. Close attention is necessary when this sewing machine is used by or near children.
2. Use this appliance only for its intended use as described in this owner's manual.
Use only attachments recommended by the manufacturer as contained in this owner's manual.
3. Never operate this sewing machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water.
Return this sewing machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the appliance with any air opening blocked. Keep ventilation openings of this sewing machine and foot controller free from accumulation of lint, dust and loose cloth.
5. Never drop or insert any object into any opening.
6. Do not use outdoors.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. To disconnect, turn all controls to the off ("O") position, then remove plug from outlet.
9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
10. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
11. Always use the proper needle plate. The wrong plate can cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
14. Switch this sewing machine off ("O") when making any adjustment in the needle area, such as threading the needle, changing the needle, threading the bobbin or changing the presser foot, and the like.
15. Always unplug this sewing machine from the electrical outlet when removing covers, lubricating, or when making any other adjustments mentioned in this owner's manual.

SAVE THESE INSTRUCTIONS



Please note that on disposal, this product must be safely recycled in accordance with relevant National legislation relating to electrical/electronic products. If in doubt please contact your retailer for guidance. (European Union only)

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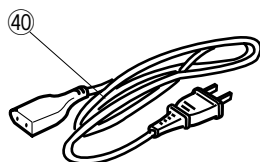
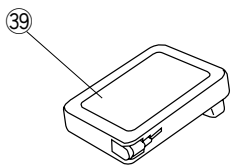
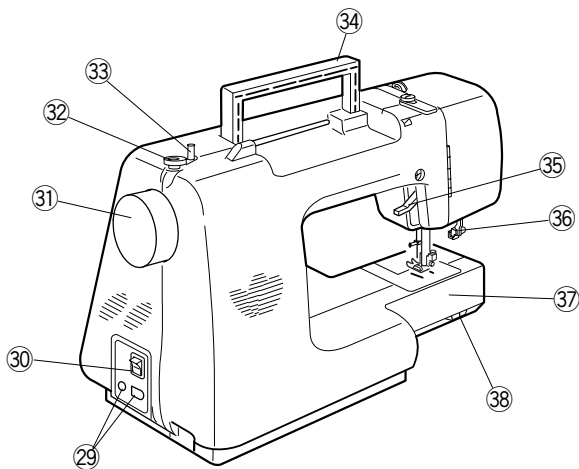
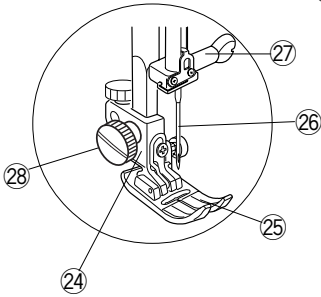
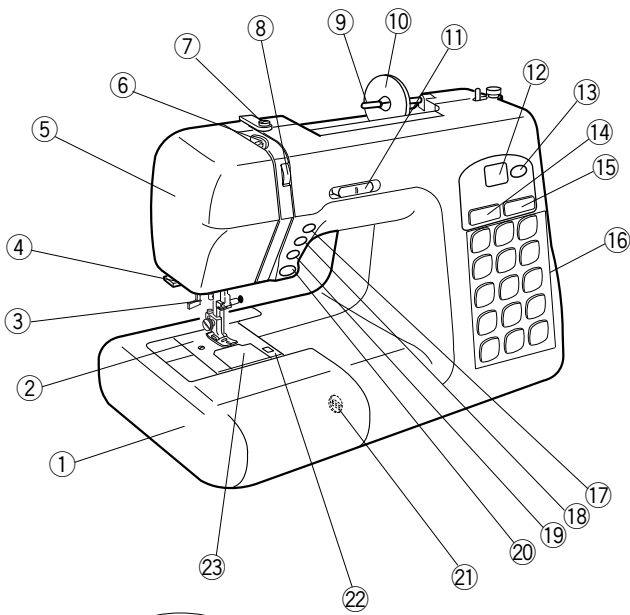
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SECTION I. NAME OF PARTS

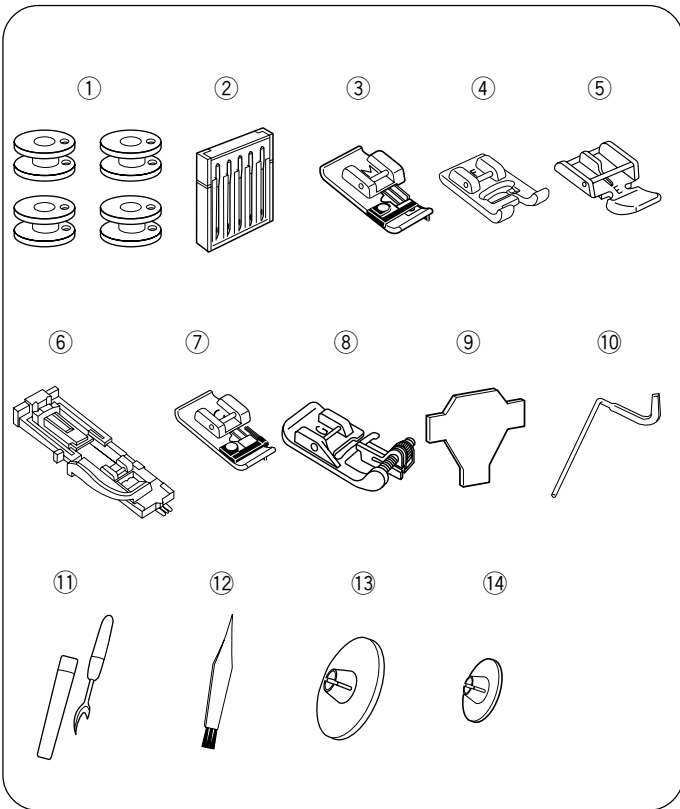
Names of Parts

- ① Extension table (Accessory box)
- ② Needle plate
- ③ Needle threader
- ④ Thread cutter
- ⑤ Face cover
- ⑥ Thread take-up lever
- ⑦ Upper thread guide
- ⑧ Thread tension dial
- ⑨ Spool pin
- ⑩ Large spool holder
- ⑪ Speed control slider
- ⑫ Indicator window
- ⑬ Elongation button
- ⑭ Stitch width adjusting button
- ⑮ Stitch length adjusting button
- ⑯ Stitch pattern selection button
- ⑰ Up/down needle position button
- ⑱ Auto-lock button
- ⑲ Reverse stitch button
- ⑳ Start/stop button
- ㉑ Feed balancing dial
- ㉒ Hook cover release button
- ㉓ Hook cover plate
- ㉔ Foot holder
- ㉕ Presser foot
- ㉖ Needle
- ㉗ Needle clamp screw
- ㉘ Thumb screw
- ㉙ Machine sockets
- ㉚ Power switch
- ㉛ Handwheel
- ㉜ Bobbin winder stopper
- ㉝ Bobbin winder spindle
- ㉞ Carrying handle
- ㉟ Presser foot lifter
- ㊱ Buttonhole lever
- ㊲ Free-arm
- ㊳ Drop feed dog lever
- ㊴ Foot control
- ㊵ Power supply cord



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

Standard Accessories



- ① Bobbin
- ② Needle set
- ③ Overcast foot: M
- ④ Satin stitch foot: F
- ⑤ Zipper foot: E
- ⑥ Automatic buttonhole foot: R
- ⑦ Overedge foot: C
- ⑧ Blind hem foot: G
- ⑨ Screwdriver
- ⑩ Quilter
- ⑪ Seam ripper/Buttonhole opener
- ⑫ Lint brush
- ⑬ Large spool holder
- ⑭ Small spool holder

SECTION II. GETTING READY TO SEW

Connecting Machine to Power Supply

Before connecting the power cord, make sure the voltage and frequency shown on the machine conform to your electrical power.

Using the start/stop button

- ① Machine socket
- ② Power supply plug
- ③ Power switch
- ④ Machine plug

1. Turn off the power switch ③.
2. Insert the machine plug ④ into the machine socket ①.
3. Insert the power supply plug ② into the outlet.
4. Turn on the power switch ③

Using the foot control

- ① Foot control plug
- ② Machine socket
- ③ Power supply plug
- ④ Power switch
- ⑤ Machine plug
- ⑥ Foot control
- ⑦ Red mark

1. Turn off the power switch ④.
2. Insert the foot control plug ①, and machine plug ⑤ into the machine socket ②.
3. Insert the power supply plug ③ into the outlet.
4. Turn on the power switch ④.



CAUTION:

Do not pull the foot control cord beyond the red mark ⑦.

NOTE:

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

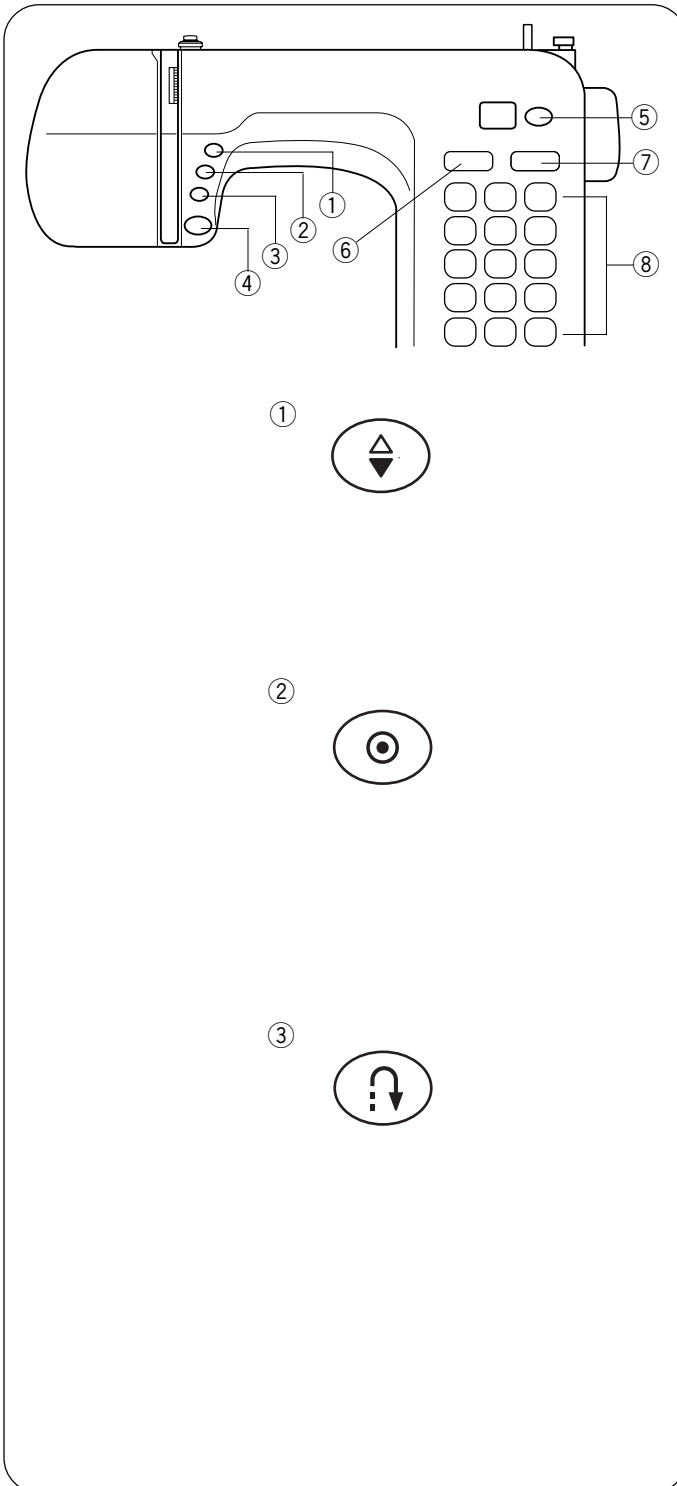
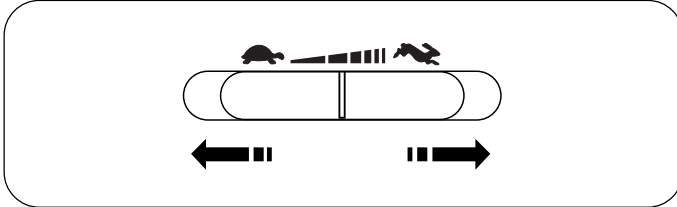
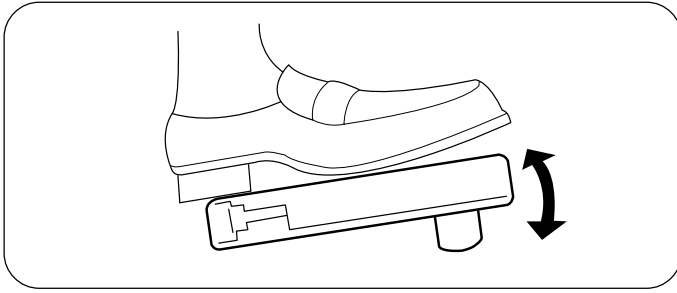
When the machine is turned on, the \perp mark is lit after one second, and the indicator window will show

Before Using Your Sewing Machine

Before using your sewing machine for the first time, place a waste fabric under the presser foot and run the machine without thread for a few minutes. Wipe away any oil which may appear.

For Your Safety

- * While in operation, always keep your eyes on the sewing area. Do not touch any moving parts such as the thread take-up lever, handwheel or needle.
- * Always turn off the power switch and unplug from the power supply:
 - When leaving the machine unattended.
 - When attaching or removing any parts.
 - When cleaning the machine.
- * Do not place anything on the foot control, when not sewing.



Controlling Sewing Speed

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

Operating Instructions:

Foot controller Model 21317 is for use with this sewing machine.

Speed Control Slider

Sewing speed can be varied by the speed control Slider according to your sewing needs.

To increase sewing speed, slide the lever to the right. To decrease sewing speed, slide the lever to the left.

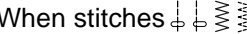
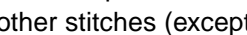
Machine Operating Buttons

① Up/down needle position button

Press this button to set the needle position up or down when the machine stops. The machine will stop with the needle up or down depending on the needle position determined by this button.



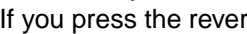
- The button is lit orange when needle position is set down position.

② Auto-lock button

When stitches  are selected, the machine will immediately sew locking stitches when the Auto-lock button is pressed, then automatically stop. When sewing other stitches (except ) , the machine will sew locking stitches at the end of the pattern being sewn and automatically stop.

- The button is lit green until locking stitch is automatically stopped.

③ Reverse stitch button

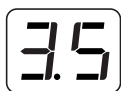
When stitches  are selected, the machine will sew in reverse while the reverse stitch button is pressed. If you press the reverse stitch button when sewing other stitches (except ) , the machine will immediately sew locking stitches and automatically stop. If you press the reverse button when stitch pattern  has been selected and the foot control is not connected, the machine will start sewing in reverse as long as the button is pressed and the machine will stop when the button is released.

- The button is lit red until locking stitch is automatically stopped.

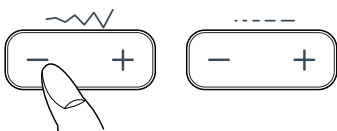
④



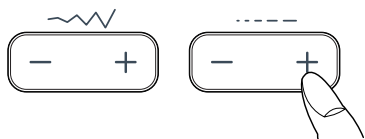
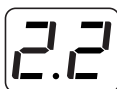
⑤



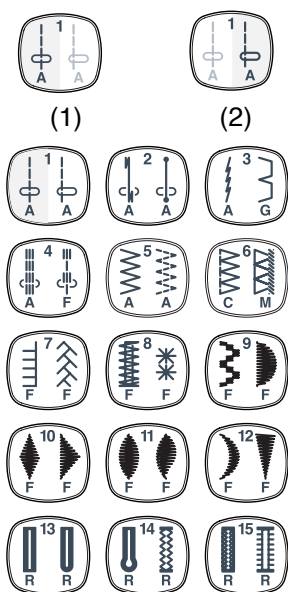
⑥



⑦



⑧



④ Start/stop button

Press this button to start or stop the machine.

The machine starts running slowly for the first few stitches; it then runs at the speed set by the speed control lever. The machine will run slowly as long as this button is pressed.

- The button is lit green when the machine is stopped.
- The button is lit red when the machine is running.

Notes:

- The Start/stop button cannot be used when the foot control is connected to the machine.
- If you start the machine with the presser foot up, the Indicator window will show . Lower the foot then restart the machine.

⑤ Elongation button

Stitches can be elongated up to five times their normal length by pressing this button (see page 34).

⑥ Stitch width adjusting button

Press “+” or “-” to change the stitch width or needle drop position (see page 18 or 21).

The button is lit green and the indicator will show the stitch width or needle drop position.

⑦ Stitch length adjusting button

Press “+” or “-” to change the stitch length (see page 36).

The button is lit green and the indicator will show the stitch length.

⑧ Stitch pattern selection button

Press the desired stitch pattern selection button to select the desired stitch.

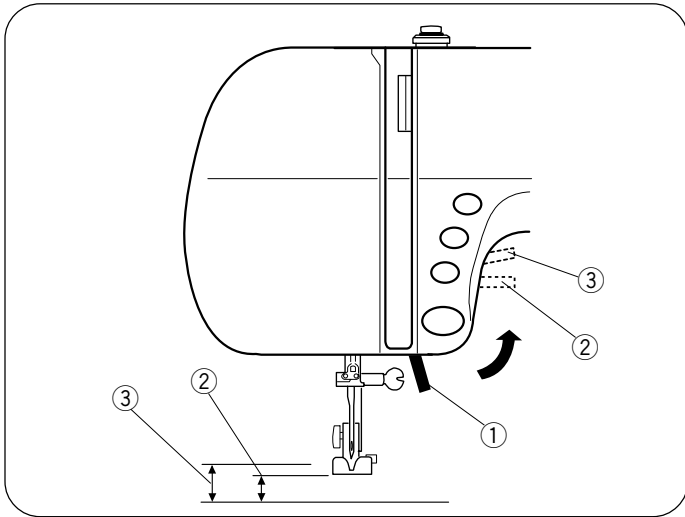
- (1) To select the pattern on the left side of pattern selection button, press it once.
The button is lit green and the pattern on the left side is selected.
- (2) To select the pattern on the right side of pattern selection button, press it twice.
The button is lit orange and the pattern on the right side is selected.

* The indicator window will show the pre-set stitch length of the selected stitch pattern.

* The alphabet under the stitch pattern indicates the suitable presser foot type for the selected stitch pattern.

Note:

Raise the needle above the fabric when selecting the stitch pattern.

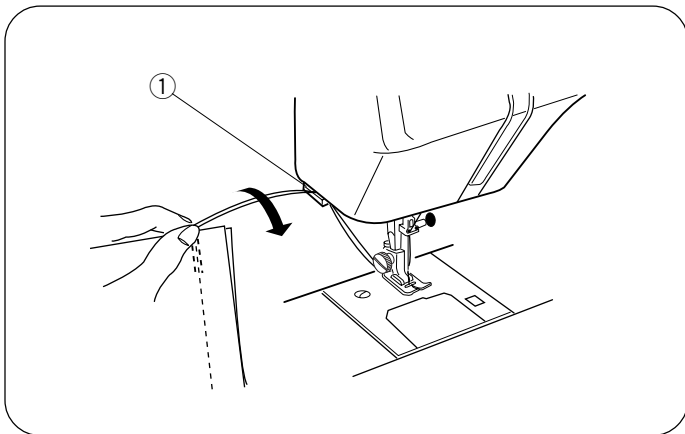


Presser Foot Lifter

- ① Presser foot lifter
- ② Normal up position
- ③ Highest position

The presser foot lifter ① raises and lowers the presser foot.

