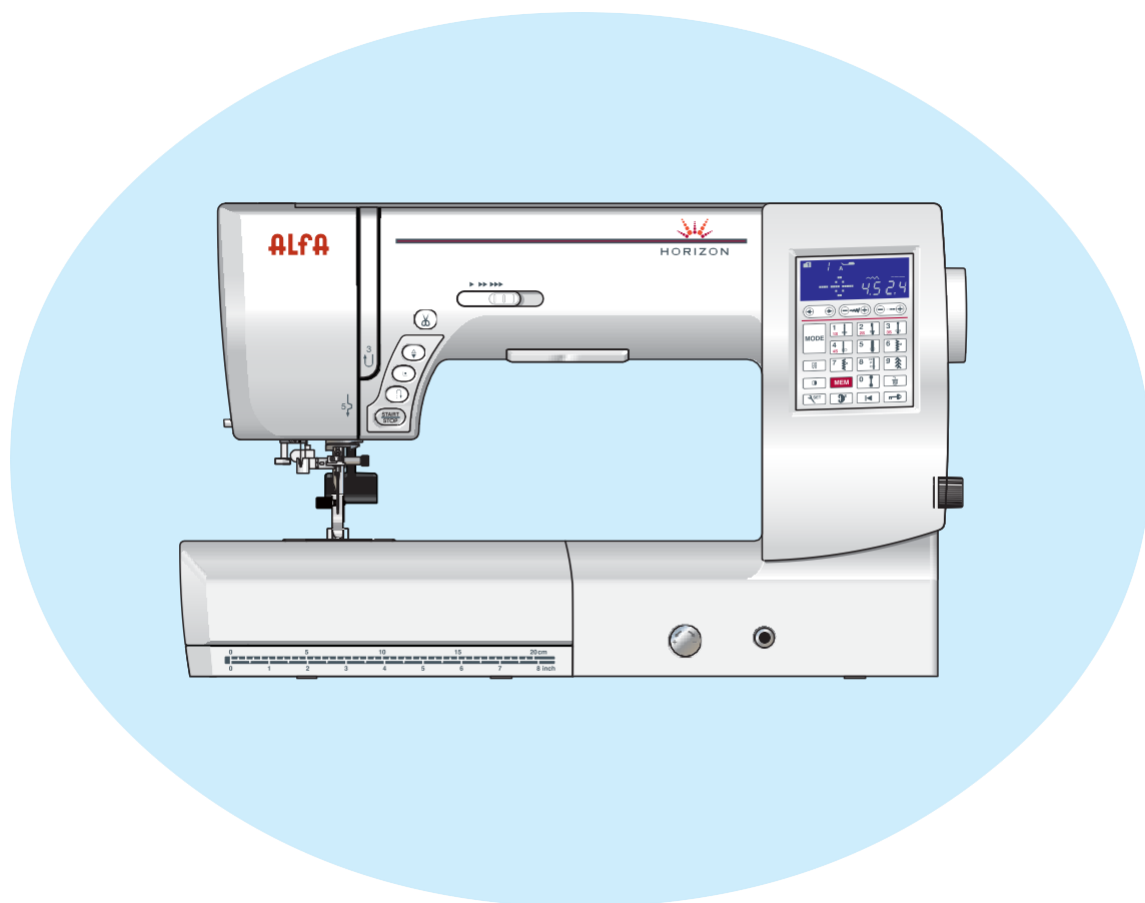


# INSTRUCTION MANUAL





# IMPORTANT SAFETY INSTRUCTIONS

Whenever you use this machine, take certain basic safety precautions: The sewing machine has been designed and manufactured for domestic use only. Read all instructions before using this machine.

**DANGER:** To reduce the risk of electric shock:

1. Never leave the machine unattended whilst it is plugged in. Always unplug the machine from the mains socket when you have finished using it and before cleaning it.

**WARNING:**

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

1. Do not allow anyone to treat the machine as if it were a toy. Take particular care when the sewing machine is being used by children or in their vicinity.
2. Use the machine only for the purposes described in this manual. Use only the accessories recommended by the manufacturer and listed in this instruction manual.
3. Never use this sewing machine if the plug or cable is damaged, if it is not working properly, if it has been knocked or damaged, or if it has been dropped in water. Send this machine to your nearest shop or service centre if it needs to be inspected, repaired or subjected to electrical or mechanical adjustments.
4. Never use the machine if any of the ventilation openings are blocked. Keep the ventilation openings on this machine and the control pedal free from lint, dust and fabric scraps.
5. Do not drop or insert any objects into any openings.
6. Do not use the machine outdoors.
7. Do not use the machine where aerosol products (sprays) are being used or where oxygen is being administered.
8. To switch off, set all controls to the OFF ("O") position and unplug the machine.
9. Do not pull on the cable to unplug the appliance. To unplug the appliance, hold the plug, not the cable.
10. Keep your fingers away from all moving parts. Take particular care around the needle area.
11. Always use the correct needle plate. An incorrect needle plate may cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push the fabric whilst the machine is stitching. The needle may veer off course and break.
14. Switch the machine off ("O") when making adjustments in the needle area, such as changing the needle or the presser foot, for example.
15. Unplug the machine whenever you need to remove a cover, lubricate it, or carry out any other repairs mentioned in this instruction manual.

## KEEP THESE INSTRUCTIONS

### For Europe only:

This appliance may be used by children aged 8 years and over and by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, provided they have been supervised or have received instructions on how to use the appliance safely and understand the hazards involved. The appliance must not be used as a toy. Children must not clean or maintain the appliance without supervision.

### For regions outside Europe (excluding the USA and Canada):

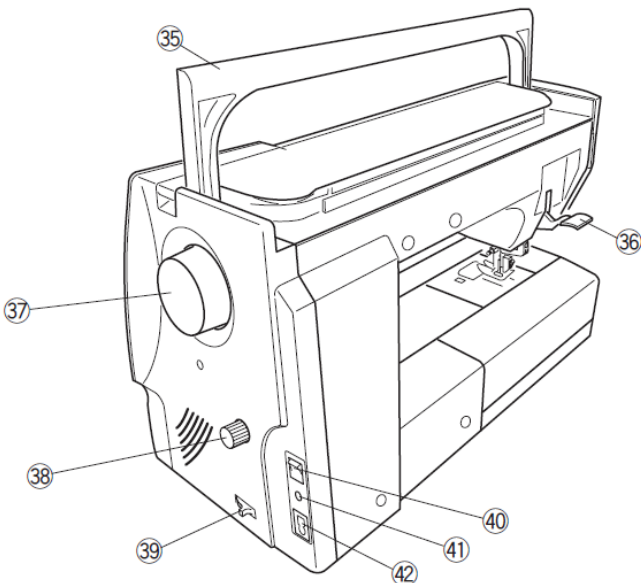
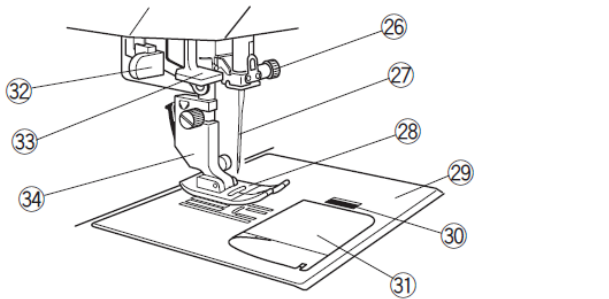
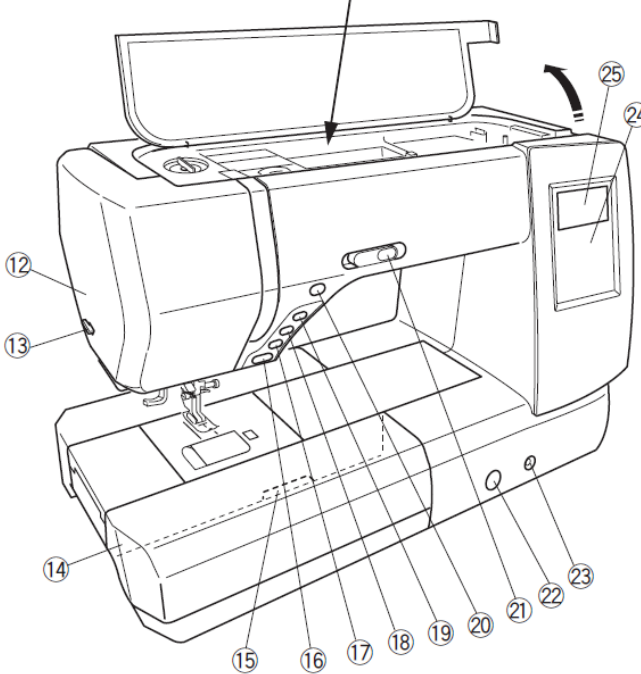
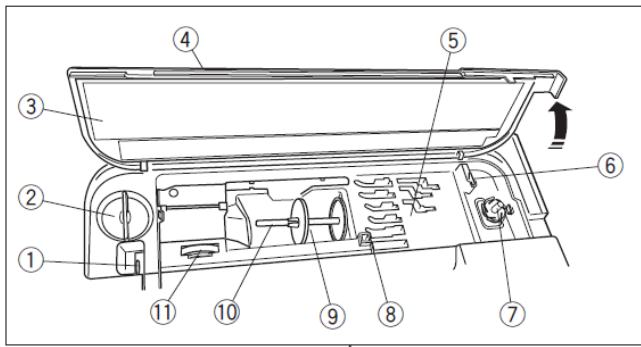
This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or have received instructions regarding the use of the machine from a person responsible for their safety. Children must be supervised to ensure that they do not play with the machine.



Please note that when you wish to dispose of this product, you must recycle it safely in accordance with national legislation relating to electrical and electronic products. If you have any queries, please contact the distributor (applicable only within the European Union).

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## NAMES OF PARTS

### Names of the parts

- 1 Thread take-up lever
- 2 Presser foot pressure indicator
- 3 Reference table
- 4 Top cover
- 5 Presser foot storage compartment
- 6 Bobbin thread cutter
- 7 Bobbin winder shaft
- 8 Hole for second bobbin pin
- 9 Spool holder (large)
- 10 Spool pin
- 11 Thread tension indicator
- 12 Front cover
- 13 Thread cutter
- 14 Extension plate (for accessories)
- 15 Needle plate release lever
- 16 Start/stop button
- 17 Reverse button
- 18 Auto-lock button
- 19 Needle up/down button
- 20 Thread cutter button
- 21 Speed control dial
- 22 Feed dog adjustment wheel
- 23 Knee lift connector
- 24 Function keys
- 25 LCD screen
- 26 Needle clamping screw
- 27 Needle
- 28 Zigzag presser foot A
- 29 Needle plate
- 30 Bobbin cover release button
- 31 Spool holder cover plate
- 32 Buttonhole lever
- 33 Needle threader #4 Presser foot holder
- 35 Carrying handle
- 36 Presser foot lifter
- 37 Handwheel
- 38 Dual feed balance selector
- 39 Lower the feed dog lever
- 40 Power switch
- 41 Pedal connector
- 42 Machine socket

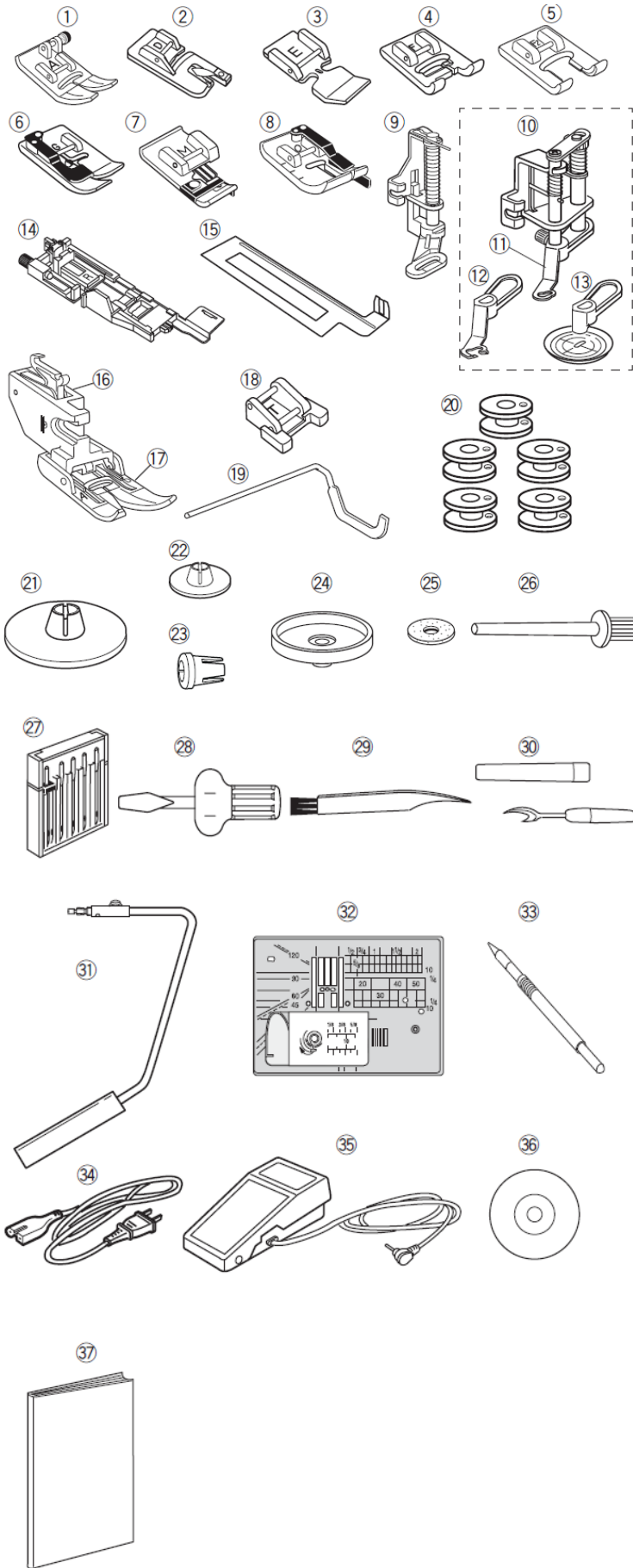
#### NOTE:

To carry the sewing machine, hold the carrying handle with one hand and support the machine with the other.

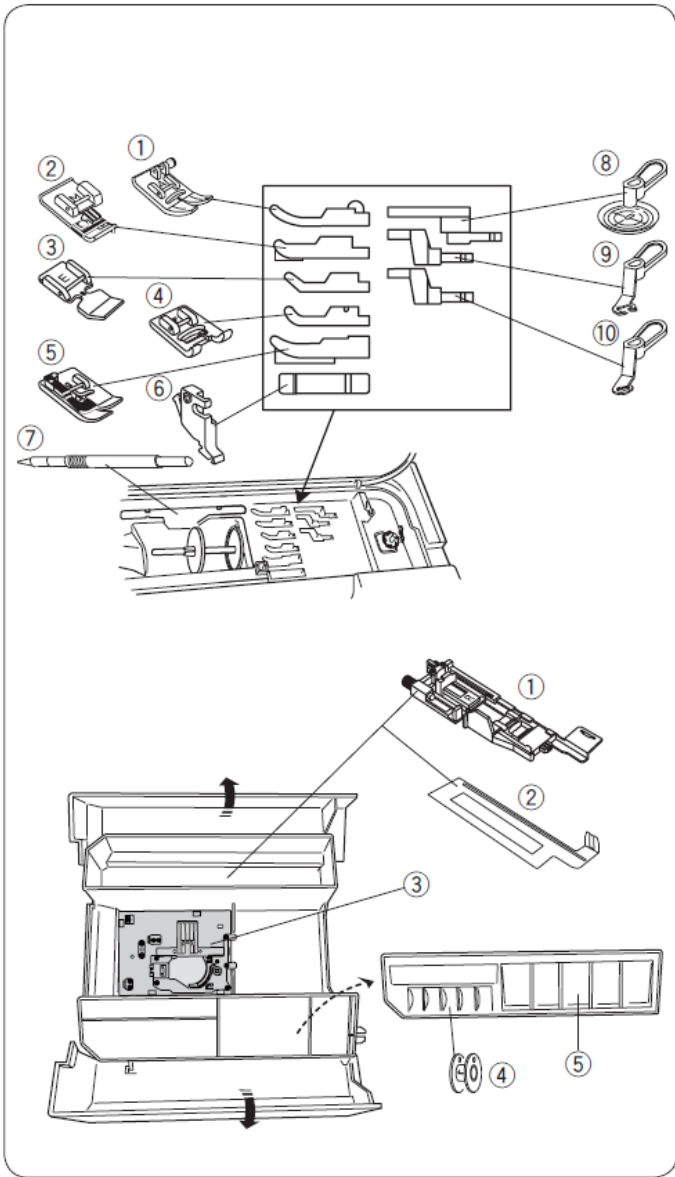
#### NOTE:

Both the design and specifications of the sewing machine are subject to change without notice.

## 's standard accessories



- 1 Zigzag presser foot A (fitted to the machine)
- 2 Rolled hem presser foot D
- 3 Zipper foot E
- 4 Embroidery foot F
- 5 Open-end topstitching foot
- 6 Blind hem foot G
- 7 M-type overlock presser feet
- 8 O-shaped presser foot for 1/4" sewing
- 9 PD-H darning foot
- 10 QB-S free-motion quilting presser foot convertible free-motion quilting
- 11 Closed-toe presser foot
- 12 Open-tip presser foot
- 13 Transparent presser foot
- 14 Automatic buttonhole foot R
- 15 Buttonhole stabiliser plate
- 16 Double feed support
- 17 AD presser foot for dual feed
- 18 Button sewing foot T
- 19 Quilting guide bar
- 20 Spool (5 pieces) (1 on the machine)
- 21 Spool holder (large, on the machine)
- 22 Spool holder (small)
- 23 Spool holder (special)
- 24 Spool holder base
- 25 Felt
- 26 Second bobbin pin
- 27 Set of needles
- 28 Screwdriver
- 29 Lint brush
- 30 Seam ripper (buttonhole opener)
- 31 Knee lift
- 32 Straight stitch needle plate
- 33 Touchscreen stylus
- 34 Power cable
- 35 Foot control
- 36 Instruction DVD
- 37 Instruction book



**nd accessories storage**

Accessories can be conveniently stored in the presser foot storage compartment located beneath the top cover of the extension table.

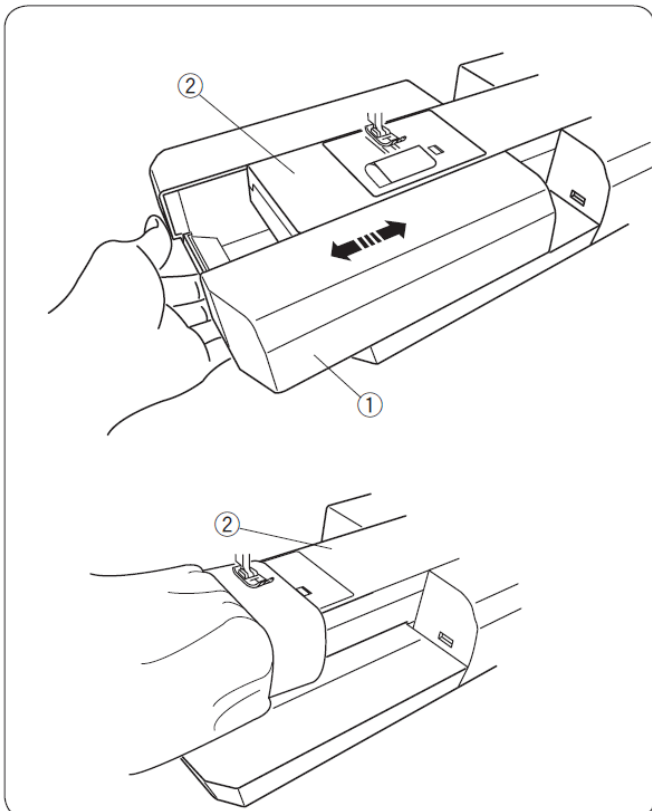
**Under the top cover:**

- 1 Zigzag presser foot A
- 2 Overlock presser foot M
- 3 Zipper foot E
- 4 Embroidery foot F
- 5 Blind hem foot G
- 6 Presser foot holder
- 7 Touchscreen stylus
- 8 Transparent presser foot
- 9 Open-tip presser foot
- 10 Closed-tip presser foot

**In the enlargement table:**

- 1 Presser foot for automatic buttonholes R
- 2 Buttonhole stabiliser plate
- 3 Needle plate
- 4 Bobbin
- 5 Presser foot

Other accessories can also be stored in the compartment.



**extension table**

The extension table provides an additional sewing surface that can be easily removed for free-arm sewing.

- 1 Extension table
- 2 Free arm

**Removal:**

Pull the board out by pulling it to the left.

**Assembly:**

Slide the table onto the base and push it to the right.

**Free-arm sewing**

Free-arm sewing is used for sewing sleeves, waistbands, leg openings or the tubular parts of any garment. It is also used for darning socks and for repairing knee pads or elbow pads.

- 2 Free arm

## PREPARATIONS BEFORE SEWING

### Connecting to the power supply

- 1 First, make sure that switch 1 is in the off position.
- 2 Connect one end of the power cable 3 to the machine socket 2.
- 3 Insert the power plug 4 into the mains socket 5 and set the power switch 1 to the on position.

- 1 Power switch
- 2 Machine plug
- 3 Machine outlet
- 4 Power plug
- 5 Wall socket

#### NOTES:

Use only the power cable supplied with the machine.  
If you switch off the power switch, wait 5 seconds before switching it back on.



#### CAUTION:

While the machine is in operation, keep an eye on the sewing area and do not touch any moving parts, such as the thread take-up lever, the handwheel or the needle. Always switch off the power switch and unplug the machine from the mains:

- When leaving the machine unattended.
- When you are going to fit or remove a part.
- When cleaning the machine. Do not place any objects on the foot pedal.

If you wish to use the presser foot control, insert the plug into the machine's socket.

- 1 First, make sure that switch 1 is in the off position.
- 2 Insert plug connector 2 into connector 3.
- 3 Connect one end of the power cable 5 to the machine socket 4.
- 4 Insert the power plug 6 into the mains socket 7, and set the power switch to the on position. The pedal symbol 8 appears if the pedal is connected to the machine.

- 1 Power switch
- 2 Pin connector
- 3 Connector
- 4 Power switch
- 5 Machine plug
- 6 Power plug
- 7 Wall socket
- 8 Pedal symbol

#### NOTE:

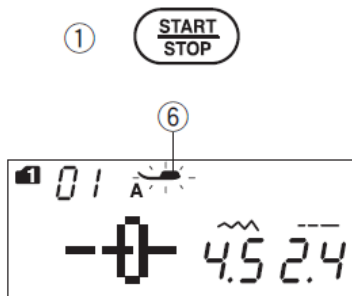
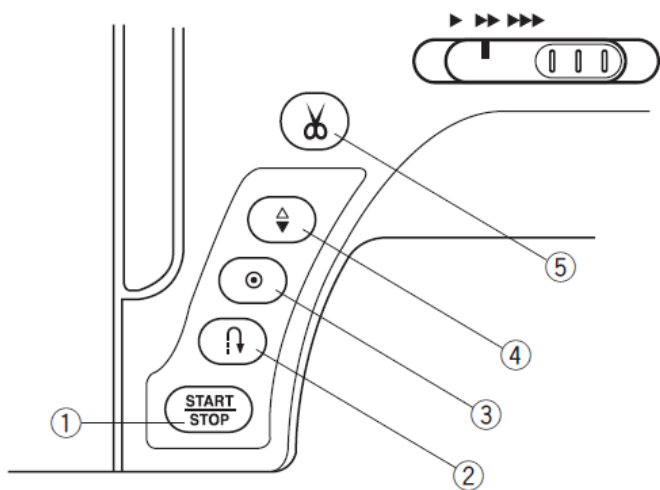
The start/stop button does not work when the pedal is connected.

#### Instructions for use:

The symbol "O" on a switch indicates the "off" position of the switch.

#### For the United States and Canada only

Polarised plug (one prong wider than the other):  
To reduce the risk of electric shock, this plug must be used in a polarised socket in only one position. If the plug does not fit fully into the socket, reverse it. If it still does not fit properly, call a qualified electrician to install a suitable socket.  
Do not alter the plug in any way.



## machine buttons

### 1 Start/Stop button

Press this button to start or stop the machine.

The machine will start with a few slow stitches and then speed up until it reaches the speed set using the speed control dial. The machine will continue to run at a slow speed as long as the button is held down.

The button will be red whilst the machine is running, and will turn green when it stops. Hold this button down whilst sewing to reduce the sewing speed and stop the machine once you release the button.

#### NOTES:

- The start/stop button cannot be used whilst the foot control is connected to the machine.
- The machine will not operate and the presser foot symbol will flash if you start the machine whilst the presser foot is in the raised position. Lower the presser foot and press the start/stop button.
- You can select the desired start-up speed from low, normal or high (see page 26).

### 2 Back button

When sewing stitch patterns 01, 04–07, 11–13, 01S, 04S–07S (mode 1) or 37, 38 (mode 2), the machine will sew in reverse as long as the reverse button is pressed.

If stitch pattern 01, 04–07, 11–13, 01S, 04S–07S (mode 1) or 37, 38 (mode 2) has been selected and the foot control is not connected, the machine will sew in reverse as long as the reverse button is pressed.

If you press the reverse button whilst another pattern is selected, the machine will immediately sew a few locking stitches and stop automatically.

### 3 Automatic Lock Button

When sewing stitch pattern 01, 04–07, 11–13, 01S, 04S–07S (mode 1) or 37, 38 (mode 2), the machine will immediately sew securing stitches and stop automatically when the automatic stop button is pressed.

If any other stitch patterns are being sewn, the machine will sew to the end of the current pattern, add a few bar tacks and stop automatically.

The machine will automatically trim the threads after the locking stitch if the automatic thread trimming option is selected.

### 4 Needle up/down button

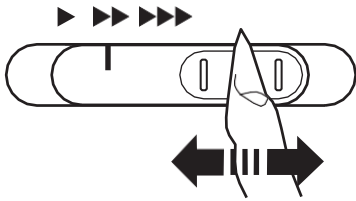
Press this button to lower and raise the needle bar. The machine will stop with the needle in the lowered position. However, you can change the needle stop position in setup mode (see page 26).

### 5 Thread cutter button

Press this button when you have finished sewing to cut the threads. The needle bar rises automatically after cutting the threads (see page 29).

#### NOTE:

Use the thread cutter on the front cover if the thread gauge is #30 or thicker (see page 29).



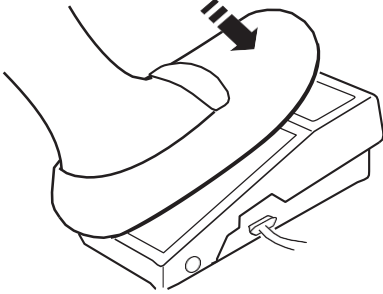
### -sewing speed control

#### Speed control dial

You can adjust the sewing speed using the speed control dial to suit your sewing needs.

To increase the sewing speed, turn the dial to the right.

To reduce the sewing speed, turn the dial to the left.



#### Foot control

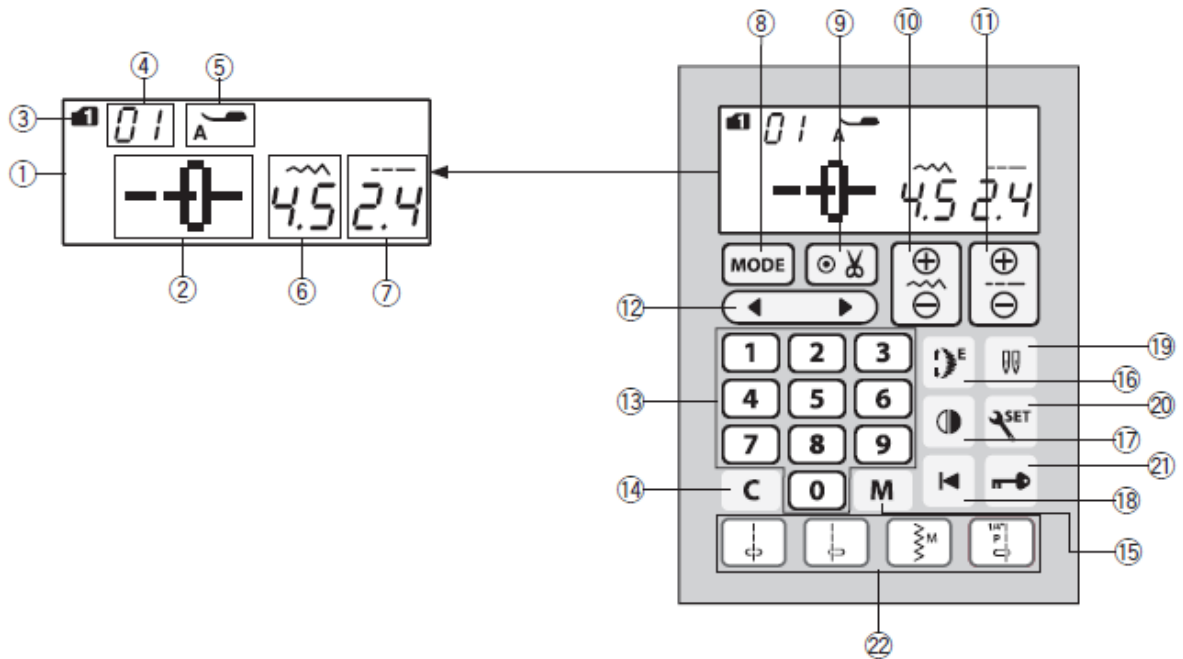
You can adjust the sewing speed using the foot control. The harder you press the foot control, the faster the machine will run.

