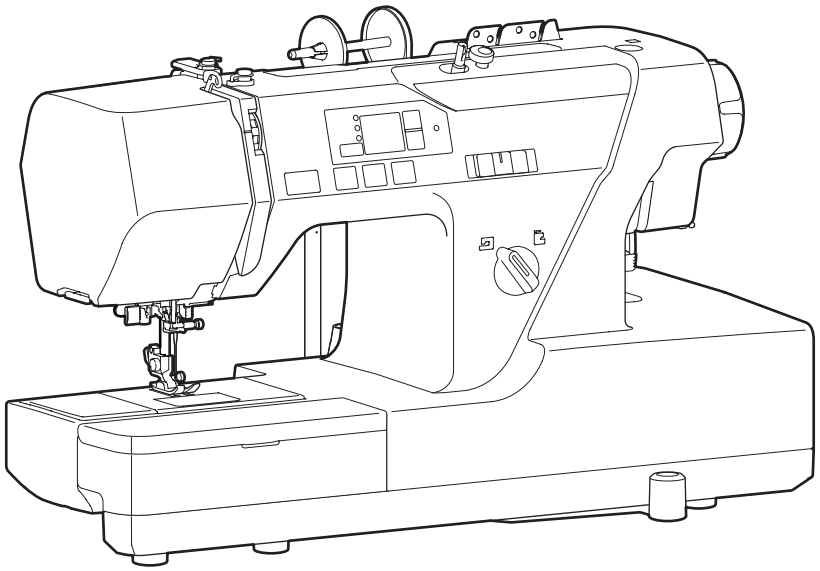
INSTRUCTION BOOK



IMPORTANT SAFETY INSTRUCTIONS

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

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.

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

1. Do not allow to be used as a toy. Close attention is necessary when this sewing machine is used by or near children.
2. Use this 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 and/or cutting blade.
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

For Europe only:
This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

For outside Europe (except U.S.A.):
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.



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. (EEA (European Economic Area) and UK)

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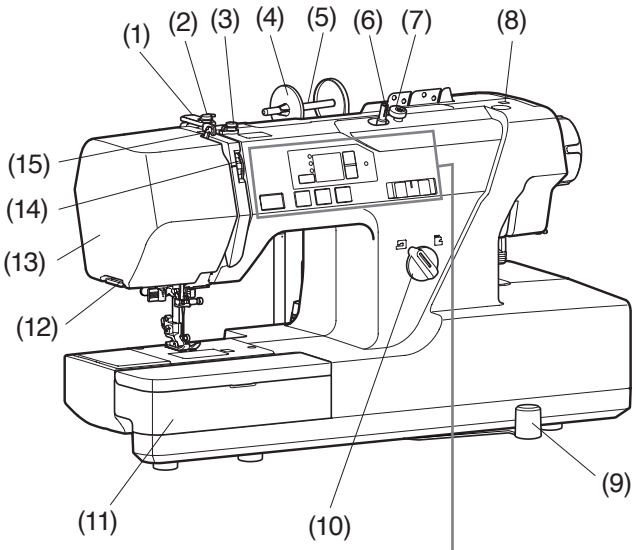
STITCH CHART

For Ordinary Sewing....84

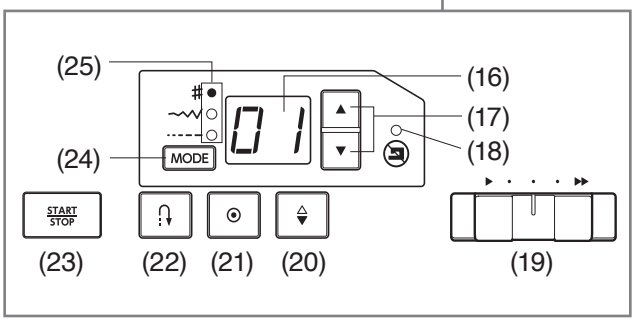
ESSENTIAL PARTS

Part Names

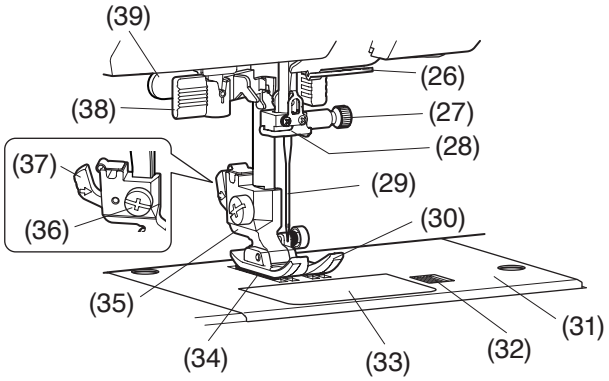
Ordinary sewing side



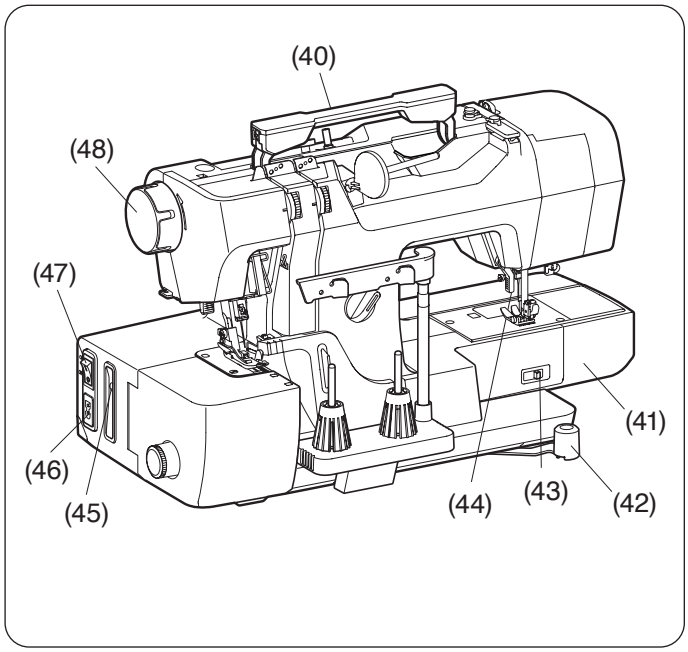
(1) Upper thread guide
(2) Bobbin winding tension disk A
(3) Bobbin winding tension disk B
(4) Spool holder cap (large)
(5) Spool pin
(6) Bobbin winder spindle
(7) Bobbin winder stopper
(8) Hole for extra spool pin
(9) Turntable lever
(10) Ordinary sewing/overlock switching lever
(11) Extension table (accessory storage)
(12) Thread cutter
(13) Face cover
(14) Thread tension dial
(15) Thread take-up lever



(16) LCD display
(17) Value set keys
(18) Overlock mode indicator light
(19) Speed control slider
(20) Needle up/down button
(21) Auto-lock button
(22) Reverse button
(23) Start/stop button
(24) MODE key
(25) Indicator lights

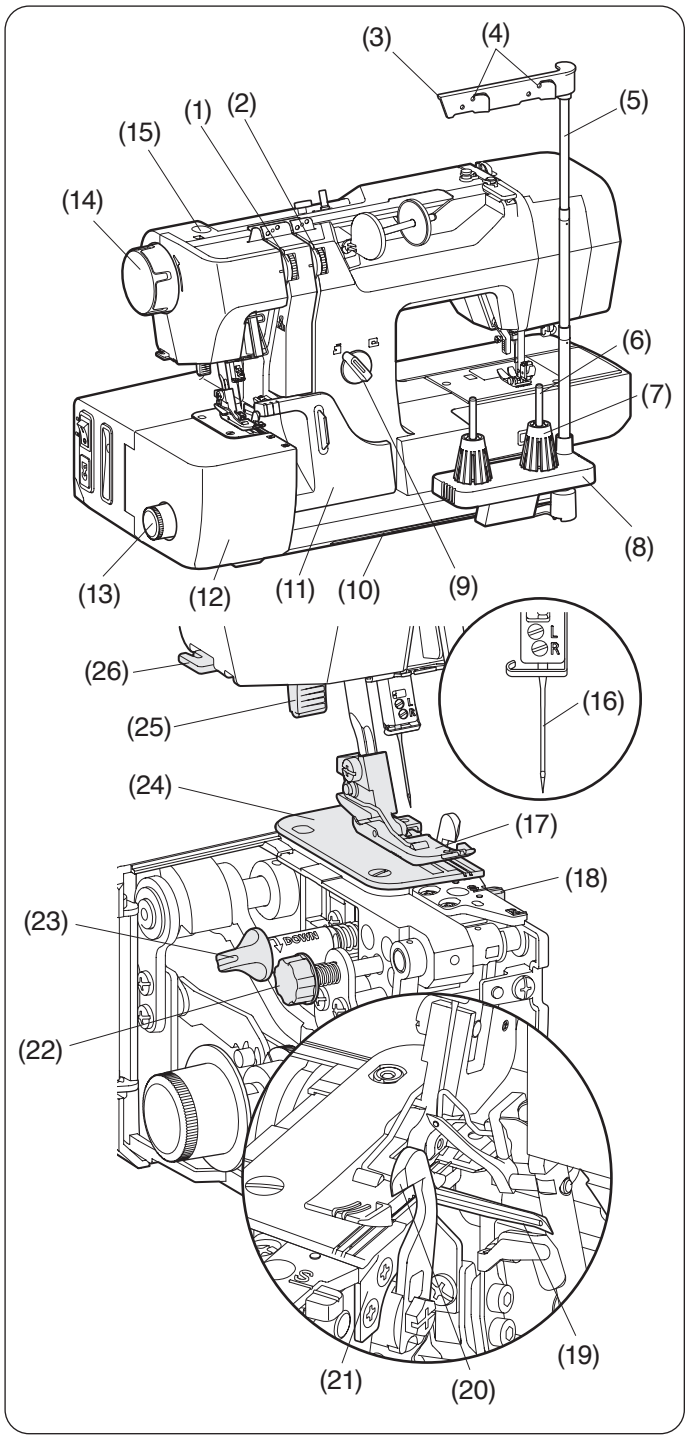


(26) Lower thread guide
(27) Needle clamp screw
(28) Needle bar thread guide
(29) Needle
(30) Zigzag foot A
(31) Needle plate
(32) Hook cover release button
(33) Hook cover plate
(34) Feed dogs
(35) Foot holder
(36) Setscrew
(37) Lever
(38) Needle threader
(39) Buttonhole lever



(40) Carrying handle
(41) Free-arm
(42) Turntable lever
(43) Drop feed lever
(44) Presser foot lifter
(45) Foot control jack
(46) Power inlet
(47) Power switch
(48) Handwheel

NOTE:
- To carry the sewing machine, hold the carrying handle with one hand, and support the sewing machine with the other hand.
- When lowering the sewing machine, lower it slowly to avoid pinching your fingers between the carrying handle and the main body.
- Retract the carrying handle before running the machine.

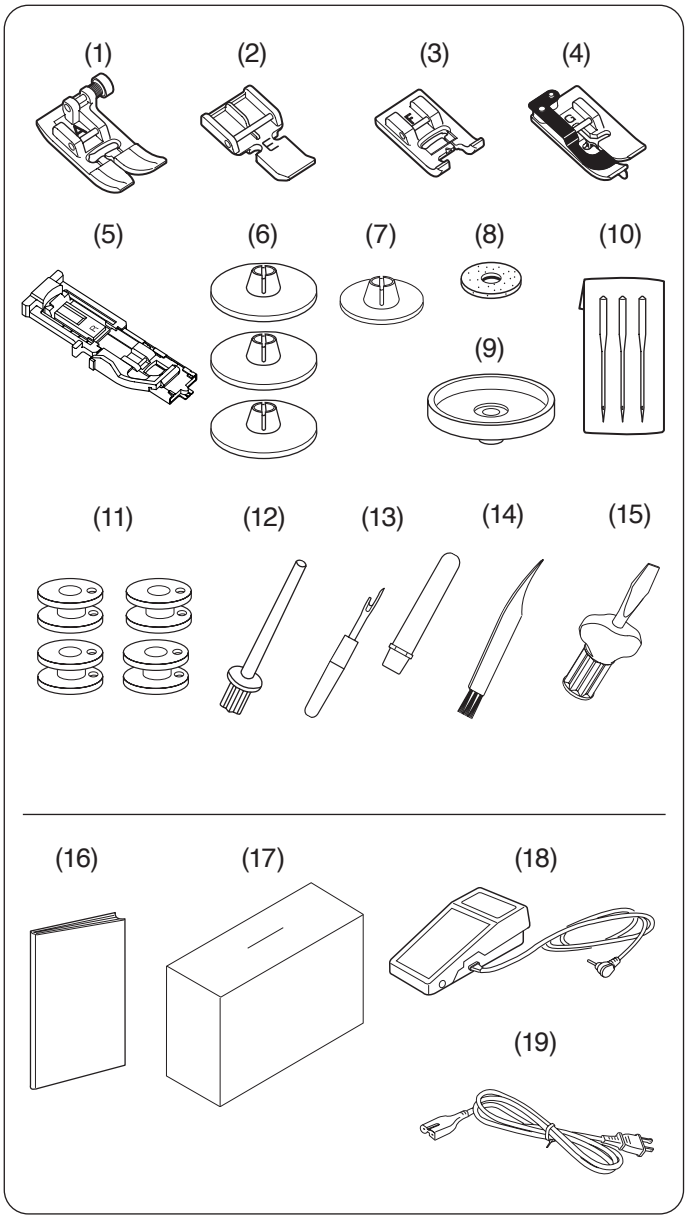


Overlock side

(1) Needle thread tension dial
(2) Looper thread tension dial
(3) Thread guide bar
(4) Thread guide
(5) Thread guide post
(6) Spool pin
(7) Spool holder
(8) Spool stand
(9) Ordinary sewing/overlock switching lever
(10) Spool stand guide slot
(11) Looper cover
(12) Side cover
(13) Stitch length dial
(14) Handwheel
(15) Pressure adjusting screw

(16) Needle
(17) Presser foot
(18) Chaining finger switch knob
(19) Looper
(20) Upper knife
(21) Lower knife
(22) Cutting width adjusting dial
(23) Upper knife release knob
(24) Needle plate
(25) Presser foot lifter
(26) Thread cutter

NOTE:
Sewing machine design and specifications are subject to change without prior notice.

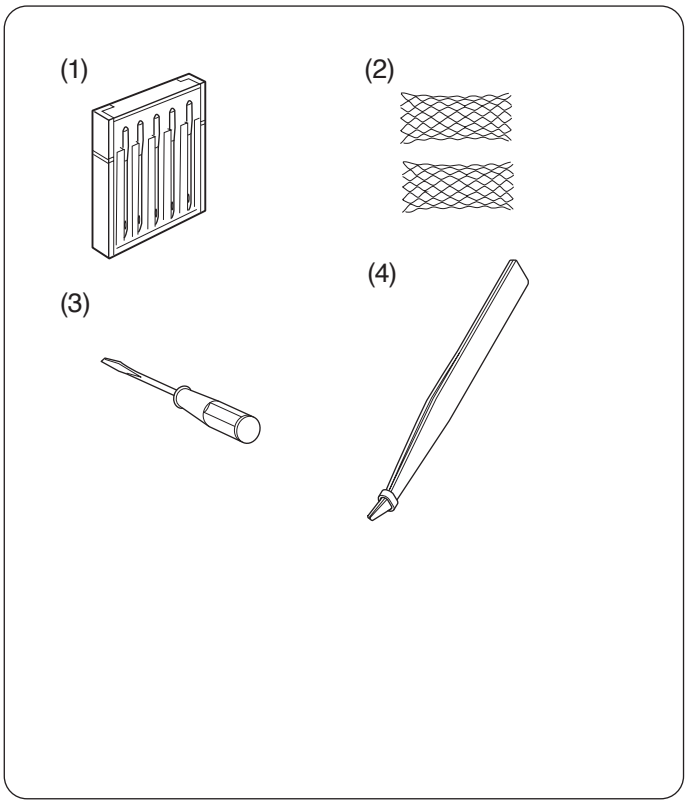


Standard Accessories

Ordinary sewing side and common parts

No.	Part Name		Part No.
1	Zigzag foot A (set on machine)		832523007
2	Zipper foot E		808852003
3	Satin stitch foot F		822804118
4	Blind hemming foot G		825817009
5	Automatic buttonhole foot R (in accessory storage)		753801004
6	Spool holder cap (large) x 3 (1 set on machine)		822020503
7	Spool holder cap (small)		822019509
8	Spool pin felt		102403109
9	Spool stand		829803004
10	Needle set		639804000
11	Bobbin x 4 (1 set on machine)		102261103
12	Extra spool pin		625031500
13	Seam ripper (buttonhole opener)		647808009
14	Lint brush		802424004
15	Screwdriver (large)		820832005
16	Instruction book		824800109
17	Soft cover		824802008
18	Foot control		C-1036-2
19	Power cable*	U.S.A. and Canada	856519004
		U.K.	830377008
		Australia	830314018
		Continental Europe	830335004

*The power cable included may differ from the illustration.

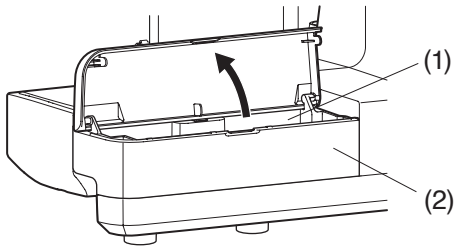


Overlock side

No.	Part Name	Part No.
1	Set of needles: (HAx1 SP#11) x 2 (HAx1 SP#14) x 3	824801007
2	Net x 2	624806006
3	Screwdriver (small)	647803004
4	Tweezers	624801001

Instructional Video

https://www.youtube.com/playlist?list=PLQy563Wz2acvmV8uEBKsfr_u_t4wW1cS5

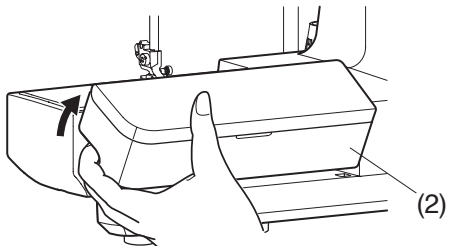


Extension Table

Standard accessories are stored inside the extension table.
Open the front cover in the direction of the arrow.

(1) Accessory storage
(2) Extension table

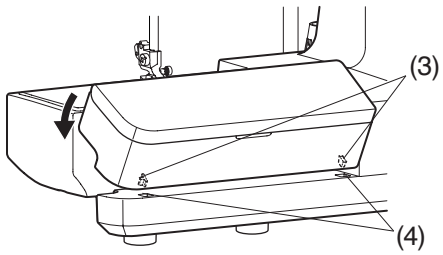
The extension table provides an extended sewing area and can be easily removed for free-arm sewing.



Detaching the extension table

Hook your fingers in the hollow on the left side of the extension table and push up in the direction of the arrow, as illustrated.

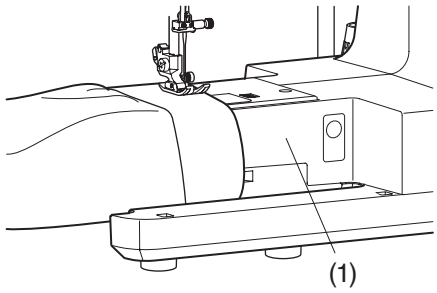
(2) Extension table



Attaching the extension table

Position the tabs of the extension table on the base holes and push down gently.

(3) Tab
(4) Base hole



Free-arm Sewing

Free-arm is useful for sewing tubular garments and for darning knee or elbow areas.

(1) Free-arm

GETTING READY TO SEW

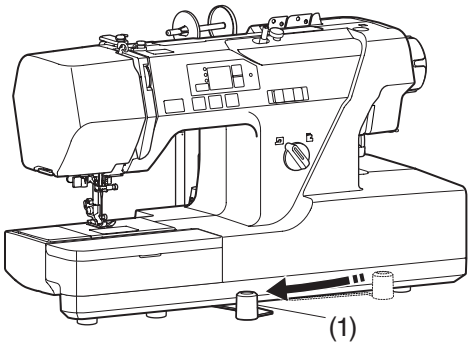
Switching Between the Ordinary Sewing Side and the Overlock Side

⚠ CAUTION:

- Turn off the power switch, disconnect the foot control and unplug the machine plug from the power inlet before switching between the ordinary sewing side and the overlock side (refer to pages 10-11).
- Always turn the turntable lever until it clicks into place. The machine will not rotate or operate correctly if the lever is not fully pushed to either side.

Switching from the ordinary sewing side to the overlock side

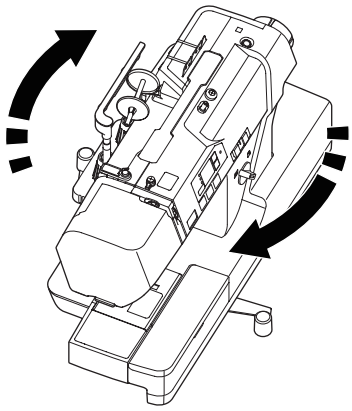
1.



1. Turn the turntable lever to the left with one hand while holding the machine with the other hand.

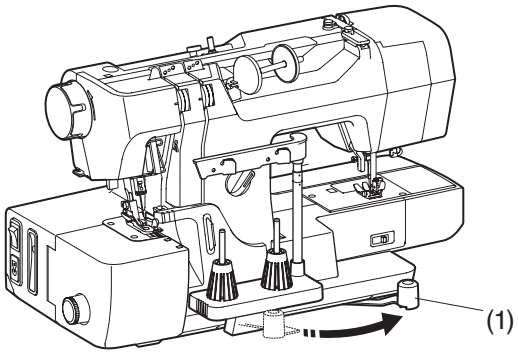
(1) Turntable lever

2.



2. Rotate the sewing machine body so that the overlock side is facing you.

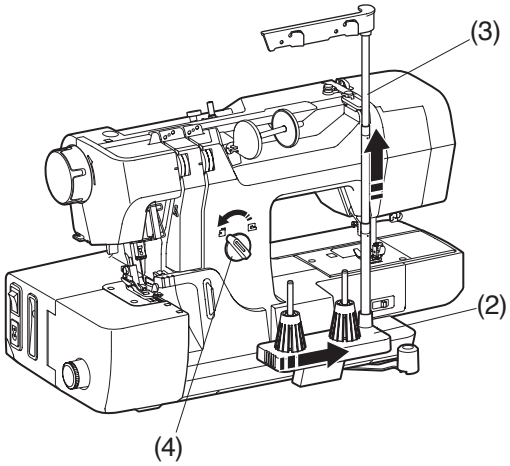
3.



3. Turn the turntable lever to the right with one hand while holding the machine with the other hand.

(1) Turntable lever

4. 5.



4. Slide the spool stand to the right until it clicks into place and extend the thread guide post.

(2) Spool stand
(3) Thread guide post

⚠ CAUTION:

- Do not put your hands or any objects in the spool stand guide slot.
- Do not hold the thread guide post and the spool pins when sliding the spool stand.

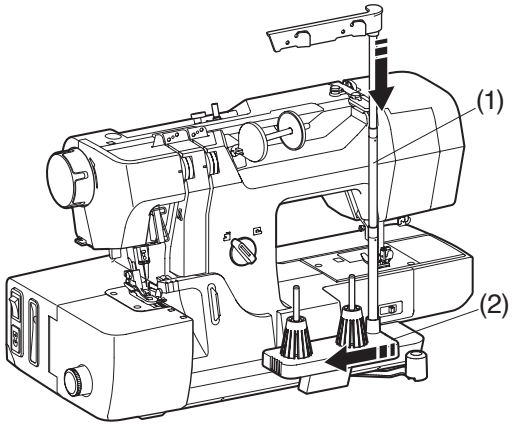
5. Turn the ordinary sewing/overlock switching lever to the overlock setting.

(4) Ordinary sewing/overlock switching lever

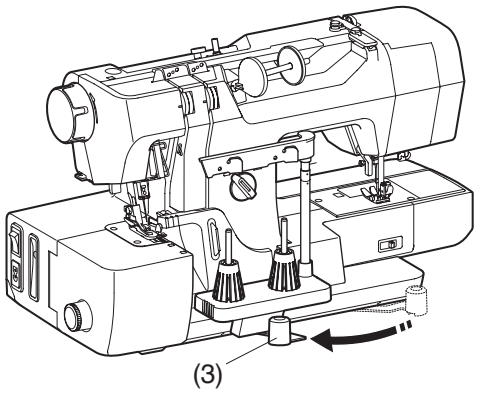
⚠ CAUTION:

Do not turn the ordinary sewing/overlock switching lever from both sides at the same time.

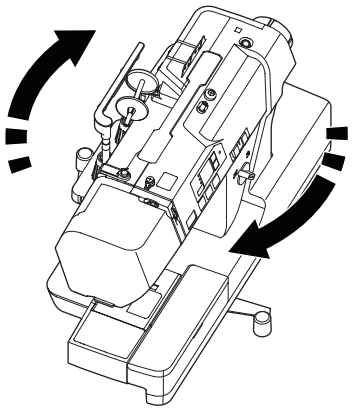
1.



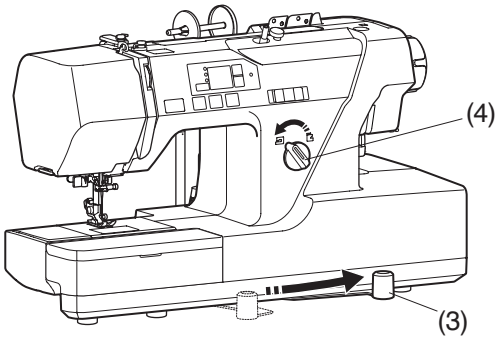
2.



3.



4. 5.



Switching from the overlock side to the ordinary sewing side

1. Retract the thread guide post and slide the spool stand to the left until it clicks into place.

(1) Thread guide post
(2) Spool stand

⚠ CAUTION:

- Do not put your hands or any objects in the spool stand guide slot.
- Do not hold the thread guide post and the spool pins when sliding the spool stand.

2. Turn the turntable lever to the left with one hand while holding the machine with the other hand.

(3) Turntable lever

3. Rotate the sewing machine body so that the sewing side is facing you.

4. Turn the turntable lever to the right with one hand while holding the machine with the other hand.

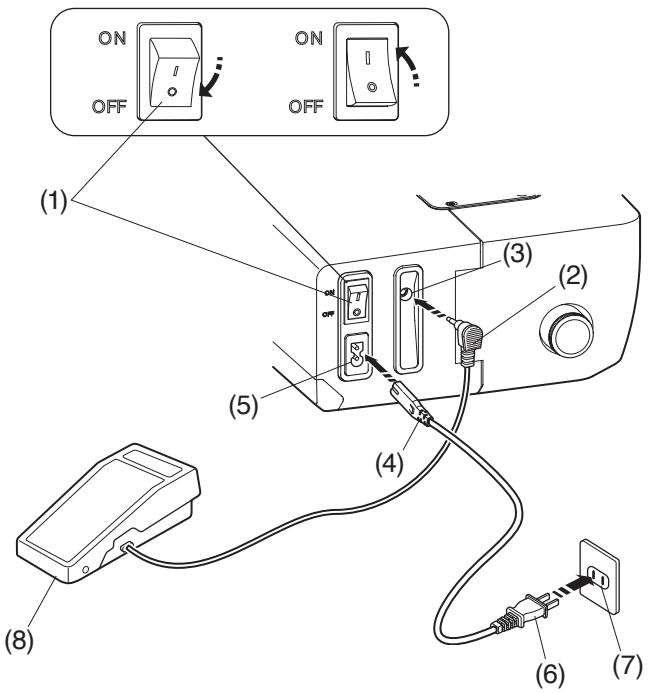
(3) Turntable lever

5. Turn the ordinary sewing/overlock switching lever to the ordinary sewing setting.

(4) Ordinary sewing/overlock switching lever

⚠ CAUTION:

Do not turn the ordinary sewing/overlock switching lever from both sides at the same time.



Connecting the Power Supply

Using the foot control

> **⚠ CAUTION:**
> Do not place hands or objects on the needle plate of the overlock (serger) machine while operating in ordinary sewing mode.
> Also, do not place hands or objects on the needle plate of the sewing machine while operating in overlock mode.

First make sure the power switch is OFF by turning the power switch to the OFF position.
Insert the pin connector into the foot control jack.
Insert the machine plug into the power inlet.
Insert the power supply plug into the power outlet.
Turn on the power switch.

(1) Power switch
(2) Pin connector
(3) Foot control jack
(4) Machine plug
(5) Power inlet
(6) Power supply plug
(7) Power outlet
(8) Foot control

> **NOTE:**
> • Route the foot control cable under the power cable, then bring it around behind the machine to the right side and pull it down toward your feet.
> • The start/stop button does not work when the foot control is connected.
> • If you turn off the power switch, wait for 5 seconds before turning it on again.
> • The machine will turn OFF if you do not use it within 7 hours.

> **⚠ WARNING:**
> While in operation, always keep your eyes on the sewing area and 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 wall outlet:
> - when leaving the machine unattended.
> - when attaching or removing parts.
> - when cleaning the machine.
> Do not place anything on the foot control.

Before using your sewing machine

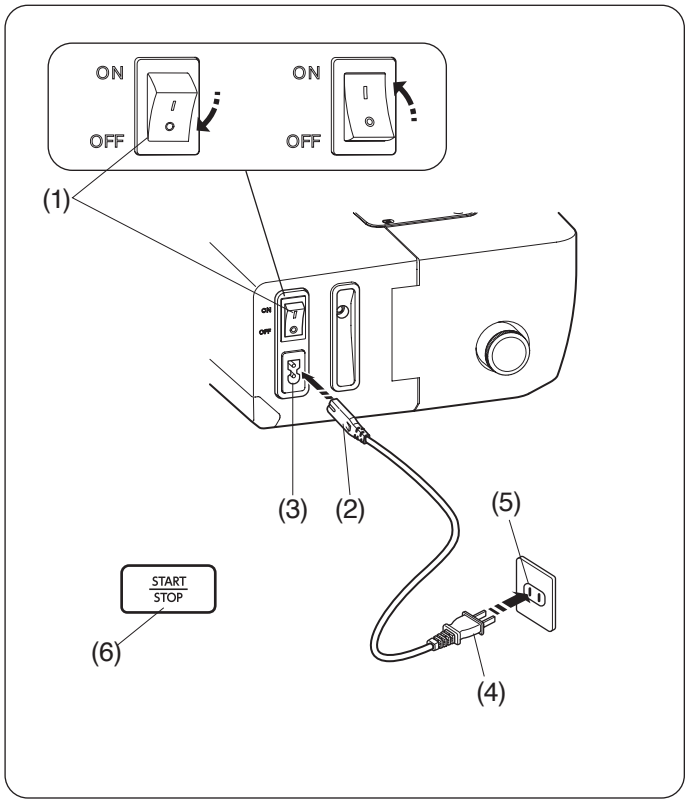
Before using your sewing machine for the first time, place a scrap of fabric under the presser foot and run the machine without thread for a few minutes. Wipe away any oil which may appear.

Operating Instructions

The symbol “O” on the switch indicates the “off” position of the switch.

For the U.S.A. and Canada only

For appliances with a polarized plug (one blade wider than the other): To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.

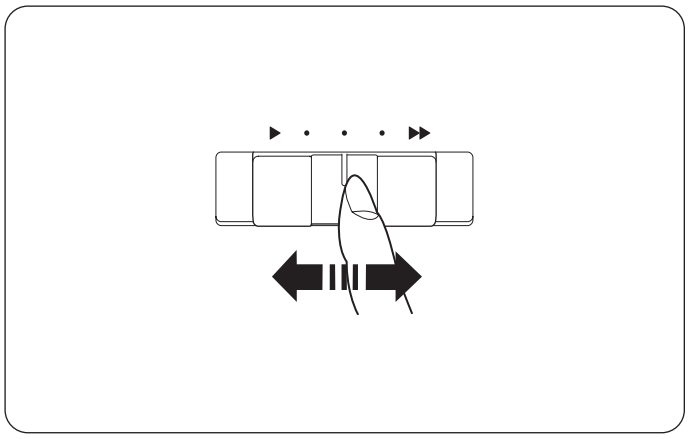


Using the start/stop button (only for ordinary sewing side)

First make sure the power switch is OFF by turning the power switch to the OFF position.
Insert the machine plug into the power inlet.
Insert the power supply plug into the power outlet.
Turn on the power switch.

(1) Power switch
(2) Machine plug
(3) Power inlet
(4) Power supply plug
(5) Power outlet
(6) Start/stop button

NOTE:
- The start/stop button does not work when the foot control is connected.
- If you turn off the power switch, wait for 5 seconds before turning it on again.
- The machine will turn OFF if you do not use it within 7 hours.

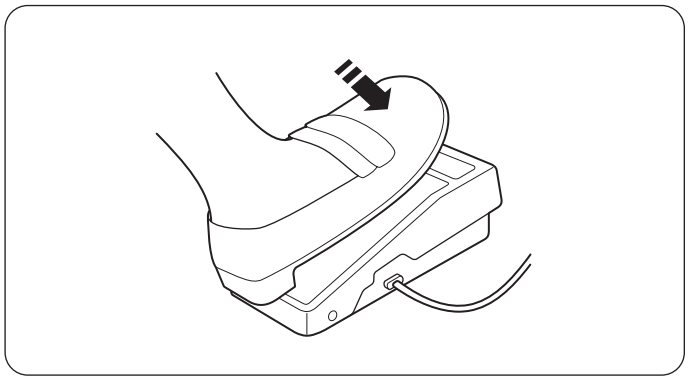


Controlling Sewing Speed

Speed control slider

Sewing speed can be varied by the speed control slider according to your sewing needs.
To increase sewing speed, move the slider to the right.
To decrease sewing speed, move the slider to the left.

NOTE:
The sewing speed set by the speed control slider is only applied to ordinary sewing.

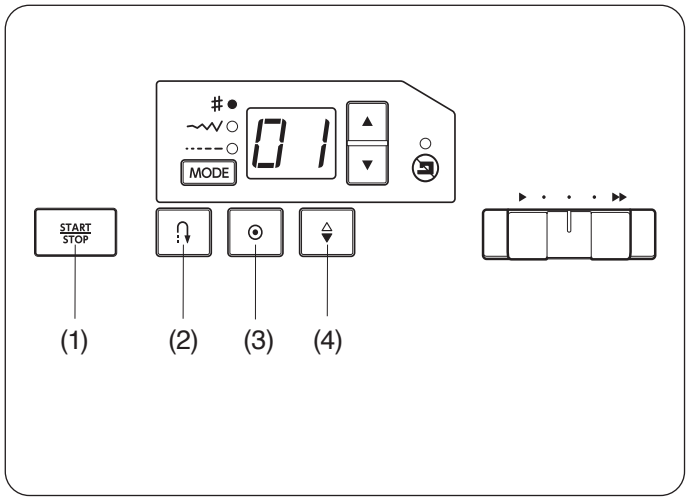


Foot control

Depress the foot control to start the machine.
The further you press down on the foot control, the faster the machine runs.
The maximum sewing speed can be varied by the speed control slider (only for ordinary sewing).

Operating instructions

Foot control model C-1036-2 is for use with this sewing machine.



Machine Operating Buttons

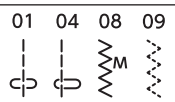
(1) Start/stop button

Press this button to start or stop the machine.
The machine starts running slowly for the first few stitches, then runs at the speed set by the speed control slider.

NOTE:
- The machine runs slowly as long as the start/stop button is pressed.
- Pressing and holding the start/stop button while sewing will slow down the sewing speed and the machine will stop when the button is released.
- The start/stop button cannot be used when the foot control is connected to the machine.

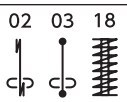
(2) Reverse button

- **When following stitch patterns are selected;**



The machine will sew in reverse as long as the reverse button is pressed. Release the button to sew forward. When the machine is stopped and foot control is disconnected, the machine will sew in reverse slowly as long as the reverse button is pressed. Release the button to stop the machine.

- **When following stitch patterns are selected;**

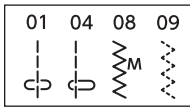


There will be particular functions of the reverse button when patterns shown above are selected. Refer to pages 31 and 40 for instructions.

- **When any other stitches are selected;**
  If you press the reverse button when sewing any other patterns, the machine will immediately sew locking stitches and automatically stop. When the reverse button is pressed while the machine is stopped, the machine will immediately sew locking stitches and automatically stop after the machine is started.

(3) Auto-lock button

- **When following stitch patterns are selected;**



Press the auto-lock button to sew a locking stitch immediately. The machine will automatically stop. When the auto-lock button is pressed while the machine is stopped, the machine will immediately sew locking stitches and automatically stop after the machine is started.

