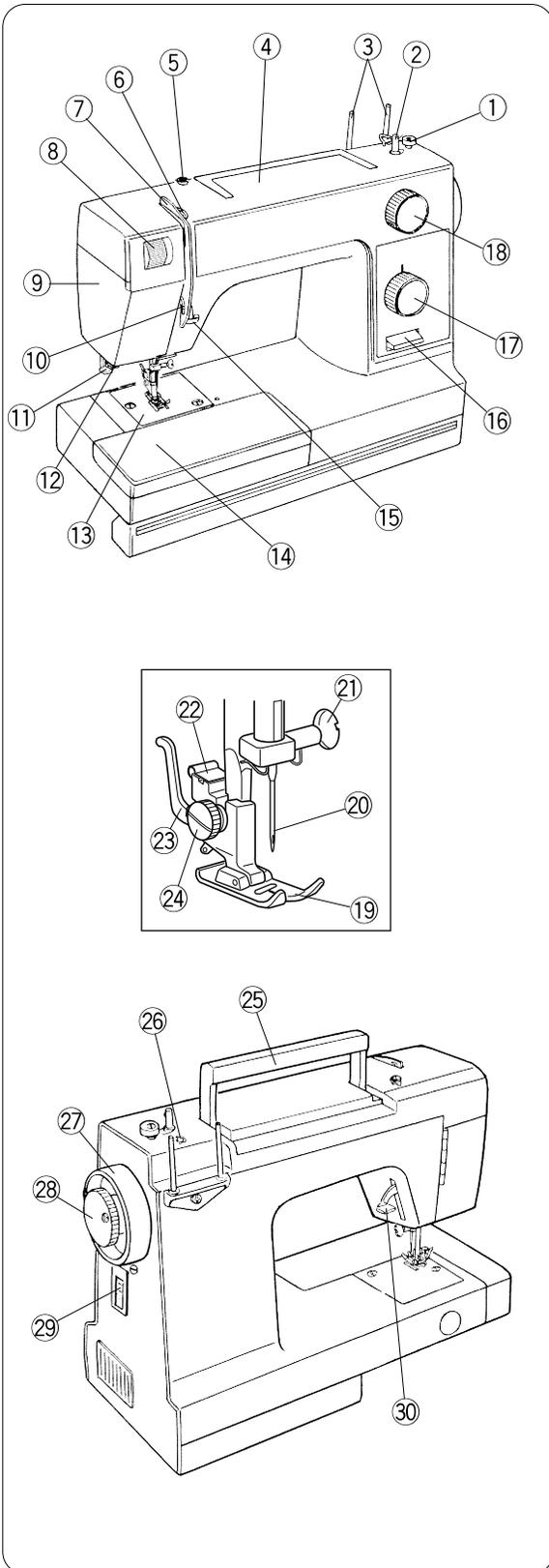
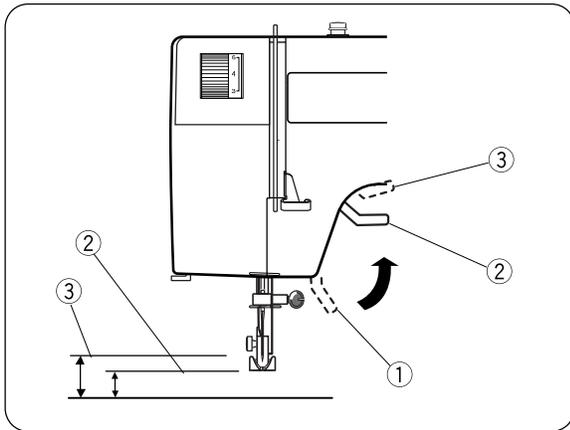


SECTION 1. ESSENTIAL PARTS

Names of Parts



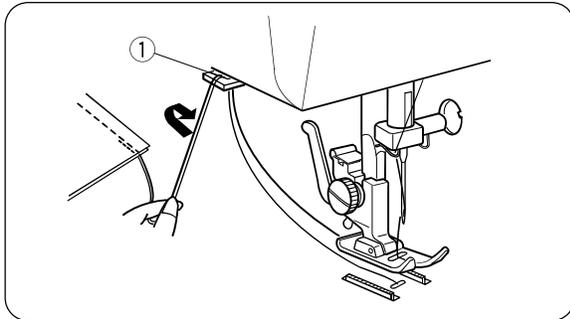
- ① Bobbin winder stopper
- ② Bobbin winder spindle
- ③ Spool pin
- ④ Top cover
- ⑤ Bobbin winder thread guide
- ⑥ Thread take-up lever
- ⑦ Upper thread guide
- ⑧ Thread tension dial
- ⑨ Face plate
- ⑩ Check spring holder
- ⑪ Needle threader
- ⑫ Thread cutter
- ⑬ Needle plate
- ⑭ Extension table (Accessory storage box)
- ⑮ Lower thread guide
- ⑯ Reverse stitch control
- ⑰ Stitch length dial
- ⑱ Pattern selector dial
- ⑲ Presser foot
- ⑳ Needle
- ㉑ Needle clamp screw
- ㉒ Foot holder
- ㉓ Lever
- ㉔ Thumb screw
- ㉕ Carrying handle
- ㉖ Top cover thread guide
- ㉗ Handwheel
- ㉘ Stop motion knob
- ㉙ Machine socket
- ㉚ Presser foot lifter



Presser Foot Lifter

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

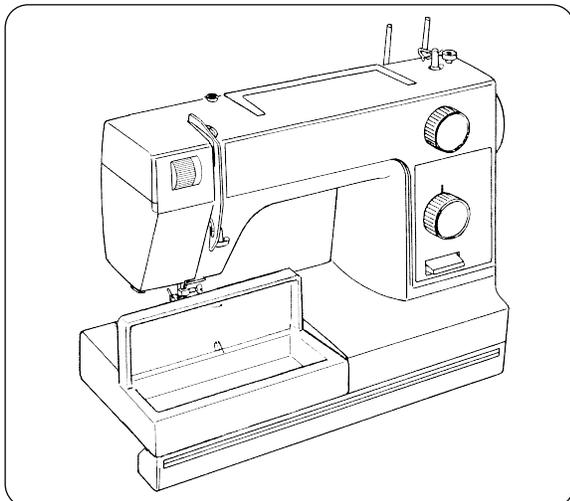
The presser foot lifter raises and lowers the presser foot. You can raise it about 1/4" (0.6 cm) higher than the normal up position for easy removal of the presser foot, or to help place heavy fabric under the foot.



Thread Cutter

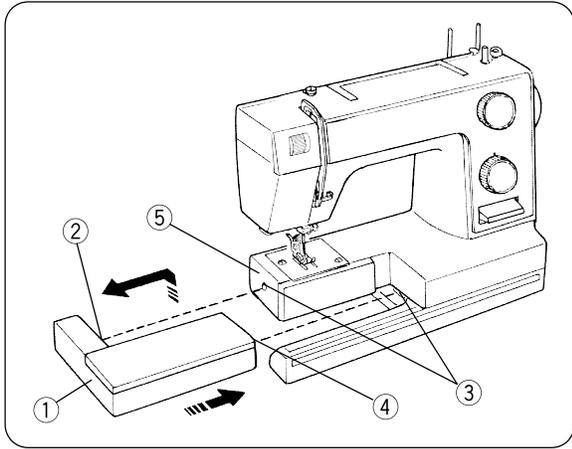
- ① Thread cutter

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



Accessory Storage Box

Sewing accessories are conveniently located under the extension table.



Extension Table

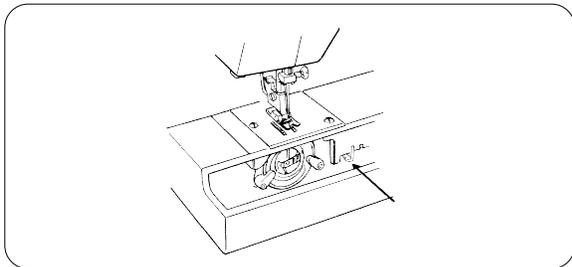
- **Detaching the table**

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

- **Attaching the table**

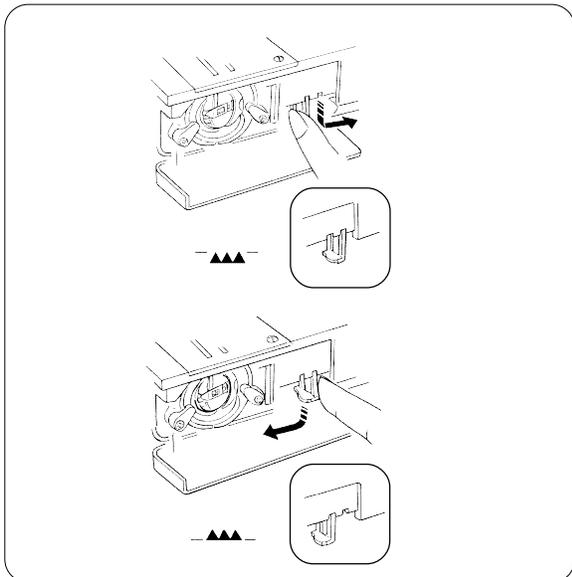
Push the extension table until it snaps into the machine.