#### NOTE:

The machine runs at the maximum speed set with the speed control dial when the pedal is pressed fully down.

#### Instructions for use:

The YC-485EC-1 model foot control is for use with this sewing machine.



## -function keys

### 1 LCD screen

The LCD screen displays the following information when the machine is switched on:

- 2 Stitch pattern
- 3 Mode
- 4 Stitch pattern number
- 5 Presser foot type
- 6 Stitch width
- 7 Stitch length

### 8 Mode button (see page 25)

Press the mode key to change the mode. When the power switch is set to the ON, the straight stitch pattern (mode 1) is automatically selected.

### 9 Automatic thread cutter button (see page 72)

If you wish to cut the threads automatically after finishing sewing with a backtack, press this button. When programming a pattern combination, press this button to automatically cut the threads after finishing the seam.

### 10 Stitch width adjustment button (see pages 30, 39, 48)

Press this button to change the stitch width or the needle drop position.

### 11 Stitch length adjustment button (see pages 30, 39, 48)

Press this button to change the stitch length.

### 12 Cursor button (see pages 79, 80)

Press “◀” or “▶” to move the cursor and check or change the pattern combination.

### 13 Numeric keys (see page 24)

Enter the 2-digit number to select the pattern (in modes 1 to 6) you want.

### 14 Clear key (see pages 26, 80)

Press this key to delete the last stored pattern. Hold this key down until the beep sounds to delete the entire pattern combination.

### 15 Memory key (see page 70)

Press this key to save the programmed pattern combinations. You can store up to 50 programmes.

### 16 Extension key (see page 67)

Press this key to extend the accent stitch patterns.

### 17 Mirror key (see page 73)

Press this key to sew a mirror image of the selected pattern.

### 18 Reset button (see page 88)

Press this key to sew a combination of patterns from the start.

### 19 Twin needle button (see page 69)

Press this key when you are going to use a twin needle.

### 20 Settings key (see page 25)

Press this key to enter setup mode and customise the settings.

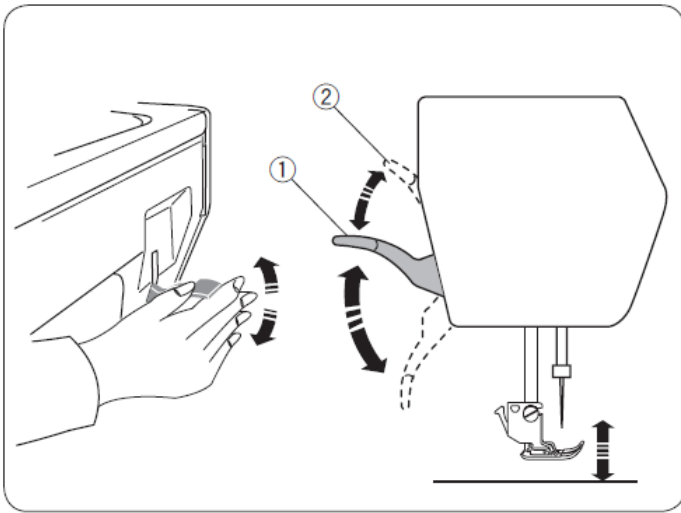
### 21 Lock button (see page 74)

Press this button to lock the machine when you need to thread the machine, change accessories, etc. To reduce the risk of injury, all buttons and keys are disabled. To unlock the machine, press this key again.

### 22 Direct pattern selection keys (see page 24)

You can directly select stitch patterns 01<sub>Ⓢ</sub>, 04<sub>Ⓢ</sub>, 11<sub>Ⓢ</sub> and 06<sub>Ⓢ</sub> in Mode 1 (Direct Stitch Selection Mode).

When the straight stitch needle plate is fitted, you can select stitch patterns 01S, 04S, 11<sub>Ⓢ</sub> or 06S<sub>Ⓢ</sub>.



## Raising and lowering the presser foot ( )

The presser foot lifter raises and lowers the presser foot.

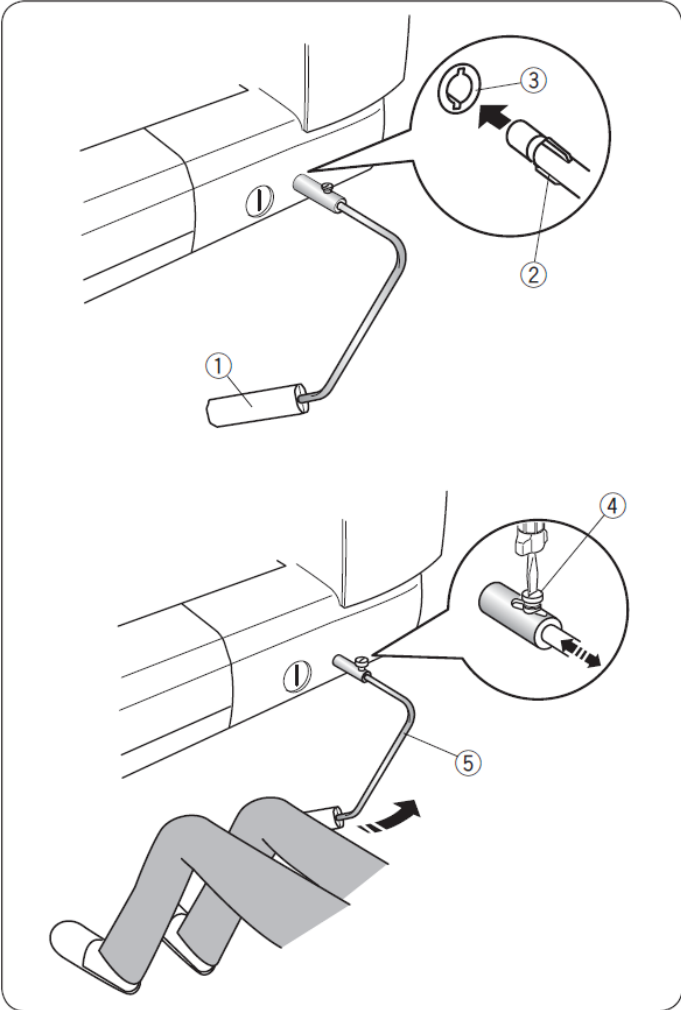
1 Presser foot lifter

You can raise the presser foot above its normal position. This allows you to change the needle plate and also helps you to position thick layers of fabric under the presser foot.

2 Extra lift position

### NOTE:

Do not turn the handwheel or press the needle up/down button when the presser foot is in the extra lift position.



## 's knee lift presser foot

The presser foot lifter is very useful for sewing patchwork, quilting, etc., as it allows you to move the fabric whilst controlling the presser foot with your knee.

### Fitting the knee lift

Align the tabs on the knee lift with the slots on its connector and insert the knee lift.

1 Knee lift

2 tabs

3 Knee lift connector

### Adjusting the knee lift

You can adjust the angle of the knee lift to suit your needs. Loosen the clamping screw and slide the angle bar inwards or outwards to adjust the angle of the knee lift.

Tighten the clamping screw to secure the angle bar.

4 Fixing screw

5 Angle bar

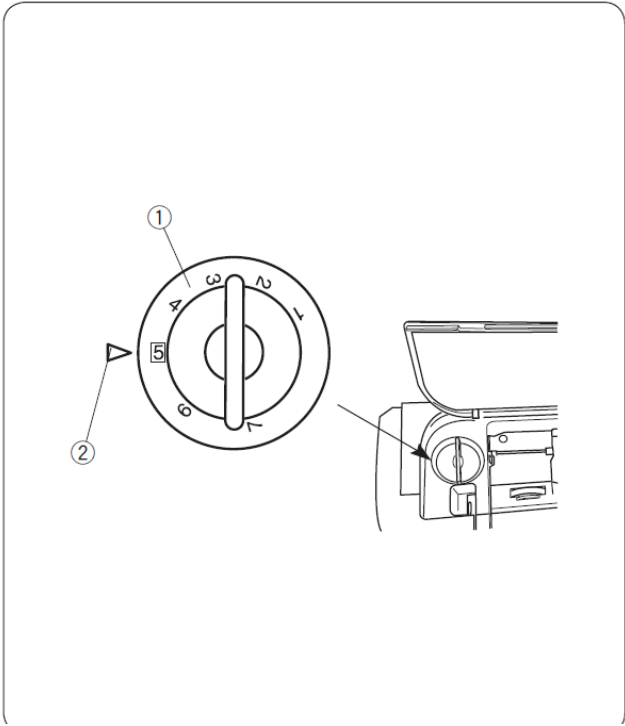
### Using the knee lift

Press the lifter with your knee to easily raise and lower the presser foot.

You can control the height of the presser foot by applying more or less pressure with your knee.

### NOTE:

Do not touch the knee lift whilst sewing, as this may prevent the fabric from feeding smoothly.



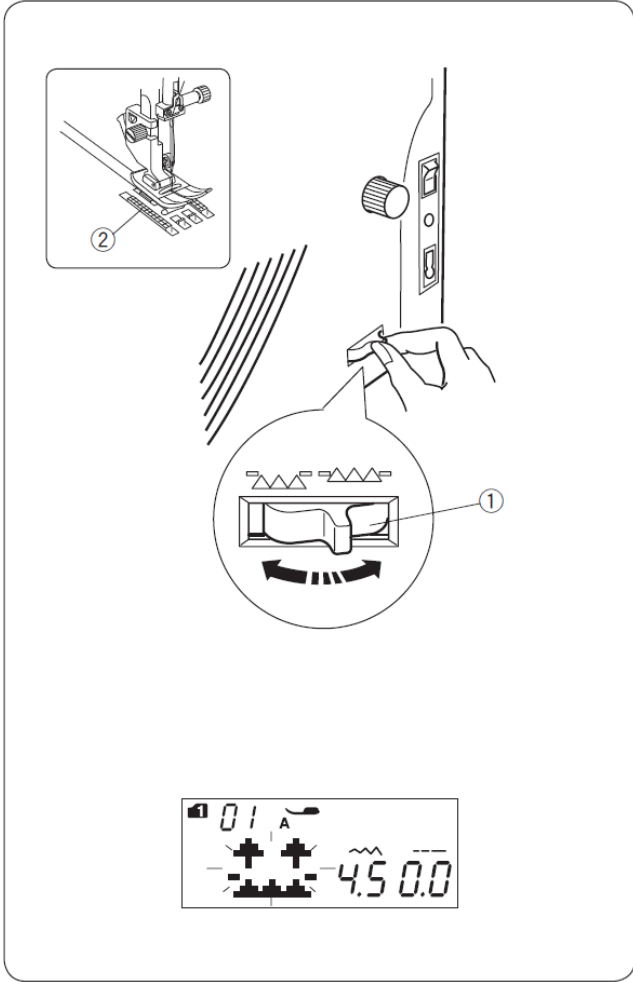
**Adjusting the presser foot pressure**

The presser foot pressure can be adjusted using the presser foot pressure dial located under the top cover.

The dial has 7 settings, from 1 to 7.  
For normal sewing, set it to 5 at the reference mark.

- 1 Presser foot pressure regulator
- 2 Reference mark

Reduce the pressure when sewing fine or stretchy synthetic fabrics. To reduce the pressure, set the dial to a lower number.



**Lowering the feed dogs**

The feed dog can be lowered for basting, buttonhole stitching, free-motion quilting, etc.

Move the lever towards you to lower the feed dog.

- 1 Lower the feed dog lever
- 2 Feed dogs

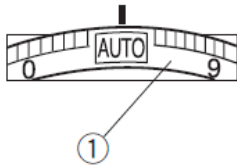
Push the feed dog lever away from you to raise the feed dog; it will return to the raised position when you start the machine.

**NOTE:**  
If you start the machine with the feed dog lowered, a message will appear on the LCD screen.  
The machine will not operate with the feed dog lowered when stitch pattern numbers 23 to 32 and 34 to 36 are selected in 1-stitch pattern mode in modes 3 to 6.

## -thread tension balancing Automatic thread tension adjustment

For general sewing, set the thread tension dial to AUTO, which covers a wide range of sewing conditions.

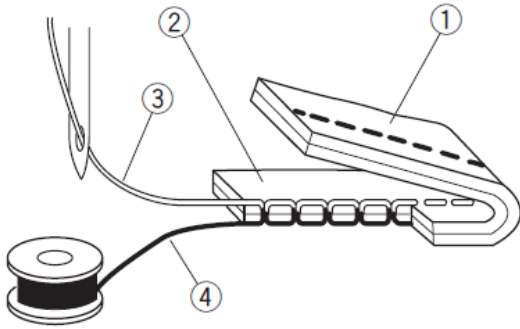
1 Thread tension indicator



### Balanced thread tension

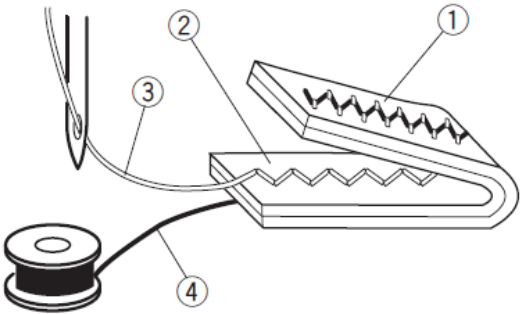
When sewing with straight stitches, the upper and lower threads should meet in the middle of the stitch.

- 1 Back of the fabric
- 2 Front of the button
- 3 Needle thread
- 4 Bobbin thread



For zigzag stitching, the needle thread will show slightly on the reverse side of the fabric.

- 1 Back of the fabric
- 2 Front of the fabric
- 3 Needle thread
- 4 Bobbin thread



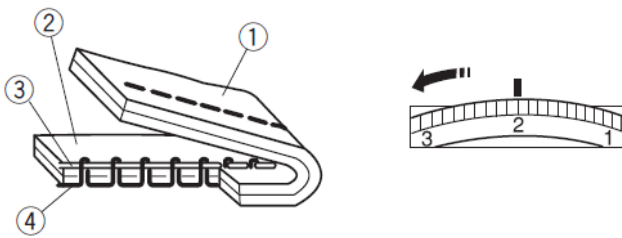
### Manual thread tension adjustment

It is also necessary to adjust the tension manually depending on sewing conditions, such as the type of fabric and the number of layers.

If the needle thread is too tight, the bobbin thread will show up on the right-hand side of the fabric.

- 1 Back of the fabric
- 2 Right side of the fabric
- 3 Needle thread
- 4 Bobbin thread

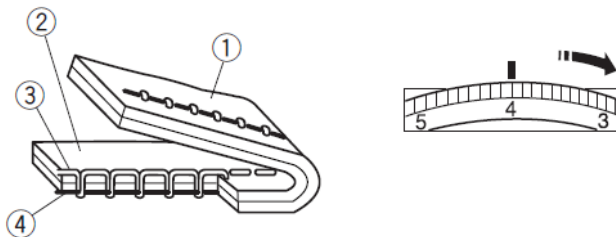
Turn the thread tension dial to a lower number to reduce the tension.



If the needle thread is too loose, the needle thread will form loops on the underside of the fabric.

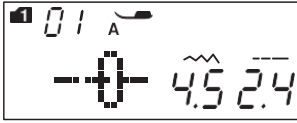
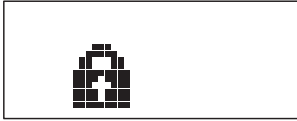
- 1 Back of the fabric
- 2 Front of the key
- 3 Needle thread
- 4 Bobbin thread

Turn the thread tension dial to a higher number to increase the tension.



#### NOTE:

You may need to adjust the thread tension manually when the stitch width exceeds "7.0" (see below).



### lock key

Press this key to lock the machine when you need to thread the machine, change accessories, etc. To reduce the risk of injury, all buttons and keys are disabled.

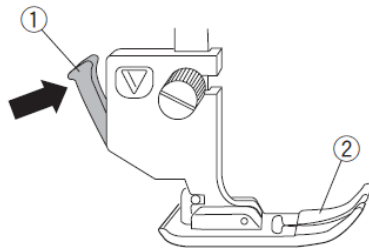
To unlock the machine, press this key again.

### Changing the presser foot



#### CAUTION:

Always ensure you press the lock key to lock the machine or set the power switch to the off position before changing the presser foot.



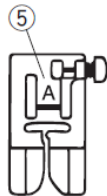
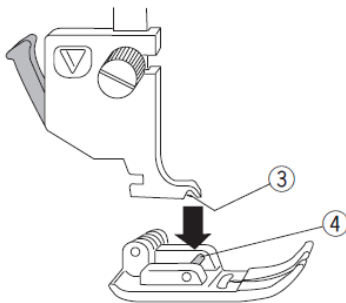
Raise the needle to its highest position and lift the presser foot lifter.

Press the black lever located at the back of the presser foot holder.

The presser foot will release.

1 Lever

2 Presser feet



#### Fitting the presser foot

Position the presser foot so that the pin is under the slot in the presser foot.

Lower the presser foot bar until it is securely in place. Each presser foot is marked with an identifying letter.

3 Slot

4 Pin

5 Identification letter

## Removing and fitting the presser foot holder



### CAUTION:

Always ensure you press the lock button to lock the machine or set the power switch to the off position before changing the presser foot.

### Removing the presser foot holder

Raise the needle to its highest position.

Raise the presser foot and loosen the clamping screw. Set the needle to its highest position.

Remove the presser foot holder.

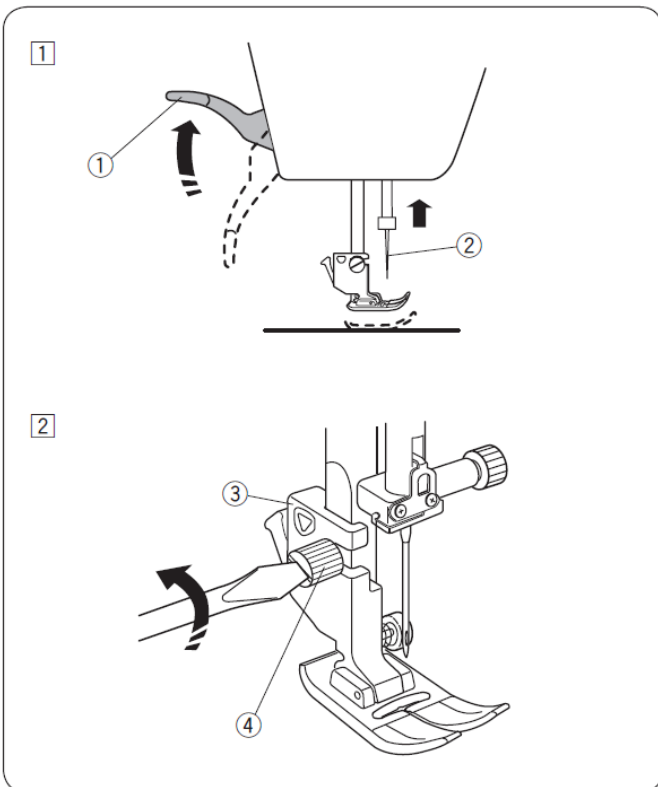
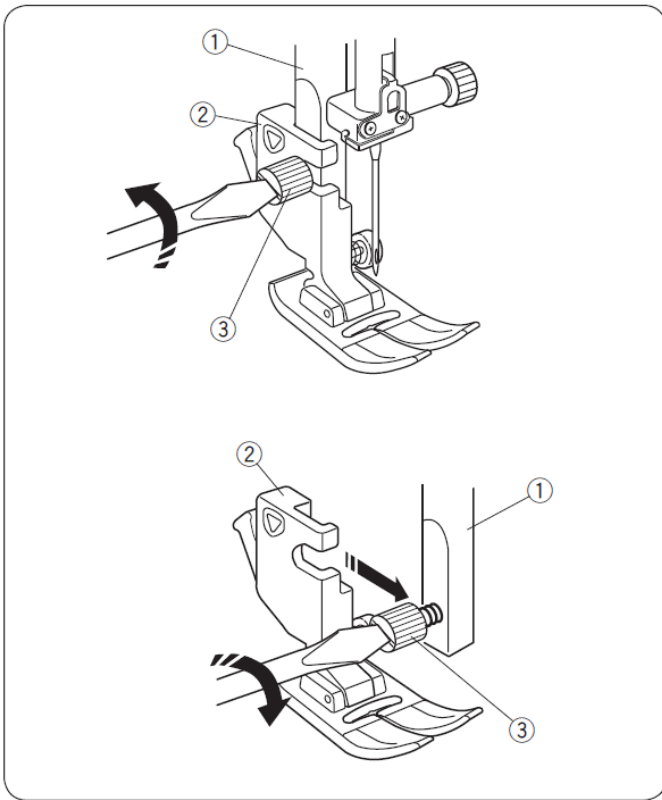
- 1 Presser foot bar
- 2 Presser foot holder
- 3 Clamping screw

### Fitting the presser foot holder

Attach the presser foot holder to the presser foot bar from the rear.

### NOTE:

Lower the presser foot when loosening or tightening the screw if it is in a hard-to-reach area.



## double feed dog presser foot



### CAUTION:

Always ensure you press the lock button to lock the machine or turn the power switch to the off position before changing the presser foot.

1 Raise the needle to its highest position.

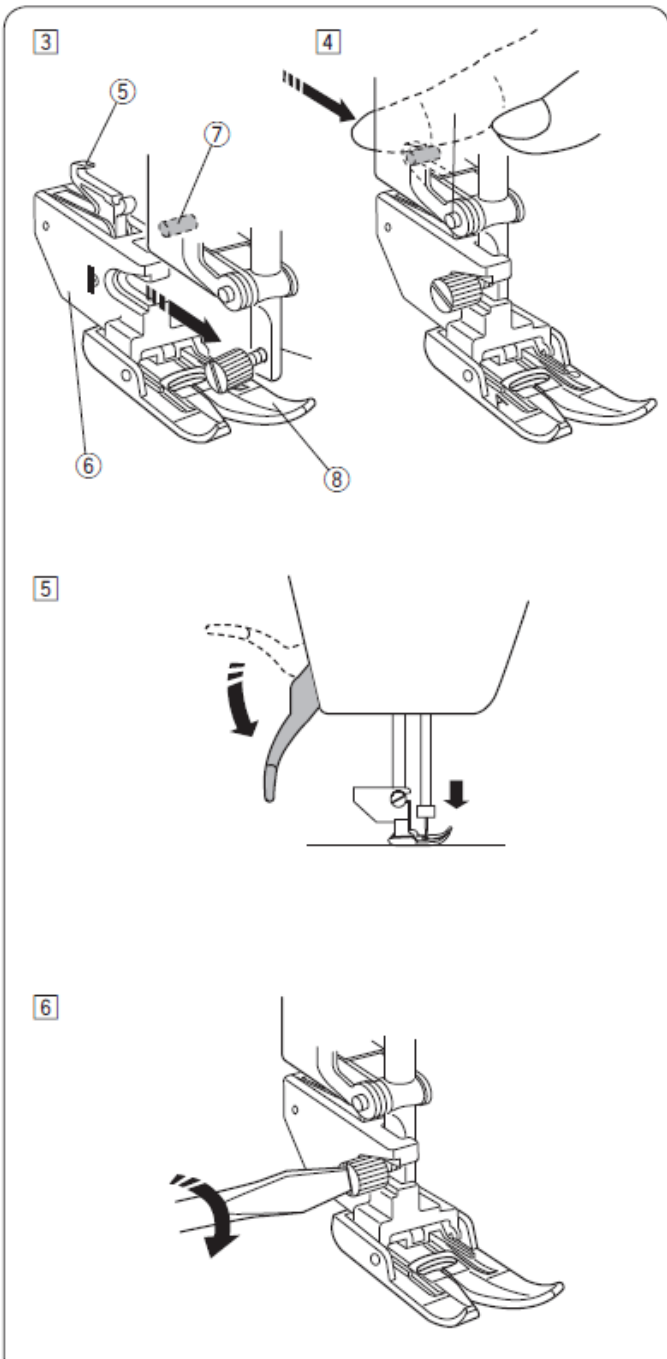
Raise the presser foot lifter.

- 1 Presser foot lifter
- 2 Needle

2 Loosen the clamping screw.

Remove the presser foot holder.

- 3 Presser foot holder
- 4 Clamping screw



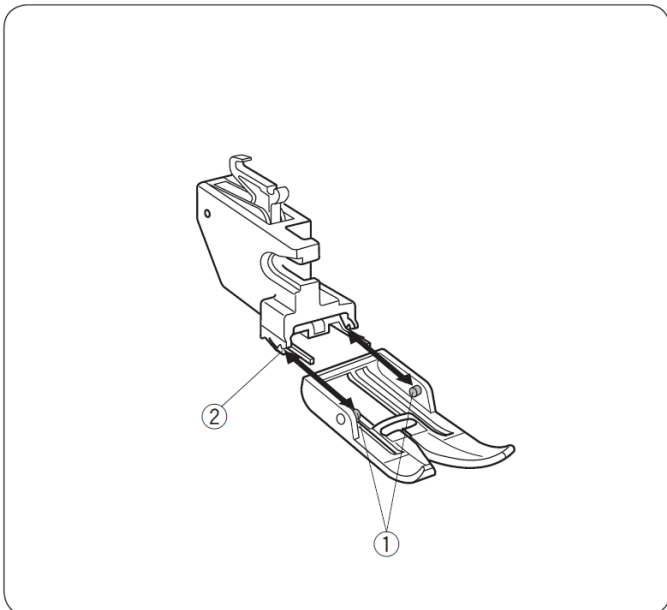
3 Fit the dual feed presser foot holder onto the presser foot bar. Tighten the clamping screw slightly by hand.