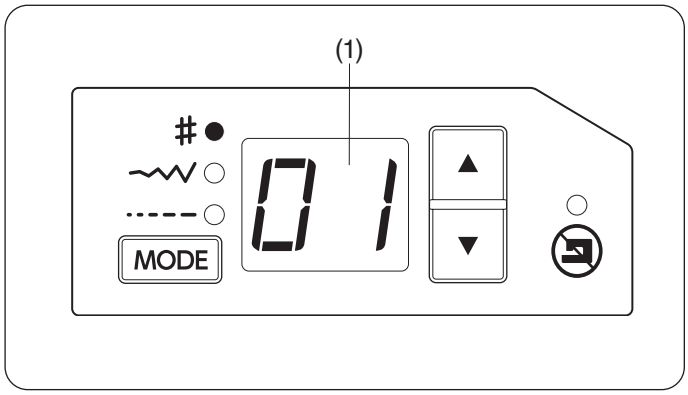
- **When any other stitches are selected;**
  Press the auto-lock button to sew a locking stitch at the end of current pattern. The machine will automatically stop. When the machine is stopped, press the auto-lock button to sew a locking stitch at the end of current pattern and the machine will automatically stop after the machine is started.

(4) Needle up/down button

Press the needle up/down button to bring the needle up or down.

Needle stop position

When you start the machine with the needle at up position, the needle stops at up position when the machine is stopped.
When you start the machine with the needle at down position, the needle stops at down position when the machine is stopped.

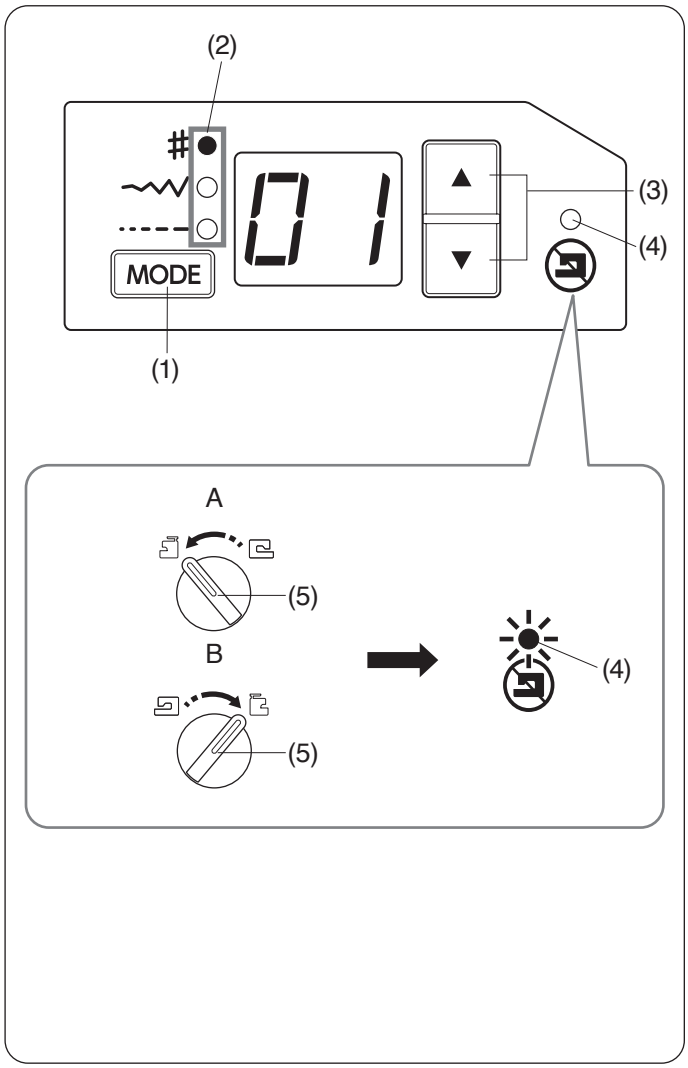


LCD Display

The LCD display shows following information when the machine is turned on.

(1) Stitch pattern number

NOTE:
Magnetic or electrostatic interference may cause the LCD display to flicker.
Do not use the machine near appliances that generate a magnetic field or an electrostatic field such as microwave ovens.



Function Keys and Indicator Light

(1) Mode key

When the power switch is turned on, the pattern selection mode is set automatically.
Each time you press the mode key, the indicator light will shift and the mode will change in the following order:

- # Pattern selection mode
- ~~ Stitch width adjustment mode
- ----- Stitch length adjustment mode

(2) Indicator light

(3) Value set keys

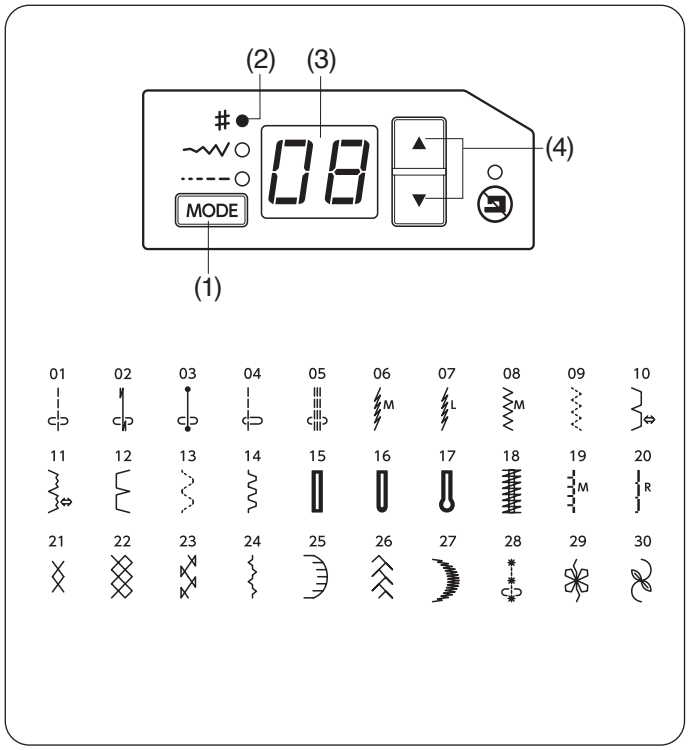
Press the value set keys to adjust the value.

- Press " ▲ " to increase the value.
- Press " ▼ " to decrease the value.

(4) Overlock mode indicator light

When the ordinary sewing/overlock switching lever is turned overlock side, the indicator light will turn on.

A: Overlock side
B: Ordinary sewing side
(5) Ordinary sewing/overlock switching lever

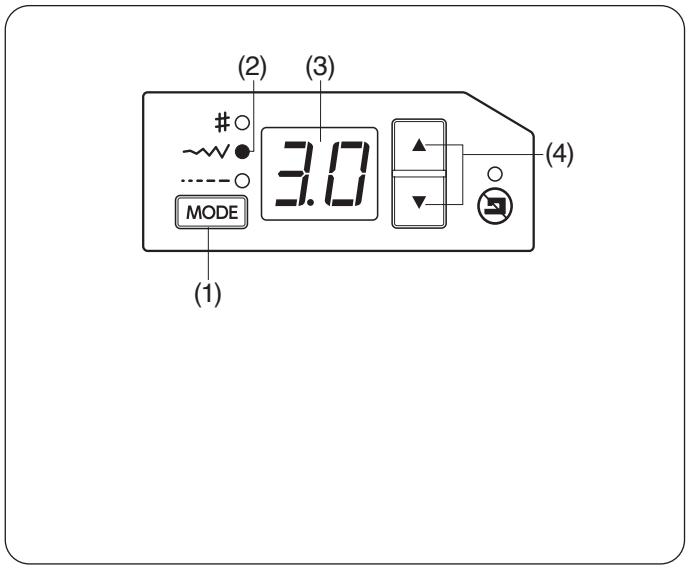


Selecting Stitch Patterns

Pattern selection mode

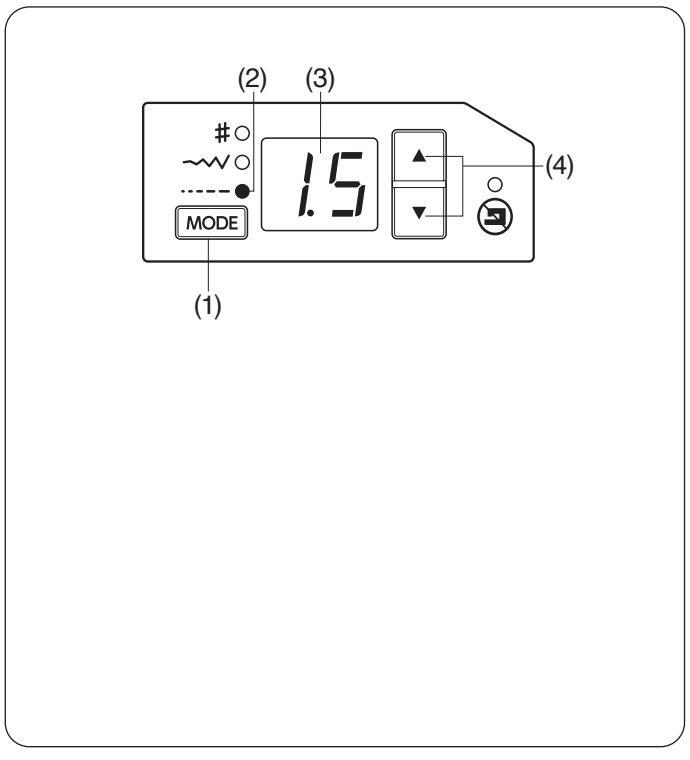
1. Press the mode key and select " # " (pattern selection mode). The indicator light is lit next to " # ".
   (1) Mode key
   (2) Indicator light
2. The stitch pattern number is indicated on the LCD display. To select the desired stitch pattern, press the value set key.
   (3) LCD display
   (4) Value set keys

NOTE:
To adjust the stitch width and stitch length, refer to pages 29 and 30.



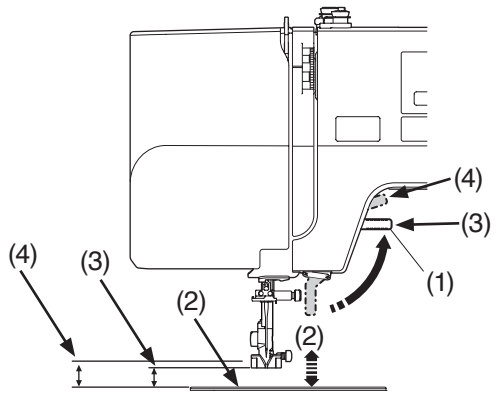
Stitch width adjustment mode

1. Press the mode key and select " ~~ " (stitch width adjustment mode). The indicator light is lit next to " ~~ ".
   (1) Mode key
   (2) Indicator light
2. The LCD display shows the stitch width or needle drop position, depending on the selected stitch pattern.
   (3) LCD display
3. Press the value set key to change the stitch width or needle drop position (refer to page 29).
   (4) Value set key



Stitch length adjustment mode

1. Press the mode key and select " ----- " (stitch length adjustment mode). The indicator light is lit next to " ----- ".
   (1) Mode key
   (2) Indicator light
2. The LCD display shows the stitch length of the selected stitch pattern.
   (3) LCD display
3. Press the value set key to change the stitch length (refer to page 30).
   (4) Value set keys
4. Press the mode key to return to the pattern selection mode.
   (1) Mode key



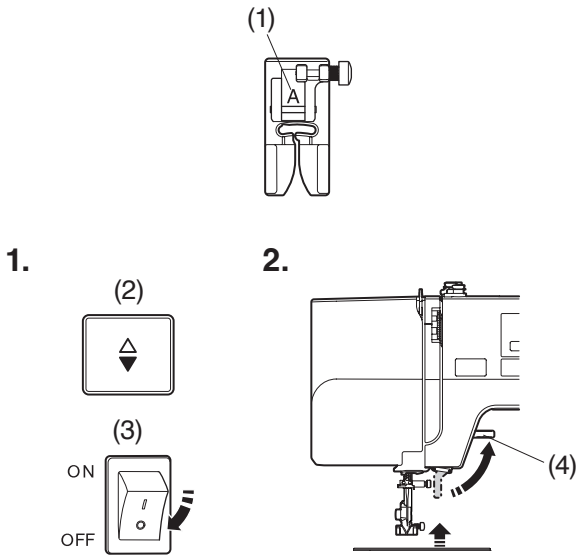
Presser Foot Lifter

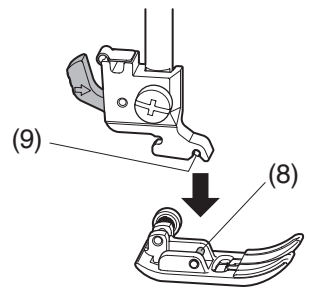
The presser foot lifter raises and lowers the presser foot.

(1) Presser foot lifter

You can raise the presser foot about 6 mm (1/4″) higher than the normal up position by exerting more pressure when lifting the presser foot lifter. This helps you to place layers of thick fabric under the foot.

(2) Down position (for sewing etc.)
(3) Normal up position (for setting or removing the fabric, threading the needle, changing the presser foot, etc.)
(4) Highest position (it cannot be stopped in this position)





Replacing the Presser Foot

Removing the presser foot

⚠ CAUTION:

- Always make sure to turn the power switch OFF before replacing the presser foot.
- Use the proper foot for the selected pattern. The wrong foot can cause the needle to break.

NOTE:
Each foot is marked with an identification letter.
(1) Identification letter

1. Raise the needle by pressing the needle up/down button.

Turn the power switch OFF.
(2) Needle up/down button
(3) Power switch

2. Raise the presser foot lifter.
(4) Presser foot lifter

3. Press the black lever on the back of the foot holder.

The presser foot will drop off.
(5) Foot holder
(6) Lever
(7) Presser foot

⚠ CAUTION:

To avoid damaging the lever, do not push the lever down.

Attaching the presser foot

Place the presser foot so that the pin on the foot lies just under the groove of the foot holder.

Lower the presser foot lifter to lock the foot in place.

(8) Pin
(9) Groove

Removing and Attaching the Foot Holder

Remove the foot holder before cleaning the hook area.

> **⚠ CAUTION:**
> Always make sure to turn the power switch OFF before replacing the foot holder.

Removing the foot holder

1. Raise the needle by pressing the needle up/down button.

Turn the power switch OFF.

(1) Needle up/down button
(2) Power switch

2. Raise the presser foot lifter.

(3) Presser foot lifter

3. Loosen the setscrew and remove the foot holder.

(4) Setscrew
(5) Screwdriver (large)
(6) Foot holder

Attaching the foot holder

> **NOTE:**
> When attaching the foot holder, attach it together with the presser foot.

Raise the needle by pressing the needle up/down button while the power switch is turned ON.
Turn the power switch OFF. Raise the presser foot lifter.

1. Align the hole in the foot holder with the threaded hole in the presser bar.
Fit the setscrew into the hole and turn it clockwise by hand.

(1) Setscrew
(2) Hole
(3) Foot holder
(4) Presser bar

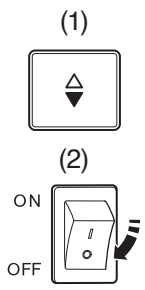
2. Lower the presser foot lifter, and turn the handwheel toward you until the needle reaches its lowest position.

(5) Presser foot lifter
(6) Handwheel

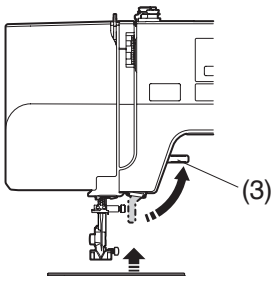
3. With the presser foot lowered onto the needle plate, use the screwdriver (large) to loosen the setscrew slightly, and then tighten it securely.

(1) Setscrew
(7) Screwdriver (large)

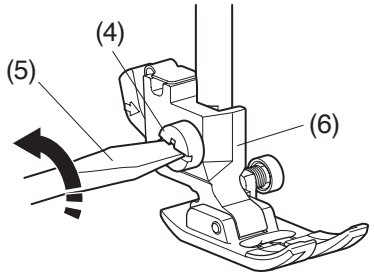
1.



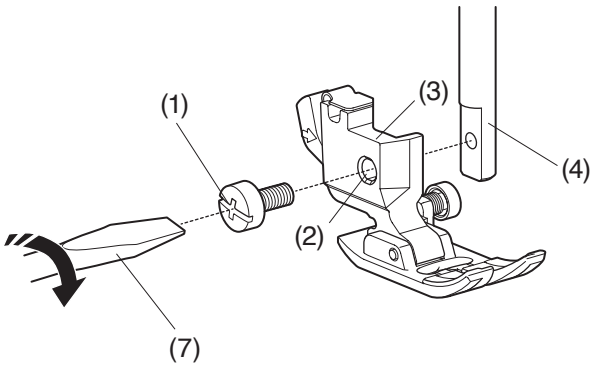
2.



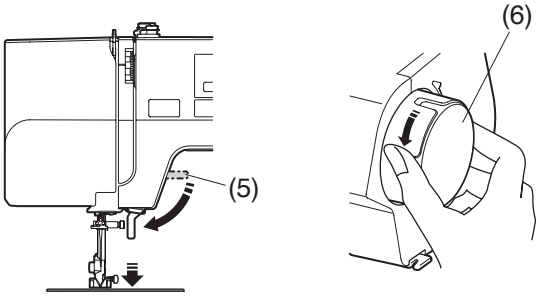
3.



1. 3.



2.



Adjusting Thread Tension

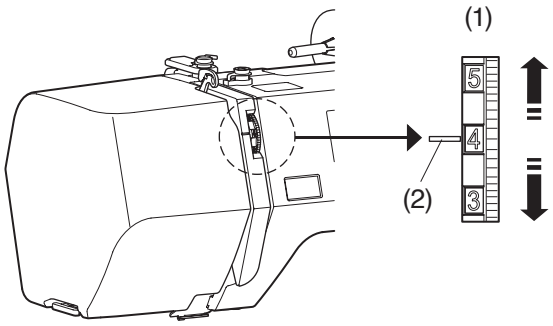
For general sewing, set the thread tension dial at “4”, except for special sewing.

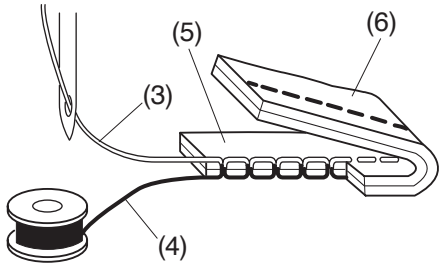
You may need to turn the thread tension dial to adjust tension manually depending on the sewing conditions such as the type of fabric and number of layers.

Turning the thread tension dial changes the thread tension as follows;

- Turn the dial to smaller number, and the needle thread tension becomes weaker.
- Turn the dial to bigger number, and the needle thread tension becomes stronger.

(1) Thread tension dial
(2) Setting mark

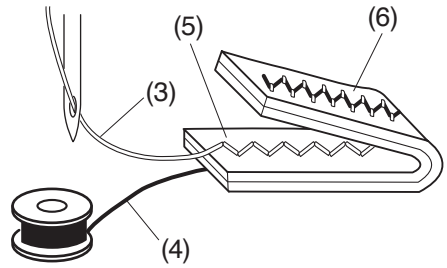




Balanced thread tension

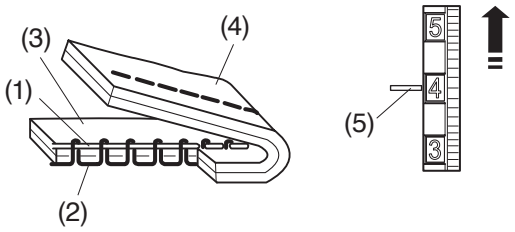
Straight stitch: Both needle and bobbin threads interlock between the layers.

(3) Needle thread
(4) Bobbin thread
(5) Right side of the fabric
(6) Wrong side of the fabric



Zigzag stitch: The needle thread appears slightly on the wrong side of the fabric.

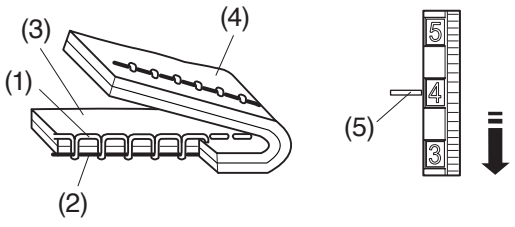
(3) Needle thread
(4) Bobbin thread
(5) Right side of the fabric
(6) Wrong side of the fabric



Needle thread tension is too tight:

The bobbin thread appears on the right side of the fabric. Turn the dial to smaller number.

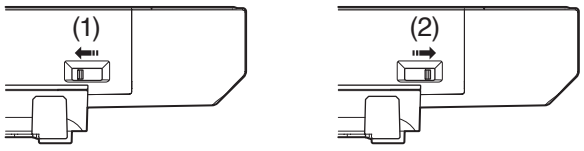
(1) Needle thread
(2) Bobbin thread
(3) Right side of the fabric
(4) Wrong side of the fabric
(5) Setting mark



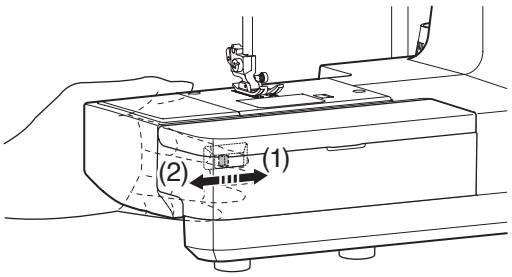
Needle thread tension is too weak:

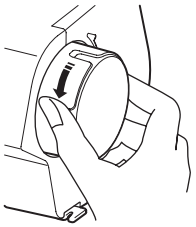
The needle thread loops on the wrong side of the fabric. Turn the dial to bigger number.

(1) Needle thread
(2) Bobbin thread
(3) Right side of the fabric
(4) Wrong side of the fabric
(5) Setting mark



View from the rear





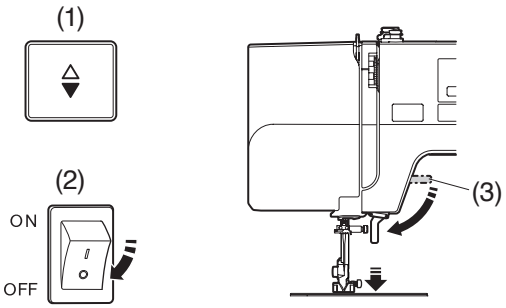
Drop Feed Lever

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

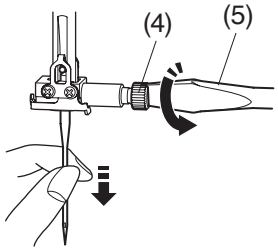
(1) Feed dogs dropped position
(2) Feed dogs raised position

NOTE:
If the feed dogs are in the dropped position when sewing is complete, set the drop feed lever to the raised position, turn the handwheel toward you or start the machine, and confirm that the feed dogs rise.

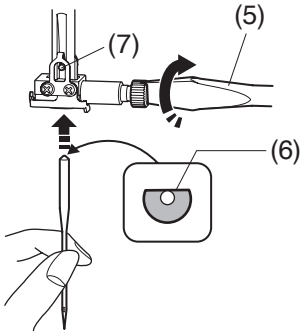
1.



2.



3.



Replacing the Needle

⚠ CAUTION:
Always make sure to turn the power switch OFF before replacing the needle.

1. Raise the needle by pressing the needle up/down button.

Turn the power switch OFF and lower the presser foot lifter.

(1) Needle up/down button
(2) Power switch
(3) Presser foot lifter

2. Loosen the needle clamp screw by turning it counterclockwise with a screwdriver (large).

Remove the needle from the clamp.

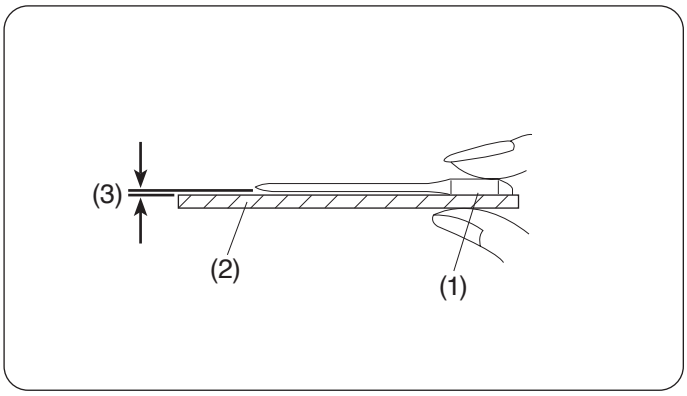
(4) Needle clamp screw
(5) Screwdriver (large)

3. Insert a new needle into the needle clamp with the flat side of the needle to the rear.

When inserting the needle into the needle clamp, push it up against the stopper pin and tighten the needle clamp screw firmly with a screwdriver (large).

(5) Screwdriver (large)
(6) Flat side
(7) Stopper pin

⚠ CAUTION:
Be sure to tighten the needle clamp screw firmly with a screwdriver (large) when attaching a needle to the machine, otherwise the needle may break or cause malfunction.



Fabric		Thread	Needle
Light	Lawn Georgette Tricot Organza Crepe	Cotton #80-100 Synthetic #80-100	Blue tip needle Universal needle #9/65-11/75
Medium	Sheeting Jersey Broadcloth Fleece	Cotton #50-80 Synthetic #50-80	Blue tip needle Universal needle #11/75-14/90
Heavy	Denim Tweed Coating Quilting	Cotton #40-50 Synthetic #30-50	Purple tip needle Universal needle #14/90-16/100

NOTE:
- 3 x #14/90 needles are included in the envelop (part No. 639804000).
- 2 x blue tip needles (#11/75), 3 x purple tip needles (#14/90) are included in the needle case (part No. 824801007).

Checking the needle

To see if the needle is in good condition, 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.

(1) Flat side
(2) Something flat
(3) Gap

NOTE:
Never use a bent or blunt needle.

Fabric and Needle Chart

- For general sewing, use needle size 11/75 or 14/90.
- A fine thread and needle should be used for sewing light fabrics, so the fabric will not be marred.
- Heavy fabrics require a needle large enough to pierce the fabric without fraying the needle thread.
- Always test the needle size on a small scrap of the fabric that will be used for actual sewing.
- In general, use the same thread for the needle and bobbin.
- Use the blue tip needle for sewing light fabrics, stretch fabrics, tricot and buttonholes to prevent skipped stitches.
- Use the purple tip needle for sewing knits, free quilting and across the hem to prevent skipped stitches.

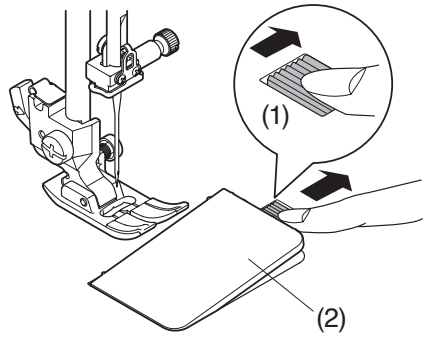
Winding the Bobbin

Removing the bobbin

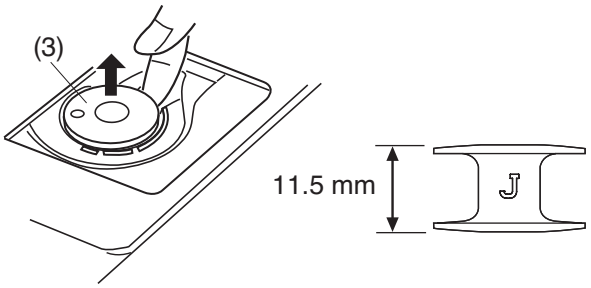
Raise the presser foot lifter.

Slide the hook cover release button to the right, and remove the hook cover plate.

Lift out the bobbin from the bobbin holder.



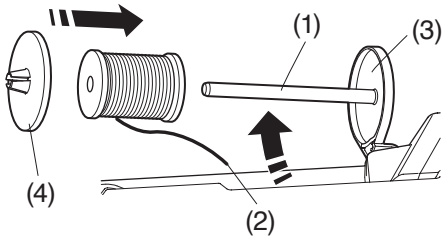
(1) Hook cover release button
(2) Hook cover plate
(3) Bobbin



NOTE:
- Do not use metal bobbins.
- Use the plastic bobbins that come with the machine. Using other bobbins, such as pre-wound paper bobbins, may cause stitching problems and/or damage to the bobbin holder.

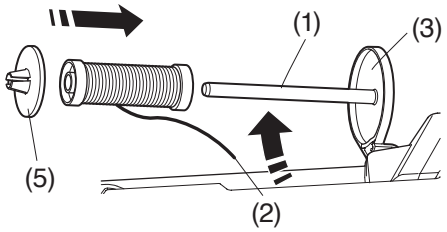
Setting the spool of thread

Lift up the spool pin. Place a spool of thread on the spool pin so that the free end of the thread comes out from under the spool toward you. Attach the large spool holder cap, and press it firmly against the spool of thread so that the spool rests on the supporter.



(1) Spool pin
(2) Thread end
(3) Supporter
(4) Spool holder cap (large)

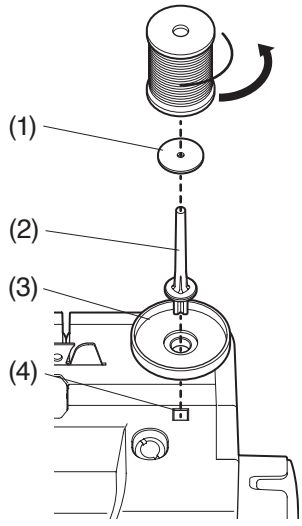
Use the spool holder cap (small) to hold narrow or small spools of thread.



(5) Spool holder cap (small)

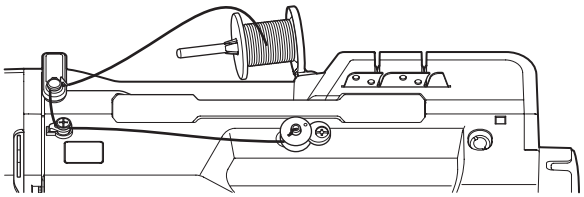
Extra spool pin

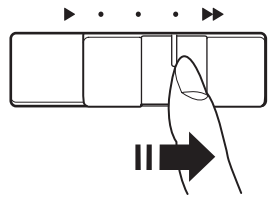
Use the extra spool pin when you need to wind a bobbin without unthreading the machine while working on a sewing project (refer to page 21).
Set the spool stand under the extra spool pin.
Insert the extra spool pin into the hole.
Place the spool pin felt and a spool of thread on the spool pin with the thread coming off the spool as illustrated.



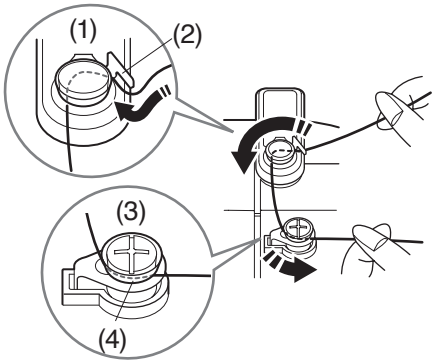
(1) Spool pin felt
(2) Extra spool pin
(3) Spool stand
(4) Hole for extra spool pin

NOTE:
Remove the extra spool pin when covering the machine with the soft cover.

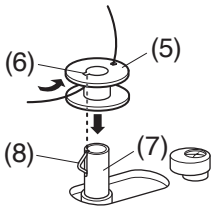




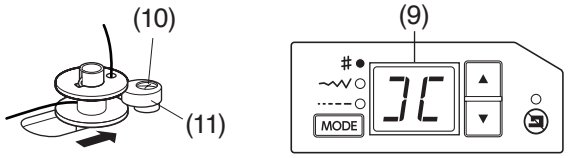
1.



2.



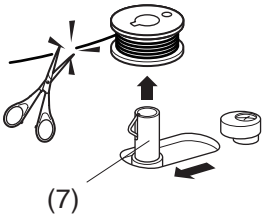
3.

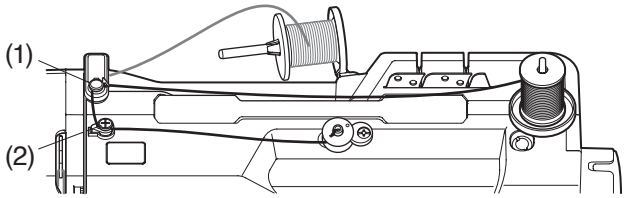


4.



5.





Winding the bobbin

NOTE:
Set the speed control slider at its fastest position for bobbin winding (refer to page 11).

1. As illustrated, hold the thread on the spool side, hook the thread onto the hook of the bobbin winding tension disk A, bring it around from the back toward the front, and place it under the tension disks of bobbin winding tension disk A and B.

(1) Bobbin winding tension disk A
(2) Hook
(3) Bobbin winding tension disk B
(4) Tension disk

2. Thread through the hole in the bobbin from the inside to the outside.
Put the bobbin on the bobbin winder spindle.
Be sure that the bobbin snaps into place.

(5) Bobbin
(6) Slit
(7) Bobbin winder spindle
(8) Spring (projection)

3. Push the bobbin winder spindle to the right.
The bobbin mark appears on the LCD display.

(9) Bobbin mark

⚠ CAUTION:
Do not loosen the setscrew of the bobbin stopper.
(10) Setscrew
(11) Bobbin stopper

4. With the free end of the thread held in your hand, start the machine. Stop the machine when it has wound a few layers, and then cut the thread close to the hole in the bobbin.
Start the machine again. When the bobbin is fully wound, it will stop spinning automatically.

NOTE:
- Do not move the bobbin winder spindle while the machine is running.
- For safety purposes, the machine will automatically stop 90 seconds after starting bobbin winding.

5. Stop the machine and return the bobbin winder to its original position by moving the bobbin winder spindle to the left. Remove the bobbin. Cut the thread as shown.

(7) Bobbin winder spindle

Return the speed control slider to its previous position.

Bobbin winding with the extra spool pin

Draw the thread from the spool and pass the thread around the bobbin winding tension disks A and B as shown.
Start the procedure from **2.** above.

(1) Bobbin winding tension disk A
(2) Bobbin winding tension disk B

Inserting the Bobbin

⚠ CAUTION:
Turn OFF the power switch before inserting the bobbin and threading the bobbin holder.

1. Place a bobbin in the bobbin holder with the thread running off counterclockwise as illustrated on the hook cover plate.

(1) End of thread
(2) Bobbin holder
(3) Hook cover plate

2. Hold the bobbin with your fingertip so it does not rotate.

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

(4) Front notch
(5) Tension spring blade

NOTE:
Hold the bobbin with your fingertip until step 4 is complete.

3. Draw the thread to the left to pass it into the side notch of the bobbin holder.

(6) Side notch

NOTE:
If the thread does not come out from the side notch, rethread from step **2**.

4. Continue to draw the thread lightly until the thread slips into the side notch.

(6) Side notch

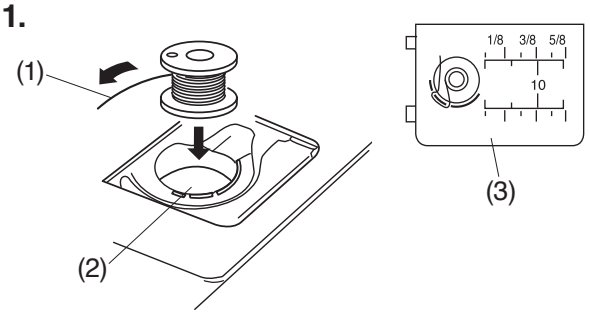
5. Pull out about 10 cm (4″) of thread.

Set the left edge of the hook cover plate into opening.

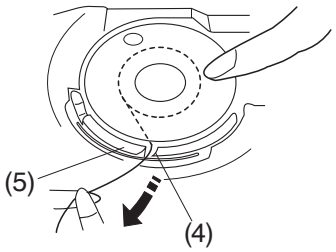
Push down the hook cover plate to fit in place. Check the threading by referring to the chart shown on the hook cover plate.

(3) Hook cover plate
(7) Thread

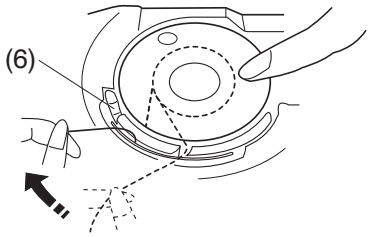
1.

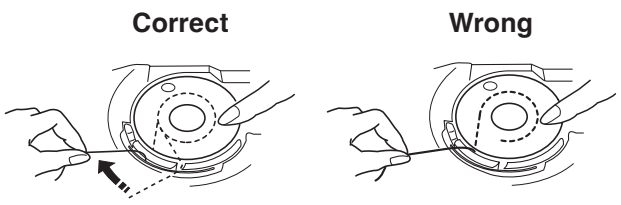


2.

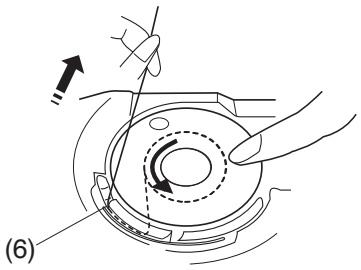


3.