- ① Extension table
- ② Pin
- ③ Holes
- ④ Tab
- ⑤ Free-arm



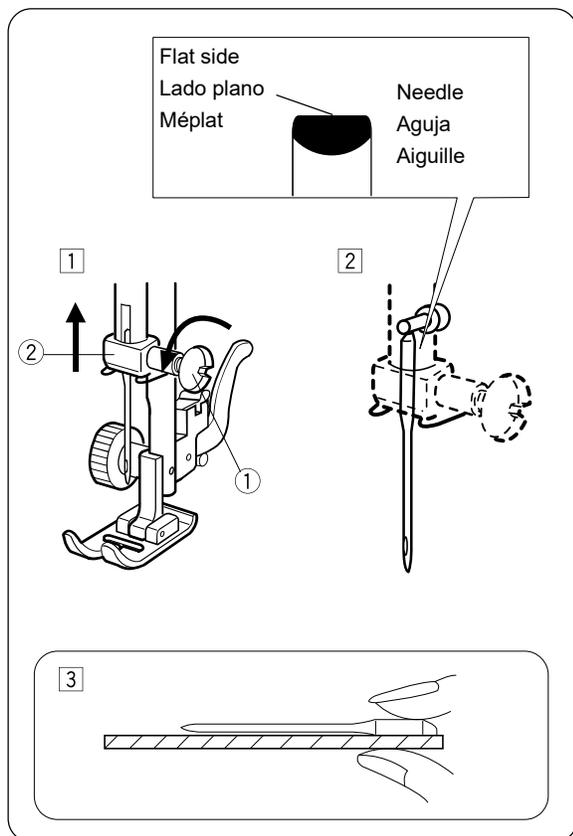
To Drop or Raise the Feed Dogs

The drop feed lever is located in the hook area.



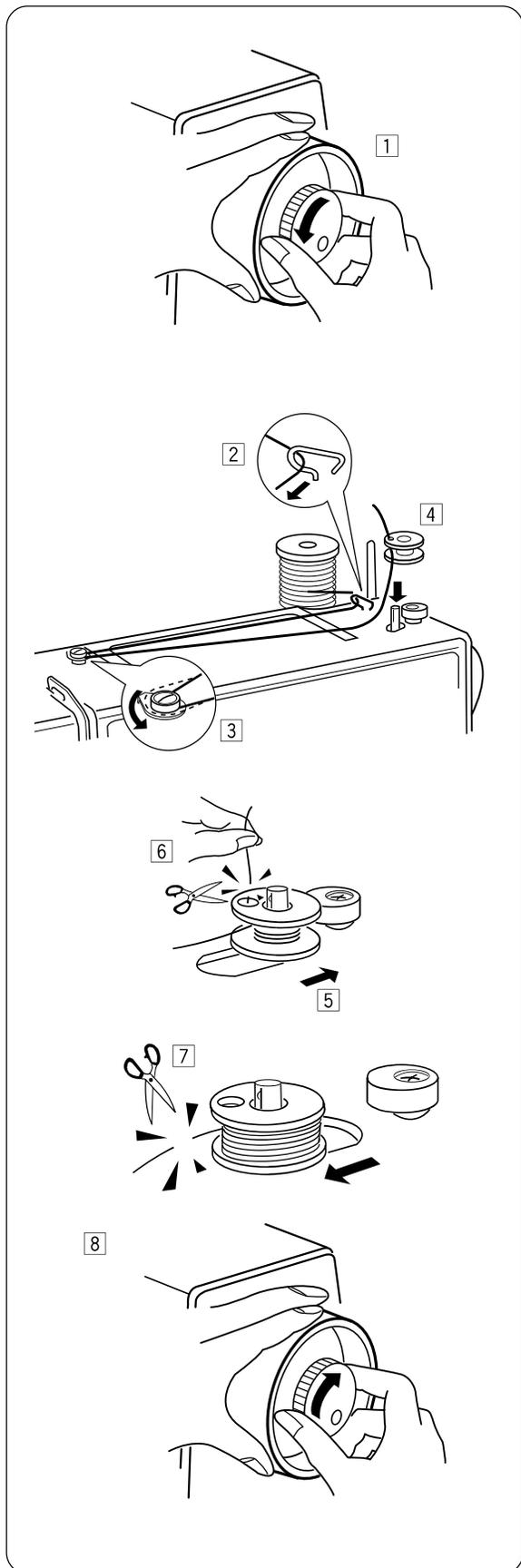
To drop the feed dogs, press the lever in the direction of the arrow, as illustrated.

To raise the feed dogs, push the lever in the direction of the arrow, as illustrated, and turn handwheel towards you. Feed dogs must be up for normal sewing.



Changing Needle

- ① Needle clamp screw
 - ② Needle clamp
- 1 Turn off the power switch.
Raise the needle to its highest position by turning the handwheel counterclockwise, toward you, and lowering 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 with the flat side 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 (e.g. needle plate or glass).
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.
- * In general, fine thread and needles are used for sewing thin fabrics, and thicker threads and needles are used for sewing heavy fabrics. Always test thread and needle size on a small piece of fabric which will be used for actual sewing.
 - * Use the 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.
 - * When sewing very fine fabrics, sew over a piece of paper to prevent yarn distortion.

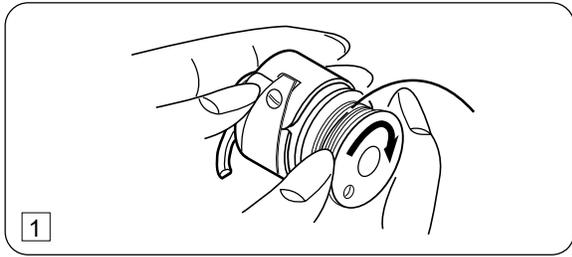


• Winding the Bobbin

- 1 While holding the handwheel with your left hand, turn the stopmotion knob in the direction of arrow.
- 2 Draw the thread from spool.
Pass the thread through the topcover thread guide.
- 3 Guide the thread around the bobbin winder thread guide.
- 4 Insert the thread through the hole in the bobbin from the inside to the outside.
Put the bobbin on the bobbin winder spindle.
- 5 Push it to the right.
- 6 With the free end of the thread held in your hand, depress the foot control.
Stop the machine when it has made few turns, and cut the thread close to the hole in the bobbin.
- 7 Depress the foot control again.
When the bobbin is fully wound, stop the machine. Return the bobbin winder spindle to its original position by moving the spindle to the left, and cut the thread.
- 8 Tighten the stopmotion knob to engage the clutch.

Note:

Return the bobbin winder spindle when the machine stops.

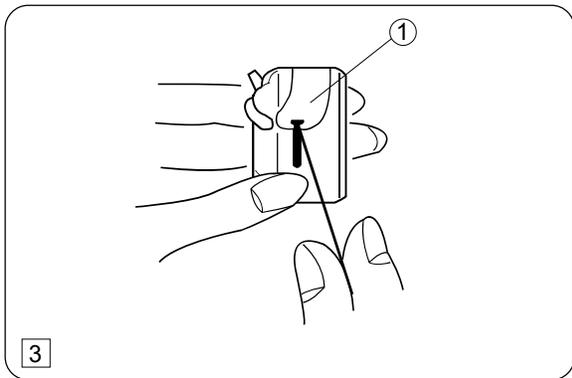


• **Inserting bobbin**

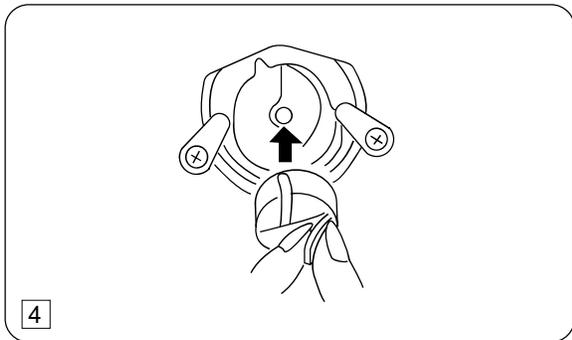
- 1 Place a bobbin in the bobbin case, making sure the thread feeds clockwise from the bobbin.