- 5 Twin feed attachment
- 6 Dual feed bracket
- 7 Upper feed unit
- 8 Dual feed presser foot

4 Push the dual feed coupler to engage it with the upper feed unit.

5 Lower the presser foot lifter. Lower the needle to the stop by turning the handwheel.

6 Tighten the set screw firmly with the screwdriver.

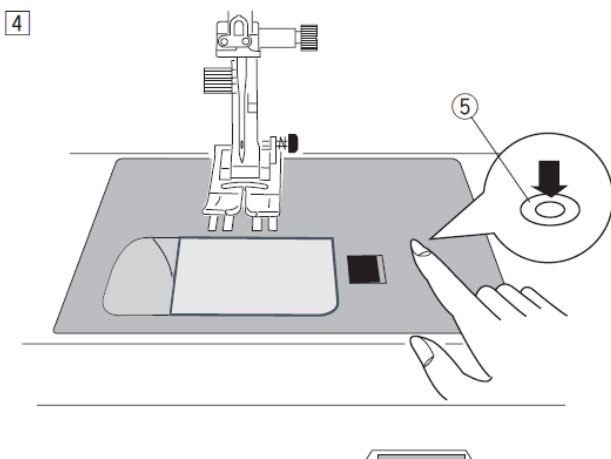
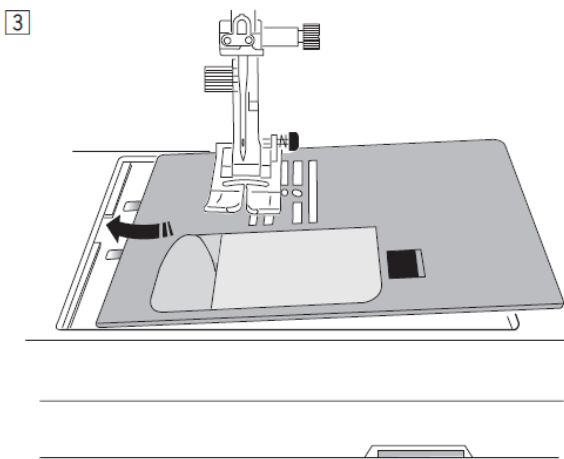
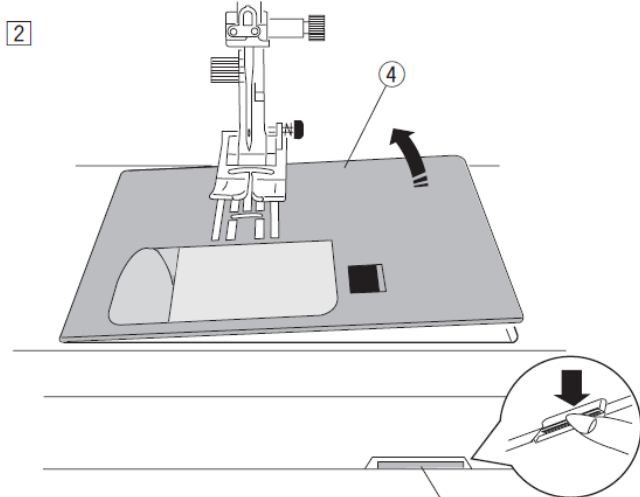
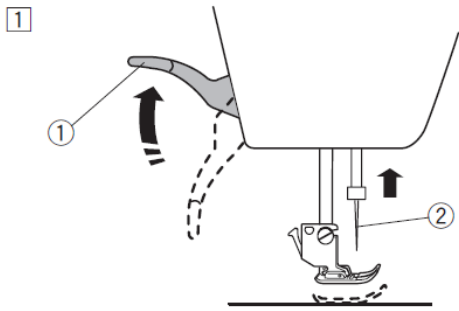


### Replacing the dual feed presser foot

Pull the presser foot to remove it.

Insert the presser foot pins into the slots on the presser foot holder and gently push the presser foot until it is securely in place.

- 1 Pin
- 2 Slot



## Changing the needle- t plate

Use the straight-stitch presser foot when sewing fine fabrics, or sew with the top feed presser foot.

### CAUTION:

Always ensure you press the lock button to lock the machine or turn the power switch to the off position before changing the needle plate.

1 Raise the needle to its highest position.

Raise the presser foot lifter to the extra-high position.

1 Presser foot lifter

2 Needle

2 Slide the extension table to the left to remove it.

Press the needle plate release lever to release the needle plate.

3 Needle plate release lever

4 Needle plate

3 Place the straight stitch needle plate on the machine.

Place the left edge of the needle plate into the opening.

4 Push the needle plate tab until the plate locks into place.

Lower the presser foot lever to the normal position.

Turn on the power switch or press the lock button to unlock. Ensure that the straight stitch is automatically selected.

Slowly turn the handwheel and ensure that the needle does not hit the needle plate.

5 Needle plate mark

### CAUTION:

Never press the needle plate release lever whilst the machine is running.

## Changing the needle plate



### CAUTION:

Always ensure you press the lock button to lock the machine or set the power switch to the off position before changing the needle.

Raise the needle by pressing the needle up/down button. Lower the presser foot.

Switch off the machine.

Loosen the screw on the needle clamp and remove the needle from the clamp.

1 Needle clamping screw

Insert a new needle into the holder, with the flat side of the needle facing backwards.

When inserting the needle into the holder, push it upwards until it reaches the stop pin and tighten the fixing screw firmly with a screwdriver.

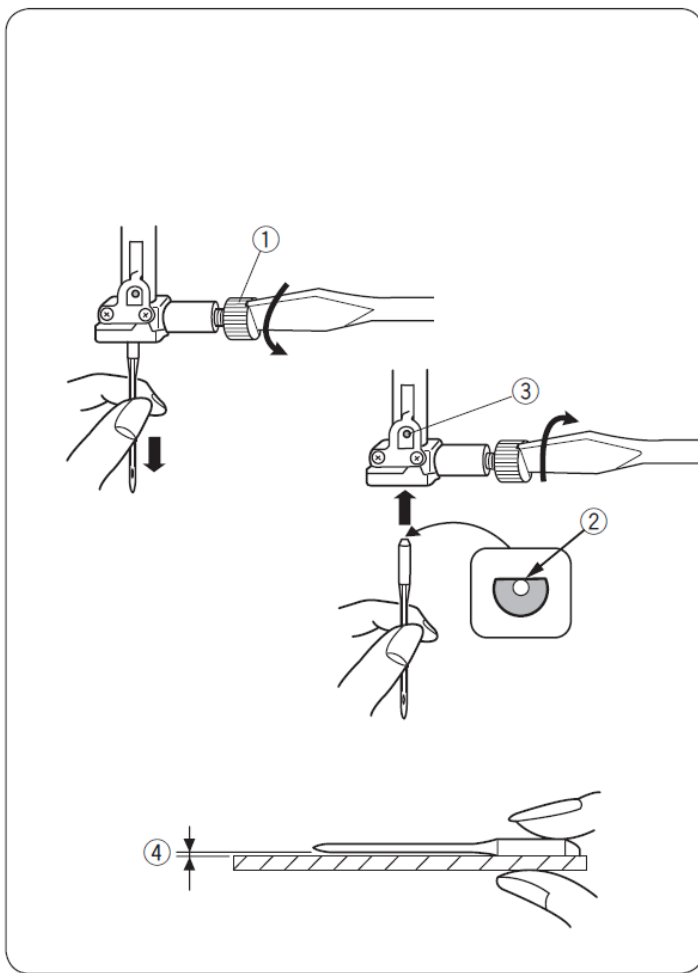
2 Flat side

3 Stop pin

To check that the needle is not bent, place the flat side of the needle on a flat horizontal surface (needle plate, glass, etc.). The gap between the needle and the flat surface must be consistent.

Do not use worn needles.

4 Gap



	Fabric	Thread	Needle
Fine	Linen Georgette Tricot Organza Crepe	Silk #80-100 Cotton #80-100 Synthetic #80-100	Blue needle Universal needle #9/65– 11/75
Medium	Sheet fabric Jersey Wool fabric Fleece	Silk #50 Cotton #50-80 Synthetic #50-80	Red needle Purple needle Universal needle #11/75– 14/90
Thick	Denim Wool fabrics Linings Quilts	Silk #30-50 Cotton #40-50 Synthetic #40-50	Red needle Purple needle Universal needle #14/90– 16/100

### NOTE:

The needle box (#859856005) includes: 1 x double needle, 2 x blue needles (#11/75), 1 x red needle (#14/90) and

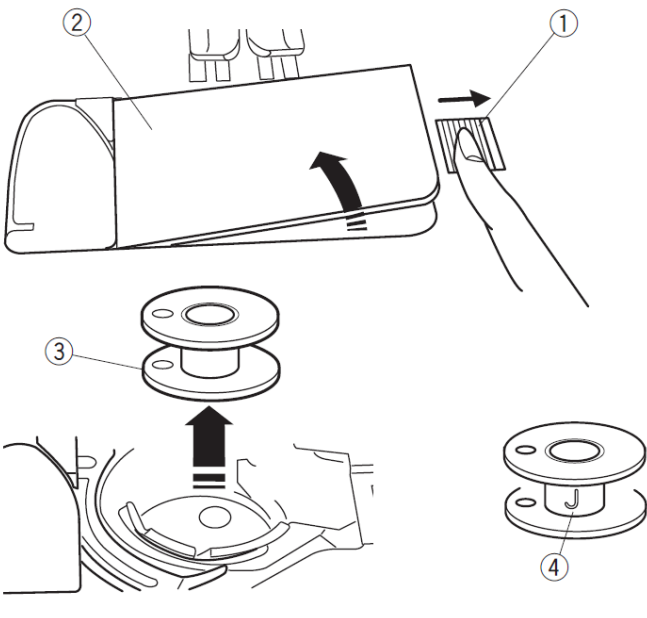
## Fabric chart and needle

- For general sewing, use the red needle.
- Thin threads and needles should be used for sewing thin fabrics.
- In general, use the same type of thread for the needle and the bobbin.
- Use a blue needle for sewing fine fabrics, stretch fabrics, knitwear and buttonholes to prevent loose stitches.
- Use a purple needle for knitting, free-motion quilting and sewing through the hem to prevent loose stitches
- Use a stabiliser or interfacing for stretchy or fine fabrics to prevent the seam from puckering.
- Always test the thread and needle size on a small piece of the same fabric you are going to sew.

### For embroidery:

Generally, use a blue needle.

Use a red or purple needle for thicker fabrics. Use a purple needle for dense stitch embroidery designs and quilting.



## Unwinding the spool from the ‘ ’

### Removing the spool

Move the spool holder cover release button to the right and remove the cover plate.

- 1 Spool holder cover release button
- 2 Spool holder cover plate

Remove the spindle from the spindle holder.

- 3 Spout

#### NOTE:

Use Janome plastic bobbins for the horizontal bobbin case (marked with a “J” r). Using other bobbins, such as pre-wound paper bobbins, may cause stitching problems and/or damage the bobbin case.

### Fitting the bobbin

Lift the bobbin pin. Place a spool of thread onto the pin, ensuring the thread comes off the spool as shown in the illustration.

Fit the large spool holder and press it firmly against the thread spool.

- 1 Large bobbin holder

#### NOTE:

Use the small spool holder for narrow or small spools.

- 2 Small spool holder

### Spool holder (special)

Use the (special) spool holder when using a long spool of thread as a sample.

- 3 9.5–10.5 mm
- 4 70–75 mm

Fit the spool holder by inserting it into the hole in the thread spool. Ensure there is no gap between the spool holder and the spool.

- 5 Spool holder (special)
- 6 No space

### Second bobbin pin

Use the second bobbin pin if you need to wind a bobbin without unthreading the machine whilst it is running. Insert the second bobbin pin into the base of the bobbin holder and then into the hole next to the horizontal bobbin pin.

Place the felt and the thread spool onto the pin as shown in the figure.

- 1 Second bobbin pin
- 2 Spool holder base
- 3 Hole for second bobbin pin
- 4 Felt pad

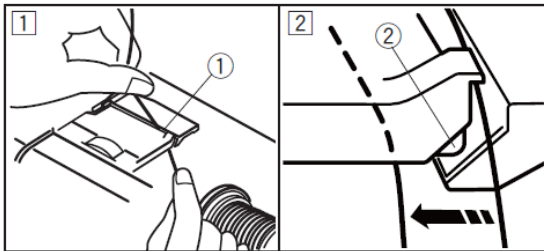
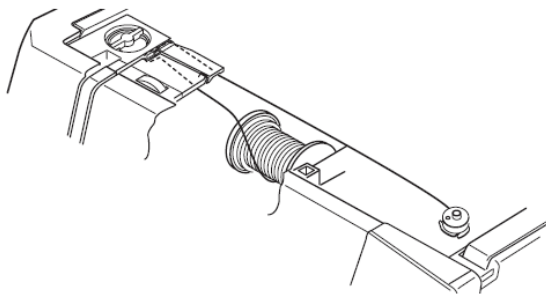
#### NOTE:

The second bobbin pin is also used for sewing with a double needle.

## Bobbin winding

### NOTE:

Set the speed control slider to the maximum speed position (see page 8).

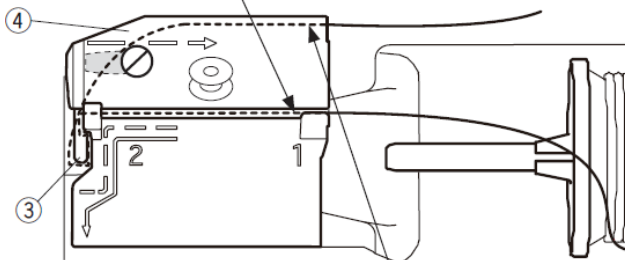


1 Pull the line off the spool. Hold the line with both hands and feed it through the guide slot.

1 Guide slot

2 Ensure that the line passes under the notch and slides through the guide slot provided, as shown in the illustration.

2 Notch



3 Pull the line out from the left side and guide it round the front of the line guide.

Pull the line out from the rear and pass it through the right-hand side underneath the guide plate.

Pull the thread firmly to the right whilst holding it with both hands.

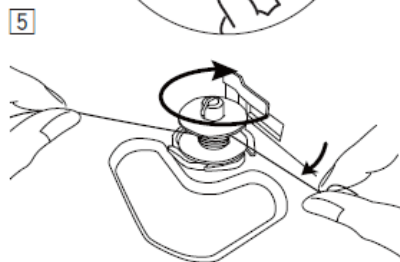
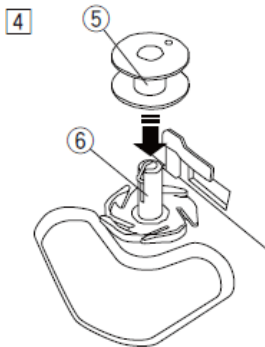
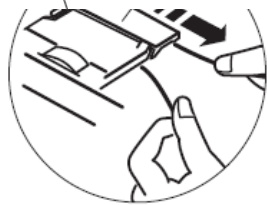
3 Thread guide

4 Guide plate

4 Place the bobbin onto the bobbin spindle.

5 Bobbin

6 Bobbin spindle



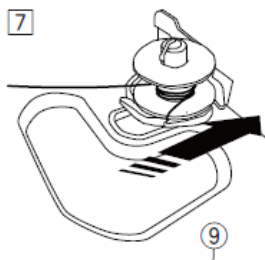
5 Thread the line through the bobbin.

Hold the thread with both hands and wind it repeatedly around the bobbin in a clockwise direction.

6 Insert the thread into one of the slots in the support plate and pull the thread to cut it.

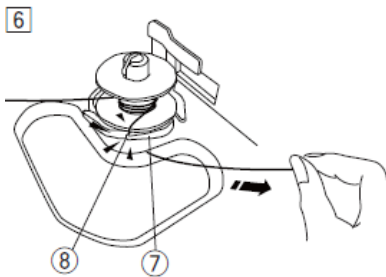
7 Support plate

8 Slot



7 Push the spool to the right. The spool winding window appears.

9 Bobbin indicator



8 Start the machine.

Stop the machine when the bobbin is completely full and the winding stops.

Return the bobbin spindle to its original position.

9 Remove the bobbin and cut the thread with the thread cutter.

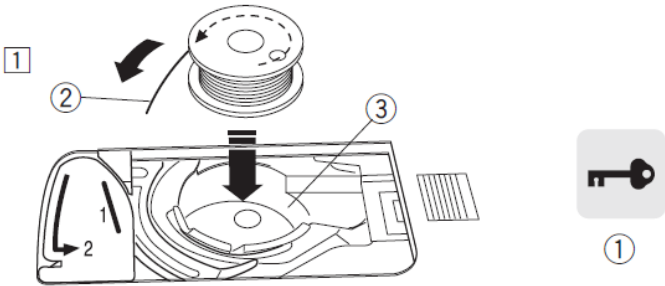
10 Thread cutter



### NOTE:

For safety reasons, the machine will stop automatically approximately 90 seconds after winding begins.

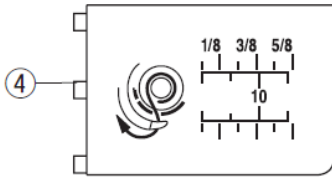
## Fitting the bobbin ( )



1 Press the lock button.

Place a bobbin in the bobbin holder with the thread coming out in an anti-clockwise direction, as shown on the bobbin holder cover.

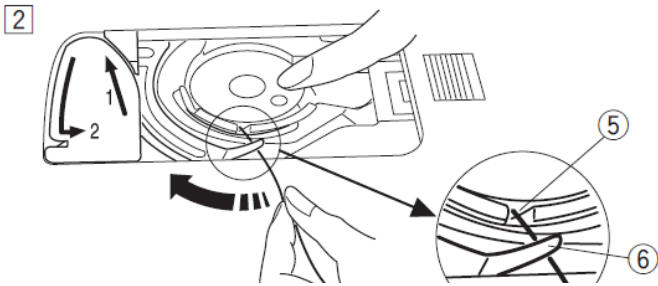
- 1 Lock button
- 2 End of thread
- 3 Spool holder
- 4 Bobbin cover



2 Hold the bobbin with your fingertips to prevent it from rotating. Guide the line through the front hole of the spool holder.

Pull the line to the left to pass it under the guide.

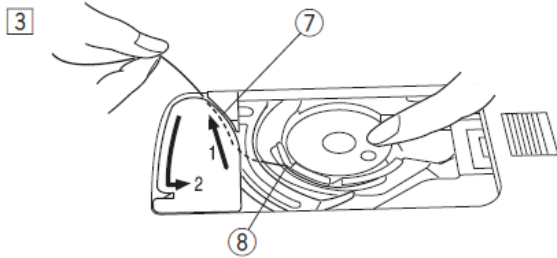
- 5 Front hole
- 6 Guide



3 Guide the line to the left to pass it through the guide along the path marked "1".

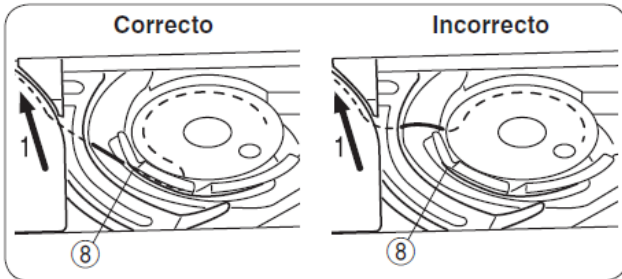
Make sure the line comes out the other side of the spool holder hole.

- 7 Guide path 1
- 8 Side hole



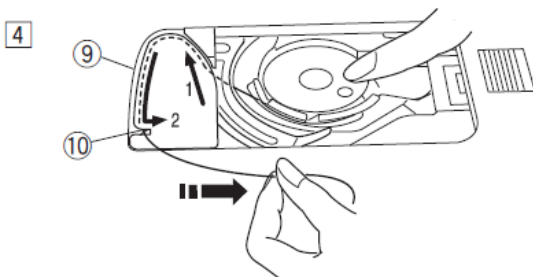
### NOTE:

If the thread does not come out through the side hole, rethread it from step z.



4 Continue feeding the thread along the guide path marked "2" and pull the thread to the left through the slot. The thread will be cut to the correct length and held in place.

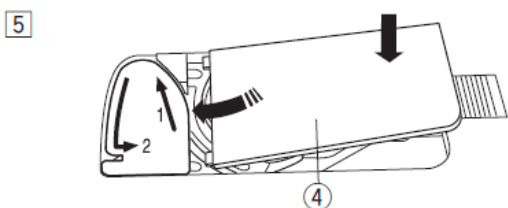
- 9 Guide path 2
- 10 Slot (Thread cutter)

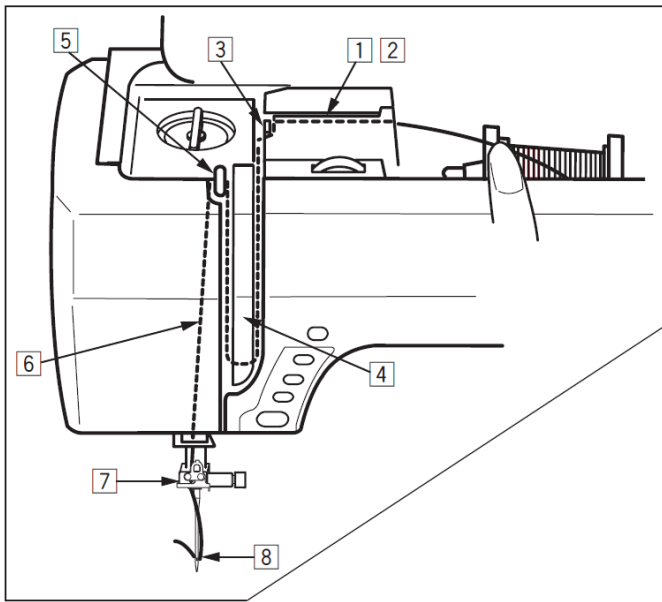


5 Place the left edge of the bobbin case cover into the opening. Press the bobbin case cover down so that it clicks into place.

### NOTE:

Unless otherwise stated, you can start sewing without bringing the bobbin thread up. See page 23 for instructions on how to bring the bobbin thread up.





### Threading the machine

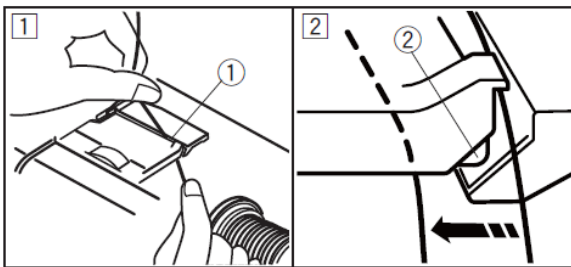
Press the needle up/down button to raise the thread take-up lever to its highest position.

Press the lock button to lock the machine. The presser foot will lower and the upper thread tension discs will open.

Thread the machine in the order shown in steps z to „

#### **Warning:**

Do not forget to press the lock button to lock the machine or switch off the power switch before threading the machine.

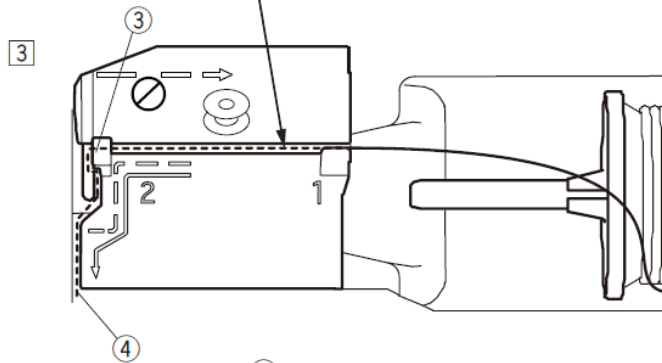


1 Hold the thread with both hands and pass it through the guide slot.

1 Guide slot

2 Make sure the thread passes under the notch and slides through the guide slot provided, as shown in the illustration.

2 Notch

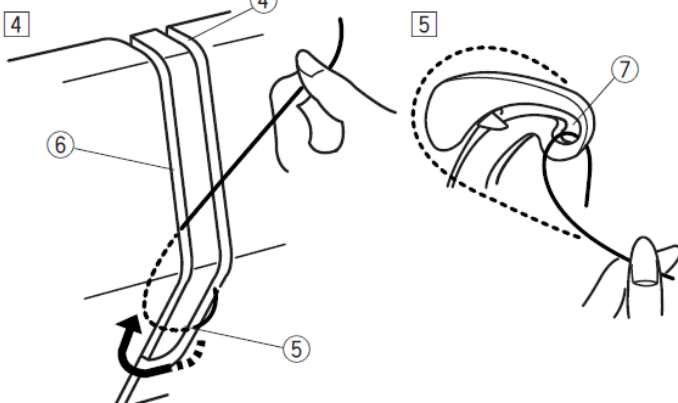


3 Pull the thread out on the left-hand side and guide it through the corner of the guide towards you.

Pull the thread firmly, guiding it towards you, through the right-hand channel until the thread makes a clicking sound.

3 Corner of the guide

4 Right channel



4 Pass the thread through the right-hand channel and around the bottom of the thread guide plate.

Pull the thread upwards along the left channel.

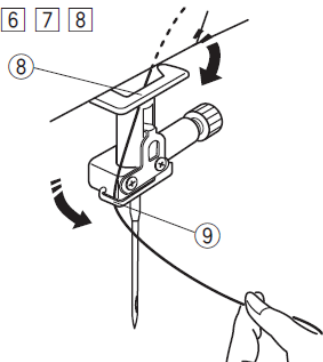
4 Right channel

5 Thread guide plate

6 Left channel

5 While holding the thread on the spool, pull the thread firmly upwards and pass it through the back of the thread pull lever. Pull the thread out through the front and insert it into the eye of the thread pull lever.

7 Eye of the thread pull lever



6 Next, pull the thread down through the left-hand channel and the lower thread guide.

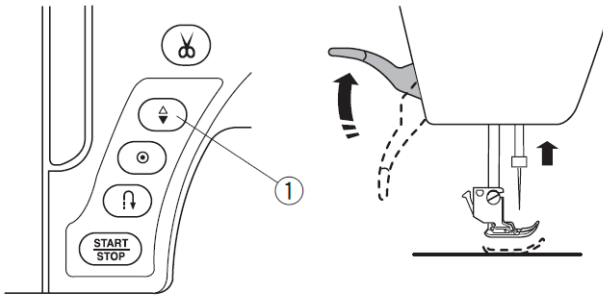
8 Lower thread guide

7 Slide the thread from the right-hand side of the needle bar thread guide towards the left.

9 Needle bar thread guide

8 Thread the needle using the needle threader (see next page).

1



### -needle built-in threader

#### NOTES:

- The needle threader can be used with a needle from size 11 to size 16.  
We recommend using thread sizes between 50 and 90.
- The needle threader cannot be used with the



#### CAUTION:

Always ensure you press the lock button to lock the machine or set the power switch to the off position before using the built-in needle threader.

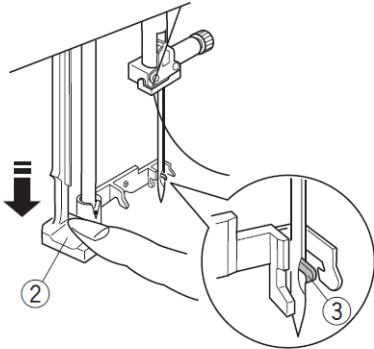
#### 1 Switch on the machine.

Press the needle up/down button to raise the needle. Press the lock button to lock the machine.

Press the needle threader knob fully down.

The threader hook comes out through the eye of the needle from the back.

- 1 Needle up/down button
- 2 Threading knob
- 3 Threading hook

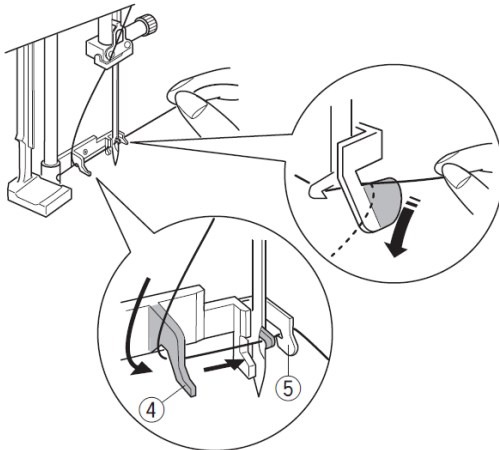


#### 2 Pass the thread from the left side to the right side, under the left guide, the threader hook and the right guide.

Pass the thread around the right guide in its direction.

- 4 Left guide
- 5 Right-hand guide

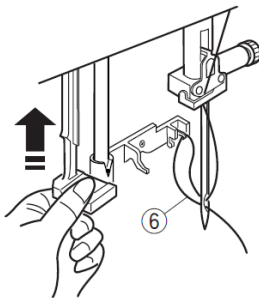
2



#### 3 Slowly raise the threader so that the thread loop comes out through the eye of the needle.

- 6 Thread loop

3

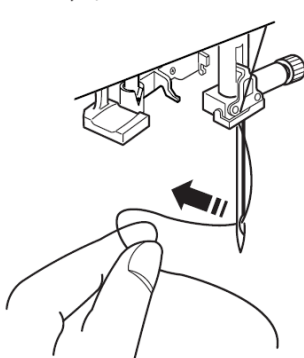


#### 4 Pull the end of the thread out through the back of the needle eye.

#### NOTE:

The needle threader cannot be used with the twin needle.

4



## Removing the thread from the bobbin

After using the automatic thread cutter or basting the bobbin case, you can start sewing without pulling the bobbin thread up.

However, you will need to bring the bobbin thread up when making gathering stitches, etc.

1 Remove the bobbin. Reinsert the bobbin into the bobbin holder and rethread the bobbin holder following the instructions on page 20, but leave a 10 cm (4") length of thread from the spool as shown.

1 Bobbin thread

### NOTE:

Do not cut the bobbin thread with the thread cutter.