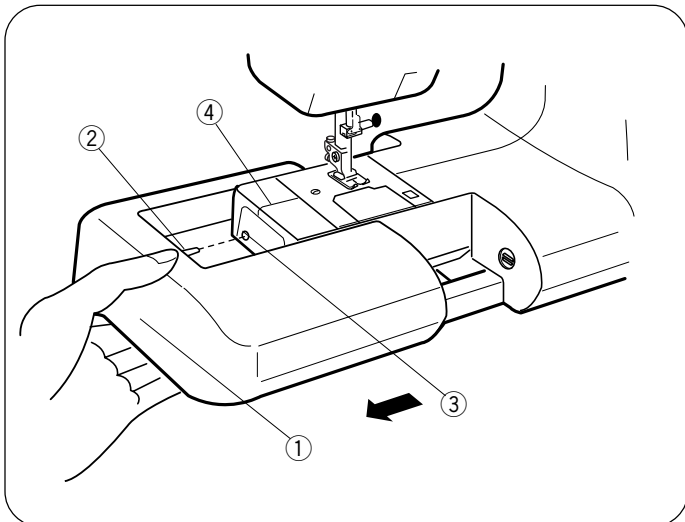
You can raise it about 1/4" (0.6 cm) higher than the normal up position ② for easy removal of the presser foot, or to help you place thick material under the foot.



Thread Cutter

- ① Thread cutter

You do not need a pair of scissors to cut the thread after sewing. Simply use the built-in thread cutter.



Extension Table

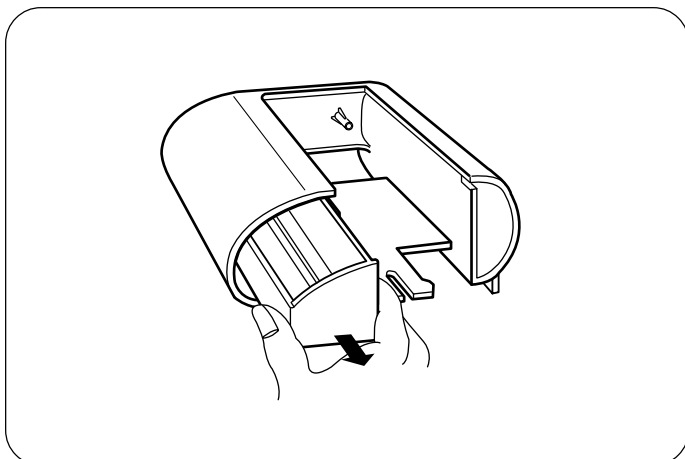
- **Detaching the table**

Pull the table away from the machine, as illustrated, for "free-arm" sewing of cuffs and sleeves.

- **Attaching the table**

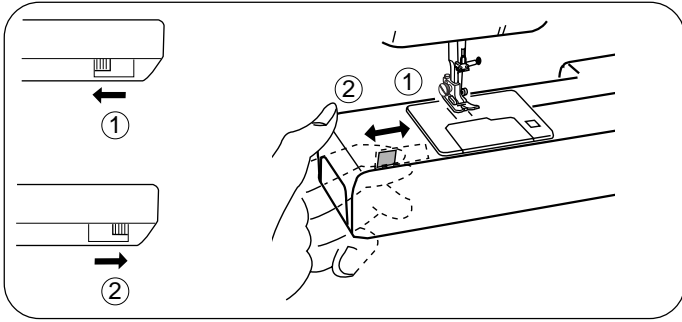
Push the extension table ①, inserting the pin ② into the hole ③, until the extension table ① snaps into the machine.

- ① Extension table
- ② Pin
- ③ Hole
- ④ Free-arm



- **Accessory case**

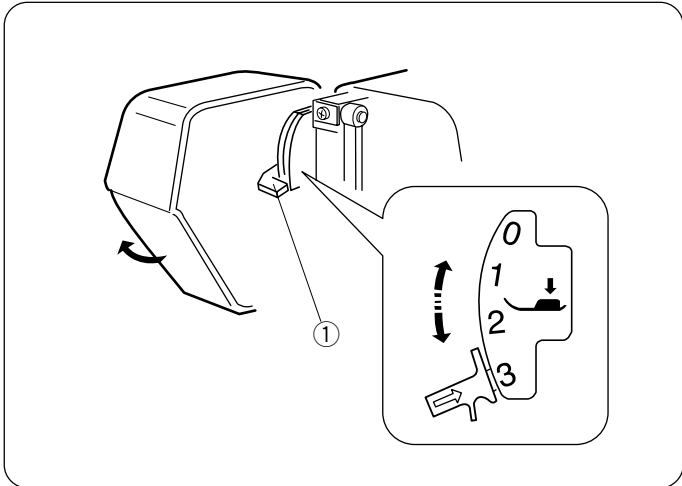
Many sewing accessories are stored in the accessory case.



To Drop or Raise the Feed Dog

The drop feed dog lever is located underneath the free arm bed on the back side of the machine.

- ① To drop the feed dog, push the lever in the direction of the arrow, as illustrated.
- ② To raise the feed dog, push the lever in the direction of the arrow, as illustrated, and turn the handwheel toward you. Feed dog must be up for normal sewing.



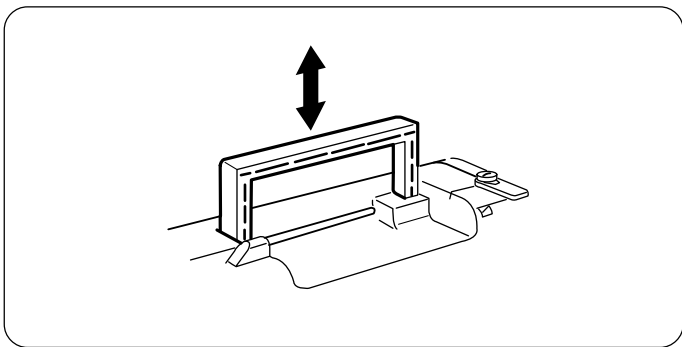
Presser Foot Pressure Adjusting Lever

The presser foot pressure adjusting lever should be set at "3" for regular sewing.

Reduce the pressure to "2" for the applique, cutwork, draw work and basting.

Set the pressure at "1" when sewing the chiffon, lace, organdy and other fine fabrics. Velour and knits with a lot of stretch may also require the pressure at "1".

- ① Presser foot pressure adjusting



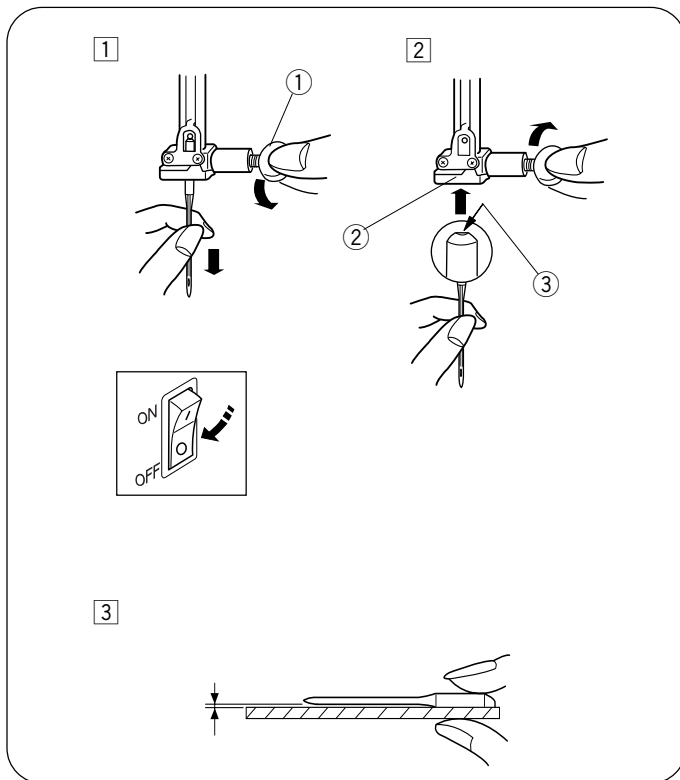
Carrying Handle

Use the carrying handle when carrying your sewing machine.

To use the carrying handle, pull it up as far as it will go. Press down the carrying handle to store it.

Note:

Press down and store the carrying handle when it is not in use.



Changing Needle



CAUTION:

Turn off the power switch when changing a needle.

- ① Needle clamp screw
 - ② Needle clamp
 - ③ Flat side
- 1 Raise the needle to its highest position by turning the handwheel counterclockwise, and lower the presser foot. Loosen the needle clamp screw ① by turning it counterclockwise. Remove the needle from the needle clamp ②.
 - 2 Insert a new needle into the needle clamp ② with the flat side ③ to the rear. When inserting the needle into the needle clamp ②, push it up as far as it goes. Tighten the needle clamp screw ① firmly by turning it clockwise.
 - 3 To see if the needle is good, place the flat side of the needle onto something flat (needle plate, glass, etc.). The gap between the needle and the flat surface should be consistent. Never use a bent or blunt needle.
A damaged needle can cause permanent snags or runs in knits, fine silks and silk-like fabrics.

Selecting Thread and Needles

For general sewing, use needle size 11/75 or 14/90. A fine thread and needle should be used for sewing lightweight fabrics, so the fabric will not be marred. Heavy fabrics requires a needle large enough to the fabric without fraying the needle thread.

Always test the needle size on a small piece of fabric, which will be used for actual sewing.

In general, use same thread for needle and bobbin.

When sewing stretch, very fine fabrics and synthetics, use a BLUE TIPPED needle. The blue tipped needle effectively prevents skipped stitches.

	Fabric	Thread	Needle
Light	Lawn	Silk #80-100	#9/65–11/75
	Georgette	Cotton #80-100	
	Tricot	Synthetic #80-100	
	Wool, Polyester		
Medium	Cotton, Polyester	Silk #50 Cotton #60-80	#11/75–14/90
	Fine jersey	Synthetic #50-80	
	Wool	Cotton #50	#14/90
Heavy	Denim	Silk #50	#14/90–16/ 100
	Jersey	Cotton #40-50	
	Coating	Synthetic #40-50	
	Quilting	Silk #30 Cotton #50	#16/100

Removing and Attaching the Foot Holder

CAUTION:

Turn off the power switch when removing or attaching the foot holder.

- ① Thumb screw
- ② Foot holder
- ③ Presser bar

• To remove

Remove the thumb screw ① by turning it counterclockwise with a screwdriver.

• To attach

Match the hole in the foot holder ② with the threaded hole in the presser bar ③. Fit the thumb screw ① into the hole. Tighten the screw ① by turning it clockwise with a screwdriver.

Changing Presser Foot

CAUTION:

Turn off the power switch when changing the presser foot.

- ① Snap-on button (red button)
- ② Groove
- ③ Pin

• To remove

Raise the needle to its highest position by turning the handwheel counterclockwise. Raise the presser foot, and press the red button ① on the back of the foot holder.

• To attach

Place the selected presser foot so that the pin ③ on the foot lies just under the groove ② on the foot holder. Lower the presser bar to lock the foot into place.

Bobbin Winding

• Removing the bobbin

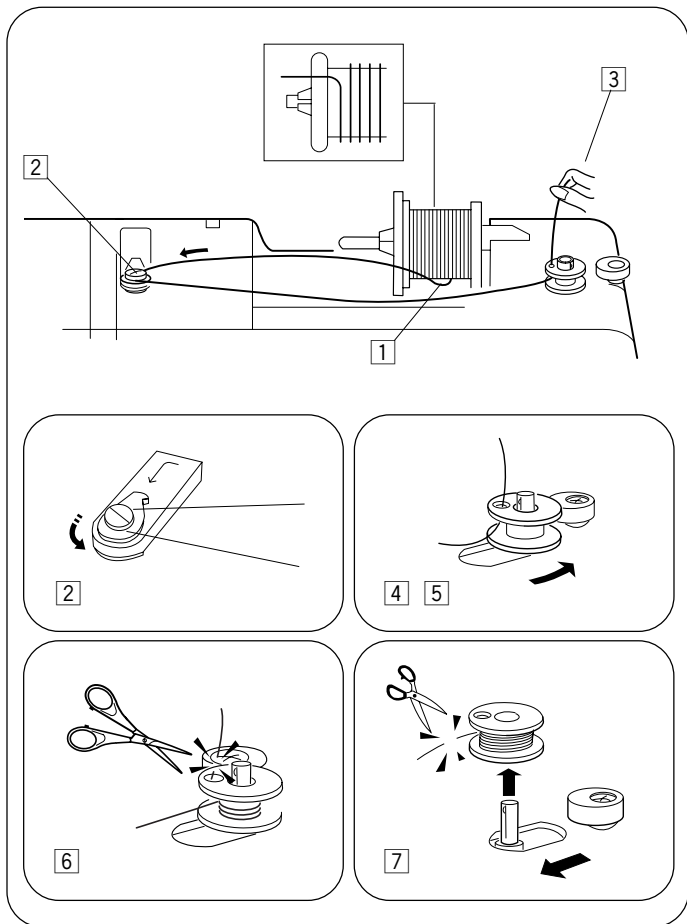
- ① Hook cover plate release button
- ② Hook cover plate

Gently slide the hook cover plate release button ① to the right and remove the cover plate ②. Lift out the bobbin.

• Horizontal spool pin

- ① Spool pin
- ② Large spool holder
- ③ Small spool holder

Lift up the spool pin ①. Place a spool of thread on the spool pin with the thread coming off the spool as shown. Attach the large spool holder ②, and press it firmly against the spool of thread. The small spool holder ③ is used with narrow or small spools of thread.



• Winding the bobbin

- 1 Draw the thread from the spool.
- 2 Guide the thread around the thread guide.
- 3 Thread through the hole in the bobbin from the inside to the outside.
- 4 Put the bobbin on the bobbin winder spindle.
- 5 Push the bobbin to the right.
The indicator window will show JL sign.
- 6 With the free end of the thread held in your hand, depress the foot control. Stop the machine when it has wound a few layers, and then cut the thread close to the hole in the bobbin.
- 7 Depress the foot control again. When the bobbin is fully wound, it stops automatically. Return the bobbin winder to its original position by moving the spindle to the left, and cut the thread as shown.

NOTE:

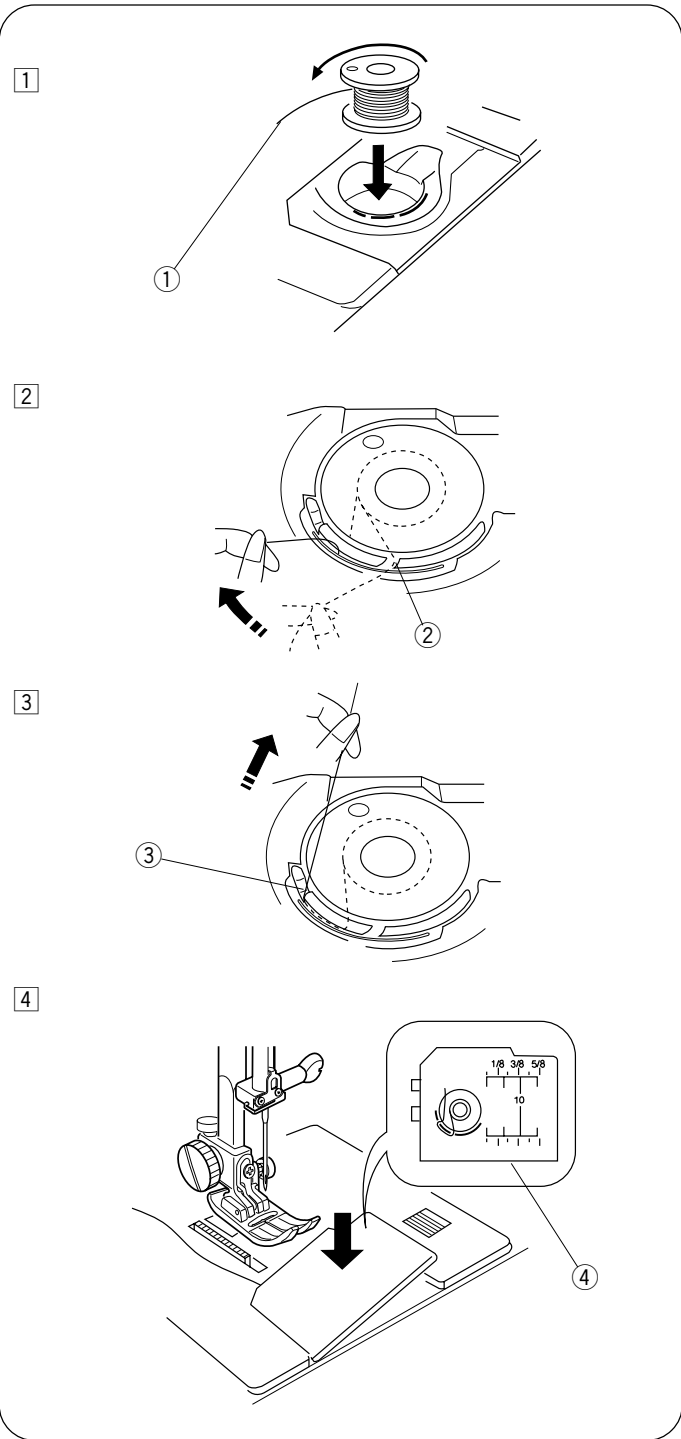
The machine will not sew until the spindle has been returned to the left.

NOTE:

Make sure that the carrying handle is not being raised when winding the bobbin.

NOTE:

The machine motor automatically stops after 2 minutes if you do not stop the machine.



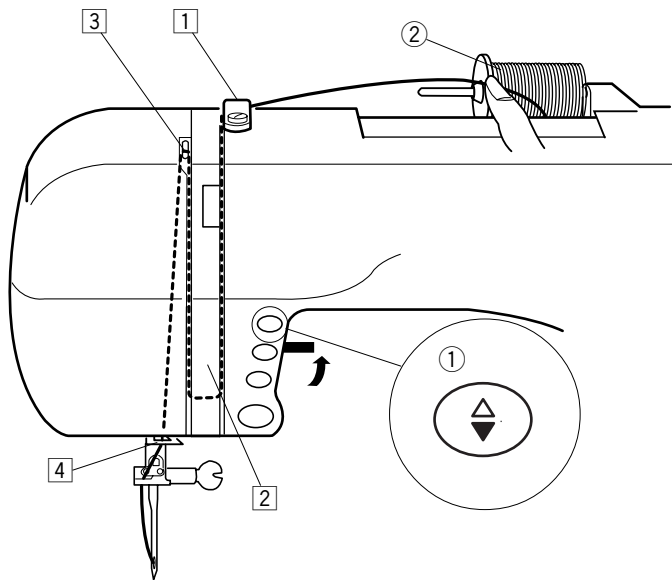
• **Inserting the bobbin**

- ① End of thread
 - ② Notch
 - ③ Notch
 - ④ Threading diagram
- 1 Place a bobbin in the bobbin holder with the thread running off counterclockwise.

 - 2 Guide the thread into the first notch ② on the front side of the bobbin holder. Draw the thread to the left, sliding it between the tension spring blades.

 - 3 Continue to draw the thread lightly until the thread slips into the second notch ③. Pull out about 6" (15 cm) of thread.

 - 4 Attach the hook cover plate. Check the threading by referring to the diagram ④ shown on the hook cover plate.



Threading the Machine

• Threading the machine

① Up/down needle position button

② Spool

* Raise the thread take-up lever to its highest position.

* Raise the presser foot lifter.