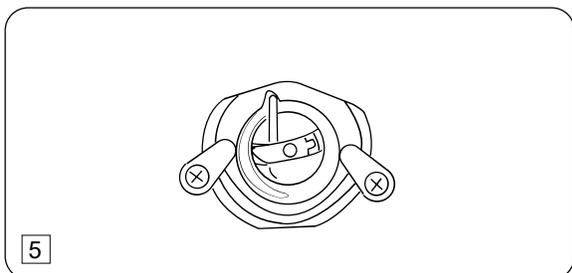
- 2 Draw the thread through the slot of the case.



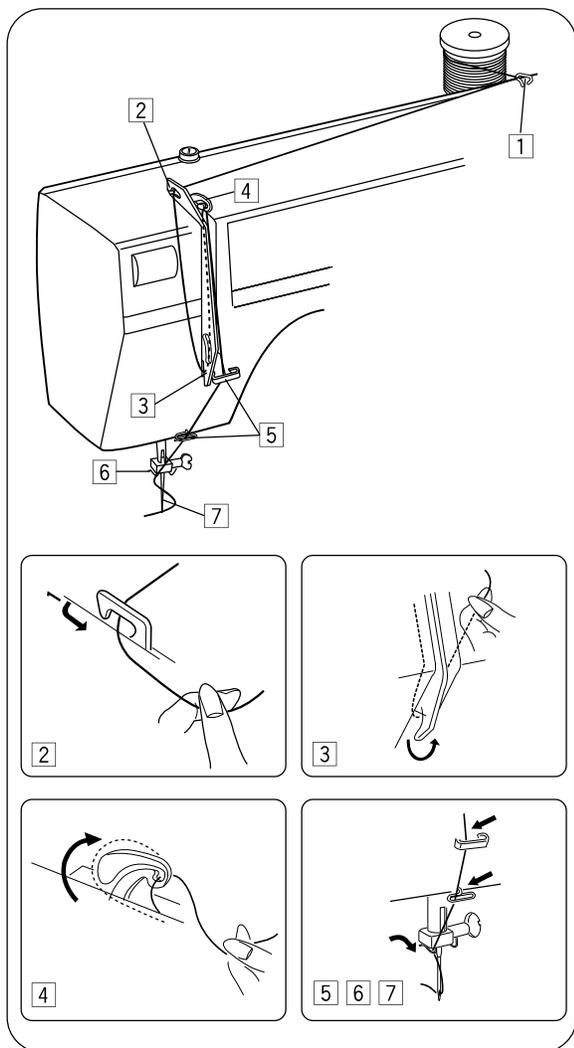
- 3 Continue to draw the thread under the tension spring and through the opening. Pull out about 4" (10 cm) of thread.
① Tension spring



- 4 Holding the latch open, position the bobbin case into the shuttle, and then release the latch.



- 5 The case should lock into the place when the latch is released.



Threading the Machine

• Threading the machine

- * Raise the thread take-up lever to its highest position by turning the handwheel counter clockwise.
- * Raise the presser foot lifter.
- * Place a spool on the spool pin, with thread coming off as shown.

- 1 Pass the thread through the top cover thread guide.
- 2 Draw the end of thread around the upper thread guide.
- 3 While holding the thread near the spool, draw the end of the thread down around the check spring holder.
- 4 Firmly draw the thread up and from left to right over the take-up lever then down into the take-up lever eye.
- 5 Then down through the lower thread guides.
- 6 Slide the thread behind the needle bar thread guide on the left.
- 7 Thread the needle from front to back.

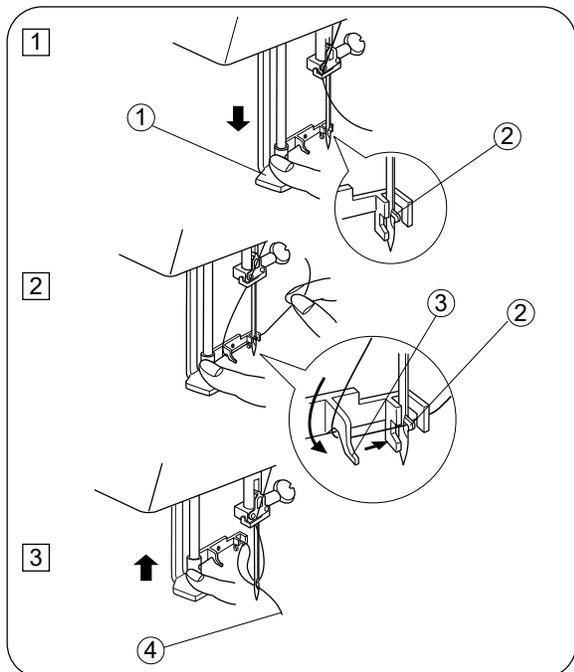
• Needle threader

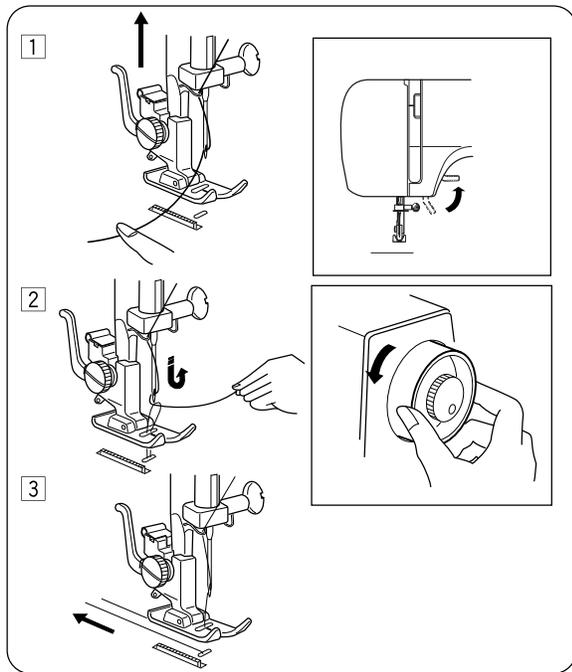
- 1 Knob
- 2 Hook
- 3 Guide
- 4 Thread end

- 1 Raise the needle to its highest position. Push down the needle threader knob 1 as far as it will go. The hook comes out through the needle eye from behind.
- 2 Paying close attention to the needle point, draw the thread around the guide 3 and under the hook 2.
- 3 Release the knob slowly while holding the thread end with your hand. A loop of the thread is pulled up through the needle eye. Pull out the thread end 4 from the needle eye.

NOTE:

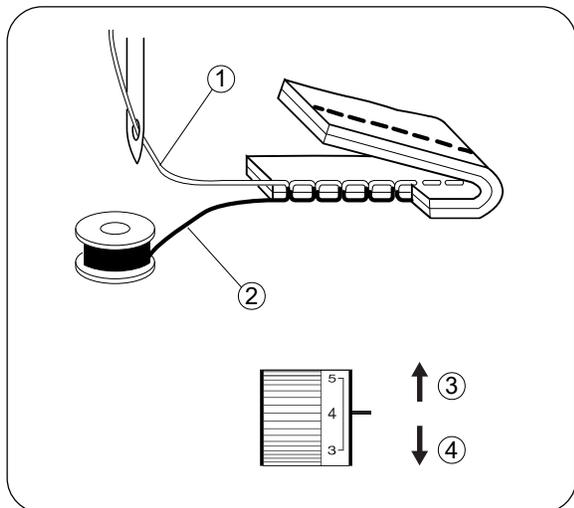
The needle threader can be used with a #11 to #16 needle, or a #11 Jaome blue tipped needle. Thread size 50 to 90 is recommended.





• **Drawing up bobbin thread**

- 1** Raise the presser foot. Hold the needle thread lightly with your left hand.
- 2** Rotate the handwheel counterclockwise, toward you, for one complete turn. Bring the bobbin thread up by pulling the needle thread up.
- 3** Pull both threads 4" to 6" (10.0 to 15.0 cm) under and behind the presser foot.



Adjust the Needle Thread Tension for a Straight Stitch

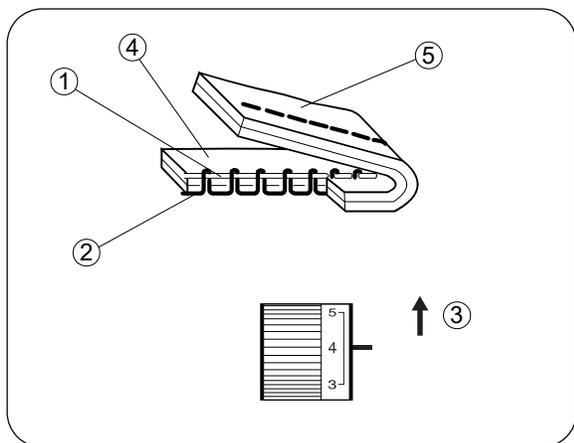
• Correct tension

- 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 there are no gaps. Each stitch is smooth and even. When adjusting the needle thread tension, the higher the number, the tighter the needle thread tension.