2 Thread cutter

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

3 Needle thread

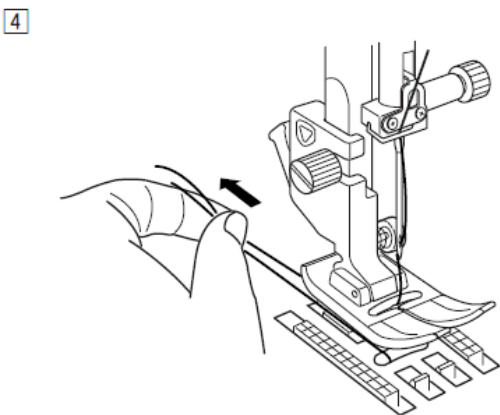
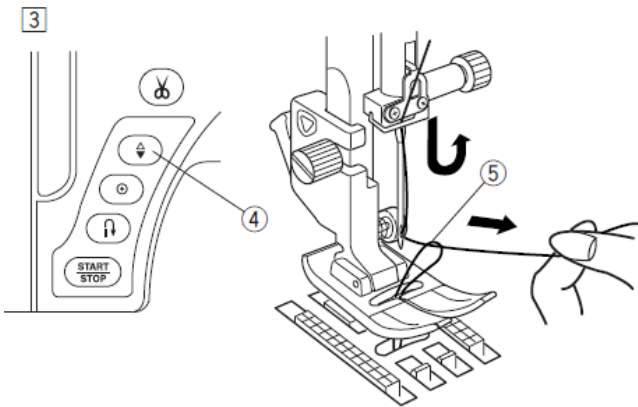
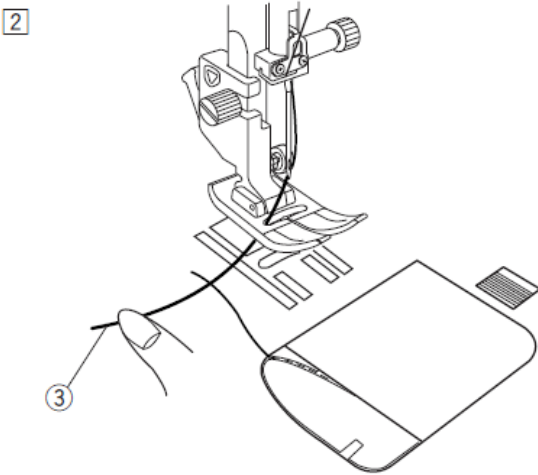
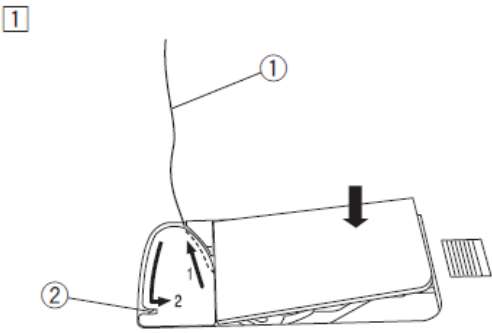
3 Press the needle up/down button twice to lower and raise the needle.

Pull the needle thread to take a loop of the bobbin thread.

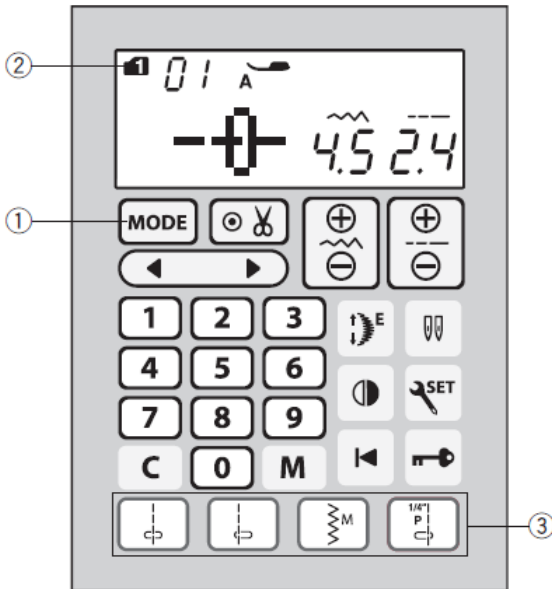
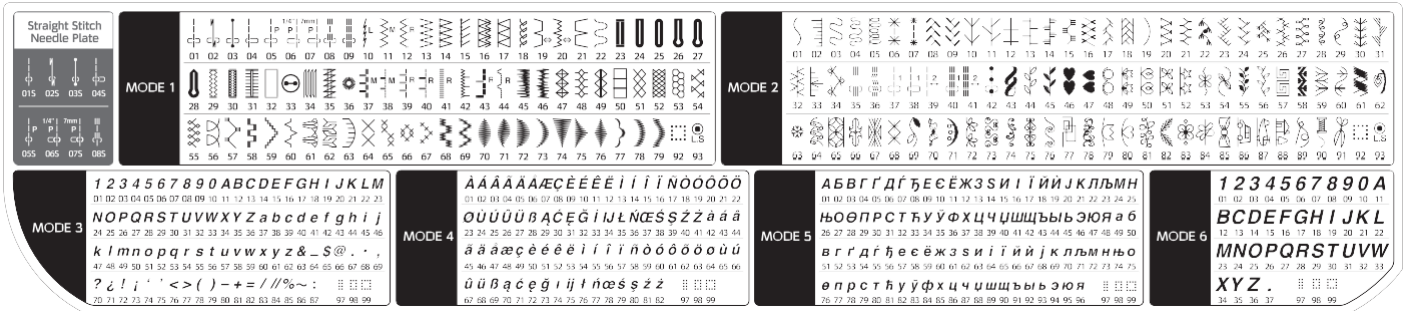
4 Needle up/down button

5 Bobbin thread loop

4 Pull both threads 10 cm (4") down and back from the presser foot.



## 's pattern selection



### Modes 1–6

To select stitch patterns in modes 1–6, first press the mode key **C** to select the desired mode. Each time you press the mode key, the folder **w** shown on the left-hand side changes and the mode changes as follows:

- Mode 1: Selection of utility and decorative stitch patterns
- Mode 2: Selection of practical stitch patterns
- Mode 3: Selection of decorative stitch patterns
- Mode 4: Selection of numbers and letters
- Mode 5: Selection of Cyrillic letters
- Mode 6: 9 mm monograms

#### NOTE:

When the straight stitch needle plate is installed on the machine, patterns not suitable for the straight stitch needle plate cannot be selected.

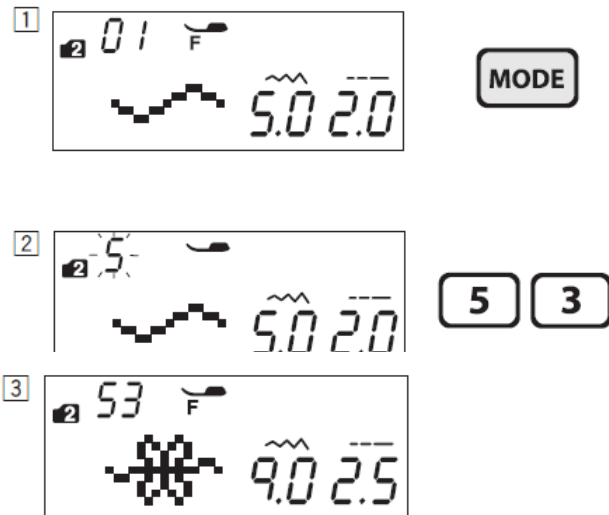
### Example: To select stitch pattern 53 in mode 2

1 Switch on the machine.

When the power switch is set to the ON position, the utility and decorative stitch pattern (mode 1) is automatically selected.





Press the mode key once to select mode 2.



2 Press the number keys on the touch screen. Press the 5 key first, then the 3 key.



3 Pattern 53 is then selected in mode 2.

### Direct stitch pattern selection

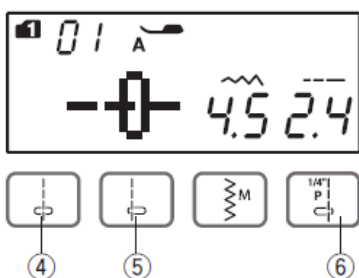
You can select stitch patterns 01 , 04 , 11  and 06  by pressing the corresponding direct stitch pattern selection keys 3.

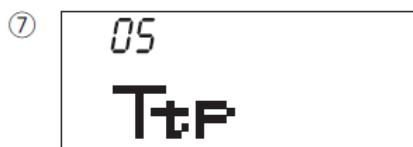
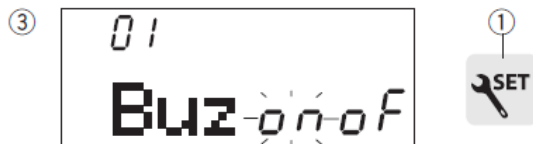
Stitch patterns 01S, 04S  or 06S  can also be selected when the straight stitch needle plate is fitted to the machine (see page 16).

Press pattern direct selection key 4 to select stitch pattern 01S.

Press pattern direct selection key 5 to select stitch pattern 04S.

Press direct pattern selection key 6 to select stitch pattern 06S.



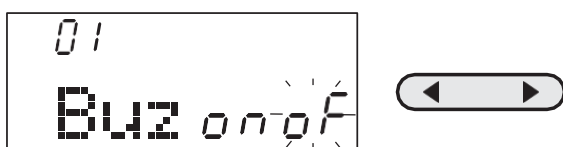
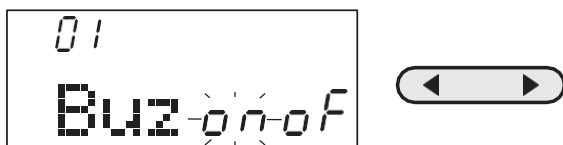


**Customising the machine settings** You can customise the machine settings to suit your preferences. Press the settings button 1 and the LCD screen will display the machine's settings mode.

Press the mode key 2 to select the desired setting.

- 3 Setting the beep
- 4 Setting the needle stop position
- 5 Start-up speed setting
- 6 Resetting all settings to factory defaults
- 7 Key position calibration

To exit configuration mode, press the configuration key 1.



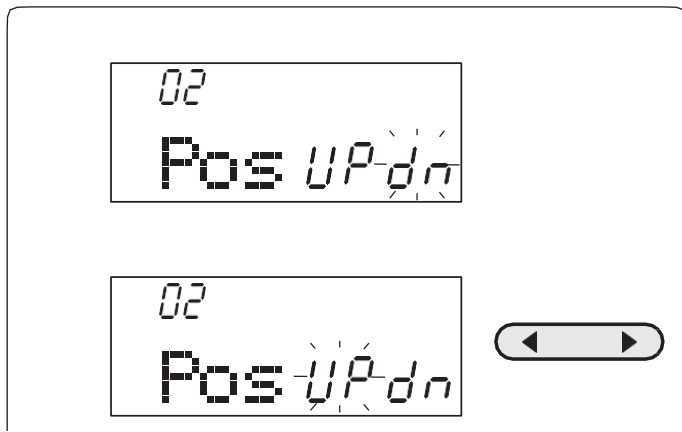
**Setting the beep**

The beep can be enabled or disabled using the beep setting function. The default setting for the beep is "ON". Enter configuration mode.

To deactivate the beep, press the "▶" key and the "off" indicator will flash.

To enable the beep, press the "◀" cursor key and the "on" indicator will flash.

Press the settings key to exit settings mode.



### Setting the needle stop position

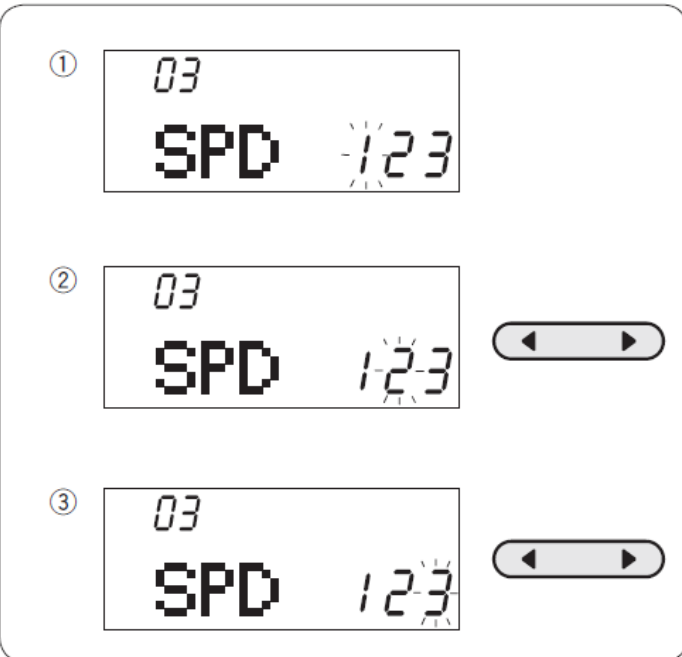
The machine always stops with the needle in the down position, except when sewing buttonholes, special stitches, monograms, etc.

However, you can select whether the needle stops in the up or down position.

Enter setup mode. Press the mode key 4 times to set the needle stop position.

To change the start speed, press the cursor key “◀” and the selected speed number will flash.

Press the settings key to exit settings mode.



### Start-up speed setting

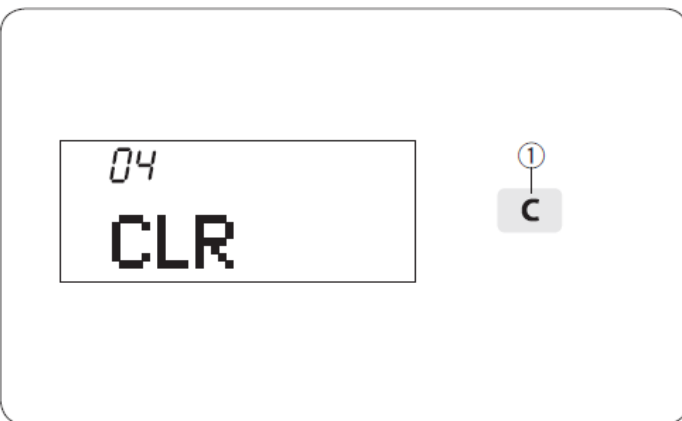
The machine will start sewing slowly and the sewing speed will increase gradually until it reaches the maximum value when the start/stop button is pressed.

You can select speed 1 (low), 2 (medium) or 3 (high).

Enter setup mode. Press the mode key twice to access the start speed setting.

To change the start-up speed, press the “▶” or “◀” cursor key, and the selected speed number will flash.

Press the settings key to exit settings mode.



### Resetting everything to factory settings

Resetting everything to factory settings

The following custom settings can be reset to their original values.

- Beep sound
- Needle stop position
- Start-up speed settings

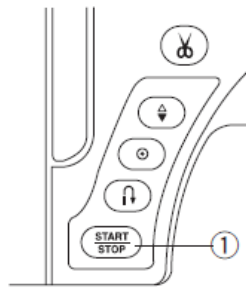
Enter setup mode.

Press the mode key twice to select the option to reset everything to default.

Hold down the clear key 1 to reset all settings to their default values.

Press the settings key to exit settings mode.

1 2

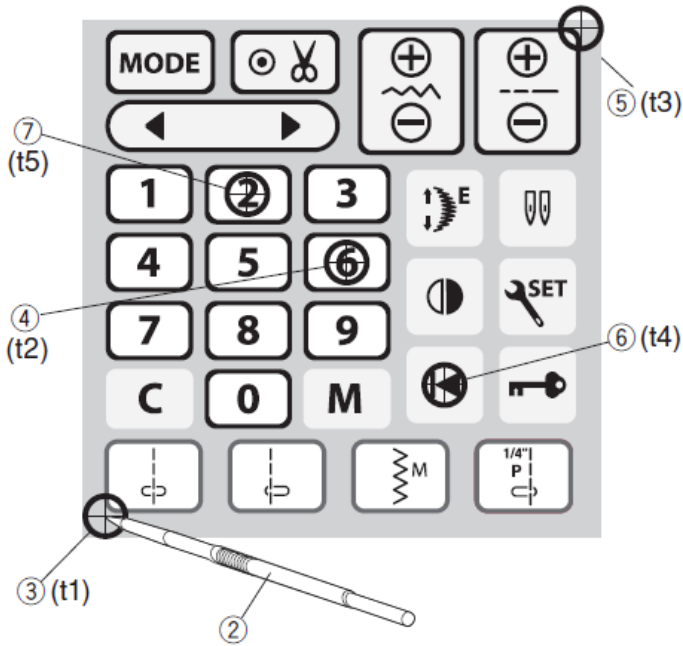


### Key position calibration

If the function keys appear misaligned, calibrate the key positions as follows.

1 Enter setup mode. Press the mode key 4 times to access key position calibration.

2 Press the start/stop button 1.



3 The key position adjustment screen appears and "P1" is displayed on the right-hand side of the screen. Using the touchscreen stylus 2, press 3 on your machine's touchscreen.

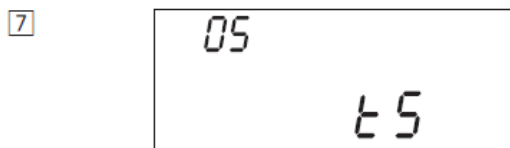
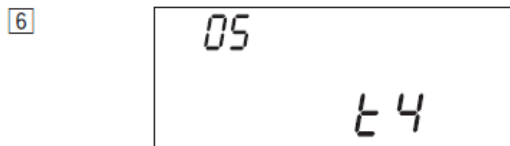
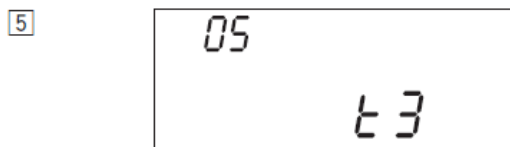
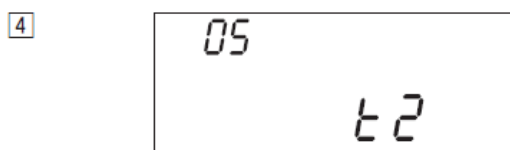
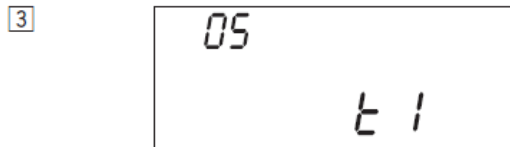
4 The display "t2" will appear on the LCD screen. Press 4 on the touchscreen.

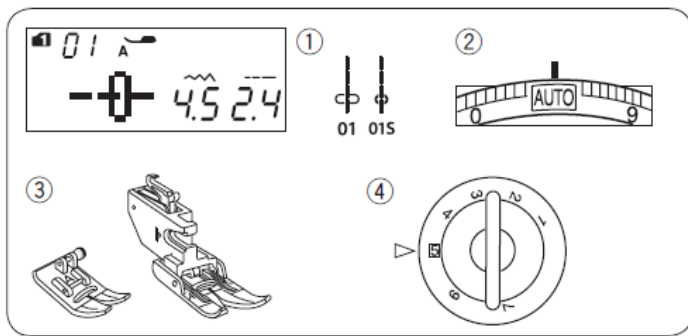
5 The display "t3" will appear on the LCD screen. Tap 5 on the touchscreen.

6 The display "t4" will appear on the LCD screen. Press 6 on the touchscreen.

7 The display "t5" will appear on the LCD screen. Press 7 on the touchscreen.

8 The screen will return to the key position setting screen. Press the settings key to apply the setting.





## R TRADITIONAL STITCHING

### straight stitches

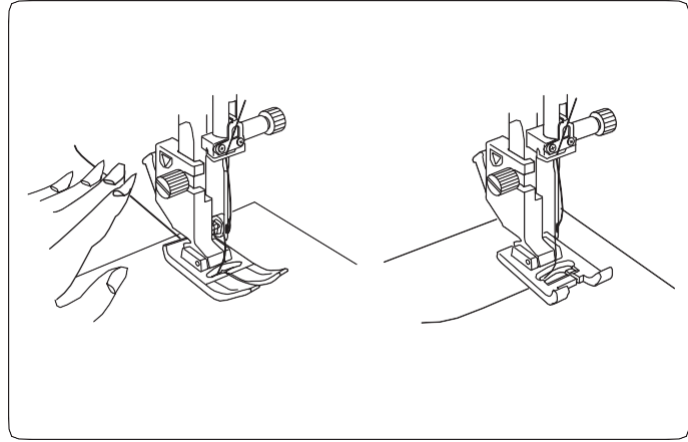
#### Machine settings

1 Pattern:	MODE 1: 01, 01S
2 Thread tension:	AUTO
3 Presser foot:	Presser foot A for zigzag or presser foot AD for double feed
4 Presser foot pressure:	5

#### Starting to sew

Raise the presser foot and position the fabric against a sewing guide on the needle plate. Lower the needle to the point on the fabric where you wish to start.

Bring the needle and bobbin threads to the back. Lower the presser foot.

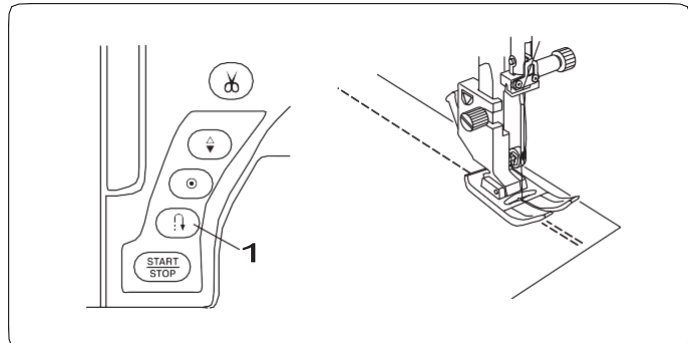


#### NOTE:

Pull the needle and bobbin threads to the left when using presser foot F, open-end decorative stitch foot F2, double feed foot AD, even-feed decorative stitch foot or automatic buttonhole foot R.

Press the foot control or press the start/stop button to begin sewing.

Gently guide the fabric along the seam guide line, allowing it to flow naturally.



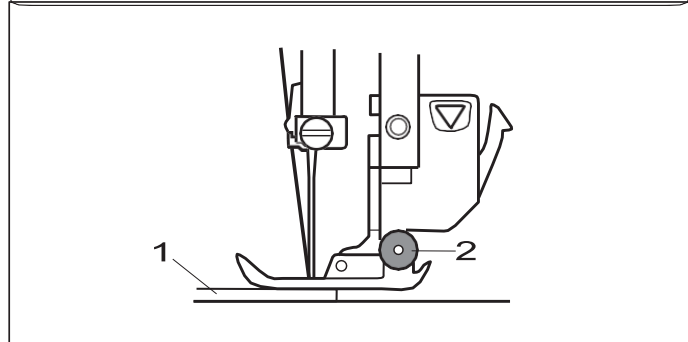
#### Basting stitches

To secure the ends of the seams, press the reverse button and sew several stitches backwards.

The machine will sew in reverse as long as you hold this button down.

- 1 Reverse button

Press the reverse button once to sew lock-a-matic stitches (pattern 02) or security stitches (pattern 03) and the machine will lock the stitches and stop automatically.



#### Sewing from the edge of a thick fabric

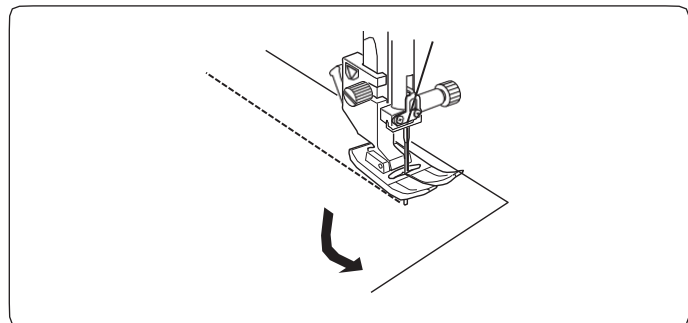
The black button on the zigzag presser foot locks the presser foot in a horizontal position.

This is very useful when you are about to start sewing from the edge of a thick fabric or when you are going to sew through a hem.

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

Lower the presser foot whilst pressing the black button. The presser foot locks in the horizontal position to prevent slipping.

- 1 Heavyweight fabrics
- 2 Black button

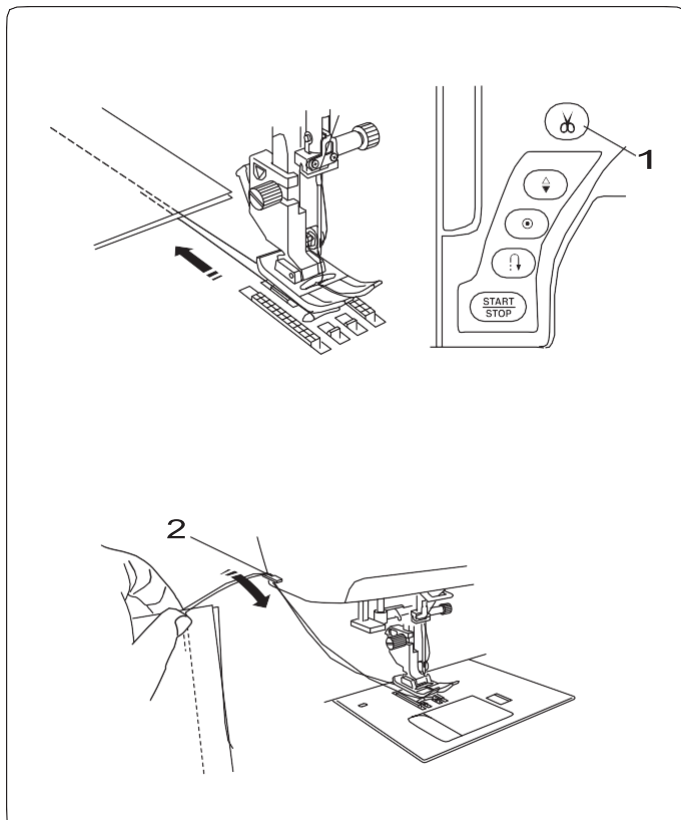


#### Changing the sewing direction

Stop the machine. Raise the presser foot.

Turn the fabric around the needle to change the sewing direction as desired.

Lower the presser foot and start sewing in the new direction.



### Cutting threads

Once you have finished sewing, press the thread cutter button to cut the threads. The needle bar will automatically raise after the threads have been cut.

1 Thread cutter button

#### NOTES:

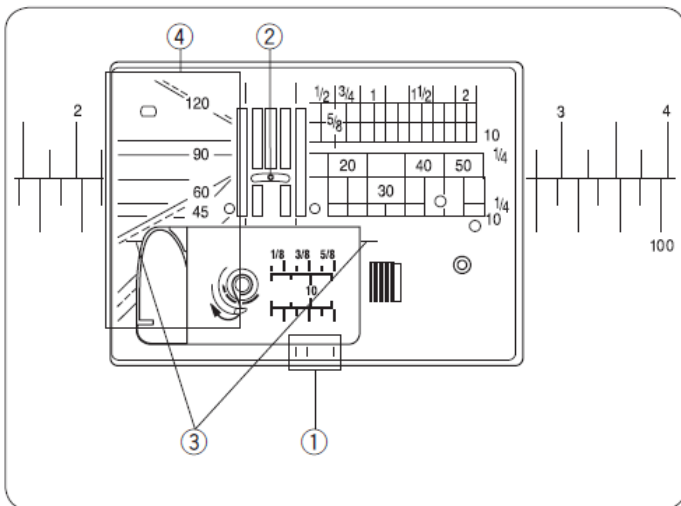
The thread cutter does not work if the presser foot is in the raised position.

Use the thread cutter on the front cover to cut thicker or special threads when the automatic thread cutter is not working properly.

To use the thread cutter on the front cover, pull the fabric back. Pass the threads between the thread cutter and the front cover from behind.

Pull the threads towards you to cut them.

2 Thread cutter



### Needle plate guides

The sewing guides are marked on the needle plate, the free arm and the bobbin cover.

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

1 Stitch guides on the front of the needle plate

The numbers on the needle plate indicate the distance in millimetres and inches from the centre of the needle.

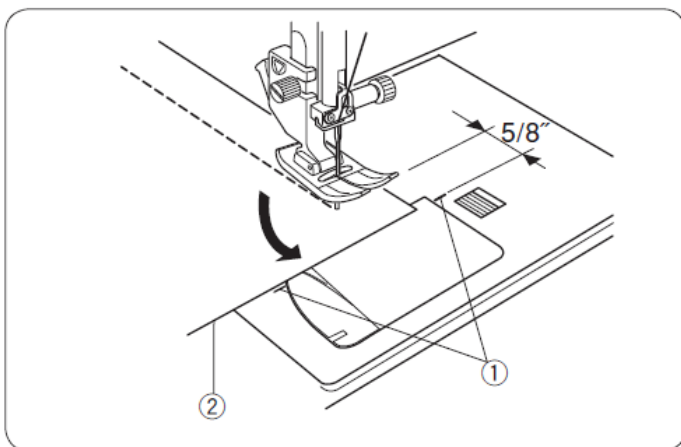
2 Centre position of the needle

The corner guides are very useful when turning a right-angle corner.