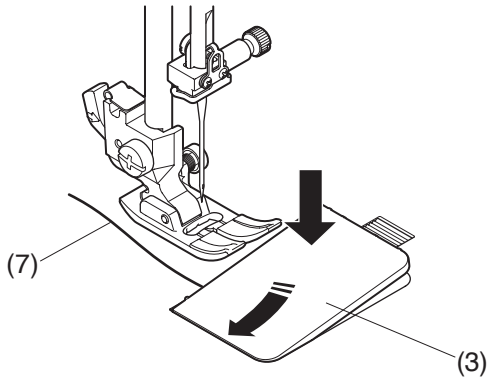


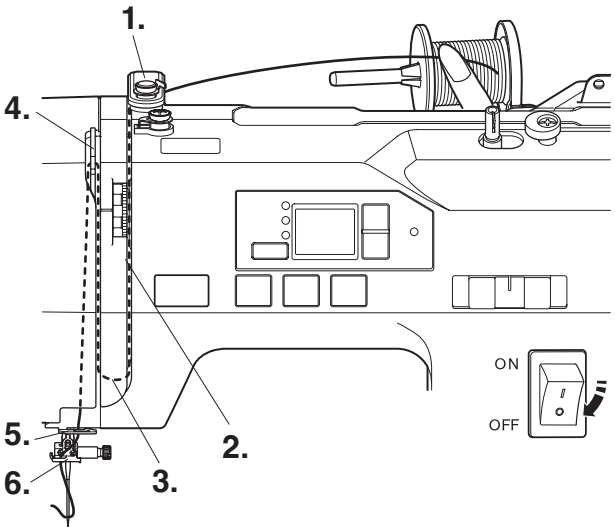


4.

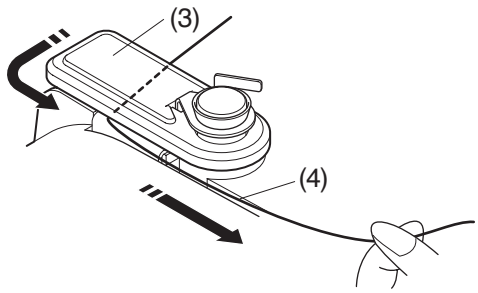


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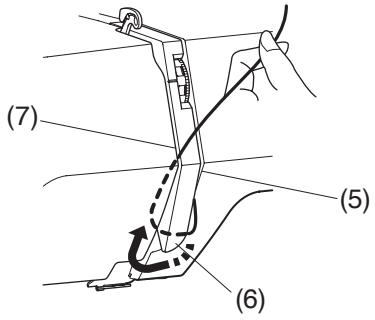




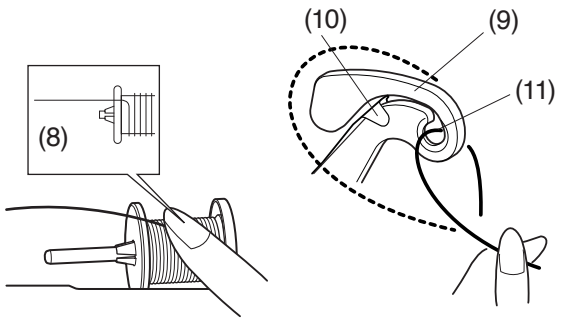
1. 2.



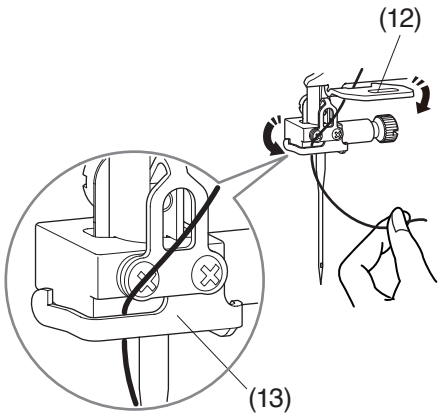
3.



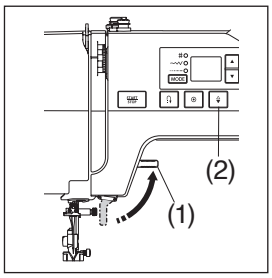
4.



5. 6.



Threading the Machine



Raise the presser foot lifter.
Turn the power switch ON.
Press the needle up/down button to raise the thread take-up lever to its highest position.
Turn the power switch OFF.

(1) Presser foot lifter
(2) Needle up/down button

⚠ CAUTION:
Turn OFF the power switch before threading the machine.

Pass the thread in order from **1.** to **6.**

1. Hold the thread with both hands and pass it into the upper thread guide until it snaps into place.

(3) Upper thread guide

2. Be sure that the thread is pulled down into the notch as shown.

(4) Notch

3. Draw the thread down along the right channel and around the bottom of the thread guide plate. Pull the thread up along the left channel.

(5) Right channel
(6) Thread guide plate
(7) Left channel

4. While holding the thread at the spool, firmly draw the thread up and to the back of the take-up lever. Draw the thread forward to slip it into the spring and the eye of the take-up lever.

(8) Spool
(9) Take-up lever
(10) Spring
(11) Eye of the take-up lever

5. Then pull the thread down along the left channel and through the lower thread guide.

(12) Lower thread guide

6. Slide the thread behind the needle bar thread guide on the left.

(13) Needle bar thread guide

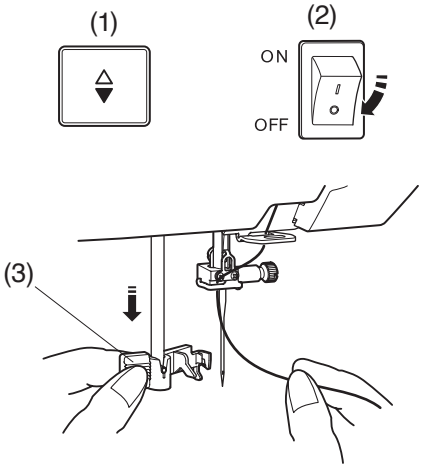
Thread the needle with the needle threader (refer to page 24).

Built-in Needle Threader

⚠CAUTION:
Turn OFF the power switch when using the needle threader.

NOTE:
- The needle threader can be used with a #11 to #16 needle.
- Thread sizes 50 to 90 are recommended.
- Do not use thread size 30 or thicker.

1.



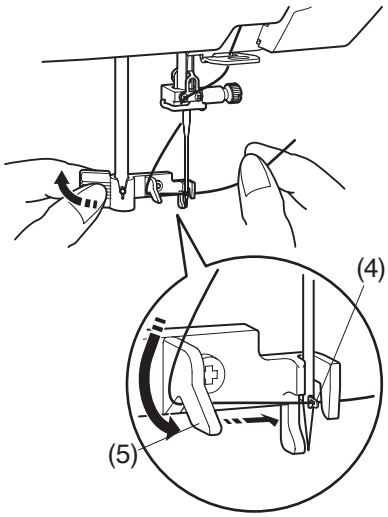
1. Press the needle up/down button to raise the needle to its highest position.

Turn the power switch off.

Pull down the needle threader knob as far as it will go.

(1) Needle up/down button
(2) Power switch
(3) Threader knob

2.

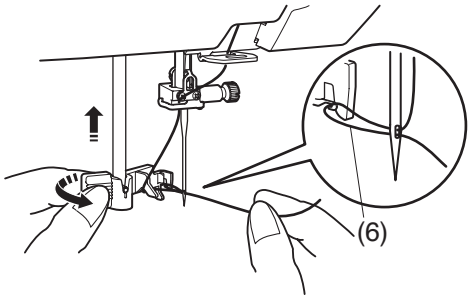


2. Turn the knob in the direction of the arrow in the illustration, then insert the hook into the needle eye.

Lead the thread around the guide and under the hook.

(4) Hook
(5) Guide

3.

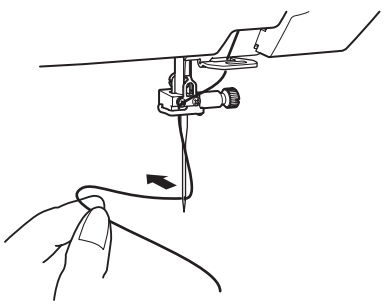


3. Turn the knob in the direction of the arrow in the illustration, drawing the thread loop through the needle.

Gently let the needle threader goes up to pull the thread loop up.

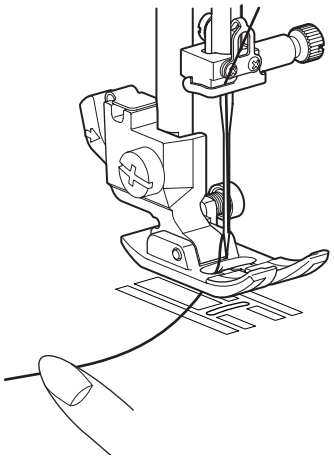
(6) Thread loop

4.

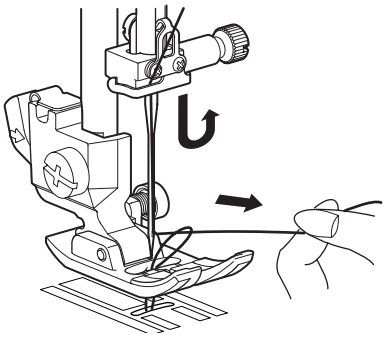


4. Pull the thread through the needle eye.

1.



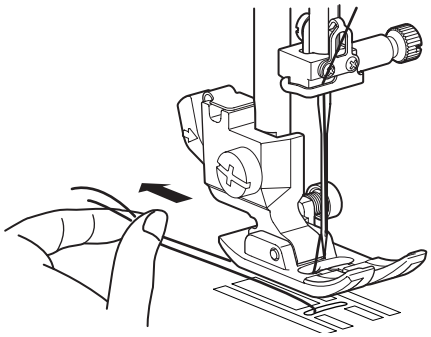
2.



(1)



3.



Drawing up the Bobbin Thread

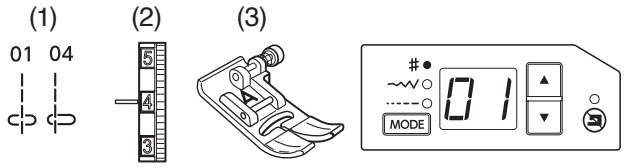
1. Raise the presser foot lifter. Hold the needle thread lightly with your left hand.

2. Turn the power switch on.

Press the needle up/down button twice to lower and raise the needle to pick up the bobbin thread.

(1) Needle up/down button

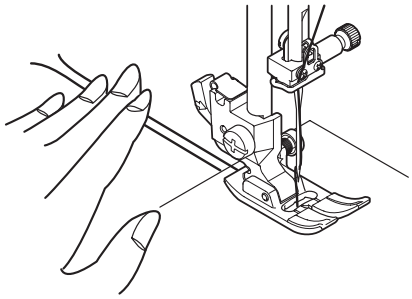
3. Pull both threads 10 cm to 15 cm (4″ to 6″) under and behind the presser foot.

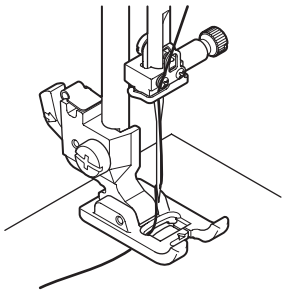


BASIC SEWING

Straight Stitch Sewing

(1) Stitch pattern: 01 or 04
(2) Needle thread tension: 2 to 6
(3) Presser foot: Zigzag foot A





Starting to sew

Insert the fabric under the presser foot while pulling the upper and lower threads from under the presser foot to the back.
Hold the threads and fabric in place with your left hand while turning the handwheel toward you to position the needle at the starting point.
Lower the needle to the point where you want to start.

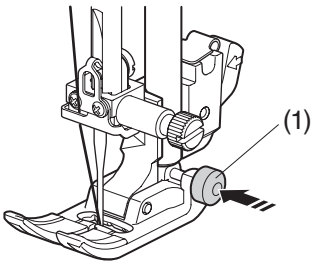
NOTE:
Pull the needle thread to the left when using satin stitch foot F or automatic buttonhole foot R.

Sewing from the Edge of Thick Fabric

The black button on the zigzag foot locks the foot in the horizontal position.
This is helpful when you start sewing from the extreme edge of thick fabrics or sewing across a hem.

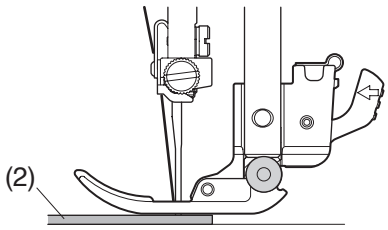
1. Lower the needle into the fabric at the point where you wish to start sewing.

1.

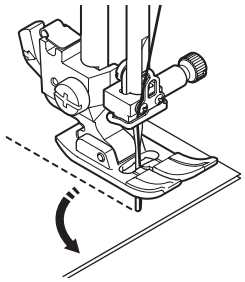


2. Lower the foot while pushing the black button in. The foot is locked in the horizontal position to avoid slipping.
(1) Black button
(2) Thick fabrics

2.



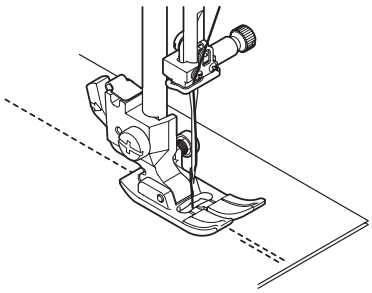
1. 2. 3.

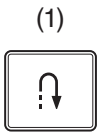




Changing Sewing Direction

1. Stop the machine at the point where you wish to change the direction of sewing.
2. Lower the needle by pressing needle up/down button and then raise the presser foot lifter.
   (1) Needle up/down button
3. Pivot the fabric around the needle to change the sewing direction as desired, and then lower the presser foot lifter and start sewing.

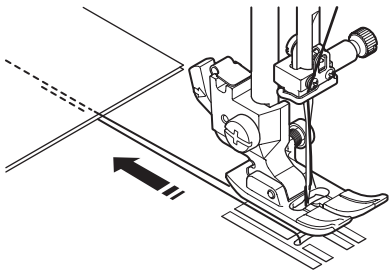


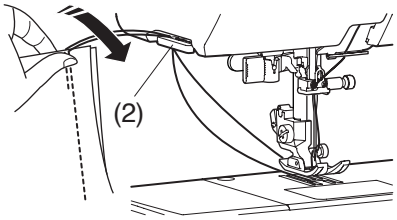


Securing Seams

For fastening the ends of seams, press the reverse button and sew several reverse stitches.
The machine sews in reverse as long as you press and hold the reverse button.

(1) Reverse button

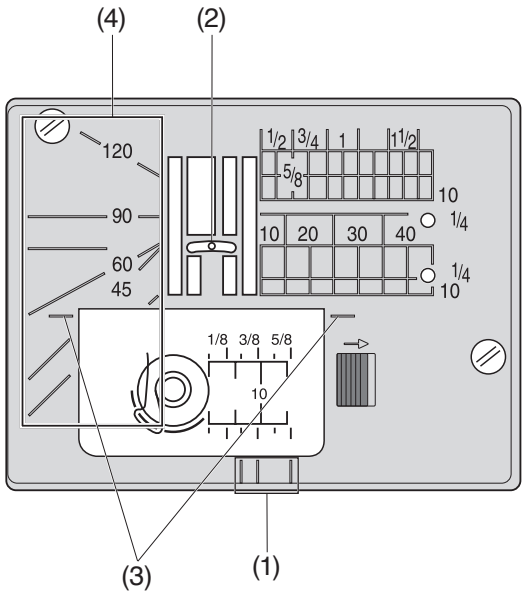




Cutting Threads

Remove the fabric and draw it to the back.
Pull the threads up and slip them between the thread cutter and face cover from behind. Pull the threads toward you to cut.

(2) Thread cutter



Needle Plate Guides

The seam guides are marked on the needle plate and hook cover plate.

The seam guides for 1/4″, 3/8″ and 5/8″ are also marked on the front of the needle plate.

(1) Seam guides on the front of the needle plate

The numbers on the needle plate indicate the distance from the center needle position in millimeters and inches.

(2) Center needle position

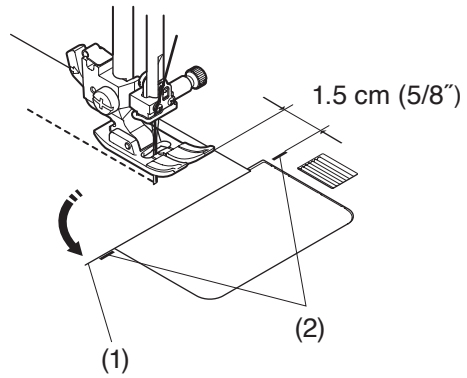
The cornering guides are very useful when turning a square corner.

(3) Cornering guide

The angle scales on the needle plate are useful for patchwork piecing (refer to page 52).

(4) Angle scales

1. 2. 3.

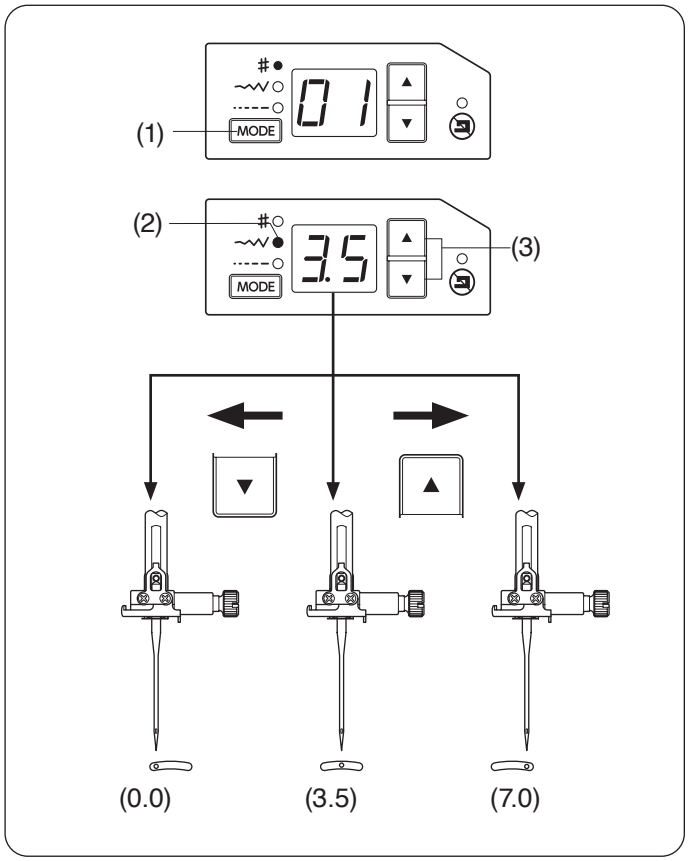


Turning a Square Corner

To maintain a 5/8″ seam allowance after turning a square corner, use the cornering guide on the needle plate.

1. Stop sewing when the front edge of fabric reaches the cornering guide lines.
   (1) Front edge of fabric
   (2) Cornering guide
2. Raise the presser foot lifter and turn the fabric 90 degrees.
3. Lower the presser foot lifter, and begin stitching in the new direction.

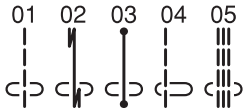
NOTE:
Lower the needle by pressing needle up/down button if the needle stop position is set at up position.



Manual Stitch Settings

Altering the needle drop position

The needle drop position can be altered for straight stitch patterns 01 to 05.



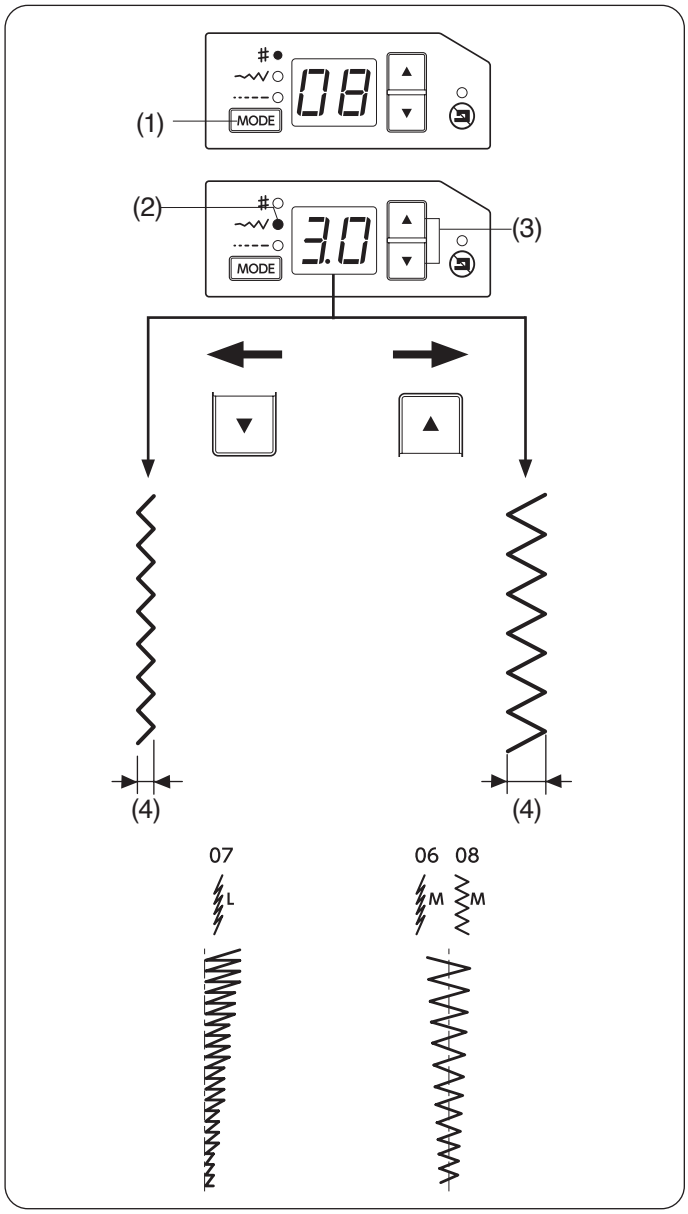
Press the mode key once.
The stitch width adjustment mode indicator light is lit (~~).
The needle drop position value appears.

(1) Mode key
(2) Indicator light

Press the " ▲ " value set key to move the needle to the right.

Press the " ▼ " value set key to move the needle to the left.

(3) Value set keys



Altering the stitch width (zigzag stitches)

Press the mode key once.
The stitch width adjustment mode indicator light is lit (~~).
The stitch width value (3.0) appears.

Press the " ▲ " value set key to increase the stitch width.

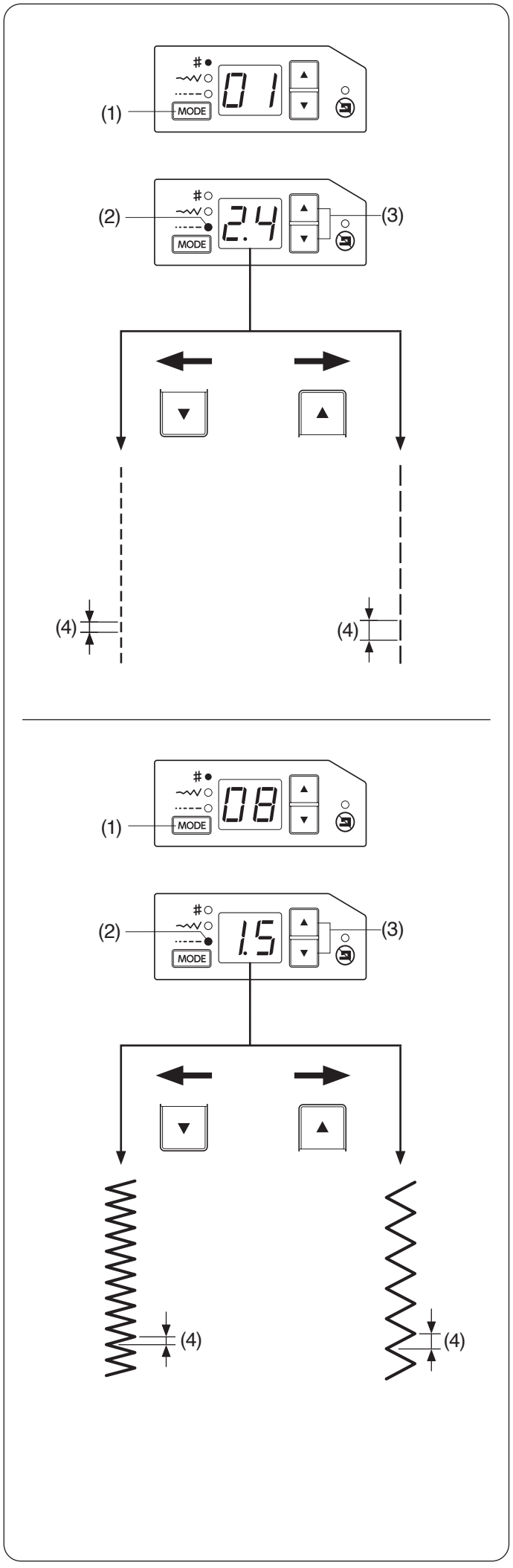
Press the " ▼ " value set key to decrease the stitch width.

(1) Mode key
(2) Indicator light
(3) Value set keys
(4) Stitch width

The letter beside the stitch image denotes the baseline of the needle drop position.

L: Left
When you change the stitch width, the right needle drop position will change.

M: Middle (center)
The stitch width changes symmetrically.



Altering the stitch length

Straight stitch

The stitch length can be altered.
Press the mode key twice.
The stitch length adjustment mode indicator light is lit (-----).
The stitch length value appears.

(1) Mode key
(2) Indicator light

Press the " ▲ " value set key to increase the stitch length.
Press the " ▼ " value set key to decrease the stitch length.

(3) Value set keys
(4) Stitch length

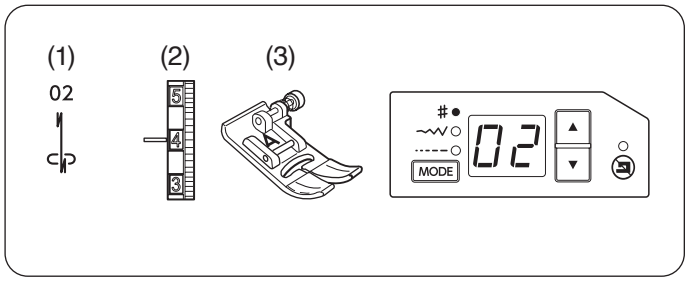
Zigzag stitch

The stitch length can be altered.
Press the mode key twice.
The stitch length adjustment mode indicator light is lit (-----).
The stitch length value appears.

(1) Mode key
(2) Indicator light

Press the " ▲ " value set key to increase the stitch length.
Press the " ▼ " value set key to decrease the stitch length.

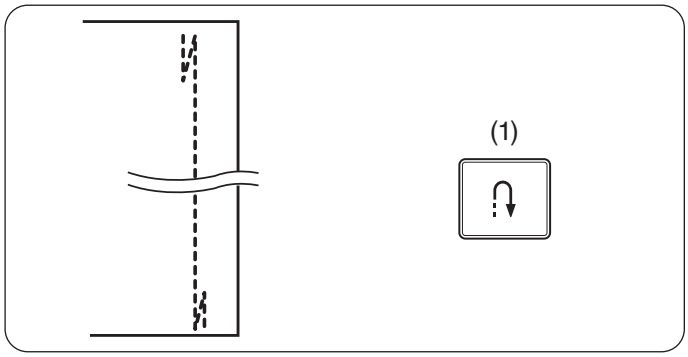
(3) Value set keys
(4) Stitch length



Variety of Straight Stitches

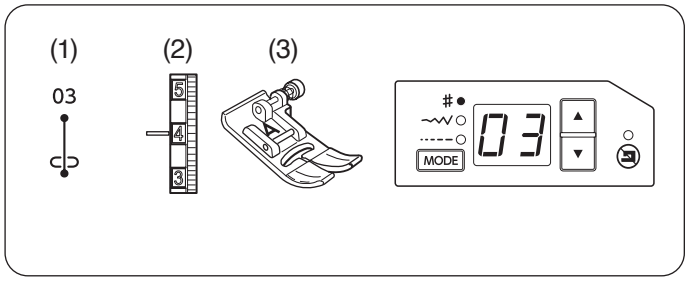
Lock-A-Matic stitch

(1) Stitch pattern: 02
(2) Thread tension dial: 2 to 6
(3) Presser foot: Zigzag foot A



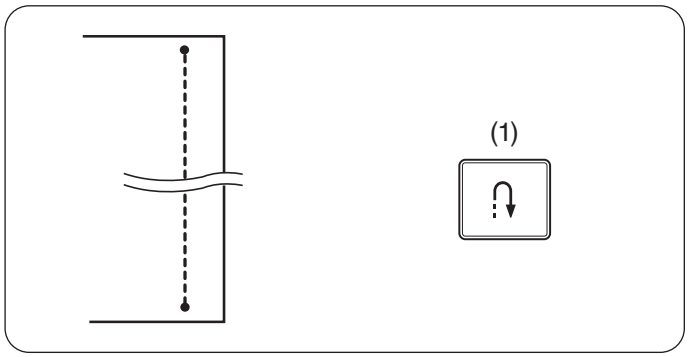
Use this stitch to secure the beginning and the end of a seam with backstitching.
When you reach the end of the seam, press the reverse button once. The machine will sew four reverse stitches, four forward stitches, and then stop sewing automatically.

(1) Reverse button



Locking stitch

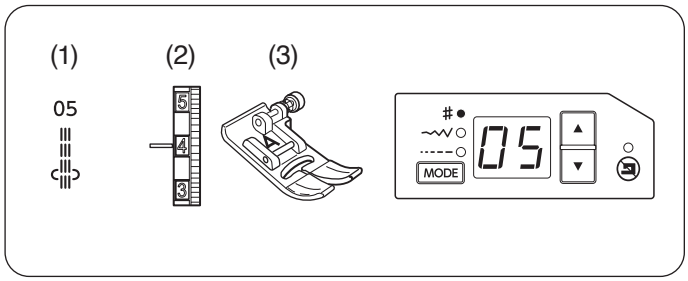
(1) Stitch pattern: 03
(2) Thread tension dial: 2 to 6
(3) Presser foot: Zigzag foot A



This unique stitch is used where an invisible locking stitch is needed.

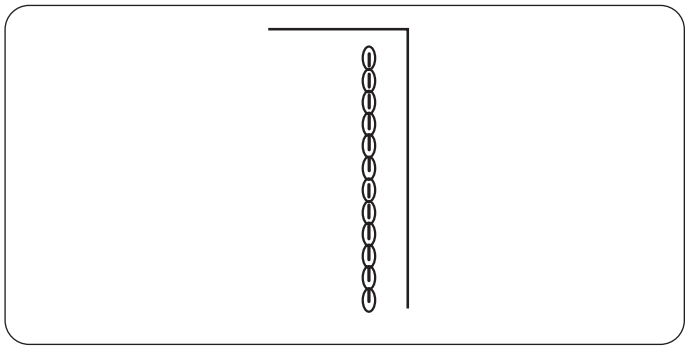
Lower the needle close to the front edge of the fabric. The machine will sew several locking stitches in place and continue sewing forward.
When you press the reverse button at the end of the seam, the machine will sew several locking stitches in place, then stop sewing automatically.

(1) Reverse button

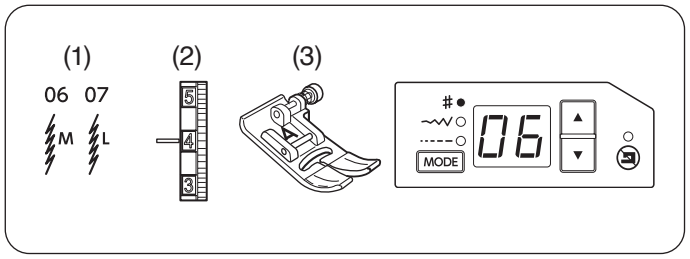


Triple stretch stitch

(1) Stitch pattern: 05
(2) Thread tension dial: 2 to 6
(3) Presser foot: Zigzag foot A

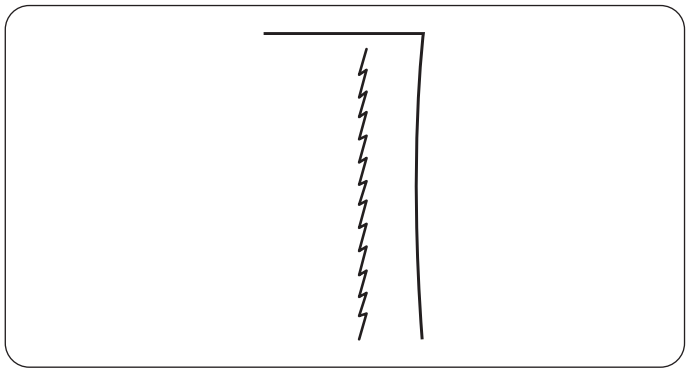


This strong, durable stitch is recommended when both elasticity and strength are necessary in order to ensure comfort and durability. Use it to reinforce areas such as crotch and armhole seams. Also use for extra reinforcement when constructing items such as backpacks.



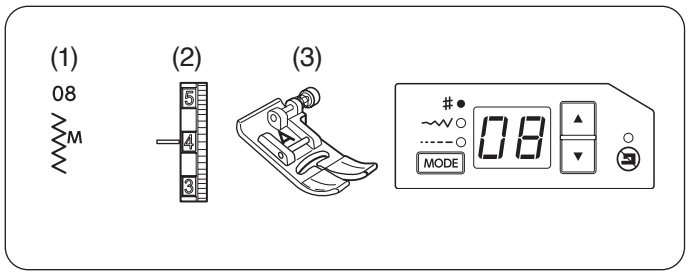
Stretch stitch

(1) Stitch pattern: 06 or 07
(2) Thread tension dial: 3 to 6
(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 open flat. Use pattern 07 for seaming light fabrics or stretch fabrics.

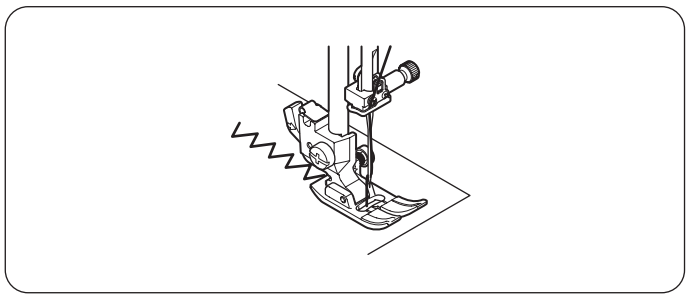
NOTE:
The letter beside the stitch image denotes the baseline of the needle drop position (refer to page 29).



Variety of Zigzag Stitches

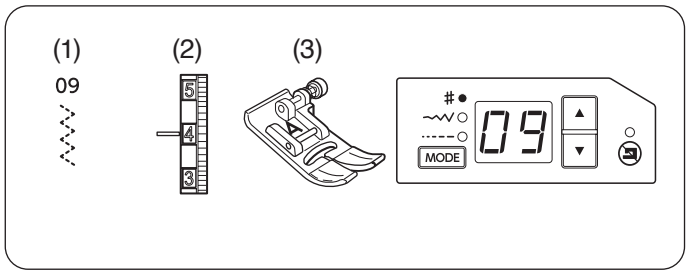
Zigzag stitch

(1) Stitch pattern: 08
(2) Thread tension dial: 3 to 7
(3) Presser foot: Zigzag foot A



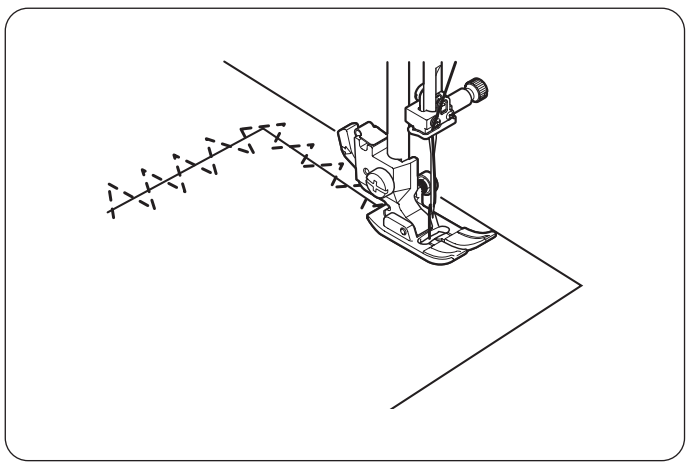
The zigzag stitch is one of the most useful and versatile stitches.
It is used for overcasting, mending, applique, and also used as a decorative stitch.

NOTE:
Use interfacing when sewing on stretch fabrics such as knit, jersey or tricot.

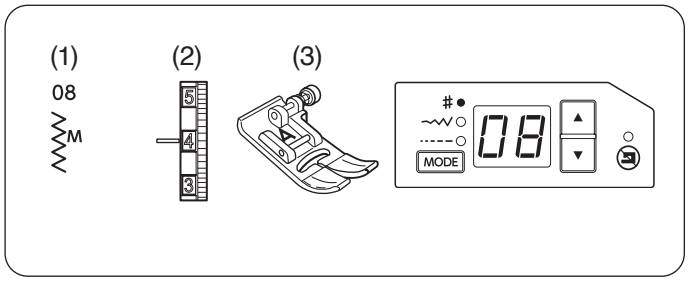


Multiple zigzag stitch

(1) Stitch pattern: 09
(2) Thread tension dial: 3 to 7
(3) Presser foot: Zigzag foot A



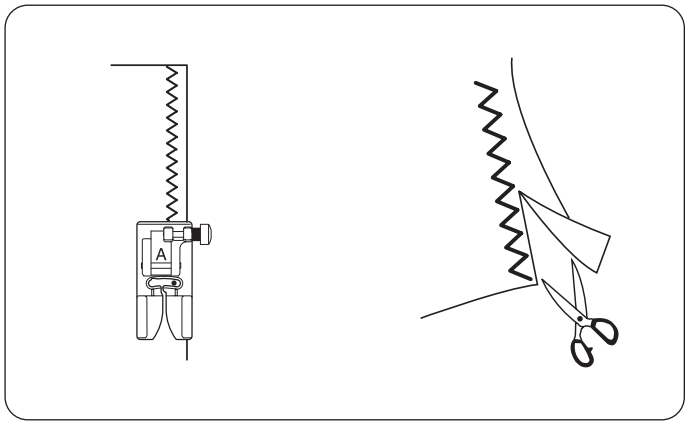
This stitch is used for mending tears.
Adjust the stitch length to 0.3-0.5.