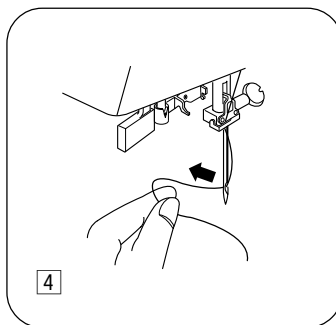
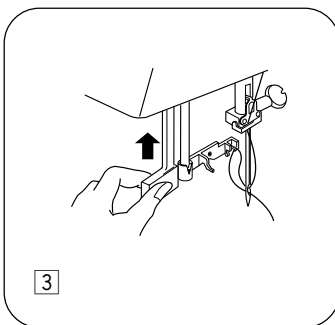
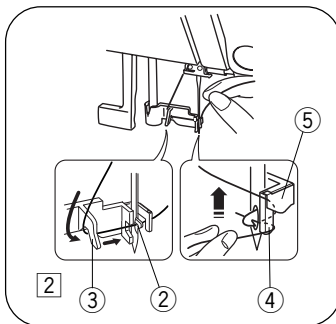
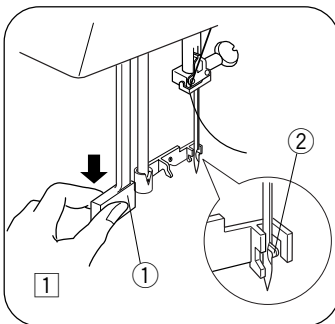
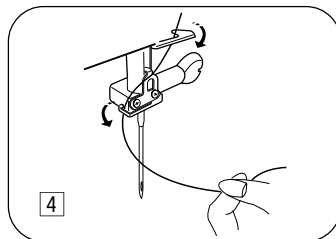
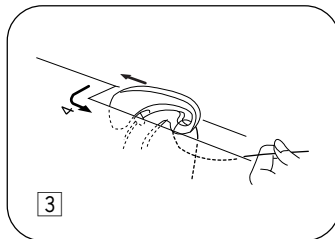
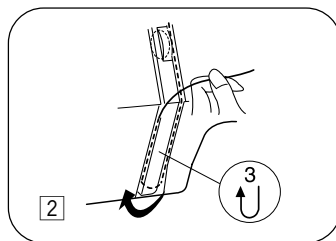
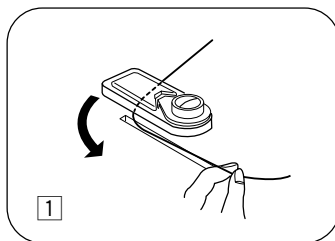
* Place a spool on the spool pin, with the thread coming off as shown.

① Draw the end of the thread around the upper thread guide.

② While holding the thread near the spool ②, draw the end of the thread down around the check spring holder.

③ Firmly draw the thread up from right to left over the take-up lever, and down into the take-up lever eye.

④ Pass the thread through the lower thread guide. Slide the thread behind the needle bar thread guide on the left. Thread the needle from front to back, or use a needle threader.



Needle Threader



CAUTION:

Turn off the power switch when using the needle threader.

① Knob

② Hook

③ Guide (a)

④ Guide (b)

⑤ Holder plate

① Lower the presser foot. Raise the needle to its highest position. Pull down the needle threader knob ① as far as it will go. The hook comes out through the needle eye from behind.

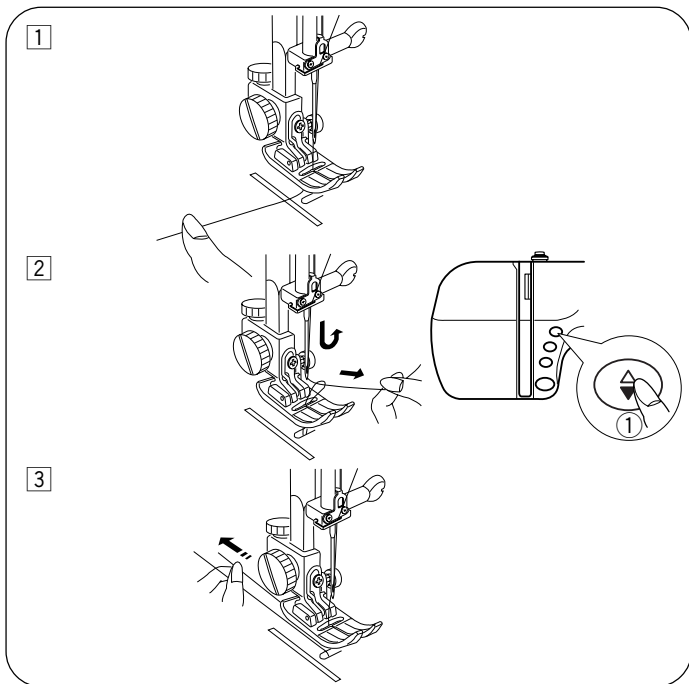
② Draw the thread from guide (a) ③ to guide (b) ④ and under the hook ②. Draw the thread up along the right side of the guide (b) ④ and slip the thread in between the guide (b) and the holder plate ⑤.

③ Raise the knob in the direction of the arrow on the illustration, drawing the thread loop through the needle.

④ Pull the thread through the needle eye.

NOTE:

The needle threader can be used with a #11 to #16 needle or a blue tipped needle. Thread size 50 to 90 should also work well.



Drawing Up Bobbin Thread

- 1 Raise the presser foot. Hold the needle thread lightly with your left hand.
- 2 Press the up/down needle position button ① twice to lower and raise the needle to pick up the bobbin thread.
 - ① Up/down needle position button
- 3 Pull both threads 4" to 6" (10 to 15 cm) under and behind the presser foot.

Adjust the Needle Thread Tension for a Straight Stitch

• Auto-thread tension

This machine features the Auto setting in the tension control, which covers wide range of sewing condition. Set the tension control dial at "A" for general sewing, unless specifically indicated in this manual.

• Correct tension

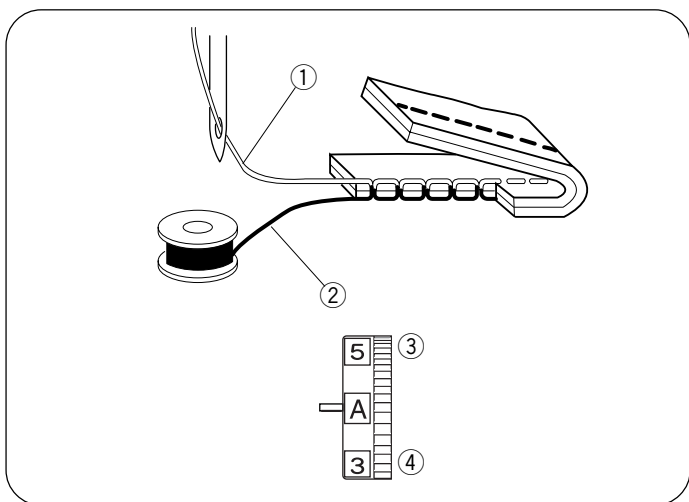
- ① Needle thread (Top thread)
- ② Bobbin thread (Bottom thread)
- ③ To loosen
- ④ To tighten

The ideal straight stitch has threads locked between two layers of fabric, as illustrated (magnified to show detail). If you look at the top and bottom of a seam, notice that the stitches are evenly balanced.

When adjusting the needle thread tension, the higher the number, the tighter the top thread tension.

Results depend on:

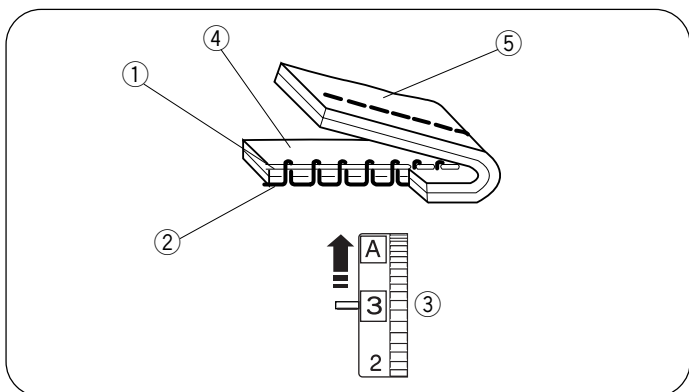
- stiffness and thickness of the fabric
- number of fabric layers
- type of stitch

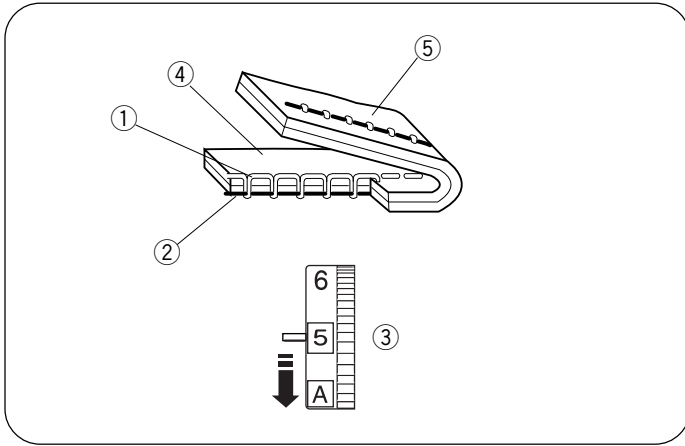


•Tension is too tight

- ① Needle thread (Top thread)
- ② Bobbin thread (Bottom thread)
- ③ To loosen tension
- ④ Right side (Top side) of fabric
- ⑤ Wrong side (Bottom side) of fabric

If the needle thread tension is too tight, the bobbin thread is pulled up and will appear on the right side of the fabric. Turn the dial to a lower tension setting number to loosen the needle thread tension.





• Tension is too loose

- ① Needle thread (Top thread)
- ② Bobbin thread (Bottom thread)
- ③ To tighten tension
- ④ Right side (Top side) of fabric
- ⑤ Wrong side (Bottom side) of fabric

If the needle thread tension is too loose, the needle thread loops on the wrong side of the fabric. Turn the dial to a higher tension setting number to tighten the needle thread tension.

Adjust the Needle Thread Tension for a Zigzag Stitch

For an ideal zigzag stitch, the bobbin thread does not show on the right side (Top side) of the fabric, and the needle thread shows slightly on the wrong side (Bottom side) of the fabric.

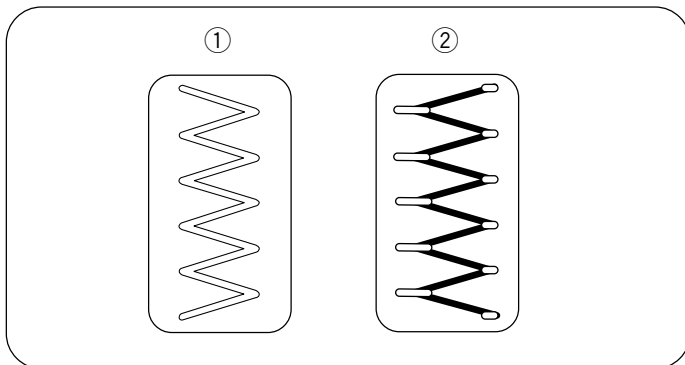
See the illustrations for the correct appearance.

To match this appearance, adjust the needle tension as necessary.

• Correct tension

- ① Right side (Top side) of fabric
- ② Wrong side (Bottom side) of fabric

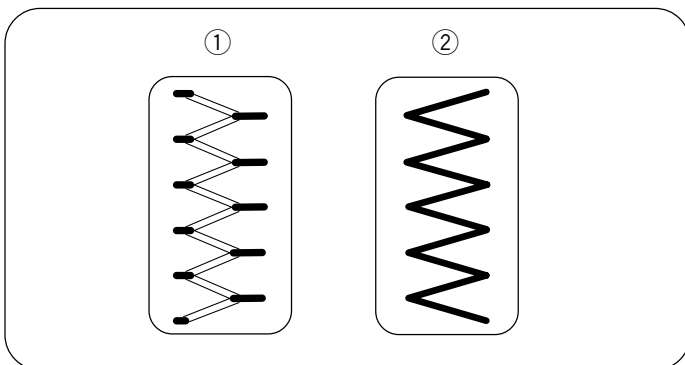
Minimize the amount of needle thread visible on the wrong side (Bottom side) of the fabric without causing excessive puckering, or causing the bobbin thread to show on the right side (Top side) of the fabric. Results vary with fabric, thread and sewing conditions.



• Tension is too tight

- ① Right side (Top side) of fabric
- ② Wrong side (Bottom side) of fabric

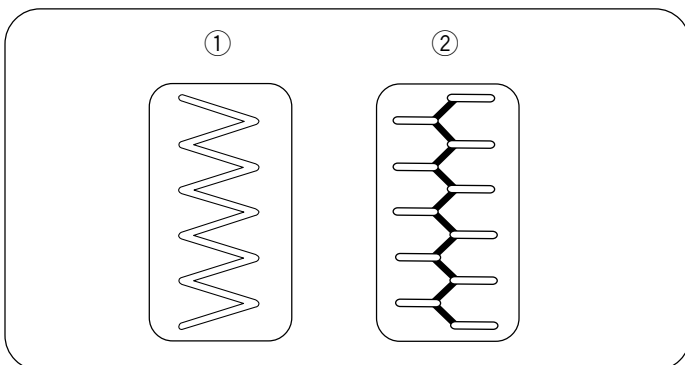
The corner of each zigzag pulls together on the right side of the fabric

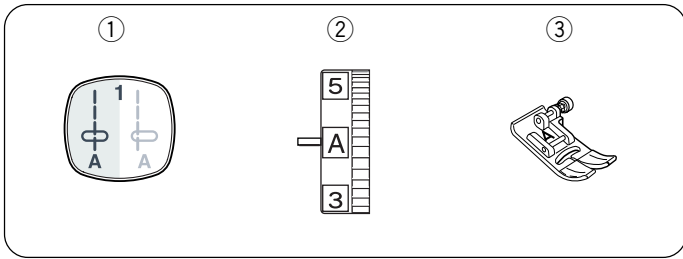


• Tension is too loose

- ① Right side (Top side) of fabric
- ② Wrong side (Bottom side) of fabric


The corner of each zigzag point pulls together on the wrong side of the fabric.





SECTION III. BASIC SEWING

Straight Stitch

- ① Stitch pattern: 
 ② Needle thread tension: A
 ③ Presser foot: Zigzag foot: A

• To sew

Raise the presser foot and position the fabric next to a seam guide line on the needle plate (5/8" (1.6 cm) is most common). Lower the needle to the point where you want to start. Lower the presser foot and pull the threads toward the back. Depress the foot control or press the start/stop button. Gently guide the fabric along a seam guide line letting the fabric feed naturally.

⚠ CAUTION:

Do not place fingers near to the presser foot when guiding fabric, or the needle clamp screw may strike and injure your fingers.

• Changing sewing direction

Stop the machine and bring the needle down into the fabric by pressing the up/down needle position button. Raise the presser foot.


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

- ① Up/down needle position button
 ② Presser foot lifter

• Finishing sewing

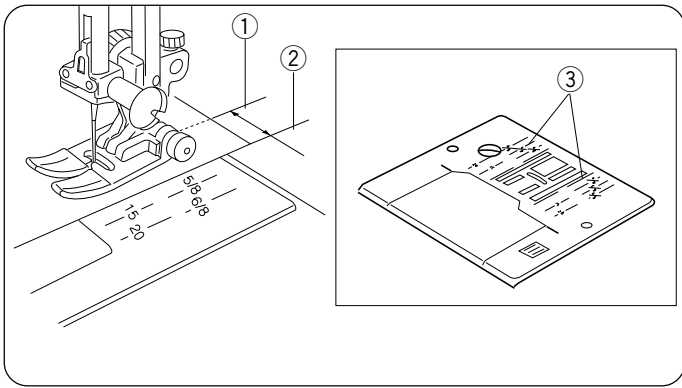
- ① Reverse stitch button
 ② Thread cutter
 ③ Fabric

To fasten the ends of a seam, press the reverse stitch button and sew several reverse stitches. Raise the presser foot. Remove the fabric ③, draw the threads to the back and cut them with the thread cutter ②. The threads are cut the proper length to begin sewing the next seam.

— When pattern () is selected, reverse stitches are sewn automatically at the beginning of the seam, then sewing continues forward.

When you reach the end edge of the fabric, press the reverse stitch button ① once.

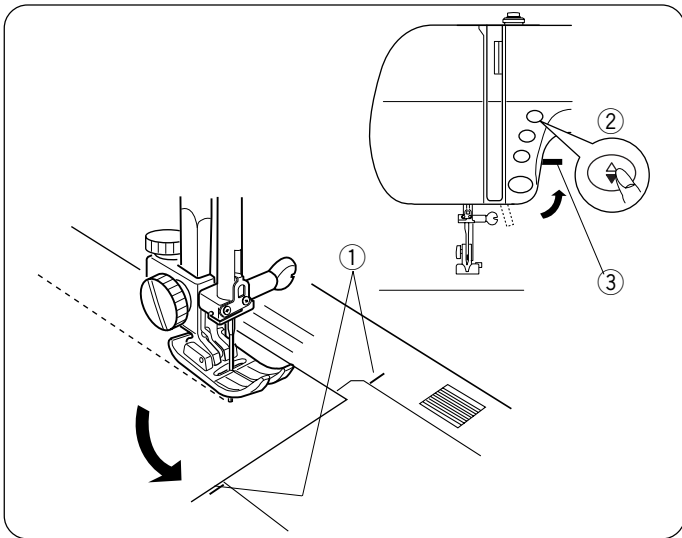
The machine will sew four reverse stitches, four forward stitches then stop sewing.



Using the Seam Guides on the Needle Plate

- ① Needle drop position
- ② Edge of fabric
- ③ Seam guides

The seam guides on the needle plate are engraved to help you measure seam width. The numbers on the needle plate indicate the distance between the center needle position and the edge of the fabric. The lines are 1/8" (0.3 cm) apart, and engraved at 3/8", 4/8", 5/8" and 6/8". The lines in millimeters are 5 mm apart, and are engraved at 10 mm, 15 mm and 20 mm.

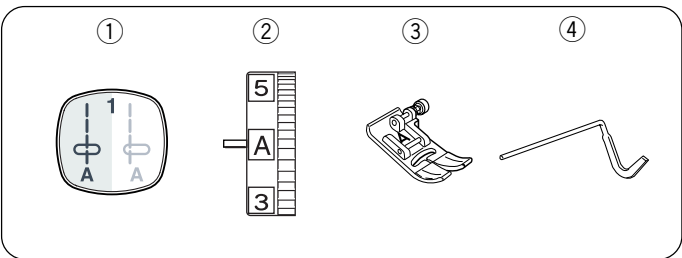


Turn a Square Corner


- ① Cornering guide
- ② Up/down needle position button
- ③ Presser foot lifter

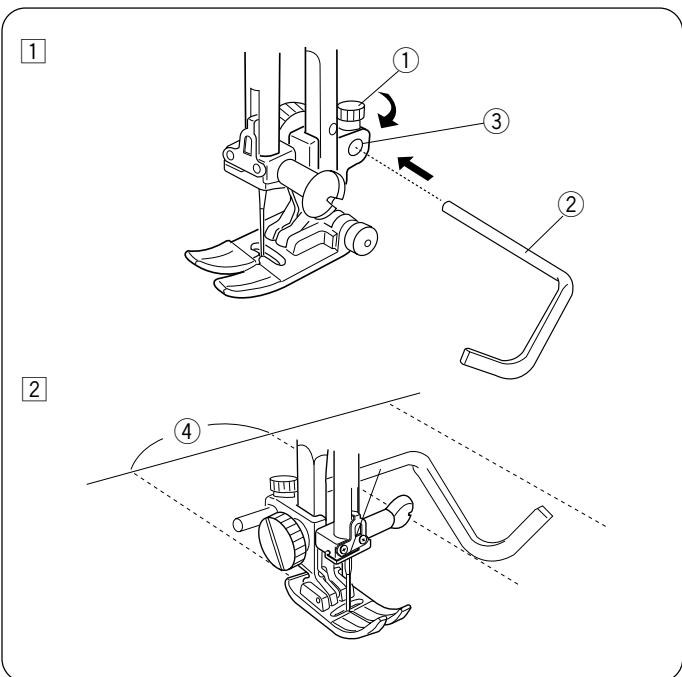
Turning a square corner 5/8" (1.6cm) from the fabric edge. Stop stitching and lower needle down into the fabric by pressing the Up/Down needle position button when the fabric edge facing you lines up with the cornering guide as shown.