3 Corner guide

The brackets on the needle plate are useful for joining patchwork pieces (see page 63).

4 Corner brackets



### Corner guide

To maintain a 5/8" seam allowance after turning at a right angle, use the corner guide on the needle plate.

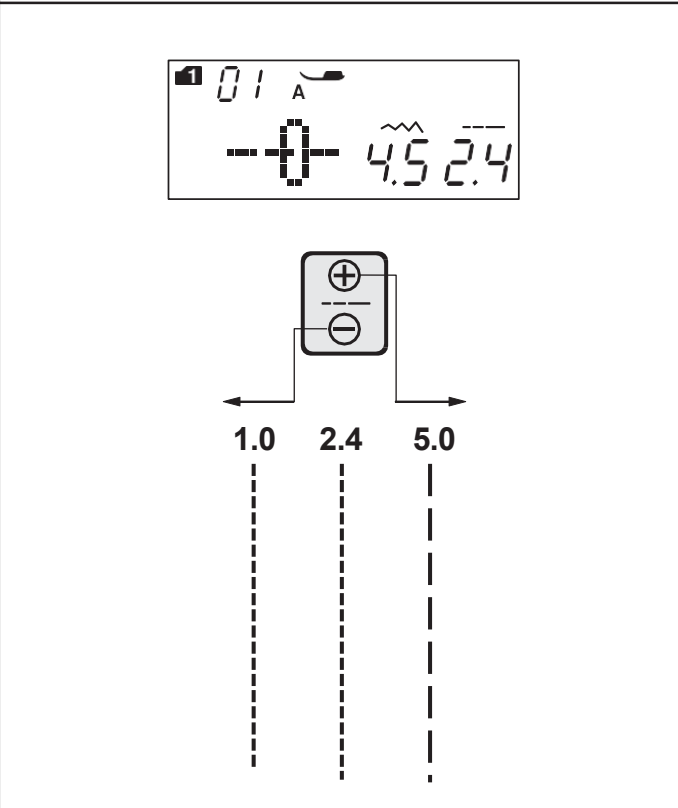
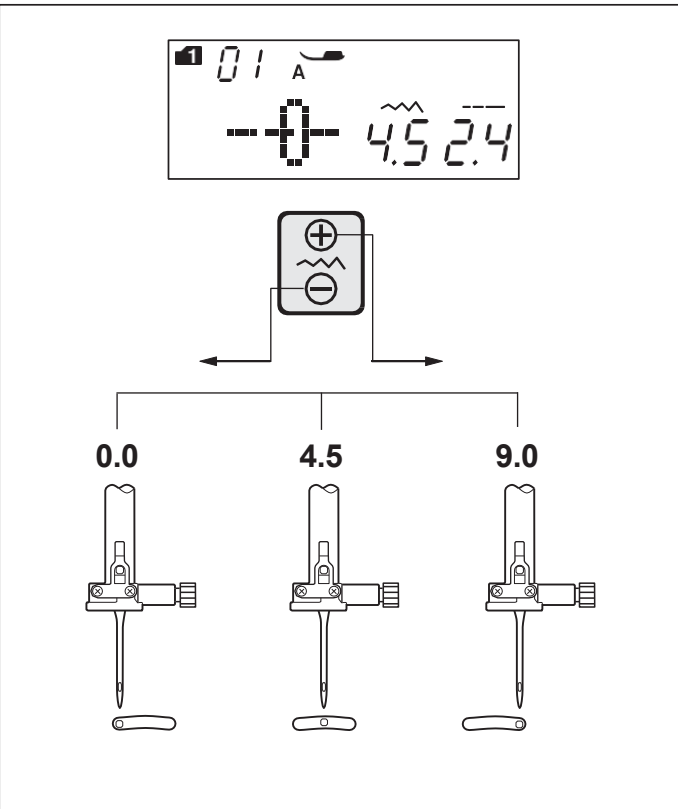
Stop sewing when the leading edge of the fabric reaches the corner guide lines.

Raise the presser foot and turn the fabric 90 degrees.

Lower the presser foot and start sewing in the new direction.

1 Corner guide

2 Fabric edge

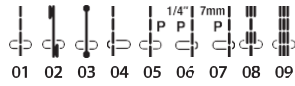


### Adjusting the needle drop position

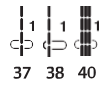
The needle drop position for straight stitches can be adjusted by pressing the stitch width adjustment button.

The needle drop position can be adjusted as follows for straight stitch patterns:

MODE 1:



MODE 2:



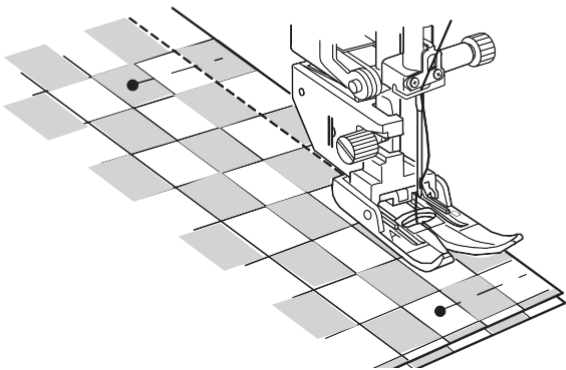
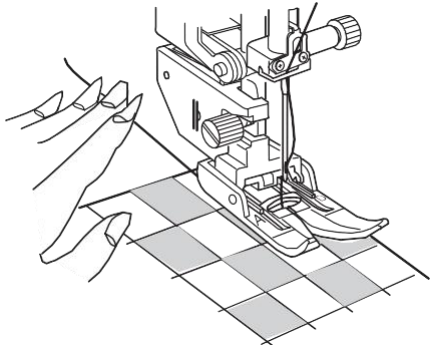
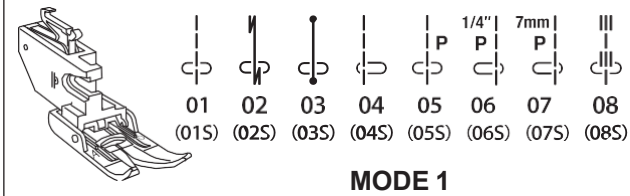
Press the “+” symbol on the key to move the needle bar to the right.  
Press the “-” symbol on the key to move the needle bar to the left.

### Adjusting the stitch length

Press the stitch length adjustment button if you wish to change the stitch length.

The stitch length display will change as you press the button.

Press the “+” symbol on the button to increase the stitch length.  
Press the “-” symbol on the key to decrease the stitch length.



### Sewing with the double feed dog

Patterns 01–08 and 01S–08S (Mode 1) can be sewn using the dual feed device.

The dual feed device is extremely effective for sewing materials that are difficult to feed, such as vinyl or press-on fabric. It also prevents the layers from slipping.

**NOTE:**

See pages 14 and 15 for instructions on how to fit the dual feed presser foot and how to engage the dual feed mechanism.

**Sewing**

Raise the presser foot and place the fabric against a sewing guide on the needle plate. Lower the needle to the point on the fabric where you wish to start.

Bring the needle thread and bobbin thread to the back. Lower the presser foot.

Start sewing at a medium speed. Gently guide the fabric along the seam guide line, allowing it to flow naturally.

When sewing tartan fabrics, match the checks on the top and bottom layers and secure them with pins.

**-double feed balance selector**

The double feed balance selector should be set to “0”. However, you may need to adjust the dual feed balance using this selector, as the dual feed effect varies depending on the type of fabric.

Test on a scrap of the fabric you intend to use for sewing to check the feed balance.

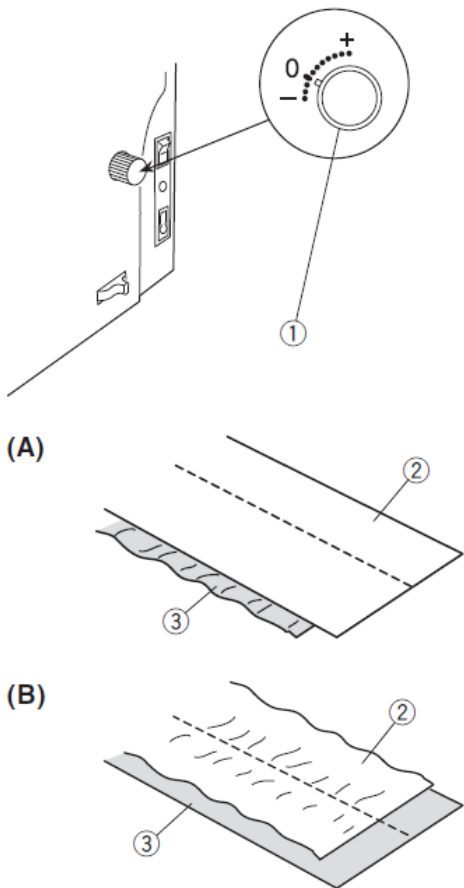
- (A) : If the bottom layer wrinkles, turn the double feed balance selector towards “+”.
- (B) : If the top layer puckers, turn the dual feed balance selector towards “-”.

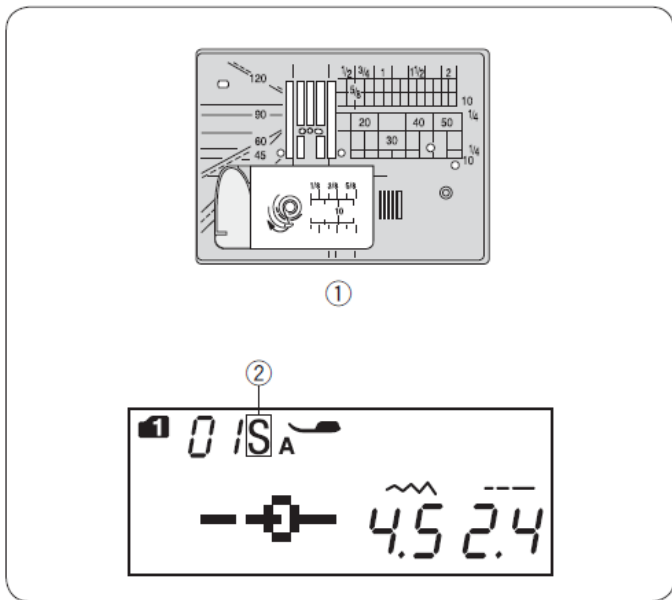
- 1 Dual feed balance dial
- 2 Top layer
- 3 Lower layer

Set the dual feed balance dial to “0” after dual feed sewing.

**NOTE:**

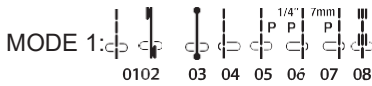
Reducing the presser foot pressure will also improve the feed balance.





### -straight stitch needle plate

Stitch patterns 01-08 (mode 1) can be sewn using the straight stitch needle plate.



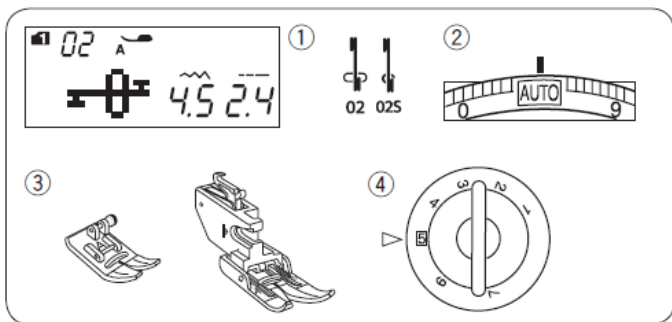
Replace the needle plate with the straight stitch needle plate (see page 16).

The letter "S" will appear at the end of the pattern number when the straight stitch needle plate is attached.

- 1 Straight stitch needle plate
- 2 S indicator

#### NOTE:

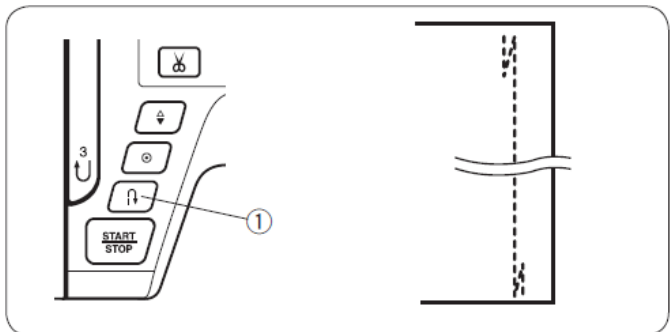
When the straight stitch needle plate is installed on the machine, patterns that are not compatible with the straight stitch needle plate cannot be selected.



### "Lock-a-Matic" stitch

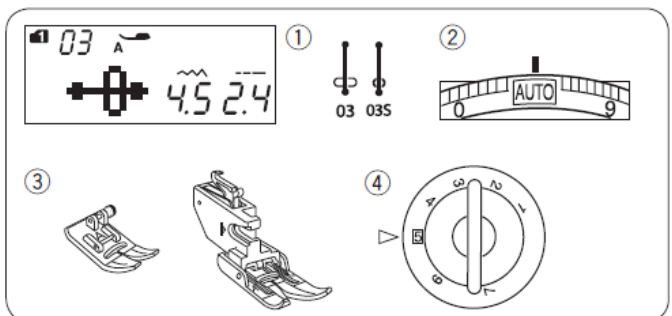
#### Machine settings

- 1 Pattern: MODE 1: 02, 02S
- 2 Thread tension: AUTO
- 3 Presser foot: Presser foot A for zigzag or presser foot AD for double feed
- 4 Presser foot pressure: 5



Use this stitch to secure the start and end of a seam with a bar tack. When you reach the end of the seam, press the reverse button q once. The machine will sew four stitches backwards, four forwards and then stop automatically.

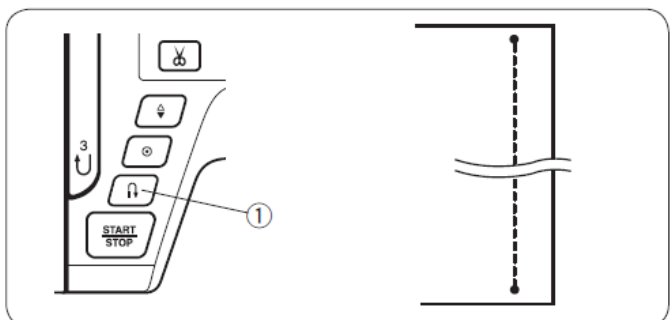
- 1 Reverse button



### r safety stitch

#### Machine settings

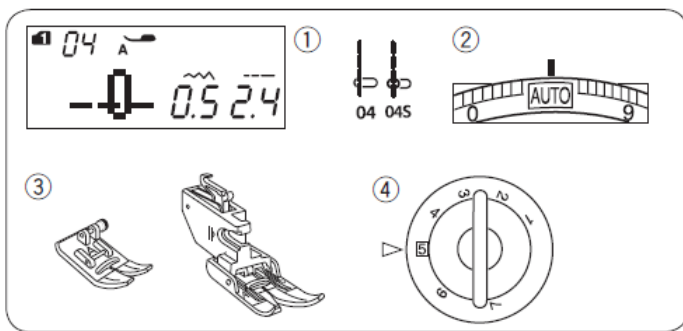
- 1 Pattern: MODE 1: 03, 03S
- 2 Thread tension: AUTO
- 3 Presser foot: Presser foot A for zigzag or presser foot AD for double feed
- 4 Presser foot pressure: 5



This exclusive stitch is used when an invisible finishing stitch is required.

Lower the needle close to the leading edge of the fabric. The machine will sew several securing stitches in place and continue forward. If you press the reverse button q at the end of the seam, the machine will sew several stitches in place and stop automatically.

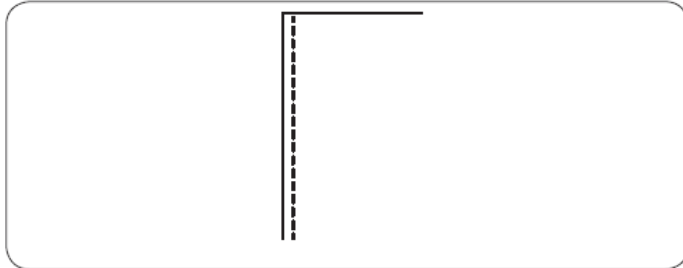
- 1 Reverse button



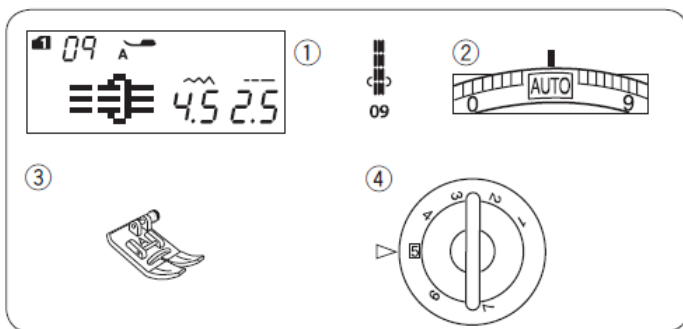
### Straight stitch with the needle on the left

#### Machine settings

- |                          |  |
|--------------------------|--|
| 1 Pattern:               | MODE 1: 04, 04S  |
| 2 Thread tension:        | AUTO   |
| 3 Presser foot:          | Presser foot A for zigzag or<br>presser foot AD for double<br>feed |
| 4 Presser foot pressure: | 5  |



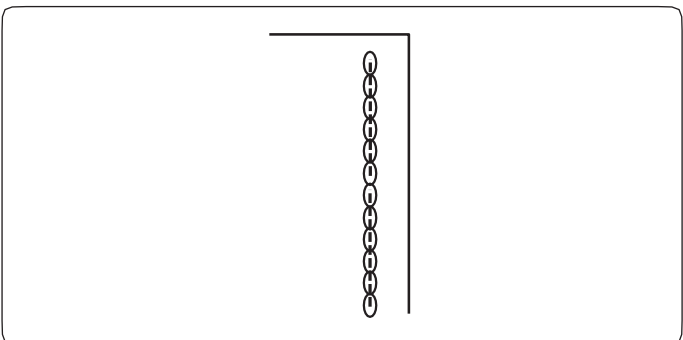
Use this stitch to sew the edge of the fabric.



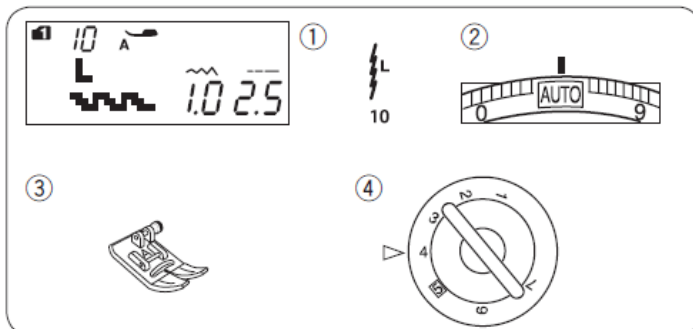
### triple stretch stitch

#### Machine settings

- |                          |                       |
|--------------------------|-----------------------|
| 1 Pattern:               | MODE 1: 09            |
| 2 Thread tension:        | AUTO                  |
| 3 Presser foot:          | Zigzag presser foot A |
| 4 Presser foot pressure: | 5                     |



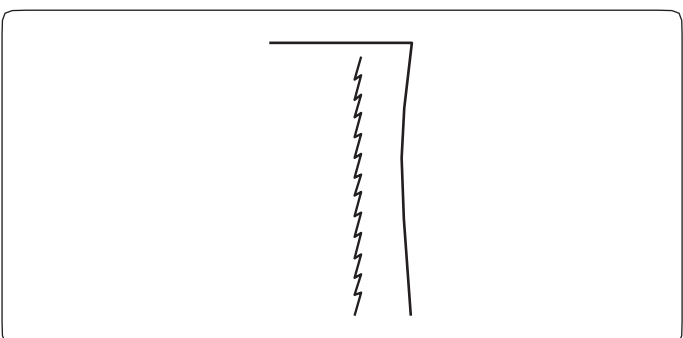
This strong, durable stitch is ideal for areas where elasticity and strength are needed to ensure comfort and durability. Use it to reinforce areas such as the seams in the crotch or underarms. It is also suitable for sewing items such as rucksacks, which require a high degree of strength.



### -stitch

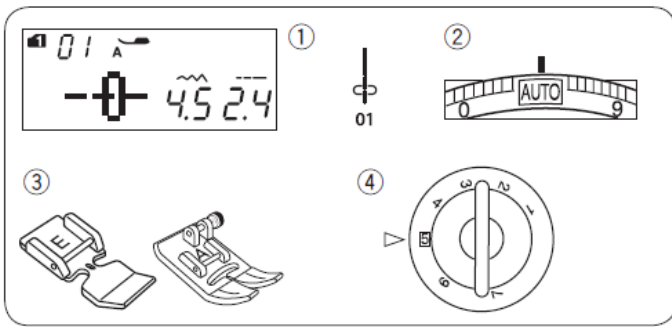
#### Machine settings

- |                          |                       |
|--------------------------|-----------------------|
| 1 Pattern:               | MODE 1: 10            |
| 2 Thread tension:        | AUTO                  |
| 3 Presser foot:          | Zigzag presser foot A |
| 4 Presser foot pressure: | 4                     |



This is a narrow elastic stitch that prevents puckering in knitted fabrics and bias seams, whilst allowing the seam to open fully.

Use this stitch when sewing lightweight fabrics such as knitwear or fine jersey.



**r zip stitching**  
**Machine settings**

- |                          |                             |
|--------------------------|-----------------------------|
| 1 Pattern:               | MODE 1: 01                  |
| 2 Thread tension:        | AUTO                        |
| 3 Presser foot:          | Zipper foot E Zigzag foot A |
| 4 Presser foot pressure: | 5                           |

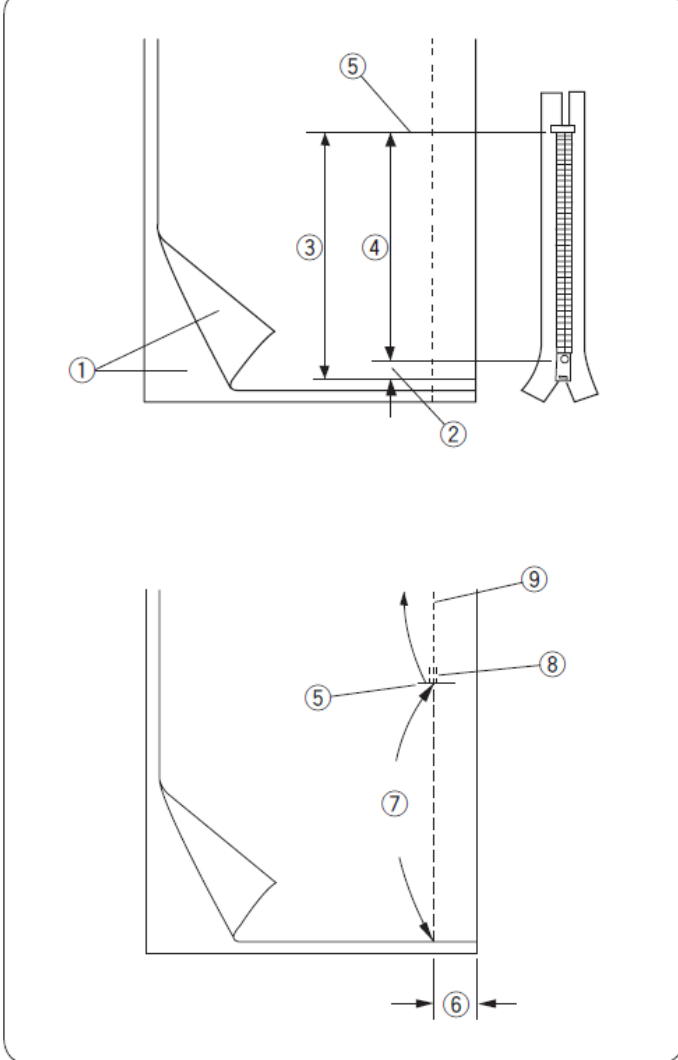
**NOTE:**

The needle drop position must be adjusted when sewing with the E presser foot for zips.

**Preparing the fabric**

Add 1 cm (3/8") to the size of the zip. This is the total size of the opening.

- 1 Right sides of the fabric
- 2 1 cm (3/8")
- 3 Opening size
- 4 Zipper size
- 5 End of the zip opening



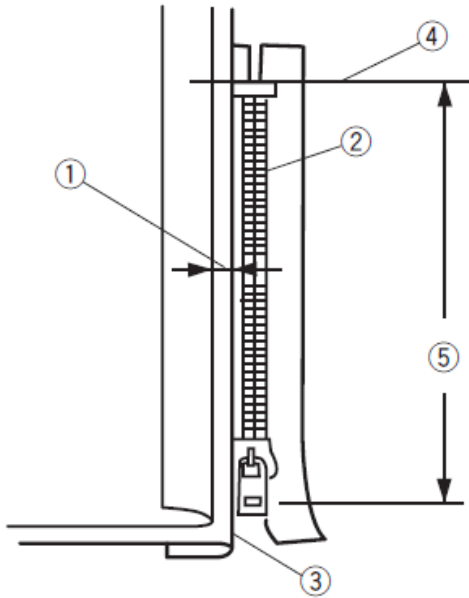
Join the right sides of the fabric and sew up to the end of the opening, leaving a 2 cm (5/8") seam allowance.

Backstitch to secure the seam.

Manually increase the stitch length to 5.0 and baste the zip opening with loose thread at 1-3.

- 5 End of the zip opening
- 6 2 cm (5/8") seam allowance
- 7 Basting
- 8 Reverse stitches
- 9 Seam stitches

1



### Sewing

1 Fold the left seam allowance back. Fold the right seam allowance down to form a fold of between 0.2 and 0.3 cm (1/8"). Place the teeth of the zip against the fold and pin in place.

Set the stitch length and thread tension to their original settings.

1 Margin of 0.2 to 0.3 cm (1/8")

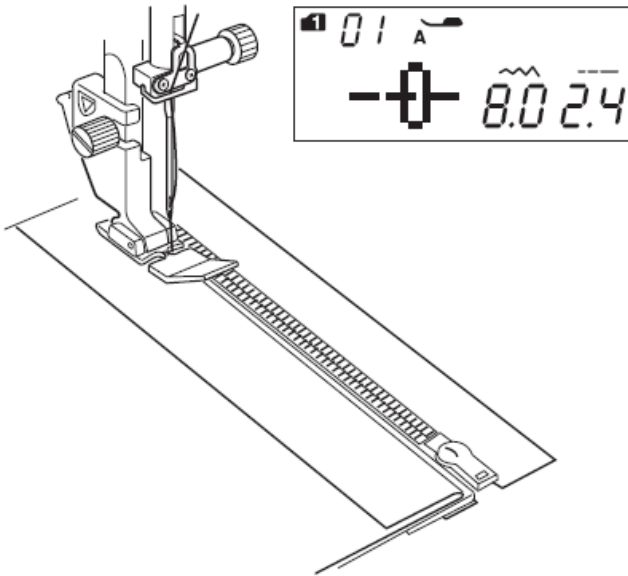
2 Zipper teeth

3 Fold

4 End of the zip opening

5 Size of the opening

2



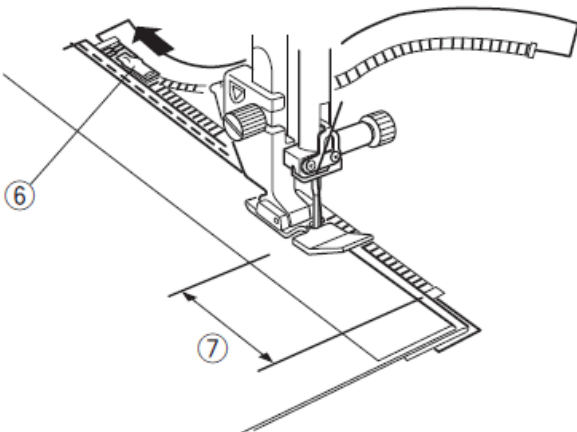
2 Attach the E zip foot. Set the stitch width to 7.5 to 8.5.

Lower the presser foot onto the top at the end of the zip opening, so that the needle passes through the fabric next to the fold and the zip tape. Sew along the zip, guiding the zip teeth along the lower edge of the presser foot.