Variety of Overcasting Stitches

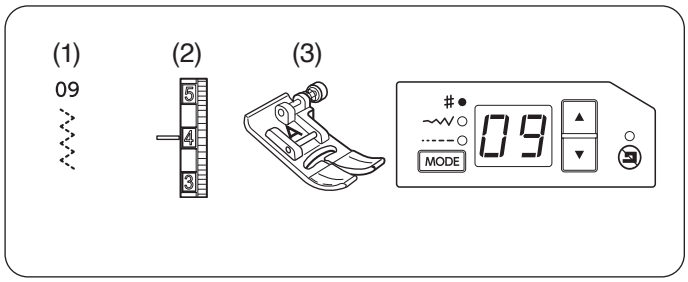
Overcasting with zigzag stitch

(1) Stitch pattern: 08
(2) Thread tension dial: 3 to 7
(3) Presser foot: Zigzag foot A



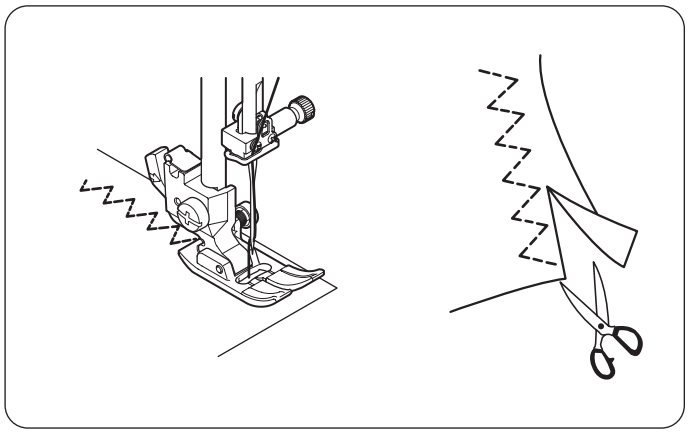
The zigzag stitch is used on the seam allowance to prevent fabric from fraying at raw edges.

Sew along the fabric edge leaving an adequate seam allowance.
After sewing, trim off the seam allowance close to the stitches.
Be careful not to cut the stitches.



Overcasting with multiple zigzag stitch

(1) Stitch pattern: 09
(2) Thread tension dial: 3 to 7
(3) Presser foot: Zigzag foot A



This stitch is used to finish raw edges of synthetics and other stretch fabrics that tend to pucker.

Sew along the fabric edge leaving an adequate seam allowance.
After sewing, trim off the seam allowance close to the stitches.
Be careful not to cut the stitches.

This stitch is also excellent for darning and mending tears.

(1)
15



(2)
16



(3)
17



Various Kinds of Buttonholes and Their Uses

(1) Square Buttonhole

This square buttonhole is widely used on medium to heavy fabrics. The buttonhole size is automatically determined by placing a button in the foot.

(2) Round-end Buttonhole

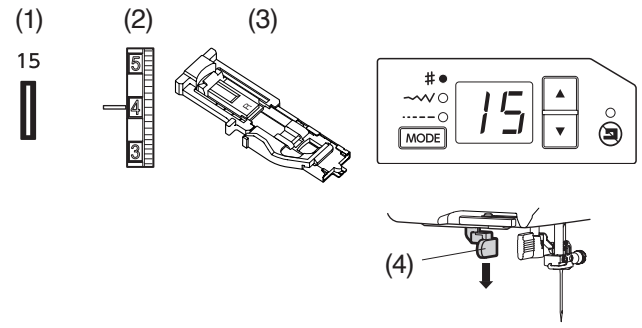
This buttonhole is used on light to medium fabrics, especially for blouses and children's clothes.

(3) Keyhole Buttonhole

The keyhole buttonhole is widely used on medium to heavy fabrics. It is also suitable for larger and thicker buttons.

NOTE:

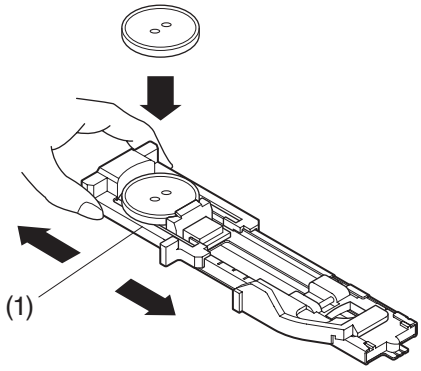
- To sew the buttonholes 16 and 17, follow the same procedure as the square buttonhole (refer pages 35 to 37).
- The size of a buttonhole is automatically set by placing a button in the rear of automatic buttonhole foot R.
- The button holder of the foot takes a button size of up to 2.5 cm (1″) in diameter.
- It is sometimes necessary to change buttonhole size to match certain heavy or specific materials and threads.
- Test sew a buttonhole on an extra piece of the fabric to check your settings.
- Place the button on the fabric and mark the top and buttom to determine the position of the buttonhole on the fabric.
- Use interfacing on stretch fabrics.



Square Buttonhole

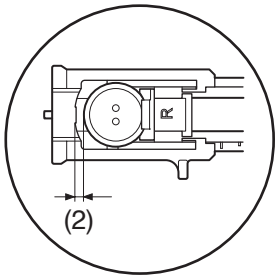
(1) Stitch pattern: 15
(2) Needle thread tension: 1 to 4
(3) Presser foot: Automatic buttonhole foot R
(4) Lower the buttonhole lever

1.



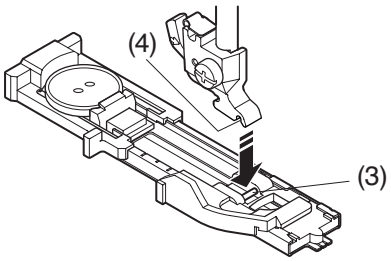
To sew:

1. Pull the button holder to the back, and place the button in it. Push it together tightly on the button.
(1) Button holder



NOTE:
If the button is extremely thick, sew a test buttonhole on an extra piece of the fabric.
If it is difficult to fit the button through the test buttonhole, you can lengthen the buttonhole by pulling the button holder back a little. The length of the buttonhole will be increased.
(2) Extra gap

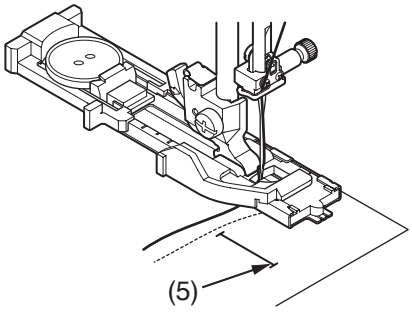
2.



2. Press the needle up/down button to raise the needle.
Raise the presser foot lifter and attach the automatic buttonhole foot R snapping the pin into the groove of the foot holder.
(3) Pin
(4) Groove

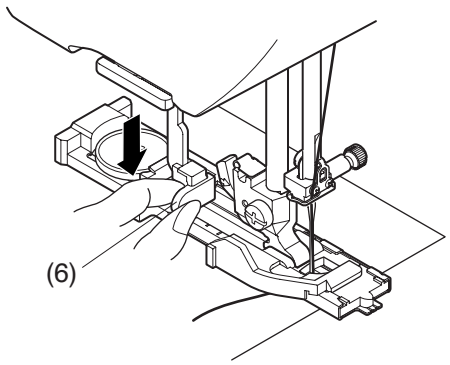
You may lift the presser foot lifter to the extra lifted position when placing the automatic buttonhole foot R under the foot holder (refer to page 15).

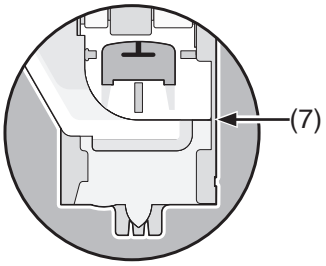
3.

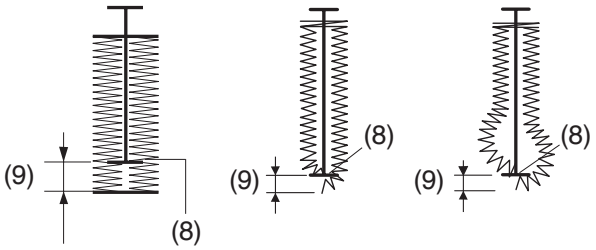


3. Raise the presser foot lifter.
Draw the needle thread to the left through the hole of foot.
Mark the buttonhole position on the fabric and place it under the buttonhole foot. Lower the needle at the starting point by turning the handwheel.
(5) Starting point

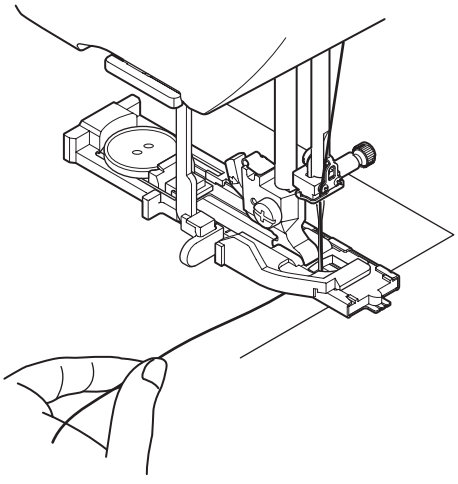
4.

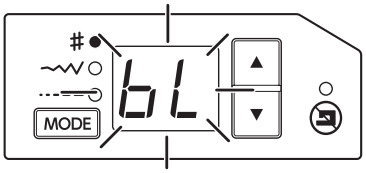






5.





4. Lower the presser foot lifter and pull the buttonhole lever down as far as it will go.

(6) Buttonhole lever

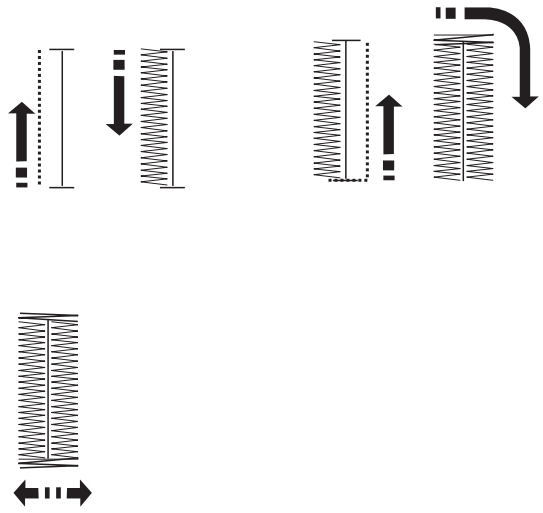
NOTE:
Make sure there is no gap between the slider and front stopper, otherwise the buttonhole will be out of position or there will be a sewing gap.

(7) No gap
(8) Starting point
(9) Sewing gap

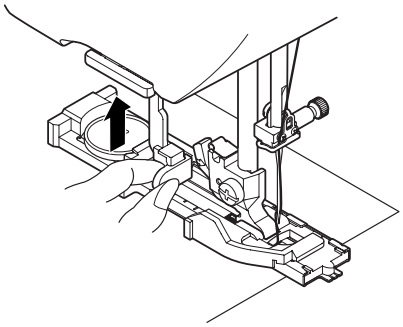
5. Start sewing while pulling the needle thread lightly to the left. After sewing a few stitches, release the thread and continue sewing.

NOTE:
If you start sewing without pulling down the buttonhole lever, “bL” will blink on the LCD screen and the machine will stop after a few stitches. Pull the buttonhole lever down and start sewing.

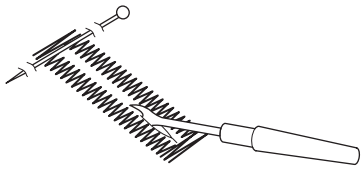
6.



7.



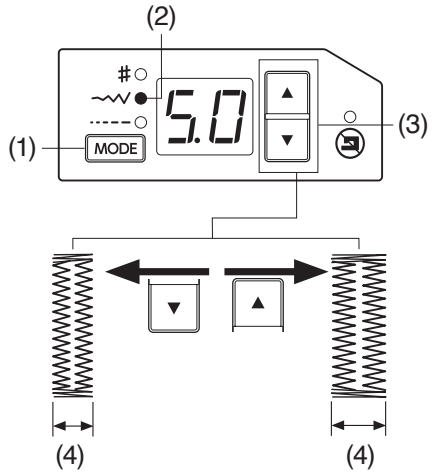
8.



6. The buttonhole is sewn automatically in the sequence shown. When the buttonhole is finished, the machine will stop automatically with the needle in the up position.

7. After you finish buttonhole sewing, push the buttonhole lever up as far as it will go.

8. Remove the fabric and place a pin just below the bartack to prevent accidentally cutting the stitches. Cut the opening with the seam ripper.



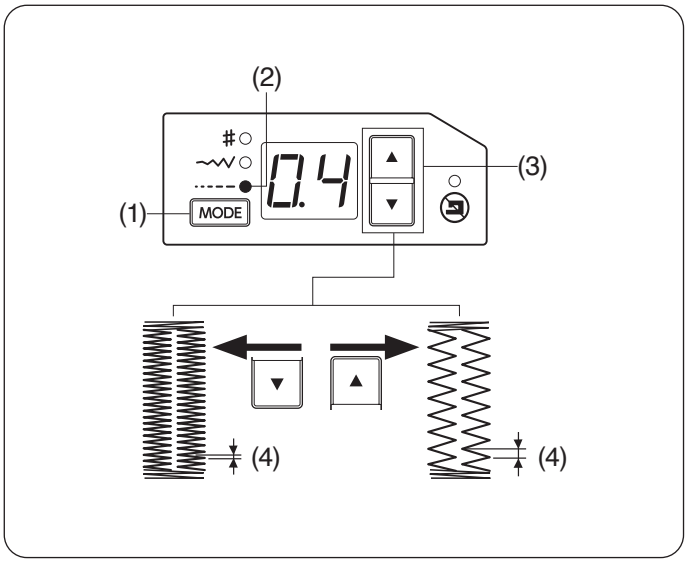
Adjusting the Stitch Width and Density for Buttonholes

Adujsting the buttonhole width

Press the mode key once. The stitch width adjustment mode indicator light is lit (~~~).
Press the " ▲ " value set key to increase the buttonhole width.
Press the " ▼ " value set key to decrease the buttonhole width.

(1) Mode key
(2) Indicator light
(3) Value set keys
(4) Buttonhole width

NOTE:
The buttonhole width can be adjusted from 2.5 to 7.0.



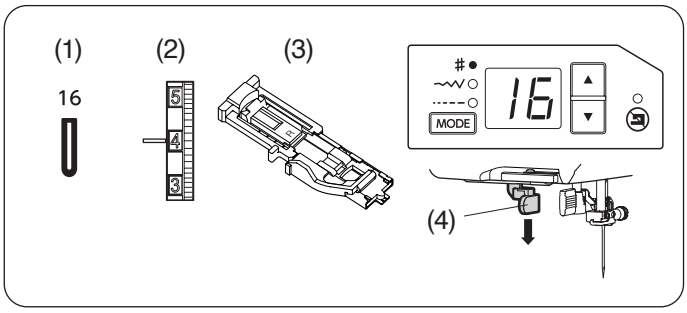
Adjusting the buttonhole density

Press the mode key twice. The stitch length adjustment mode indicator light is lit (-----).
Press the "▲" value set key to decrease the buttonhole density.

Press the "▼" value set key to increase the buttonhole density.

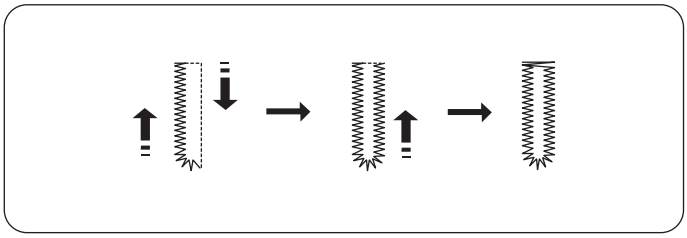
(1) Mode key
(2) Indicator light
(3) Value set keys
(4) Buttonhole density

NOTE:
The buttonhole density can be adjusted from 0.2 to 0.8.



Round-end Buttonhole

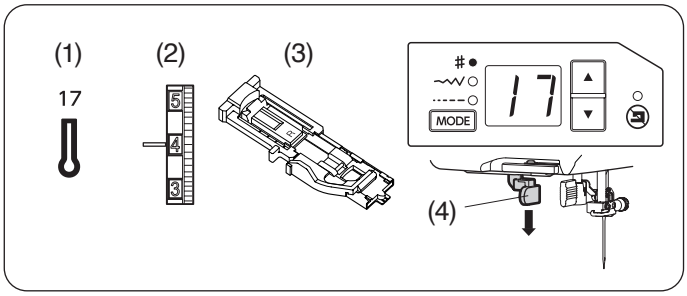
(1) Stitch pattern: 16
(2) Needle thread tension: 1 to 4
(3) Presser foot: Automatic buttonhole foot R
(4) Lower the buttonhole lever



Sewing procedure is the same as square buttonhole.

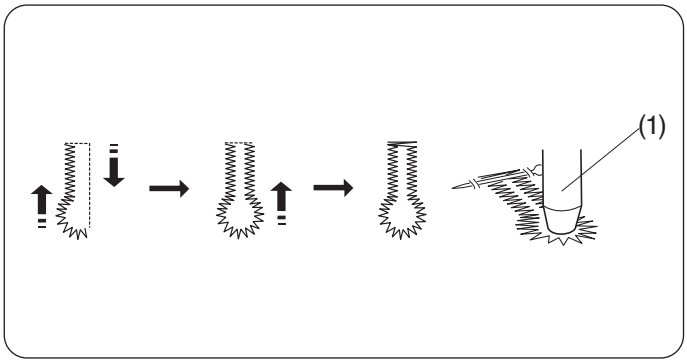
To change the stitch width or stitch density, refer to pages 37 and 38.

NOTE:
- The buttonhole width is adjustable from 2.5 to 5.5.
- The stitch density is adjustable from 0.2 to 0.8.



Keyhole Buttonhole

(1) Stitch pattern: 17
(2) Needle thread tension: 1 to 4
(3) Presser foot: Automatic buttonhole foot R
(4) Lower the buttonhole lever

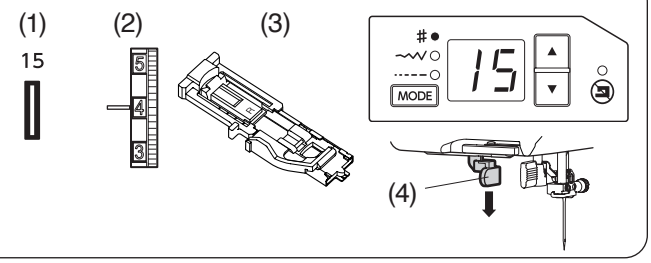


Sewing procedure is the same as square buttonhole. Use the seam ripper and an eyelet punch to open the buttonhole.

(1) Eyelet punch

To change the stitch width or density, refer to pages 37 and 38.

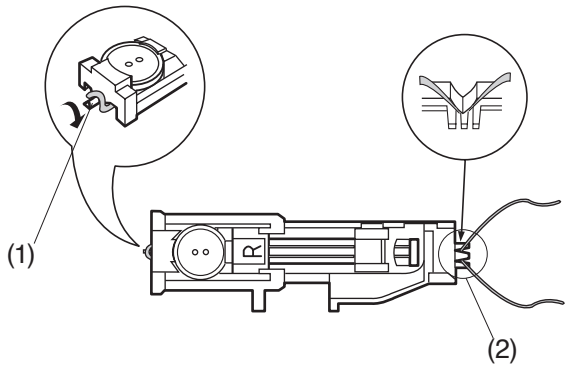
NOTE:
- An eyelet punch is an optional item.
- The buttonhole width is adjustable from 5.5 to 7.0.
- The stitch density is adjustable from 0.3 to 0.8.



Corded Buttonhole

(1) Stitch pattern: 15
(2) Needle thread tension: 1 to 4
(3) Presser foot: Automatic buttonhole foot R
(4) Lower the buttonhole lever

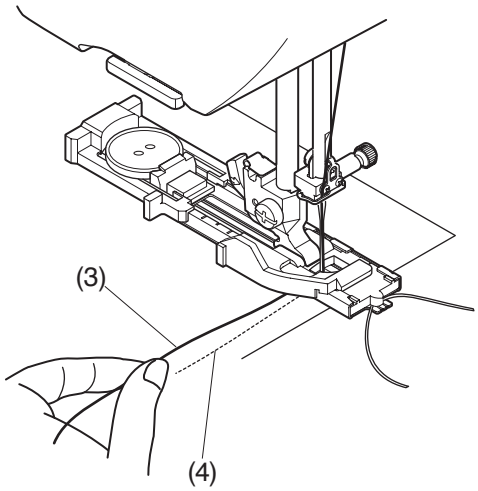
1.



1. Use the same procedure as the square 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 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 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

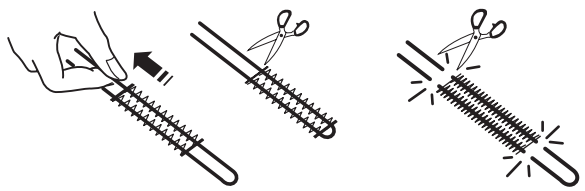
2.



2. Start the machine 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.

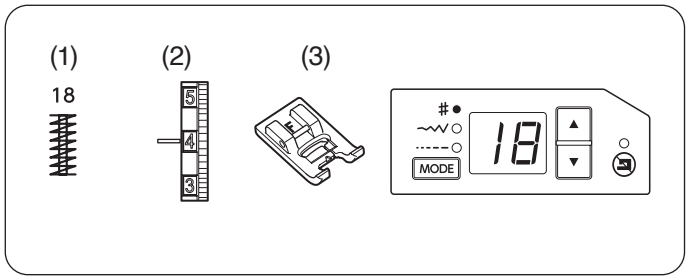
(3) Needle thread (top thread)
(4) Bobbin thread (bottom thread)

3.



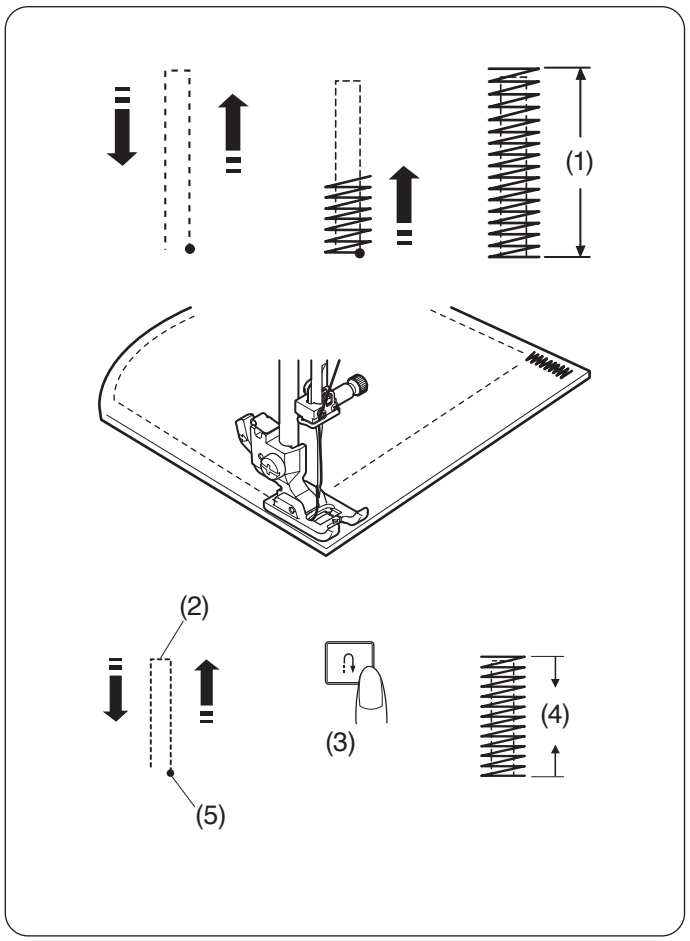
3. Pull the loose ends of the filler cord to tighten it. Trim the excess filler.

NOTE:
Cut the filler cord at both ends, if the filler cord is stitched on the fabric and cannot be pulled.



Tacking

(1) Stitch pattern: 18
(2) Needle thread tension: 3 to 6
(3) Presser foot: Satin stitch foot F



Tacking is used to reinforce pockets, crotches and belt loops where extra strength is needed.

Start sewing

Start the machine and sew until the machine stops automatically. The machine will sew a tack 1.5 cm (5/8˝) long.

(1) 1.5 cm (5/8˝)

Sewing a shorter tack

*Set the speed control slider at low speed setting.

To sew a tack shorter than 1.5 cm (5/8˝), first stop the machine after sewing the required length, then press the reverse button.

The tack length has been determined.

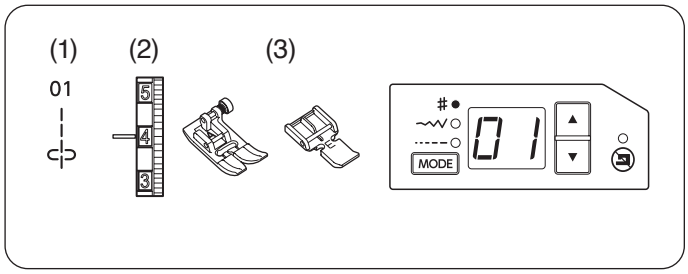
Start the machine again and continue sewing until the machine stops automatically.

(2) Required length
(3) Reverse button
(4) Tack length
(5) Starting point

Sewing the same size tack

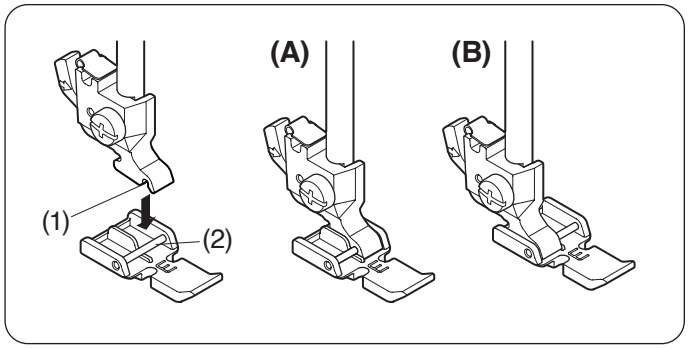
Simply start the machine to sew another tack at the same size.

NOTE:
To reset the size of the tacking, select another stitch pattern and then reselect the tacking pattern.



Zipper Sewing

(1)	Stitch pattern:	01
(2)	Thread tension dial:	2 to 6
(3)	Presser foot:	Zigzag foot A Zipper foot E

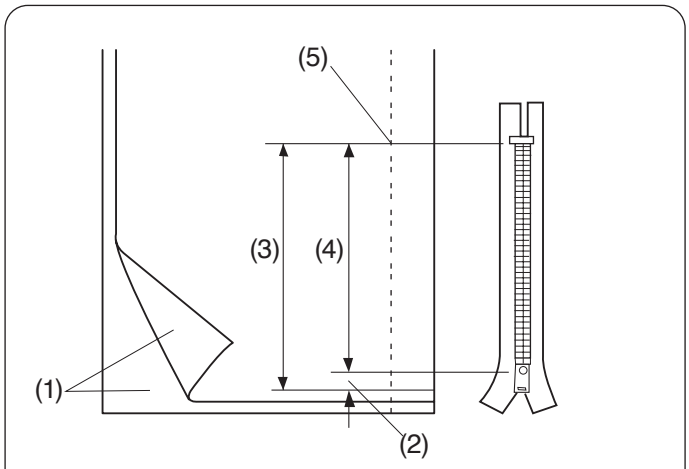


Attaching the zipper foot

Fit the pin on zipper foot E to the groove on the foot holder.

(1) Groove
(2) Pin

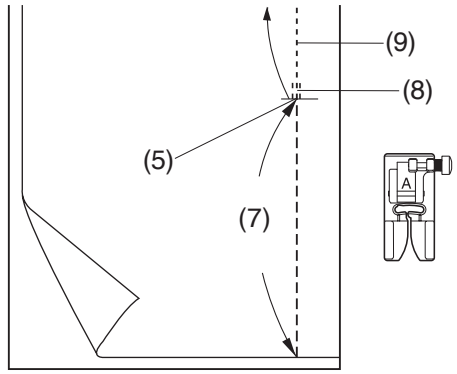
(A): To sew the left side of the zipper, attach the zipper foot with the pin on the right-hand side.
(B): To sew the right side of the zipper, attach the zipper foot with the pin on the left-hand side.



Fabric preparation

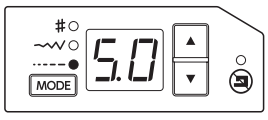
Add 1 cm (3/8″) to the zipper length. This is the overall opening size.

(1) Right side of the fabric
(2) 1 cm (3/8″)
(3) Opening size
(4) Zipper length
(5) End of the zipper opening

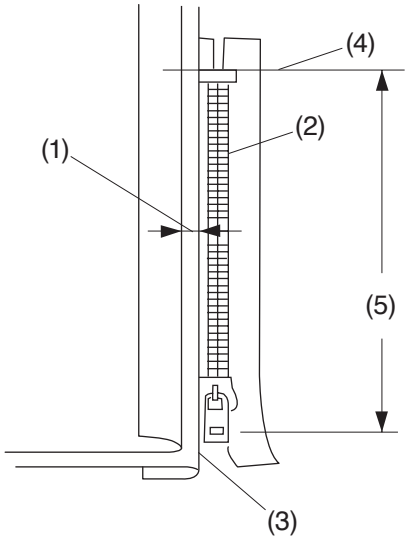


Place the right sides of the fabric together.
Attach the zigzag foot and sew up to the end of the zipper opening, with a 2 cm (3/4″) seam allowance. Reverse stitch to fasten the seam.
Manually increase the stitch length to 5.0 and baste the zipper opening with the thread tension loosened to 1.

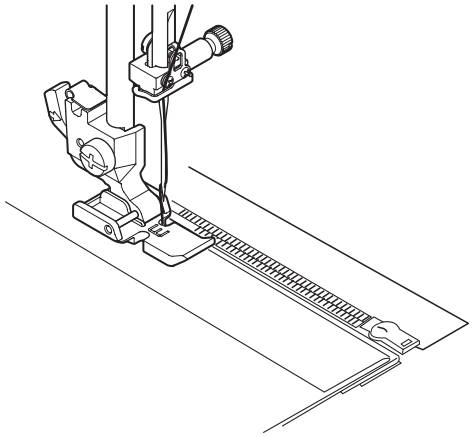
(5) End of the zipper opening
(6) 2 cm (3/4″)
(7) Basting
(8) Reverse stitches
(9) Seam stitches



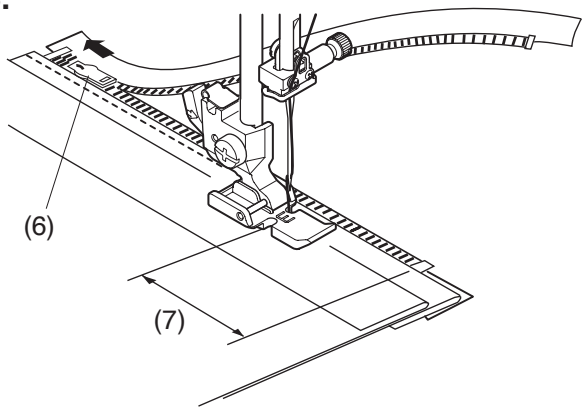
1.



2.



3.



Start sewing

1. Fold back the left seam allowance. Turn the right seam allowance under to form a 0.2 cm to 0.3 cm (1/8″) margin. Place the zipper teeth next to the fold and pin in place. Set the stitch length and thread tension back to the original setting.

(1) 0.2 cm to 0.3 cm (1/8″) margin
(2) Zipper teeth
(3) Fold
(4) End of the zipper opening
(5) Opening size

2. Attach zipper foot E with the pin on the right hand side.

Lower the foot onto the topside at the end of the zipper opening so that the needle pierces the fabric next to the fold and the zipper tape.

Sew along the zipper guiding the zipper teeth along the bottom edge of the foot.

⚠ CAUTION:
Be sure that the needle does not strike the presser foot or zipper teeth when the zipper foot is attached.

3. Sew through all layers next to the fold.

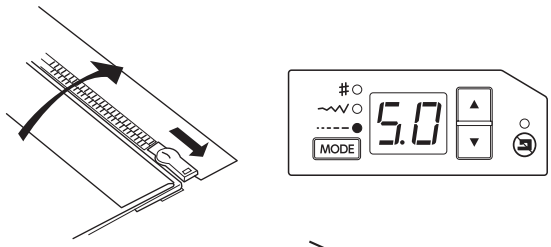
Stop the machine 5 cm (2″) before the foot reaches the slider on the zipper tape.

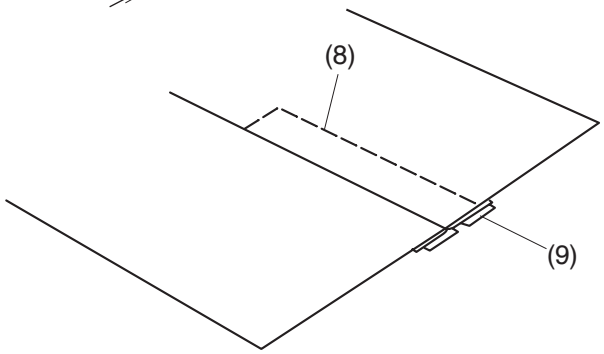
Lower the needle slightly into the fabric.

Raise the foot and open the zipper to clear the slider. Lower the foot and stitch the remainder of the seam.

(6) Slider
(7) 5 cm (2″)

4.





4. Close the zipper and spread the fabric open flat with the right side facing up.

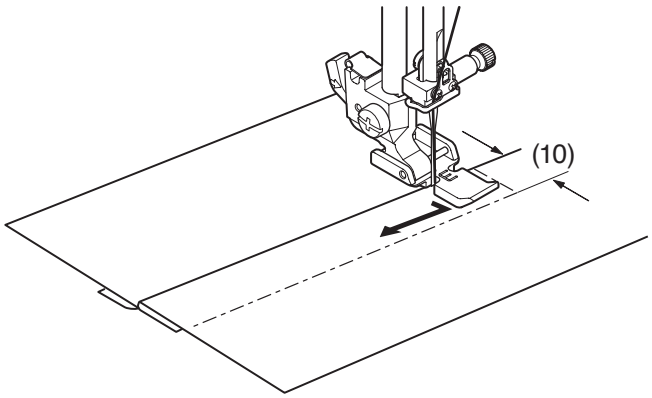
Attach zigzag foot A.

Adjust the stitch length to 5.0, stitch width to 3.5 (default value) and the thread tension dial to 1.

Baste the opened fabric and zipper tape together.

(8) Basting stitch
(9) Zipper tape

5.



5. Attach zipper foot E with the left pin.

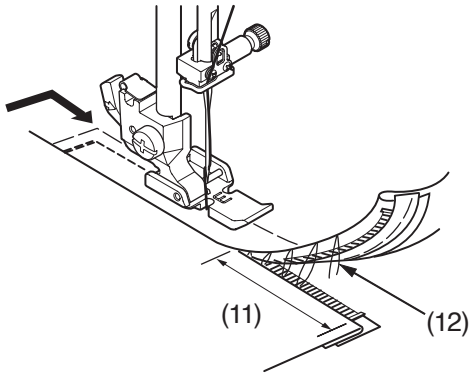
Adjust the stitch length and the stitch width to default value, and thread tension dial to “4”.

Backstitch across the end of the opening 0.7 cm-1 cm (3/8″) and turn the fabric 90 degrees.

(10) 0.7 cm-1 cm (3/8″)

⚠ CAUTION:
Be sure that the needle does not strike the presser foot or zipper teeth when the zipper foot is attached.

6.

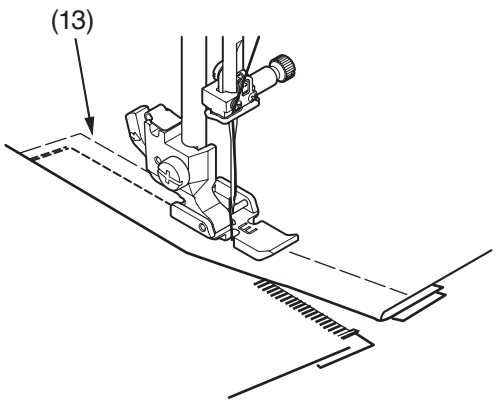


6. Stitch through the garment and zipper tape, guiding the zipper teeth along the side edge of the foot.

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.