Raise the presser foot and turn the fabric to line up the edge with the 5/8" (1.6cm) seam guide. Lower the presser foot and begin stitching in the new direction.



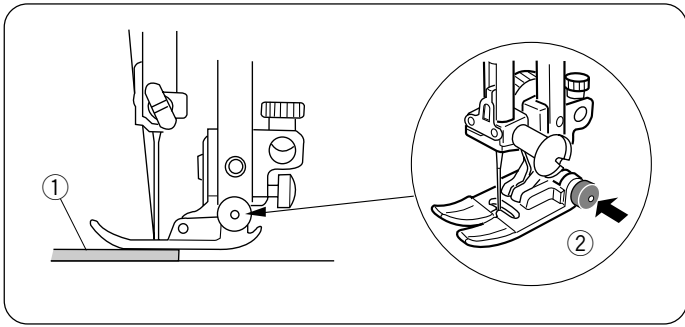
Quilting

- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A
- ④ Quilter



Use the seam guide lines on the needle plate, and the free-arm, to help determine the distance between quilting stitches. The quilter will help keep the stitching line straight.

- ① Loosen the quilter holding screw. Slide the quilter in the hole to the desired width and tighten the screw.
- ② Sew, guiding the quilter over the previous row of stitching.
 - ① Quilter holding screw
 - ② Quilter
 - ③ Hole
 - ④ Distance



Sewing on Heavy Fabrics

- ① Fabric
- ② Black button

The black button ② on foot A will lock the foot in a horizontal position if you push it in before lowering the presser foot.

This ensures even feeding at the beginning of seams and helps when sewing many layers of fabric such as sewing over welt seams when hemming jeans.

When you reach the point of an increased thickness, lower the needle and raise the presser foot. Press down on the toe of the foot and push in the black button ②, then lower the foot and continue sewing.

This button will be released automatically after a few stitches.

Manual Stitch Length

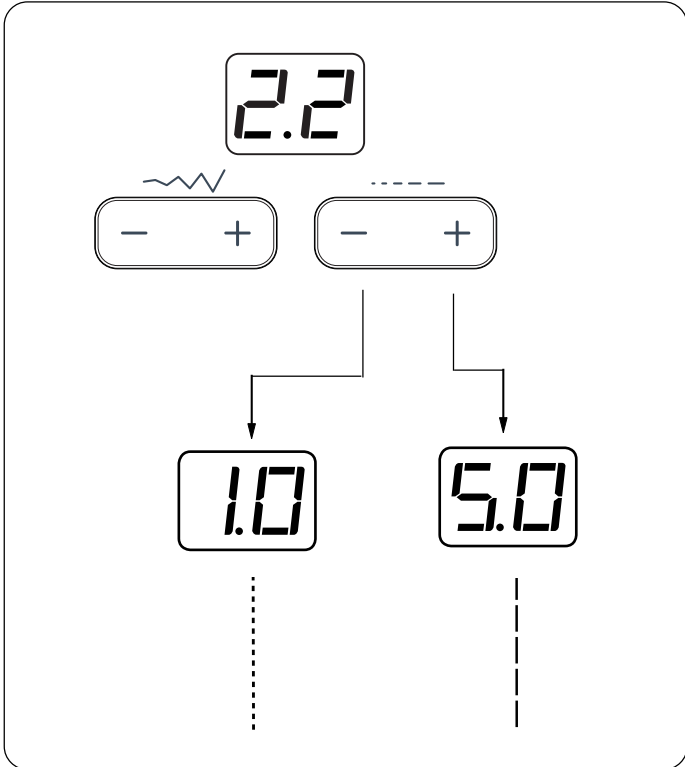
Press “-” or “+” to adjust the stitch length.

To decrease length, press “-”.

To increase length, press “+”.

The pre-programmed stitch length setting is suitable for most of your sewing needs. However, you can change these settings to accommodate different fabric characteristics or achieve a desired effect. Hold down “-” or “+” until you reach the desired setting.

* The reverse stitch length cannot be set longer than 1/8" (0.3 cm)



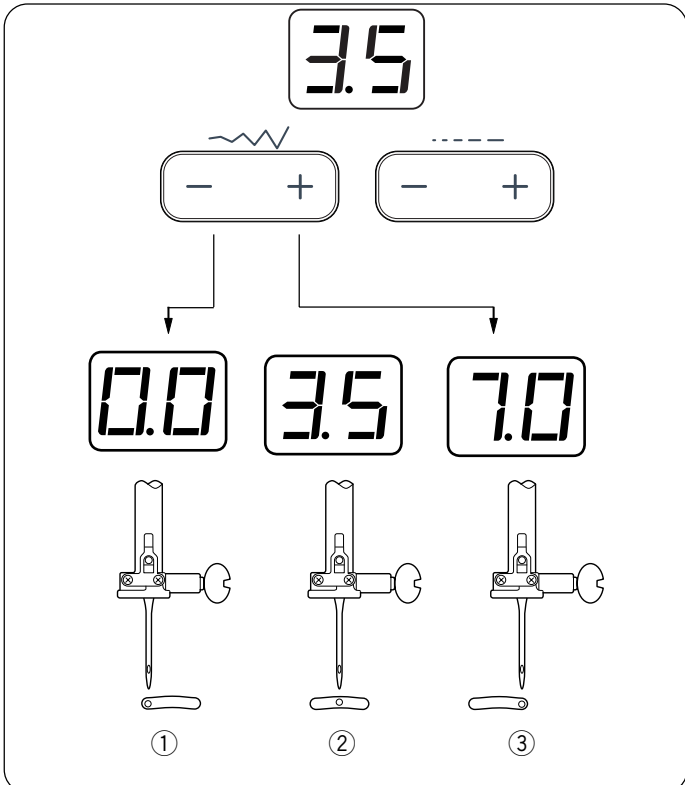
Variable Needle Position

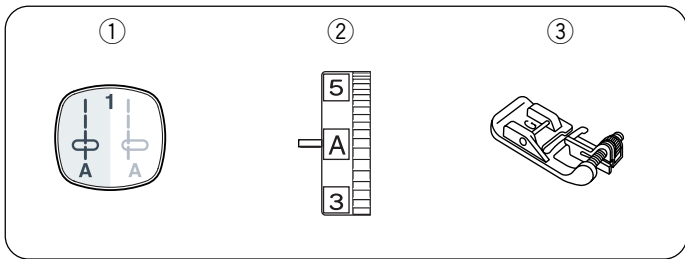
These settings apply only to “straight” stitch patterns #1, #2 and #4.




When you select stitch patterns above, you can adjust the left/right needle position. When you press “-”, the needle position will move to the left. When you press “+”, the needle position will move to the right.

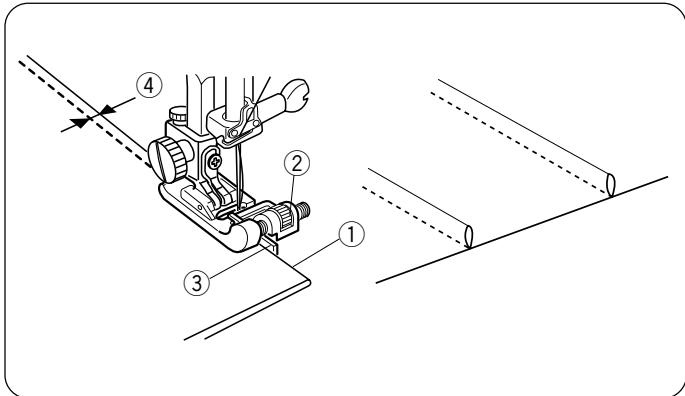
- ① Left (0.0)
- ② Middle (3.5)
- ③ Right (7.0)





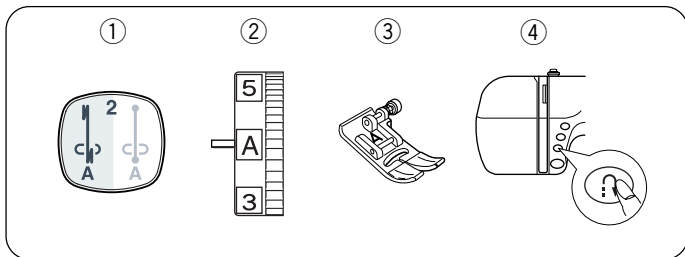
Pintucking

- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Blind hem foot: G




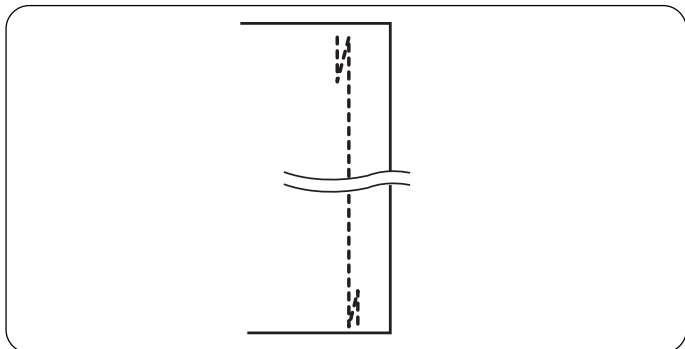
Fold the fabric with wrong side together. Position the fabric so that the needle pierces 0.1–0.2 cm (1/16") inside of the folded edge, and lower the foot. Turn the guide screw and move the guide next to the folded edge. Sew guiding the folded edge along the guide. Open the fabric and press the tucks to one side.

- ① Folded edge
- ② Guide screw
- ③ Guide
- ④ 0.1 ~ 0.2 cm (1/16")

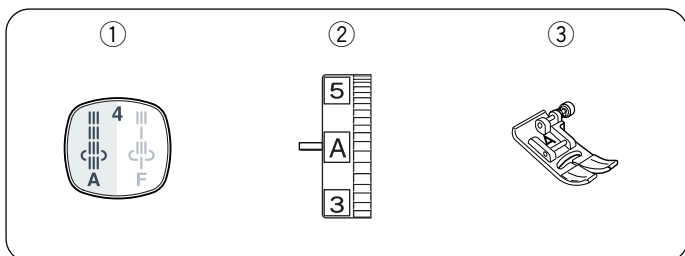


Automatic Reverse Stitch


- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A
- ④ Reverse stitch button

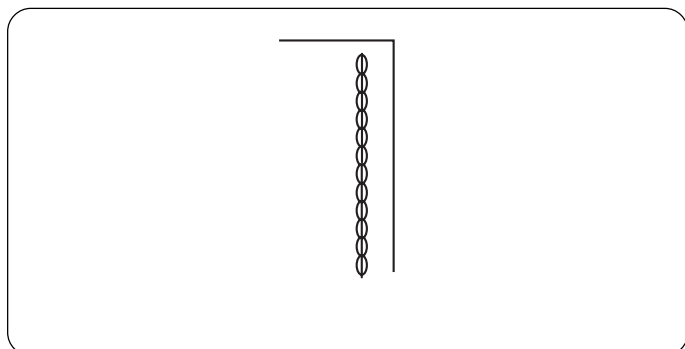


This reverse stitch can be used for securing, mending or reinforcement stitches. At the end of seams, press the reverse stitch button ④ once, so that the machine will sew an auto-lock stitch immediately and stop automatically.

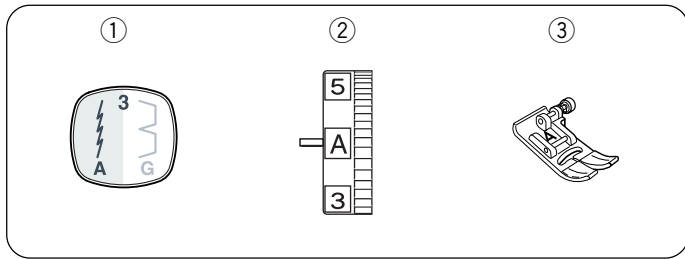


Triple Stretch Stitch


- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A



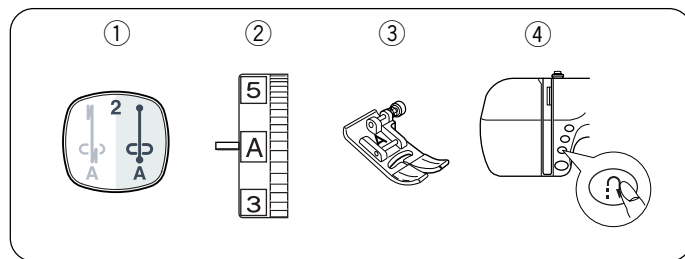
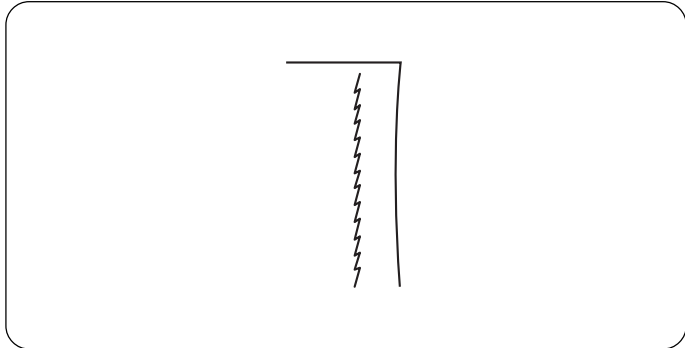
This strong, durable stitch is recommended when both elasticity and strength are necessary in order to insure comfort and durability. Use it to reinforce areas such as crotch and armhole seams. Also use for extra reinforcement when constructing items such as backpacks.




Straight Stretch

- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A

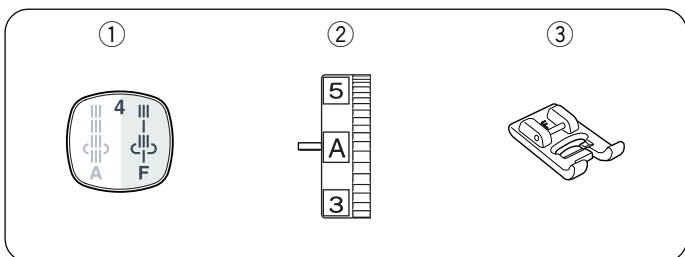
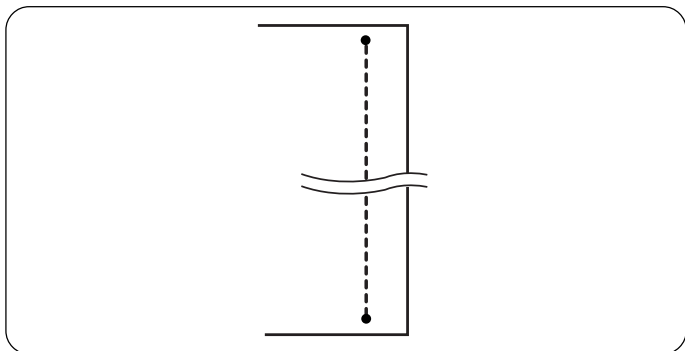
This stitch is a narrow stretch stitch designed to eliminate puckering on knit fabrics and bias seams, while permitting the seam to be pressed completely flat.




Auto-lock Stitch

- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A
- ④ Reverse stitch button

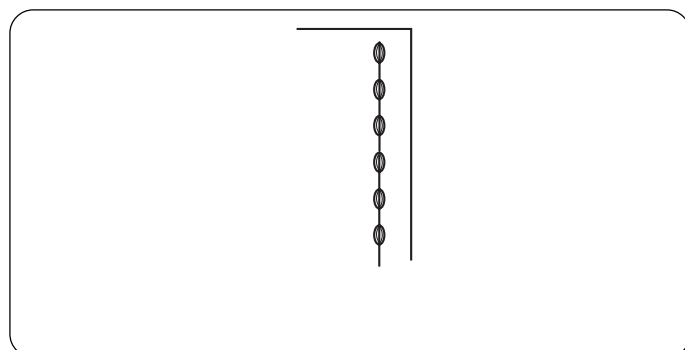
Lower the needle close to the front edge of the fabric and lower the presser foot. The machine will sew several locking stitches in place and continue sewing forward. By pressing the reverse button ④, the machine will sew several locking stitches in place, then stop sewing automatically.

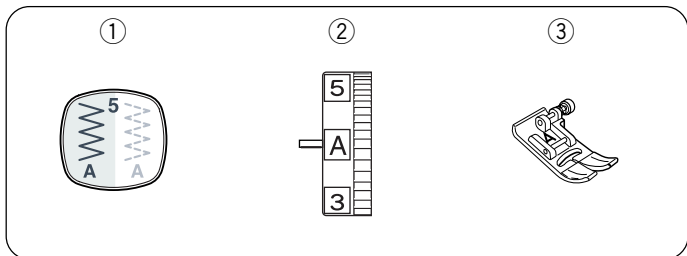


Saddle Stitch

- ① Stitch pattern: 
- ② Needle thread tension: F
- ③ Presser foot: Satin stitch foot: F

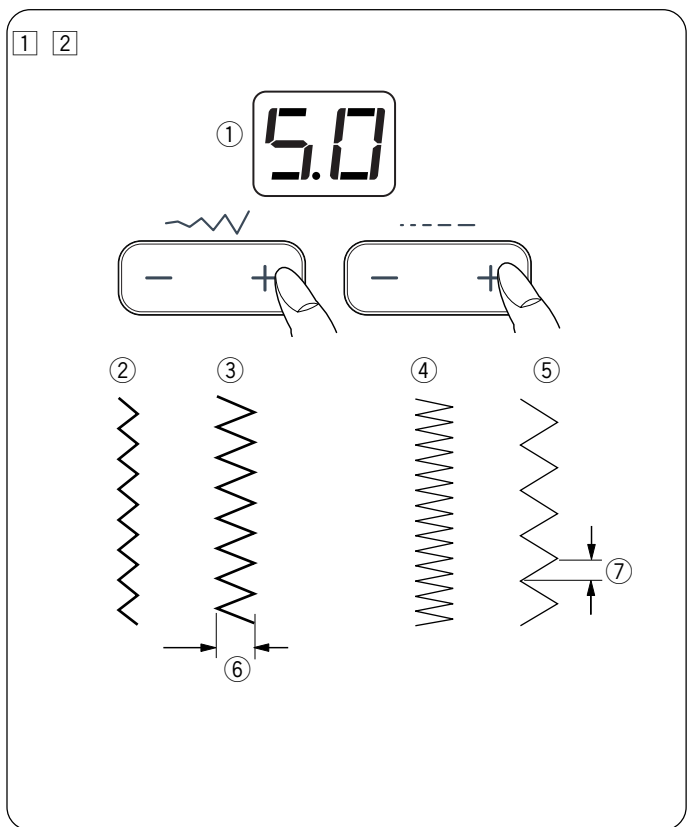
You can achieve a lovely hand-worked look when topstitching suits, blazers, jumpers, and denim outfits with the saddle stitch.





Zigzag Stitch

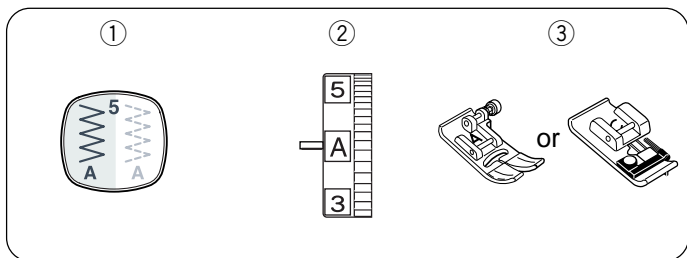
- ① Stitch pattern:
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A



• To change the width and length

Zigzag stitch is useful for overcasting, applique, mending etc. When you change the zigzag width, make sure the needle position is above the fabric.