Results depend on:

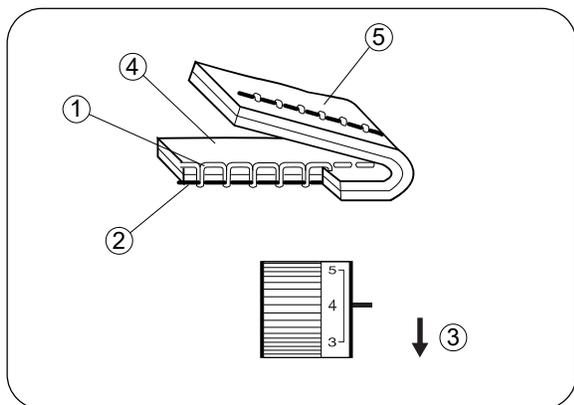
- stiffness and thickness of the fabric
- number of fabric layers
- type of stitch



• Tension is too tight

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

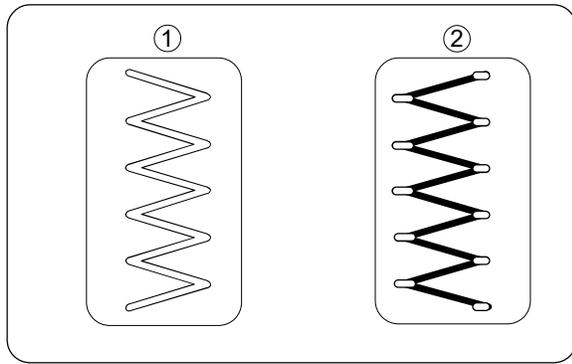
If the bobbin thread shows through on the right side (Top side) of the fabric, and the stitch feels bumpy, turn the dial to a lower tension setting number to loosen the needle thread tension.



• Tension is too loose

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

If the needle thread shows through on the wrong side (Bottom side) of the fabric, and the stitch feels bumpy, turn the dial to a higher tension setting number to tighten the needle thread tension.



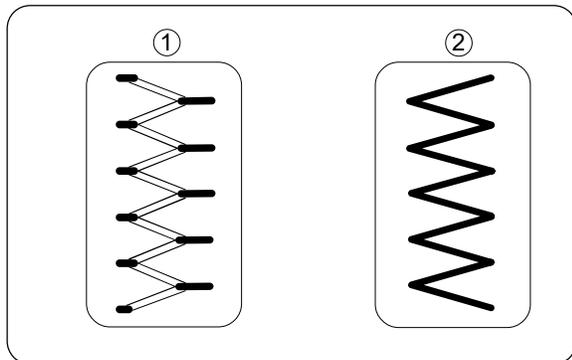
Adjust the Needle Thread Tension for a Zigzag Stitch

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

See the illustrations for correct appearance. To match this appearance, adjust the needle tension.

- **Correct tension**

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

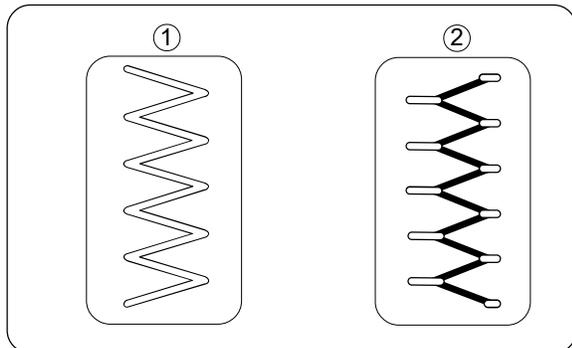


Minimize the amount of needle thread visible on the wrong side (Bottom side) of the fabric without causing excessive puckering or causing bobbin thread to show on the right side (Top side) of the fabric.

Results vary with fabric, thread and sewing condition.

- **Tension is too tight**

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

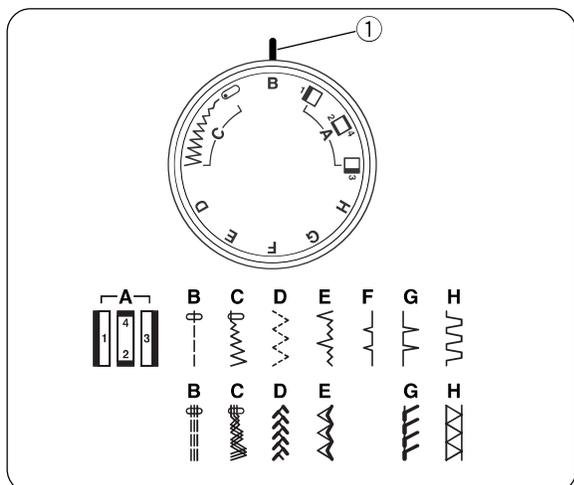


The corner of each zigzag pulls together on the right side (Top side) of fabric.

- **Tension is too loose**

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

Corner of each zigzag pulls together on the wrong side (Bottom side) of fabric.



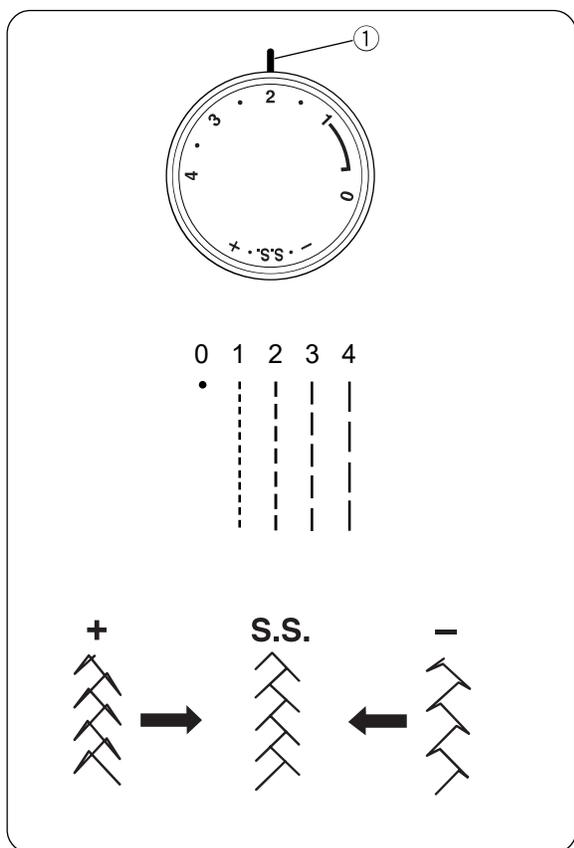
Pattern Selector Dial

Raise the needle and presser foot. Turn the pattern selector dial to set the setting mark at the symbol corresponding to the desired pattern.

① Setting mark

NOTE:

To avoid needle or fabric damage, make sure the needle is up and out of the fabric while selecting a stitch.



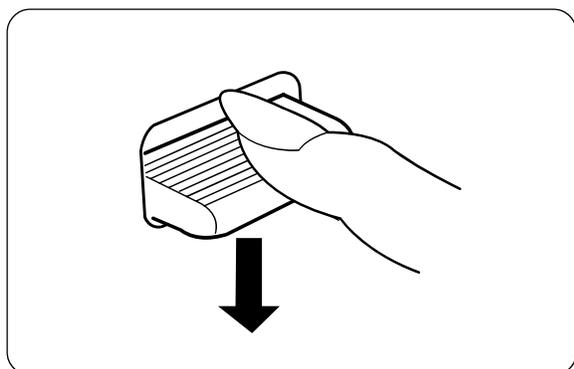
Stitch Length Dial

Turn the stitch length dial to set the setting mark at the desired stitch length.

The higher the number, the longer the stitch length

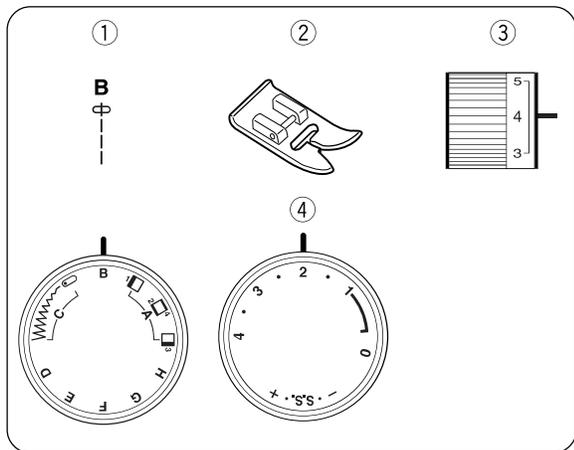
① Setting mark

- Adjust the dial in the 0.5–4 range when you sew the zigzag stitch.
- Set the dial at “S.S.” to sew the stretch stitch pattern sewing.
- If the stretch stitch pattern is not uneven, turn the stitch length dial in the direction of “-” to compress it, or “+” to expand it.