(11) 5 cm (2″)
(12) Basting stitches

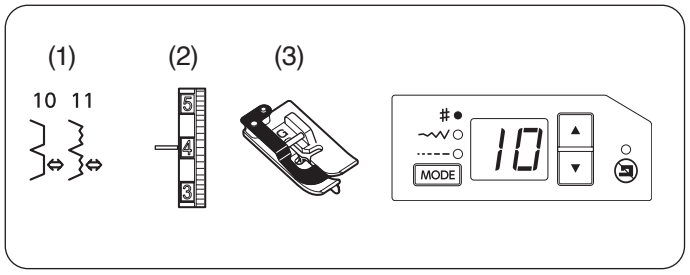
7.



7. Open the zipper, then lower the foot and stitch the remainder of the seam.

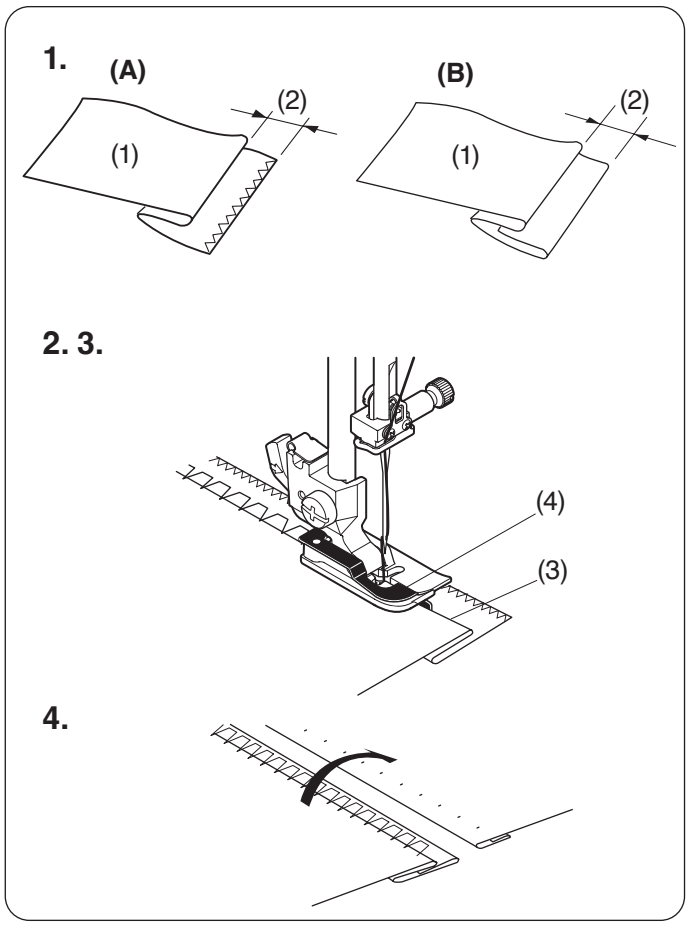
After sewing is finished, remove the basting stitches on the upper fabric.

(13) Basting stitches on upper fabric



Blind Hemming

(1) Stitch pattern: 10 or 11
(2) Thread tension dial: 1 to 4 (pattern 10)
3 to 6 (pattern 11)
(3) Presser foot: Blind hemming foot G



1. Fold a hem with the wrong side of the fabric up to form a 0.5 cm (1/4˝) allowance.
(1) Wrong side of fabric
(2) 0.5 cm (1/4˝)

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

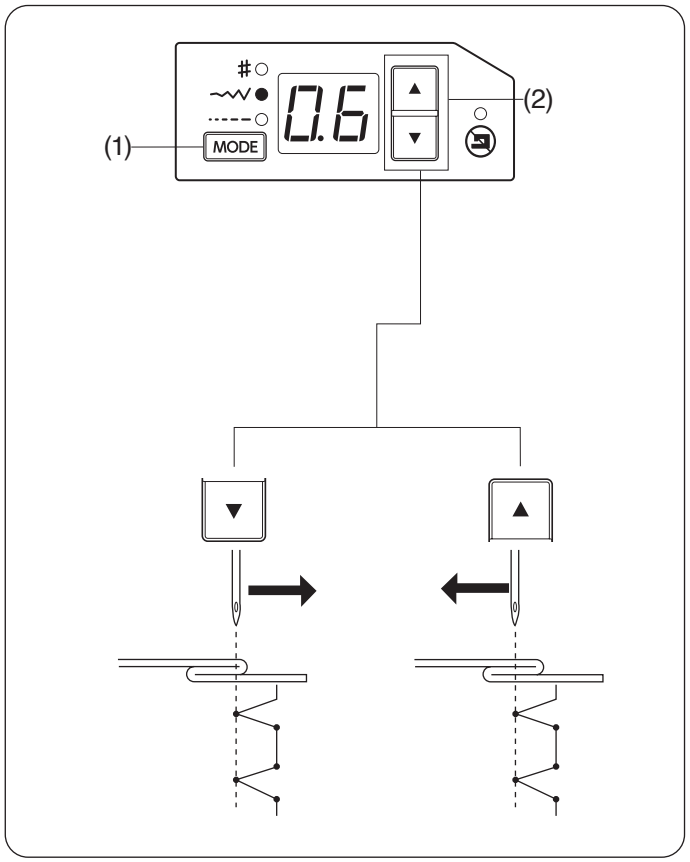
(B) Fold the hem under the fabric for light fabrics.

2. Place the fabric so that the fold is next to the guide on the foot.
Lower the presser foot.
Adjust the needle drop position if necessary.

3. Sew while guiding the folded edge.
(3) Folded edge
(4) Guide

4. Open the fabric after sewing is finished.

NOTE:
If the needle pierces too far left, the stitch will show through on the right side of the fabric.

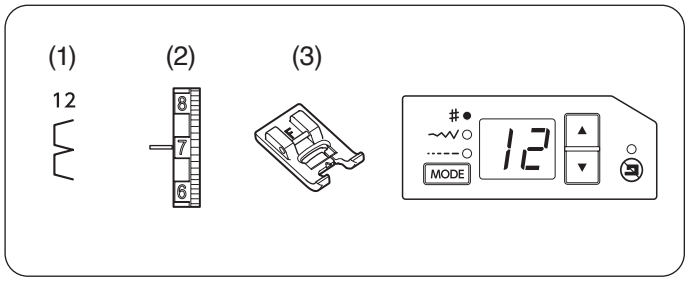


Adjusting the needle drop position

Adjust the needle drop position as follows:
Press the mode key to select the stitch width adjustment mode (~~).
Press the " ▲ " value set key to move the needle to the left.
Press the " ▼ " value set key to move the needle to the right.
(1) Mode key
(2) Value set keys

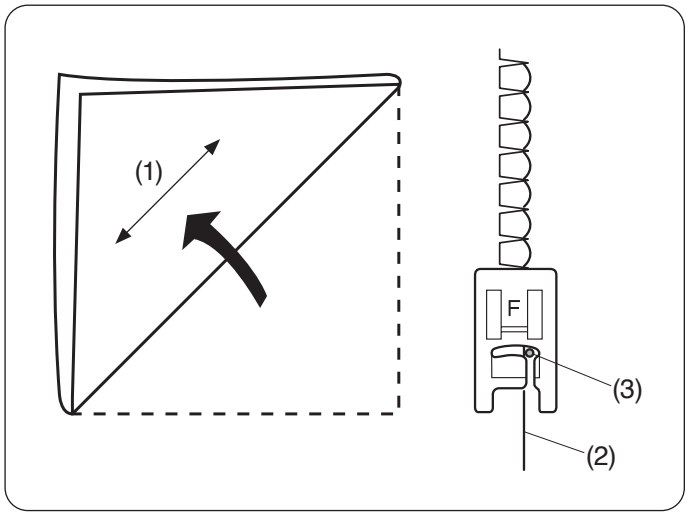
The needle drop position can be varied from 0.0 to 1.2.

NOTE:
The needle drop position can be moved, but the stitch width will remain the same.



Shell Tuck

(1) Stitch pattern: 12
(2) Thread tension dial: 6 to 8
(3) Presser foot: Satin stitch foot F

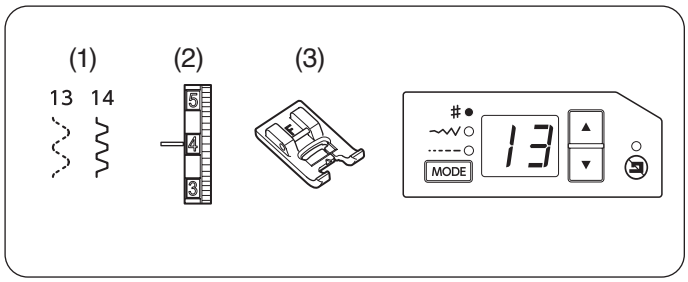


Use a light fabric (tricot, for example).
Fold the fabric on the bias as shown and stitch along the fold.

Allow the needle to barely clear the folded edge to create a shelled edge.

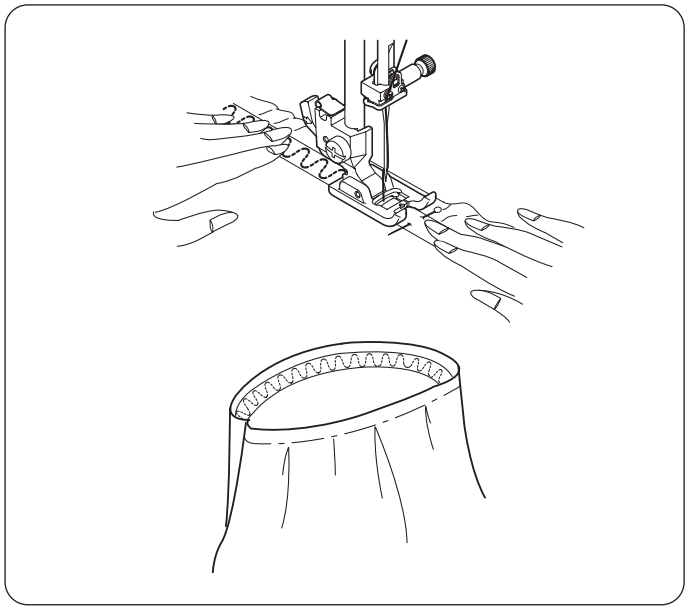
(1) Bias
(2) Folded edge
(3) Right needle drop position

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

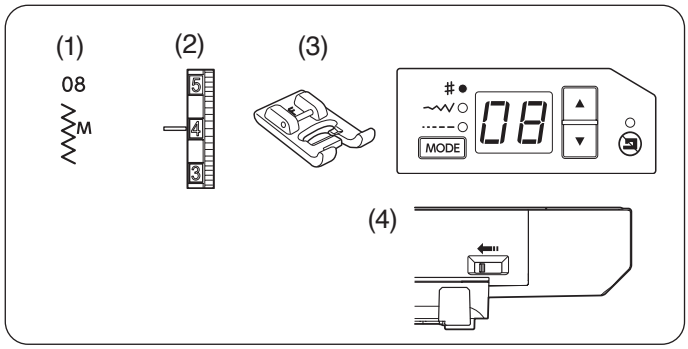


Attaching Elastic

(1) Stitch pattern: 13 or 14
(2) Thread tension dial: 1 to 4
(3) Presser foot: Satin stitch foot F

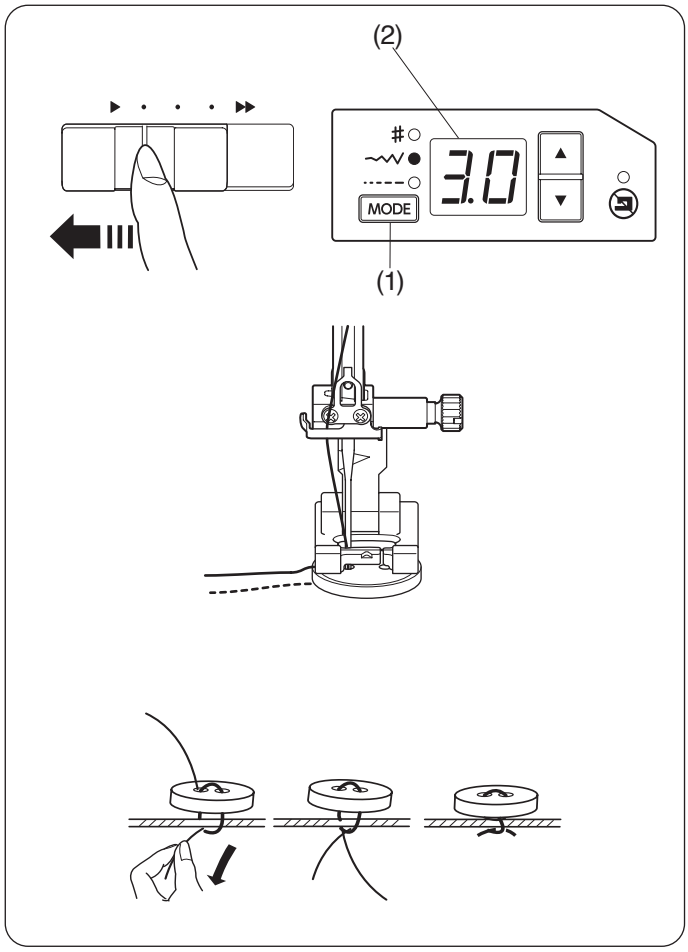


Mark the elastic into quarters. Match those to the center front, center back and side seams, and pin the elastic to the fabric.
Place the elastic under the foot and stitch into place while stretching the elastic evenly.



Button Sewing

(1)	Stitch pattern:	08
(2)	Thread tension dial:	3 to 7
(3)	Presser foot:	Satin stitch foot F
(4)	Feed dogs:	Lowered



Lower the feed dogs (refer to page 18).
Set the speed control slider at a slow speed.

Match the holes of button to the horizontal slot of the presser foot and lower the foot to hold the button in place.

Press the mode key to select the stitch width adjustment mode (~~).
Adjust the stitch width so the needle will enter the left hole of the button.
Turn the handwheel so that the needle will enter the right hole of the button. Readjust the stitch width if necessary.

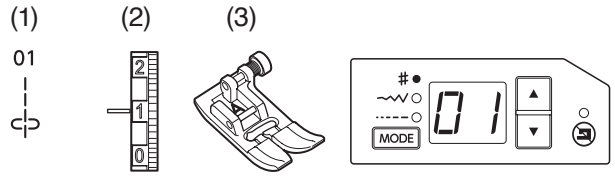
(1) Mode key
(2) Stitch width (adjust to span of holes)

Stitch several times.

After you finish sewing, cut the thread but leave 10 cm (4″) of threads at the end.

Pull the bobbin thread to draw the top thread to the wrong side of the fabric and knot the threads.

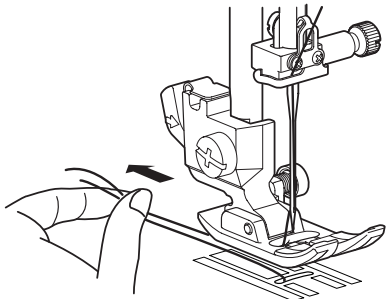
After the button sewing is completed, raise the feed dogs for normal sewing.
Return the speed control slider to its previous position.



Gathering

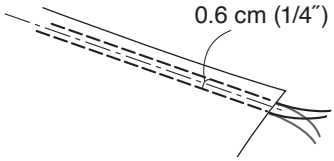
(1) Stitch pattern: 01
(2) Thread tension dial: 1
(3) Presser foot: Zigzag foot A

1.



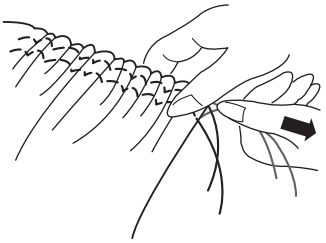
1. Pull both threads 10 cm (4˝) under and behind the presser foot (refer to page 25).

2.



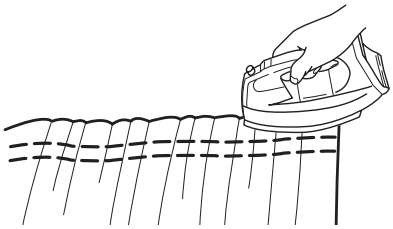
2. Set the thread tension dial at “1” and increase the stitch length to “5.0”.
Sew two rows of straight stitches 0.6 cm (1/4˝) apart.
Knot the threads at the beginning.

3.



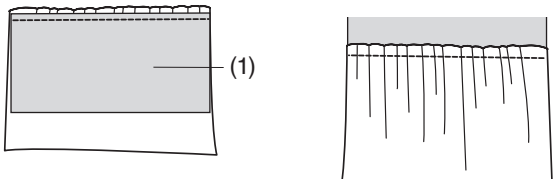
3. Pull the bobbin threads at the end to gather the fabric.

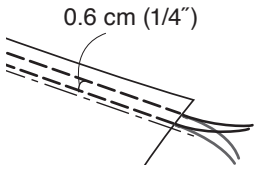
4.



4. Knot the threads at the end and distribute the gathers evenly.

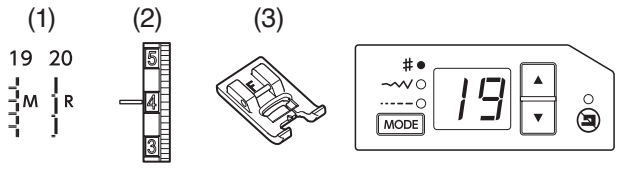
5.





5. Prepare the fabric to attach the gathering.
Set the thread tension dial at “4” and the stitch length to “2.4” (default settings).
Place the wrong side of the fabric under the gathering.
(1) Wrong side of the fabric
Sew straight stitches between the two gathering rows.
Remove the two rows of straight stitches.

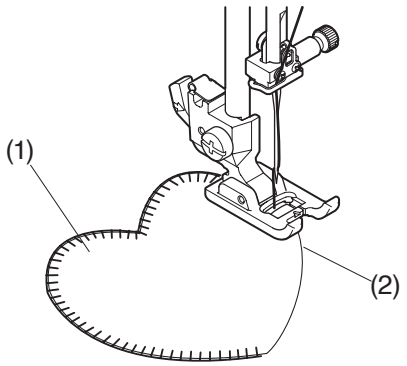
NOTE:
You can sew straight stitches under the two gathering rows to cover the remainder of the gathering rows.



DECORATIVE STITCHES

Applique

(1)	Stitch pattern:	19 or 20
(2)	Thread tension dial:	1 to 4
(3)	Presser foot:	Satin stitch foot F

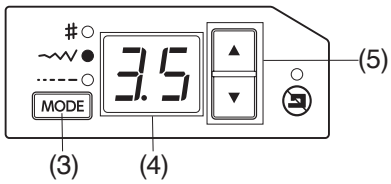


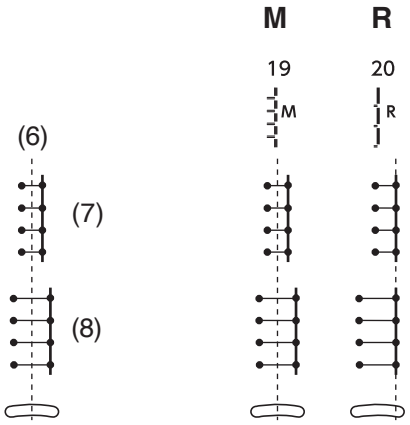
Place an applique on the fabric and baste or pin it in place.
Lower the needle at the outer edge of the applique.
Sew while guiding the fabric so the needle falls along the outer edge of the applique.

(1) Applique
(2) Outer edge

When turning a sharp corner, stop the machine and lower the needle with the needle at the outer edge of the applique.
Raise the foot and pivot the fabric around the needle to change the sewing direction.

Adjusting the stitch width



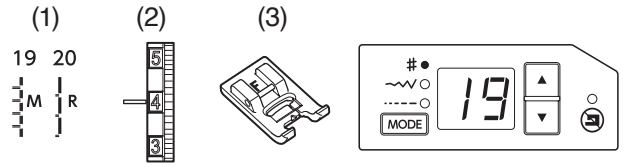


Example: stitch pattern 19.
Press the mode key to select the stitch width adjustment mode (~~).
Press the " ▲ " value set key to increase the stitch width.
Press the " ▼ " value set key to decrease the stitch width.
The stitch width will be varied based on the centered needle drop position.

(3) Mode key
(4) Stitch width
(5) Value set key
(6) Center needle drop position
(7) Stitch width decreased
(8) Stitch width increased

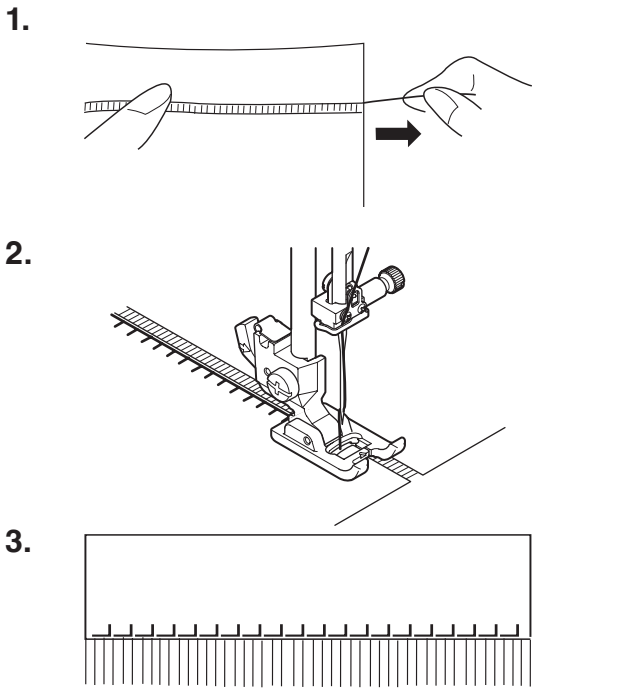
M: Middle (center)
The stitch pattern 19 has a fixed center needle drop position. The stitch width changes symmetrically.

R: Right
The stitch pattern 20 has a fixed right needle drop position. When you change the stitch width, the left needle drop position will change.



Fringing

(1) Stitch pattern: 19 or 20
(2) Thread tension dial: 1 to 4
(3) Presser foot: Satin stitch foot F

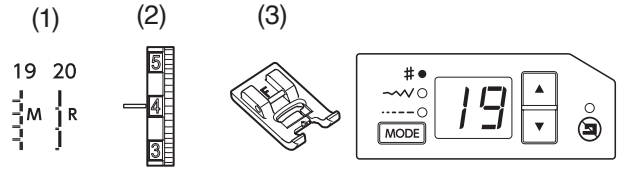


Fringing adds a special touch on table linens and shawls. Choose a firm, woven fabric like linen where threads can be removed easily.

1. Carefully cut the fabric on the grain. Remove a single strand of yarn or thread where the fringing is to begin.

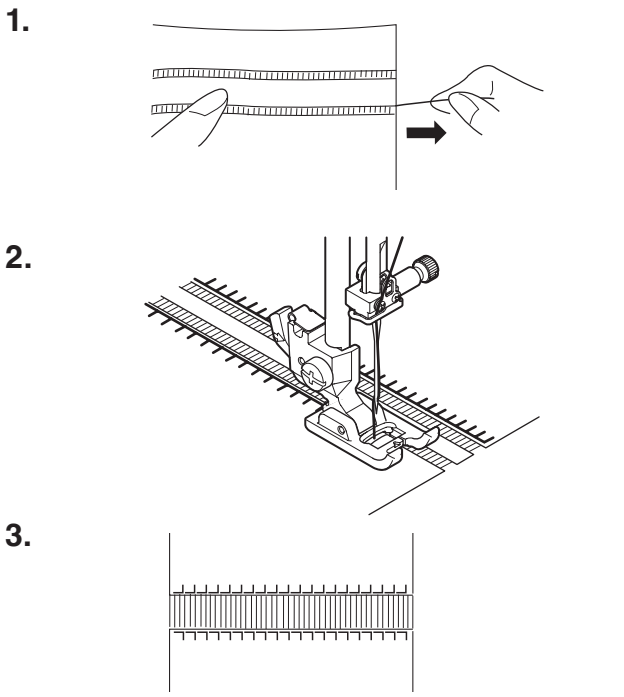
2. Sew down the left side so the right hand stitches fall in the open space.

3. Remove all excess yarn located to the right of the stitching and create a fringe.



Drawn Work

(1) Stitch pattern: 19 or 20
(2) Thread tension dial: 1 to 4
(3) Presser foot: Satin stitch foot F

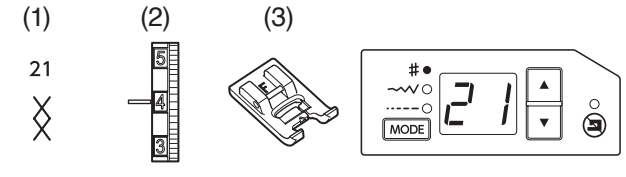


Drawn work uses the same method as fringing. Choose a firm, woven fabric like linen where threads can be removed easily.

1. Carefully cut the fabric on the grain. Determine the width of the drawn work and remove one strand of yarn or fabric thread at each end.

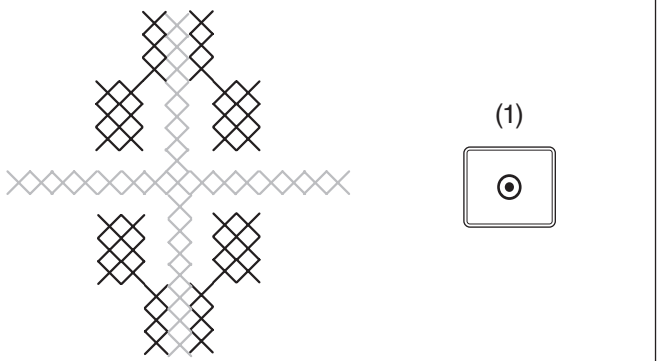
2. Sew down the left side, guiding the fabric so the right hand stitches fall in open space. After finishing the left side, turn the fabric around 180°. Sew down the other side.

3. Remove the yarn or fabric threads between the stitching.



Cross Stitch

(1) Stitch pattern: 21
(2) Thread tension dial: 3 to 6
(3) Presser foot: Satin stitch foot F

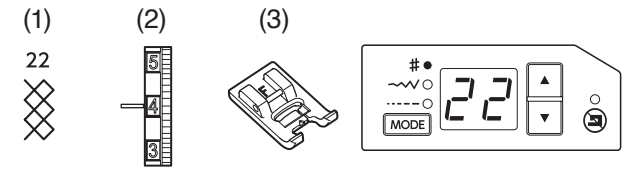


You can make cross stitch designs with these patterns in half the time it would take if embroidered by hand.
Use a plain close woven fabric such as linen or wool flannel. If you use light fabric, apply a tear away backing for support.

Sew from the center of the design outward.

If you press the auto-lock button before sewing, the machine will sew one unit of the cross stitch and stop automatically.

(1) Auto-lock button

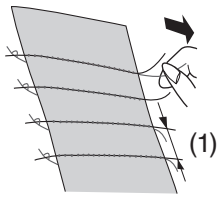


Smocking

(1) Stitch pattern: 22
(2) Thread tension dial: 3 to 6
(3) Presser foot: Satin stitch foot F

*Stitch pattern 23 and 26 can also be used.

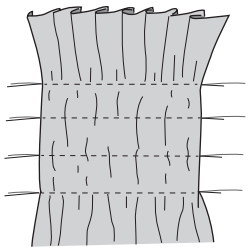
1.



1. Choose a soft, light fabric such as batiste, gingham or challis. Cut the fabric three times wider than the projected width.

NOTE:
Pull up the bobbin thread and draw a 10 cm (4″) thread tail to the back before starting to sew.
Use the thread cutter on the face cover.

2.



Sew rows of straight stitches, 1 cm (3/8″) apart with the stitch length between “3.0” to “5.0” and thread tension dial at “1” to across the area to be smocked (refer to pages 17, 30).

(1) 1 cm (3/8″)

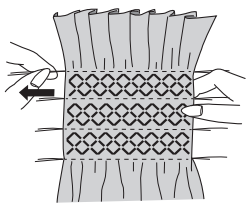
2. Tie the threads along one edge.

Pull the bobbin threads at the end to gather the fabric.

Knot the threads at the end and distribute the gathers evenly.

Use an iron to press the gathered fabric.

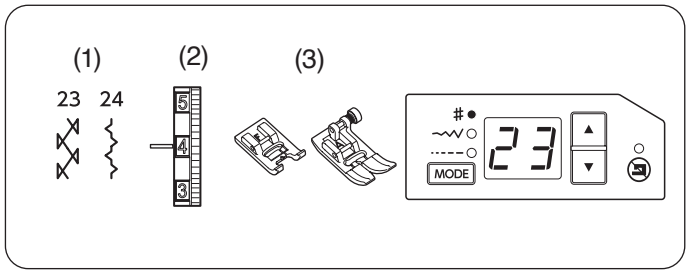
3.



3. Select a smocking stitch and return the thread tension dial to “3” to “6”.

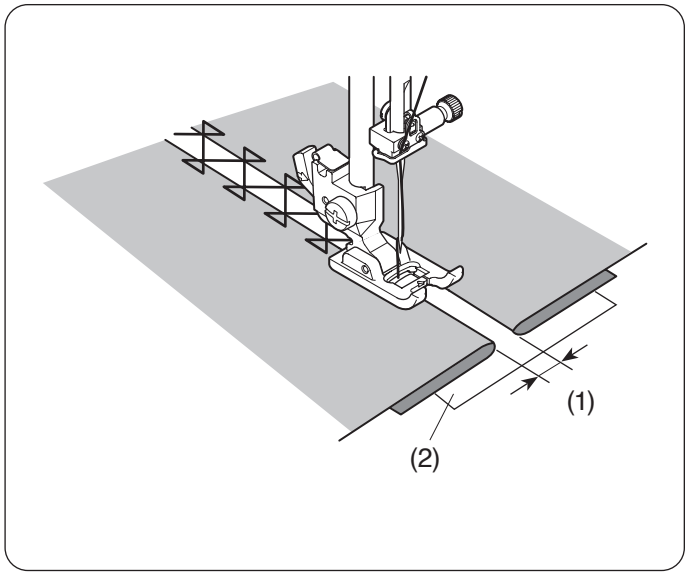
Sew the smocking stitches between the gathered rows.

Remove the straight stitches between the gathered rows.



Fagoting

(1)	Stitch pattern:	23 or 24
(2)	Thread tension dial:	3 to 6
(3)	Presser foot:	Satin stitch foot F (stitch pattern: 23) Zigzag foot A (stitch pattern: 24)

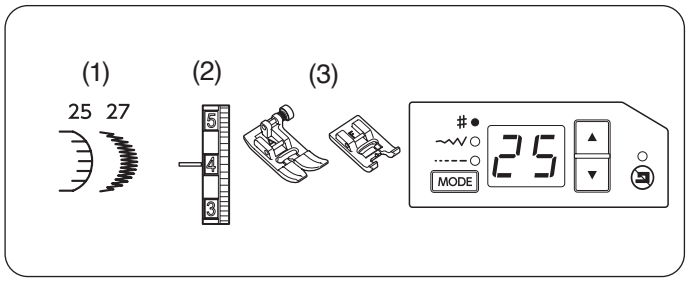


Use these stitches to join two pieces of fabric to create an open work appearance and add design interest.

Fold under each fabric edge 1.5 cm (5/8″) and press. Pin the two edges to paper or tear away backing 0.3 cm (1/8″) apart.

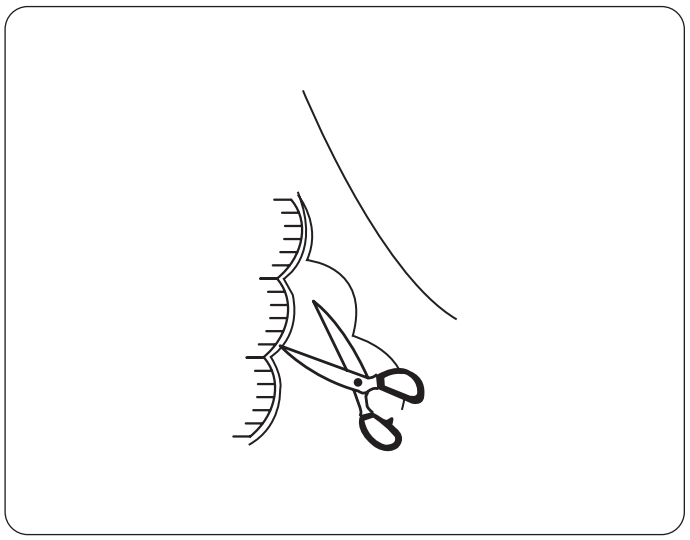
Sew slowly, guiding the fabric so the needle catches the folded edge on each side.
After sewing is finished, tear away the paper.

(1) 0.3 cm (1/8″)
(2) Paper



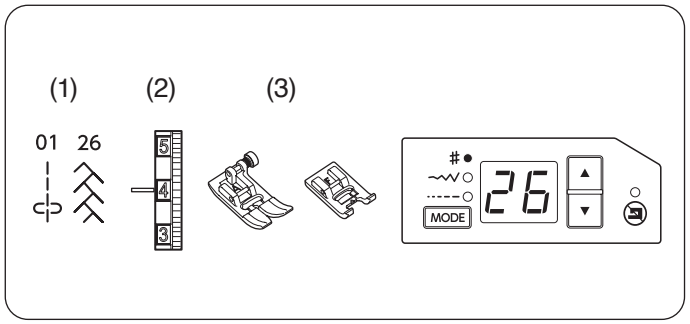
Scallop Stitch

(1)	Stitch pattern:	25 or 27
(2)	Thread tension dial:	3 to 6 (stitch pattern: 25) 1 to 4 (stitch pattern: 27)
(3)	Presser foot:	Zigzag foot A (stitch pattern: 25) Satin stitch foot F (stitch pattern: 27)



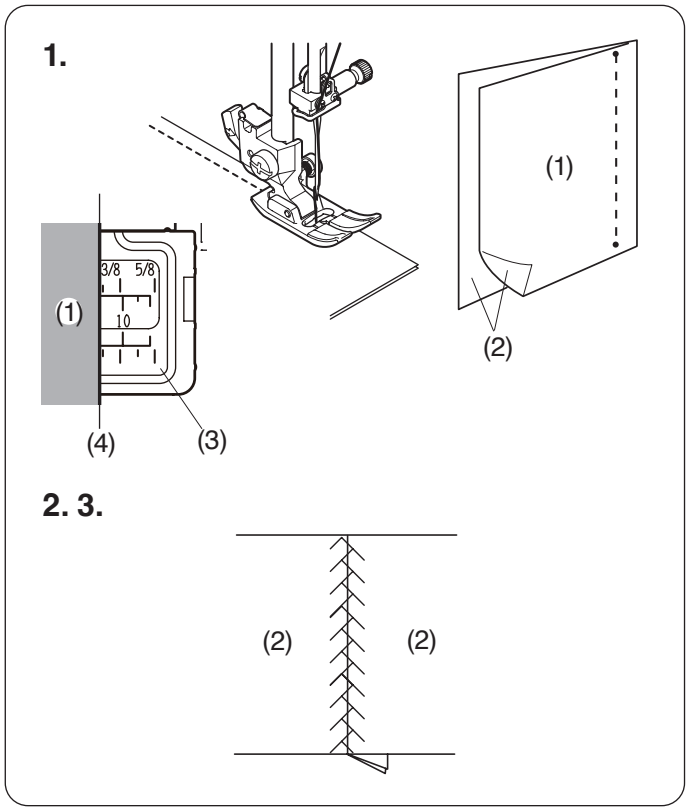
Sew the stitches approximately 1 cm (3/8″) inside the fabric edge.

Trim the allowance close to the stitches as shown. Make sure not to cut the thread.



Patchwork

(1) Stitch pattern: 01 and 26
(2) Thread tension dial: 2 to 6 (stitch pattern: 01)
1 to 4 (stitch pattern: 26)
(3) Presser foot: Zigzag foot A
(stitch pattern: 01)
Satin stitch foot F
(stitch pattern: 26)



1. Attach zigzag foot A.

Place the patchwork pieces right sides together. Select stitch pattern 01. Sew while guiding the edge of the fabric to keep a precise 1/4″ seam allowance.

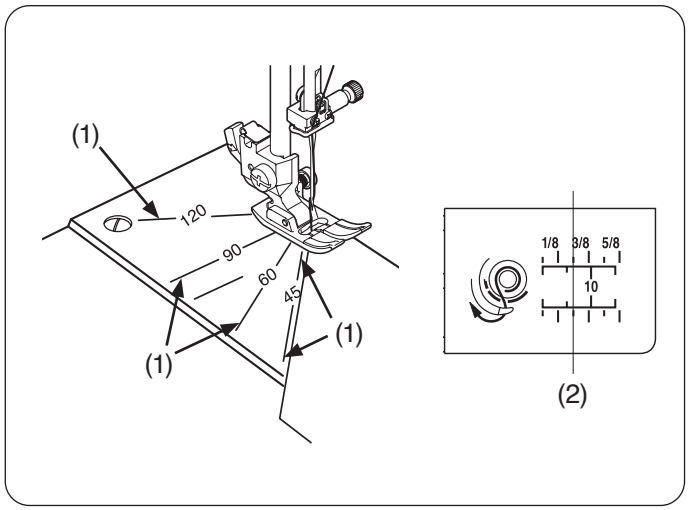
(1) Wrong side of fabric
(2) Right side of fabric
(3) Hook cover plate
(4) 1/4″ seam guide

2. Replace the presser foot with satin stitch foot F.

Select the patchwork pattern 26.