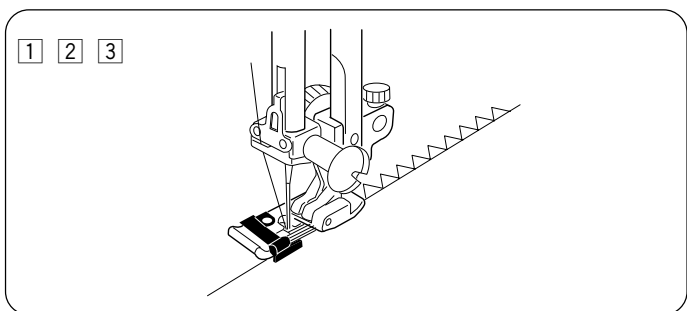
- ① When you select the stitch, display shows pre-programmed stitch length setting ①. Press the stitch width adjusting button “+”, “-” or stitch length adjusting button “+”, “-” to change the stitch width and length manually.
- ② When the “+” or “-” key is pressed, the width and length will be changed accordingly.
 - ① Pre-programmed stitch settings
 - ② Narrow width (small number)
 - ③ Wide width (large number)
 - ④ Dense stitch (small number)
 - ⑤ Coarse stitch (large number)
 - ⑥ Width
 - ⑦ Length



Overcasting

- ① Stitch pattern:
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A
Overedge foot: C

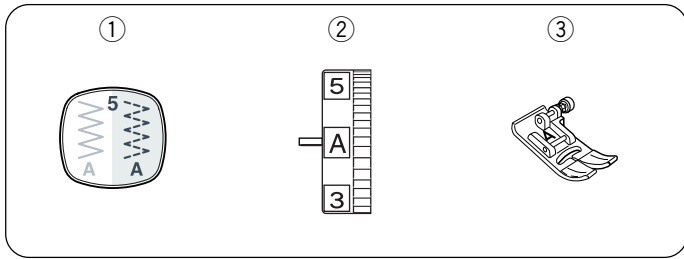
This zigzag variation is very useful in garment construction and in finishing raw edges of any sewing project.




- ① The black ridge and the guide wires on the overedge foot keep the edge neat and the fabric straight.
- ② Place your fabric so that the double guide wires come to the edge. The machine will stitch over these wires. The black ridge will keep the loose threads in so that the needle can stitch over them.
- ③ As you sew, be sure your fabric edge pushes up against the black ridge.

NOTE:

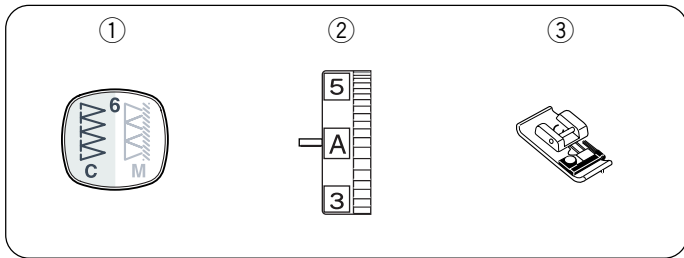
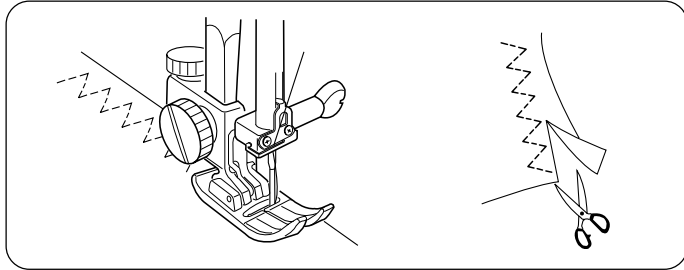
When using an Overedge foot, make sure to set the stitch width between 5 and 7, otherwise the needle may hit the overedge foot.




Tricot Stitch

- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Zigzag foot: A

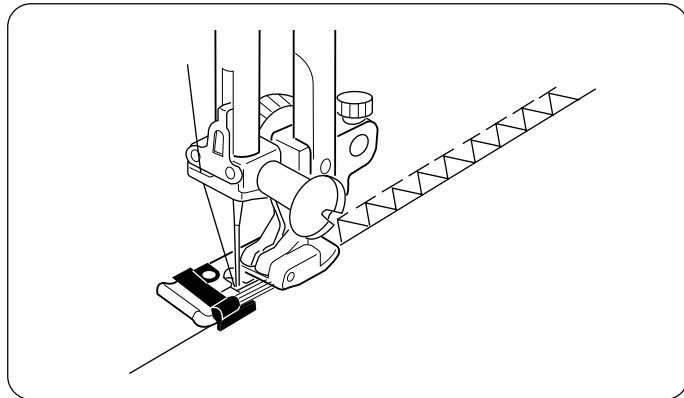
This stitch is used to finish the seam allowance on synthetics and other fabrics that tend to pucker. The stitch is also excellent for darning and mending tears. Place your fabric to allow a 5/8" (1.5 cm) seam. Trim excess close to stitching. Be careful not to cut the stitches.



Overedge Stitch

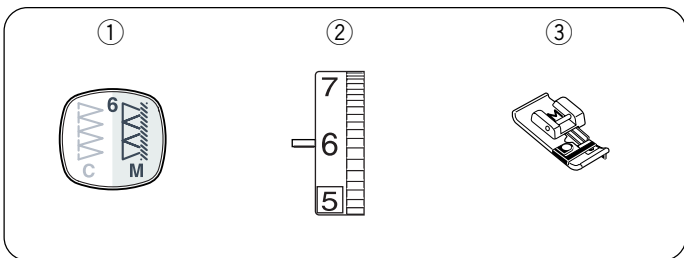
- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Overedge foot: C

This stitch pattern combines the straight and the zigzag stitches, using the overedge foot, to stitch and overcast seams in one step. It is ideal for 1/4" (0.6 cm) seams on knits (when attaching ribbing) or on medium to heavyweight woven fabrics where you want a narrow seam. Place your fabric so that the raw edges fit under the wire guides and touch the black ridge.




NOTE:

Stitch width should be set between 5.0 to 7.0. The blue tip needle is recommended for stretch materials.

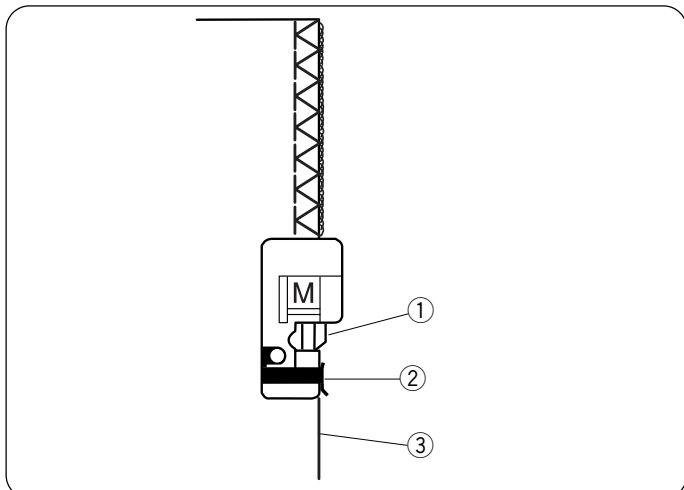


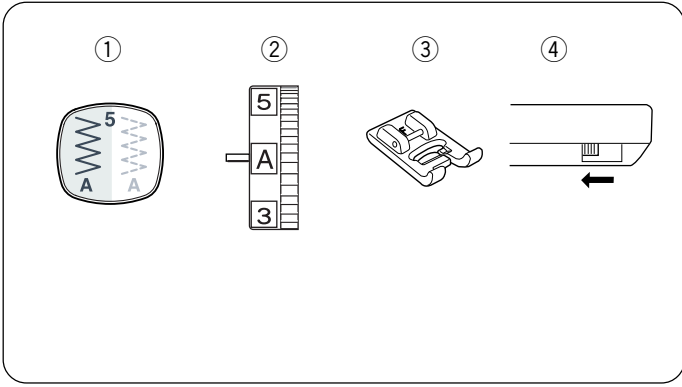
Serging Stitch

- ① Stitch pattern: 
- ② Thread tension dial: 5-8
- ③ Presser foot: Overcast foot: M


This stitch finishes the edge of fabric similar to a commercial overlocking machine for professional look. Place the fabric edge next to the guide of the foot and then sew.

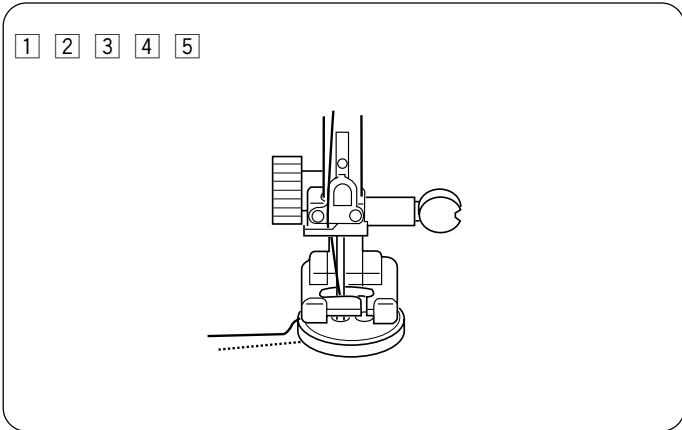
- ① Pin
- ② Guide
- ③ Edge of the fabric



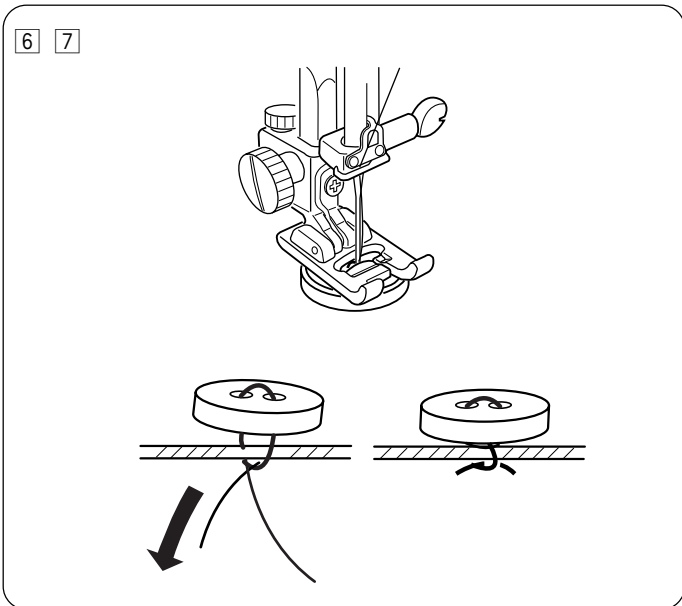


Button Sewing

- ① Stitch pattern:  5
- ② Needle thread tension: A
- ③ Presser foot: Satin stitch foot: F
- ④ Feed dog: Dropped

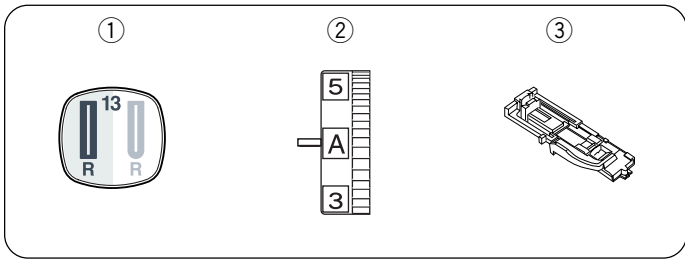


- ① Place the button so the holes of button matches to the horizontal slot on the presser foot.
- ② Lower the foot to hold the button in place.
- ③ Press the stitch width button (“+” or “-”) so the needle will enter the left hole of the button.
- ④ Turn the handwheel so that the needle will enter the right hole of the button. Readjust the stitch width if necessary.
- ⑤ Stitch several times.




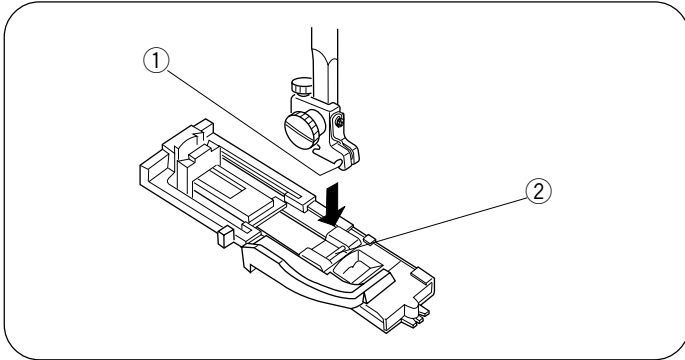
- ⑥ After you finish sewing, cut the thread but leave 3" to 4" of thread at the button.
- ⑦ With a hand sewing needle, draw the top thread to the reverse side of the fabric and knot the threads.

* After the button sewing is completed, raise the feed dogs for normal sewing.



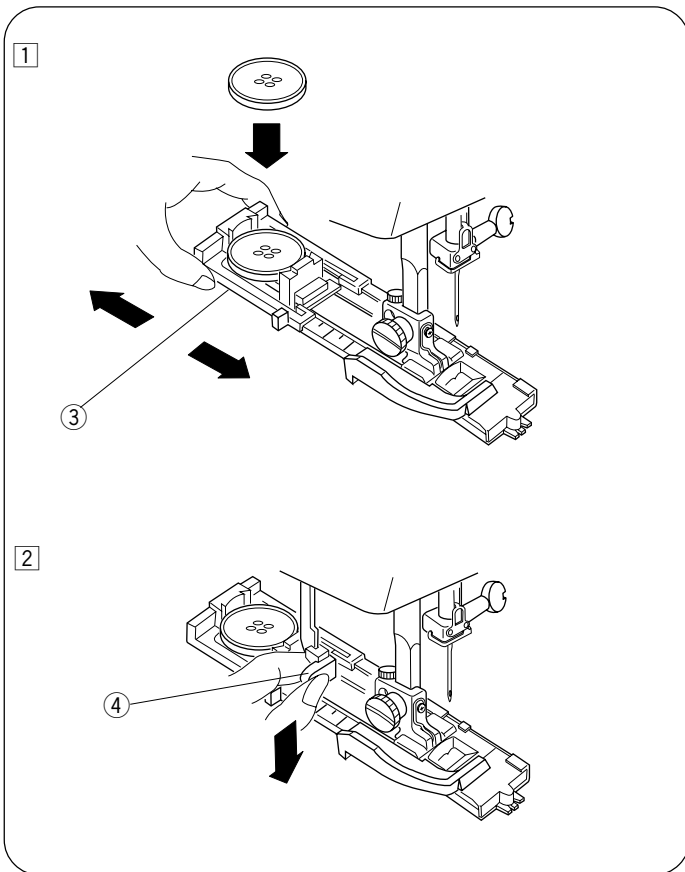
Automatic Buttonhole

- ① Stitch pattern:  13
- ② Thread tension dial: A
- ③ Presser foot: Automatic buttonhole foot: R



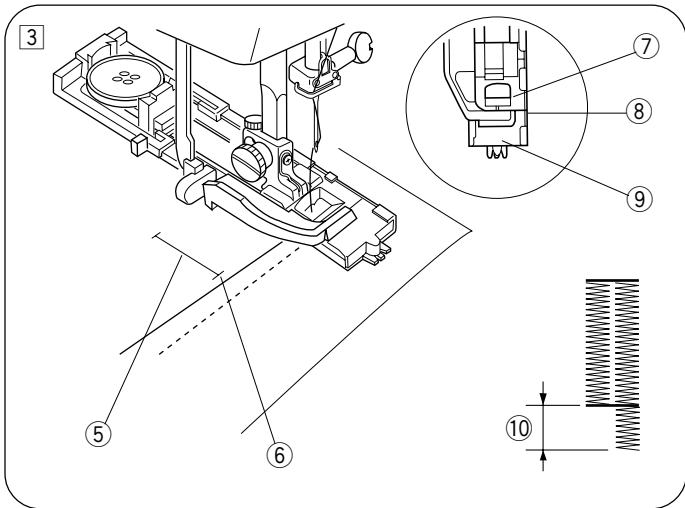
• Preparation for sewing

- ① Groove
 - ② Pin
- Attach the automatic buttonhole foot R. Make sure the groove ① on the foot holder catches the pin ② on the foot when lowering the presser foot.



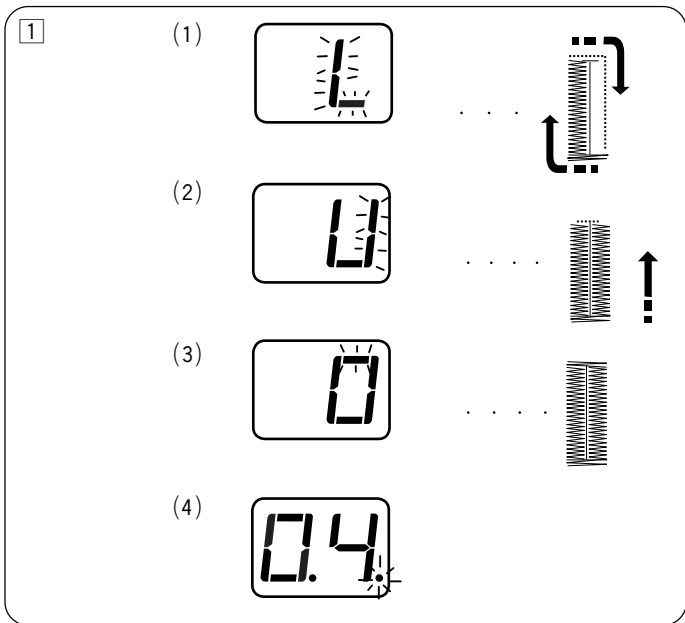
- ③ Button holder
 - ④ Buttonhole lever
- The buttonhole size is automatically set by placing the button in the rear of the automatic buttonhole foot. The button holder on the foot takes a button up to 1.0" (2.5 cm) in diameter. Use interfacing on stretch fabrics.

- ① Pull the button holder ③ to the back, and place the button in it. Push it forward tightly against the button.
- ② Pull the buttonhole lever ④ down as far as it will go.



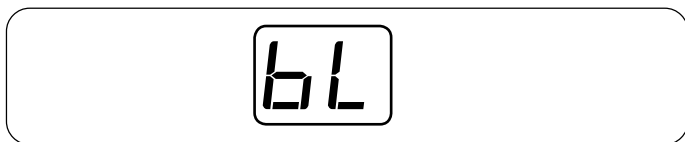
- ⑤ Mark for placement of buttonhole
- ⑥ Starting point
- ⑦ Slider
- ⑧ There should be no gap.
- ⑨ Stopper
- ⑩ Difference

③ Raise the foot. Insert needle thread through slot in foot. Draw both threads to left under the foot. Insert the fabric under the foot, and lower the needle into the fabric at the buttonhole starting point. Lower the buttonhole foot. If there is a gap ⑧, it may cause an uneven buttonhole stitch length as shown ⑩.

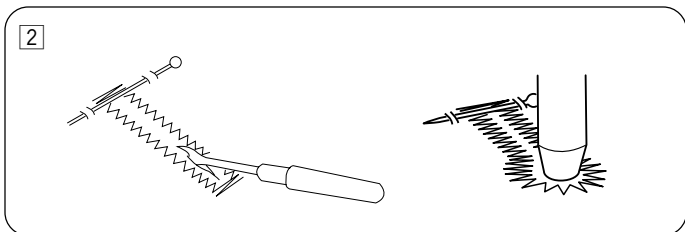


• **Starting to sew**

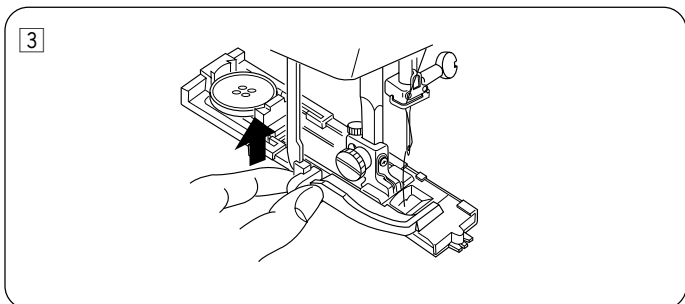
- ① Start the machine to sew the buttonhole. The buttonhole will sew a buttonhole in the following order:
 - (1) Step 1 and 2: Front bartack and left row.
 - (2) Step 3: Right row..
 - (3) Step 4: Back bartack and locking stitches at the end.
 - (4) Indicator window shows each sewing step and a dot will blink when the buttonhole is finished.