Reverse Stitch Control

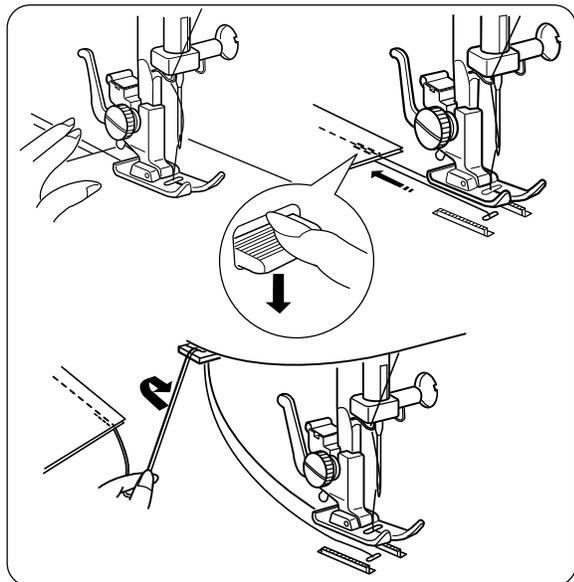
Press the stitch control to sew in reverse.



SECTION 3. BASIC SEWING

Straight Stitch Sewing

- ① Pattern selector: B
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2–6
- ④ Stitch length: 1.5–4



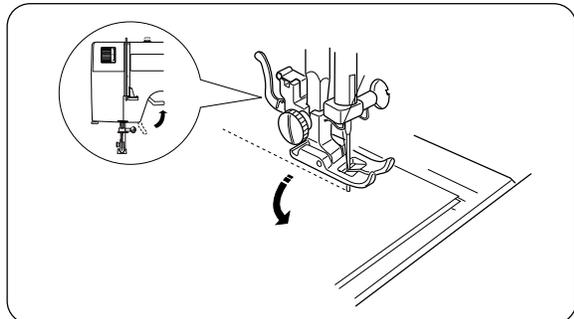
• Starting to sew

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. Gently guide the fabric along a seam guide line letting the fabric feed naturally.

• Finishing sewing

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

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

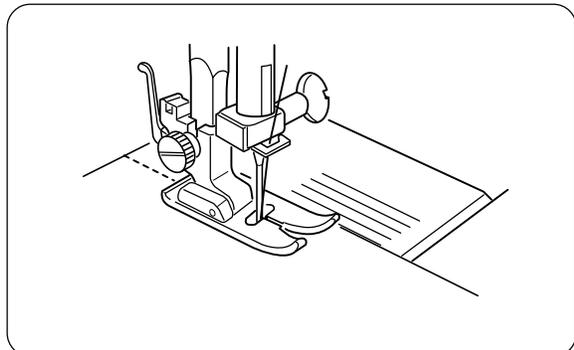


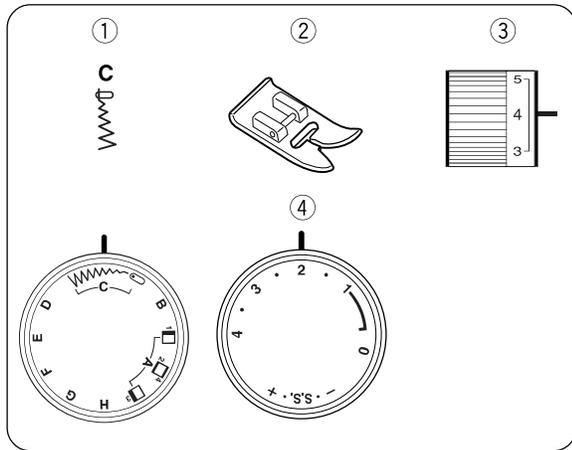
To Change Sewing Direction

Stop the machine and turn the handwheel toward you to bring the needle down into the fabric. Raise the presser foot. Pivot the fabric around the needle to change sewing direction as desired. Lower the presser foot and continue sewing.

Use the Seam Guides

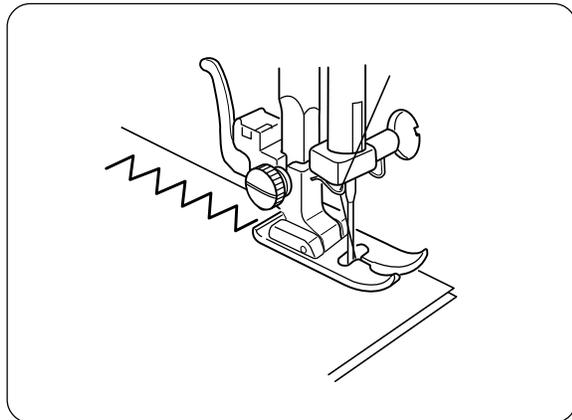
The seam guides on the needle plate are there to help you measure seam width. The numbers on the needle plate indicate the distance between the center needle position and the edge of the fabric. The lines are $1/8''$ (0.3 cm) apart, and are engraved at $3/8''$, $4/8''$, $5/8''$ and $6/8''$. The lines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



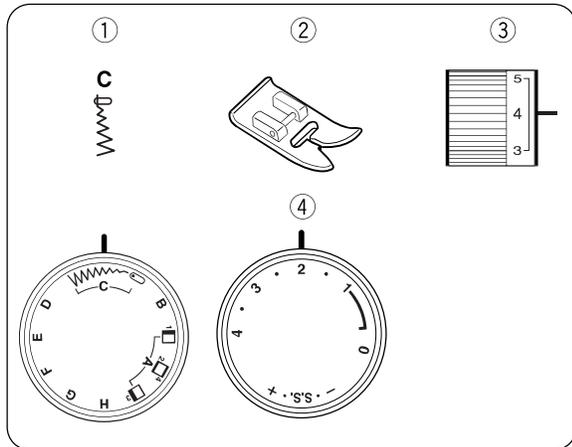


Zigzag Sewing

- ① Pattern selector: C
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2-5
- ④ Stitch length: 0.5-4



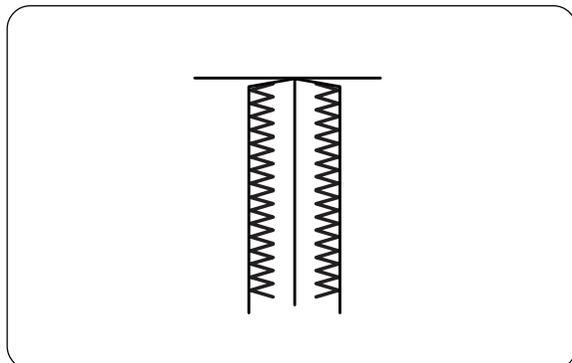
The zigzag stitch is one of the most common and versatile stitches. It can be a utility stitch for button sewing, buttonhole making, hemming, overcasting, mending and darning. It can also be used to decorate with trims, appliques and cut work, or as a decorative stitch.



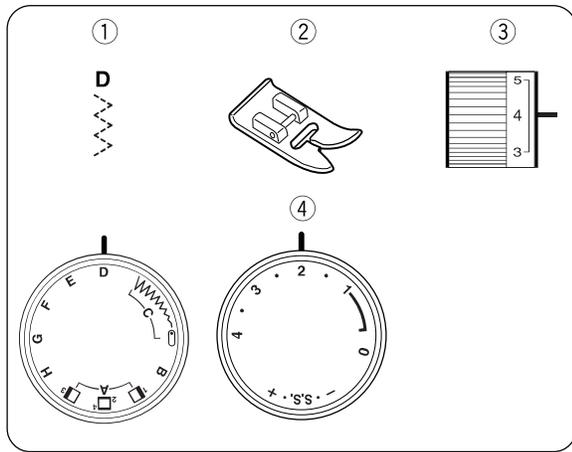
SECTION 4. UTILITY STITCHING

Overcasting

- ① Pattern selector: C
- ② Presser foot: Zigzag foot
- ③ Thread tension: 1-4
- ④ Stitch length: 1-2

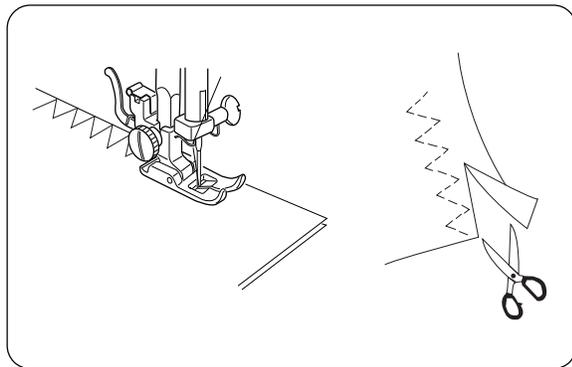


This stitch is useful in garment construction, and in finishing the raw edges of any sewing project. Start overcasting about 1/8"(0.3 cm) inside the raw corner of a fabric. The right tip of the stitch should just clear the row edge.