**! CAUTION:**

Make sure that the needle does not hit the presser foot when the zip foot or zip teeth are attached and the stitch width is adjusted.

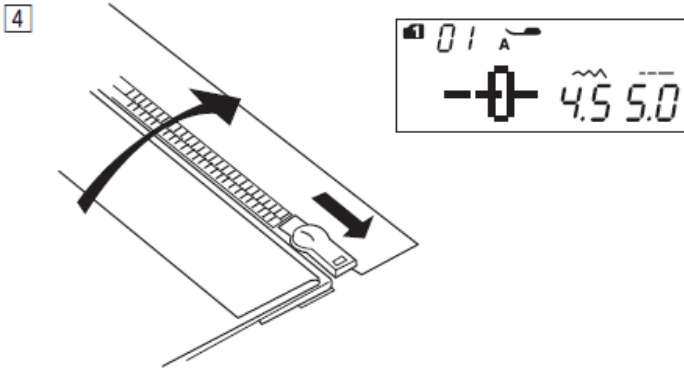
3



3 Sew all the layers next to the fold. Stop the machine 5 cm (2") before the E presser foot reaches the slider on the zip tape. Move the needle slightly closer to the fabric. Raise the presser foot and open the zip to clear the slider. Lower the presser foot and finish sewing the seam.

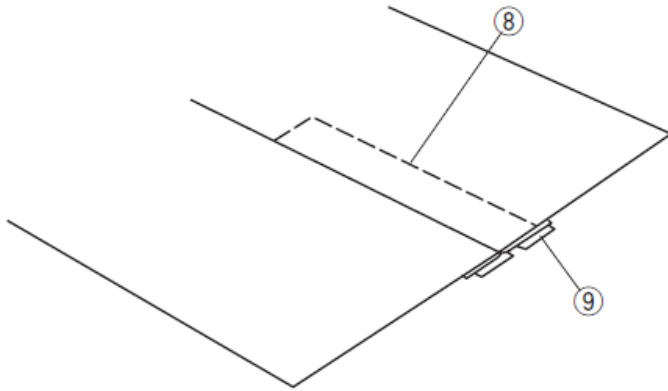
6 Slider

7 5 cm (2")



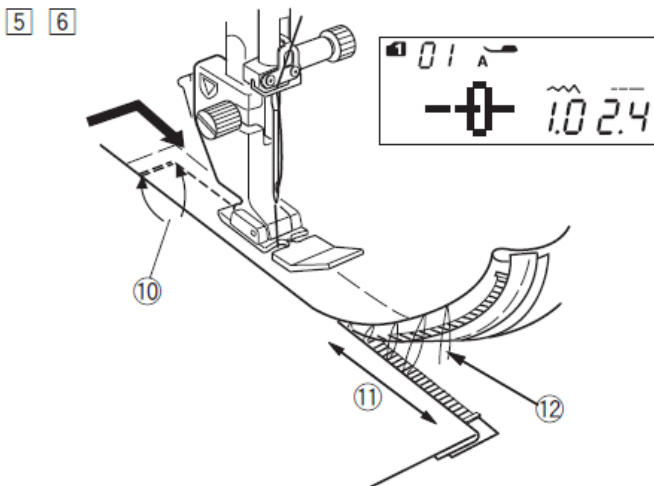
4 Close the zip and lay the fabric flat, with the right side facing up. Fit the zigzag presser foot A. Set the stitch length to 5.0, the stitch width to 4.5 (default setting) and the thread tension to 1. Baste the flat fabric and the zip tape together.

- 8 Basting
- 9 Zipper tape



5 Fit the E zip foot. Set the stitch length to the default setting, the stitch width to 0.5–1.5, and the thread tension control to "AUTO". Stitch between the end of the opening 0.7–1 cm (3/8") and turn the fabric 90 degrees.

- 10 0.7 to 1 cm (3/8")



**! CAUTION:**

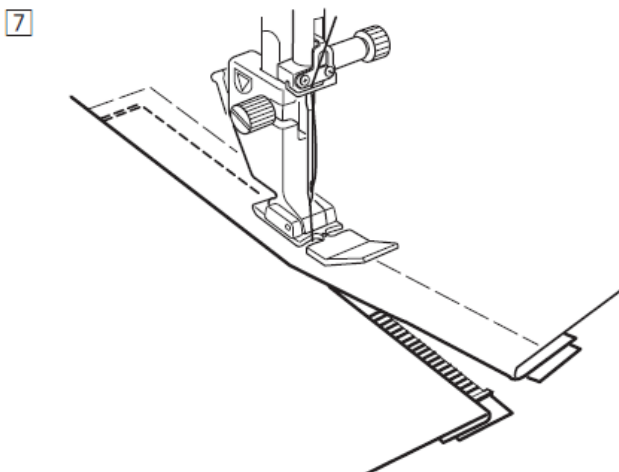
Ensure that the needle does not strike the presser foot when the zip foot or zip teeth are attached and the stitch width is adjusted.

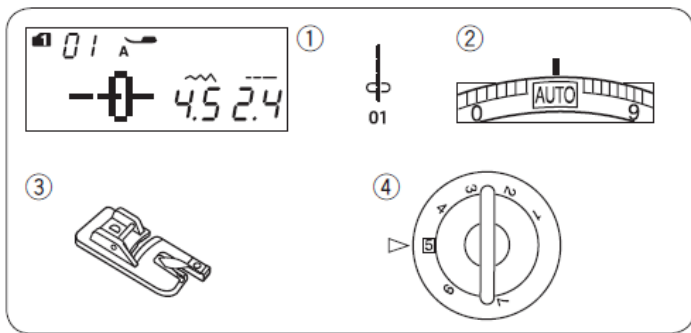
6 Join the fabric and the zip tape, guiding the zip teeth along the lower edge of the presser foot. Stop about 5 cm (2") from the top edge of the zip.

- Unpick the basting stitches.
- 11 5 cm (2")
- 12 Basting stitches

7 Lower the needle into the fabric, raise the presser foot and open the zipper.

Remove the basting threads once you have finished sewing.

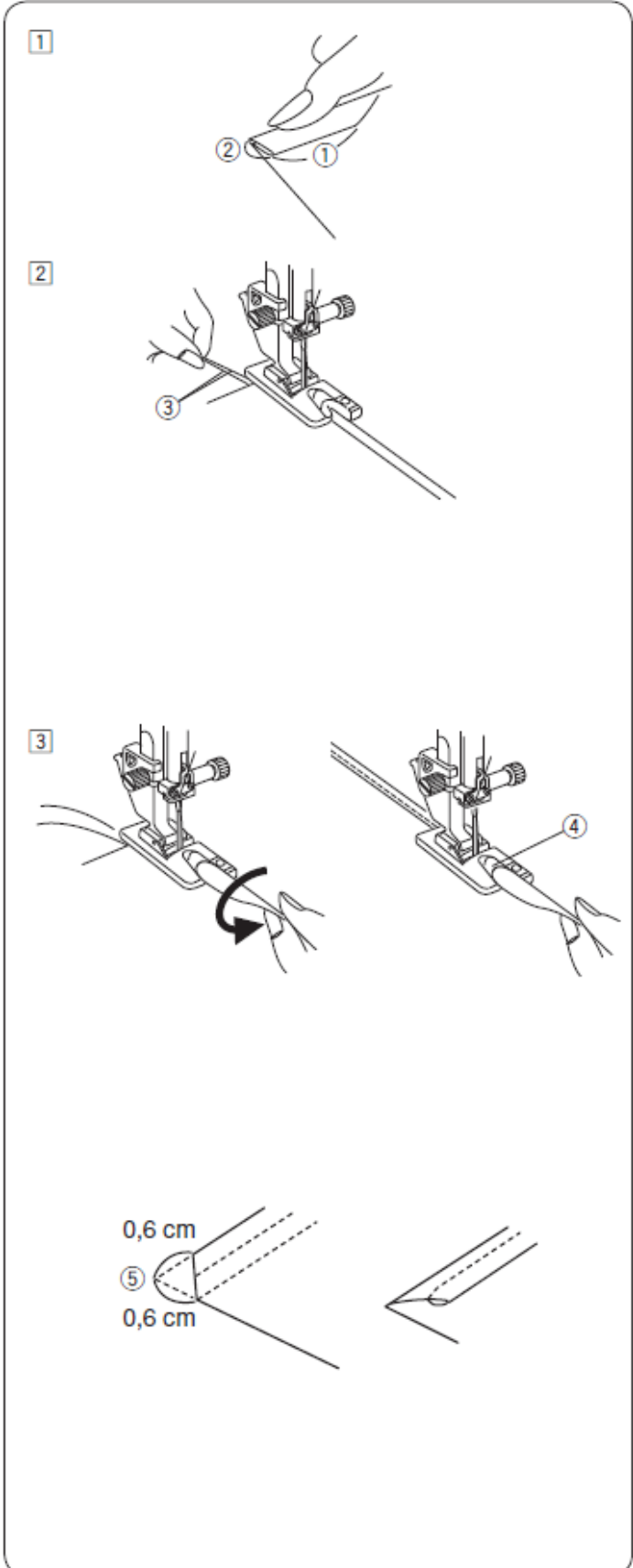




**-style rolled hem**

**Machine settings**

- |                          |                               |
|--------------------------|-------------------------------|
| 1 Pattern:               | MODE 1: 01                    |
| 2 Thread tension:        | AUTO                          |
| 3 Presser foot:          | D presser foot for rolled hem |
| 4 Presser foot pressure: | 5                             |



**Sewing**

- 1 Fold the edge of the fabric twice, to a length of 6 cm (2 3/8") and a width of 0.3 cm (1/8").
  - 1 6 cm (2 3/8")
  - 2 0.3 cm (1/8")

- 2 Position the fabric so that the hem edge aligns with the presser foot guide. Lower the presser foot and sew 1–2 cm (1/2"–1"), bringing both threads to the back.
  - 3 Threads

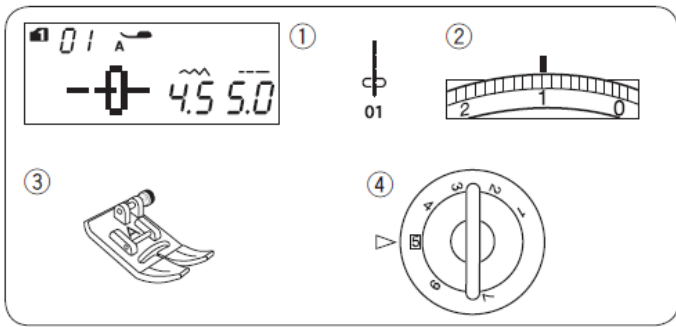
- 3 Stop the machine and lower the needle into the fabric. Raise the presser foot and insert the folded edge of the fabric into the presser foot groove. Lower the presser foot and sew, lifting the edge of the fabric so that it feeds in evenly and smoothly.

- 4 Presser foot groove

**NOTE:**

Trim about 0.6 cm (1/4") from the corners to reduce the thickness.

- 5 0.6 cm (1/4")



### Gathering

#### Machine settings

1 Pattern:	MODE 1: 01
2 Thread tension:	1
3 Presser foot:	Zigzag presser foot A
4 Presser foot pressure:	5

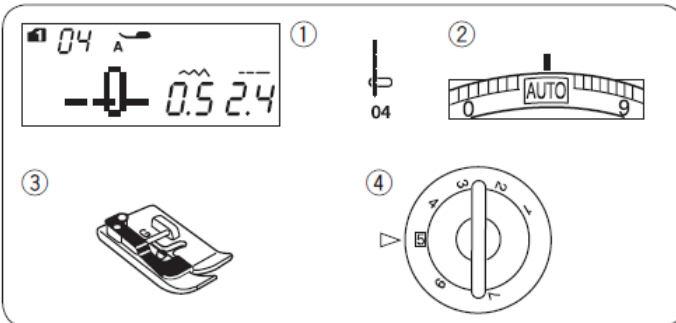
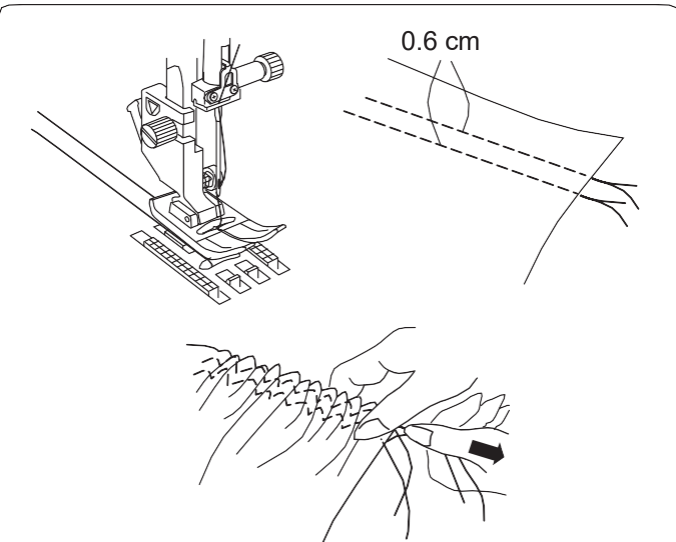
Loosen the thread tension to "1" and increase the stitch length to 5.0.

#### NOTE:

Pull the bobbin thread and pull out a 10 cm (4") length of thread from the back before starting to sew.  
Use the thread cutter on the front plate.

Sew two rows of straight stitches 0.6 cm (1/4") apart.  
Tie the threads at the start.  
Pull the bobbin threads at the end to gather the fabric.

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



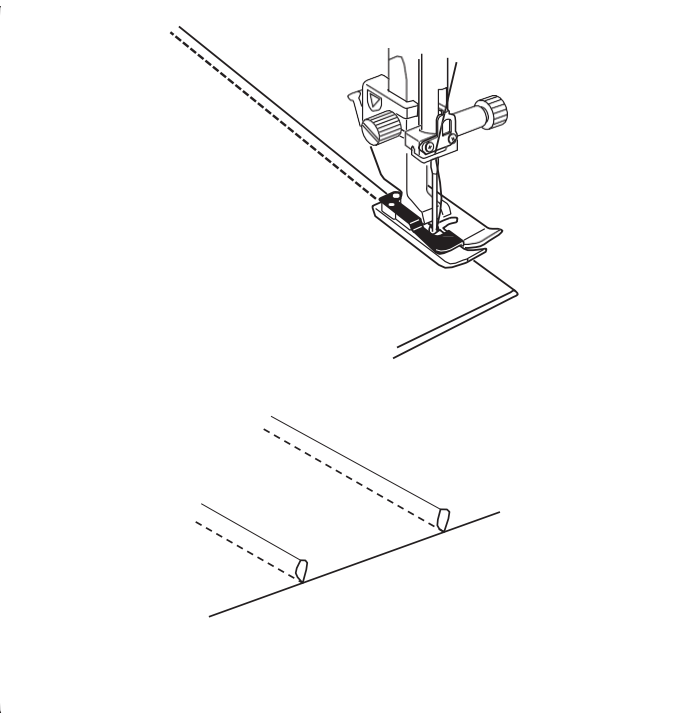
### Edging

#### Machine settings

1 Pattern:	MODE 1: 04
2 Thread tension:	AUTO
3 Presser foot:	G blind hem presser foot
4 Presser foot pressure:	5

Fold the fabric with the wrong sides together.  
Place the folded fabric under the blind hem presser foot.  
Align the edge of the fold with the presser foot guide, and lower the presser foot.  
Sew, guiding the edge of the fold along the guide.

Open the fabric and push the pleats to one side.



## r zigzag stitch

### Machine settings

1 Pattern:	MODE 1: 11, 12
2 Thread tension:	AUTO
3 Presser foot:	Zigzag presser foot A
4 Presser foot pressure:	5

The zigzag stitch is used for various types of seams, including overcasting. It can be used with most woven fabrics.

A tight zigzag stitch can also be used for attaching appliqués.

### Adjusting the stitch length

Press the stitch length adjustment button if you wish to change the stitch length of zigzag stitches.

Press the “+” symbol on the stitch length adjustment button to increase the stitch length.

Press the “-” symbol on the stitch length adjustment button to decrease the stitch length.

1 Stitch length

### Adjusting the stitch width

Press the stitch width adjustment button if you wish to change the width of the zigzag stitches.

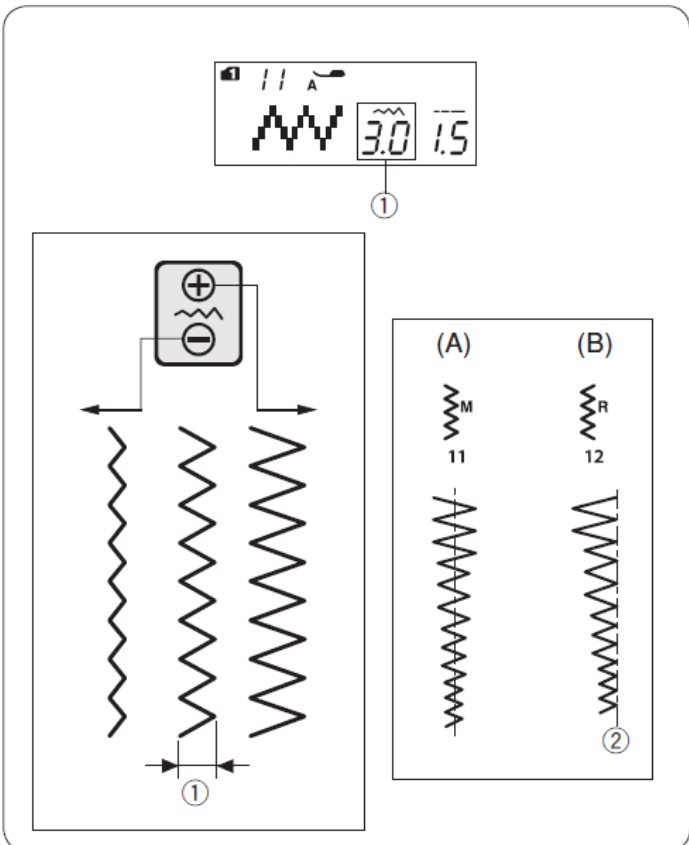
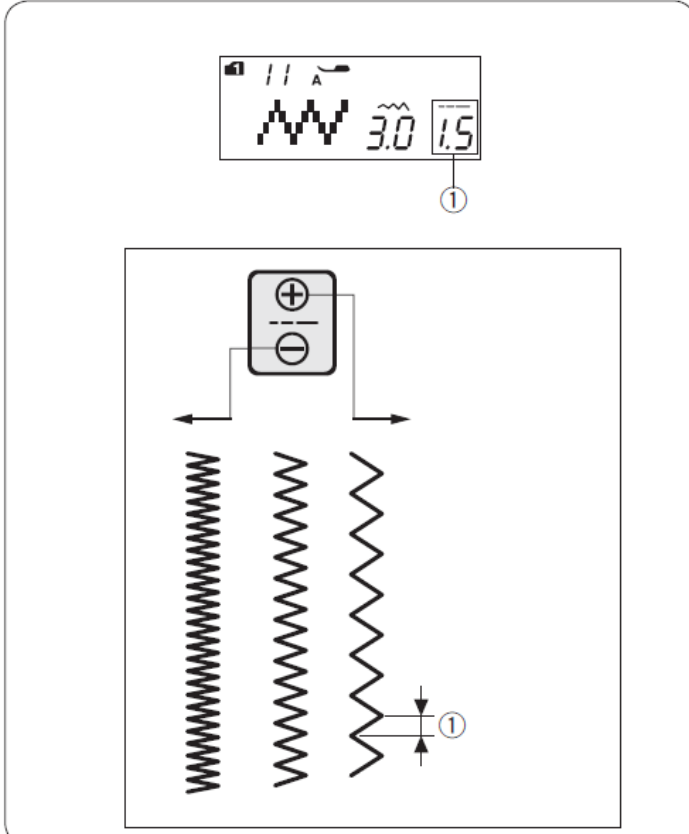
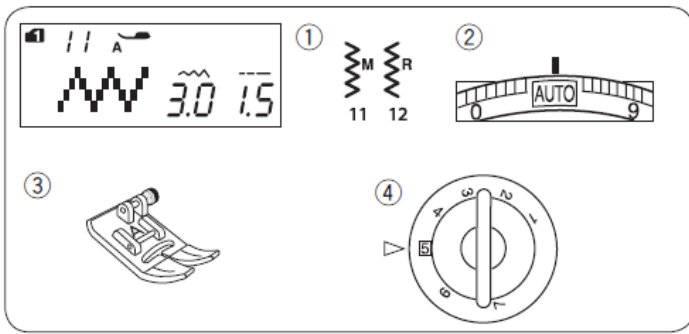
Press the “+” symbol on the stitch width adjustment button to increase the stitch width.

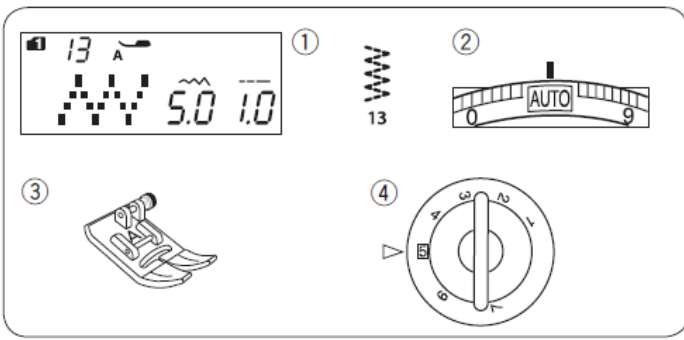
Press the “-” symbol on the stitch width adjustment button to decrease the stitch width.

1 Stitch width

(A) : Pattern number 11 (mode 1) has a fixed needle drop position in the centre.  
The stitch width changes symmetrically.

(B) : Pattern number 12 (mode 1) has a fixed needle drop position on the right. When you change the stitch width, the needle drop position shifts to the left.  
2 Fixed needle position on the right-hand side

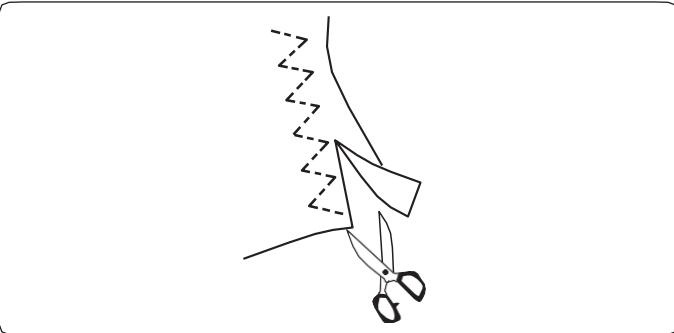




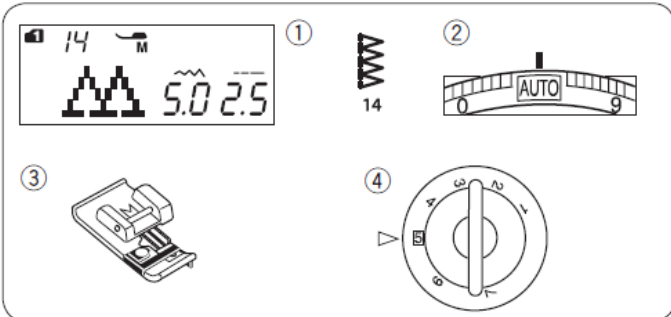
### Multiple zigzag stitch (single knit stitch)

#### Machine settings

1 Pattern:	MODE 1: 13
2 Thread tension:	AUTO
3 Presser foot:	Zigzag presser foot A
4 Presser foot pressure:	5



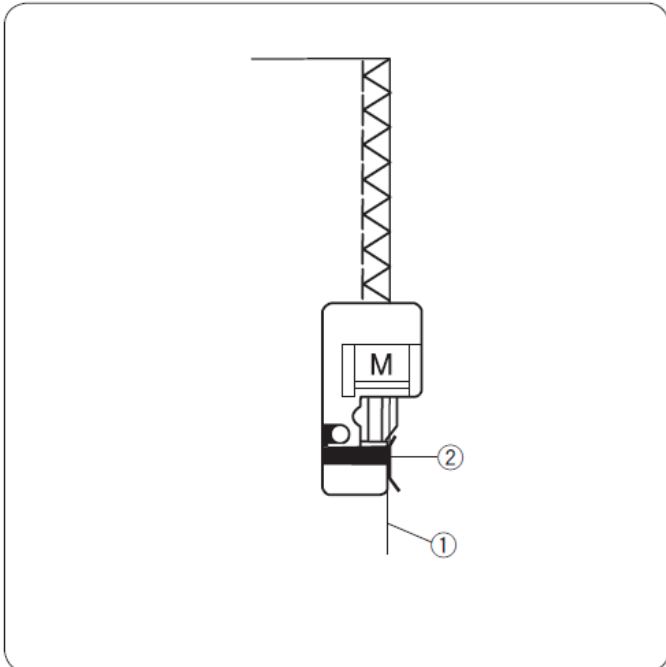
This stitch is used to finish the raw edges of synthetic fabrics and other stretch fabrics that tend to pucker. Sew along the edge of the fabric, leaving a sufficient margin between the fabric edge and the seam. After sewing, trim the margin between the fabric edge and the seam close to the stitches.



### -cover stitch

#### Machine settings

1 Pattern:	MODE 1: 14
2 Thread tension:	AUTO
3 Presser foot:	M presser foot for overcasting
4 Presser foot pressure:	5



This stitch can be used to sew and overlock the edges of the fabric simultaneously.

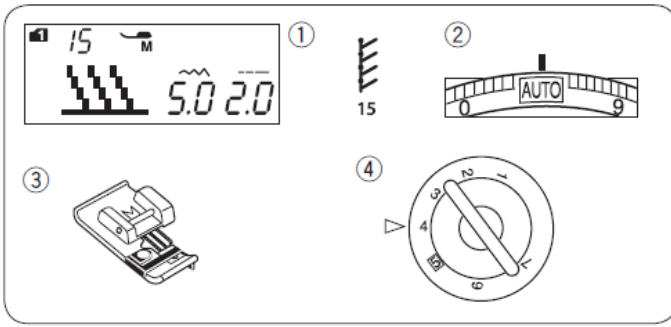
Use this stitch when you do not need to unpick the seams afterwards.

Place the edge of the fabric next to the presser foot guide and start sewing.

- 1 Fabric edge
- 2 Guide

#### NOTE:

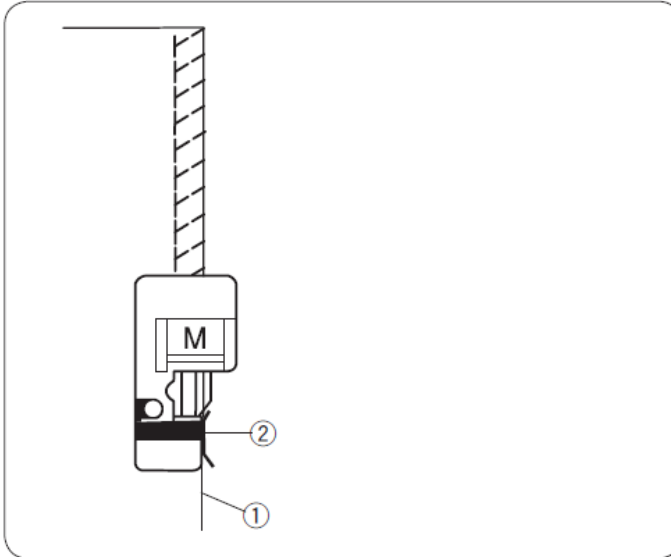
The stitch width cannot be adjusted.



### Stitch on knitted fabrics ( )

#### Machine settings

- |                          |                         |
|--------------------------|-------------------------|
| 1 Pattern:               | MODE 1: 15              |
| 2 Thread tension:        | AUTO                    |
| 3 Presser feet:          | M overlock presser foot |
| 4 Presser foot pressure: | 4                       |



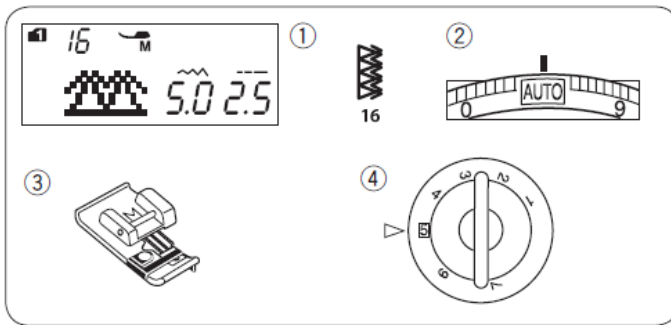
This stitch is useful for sewing fabrics such as synthetic knits and stretch velour, as it provides maximum elasticity and firmness.