If you start sewing the buttonhole without lowering the buttonhole lever, the indicator will show a warning sign. Lower the buttonhole lever, then restart the machine.



② Remove the fabric and place a pin just before the bartack at each end, to prevent cutting bartacks. Cut the opening with the buttonhole opener. Use an awl to open the keyhole buttonhole.



③ When finished, push the buttonhole lever up as far as it will go.



If you select the other pattern without raising the foot, the indicator window shows "UP" to warn you.

Adjusting the Stitch Width and Density in Buttonholes

• To change the stitch width

The stitch width adjusting button controls the stitch width. The pre-set buttonhole widths are: square buttonhole 5.0, rounded buttonhole 4.0, keyhole buttonhole 7.0, stretch buttonhole 5.0, knit buttonhole 5.0.

Press “+” or “-” to adjust the stitch width of the entire buttonhole, ranging between 2.5 to 7.0 depending on the selected buttonhole.

- ① Narrower width by pressing “-”
- ② Wider width by pressing “+”

• To change the stitch density

The stitch length adjusting button controls the stitch density.

The pre-set density varies from 0.4 to 1.0 according to the buttonhole selected.

Press “+” or “-” to adjust the stitch density of the entire buttonhole between 0.2 to 2.5 depending on the selected buttonhole.

- ③ Denser stitch by pressing “-”.
- ④ Coarser stitch by pressing “+”.


Double Layer Buttonhole

To make a solid and sturdy buttonhole, sew another layer of buttonhole over the previous one.

After the buttonhole is finished, simply depress the foot control again.

- (1) Do not raise the foot or reselect the pattern.
The machine will sew another buttonhole in the following order and stop automatically:
- (2) Straight stitching in reverse to go back to the starting point
- (3) Front bartack and left row.
- (4) Right row
- (5) Back bartack and locking stitches at the end.

Round End Buttonhole


- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Automatic buttonhole foot: R

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

* Sewing procedure is the same as automatic buttonhole.

- ④ Starting point
- ⑤ Bartacking

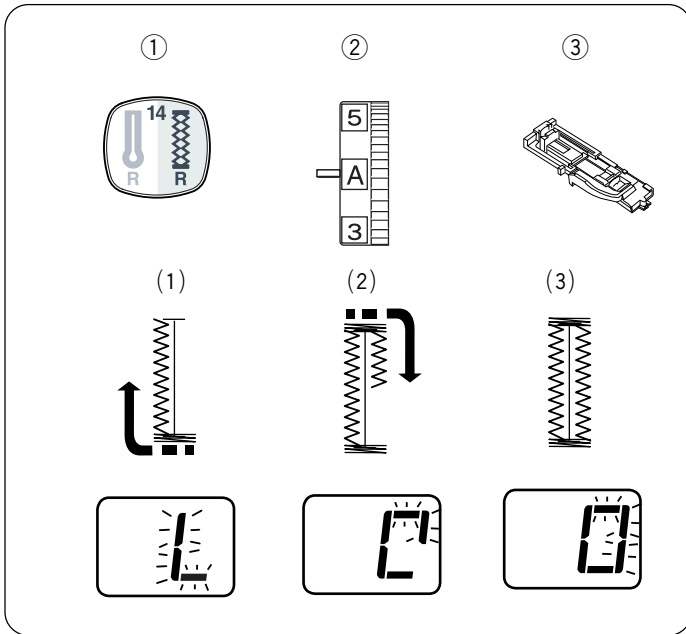
Keyhole Buttonhole

- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Automatic buttonhole foot: R


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

* Sewing procedure is the same as automatic buttonhole.

- ④ Starting point
- ⑤ Bartacking

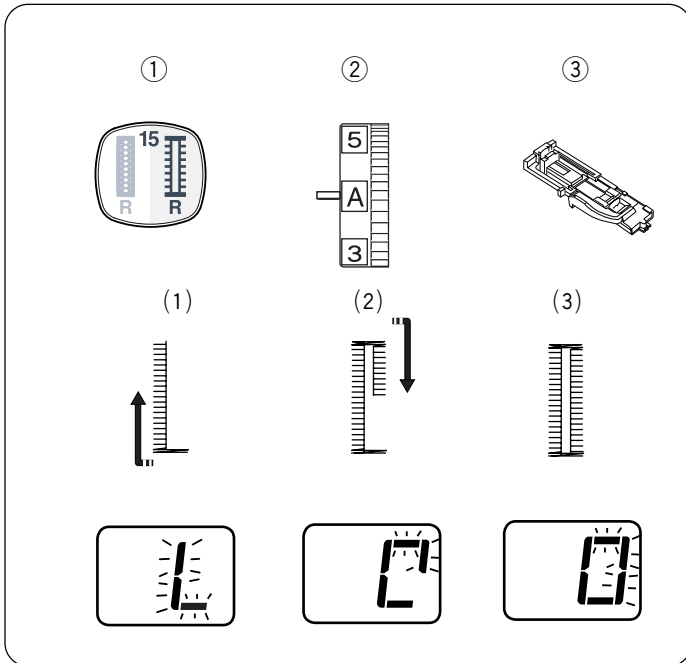


Knit Buttonhole


- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Automatic buttonhole foot: R

A simplified version of the stretch buttonhole.

- (1) Sew front bartack and left row.
- (2) Sew the back bartack and right row.
- (3) Locking stitch at end.

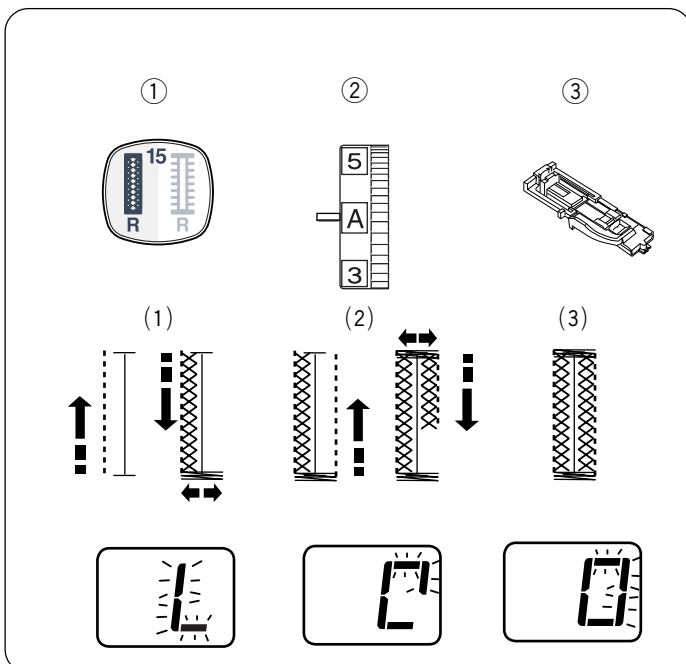


Faux Chain Buttonhole

- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Automatic buttonhole foot: R

Resembles a "Hand Worked" buttonhole. Ideal on fine fabrics featured in Heirloom sewing or couture fashions.

- (1) Sew front bartack and left row.
- (2) Sew the rear bartack and right row.
- (3) Locking stitch at end.



Stretch Buttonhole

- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Automatic buttonhole foot: R

Designed for non-woven fabrics such as knit and jersey. It provides a decorative touch.

- (1) Sew the left row and the front bartack.
- (2) Sew the rear bartack and right row.
- (3) Locking stitch at end.

Corded Buttonhole

① Stitch pattern:

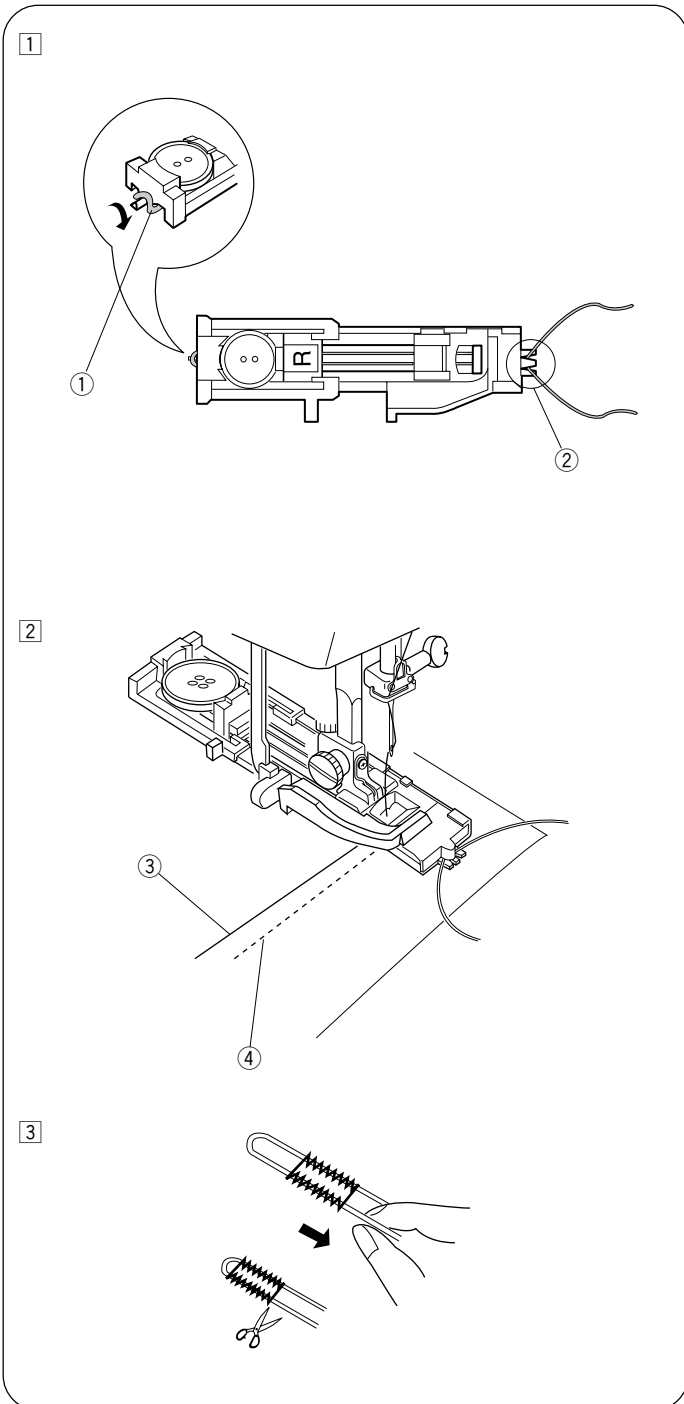
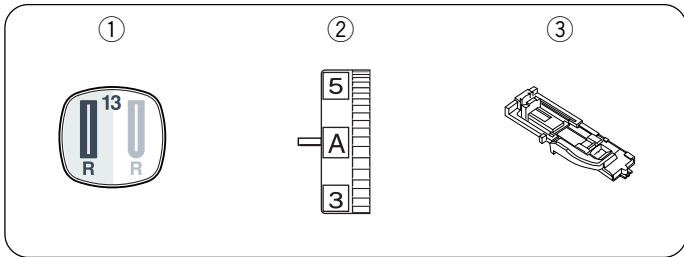


② Thread tension dial:

A

③ Presser foot:

Automatic buttonhole foot: R



① Use the same procedure as the automatic buttonhole procedure.

* Set the stitch width to match the thickness of the cord used.

With the buttonhole foot raised, hook the filler cord on the spur ① at the back of the buttonhole foot.

Bring the ends toward you under the buttonhole foot, clearing the front end.

Hook the filler cord into the forks ② on the front of the automatic buttonhole foot to hold them tight.

Lower the needle into the garment where the buttonhole will start, and lower the foot.

① Spur

② Forks

② Depress the foot control gently, and sew the buttonhole.

Each side of the buttonhole and the bartacks will be sewn over the cord.

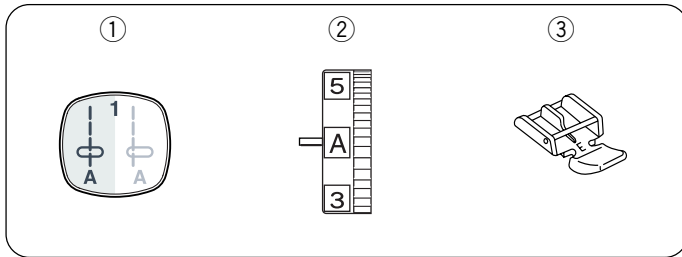
Remove the fabric from the machine, and cut the sewing threads only.

③ Needle thread (Top thread)

④ Bobbin thread (Bottom thread)

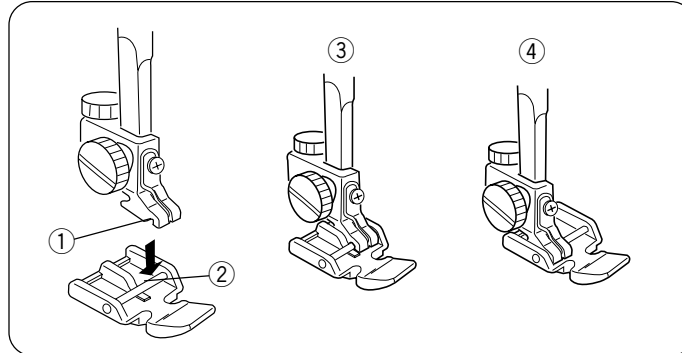
③ Pull the loose ends of the filler cord to tighten it.

Thread the end of the cord through a hand-sewing needle. Then draw them to the wrong side of the fabric and knot.



Zipper Sewing

- ① Stitch selector: 1
- ② Needle thread tension: A
- ③ Presser foot: Zipper foot: E

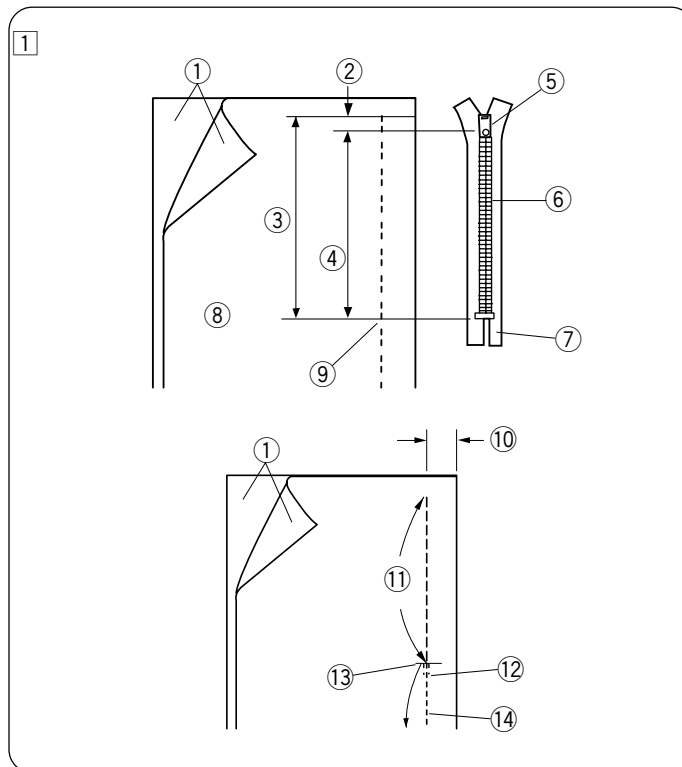


• Attaching the zipper foot

- ① Groove
- ② Pin
- ③ To sew left side
- ④ To sew right side

Fit the pin on the zipper foot into the groove on the foot holder.

- To sew the left side of the zipper, attach zipper foot with the right-hand side of pin.
- To sew the right-side of zipper, attach zipper foot with the left-hand side of pin.



• Fabric preparation

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

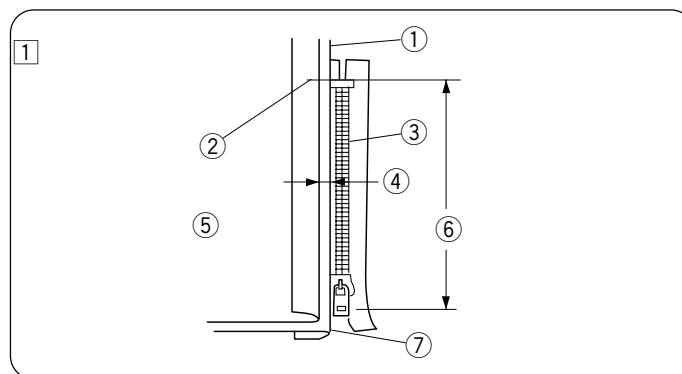
- ① Right side of the fabric
- ② 1 cm (3/8")
- ③ Opening size
- ④ Zipper length
- ⑤ Slider
- ⑥ Zipper teeth
- ⑦ Zipper tape
- ⑧ Wrong side of the fabric
- ⑨ End of the opening

Place the right sides of the fabric together and sew up to the end of the zipper opening, with a 2 cm (13/16") seam allowance. Reverse the stitch to fasten the seam. Baste along the zipper opening with the stitch length 4.5

- ⑩ 2 cm (13/16")
- ⑪ Zipper opening (Basting)
- ⑫ Reverse stitches
- ⑬ End of the opening
- ⑭ Seam

NOTE:

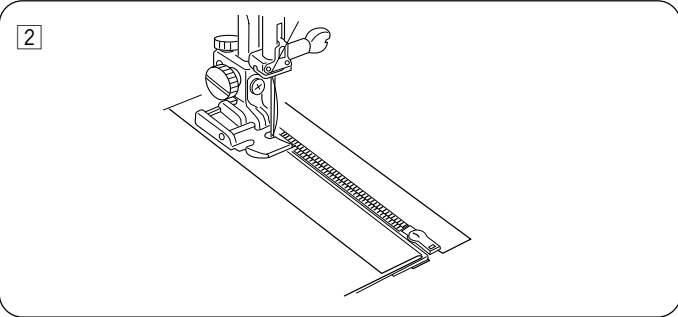
Loosen the thread tension to one (1) for the basting stitch.



• To sew

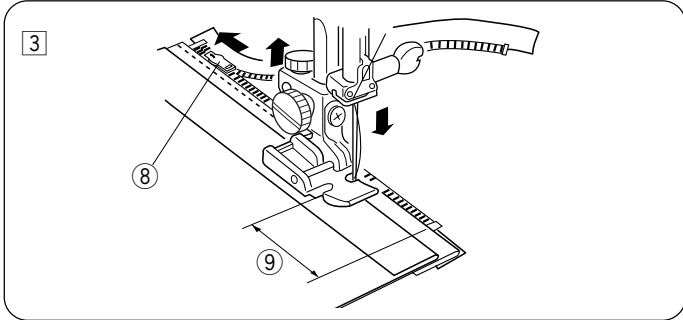
- ① Fold up the upper seam allowance. Fold back the bottom seam allowance to form a 0.3 cm (1/8") fold. Place the zipper teeth next to the fold and pin it in place.