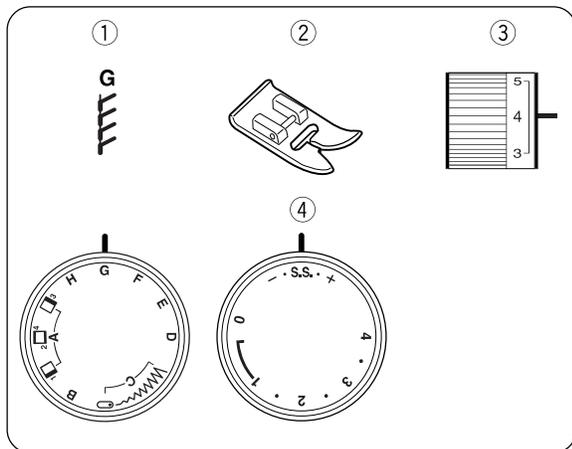
Tricot Stitch

- ① Pattern selector: D
- ② Presser foot: Zigzag foot
- ③ Thread tension: 1-4
- ④ Stitch length: 1-4



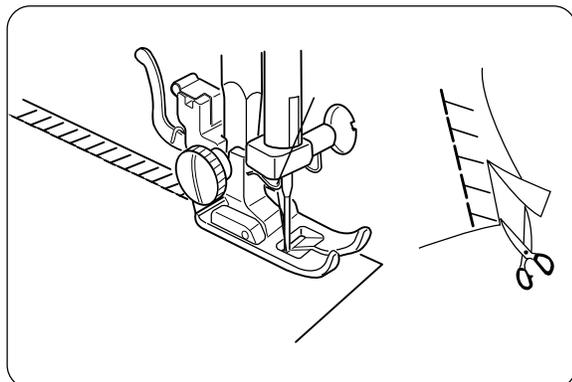
Place the fabric under the presser foot in such a manner that the edge is slightly inside the right-hand side of the presser foot. Guide the fabric so that the right hand stitches fall at the edge of the fabric.

Trim the excess close to the stitches. Be careful not to cut the stitches.



Knit Stitch

- ① Pattern selector: G
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2-6
- ④ Stitch length: S.S.

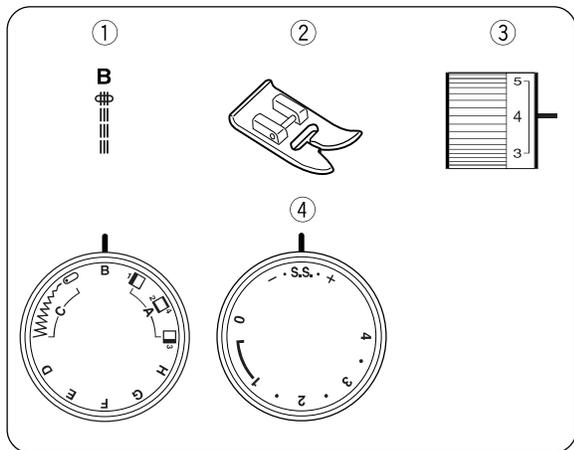


This knit stitch is ideal for sewing swimwear and stretch velour because it provides the greatest amount of elasticity and strength. Place your fabric to allow a 1.6 cm (5/8") seam.

Trim the seam allowance after sewing.

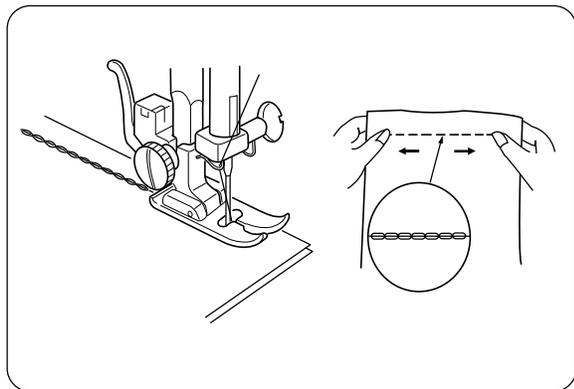
Note:

Be careful not to cut the stitches.



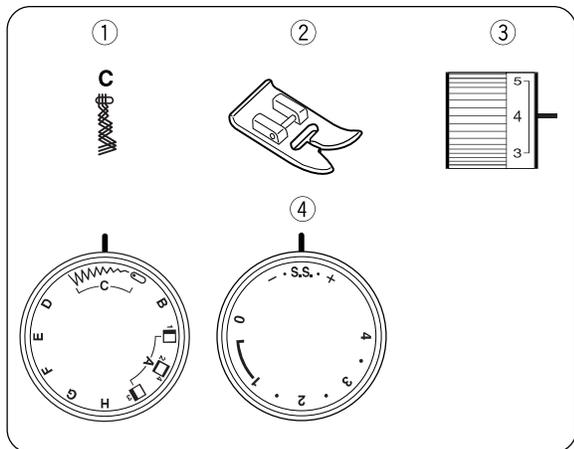
Straight Stretch

- ① Pattern selector: B
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2-6
- ④ Stitch length: S.S.



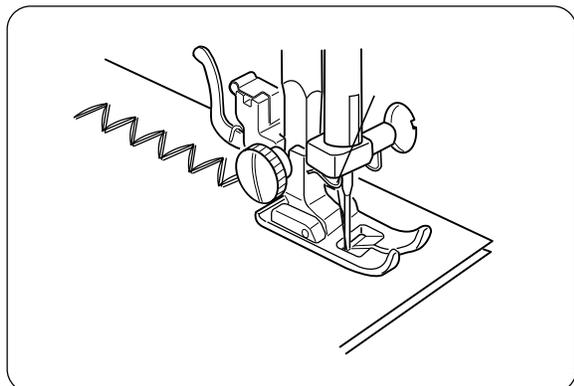
This strong, durable stitch is recommended where both elasticity and strength are necessary to ensure comfort and durability.

Use it to reinforce areas such as crotch and armhole seams as well as to eliminate puckering on knits and stretch fabrics. Also use when constructing items requiring extra strength such as backpacks.

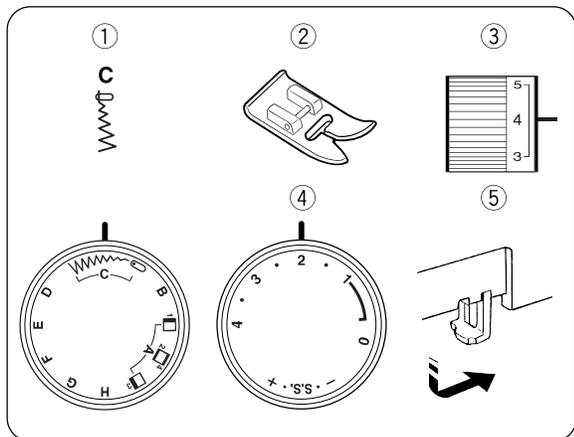


Rick-rack Stretch

- ① Pattern selector: C
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2-6
- ④ Stitch length: S.S.

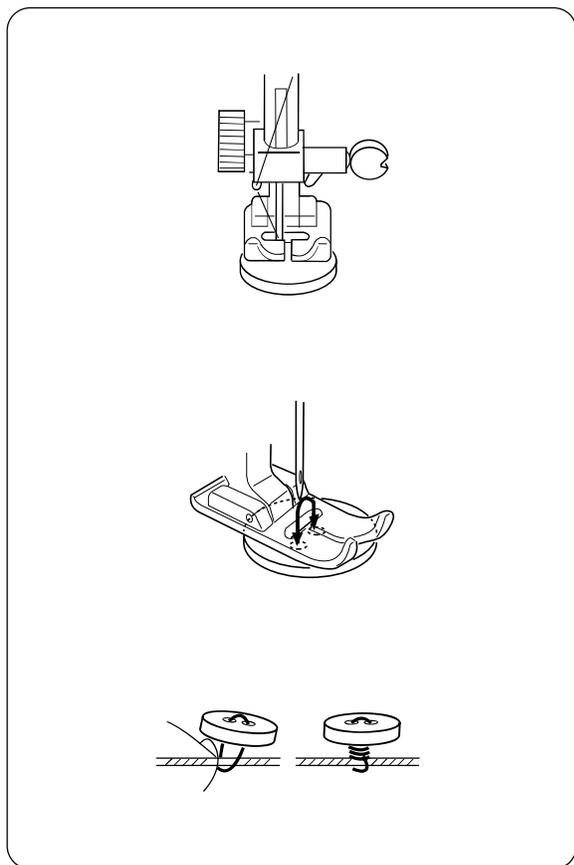


Sew on stretch fabrics in any area that you might use a zigzag stitch. This stitch is also used as a decorative topstitch.