Place the edge of the fabric next to the presser foot guide and start sewing.

- 1 Fabric edge
- 2 Guide

#### NOTE:

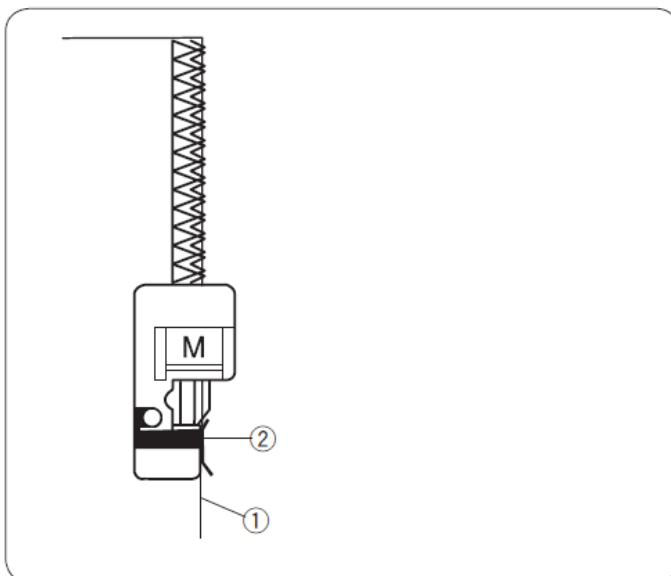
The stitch width cannot be adjusted.



### double overlock stitch

#### Machine settings

- |                          |                                |
|--------------------------|--------------------------------|
| 1 Pattern:               | MODE 1: 16                     |
| 2 Thread tension:        | AUTO                           |
| 3 Presser foot:          | M presser foot for overlocking |
| 4 Presser foot pressure: | 5                              |



This stitch is excellent for fabrics that tend to fray, such as linen or gabardine.

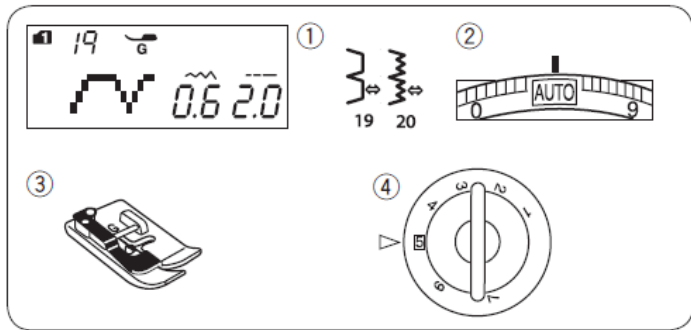
Two rows of zigzag stitches are sewn simultaneously along the edge of the fabric, preventing it from fraying.

Place the edge of the fabric next to the presser foot guide and start sewing.

- 1 Fabric edge
- 2 Guide

#### NOTE:

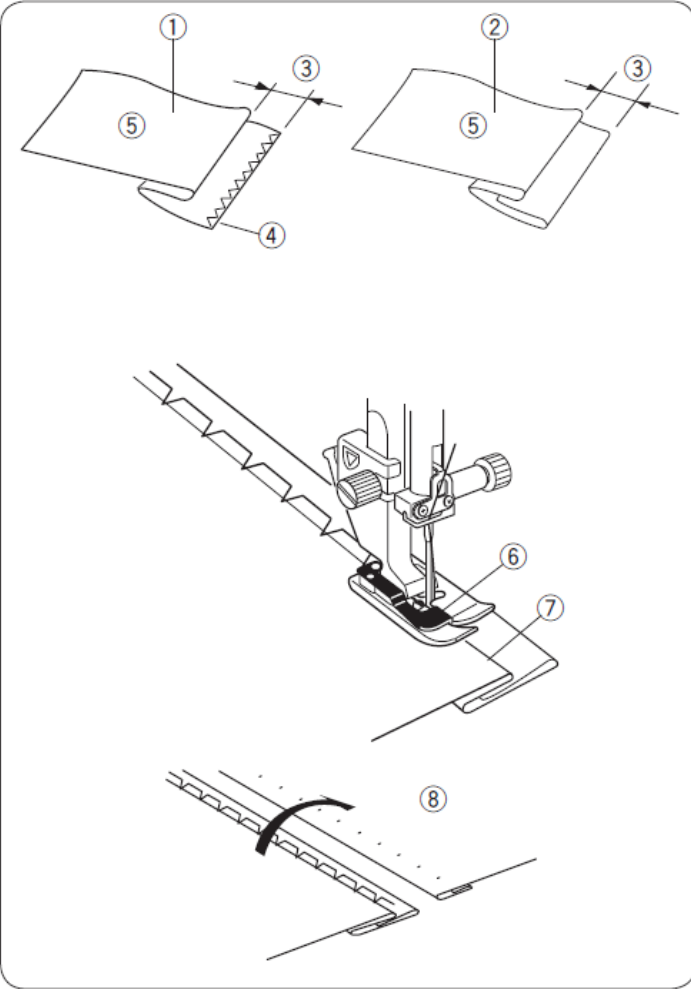
The stitch width cannot be adjusted.



**r blind hem**

**Machine settings**

- |                          |                              |
|--------------------------|------------------------------|
| 1 Pattern:               | MODE 1: 19, 20               |
| 2 Thread tension:        | AUTO                         |
| 3 Presser foot:          | G presser foot for blind hem |
| 4 Presser foot pressure: | 5                            |



Select pattern 19 for woven fabrics and pattern 20 for stretch fabrics.

**Folding the fabric**

Fold the fabric to form a hem, as shown in the picture.

- 1 Heavyweight fabric
- 2 Light to medium-weight fabric
- 3 0.4 to 0.7 cm (3/16"–1/4")
- 4 Overlock
- 5 Wrong side of the fabric

**Sewing**

Position the fabric so that the fold is to the left of the presser foot guide.

Lower the presser foot.

Adjust the needle shift position using the stitch width adjustment button so that the needle pierces the folded edge of the fabric when it moves to the left.

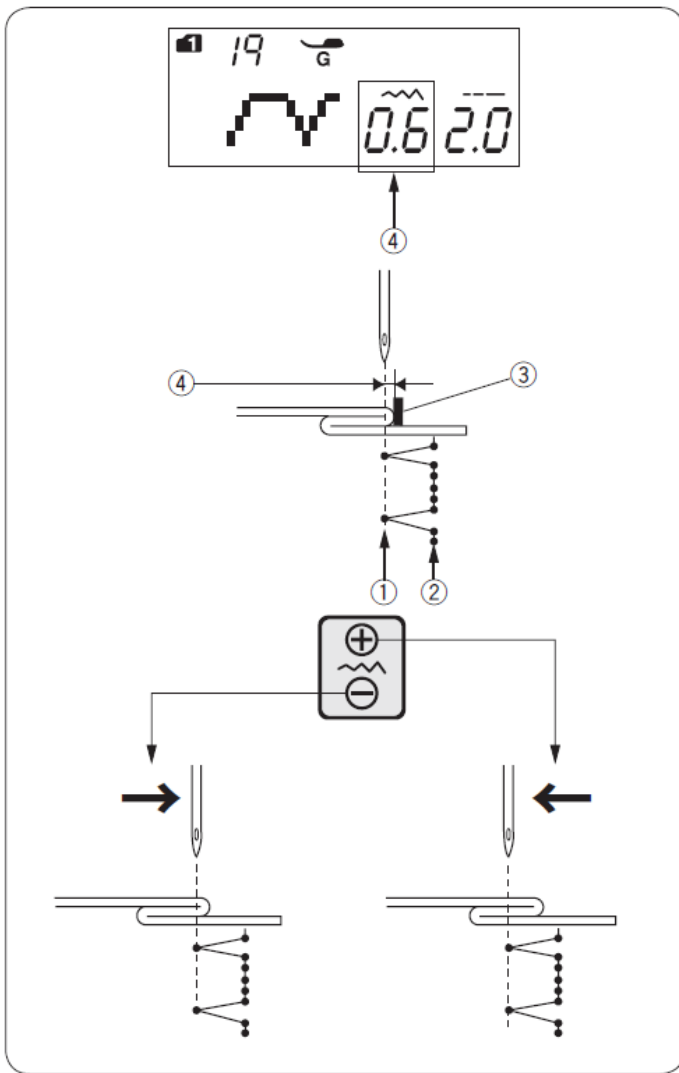
Sew by guiding the fold along the guide.

- 6 Presser foot guide
- 7 Fold

Open the fabric with the right side facing up.

The stitches are practically invisible on the right side of the fabric.



- 8 Right side of the fabric



### Changing the needle drop position

Press the stitch width adjustment button.

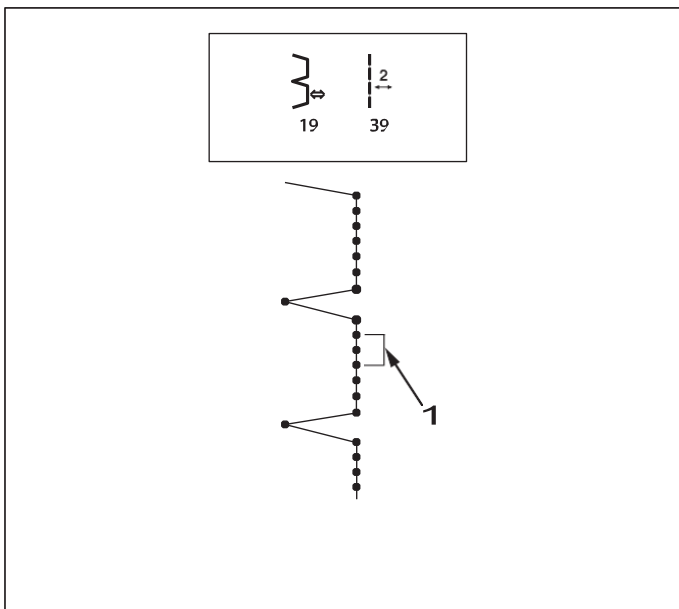
The LCD screen displays the distance, in millimetres, between the left needle position and the r guide.

Press the “” to move the needle to the right.  
Press the “” to move the needle to the left.

- 1 Left needle drop position
- 2 Right needle drop position
- 3 Presser foot guide
- 4 Distance between the left needle position and the guide

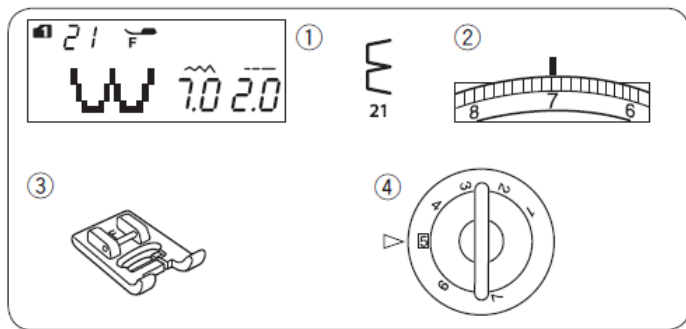
#### NOTE:

The stitch width for patterns 19 (mode 1) and 20 (mode 1) cannot be changed, but the needle drop position will be adjusted.



**Longer straight stitches in pattern number 19** Program a combination of patterns 19 (mode 1) and patterns 39 (mode 2).

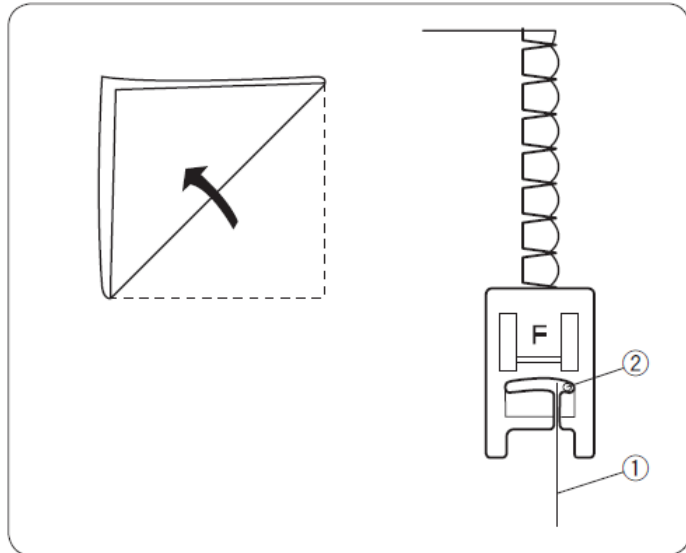
When combining with pattern 39 (mode 2), q (see page 75).



**-retained linings**

**Machine settings**

- |                          |  |
|--------------------------|--|
| 1 Pattern:               | MODE 1: 21                               |
| 2 Thread tension:        | 6-8                                      |
| 3 Presser foot:          | F-type decorative stitch<br>presser foot |
| 4 Presser foot pressure: | 5  |



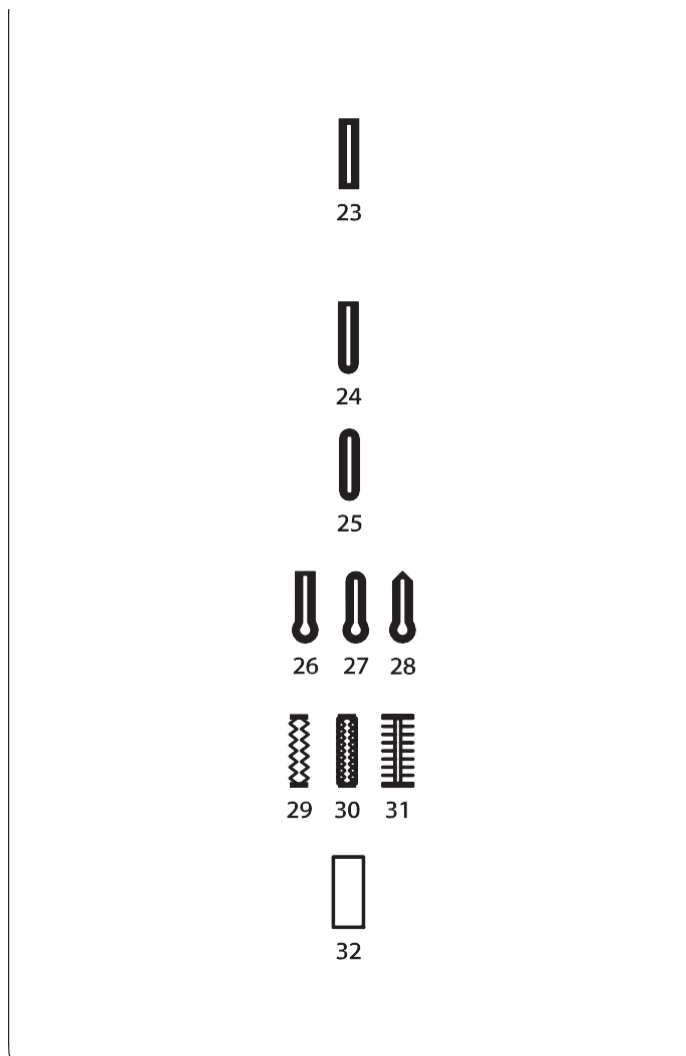
Use a lightweight fabric (such as jersey). Fold the fabric as shown in the illustration and sew a few stitches along the fold.

Let the needle drop just beside the edge to create a pleated edge. You may need to increase the needle thread tension.

- 1 Folded edge
- 2 Right needle drop position

If you are sewing several rows of bar tacks, leave a gap of at least 1.5 cm (5/8") between them.

You can sew these bar tacks on knitted fabrics and lightweight woven fabrics, in any direction.



**Buttonholes**

**Different types of buttonholes 23 Sensor buttonhole**

This square buttonhole is used for medium to heavy-weight fabrics. The size of the buttonhole is determined automatically when a button is placed in the presser foot.

**24 Rounded buttonholes**

This buttonhole is used on fine to medium-weight fabrics, particularly for blouses and children's garments.

**25 Buttonhole for fine fabrics**

This buttonhole is rounded at the ends and is used with thin, delicate fabrics, such as fine silk.

**26–28 Keyhole buttonholes**

This keyhole buttonhole is used for medium to heavy-weight fabrics. It is also useful with larger, thicker buttons.

**29–31 Stretch buttonholes**

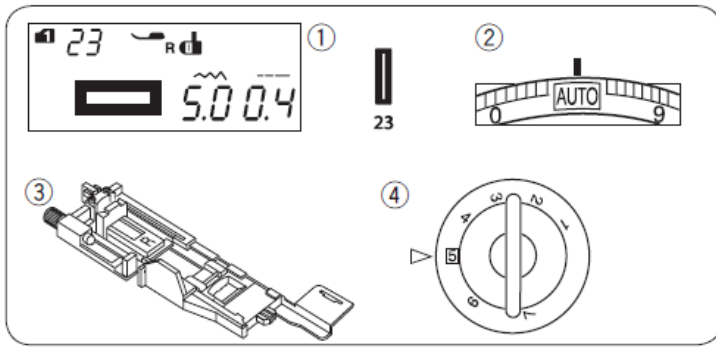
This buttonhole can be used on stretch fabrics. It can also be used as a decorative buttonhole.

**32 Edged buttonhole**

This is a pattern for a hand-sewn edged buttonhole.

**NOTE:**

Patterns 24–32 are sensor buttonholes and the sewing procedure is the same as for pattern 23.



## r sensor buttonholes

### Machine setup

1 Pattern:	MODE 1: 23
2 Thread tension:	AUTO
3 Presser foot:	Automatic buttonhole presser foot R
4 Presser foot pressure:	5

The buttonhole size is set automatically by placing a button on the back of the R automatic buttonhole presser foot. The presser foot's button holder accommodates buttons with diameters between 1 and 2.5 cm (3/8" and 1").

When selecting sensor buttonholes, the LCD screen will prompt you to lower the buttonhole lever.

### NOTE:

Occasionally, you may need to change the buttonhole size to suit certain heavy materials or specific fabrics and threads.

Make a test buttonhole on a scrap piece of fabric to check the settings.

The default buttonhole width is suitable for standard buttons. Use interfacing for stretch or fine fabrics.

### Sewing

1 Pull back the button holder and place the button in it.

1 Button holder

### NOTES:

Check the length of the test buttonhole and, if necessary, adjust the length of the buttonhole by turning the adjustment screw on the buttonhole presser foot.

To increase the buttonhole length, turn the adjustment screw to move the mark towards "L".

To reduce the buttonhole length, turn the adjustment screw to move the mark towards "S".

2 Adjustment screw

3 Marked

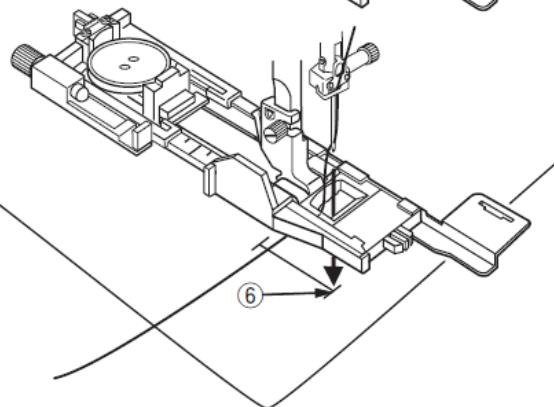
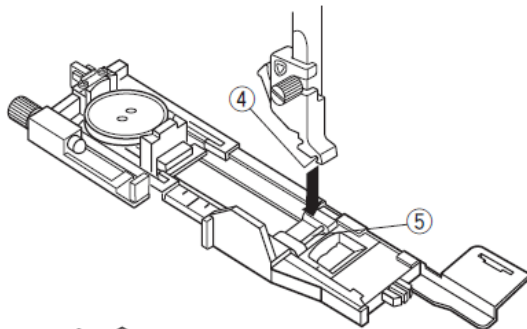
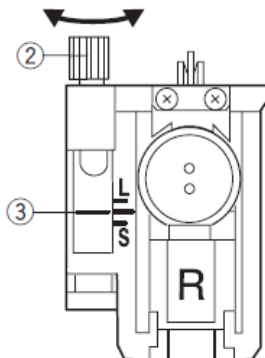
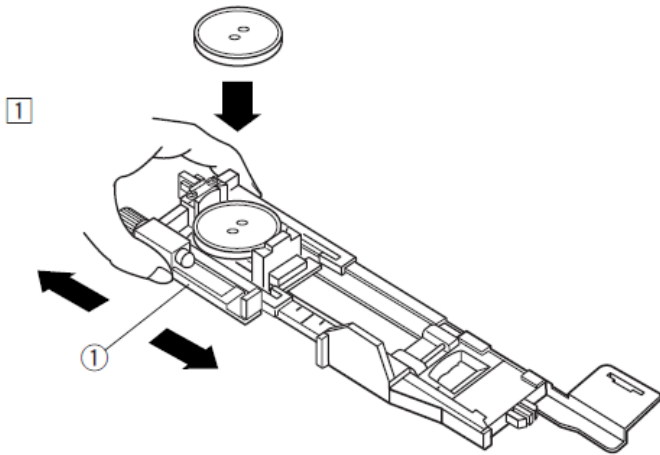
2 Fit the R automatic buttonhole presser foot, inserting the pin into the slot in the presser foot holder. You can raise the presser foot lifter to the extra-high position when fitting the automatic buttonhole presser foot under the presser foot holder. Raise the presser foot.

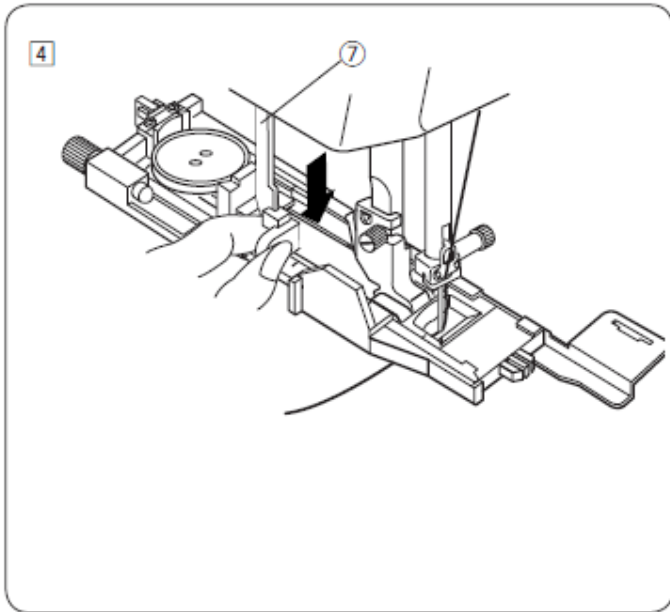
4 Slot

5 Pin

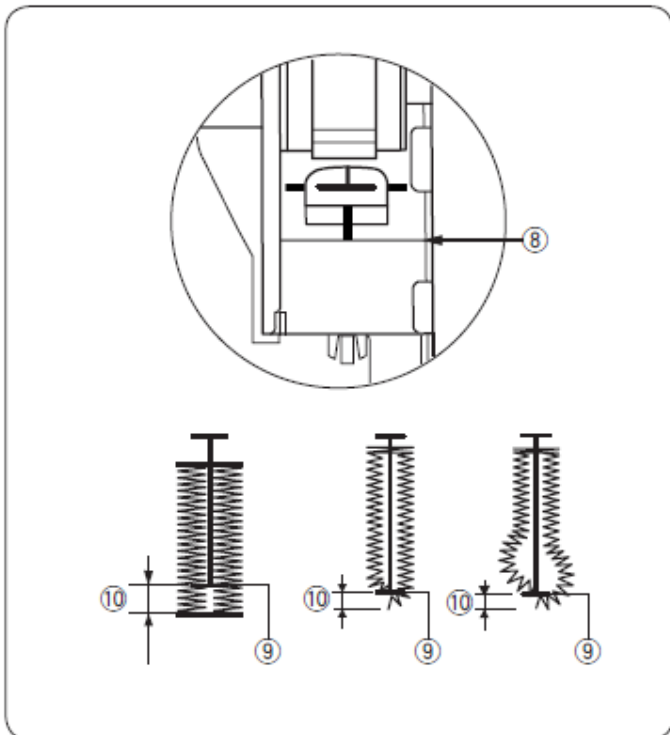
3 Mark the position of the buttonhole on the button and place it under the buttonhole presser foot. Lower the needle to the starting point by turning the handwheel.

6 Starting point





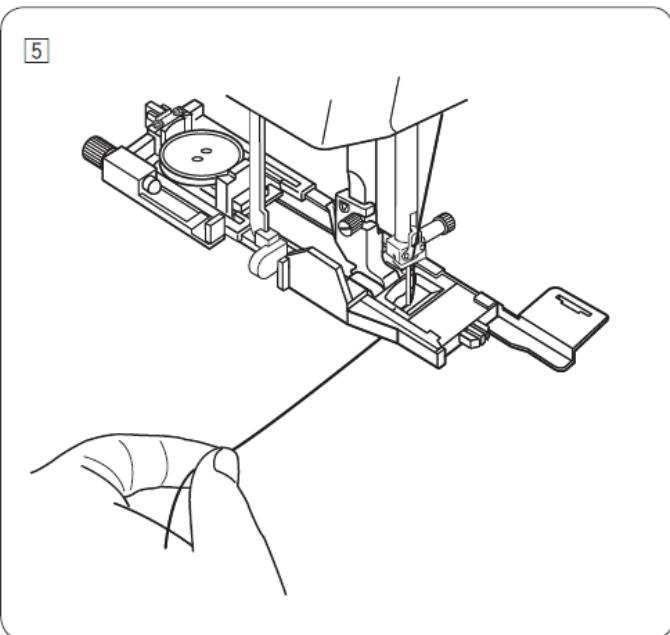
- 4 Lower the buttonhole lever as far as possible.
- 7 Buttonhole lever



**NOTE:**

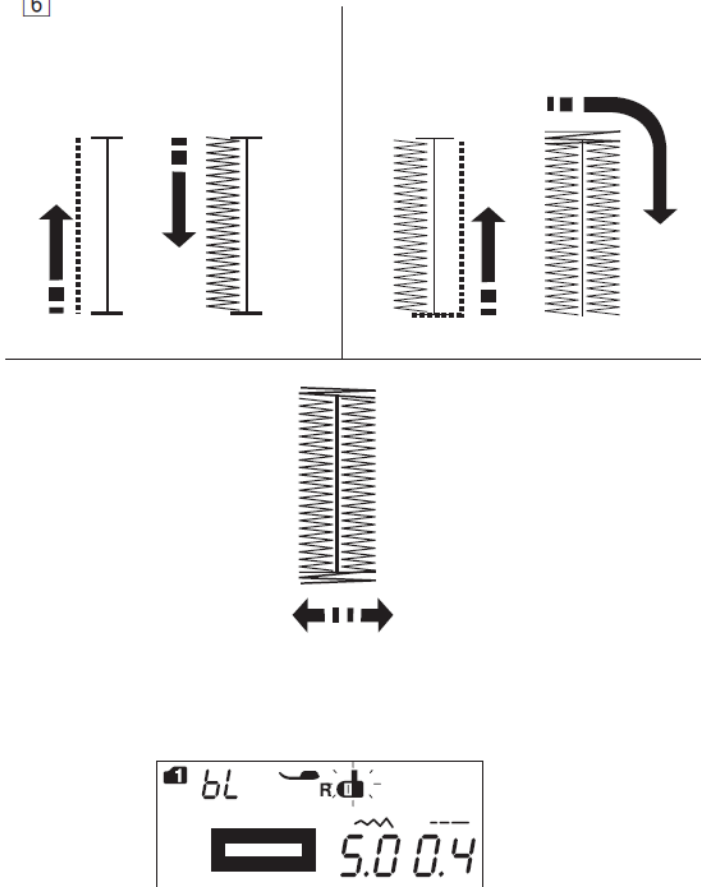
Make sure there is no gap between the slide and the front stop, otherwise the buttonhole will be out of position or the length of the right and left sides will be incorrect.

- 8 No gap
- 9 Starting point
- 10 Gap



- 5 Start sewing whilst gently pulling the needle thread to the left. After sewing a few stitches, release the thread and continue sewing.