- ① Bottom fabric
- ② End of the zipper opening
- ③ Zipper teeth
- ④ 0.3 cm (1/8")
- ⑤ Wrong side of the upper fabric
- ⑥ Opening size
- ⑦ Fold



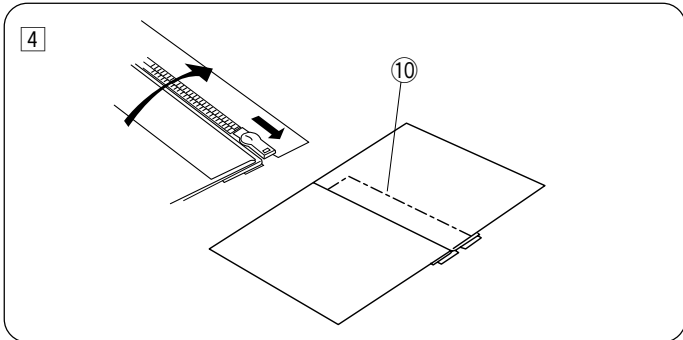
Zipper Sewing (continued)

- 2 Attach the foot with the pin on the right. Sew through all the layers from the end of the zipper opening, guiding the zipper teeth along the edge of the foot.



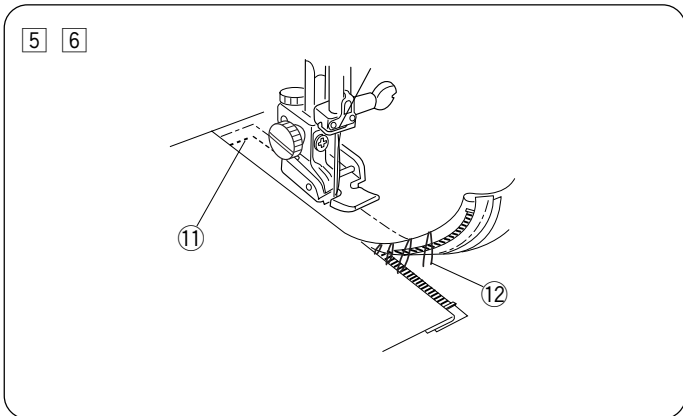
- 3 Stop the machine 5 cm (2") before the foot reaches the slider on the zipper tape. Lower the needle into the fabric, and raise the foot. Open the zipper, then lower the foot and stitch the remainder of the seam.

- 8 Slider
- 9 5 cm (2")



- 4 Close the zipper and open the upper fabric flat over the zipper. Baste the upper fabric and zipper tape together.

- 10 Basting stitch

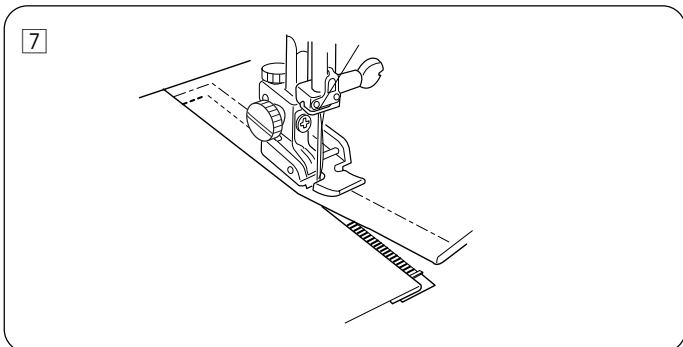


- 5 Detach the foot and attach it with the pin on the left. Backstitch across the end of opening to 1 cm (3/8"). Turn the fabric 90 degrees and stitch through the garment and zipper tape.

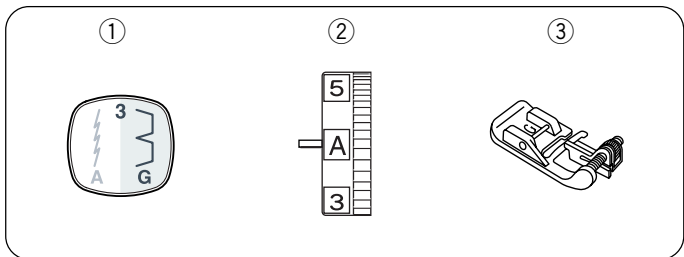
- 11 Backstitch

- 6 Stop the machine 5 cm (2") before the foot reaches the slider on the zipper tape. Lower the needle into the fabric, and raise the foot. Remove the basting stitches.

- 12 Basting stitches



- 7 Open the zipper, then lower the foot and stitch the remainder of the seam. After finish sewing, remove the basting stitches on the upper fabric.



Blind Hemming

① Stitch pattern:

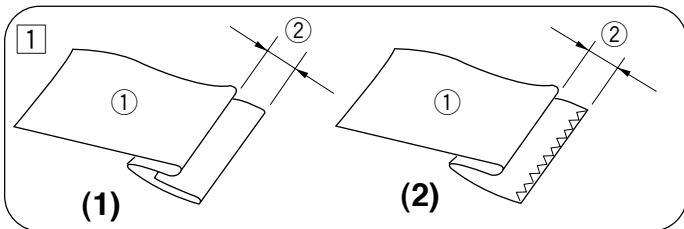
3

② Thread tension dial:

A

③ Presser foot:

Blind hem foot: G



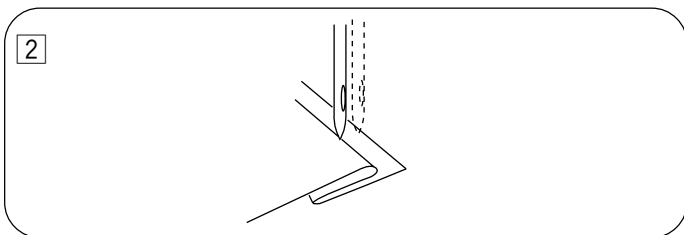
① Fold a hem with the wrong side of the fabric up to form a 0.4 – 0.7 cm allowance.

① Wrong side of fabric

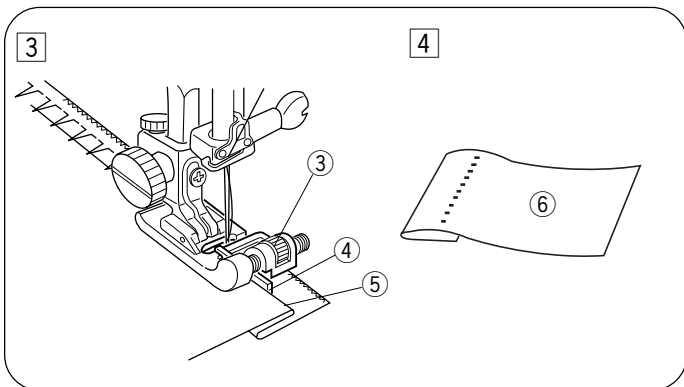
② 0.4 – 0.7 cm

(1) Fold the hem under the fabric for lightweight fabrics.

(2) On heavyweight fabrics that tend to ravel, the raw edge should be overcast first.



② Place the fabric so that the needle just pierces the folded edge when the needle comes over the extreme left side. Lower the presser foot.



③ Turn the guide screw to adjust the position of the guide to match it with the folded edge. Sew guiding the folded edge along the guide.

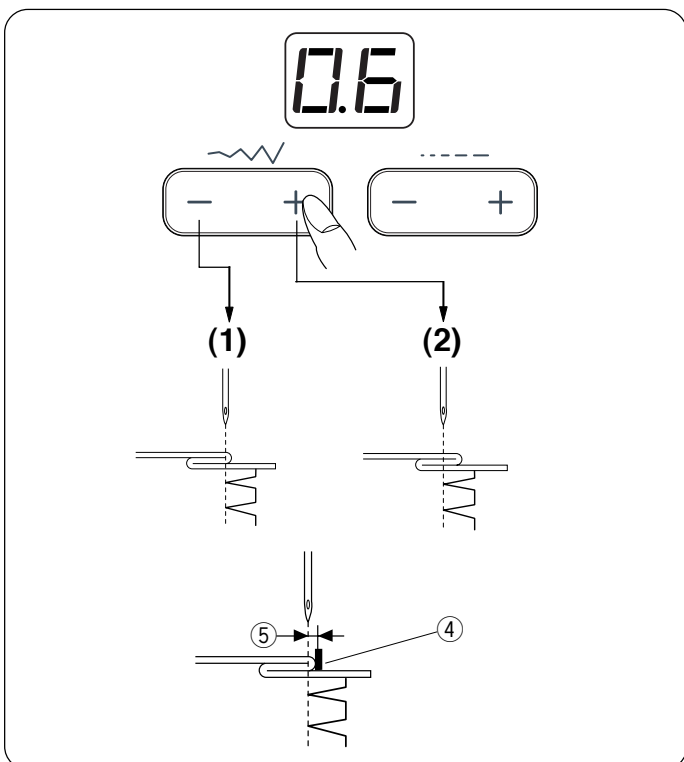
③ Guide screw

④ Guide

⑤ Folded edge

④ Open the fabric after sewing is finished.

⑥ Right side of the fabric



• Fine-tuning the needle drop position

The needle drop position can be adjusted by pressing stitch width adjusting button.

(1) Press the minus (-) key to move the needle drop position to the right.

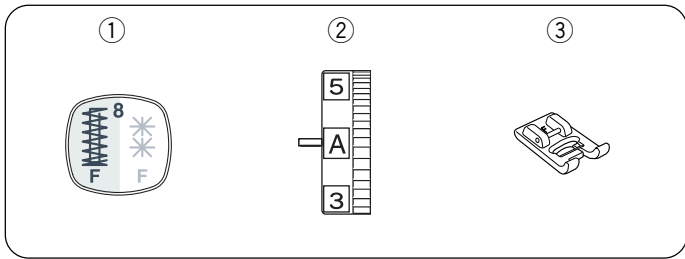
(2) Press the plus (+) key to move the needle drop position to the left.

④ Guide


⑤ Left needle drop position

NOTE:

The needle drop position will move to the left or right, but the stitch width is remained the same.



Bartacking

- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Satin stitch foot: F

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

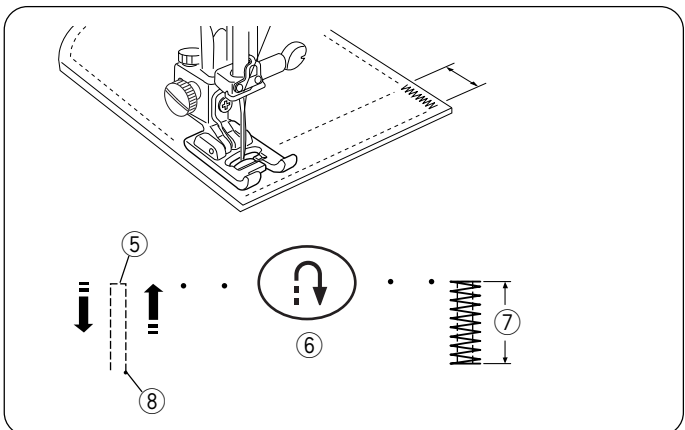
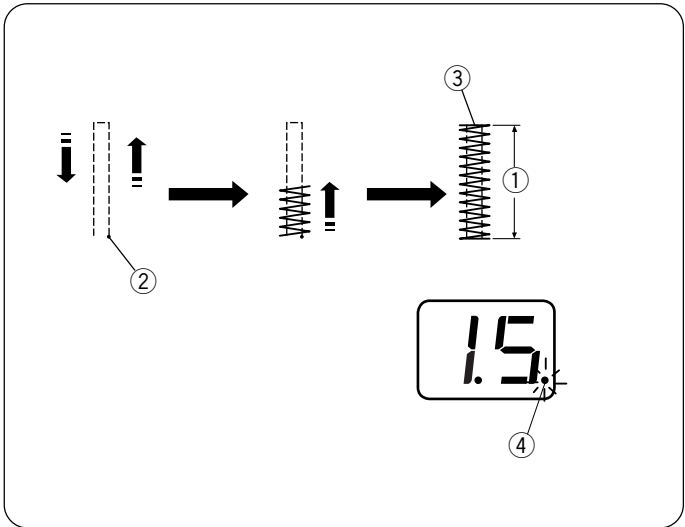
The machine will sew a tacking of 1.5 cm (5/8") ① length automatically.

The dot ④ will blink when the bartacking is finished, and the machine will memorize the tack length.

To sew another tack in the same size, simply restart the machine and it will stop automatically when finished sewing.

To change the tack length, press the stitch pattern selection key. The blinking dot will disappear.

- ① 1.5 cm (5/8")
- ② Start point
- ③ End point
- ④ Dot



• To sew a shorter tack

When you sew a tack less than 1.5 cm (5/8") in length, sew to the required length ⑤ and press the reverse button ⑥. The machine will memorize the tack length ⑦.

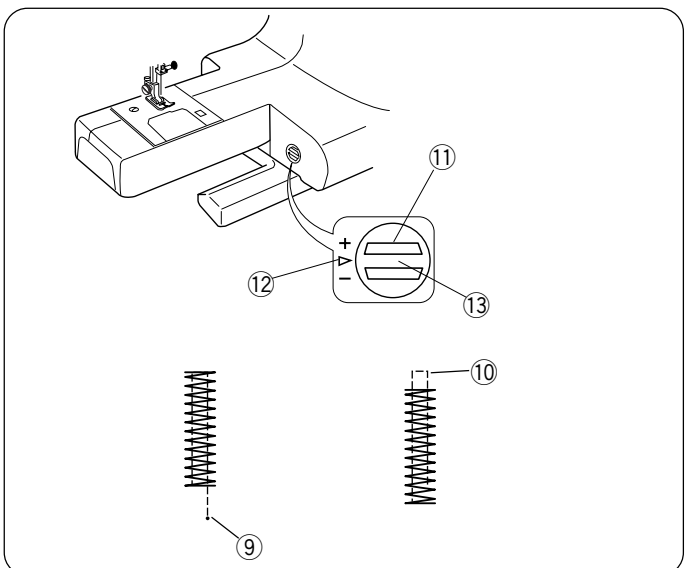
- ⑤ Required length
- ⑥ Reverse button
- ⑦ Tack length
- ⑧ Starting point

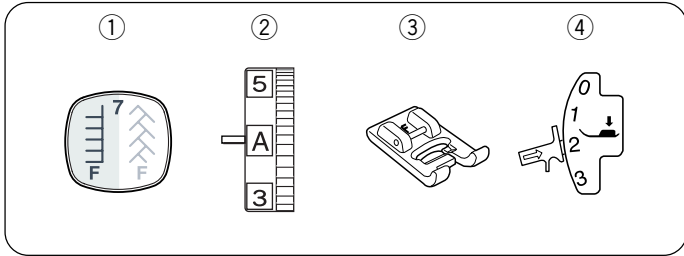
• Adjusting the evenness of bartacking

Make a test on an extra piece of fabric to check your settings. If the bartacking is uneven, adjust the stitch by turning the feed balancing dial ⑪ as follows.


- Stitch does not meet start position ⑨. Turn dial toward "+" for even stitch.
- Stitch does not meet return position ⑩. Turn dial toward "-" for even stitch.

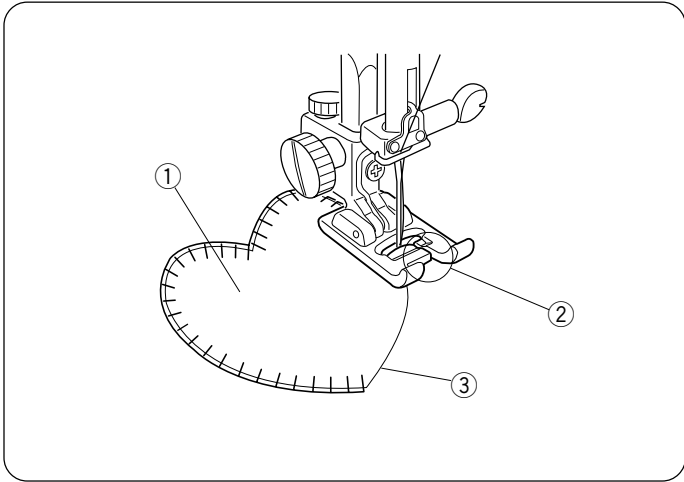
- ⑨ Start position
- ⑩ Return position
- ⑪ Feed balancing dial
- ⑫ Standard setting mark
- ⑬ Indication line





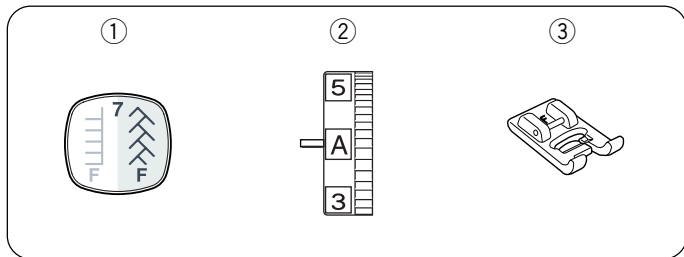
Applique

- ① Stitch pattern: 
- ② Needle thread tension: A
- ③ Presser foot: Satin stitch foot: F
- ④ Presser foot pressure lever: 2 or 1




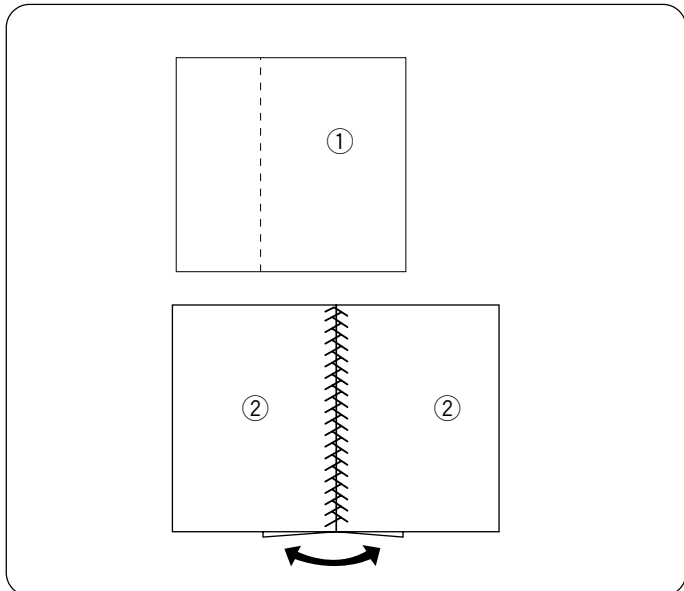
- ① Applique fabric
- ② Slit
- ③ Edge

Applique, a technique for stitching fabric shapes onto another fabric, opens limitless design possibilities. Dimension and texture can be added by lightly stuffing all or part of design. This machine has several different patterns that can be used to enhance your applique. In this type of applique, raw edges are folded under. First cut the applique design out of cardboard. Next, place the cardboard design on the fabric. Then cut the fabric slightly larger than the cardboard. Fold the fabric raw edge around the cardboard and press to form a perfectly shaped design. Remove the cardboard. Tape or pin the applique in place and sew, using the slit on the satin stitch foot as a guide next to the folded edge of the applique.