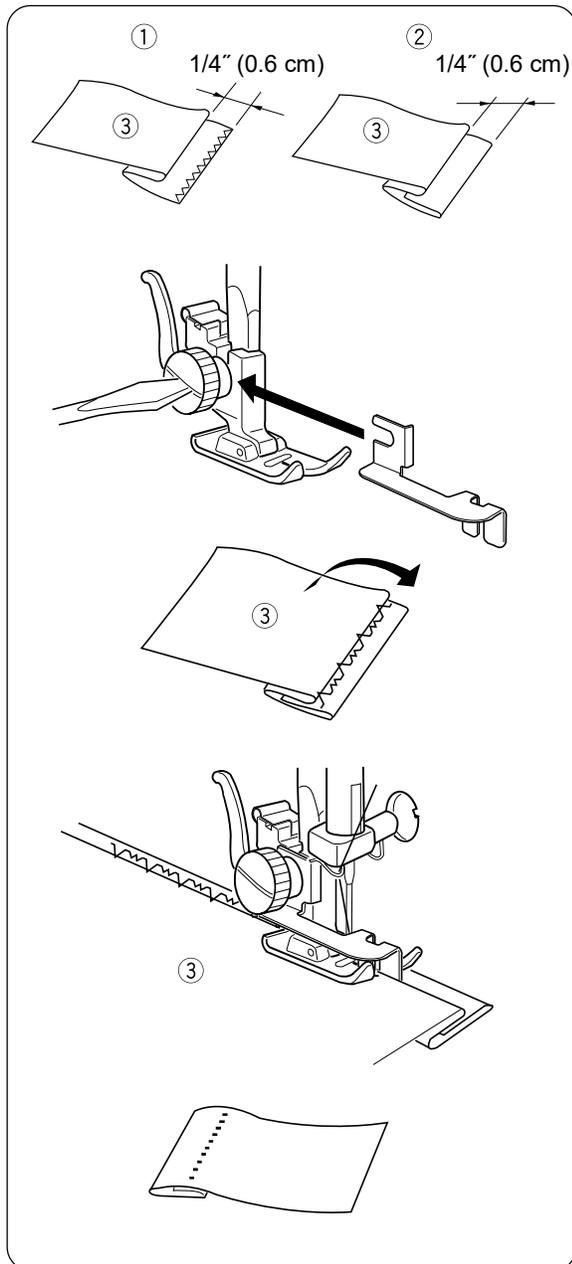
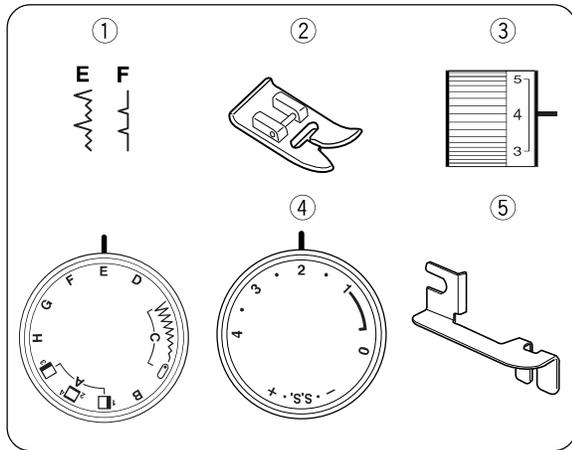


Button Sewing

- ① Pattern selector: C
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2–6
- ④ Stitch length: Any
- ⑤ Feed dog: Dropped



Drop the feed dogs. Match the holes in a button with the horizontal slot on the Presser foot. Adjust stitch width matching the distance of the holes on the button. Lower the foot to hold the button in place. Check to see if the needle enters into the holes on the button by turning the handwheel by hand. Sew about ten (10) stitches. To strengthen the shank, cut the threads leaving about 4.0" (10.0 cm). Bring the needle thread down through one of the holes on the button and wind it around the shank. Bring the needle thread to the wrong side (bottom side) and knot. After button sewing is completed, raise the feed dogs for normal sewing.



Blind Stitch Hemming

- ① Pattern selector: E or F
- ② Presser foot: Zigzag foot
- ③ Thread tension: 1-4
- ④ Stitch length: 1-4
- ⑤ Hem guide

- ① Lightweight fabric
- ② Heavyweight fabric
- ③ Wrong side (Bottom side) of fabric

On heavyweight fabrics that ravel, the raw edge should be overcast first. Then fold the hem, as illustrated leaving 1/4" (0.6 cm) of the hem edge showing.

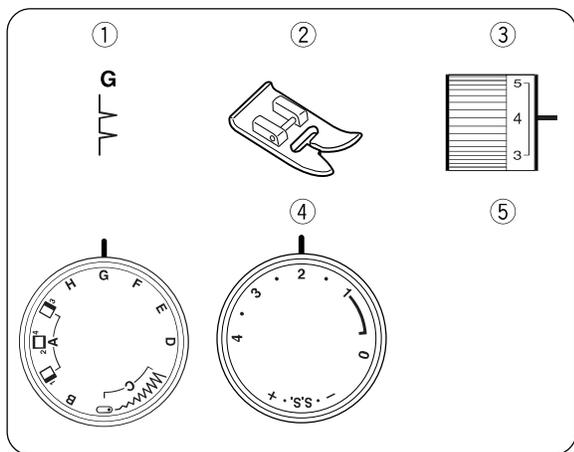
Lower the presser foot, then loosen the foot holder screw to place the hem guide between the screw and the shank of foot holder.

Tighten the screw making sure the wall of hem guide is placed in the middle of the toes of the presser foot.

Raise the presser foot and place the fabric under the foot so that the fold rests against the wall of hem guide.

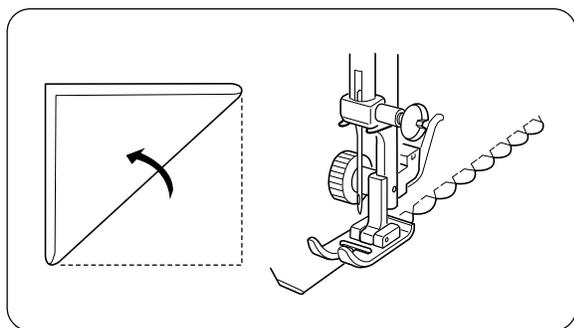
Lower the foot, then stitch slowly for better control so that the zigzag stitches fall on the hem allowance and pierce the fold.

While sewing, make sure the fold runs along the wall of hem guide.



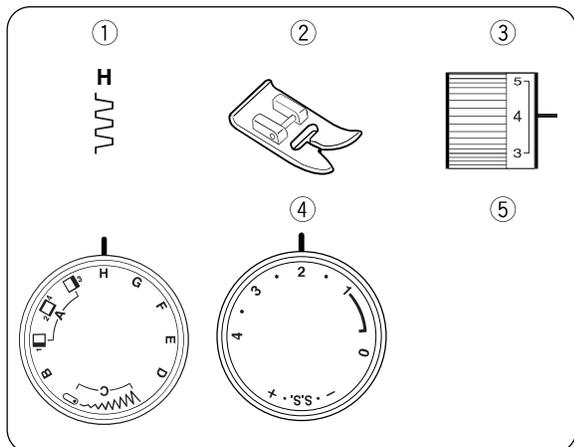
Shell Stitch

- ① Pattern selector: G
- ② Presser foot: Zigzag foot
- ③ Thread tension: 3–9
- ④ Stitch length: 1–2



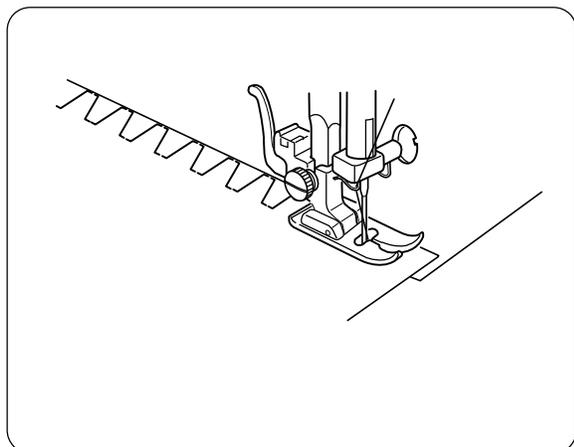
Use a lightweight fabric such as tricot. Fold the fabric and stitch on the bias. You may need to increase the needle thread tension slightly. Allow the needle to just clear the folded edge of the fabric at zigzag stitches.