3. Press the seam allowance to open. Sew the stitch pattern on the right side of the garment centering over the seam line.

(2) Right side of fabric



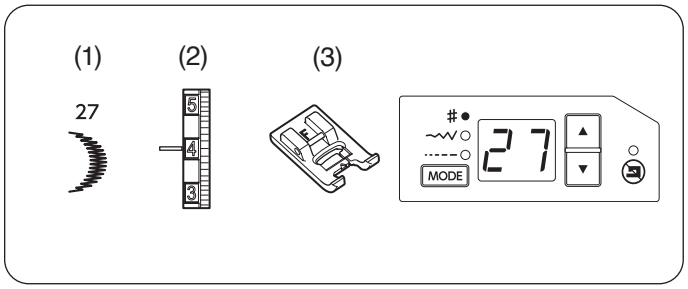
Angle scales on the needle plate

You can easily seam patchwork pieces at the desired angle without marking, by using the angle scales on the needle plate.

The angle scales are marked at 45, 60, 90 and 120 degrees.

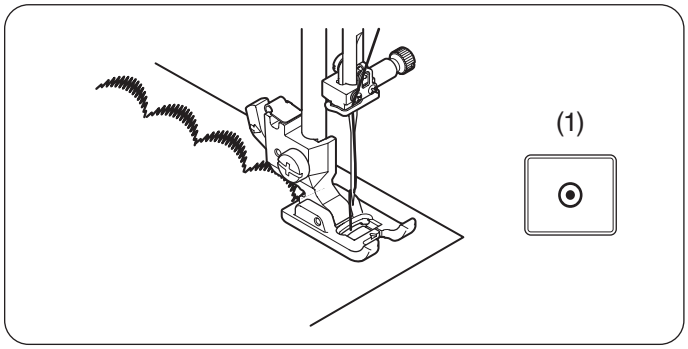
Align the edge of the fabric to the 1/4″ seam guide line.

(1) Angle scales
(2) 1/4″ seam guide line



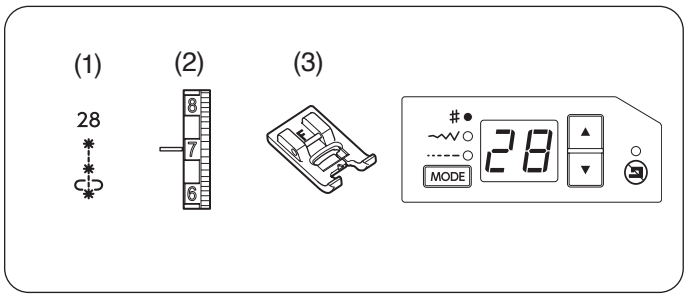
Satin Stitches

(1) Stitch pattern: 27
(2) Thread tension dial: 1 to 4
(3) Presser foot: Satin stitch foot F



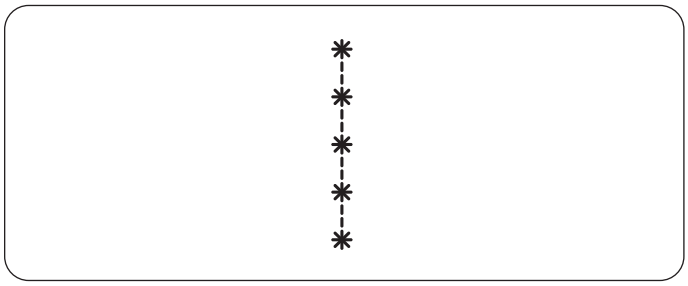
For better sewing results, interfacing should be used on the wrong side of the fabric when you use stretch or elastic fabrics.
Press the auto-lock button to finish the end of the pattern.

(1) Auto-lock button

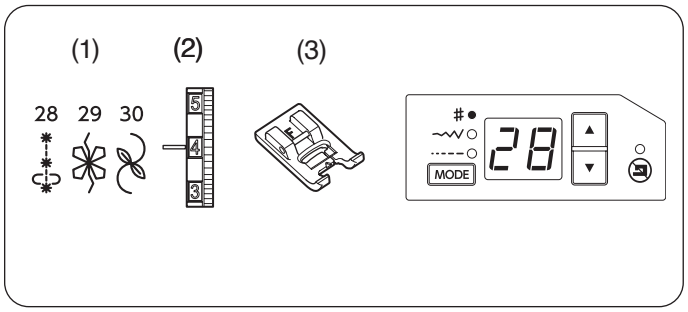


Candlewick Knots

(1) Stitch pattern: 28
(2) Thread tension dial: 5 to 8
(3) Presser foot: Satin stitch foot F

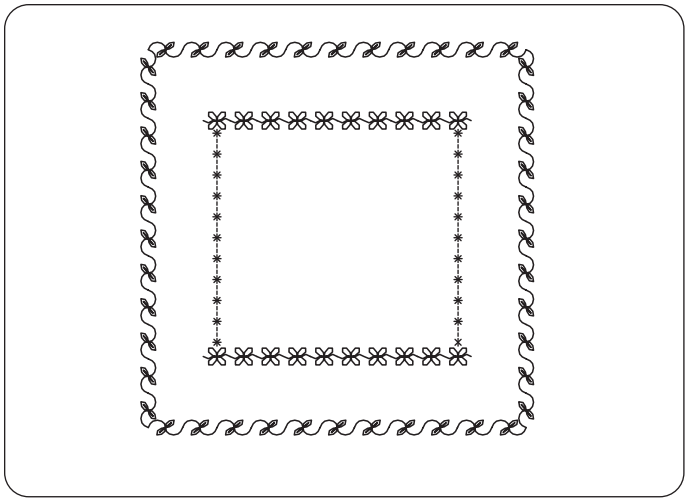


Tighten the thread tension to “5” to “8” when sewing.

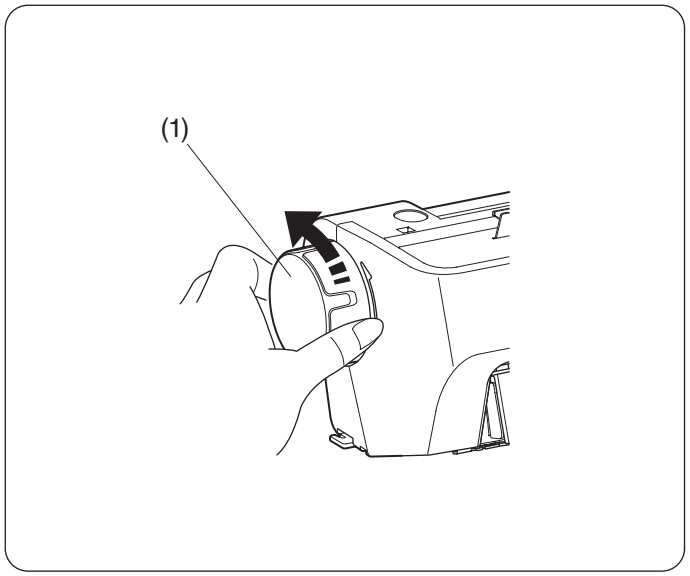


Decorative Stitches

(1) Stitch pattern: 28-30
(2) Thread tension dial: 5 to 8 (stitch pattern: 28)
3 to 6
(stitch pattern: 29, 30)
(3) Presser foot: Satin stitch foot F



For the best sewing results, carefully align and guide the fabric when you sew with decorative stitches.
Use a tear away backing if necessary.

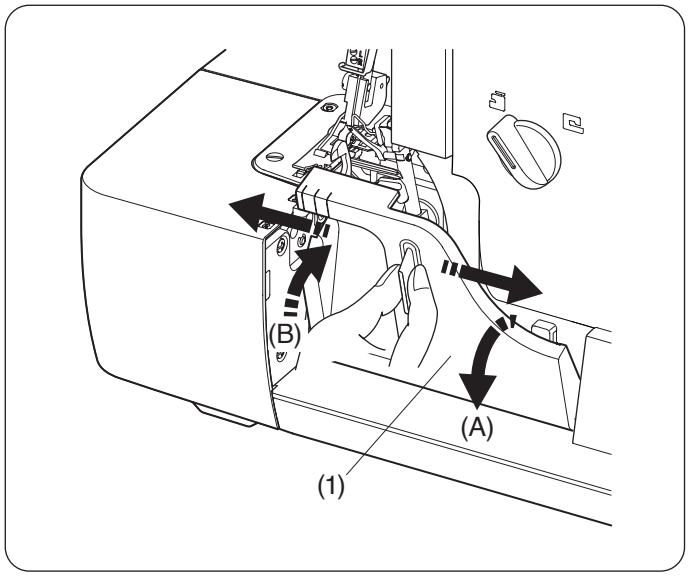


OVERLOCK SECTION

How to Turn the Handwheel

Always turn the handwheel away from you (counterclockwise).

(1) Handwheel



Opening and Closing the Looper Cover

To open: (A)

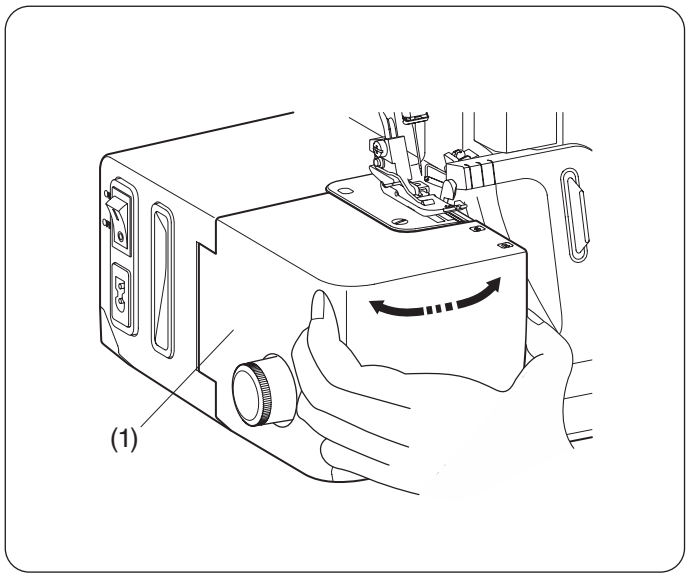
Hold the looper cover with your fingers. It to the right as far as it will go, then pull and open the looper cover toward you.

(1) Looper cover

To close: (B)

Lift the looper cover and push it against the machine. The looper cover snaps into its original position automatically.

NOTE:
Always close the looper cover when the machine is in use.



Side Cover

NOTE:
- Be careful not to pinch any cords when opening or closing the side cover.
- Always close the side cover when the machine is in use.

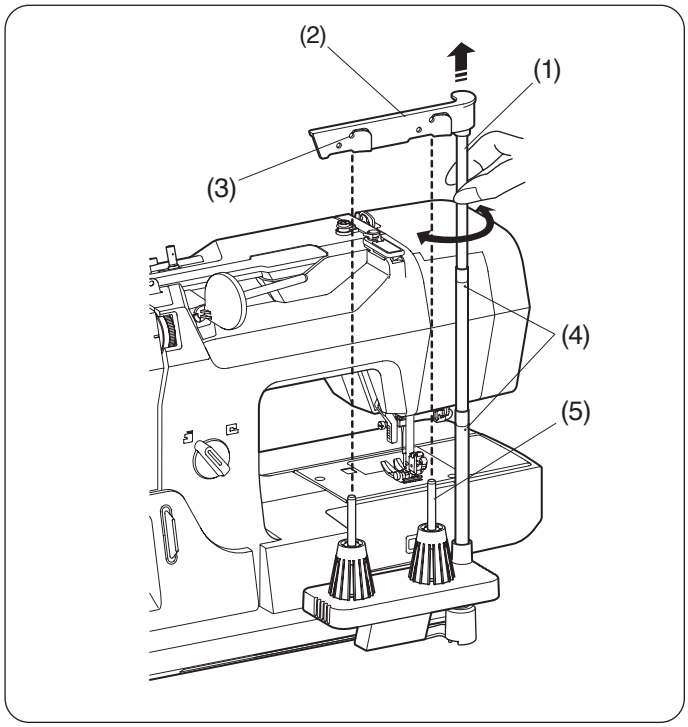
To open:

Pull the side cover to the left.

To close:

Push the side cover to the right.

(1) Side cover

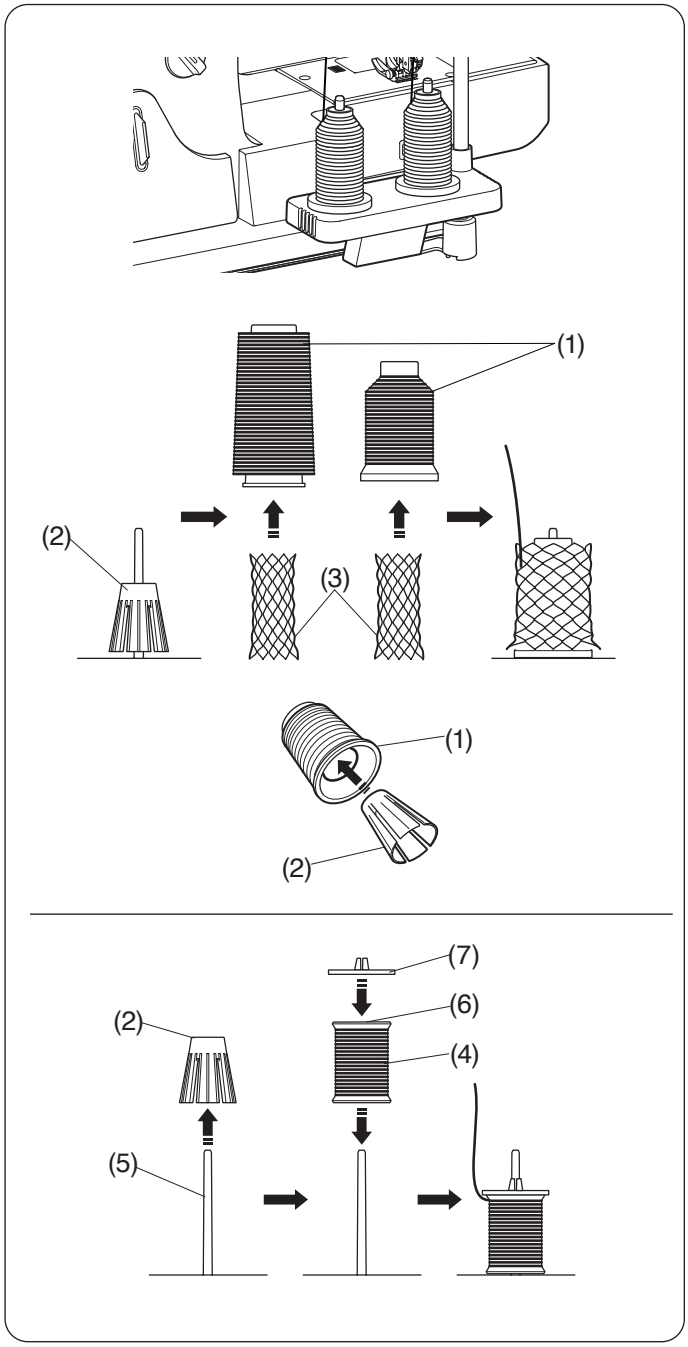


Setting the Thread Guide Bar

Pull the thread guide bar up as far as it will go.
Turn the thread guide post so that the thread guides are right above the spool pins.

(1) Thread guide post
(2) Thread guide bar
(3) Thread guide
(4) Stoppers
(5) Spool pin

NOTE:
Be sure to snap both stoppers into place.



Setting the Spools

You can use two types of spool for this machine.

Spool cones

When using spool cones, attach the spool holders to the spool pins.
If the thread slips down from a spool cone during the threading and/or sewing, put the net over the spool cone as shown to prevent jamming.

(1) Spool cone
(2) Spool holder
(3) Net

NOTE:
If the spool cone is unstable, insert the spool holder into the spool cone all the way before setting it to the spool pin.

Small spools

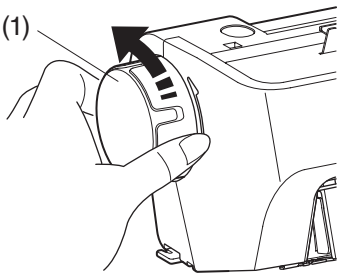
When using small spools, remove the spool holders from the spool pins.

(2) Spool holder
(4) Small spool of thread
(5) Spool pin

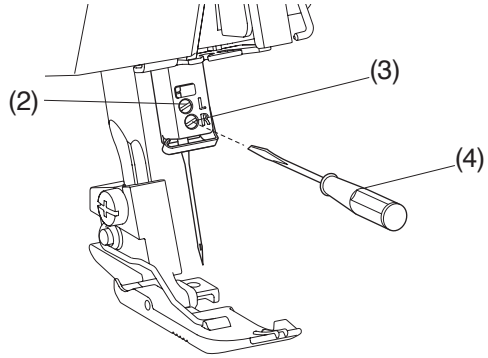
Place the spool with its slit side up, and put the spool holder cap on top of it.

(6) Slit
(7) Spool holder cap

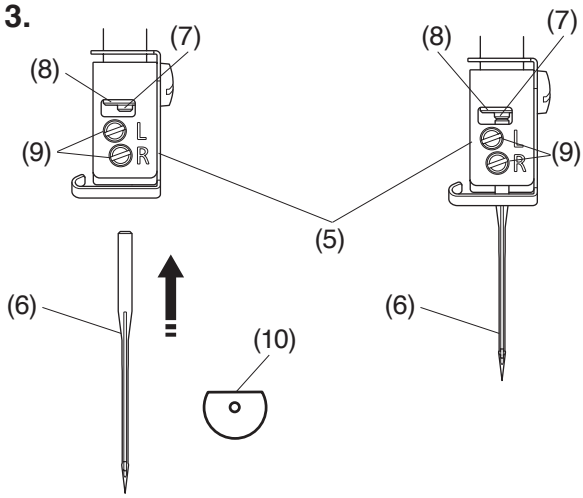
1.



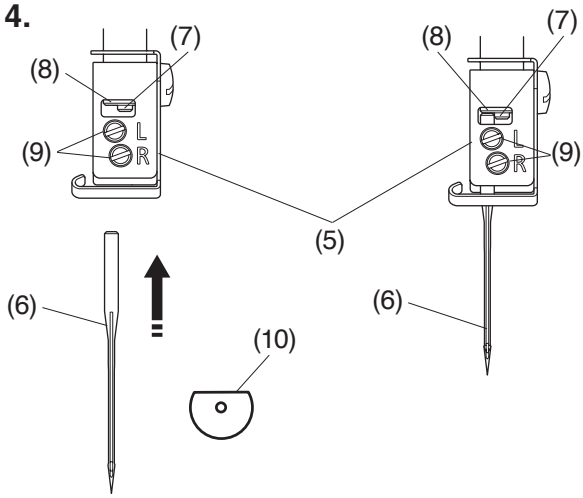
2.

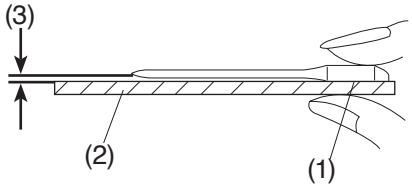


3.



4.





Replacing the Needle

NOTE:
Use an HAx1 SP #14 or #11 needle.
An HAx1 SP #14 needle is set on the machine.

⚠ WARNING:
Turn OFF the power switch and unplug the machine before changing the needle.

1. Turn the handwheel away from you to raise the needle to its highest position.
   (1) Handwheel
2. Loosen the needle clamp screw by turning it counterclockwise with screwdriver (small). Remove the needle from the needle clamp.
   (2) Needle clamp screw on the left
   (3) Needle clamp screw on the right
   (4) Screwdriver (small)

When attaching the needle on the right (for regular serging):

3. Insert a new needle into the needle clamp with the flat side to the back until the top of the needle touches the stopper pin, then tighten the needle clamp screw on the right clockwise.
   (5) Needle clamp
   (6) Needle
   (7) Needle stopper pin
   (8) Edge of needle bar
   (9) Needle clamp screws
   (10) Flat side

When attaching the needle on the left (for wide serging):

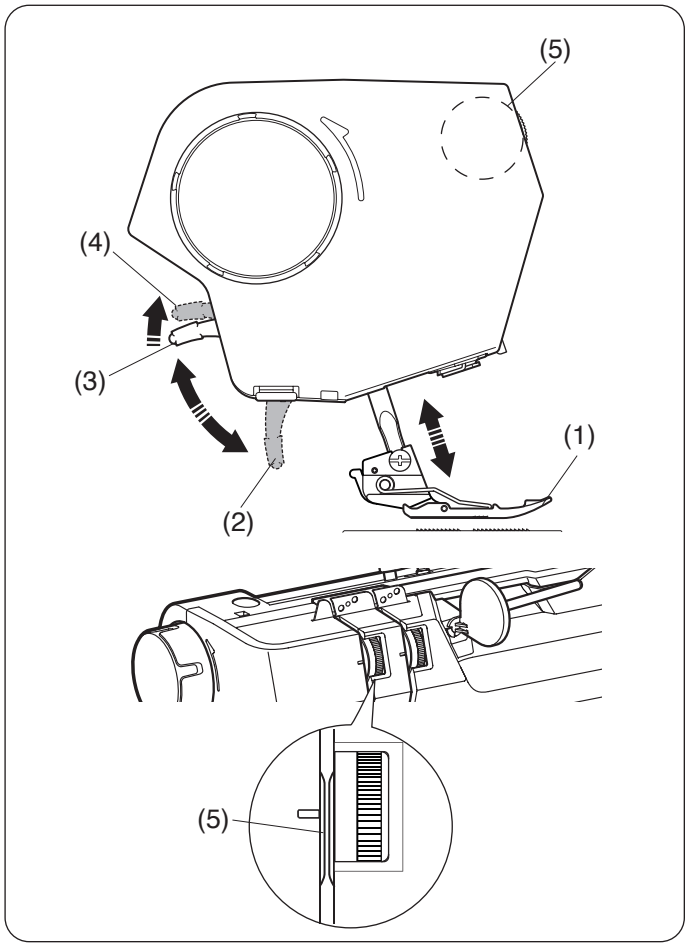
4. Insert a new needle into the needle clamp with the flat side to the back until the top of the needle touches the edge of the needle bar, then tighten the needle clamp screw on the left clockwise.
   (5) Needle clamp
   (6) Needle
   (7) Needle stopper pin
   (8) Edge of needle bar
   (9) Needle clamp screws
   (10) Flat side

NOTE:
When the needle is installed correctly, it is positioned higher when installed on the left side than when installed on the right side.

Checking the needle

To see if the needle is in good condition, 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.
(1) Flat side
(2) Something flat
(3) Gap

NOTE:
Never use a bent or blunt needle.

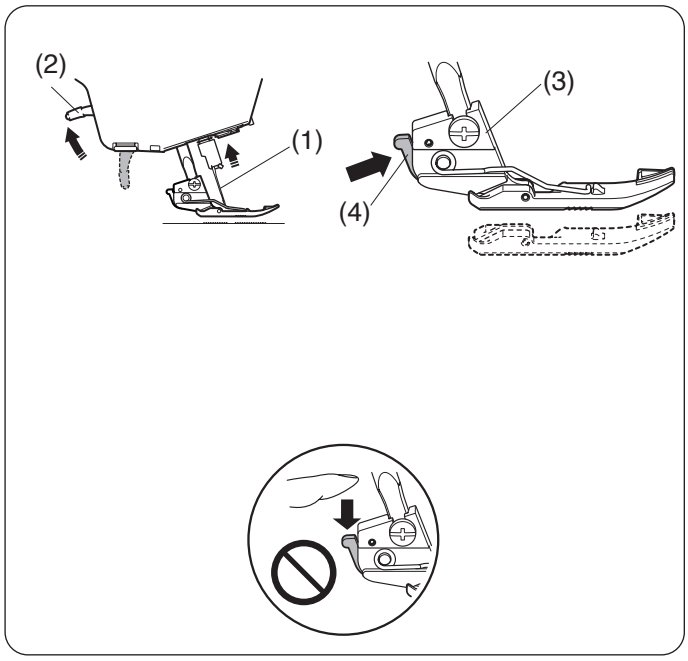


Presser Foot Lifter

The presser foot lifter raises and lowers the presser foot.
Raise the presser foot lifter before you thread the machine.
You can raise the foot about 1.5 mm (1/16″) higher than the normal up position by exerting more pressure when lifting the presser foot. This allows for removing and attaching the needle plate and helps you to place layers of thick fabric.
Always lower the presser foot lifer when you start sewing.

(1) Presser foot
(2) Presser foot lifter
(3) Normal up position
(4) Extra lifted position

NOTE:
Tension disks open and the thread tension will be released when the presser foot lifter is raised.
(5) Tension disks



Replacing the Presser Foot

⚠ CAUTION:
Turn OFF the power switch and unplug the machine before removing or attaching the foot.

Removing the Presser Foot

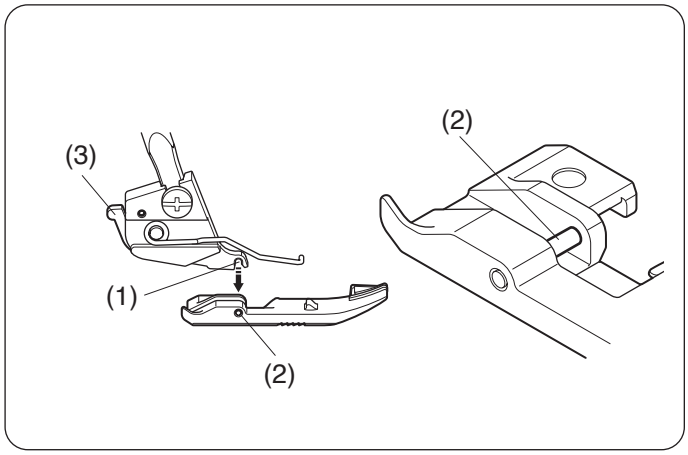
Turn the handwheel away from you to raise the needle to its highest position. Raise the presser foot lifter.

(1) Needle
(2) Presser foot lifter

Press the lever located on the back of the foot holder.
The presser foot will drop off.

(3) Foot holder
(4) Lever

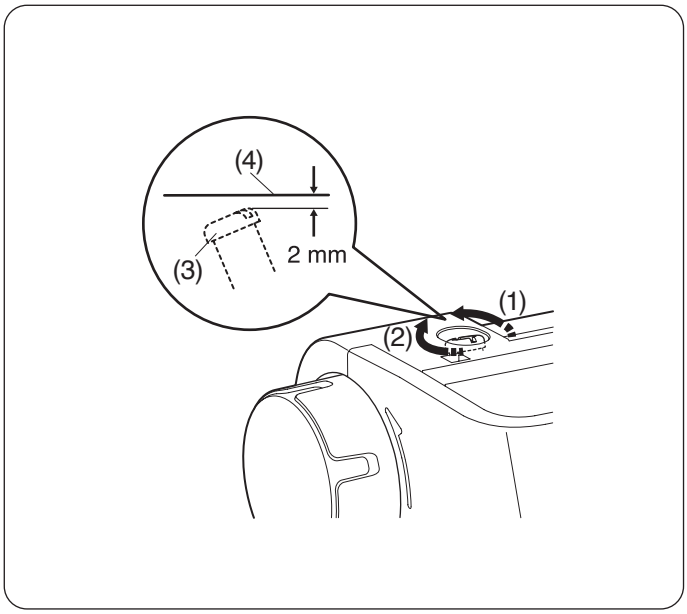
⚠ CAUTION:
Do not push the lever from the top.



Attaching the Presser Foot

Place the presser foot, so that the pin on the foot lies just under the groove of the foot holder.
Lower the foot holder to lock the foot into place.
Raise the presser foot lifter to check that the presser foot is secure.

(1) Groove
(2) Pin
(3) Lever

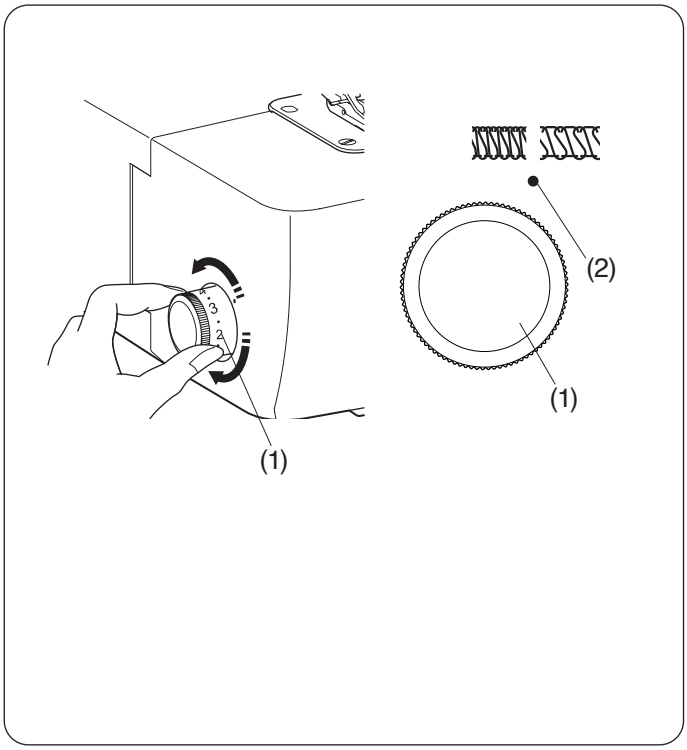


Adjusting the Presser Foot Pressure

It is not necessary to adjust the presser foot pressure for regular sewing.
When you sew heavy or light fabrics, turn the adjusting screw:
— clockwise for heavy fabric (2).
— counterclockwise for light fabric (1).

For regular sewing, set the adjusting screw so that it sits 2 mm below the top of the machine.

(1) To decrease
(2) To increase
(3) Adjusting screw
(4) Top of the machine



Adjusting the Stitch Length

To adjust the stitch length, turn the stitch length dial.
The larger the number, the longer the stitch length.
The smaller the number, the shorter the stitch length.

(1) Stitch length dial
(2) Setting mark

The standard stitch length setting for serging stitch is “3” (approximately 3 mm).
The dial clicks when you turn the dial to 3.
The stitch length can be adjusted while sewing.

NOTE:
The stitch length can be adjusted from 1 mm to 5 mm. Position “R” is for rolled hemming and narrow hemming (approximately 1.5 mm).

NOTE:
When you sew at a short stitch length, try following two methods together for better results:
• Tighten the needle thread tension.
• Tighten the looper thread tension and/or move the lower knife to the right.

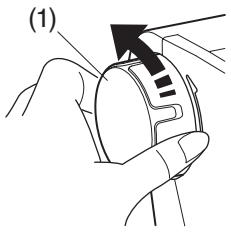
To Deactivate or Activate the Upper Knife

⚠ CAUTION:

- Turn the power switch OFF and unplug the machine before deactivating or activating the upper knife.
- Do not cut anything else with the upper knife other than fabric, as this may cause the upper knife to break.

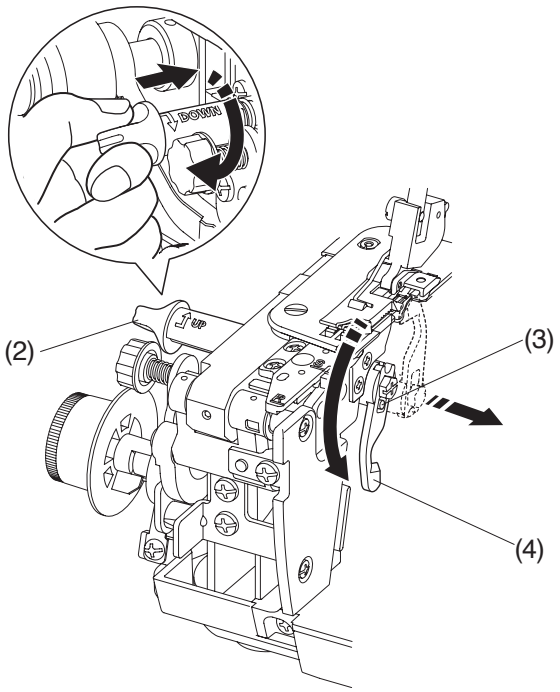
To deactivate:

1. Turn the handwheel away from you to raise the needle to its highest position.



(1) Handwheel

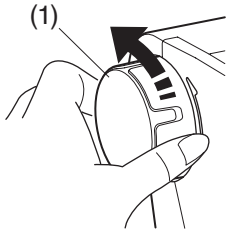
2. Open both the looper cover and side cover.
Turn the upper knife release knob toward you while pushing it to the right, then guide the hole on the upper knife to the stopper pin to lock the upper knife in the down position.
Close the looper cover and side cover.



(2) Upper knife release knob
(3) Stopper pin
(4) Upper Knife

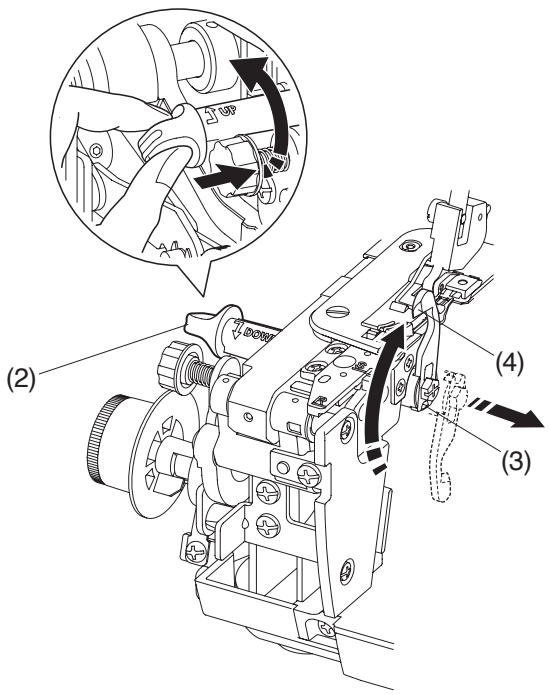
To activate:

1. Turn the handwheel away from you to raise the needle to its highest position.



(1) Handwheel

2. Open both the looper cover and side cover.
Turn the upper knife release knob away from you while pushing it to the right, then guide the groove on the upper knife to the stopper pin to lock the upper knife in the up position.
Close the looper cover and side cover.



(2) Upper knife release knob
(3) Stopper pin
(4) Upper Knife

Adjusting the Cutting Width

⚠ CAUTION:
Turn the power switch OFF and unplug the machine before adjusting the cutting width.

When the cutting width is too narrow or too wide for the seam width, adjust it by turning the cutting width adjusting dial.

(1) Cutting width adjusting dial

Open the looper cover and side cover.
Set the upper knife to down position.
Turn the cutting width adjusting dial to get the desired position of the lower knife.
When the lower knife is set to the standard position, the right edge of the lower knife is aligned with the guide line on the needle plate.

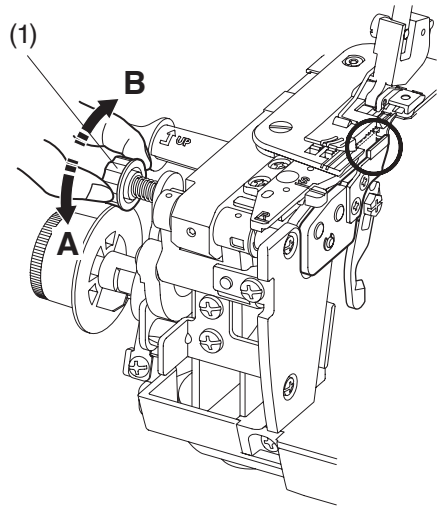
(2) Standard position
(3) Lower knife
(4) Guide line on the needle plate
(5) Edge of fabric

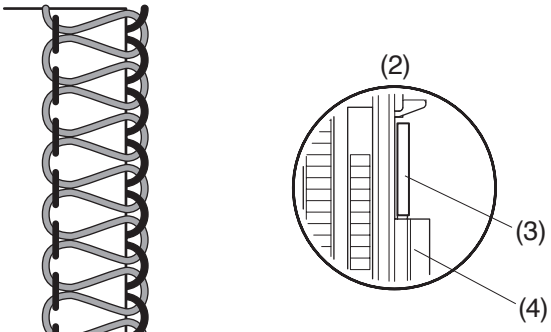
If the cutting width is too narrow (6), turn the cutting width adjusting dial to the direction of **A**.
The lower knife moves to right.