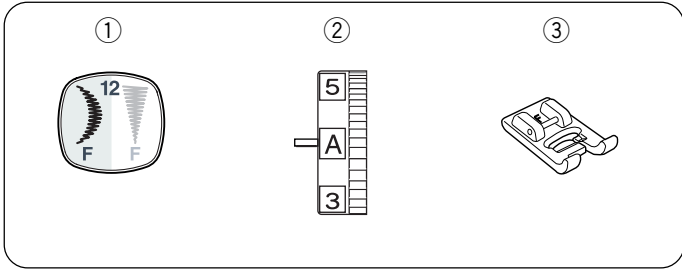
Patchwork

- ① Stitch pattern: 
- ② Thread tension dial: A
- ③ Presser foot: Satin stitch foot: F



• To sew

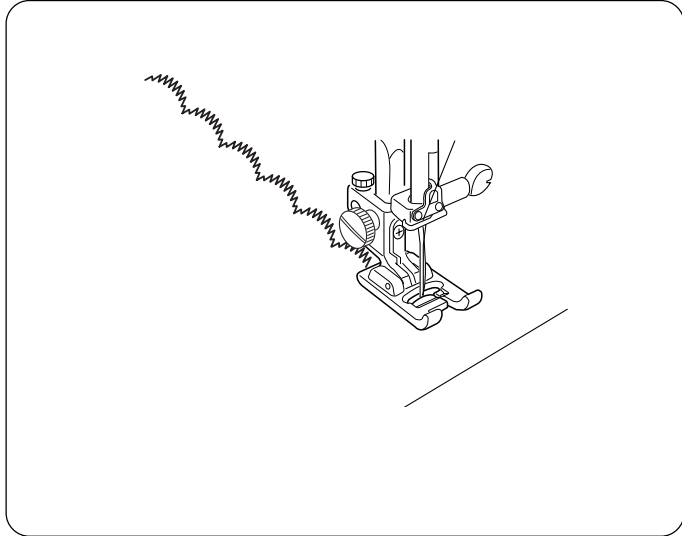
- ① Wrong side of fabric
 - ② Right side of fabric
- Sew seam with straight stitch pattern 1 and press seam allowance to open. Sew pattern stitch pattern 7 on right side of garment centering over the seam line.



Satin Stitch

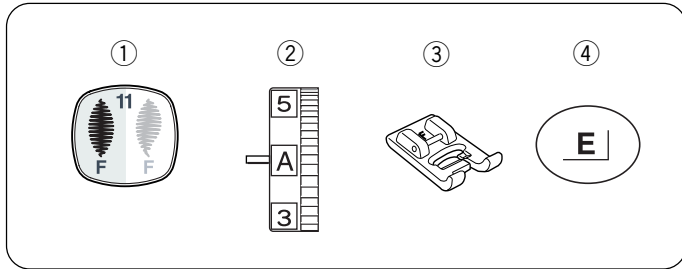
- ① Stitch pattern: ¹²
- ② Thread tension dial: A
- ③ Presser foot: Satin stitch foot: F

* Stitch patterns 9 to 12 can be used.



For better sewing results, interfacing should be used on the wrong side of fabric when you use stretch or elastic garments.

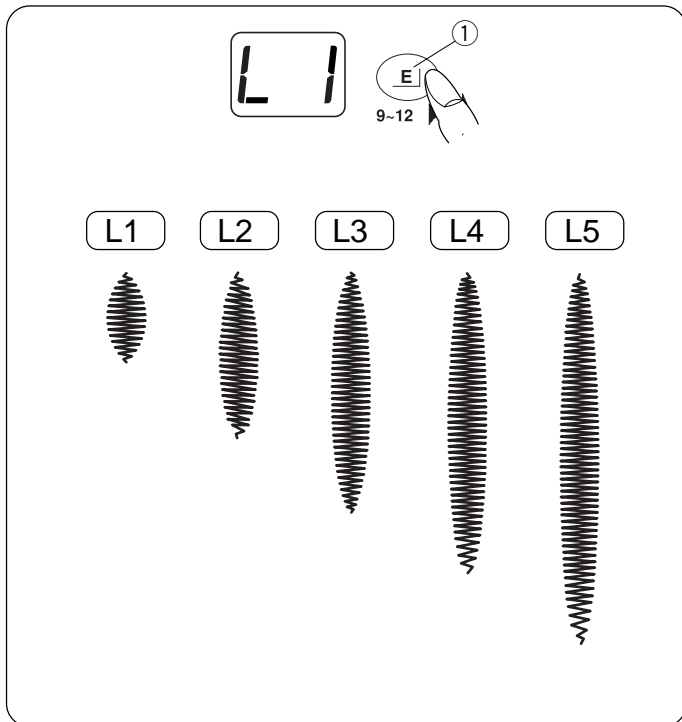
Press the auto-lock button to finish the end of the pattern.



Elongation

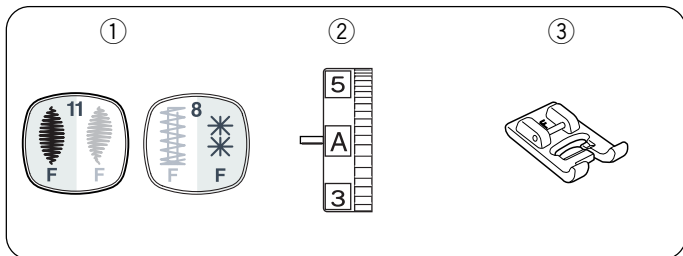
- ① Stitch Pattern: ¹¹
- ② Thread tension dial: A
- ③ Presser foot: Satin stitch foot: F
- ④ Elongation button

* Stitch patterns 9 to 12 can be elongated.





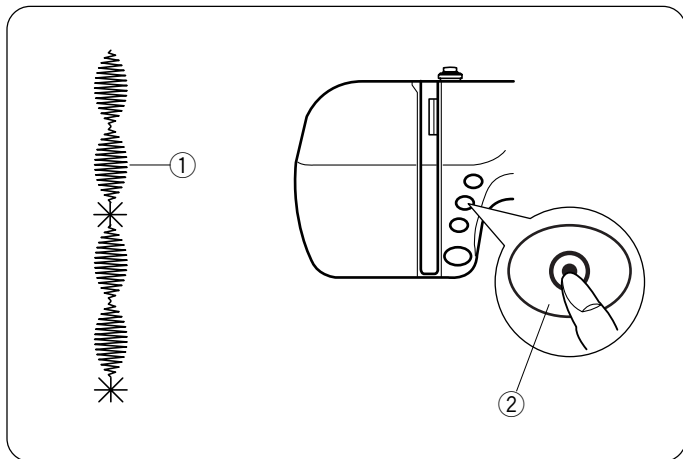
Satin stitches can be elongated up to five times their normal length by pressing the elongation button ①. When the width or length of stitch is changed, a greater variety of patterns are available.




- ① Elongation button





Decorative Stitch Pattern with Auto Lock Stitch

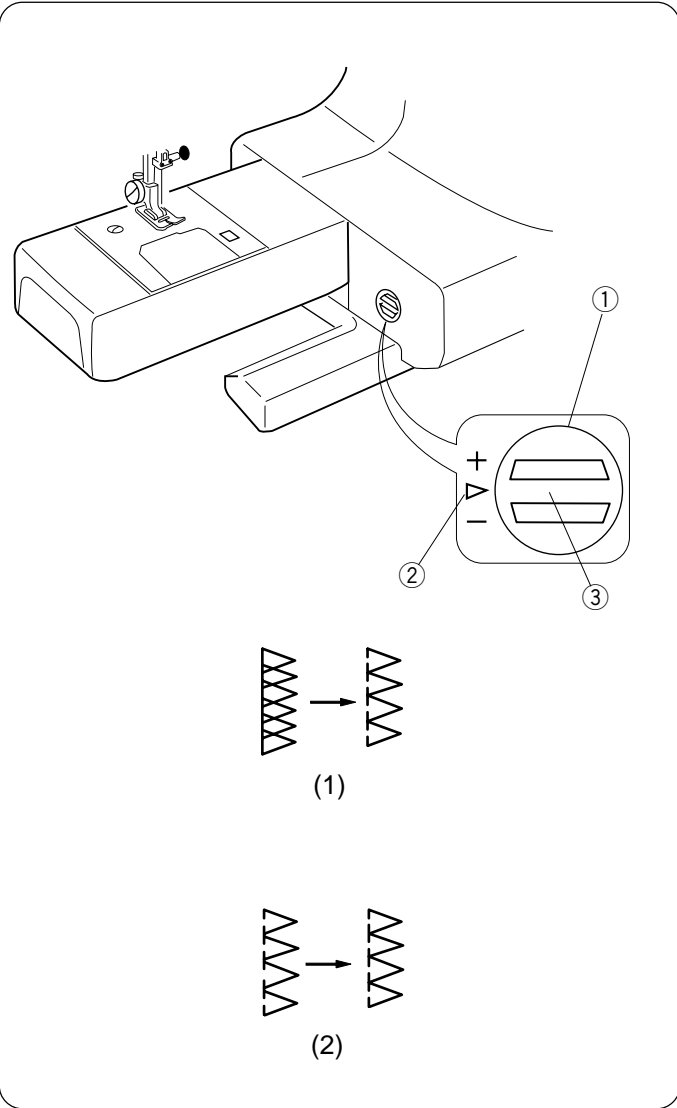
- ① Stitch Pattern:  
- ② Thread tension dial: A
- ③ Presser foot: Satin stitch foot: F



Select the stitch pattern  and sew.
 Press the auto lock button  while the machine is sewing the stitch pattern .

The machine will stop automatically when the second unit is completed.
 Select the stitch pattern  and press the auto lock button .

Start sewing and the machine will sew one unit of the pattern and stop automatically.
 Repeat the above steps to sew a line of the pattern combination.



Adjusting Pattern Balance

If the stretch patterns are uneven when you sew on a particular fabric, adjust them with the feed balancing dial.

- ① Feed balancing dial
- ② Standard setting mark
- ③ Indication line

* The machine comes with the feed balancing dial set in the position as shown.

• Adjusting distorted stretch stitch patterns

- (1) When patterns are too compressed, correct by turning the dial in the direction of “+”.
- (2) When patterns are too drawn out, correct by turning the dial in the direction of “-”.

NOTE:

Turn the feed balancing dial slightly as it is very sensitive.

SECTION IV. CARE OF YOUR MACHINE

Clean the Hook Race and Feed Dog

WARNING:

- Turn the power switch off and unplug the machine before cleaning.
- Do not dismantle the machine other than as explained in this section.

CAUTION:

- Do not store the machine in a high-humidity area, near a heat radiator, or in direct sunlight.

NOTE:

Clean the outside of the machine with a soft cloth and neutral soap.

After cleaning the machine, make sure the needle and presser foot are attached.

- ① Screw driver
- ② Setscrew
- ③ Needle plate
- ④ Lint brush
- ⑤ Hook race
- ⑥ Bobbin holder
- ⑦ Feed dog
- ⑧ Soft, dry cloth

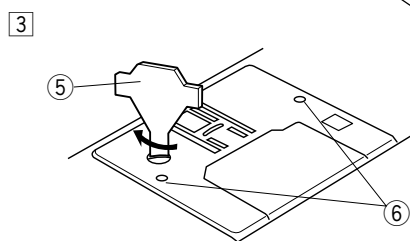
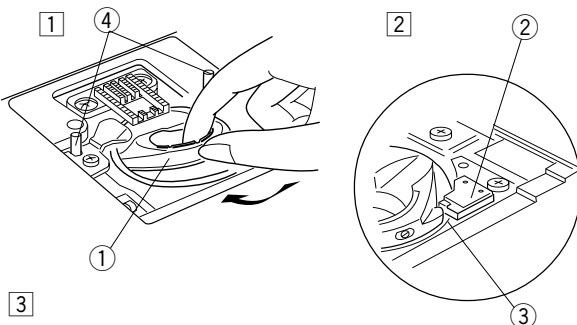
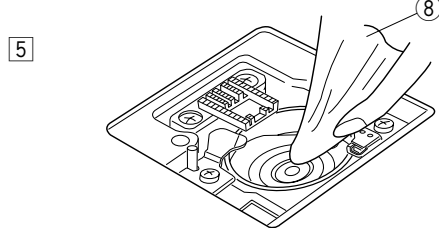
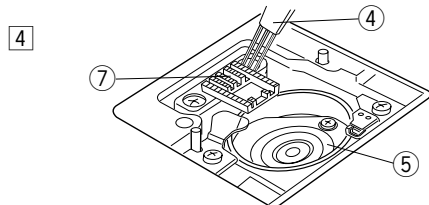
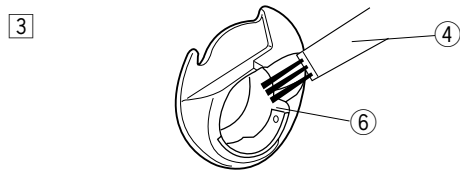
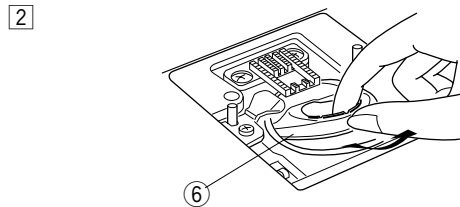
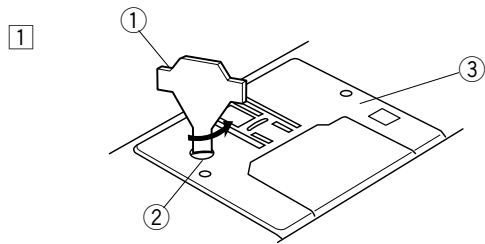
Press the up/down needle position button to raise the needle, then unplug the sewing machine.

Remove the cover plate by sliding the cover plate release button to the right. Take out the bobbin. Brush out dust and lint. (You may also use a vacuum cleaner.)

- 1 Remove the setscrew ② on the left hand side of the needle plate ③ with the screwdriver ① supplied with the machine. Remove the needle plate ③.
- 2 Lift up the bobbin holder ⑥ and remove it.
- 3 Clean the bobbin holder ⑥ with a lint brush.
- 4 Clean the feed dog and hook race with the lint brush.
- 5 Clean the center of the hook race with a dry cloth.

* You may also use a vacuum cleaner.

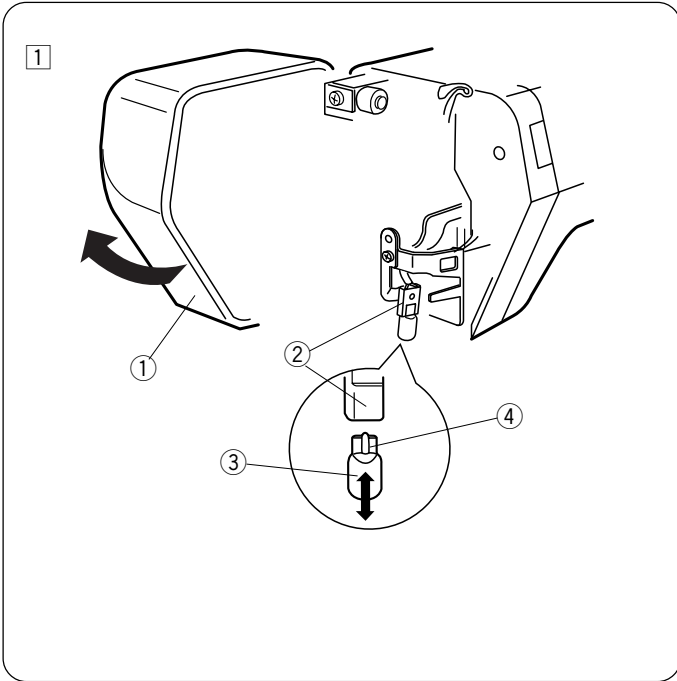
* The machine does not require oiling.



Assemble the Hook Race

- ① Bobbin holder
- ② Stopper
- ③ Knob
- ④ Needle plate guide pins
- ⑤ Screwdriver
- ⑥ Guide holes

- 1 Insert the bobbin holder so that the knob fits next to the stopper in the hook race.
- 2 Insert the bobbin.
- 3 Attach the needle plate with screw.
After cleaning the machine, make sure the needle and presser foot are attached.



Replacing the Light Bulb

Make sure the power switch is turned off.

To change the light bulb, wait until the light bulb has cooled down.

1 Open face cover.

2 Pull out the light bulb.

① Face cover

② Bulb socket

③ Light bulb

④ Base







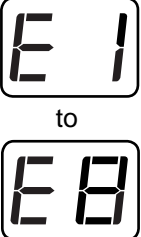
Attaching the Light Bulb

1 To insert the light bulb in the lamp socket, match the base on the light bulb with the lamp socket holes.

2 Close face cover.

Problems and Warning Signals

If a buzzer sounds and the indicator shows a warning sign, follow the guidance below.

Warning signal	Problem	Try this
	The start/stop button is pressed with the foot control being connected. The foot control is connected or disconnected while sewing.	Disconnect the foot control. Turn the power switch off when connecting or disconnecting the foot control.
	The machine is re-started too soon after it has halted due to the overload.	Wait for at least 15 seconds to restart. If threads are jamming, remove jammed threads.
	The buttonhole is sewn without lowering the buttonhole lever.	Lower the buttonhole lever and restart the machine.
	Selecting a pattern after buttonhole is completed with the buttonhole lever still lowered.	Raise the buttonhole lever and re-select the pattern. Do not sew other pattern with the buttonhole foot.
	The machine is started without lowering the presser foot.	Lower the presser foot and restart the machine.
	The bobbin winder spindle is shifted to the right for bobbin winding.	Return the bobbin winder spindle to the left.
	The machine is malfunctioning due to a problem in the electronic components.	Contact the service center or the store from where the machine was purchased.

NOTE:

The safety device will shut the power down when the machine is locked. If the threads are jamming, remove the jammed threads and turn the power on again after 3 minutes.

Audible signal	The buzzer sounds when:
Pip	Normal operation
Pip-pip-pip	Invalid operation
Pip-pip-peep	Buttonhole sewing completed
Peep	Malfunciton

It is not abnormal that a faint humming sound is coming from the internal motors.

Troubleshooting

Condition	Cause	Reference
The needle thread breaks.	<ol style="list-style-type: none"> 1. The needle thread is not threaded properly. 2. The needle thread tension is too tight. 3. The needle is bent or blunt. 4. The needle is incorrectly inserted. 5. The needle thread and the bobbin thread are not set under the presser foot when start sewing. 6. The thread were not drawn to the rear after sewing. 7. The thread is either too heavy or too fine for the needle. 	Page 13 Pages 14-15 Page 9 Page 9 Page 16 Page 16 Page 9
The bobbin thread breaks.	<ol style="list-style-type: none"> 1. The bobbin thread is not threaded properly in the bobbin holder. 2. Lint has collected in the bobbin holder. 3. The bobbin is damaged and doesn't turn smoothly. 	Page 12 Page 37 Change the bobbin.
The needle breaks.	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle clamp screw is loose. 3. The threads were not drawn to the rear after sewing. 4. The needle is too fine for the fabric being used. 	Page 9 Page 9 Page 16 Page 9
Skipped stitches	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted, bent or blunt. 2. The needle and/or threads are not suitable for the work being sewn. 3. A Blue Tip needle is not being used for sewing stretch, very fine fabrics and synthetics. 4. The needle thread is not threaded properly. 5. A poor quality needle is used. 	Page 9 Page 9 Page 9 Page 13 Page 9
Seam puckering	<ol style="list-style-type: none"> 1. The needle thread tension is too tight. 2. The needle thread is not threaded properly. 3. The needle is too heavy for the fabric being sewn. 4. The stitche length is too long for the fabric. 	Pages 14-15 Page 13 Page 9 Adjust the stitch length.
The cloth is not feeding smoothly.	<ol style="list-style-type: none"> 1. The feed dog is packed with lint. 2. The stitches are too fine. 3. The feed dog is not raised after "drop feed" sewing. 	Page 37 Adjust the stitch length. Page 8
Stitches form loops below the works.	<ol style="list-style-type: none"> 1. The needle thread tension is too loose. 2. The needle is either too heavy or too fine for the thread. 	Pages 14-15 Page 9
The machine does not work.	<ol style="list-style-type: none"> 1. The machine is not plugged in. 2. Thread has been caught in the hook race. 3. The bobbin winder spindle is not returned to the left after bobbin winding. 	Page 4 Page 37 Page 11
Buttonhole sewing is not sewn properly.	<ol style="list-style-type: none"> 1. The stitch density is not suitable for the fabric being sewn. 2. Suitable interface material has not been used for the stretch or synthetic fabric. 	Page 26 Use an interface.
The machine does not run smoothly and is noisy.	<ol style="list-style-type: none"> 1. Thread has been caught in the hook race. 2. Lint has built up in the hook race or bobbin holder. 	Page 37 Page 37