If you sew rows of shell stitches, space the rows at least 5/8" (1.5 cm) apart. You can also sew shell stitches on knits or soft silky woven fabrics in any direction.

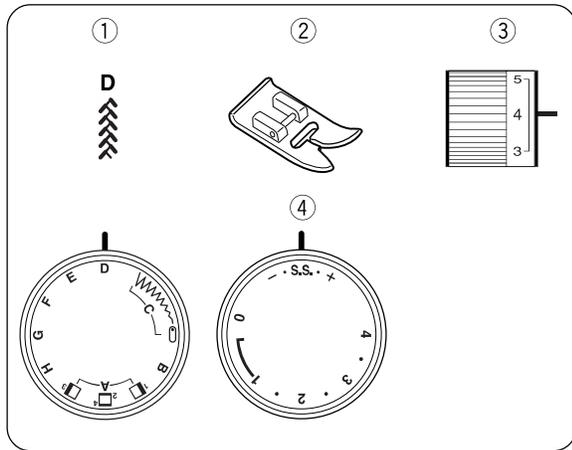


Box Stitch

- ① Pattern selector: H
- ② Presser foot: Zigzag foot
- ③ Thread tension: 1–4
- ④ Stitch length: 1–4

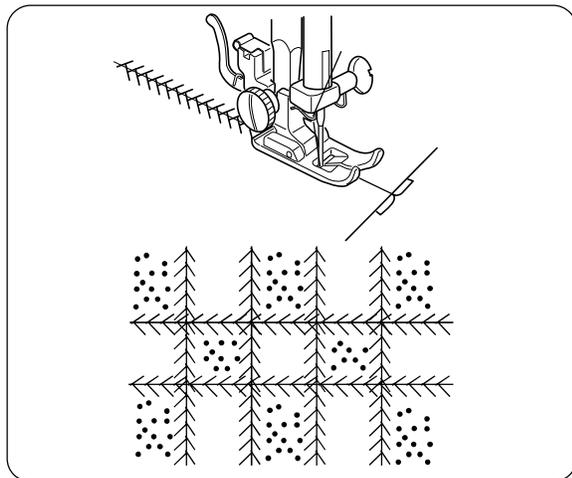


Overlap two raw edges of heavy weight interlining, and use this stitch to join them.



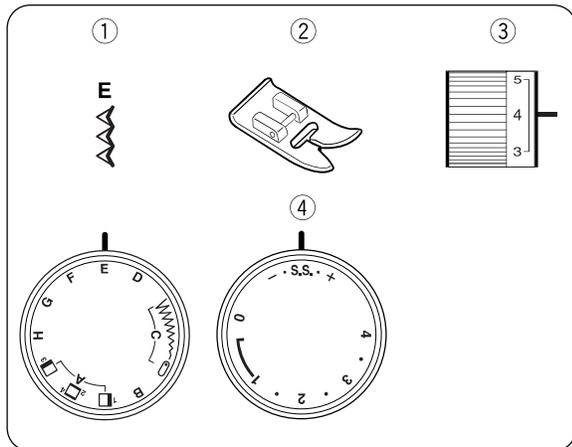
Feather Stitch

- ① Pattern selector: D
- ② Presser foot: Zigzag foot
- ③ Thread tension: 1-4
- ④ Stitch length: S.S.



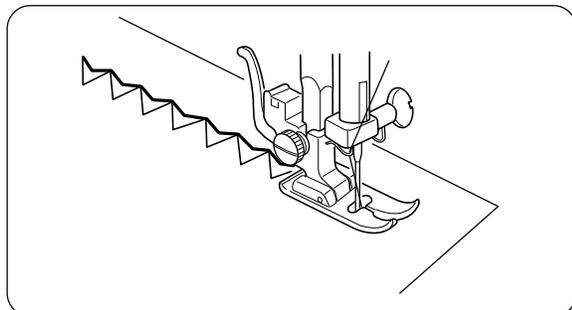
This stitch is strong, useful and decorative. It reinforces stretch and woven fabrics. You can use it to sew spandex undergarments or decoratively hem elastic fabric. You can also use this stitch in patchwork quilting.

Sew this pattern on a seam that is already joined and pressed flat.

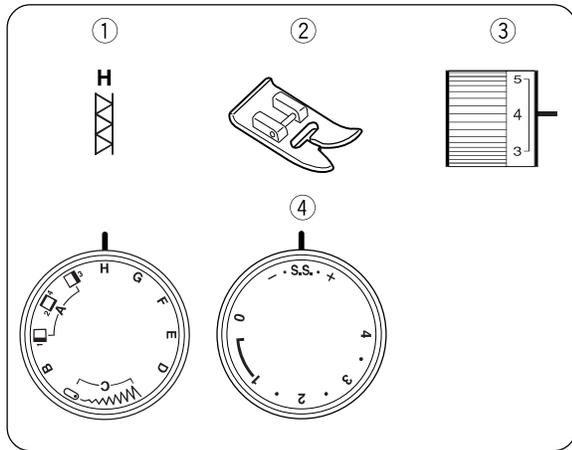


Overcast Stretch Stitch

- ① Pattern selector: E
- ② Presser foot: Zigzag foot
- ③ Thread tension: 2-6
- ④ Stitch length: S.S.

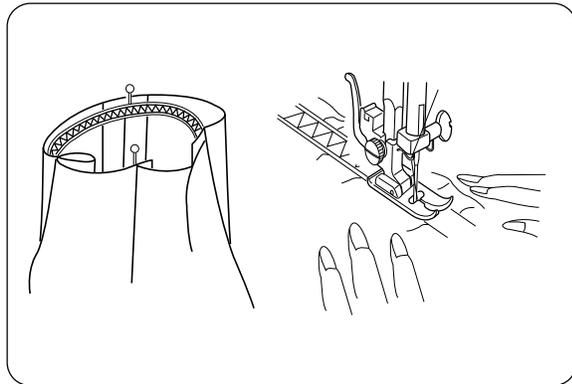


This stitch is for sewing a seam with an overcast finish. It is used when making swim wear, ski pants and other garments which require stretch.



Elastic Stretch Stitch

- ① Pattern selector: H
- ② Presser foot: Zigzag foot
- ③ Thread tension: 1-4
- ④ Stitch length: S.S.



Choose this stitch to attach elastic to garments. Mark elastic into quarters and match these to the center front, center back and side seams. Place the middle of the elastic under the center of the presser foot and stitch into place, making sure the elastic is evenly distributed.

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 properly under the presser foot at the beginning of sewing. 6. The fabric is not drawn to the rear when the sewing has finished. 7. The thread is too heavy or too fine for the needle. 	<p>Pages 20, 22 Pages 24, 26 Page 12 Page 12 Pages 20, 22 Page 30 Page 12</p>
The bobbin thread breaks.	<ol style="list-style-type: none"> 1. The bobbin thread is not threaded properly in the bobbin case and shuttle. 2. Lint has collected in the shuttle area. 3. The bobbin is damaged and doesn't turn smoothly. 	<p>Page 18 Page 56 Change the bobbin</p>
The needle breaks.	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The needle clamp screw is loose. 4. The needle thread tension is too tight. 5. The fabric is not drawn to the rear when the sewing has finished. 6. The needle is too fine for the fabric being sewn. 	<p>Page 12 Page 12 Page 12 Pages 24, 26 Page 30 Page 12</p>
Skipped stitches	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The needle and/or threads are not suitable for the work being sewn. 4. A blue needle is not being used for sewing stretch, very fine fabrics and synthetics. 5. The needle thread is not threaded properly. 6. The wrong needle is being used. 	<p>Page 12 Page 12 Page 12 Page 12 Pages 20, 22 Change the needle</p>
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 stitch length is too long for the fabric. 	<p>Pages 24, 26 Pages 20, 22 Page 12 Make stitch denser</p>
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. 	<p>Page 54 Make stitch coarser Page 10</p>
The machine doesn't work.	<ol style="list-style-type: none"> 1. The machine is not plugged in. 2. A thread is caught in the shuttle race. 3. The clutch is disengaged. 	<p>Page 6 Page 56 Page 16</p>
Patterns are distorted.	<ol style="list-style-type: none"> 1. The stitch is not balanced. 	<p>Page 28</p>
Noisy operation	<ol style="list-style-type: none"> 1. There is thread caught in the hook race. 2. Lint has built up in the shuttle or the shuttle race. 	<p>Page 56 Page 56</p>