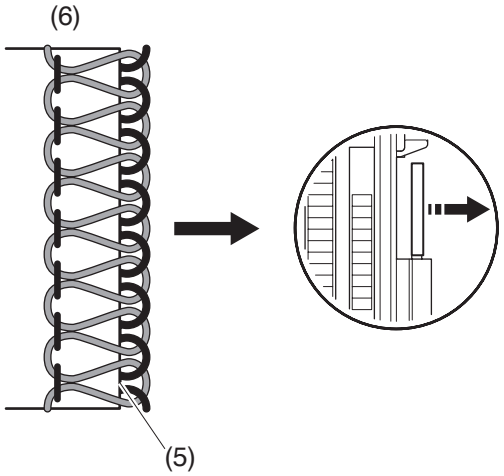
If the cutting width is too wide (7), turn the cutting width adjusting dial to the direction of **B**.
The lower knife moves to left.

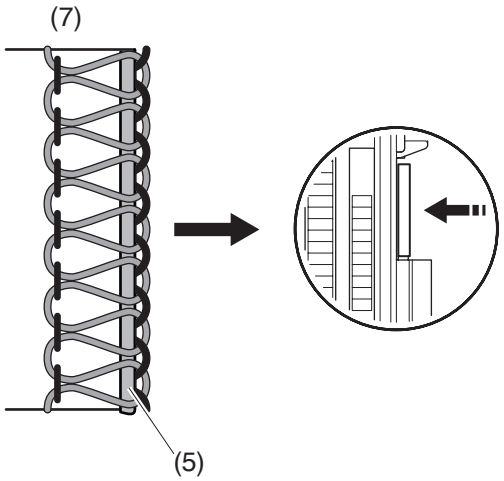
Sew and check the cutting width.

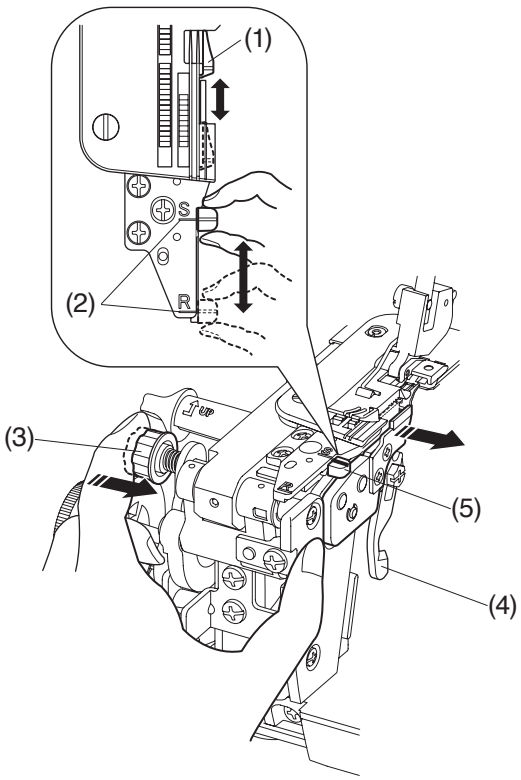
NOTE:
- The cutting width of this model can be adjusted approximately 3.0 to 5.0 mm from the right needle position depending upon your sewing needs or the fabric being used.
- For better results, move the lower knife to the left when you use the needle on the left.









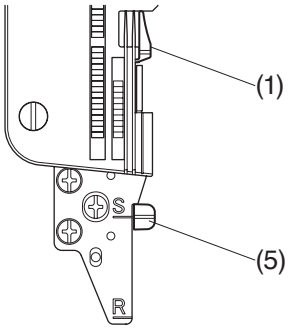


Adjusting the Chaining Finger Switch Knob (Changing to Standard Serging or Rolled Hemming)

⚠ CAUTION:
Turn the power switch OFF and unplug the machine before adjusting the chaining finger switch knob.

Open the looper cover and side cover.
Set the upper knife to down position.
Push the cutting width adjusting dial to the right as far as it will go, then, move the chaining finger switch knob to the guide line of S (for Standard Serging) or R (for Rolled Hemming).
Release the cutting width adjusting dial to the left gently.
Set the upper knife to up position.
Close the looper cover and side cover.

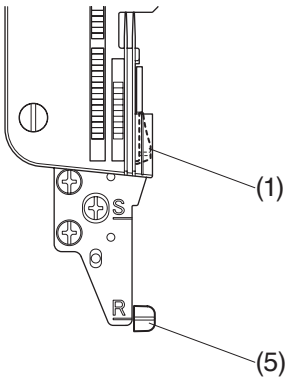
(1) Chaining finger
(2) Guide line
(3) Cutting width adjusting dial
(4) Upper knife
(5) Chaining finger switch knob



Standard serging

The chaining finger is located beside the needle plate.
Turn the chaining finger switch knob to “S” for standard serging.

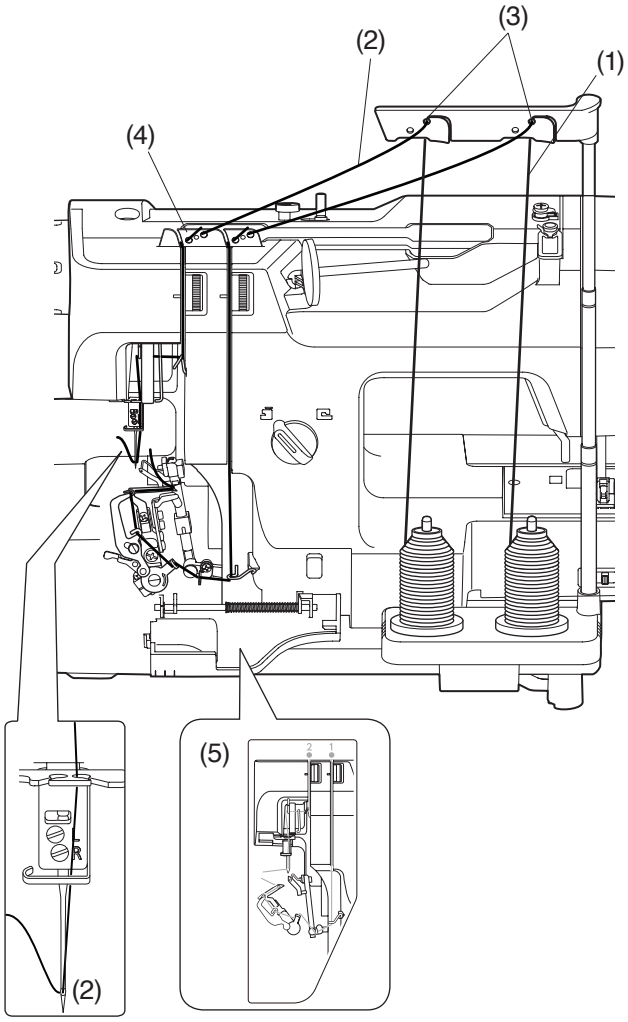
(1) Chaining finger
(5) Chaining finger switch knob



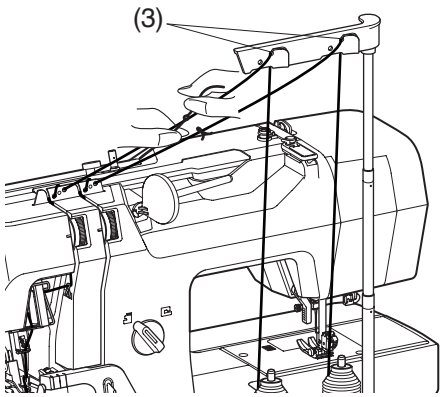
Rolled hemming

Turn the chaining finger switch knob to “R” for rolled hemming or narrow hemming sewing.

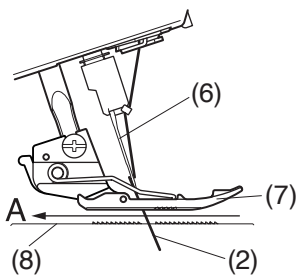
(1) Chaining finger
(5) Chaining finger switch knob



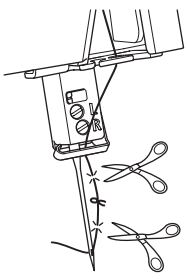
1.



2. 3. 5.



4.



MACHINE THREADING

⚠ CAUTION:
Turn OFF the power switch before threading the machine.

Threading the Machine

The left illustration shows the completed threading conditions of two threads.

(1) Looper thread
(2) Needle thread
(3) Thread guide
(4) Thread guide plate
(5) Threading chart

The machine is pre-threaded to make threading easier. Tie the end of a new thread to one of the pre-set threads, and pull it to draw the new thread through the machine, following the steps below.

1. Pull the threads from the spools and draw them through the thread guides, then tie the thread ends together.
(3) Thread guide

2. Raise the presser foot, draw the looper thread until the knots are coming out from under the back of the presser foot.

3. Draw the needle thread, and stop drawing them when the knots reach just before the needle eye.
(2) Needle thread
(6) Needle

4. Cut the knots of needle thread and thread the needle eye.

5. Before starting sewing, clear the needle thread from under the presser foot to make sure they are not caught below the needle plate (draw the needle thread in the direction A).
(7) Presser foot
(8) Needle plate

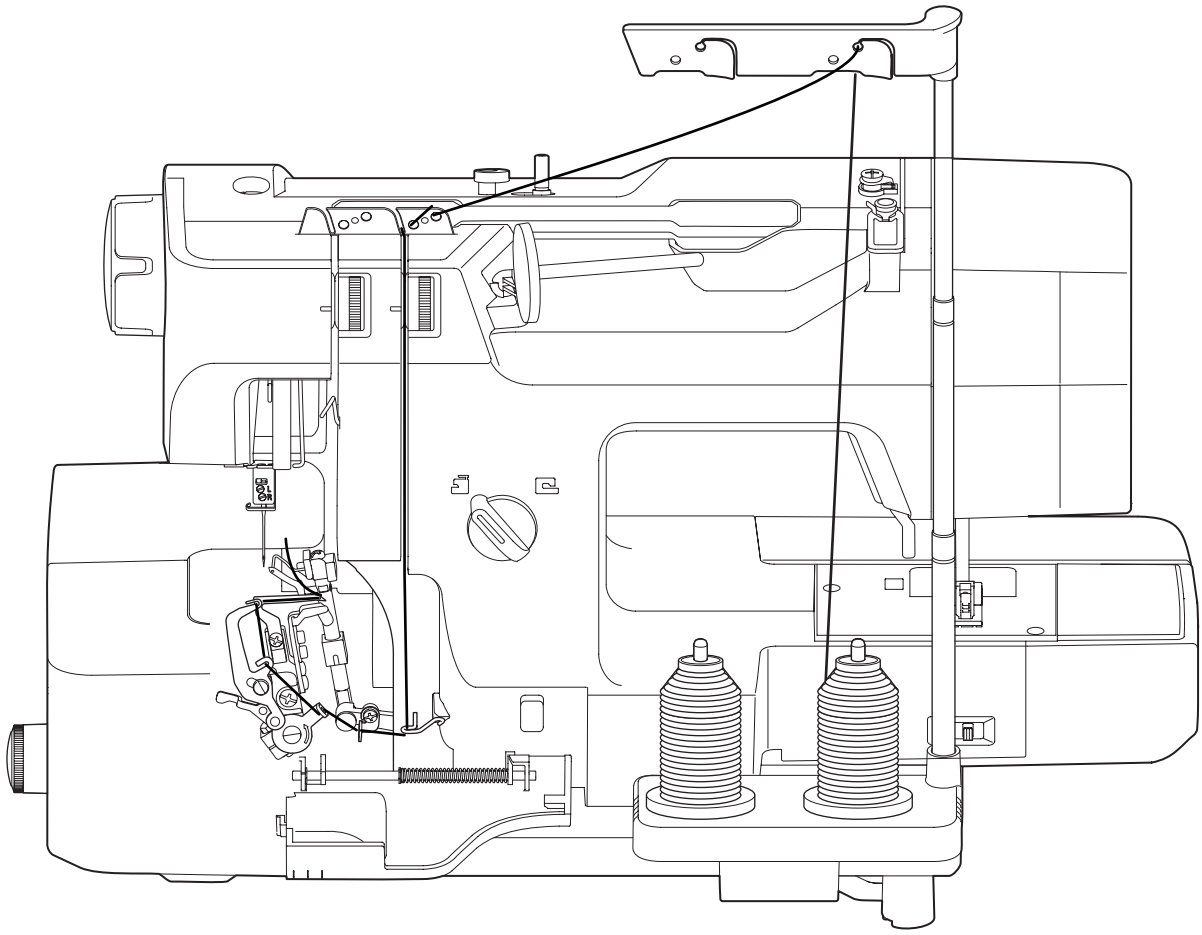
6. Then pull out the thread to the back approximately 10 cm (4˝) away from the presser foot.

7. Lower the presser foot, and you are now ready to sew.

*To rethread the machine easily, start from the looper thread.

NOTE:
- Refer to pages 63-65 for threading the looper.
- Refer to pages 66-68 for threading the needle.

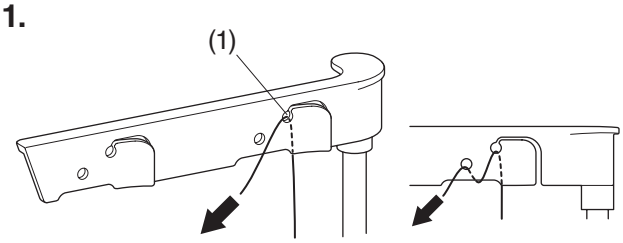
Threading the Looper



⚠ CAUTION:
Turn OFF the power switch before threading the machine.

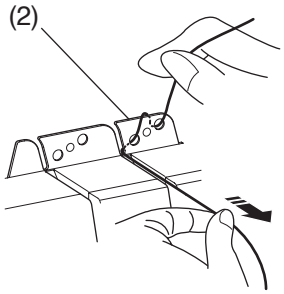
NOTE:
- Raise the presser foot lifter for easier threading.
- Open the looper cover and side cover.
- Place the spool of thread on the right side spool pin.
- The points to thread for looper are marked in green.
- A convenient threading chart is placed on the machine body inside the looper cover.

1.

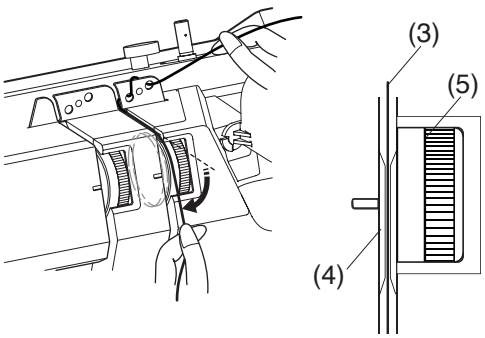


(A) **(B)**

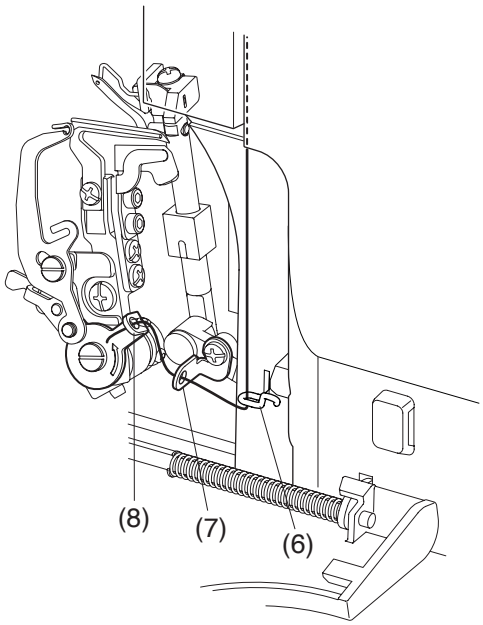
2.



3.



4. 5. 6.



1. Draw the thread through the right side thread guide from back to front: **(A)**

(1) Thread guide

NOTE:
If the thread is coming out from the thread guide groove, pass the thread through the thread guide hole again as shown: **(B)**

2. Pass the thread through the holes in the thread guide plate (right) as illustrated.

(2) Thread guide plate (right)

3. Hold the thread at both ends and tug gently to ensure the thread is correctly inserted between the tension disks (if the presser foot lifter is raised, the thread easily inserts between the tension disks).

(3) Thread
(4) Tension disk
(5) Looper thread tension dial

4. Pass the thread through the lower thread guide.

(6) Lower thread guide

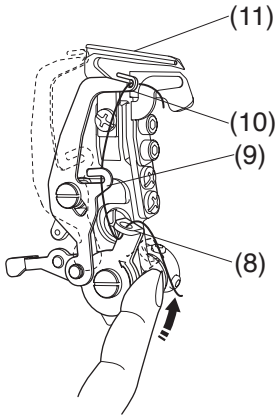
5. Pass the thread through the looper thread take-up lever (lower).

(7) Looper thread take-up lever (lower)

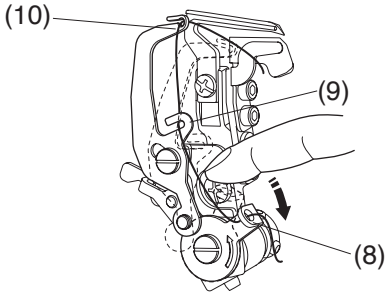
6. Pass the thread through the looper thread guide (A).

(8) Looper thread guide (A)

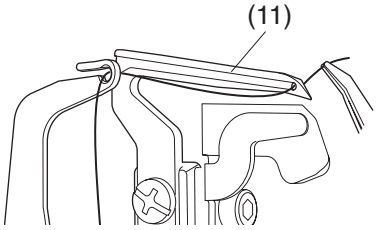
7. 8.

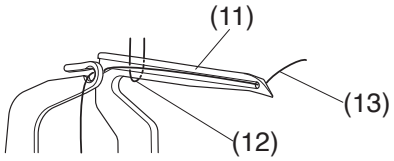


9. 10.



11.





Wrong

7. Turn the handwheel away from you to move the looper to the right side. Then lift up the looper thread guide (A). When you do this, the looper thread guides (B) and (C) are moved to the right for easy threading.

(8) Looper thread guide (A)
(9) Looper thread guide (B)
(10) Looper thread guide (C)
(11) Looper

8. Pass the thread through the looper thread guide (B). Pass the thread through the looper thread guide (C).

(9) Looper thread guide (B)
(10) Looper thread guide (C)

9. Holding the end of the thread, push the looper thread guide (A) down with your other hand to return it to its original position.

(8) Looper thread guide (A)

10. Looper thread guides (B) and (C) will return to their original position automatically.

(9) Looper thread guide (B)
(10) Looper thread guide (C)

* You can return looper thread guides (A), (B) and (C) to their original positions automatically by turning the handwheel counterclockwise.

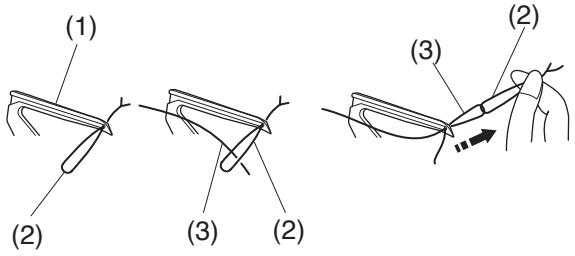
11. Move the looper to its rightmost position by turning the handwheel, and draw the thread with a pair of tweezers through the hole on the looper 10 cm (4″) or more.

(11) Looper

* Make sure the needle thread is not tangled on the looper.

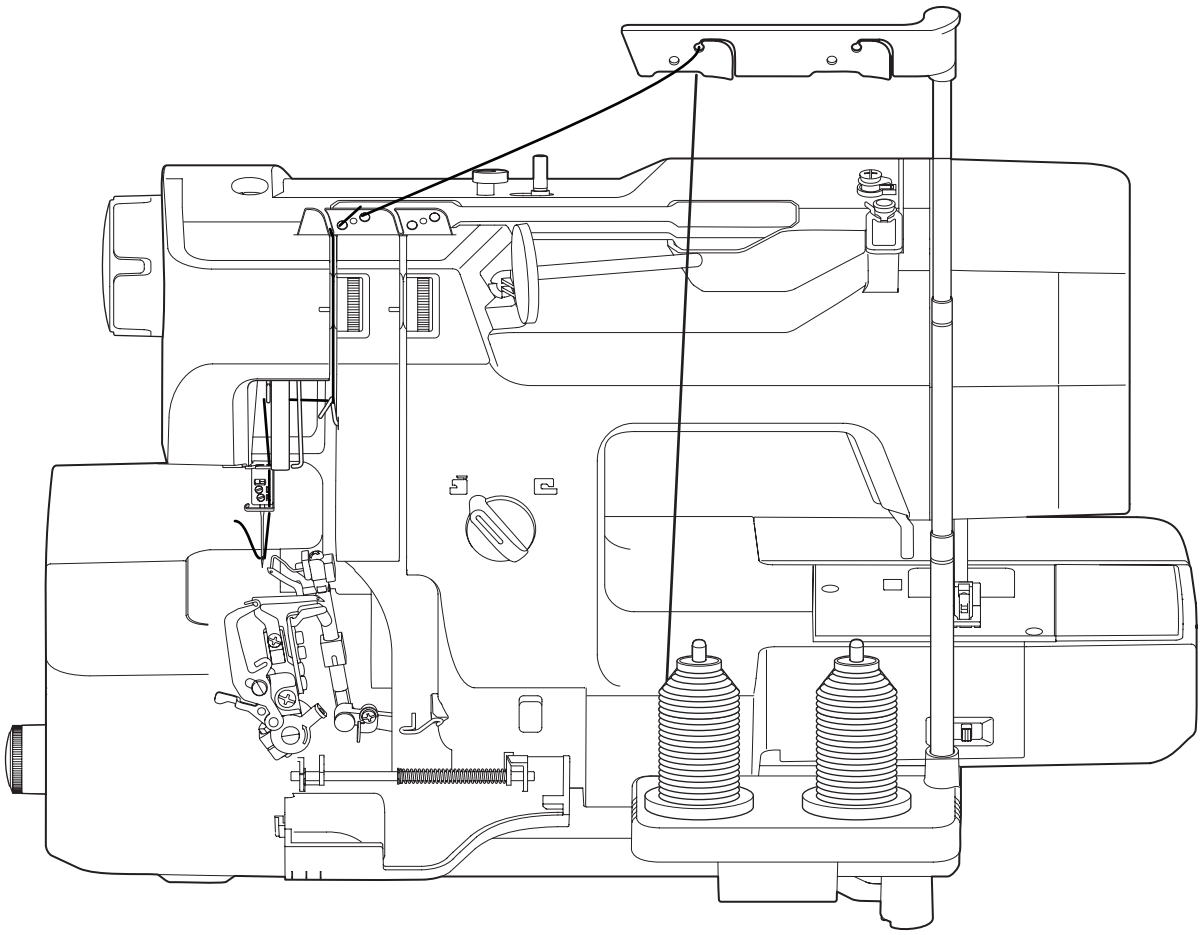
(11) Looper
(12) Needle thread
(13) Looper thread

1. **2.** **3.**



NOTE:
How to thread woolly nylon thread:
The illustration at left shows one of the easiest ways to pass woolly nylon thread through the looper.
(1) Looper
(2) Ordinary thread
(3) Woolly nylon thread

Threading the Needle



⚠ CAUTION:
Turn OFF the power switch before threading the machine.

NOTE:
- Raise the presser foot lifter for easier threading.
- Place the spool of thread on the left side spool pin.
- The points to thread for the needles are marked in orange.
- A convenient threading chart is placed on the machine body inside the looper cover.

1. Draw the thread through the left side thread guide from back to front: **(A)**

(1) Thread guide

NOTE:
If the thread is coming out from the thread guide groove, pass the thread through the thread guide hole again as shown: **(B)**

2. Pass the thread through the holes in the thread guide plate (left) as illustrated.

(2) Thread guide plate (left)

3. Hold the thread at both ends and tug gently to ensure the thread is correctly inserted between the tension disks (if the presser foot lifter is raised, the thread easily inserts between the tension disks).

(3) Thread
(4) Tension disk
(5) Needle thread tension dial

4. After passing through the front cover thread guide (A), pass the thread from the bottom of the front cover thread guide (B) and the take-up lever cover from right to left.

(6) Front cover thread guide (A)
(7) Front cover thread guide (B)
(8) Take-up lever cover

5. Guide the thread over the front cover thread guide (C).

(9) Front cover thread guide (C)

6. Insert the thread into the right slot of needle thread guide plate.

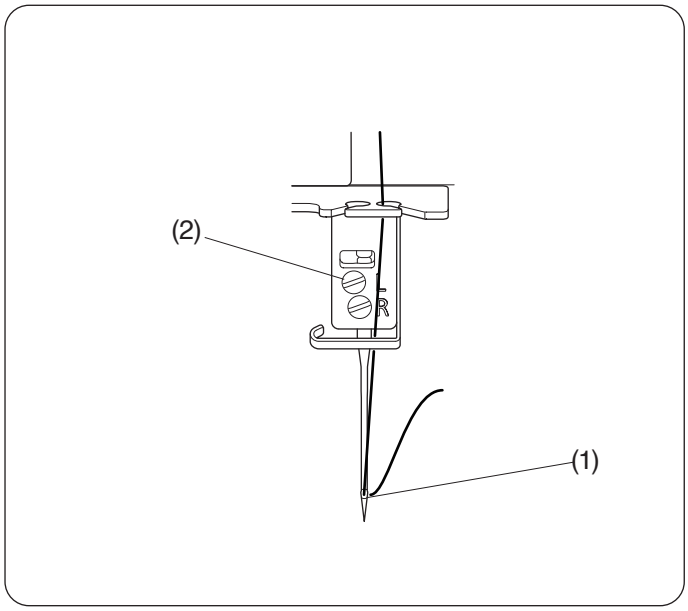
(10) Needle thread guide plate

7. Raise the needle to its highest point and pass the thread through the needle bar thread guide from left to right.

(11) Needle bar thread guide

8. Thread the right needle from front to back and pull the thread about 10 cm (4″) from the eye of the needle to the back.

(12) Needle



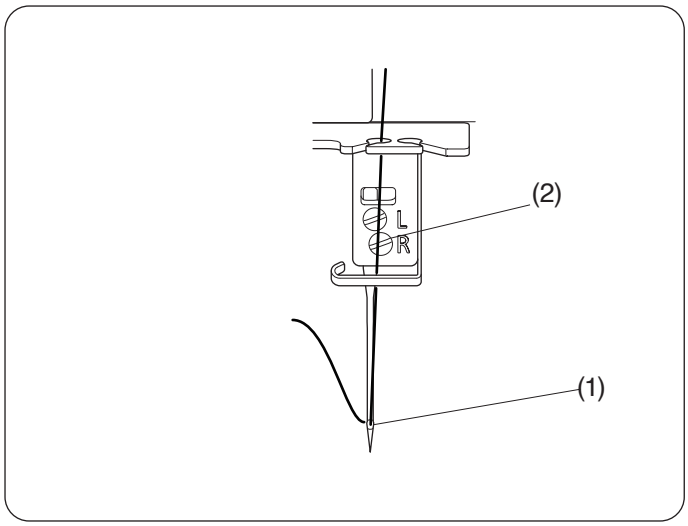
Using the needle on the right (for regular serging)

When you set the needle on the right, the standard sewing width is 3.5 mm.

The illustration on the left shows you how to thread the needle.

(1) Needle on the right
(2) Needle clamp screw on the left

NOTE:
Tighten the needle clamp screw on the side that is not being used to prevent losing the screw.



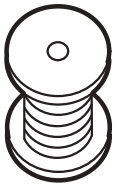
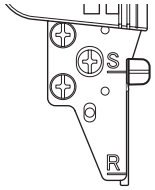
Using the needle on the left (for wide serging)

When you set the needle on the left, the standard sewing width is 5.7 mm.

The illustration on the left shows you how to thread the needle.

(1) Needle on the left
(2) Needle clamp screw on the right

Thread and Needle Chart

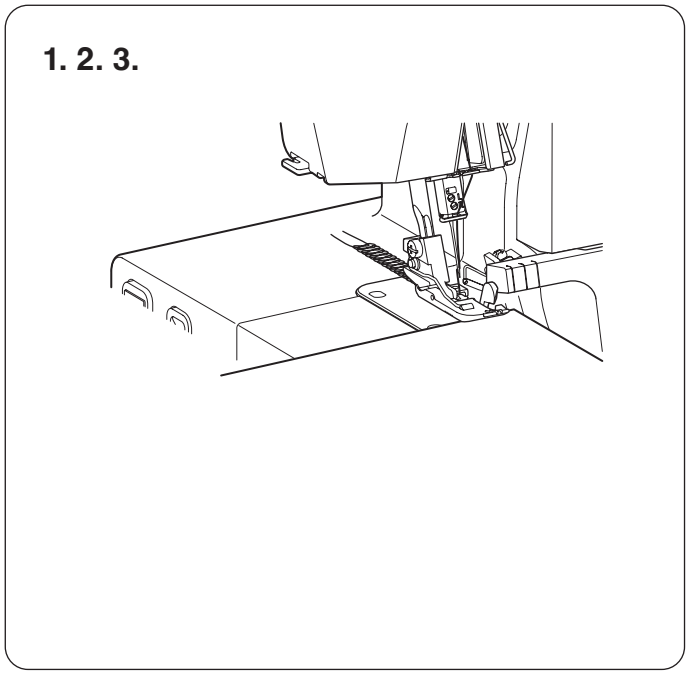
Type of fabric		Type of thread	Needle	Stitch length	Chaining finger switch knob
					
Light	Lawn Georgette Organza Crepe Lining	Synthetic #80-100	Blue tip needle HAx1 SP #11	2.0-3.0	S (standard serging)
Medium	Cotton Linen Satin Ordinary fabric	Synthetic #60-100	Blue tip needle Purple tip needle HAx1 SP #11-14	2.5-3.5	
Heavy	Denim Tweed Coating Thick fabric	Synthetic #50-60	Purple tip needle HAx1 SP #14	3.0-4.0	
Knits	Knitted fabric	Synthetic #60-90 Woolly nylon (for looper)	Blue tip needle Purple tip needle HAx1 SP #11-14	2.5-3.5	

*For details on how to adjust the stitch length, refer to page 58.

*Use woolly nylon thread as looper thread for rolled hemming and narrow hemming.

*For better results, move the cutting width to right (wide) or use the HAx1 SP #11 needle (blue tip needle) when sewing stretch fabrics such as knits (refer to page 60).

NOTE:
- Use standard sewing needles (HAx1 SP, #11, #14) for overlock side.
- Do not use needles in the envelop (part No. 639804000) for overlock side.

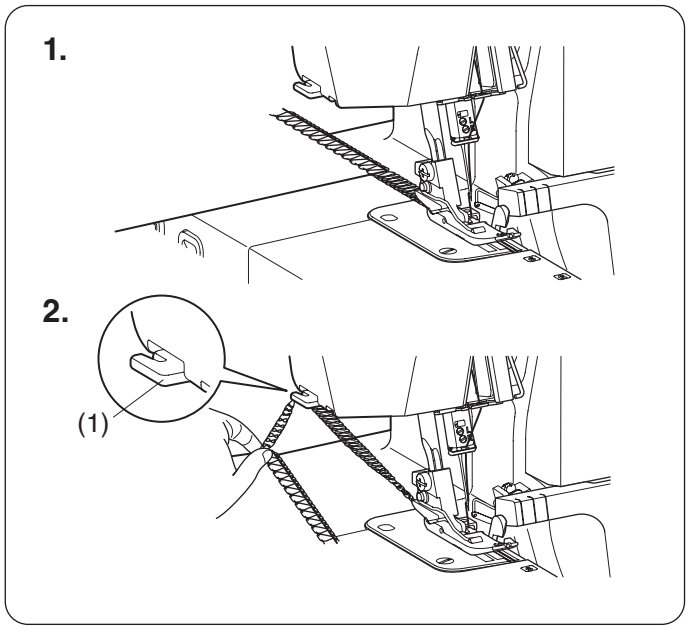


TEST STITCHING

Starting Sewing

1. Close the side cover and the looper cover. Turn the power switch ON.
2. Make sure that the upper knife is activated (in the raised position).
3. Lower the presser foot lifter.
4. Draw all of the threads back under the foot. Slowly run the machine and produce a 5 cm (2″) thread chain while gently pulling the thread chain to the back. Check the chain.
5. Insert the fabric under the toe of the foot. You do not need to raise the foot. Start sewing slowly. The fabric will automatically be fed. Guide the fabric in the desired direction.

*For heavy fabric, raise the presser foot and insert the fabric in front of the knife. Then lower the foot and start to sew while guiding the fabric.

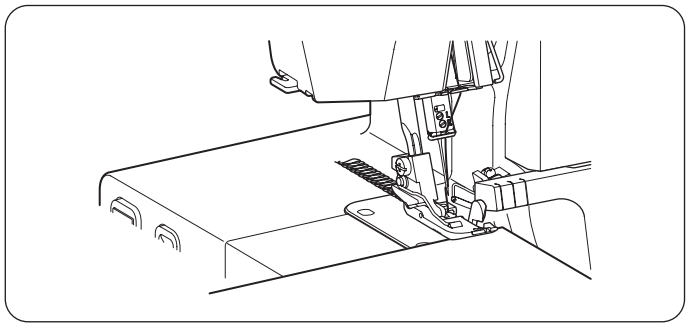


Finishing Sewing

1. When stitching is completed, continue to run the machine slowly to produce a thread chain for about 12 cm (5″) while pulling the thread chain slightly to the back.

2. Cut the threads with the thread cutter as illustrated, leaving about 5 cm (2″) thread chain from the end of the fabric.
   (1) Thread cutter

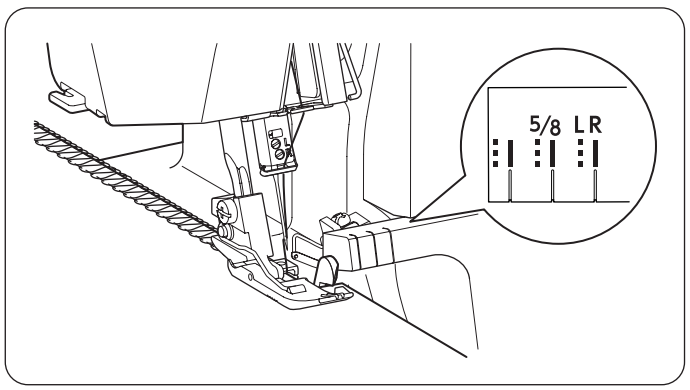
*The thread cutter becomes blunt as loose threads build up. Remove the loose threads collected in the thread cutter.



Sewing Continuously

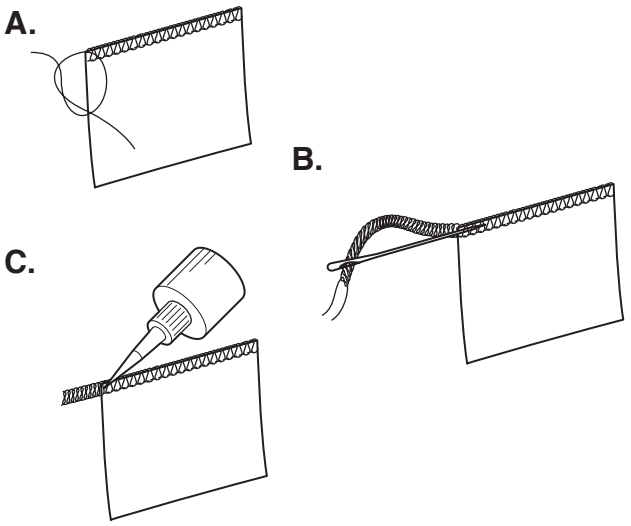
Insert the next fabric under the toe of the foot, then start sewing. It is not necessary to raise the presser foot for ordinary fabric.

*For heavy fabric, raise the presser foot and insert the fabric in front of the knife. Then lower the foot and start to sew while guiding the fabric.



How to use Guide Lines

On the top of the looper cover are guide lines indicating the distance from the needle position.
Please use them as sewing guides.
Mark R indicates the distance from the needle when it is installed on the right side (for regular serging).
Mark L indicates the distance from the needle when it is installed on the left side (for wide serging).
The distance between center of guide line and needle position is 15 mm (5/8 inch).



Securing Ends

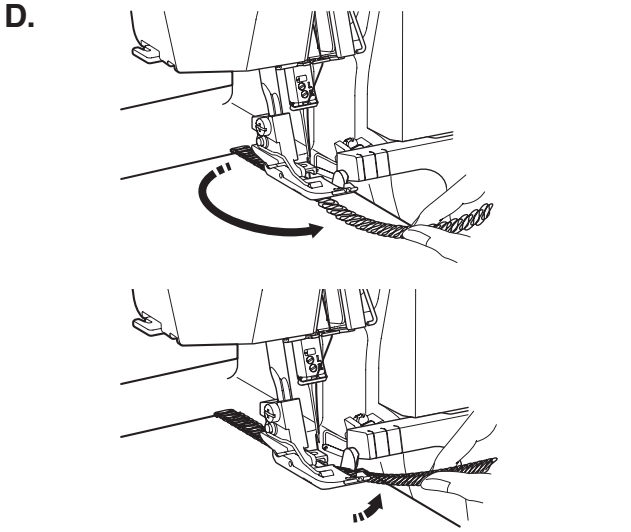
To avoid unravelling, it is necessary to leave a thread chain about 5 cm (2″) long at the beginning and at the end of a seam. To secure the beginning and end of a seam choose one of the following methods.

At the beginning of a seam

A. Separate and tie the thread ends together.

B. Thread the chain through a large eyed needle, and weave the chain through the overlock stitches on the fabric.

C. Cut the chain at the edge of the fabric. Then apply a small amount of seam sealant (Fray Check™ or Fray-No-More™) on the end of the threads.



D. Secure the beginning with the machine.

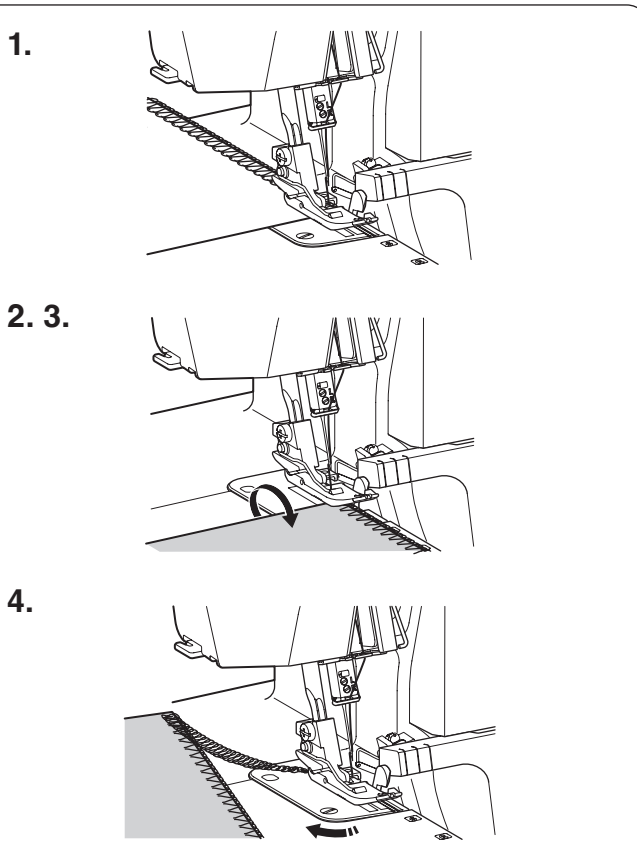
1. Before putting your fabric on the machine, sew a thread chain about 5 cm (2″) long behind the needle.

2. Put your fabric on the machine. Then serge a few stitches and stop.

3. Raise the presser foot and bring the thread chain from the left, around and under the presser foot.

4. Place the thread chain between the presser foot and upper knife, holding it in position as you lower the presser foot to sew.

5. After sewing about 2.5 cm (1″), move the chain to the right and under the upper knife, cutting the chain as you sew.



At the end of a seam

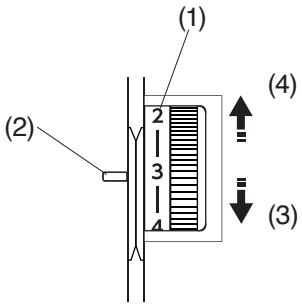
Securing the seam end with the machine.

1. Serge one stitch off the end of a seam.

2. Raise the needle and presser foot, and gently pull the threads off the chaining finger.

3. Turn the fabric over so that the under side is up.

4. Serge about 2.5 cm (1″) over stitching and angle off the fabric.



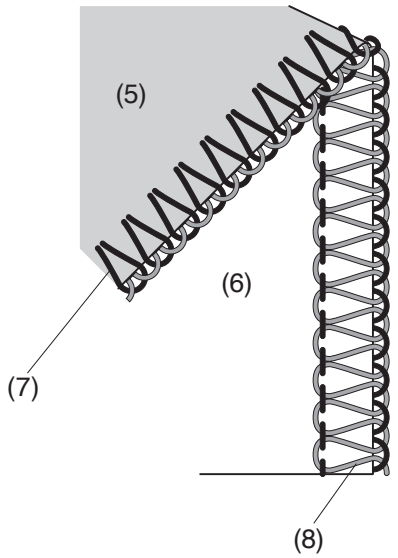
Thread Tension

Adjusting the thread tension

Set the needle thread tension dial to “3”.
Set the looper thread tension dial to “3”.
Sew and check the thread tension.
If the tension on the test piece is not satisfactory, you can adjust the thread tension with the thread tension dial. Adjust in the order of needle thread tension to looper thread tension.

(1) Thread tension dial
(2) Setting mark
(3) Loosen
(4) Tighten

NOTE:
For better results, loosen the needle thread tension when you sew light fabrics, and tighten the needle thread tension when you sew heavy fabric.

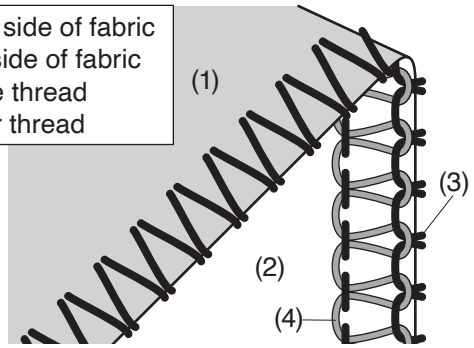
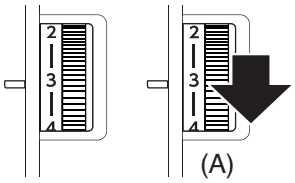
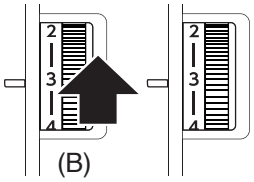
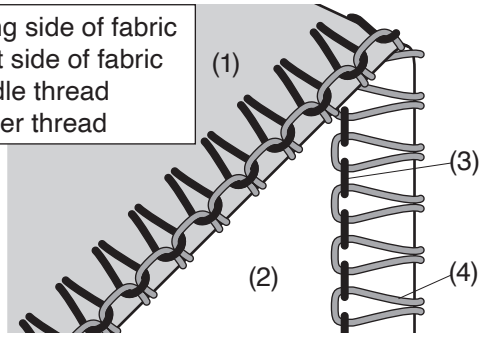
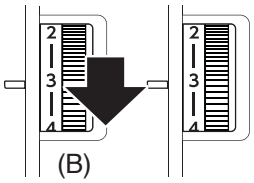
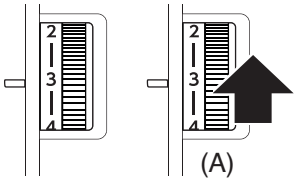
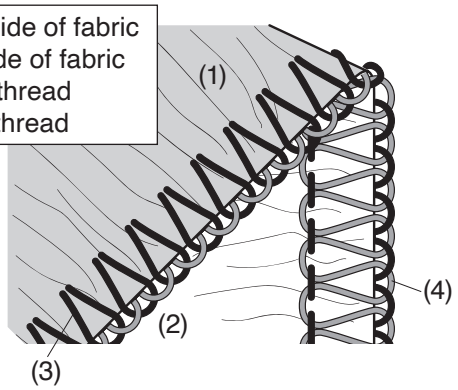
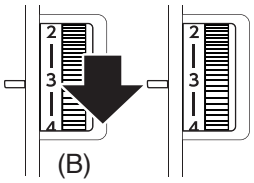
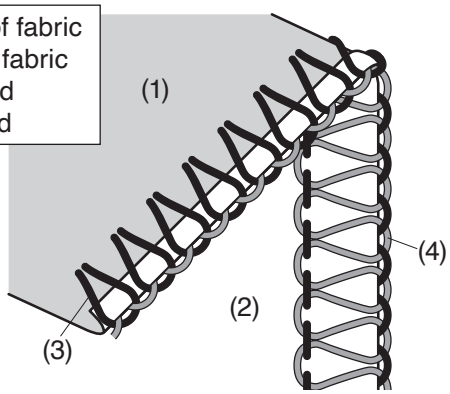
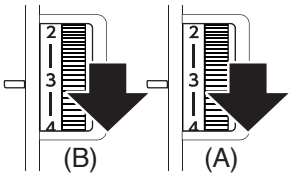
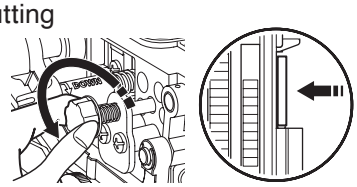


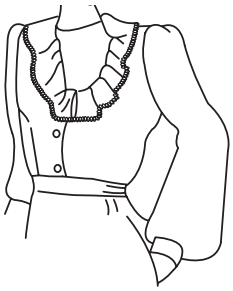
Correct tension

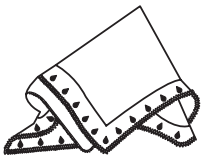
The illustration to the left shows a seam sewn at the correct tension. The looper thread and needle thread should be on the edge of the fabric. There should be no floating or play in the left or right needle thread on both sides of the fabric. Note that you may need to adjust the thread tension depending on the fabric and thread being used.

(5) Wrong side of fabric
(6) Right side of fabric
(7) Needle thread
(8) Looper thread

Adjusting the Setting of the Machine

Condition	Remedy
(A) Looper thread tension (B) Needle thread tension	
Needle/Looper thread tension is out of balance (1) The illustration shows a seam sewn when the looper thread tension is too tight and/or the needle thread tension is too loose. (1) Wrong side of fabric (2) Right side of fabric (3) Needle thread (4) Looper thread 	**Remedy A:** Loosen the looper thread tension (A).  **Remedy B:** Tighten the needle thread tension (B). 
Needle/Looper thread tension is out of balance (2) The illustration shows a seam sewn when the needle thread tension is too tight and/or the looper thread tension is too loose. (1) Wrong side of fabric (2) Right side of fabric (3) Needle thread (4) Looper thread 	**Remedy A:** Loosen the needle thread tension (B).  **Remedy B:** Tighten the looper thread tension (A). 
Wrinkles appear on the fabric (1) Wrong side of fabric (2) Right side of fabric (3) Needle thread (4) Looper thread 	**Remedy A:** Loosen the needle thread tension (B). 
The fabric is curling in the seams (1) Wrong side of fabric (2) Right side of fabric (3) Needle thread (4) Looper thread 	**Remedy A:** Loosen the looper thread tension (A) and the needle thread tension (B).  **Remedy B:** Move the cutting width to left (narrow). (refer to page 60) 



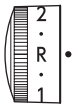
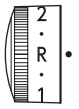
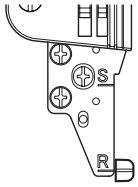
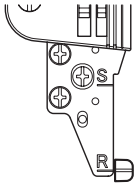
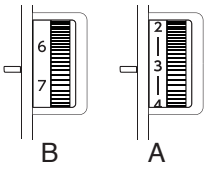
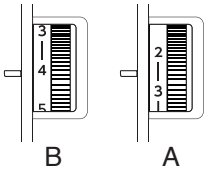
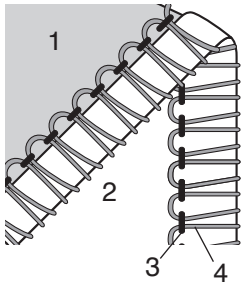
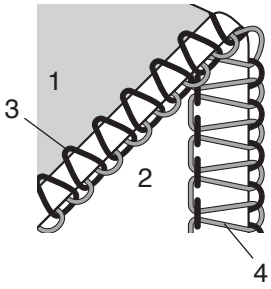


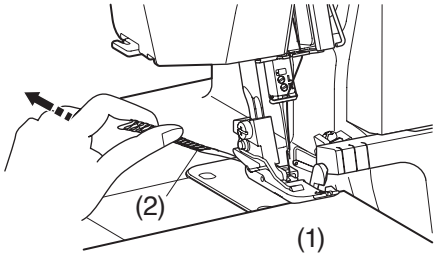
ROLLED HEMMING AND NARROW HEMMING

Tension Dial and Machine Settings According to the Thread and Fabric

The setting of tension dials may vary depending on the type and thickness of fabric and thread being sewn.

⚠ CAUTION:
Make sure to turn the power switch OFF before changing the needle or setting the chaining finger switch knob.

	Rolled Hemming	Narrow Hemming
Stitch length	 (R)	 (R)
Chaining finger switch knob	 (R)	 (R)
Upper knife	Activated	
Needle	Using the right needle: HAx1 SP #11	
Needle thread	Synthetic: #80-100	
Looper thread	Woolly nylon, Synthetic: #80-100	Woolly nylon
Fabric	Light fabric such as organdy, crepe de chine, lawn and georgette	
Standard setting of tension dials		
	(A) Looper thread tension (B) Needle thread tension *When you use a woolly nylon thread for rolled hemming, loosen the looper thread tension that holds a woolly nylon thread (A).	
Correct thread tension		
	1. Wrong side of fabric 2. Right side of fabric 3. Needle thread 4. Looper thread	

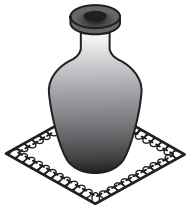


For Better Results

Rolled hemming

Gently pull the end of thread chain to the back at the beginning and end of sewing.
Gently pull the fabric toward you while sewing.

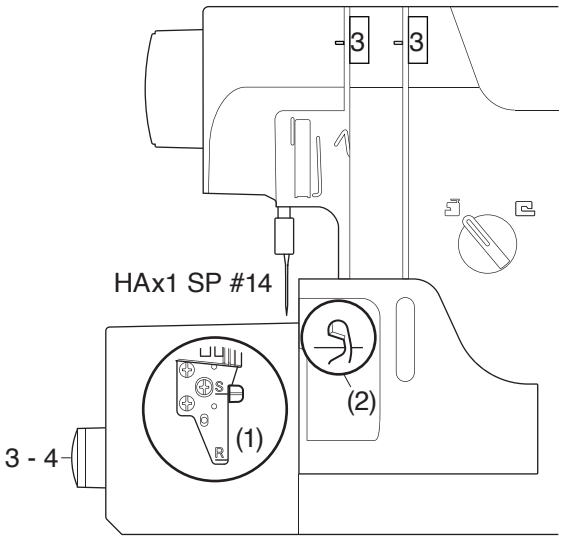
(1) Fabric
(2) Thread chain



ADVANCED TECHNIQUES

Decorative Overedging

NOTE:
- You may need to adjust the thread tension.
- Refer to page 73 for thread tension balance adjustment.



⚠ CAUTION:
Make sure to turn the power switch off before changing the needle, deactivating/activating the upper knife or setting the chaining finger switch knob.

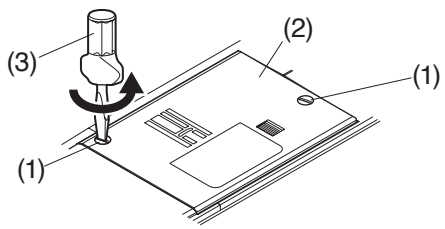
Thread and Fabric

Fabric	Thread	
Medium to Heavy Fabric	Needle thread	Synthetic: #60-80
	Looper thread	Decorative thread * Use a standard thread for threading.

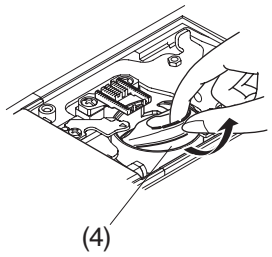
Machine Setting

(1) Chaining finger switch knob : S (refer to page 61)
(2) Upper knife : Activated (refer to page 59)

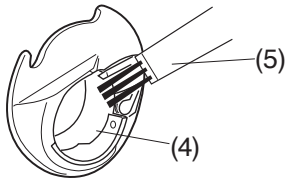
1.



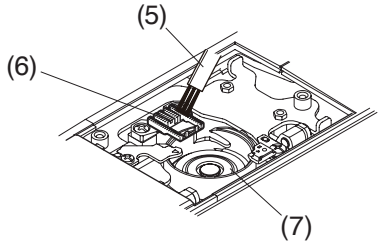
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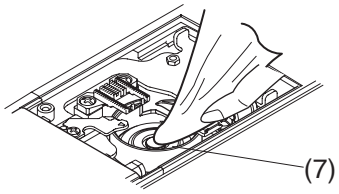
3.



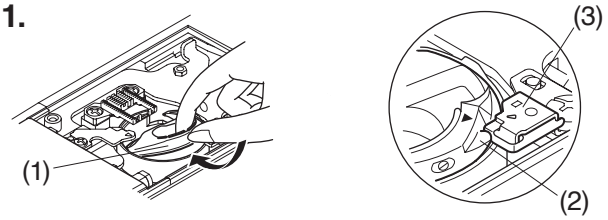
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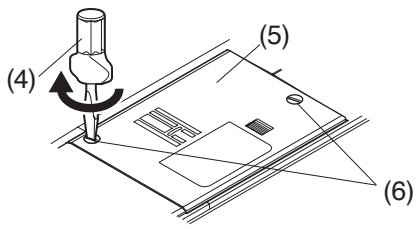
5.



1.



2.



CARE OF YOUR MACHINE (FOR ORDINARY SEWING SIDE)

Cleaning the Hook Race and Feed Dogs

⚠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 place with high humidity, near a radiator, or in direct sunlight. Store the machine in cool dry place.

NOTE:

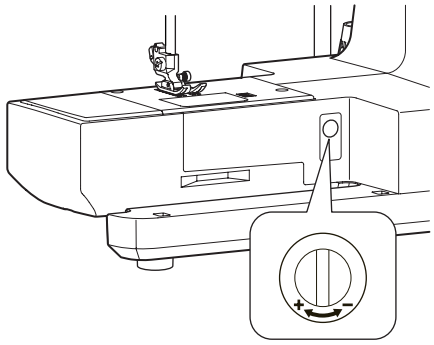
Clean the outside of the machine with a soft cloth and neutral soap.

Press the needle up/down button to raise the needle, turn the power switch off, then unplug the sewing machine. Remove the needle and foot holder (refer to pages 16, 18).
Remove the hook cover plate by sliding the hook 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 setscrews on the needle plate with the screwdriver (large) supplied with the machine. Remove the needle plate.
   (1) Setscrew
   (2) Needle plate
   (3) Screwdriver (large)
2. Lift up the bobbin holder and remove it.
   (4) Bobbin holder
3. Clean the bobbin holder with a lint brush.
   (5) Lint brush
4. Clean the feed dogs and hook race with the lint brush.
   (6) Feed dogs
   (7) Hook race
5. Clean the inside of the hook race with a dry cloth. You may also use a vacuum cleaner.
   (7) Hook race

Installing the Bobbin Holder

1. Insert the bobbin holder so that the knob fits next to the stopper in the hook race.
   (1) Bobbin holder
   (2) Knob
   (3) Stopper
2. Attach the needle plate with the setscrews, using the large screwdriver supplied with the machine.
   After cleaning the machine, make sure the needle and foot holder are attached (refer to pages 16, 18).
   (4) Screwdriver (large)
   (5) Needle plate
   (6) Setscrew



(1)

(stitch pattern: 26)

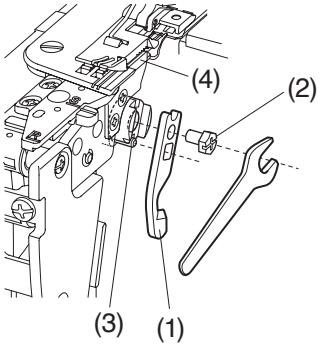


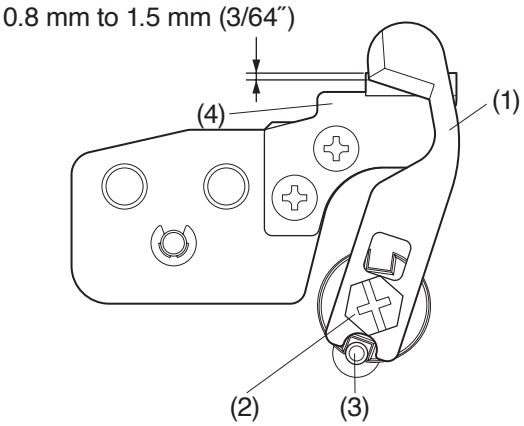
Correcting Deformed Stitch Patterns

The sewing results of stretch stitch patterns may vary depending on sewing conditions, such as sewing speed, fabric type, number of layers etc.
If stretch stitch patterns are deformed, correct them by turning the feed balancing dial with the screwdriver.

If the pattern is compressed, turn the dial in the direction of “+”.
If the pattern is drawn out, turn the dial in the direction of “–”.

(1) Feed balancing dial





CARE OF YOUR MACHINE (FOR OVERLOCK SIDE)

Replacing the Upper Knife

⚠ CAUTION:
Make sure to turn the power switch OFF and unplug the machine before replacing the upper knife.

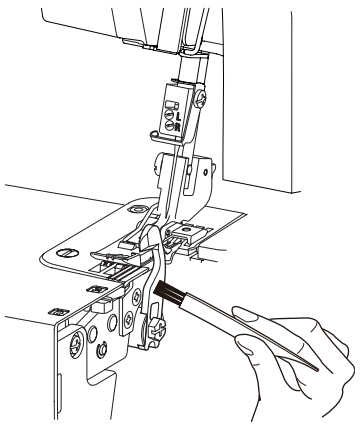
To remove:

1. Open the looper cover and side cover.
2. Set the upper knife to down position.
3. Remove the hexagonal bolt, and remove the upper knife.
   (1) Upper knife
   (2) Hexagonal bolt
   (3) Stopper pin
   (4) Lower knife

*A spanner and a spare upper knife are optional items.

To attach:

1. Insert new upper knife into the groove of knife holder and stopper pin, then tighten the hexagonal bolt slightly.
   (1) Upper knife
   (2) Hexagonal bolt
   (3) Stopper pin
2. Set the upper knife to up position.
   (1) Upper knife
3. Turn the handwheel away from you until the upper knife comes to its lowest position.
   Loosen the hexagonal bolt, and adjust the position of the upper knife so that the edge of the upper knife overlaps 0.8 mm to 1.5 mm (3/64″) from the edge of lower knife as illustrated.
   Then tighten the hexagonal bolt firmly.
   (2) Hexagonal bolt
   (4) Lower knife
4. Close the looper cover and side cover.



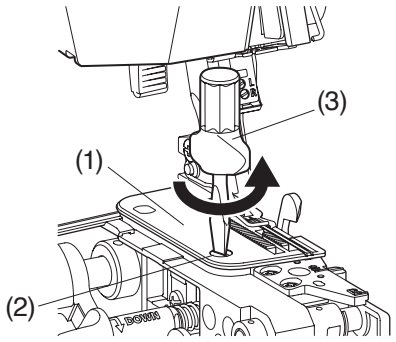
Cleaning Upper Knife Area

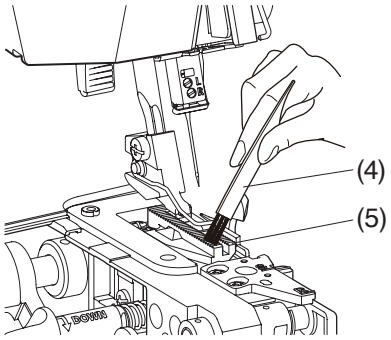
⚠ CAUTION:
Make sure to turn the power switch OFF and unplug the machine before cleaning the machine.

Open the looper cover. Remove the waste pieces to the front with a lint brush.

*You may use a vacuum cleaner to clean the upper knife area or feed dogs.

*The lower knife will last over one year with normal use. However, if you run over a pin or a hard object, it may be required to replace both upper and lower knives at the same time.





Cleaning the Feed Dogs

⚠ CAUTION:
Turn OFF the power switch and unplug the machine before cleaning.
Do not dismantle the machine in any way other than what is explained in this section.

1. Open the looper cover and side cover.
2. Remove the needle and presser foot (refer to pages 56 and 57).
3. Remove the needle plate set screw with the screwdriver (large) supplied with the machine, and remove the needle plate.
   (1) Needle plate
   (2) Needle plate set screw
   (3) Screwdriver (large)
4. Brush out the lint around the feed dogs to the front by using the lint brush or use a vacuum cleaner.
   (4) Lint brush
   (5) Feed dogs
5. Reattach the needle plate, presser foot and needle. Close the looper cover and side cover.

NOTE:
Machines with high usage tend to have lint or dust in areas beyond reach which can lead to malfunctions. Periodic maintenance is recommended for such machines. Contact the store you purchased the machine.

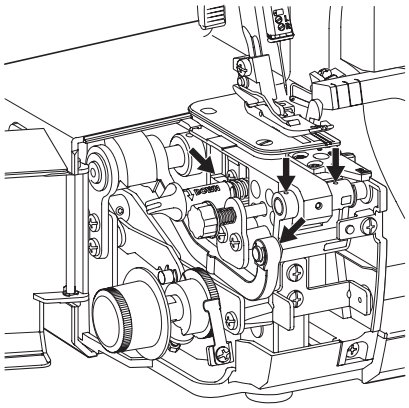
Oiling the Machine

⚠ CAUTION:
Make sure to turn the power switch OFF before oiling the machine.

NOTE:
It is recommended to apply oil once a week for normal use or once every 10 hours for continuous use.

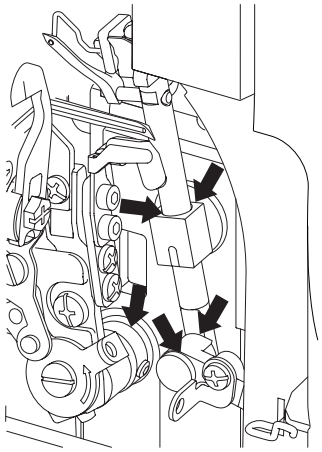
Apply a few drops of fine quality sewing machine oil to the parts indicated with arrows.

1.



2. Open the side cover and apply oil.

2.

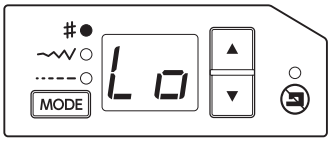
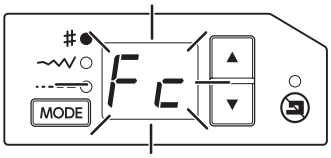
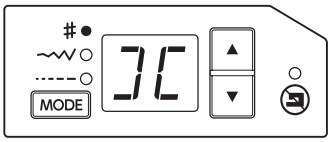
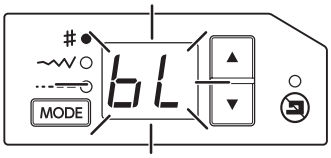
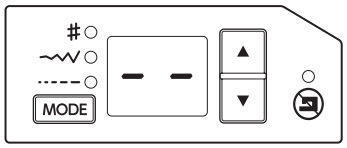
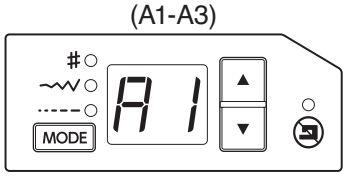


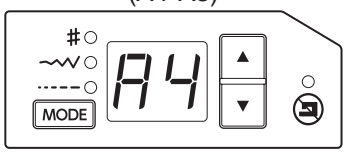
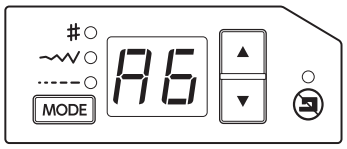
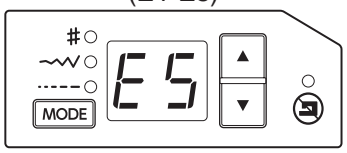
2. Open the looper cover and apply oil.

TROUBLESHOOTING

Problems and Warning Signals

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

Warning Sign	Cause	Try this
	The machine is started after halting due to overload.	Wait for at least 15 seconds to restart. Turn the power switch OFF. Remove tangled threads around take-up lever and hook race.
	The start/stop button is pressed with the foot control connected.	Disconnect the foot control.
	The foot control was disconnected while the machine was running.	Connect the foot control again and turn the power switch OFF, then turn it back ON.
	The foot control was connected while the machine was running.	Turn the power switch OFF, then turn it back ON.
	The foot control is broken.	Contact the service center or the store from whom the machine was purchased.
	The foot control was connected to the machine while depressing the foot control.	Release your foot from the foot control and wait for few seconds.
	The power switch was turned on while depressing the foot control.	
	The foot control was depressed directly after connecting it to the machine.	
	The bobbin winder spindle is shifted to the right.	Shift the bobbin winder spindle to the left for stitching.
	The machine will stop if the buttonhole is sewn without lowering the buttonhole lever.	Lower the buttonhole lever and start the machine again.
	The turntable lever is not fully pushed to the right side (the machine is in the lifted position), or the ordinary sewing/overlock switching lever is in an intermediate position.	Fully push the turntable lever to the right side. If the ordinary sewing/overlock switching lever is in an intermediate position, switch it to either side.
(A1-A3) 	The machine does not work properly due to a problem in the control circuit or mechanical malfunction.	Contact the service center or the store from whom the machine was purchased.

Warning Sign	Cause	Try this
(A4-A5) 	The ordinary sewing/overlock switching lever is turned while the machine is running.	Turn the power switch OFF, then turn it back ON.
	The turntable lever is turned while the machine is running.	
(E4-E8) 	The machine does not work properly due to a problem in the control circuit.	Contact the service center or the store from whom the machine was purchased.

Audible Signal	The Buzzer sounds when:
pip	Normal operation.
pip-pip-pip	Invalid operation or malfunction.
peep	A1-A6 or E4-E8 error occurred.
pip-pip-peep	Buttonhole is completed.

It is not abnormal that a faint humming sound comes out from inside the machine.
LCD display may get warm when the machine has been used for hours.

Troubleshooting

Ordinary sewing side

Condition	Cause	Reference
The needle thread breaks	1. The needle thread is not threaded properly. 2. The needle thread tension is too tight. 3. The needle is bent or blunt. The needle is incorrectly inserted. 4. The needle thread and bobbin thread are not set under the presser foot when sewing starts. 5. The thread is either too heavy or too fine for the needle. 6. Thread is jammed in the hook area. 7. The thread is tangled around the spool.	Page 23 Page 17 Page 19 Page 18 Page 25 Page 19 Page 76 Use the spool holder.
The bobbin thread breaks	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 does not turn smoothly. 4. The thread is wound loosely on the bobbin.	Page 22 Page 76 Change the bobbin. Page 21
The needle breaks	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. 5. An inappropriate presser foot is used. 6. The needle is bent or blunt. 7. The needle thread tension is too tight.	Page 18 Page 18 Page 27 Page 19 Use the correct foot. Page 19 Page 17
Skipped stitches	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 light fabrics and synthetics. 4. The needle thread is not threaded properly. 5. A poor quality needle is used. 6. A stabilizer is not used when sewing stretch fabrics.	Pages 18-19 Page 19 Use the stretch stitch needle. Page 23 Change the needle Apply a stabilizer.
Seam puckering	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. 5. A stabilizer is not used when sewing very light fabrics. 6. The needle thread or the bobbin thread is not threaded properly. 7. The stitch width is too wide for the fabric.	Page 17 Page 23 Page 19 Make stitch shorter. Apply a stabilizer. Pages 22-23 Reduce the stitch width.
The fabric is not feeding smoothly	1. The feed dogs are packed with lint. 2. The stitches are too fine. 3. The feed dogs are not raised after “drop feed” sewing. 4. Heavy fabric is not feeding smoothly at the beginning of sewing.	Page 76 Make stitch longer. Page 18 Page 26
The machine does not work	1. The machine is not plugged in firmly. 2. The power switch is turned off. 3. Thread has been caught in the hook race. 4. The start/stop button is used when the foot control is plugged in. 5. The bobbin winder spindle is not returned to the left after bobbin winding. 6. The turntable lever is not fully pushed to the right (the machine is in the lifted position). 7. The ordinary sewing/overlock switching lever is in the overlock setting position.	Pages 10-11 Pages 10-11 Page 76 Page 10 Page 21 Pages 8-9 Pages 8-9
Loops on the seams	1. The needle thread tension is too loose. 2. The needle is too thick or too fine for the fabric.	Page 17 Page 19

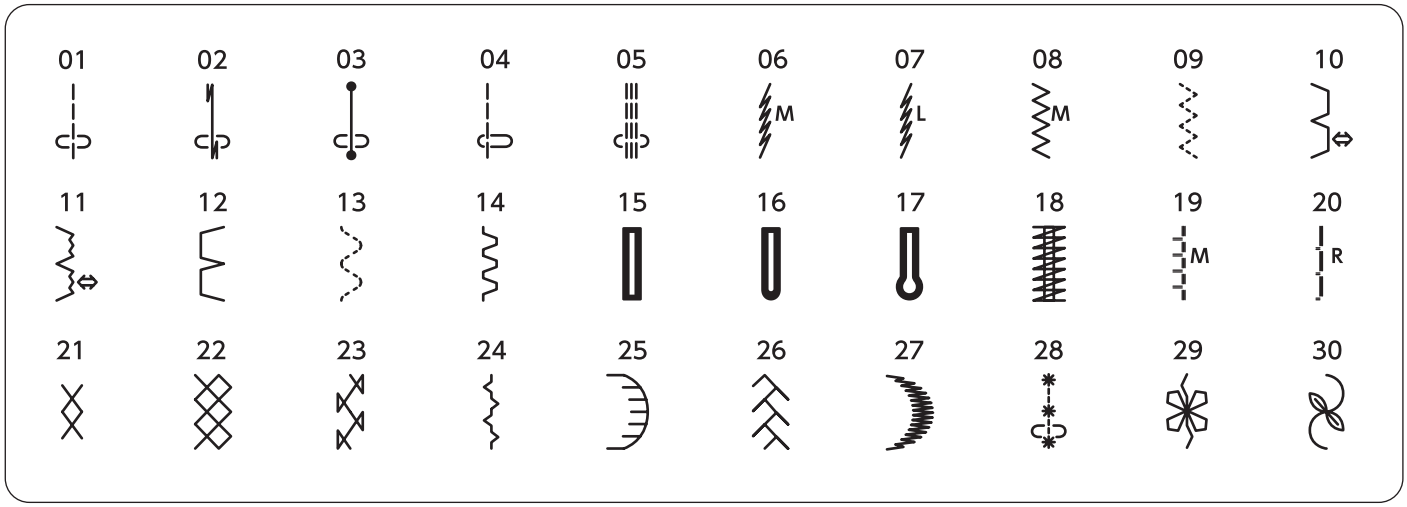
Condition	Cause	Reference
Buttonholes are not sewn properly.	1. The stitch density is not suitable for the fabric being sewn. 2. The interfacing has not been used for the stretch or synthetic fabric. 3. The buttonhole lever is not lowered.	Page 38 Apply an interfacing. Page 36
The machine is noisy	1. Thread is caught in the hook race. 2. Lint has built up in the hook race or bobbin holder. 3. The feed dogs are packed with lint.	Page 76 Page 76 Page 76

Overlock side

Condition	Cause	Reference
The fabric is not being fed smoothly.	1. The feed dogs are packed with lint. 2. The presser foot has been raised. 3. Pressure of the foot is too weak.	Page 79 Lower the presser foot. Page 58
The needle breaks.	1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The fabric is forcedly pulled.	Page 56 Page 56 Pull the fabric lightly.
The thread breaks.	1. The machine is not correctly threaded. 2. The needle or looper thread tension is too tight. 3. The needle is incorrectly inserted. 4. The needle is bent or blunt.	Pages 62-68 Page 73 Page 56 Page 56
Skipped stitches	1. The needle is bent or blunt. 2. The machine is not correctly threaded. 3. The needle is incorrectly inserted.	Page 56 Pages 62-68 Page 56
The seam is not sewn neatly.	1. The needle and/or looper thread tension is not correctly adjusted. 2. The machine is not correctly threaded. 3. The chaining finger is not set correctly. 4. The needle and/or the thread is not suitable for the fabric being sewn. 5. The thread is not between the tension disks. 6. The stitch length is short.	Page 73 Pages 62-68 Page 61 Pages 69, 74, 75 Pages 64, 67 Page 58
Seam puckering	1. The needle or looper thread tension is too tight. 2. The machine is not correctly threaded. 3. The chaining finger is not set correctly.	Page 73 Pages 62-68 Page 61
The machine does not work.	1. The machine has not been plugged in firmly. 2. The power switch is turned off. 3. The bobbin winder spindle is not returned to the left after bobbin winding. 4. The turntable lever is not fully pushed to the right (the machine is in the lifted position). 5. The ordinary sewing/overlock switching lever is in the sewing setting position.	Page 10 Page 10 Page 21 Pages 8-9 Pages 8-9
The fabric is not cut neatly.	1. The upper knife is in the down position. 2. The position of the upper knife is not adjusted properly. 3. The upper knife is dull.	Page 59 Page 78 Replace the upper knife (page 78).
The fabric curls.	1. The needle or looper thread tension is too tight. 2. The chaining finger is not set correctly.	Page 73 Page 61
The cutting width is too narrow or too wide for the seam width.	1. The cutting width is not adjusted correctly.	Page 60

STITCH CHART

For Ordinary Sewing



Version 1.01
31/7/2026

EC DECLARATION OF CONFORMITY

Manufacturer: JANOME Corporation
Address: 1463 Hazama-machi, Hachioji, Tokyo 193-0941, Japan

This machine complies with the following regulations:

EN 62233: 2008
EN IEC 60335-1: 2023 ; A11
EN IEC 60335-2-28: 2025 ; A11
EN IEC 55014-1: 2021
EN IEC 55014-2: 2021
EN 61000-3-3: 2013 ; A1 ; A2
EN IEC 61000-3-2: 2019 ; A1 ; A2