6



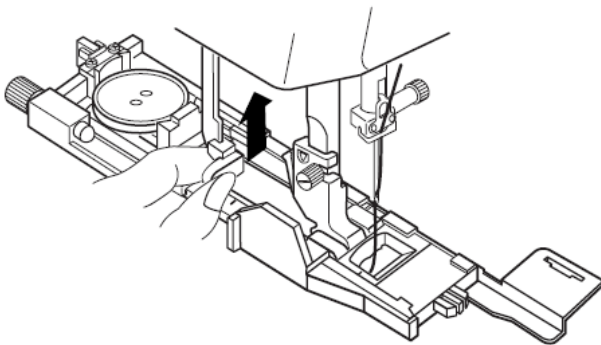
6 The buttonhole is sewn automatically in the sequence shown. When the buttonhole is finished, the machine stops automatically with the needle in the raised position. Press the thread cutter button and remove the fabric.

**NOTE:**

If you start sewing without lowering the buttonhole lever, the LCD screen will display a warning and the machine will stop after a few stitches. Lower the buttonhole lever and start sewing.

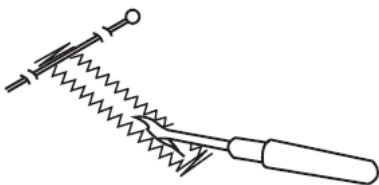
7 When you have finished sewing the buttonhole, push the buttonhole lever up as far as it will go.

7



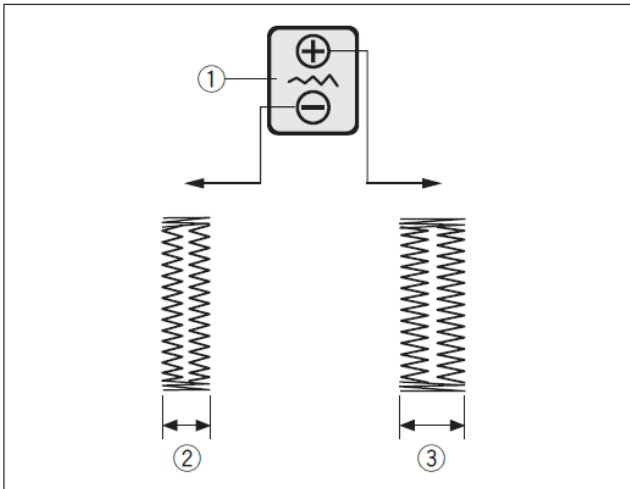
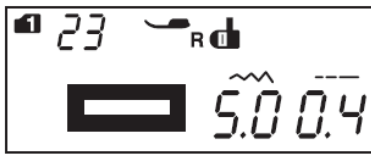
8 Place a pin just below the bar tack at each end to prevent accidentally cutting the threads. Cut the opening with a seam ripper. Use a punch to make a keyhole-shaped buttonhole.

8



**NOTE:**

To make a sturdy buttonhole, sew another layer over the previous stitches. After finishing the buttonhole, do not raise the presser foot or the buttonhole lever; simply switch the machine back on. Do not raise the buttonhole foot or select a pattern again.



### Manual settings

The buttonhole width can be adjusted by pressing the stitch width adjustment button.

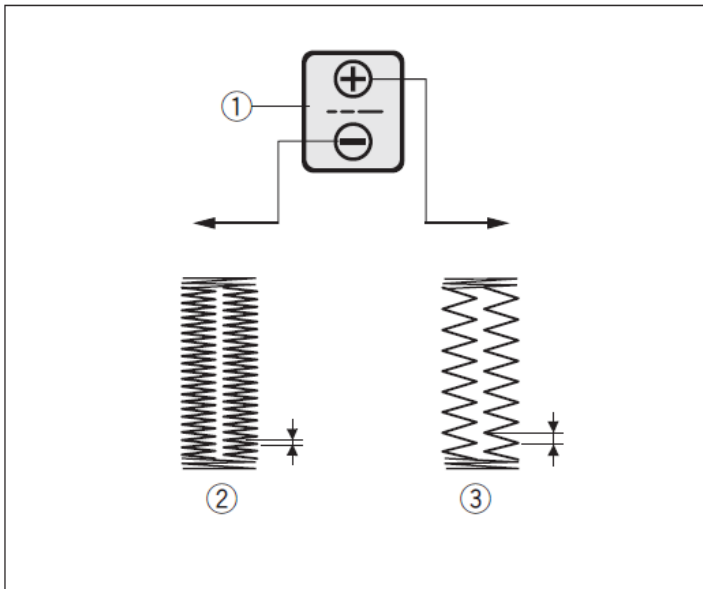
Press the “+” symbol on the stitch width adjustment button to increase the buttonhole width.

Press the “-” symbol on the stitch width adjustment button to decrease the buttonhole width.

- 1 Stitch width adjustment button
- 2 Narrower buttonhole
- 3 Wider buttonhole

#### NOTE:

The buttonhole width can be set to a value between 2.6 and 9.0.



### Adjusting the buttonhole stitch density

The buttonhole stitch density can be adjusted by pressing the stitch length adjustment button.

Press the “+” symbol on the stitch length adjustment button to reduce the buttonhole stitch density.

Press the “-” symbol on the stitch length adjustment button to increase the buttonhole stitch density.

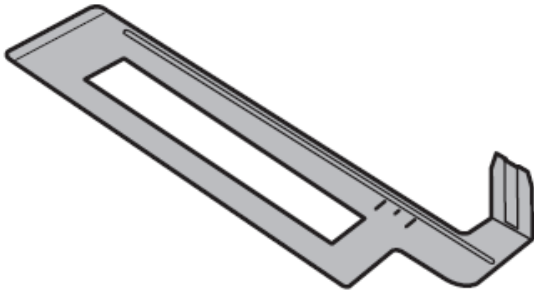
- 1 Stitch length adjustment button
- 2 Buttonhole with denser stitches
- 3 Buttonhole with less dense stitches

#### NOTE:

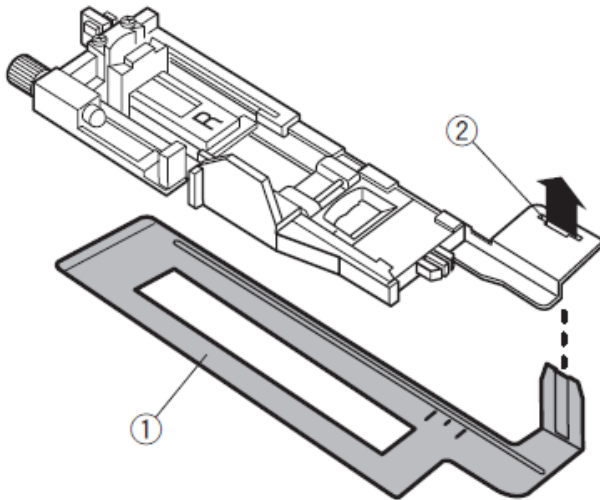
The stitch density can be adjusted to a value between 0.2 and 1.0.

### Using the stabilising plate ( )

The stabiliser plate holds and supports the fabric, making it useful when sewing buttonholes on the hem of heavy fabrics.



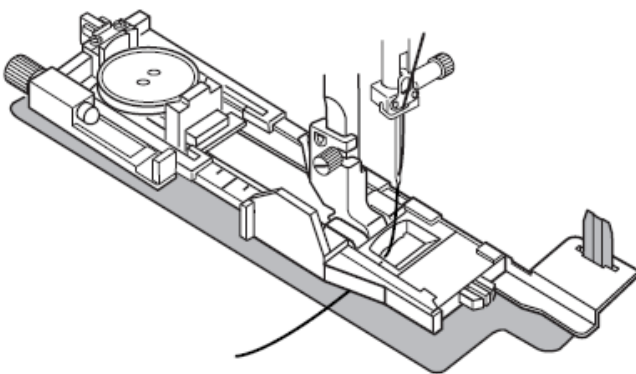
1



1 Insert the tab on stabiliser plate 1 into slot 2 on the buttonhole presser foot.

1 stabiliser plate  
2 Slot

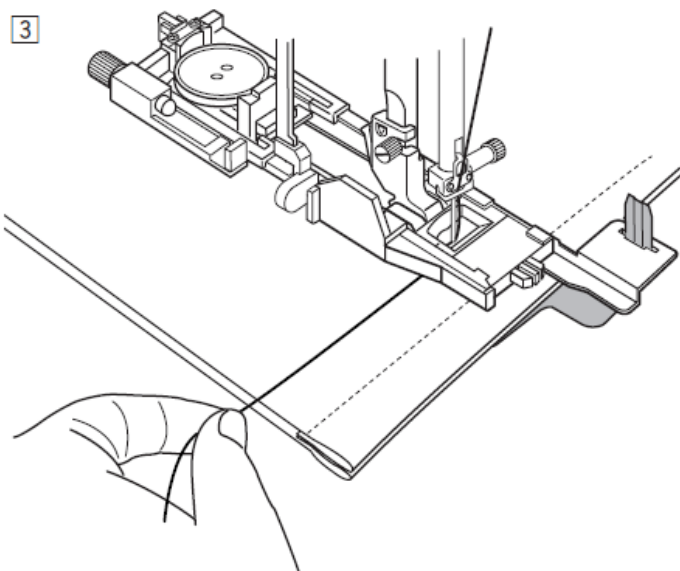
2



2 Place the button in the button holder on the presser foot. Fit the buttonhole foot to the machine.

Guide the thread needle to the left between the presser foot and the stabiliser plate.

3



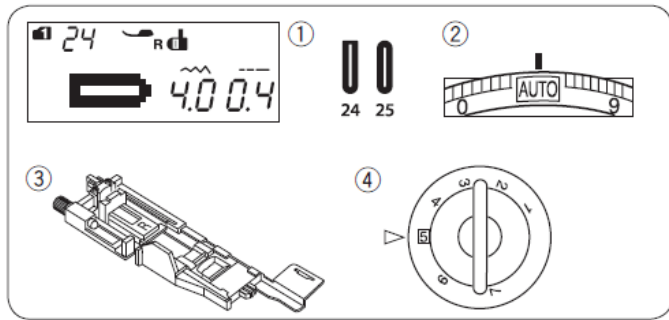
3 Place the fabric between the buttonhole presser foot and the stabiliser plate. Lower the needle at the starting point by turning the handwheel.

Lower the presser foot and the buttonhole lever.

Start the machine and at the same time pull the thread needle slightly to the left.

#### NOTE:

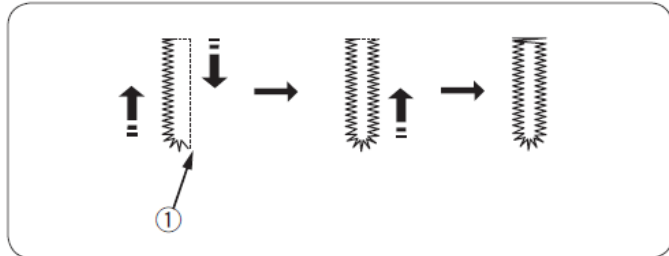
The sewing procedure is exactly the same as that used for sensor (square) buttonholes.



## Eyelets for fine fabrics and those with a rounded end ( )

### Machine settings

- |                          |                                     |
|--------------------------|-------------------------------------|
| 1 Pattern:               | MODE 1: 24, 25                      |
| 2 Thread tension:        | AUTO                                |
| 3 Presser foot:          | Automatic buttonhole presser foot R |
| 4 Presser foot pressure: | 5                                   |



The sewing procedure is the same as for the sensor buttonhole (square) (see pages 45 to 47).

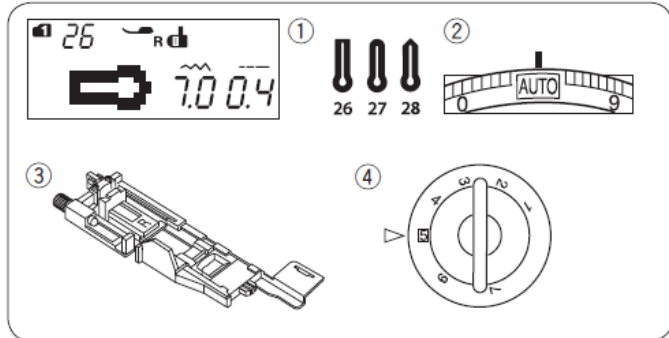
The machine will sew a buttonhole in the order shown.

- Starting point

#### NOTE:

The buttonhole width can be set to a value between 2.6 and 9.0.

The stitch density can be adjusted to a value between 0.2 and 1.0.



## r lock buttonholes

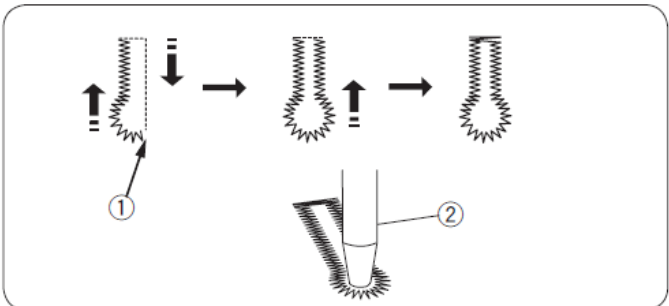
### Machine settings

- |                          |                                     |
|--------------------------|-------------------------------------|
| 1 Pattern:               | MODE 1: 26-28                       |
| 2 Thread tension:        | AUTO                                |
| 3 Presser foot:          | Automatic buttonhole presser foot R |
| 4 Presser foot pressure: | 5                                   |

#### NOTE:

This buttonhole 27 is used with thicker buttons and medium-weight fabrics.

This buttonhole 28 is sturdy and is used for thick buttons and thick fabrics.



The sewing procedure is the same as for the sensor (square) buttonhole (see pages 45 to 47).

The machine will sew a buttonhole in the order shown.

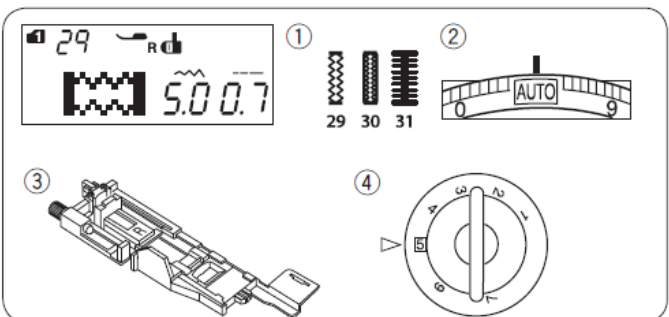
Use a punch to make a keyhole-shaped buttonhole.

- Starting stitch
- Eyelet punch

#### NOTE:

The buttonhole width can be adjusted to a value between 5.6 and 9.0.

The stitch density can be adjusted to a value between 0.2 and 1.0.



## r elastic buttonhole

### Machine settings

- |                          |                                     |
|--------------------------|-------------------------------------|
| 1 Pattern:               | MODE 1: 29-31                       |
| 2 Thread tension:        | AUTO                                |
| 3 Presser foot:          | Automatic buttonhole presser foot R |
| 4 Presser foot pressure: | 5                                   |

The sewing procedure is the same as for the sensor (square) buttonhole (see pages 45 to 47).

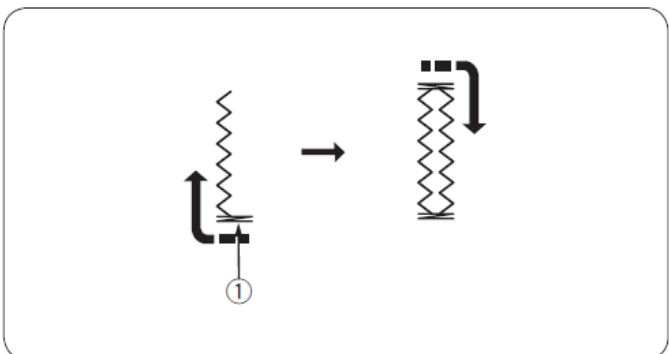
The machine will sew a buttonhole in the order shown.

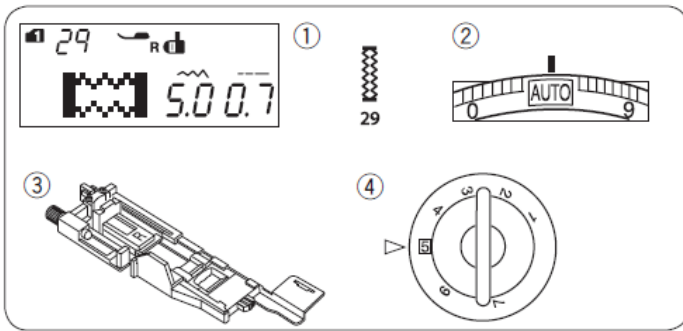
- Starting stitch

#### NOTE:

The buttonhole width can be adjusted to a value between 2.6 and 9.0.

The stitch density can be adjusted from 0.5 to 1.0 for pattern 29 (mode 1), 0.7 to 1.2 for pattern 30 (mode 1) and 0.5 to 2.5 for pattern 31 (mode 1). If the stitch balance between the left and right rows is uneven, correct it by turning the feed balance dial (see page 83).

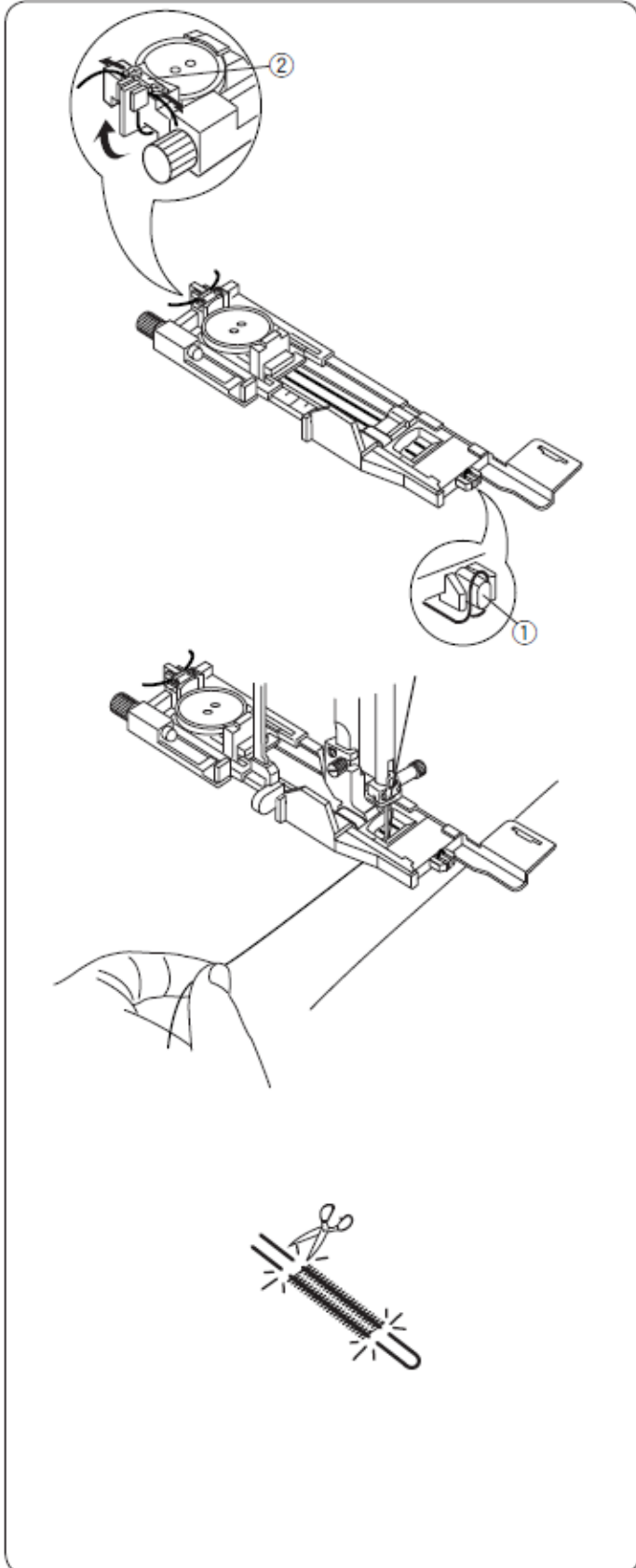




### -style buttonhole

#### Machine settings

- |                          |  |
|--------------------------|--|
| 1 Pattern:               | MODE 1: 29                             |
| 2 Thread tension:        | AUTO                                   |
| 3 Presser feet:          | R automatic buttonhole<br>presser feet |
| 4 Presser foot pressure: | 5                                      |



Place the button in the button holder on the buttonhole presser foot

Hook a filling cord onto the front bar of the presser foot. Bring the two ends of the cord back and pass them under the presser foot.

Lift the ends of the cord and insert them into the slots on the back of the presser foot to secure them firmly.

- 1 Stitch guide
- 2 Slots

Lower the needle to the point on the fabric where the buttonhole begins. Lower the presser foot and the buttonhole lever.

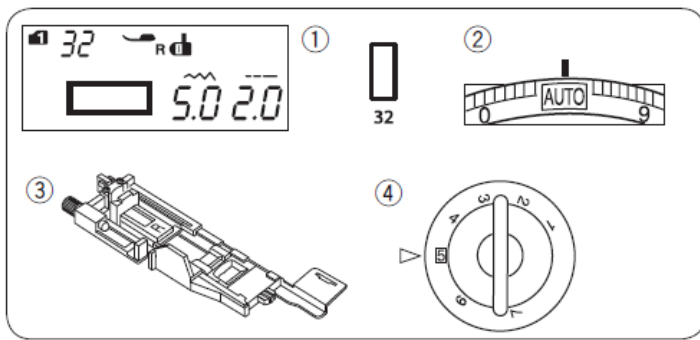
Start the machine and sew the buttonhole over the cord. The machine stops automatically when finished.

Remove the fabric from the machine and cut only the sewing thread. Cut the filling cord at both ends as close to the buttonhole as possible.

To cut the buttonhole opening, see page 47.

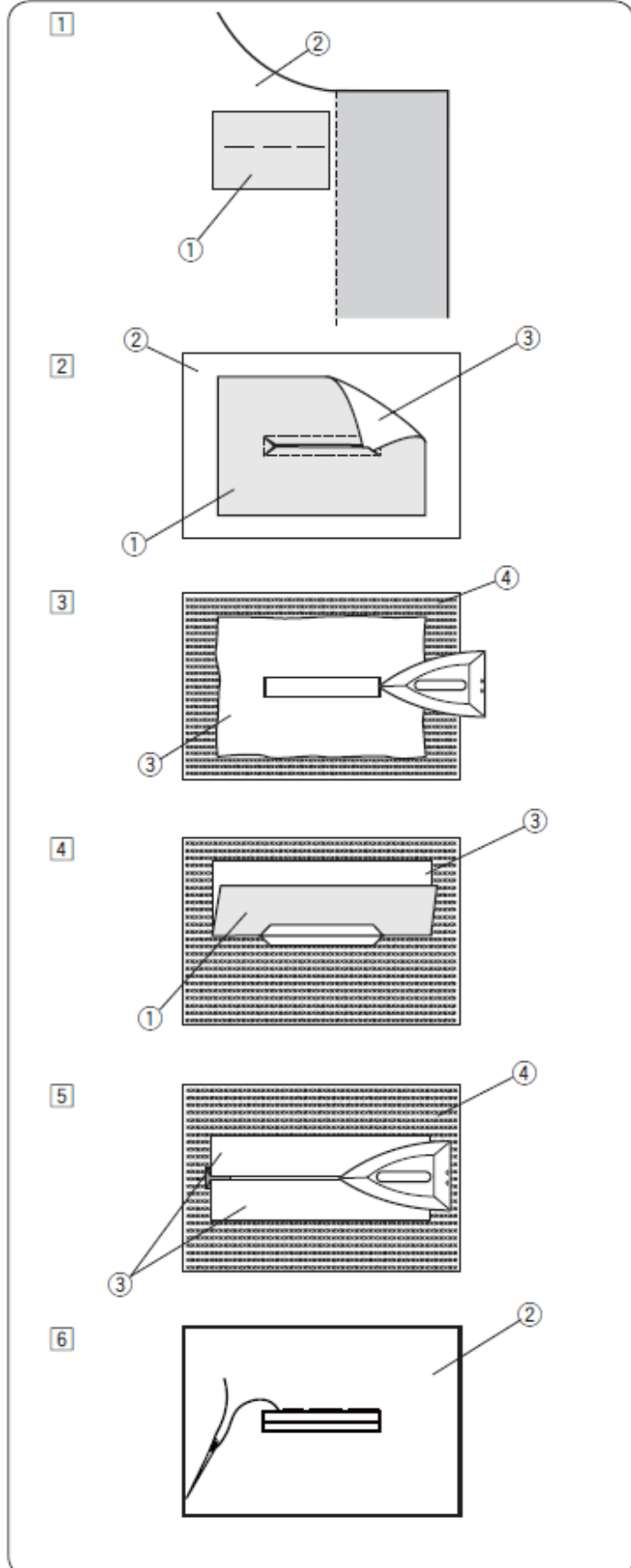
#### NOTE:

Set the stitch width according to the thickness of the cord you are using.



**-edge buttonhole**  
**Machine settings**

- |                          |  |
|--------------------------|--|
| 1 Pattern:               | MODE 1: 32                             |
| 2 Thread tension:        | AUTO                                   |
| 3 Presser foot:          | Automatic buttonhole<br>presser foot R |
| 4 Presser foot pressure: | 5                                      |



A faceted buttonhole is created by sewing a ribbon or fabric insert into the buttonhole.

Bias-bound buttonholes are particularly suitable for made-to-measure garments, but their use is not recommended with delicate or sheer fabrics, where the insert might be visible or the seam might appear bulky.

1 Baste an insert piece onto the garment fabric, joining the two right sides together.

- 1 Back of the insert
- 2 Front of the garment

2 Select pattern 32 (mode 1).

Sew the buttonhole with a facing, joining the two pieces of fabric.

Cut the buttonhole opening as shown in the illustration and thread the insert through the slit to the other side.

- 1 Back of the insert
- 2 Right side of the garment fabric
- 3 Front of the insert

3 Pull the insert piece through until the right side is visible. Use an iron to press the two ends flat until they are neatly squared off.

- 3 Front of the insert
- 4 Back of the garment fabric

4 Fold the sides of the insert piece to form 'lips' around the buttonhole.

- 1 Back of the insert
- 3 Front of the insert

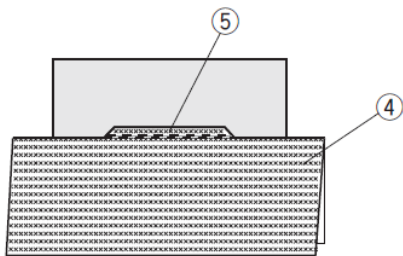
5 Press the two folds with an iron.

- 3 Right side of the insert
- 4 Back of the garment fabric

6 Hand-baste the two edges of the seam with a needle and thread.

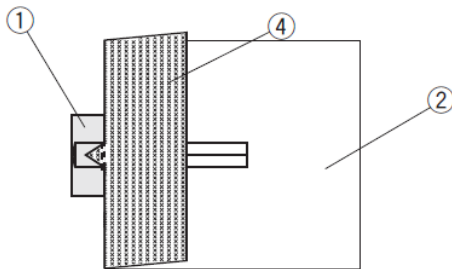
- 2 Front of the garment fabric

7



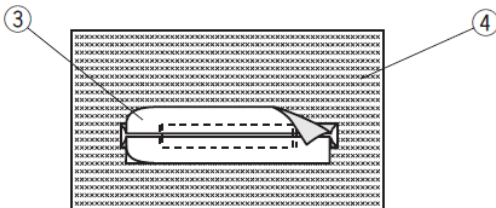
7 Fold the garment fabric lengthways, and sew back and forth alongside the original seam to secure the flaps of the insert.  
 4 Back of the garment fabric  
 5 Stitch back and forth

8



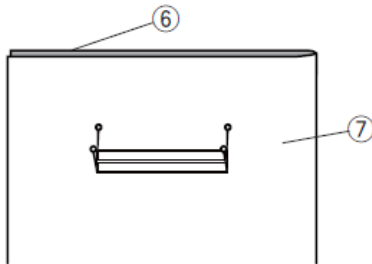
8 Fold the end of the fabric and sew back and forth three times over the triangular end.  
 1 Back side of the insert  
 2 Right side of the garment fabric  
 4 Wrong side of the garment fabric

9



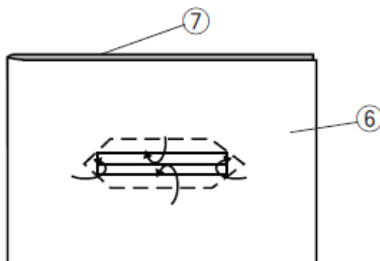
9 The insert piece should be cut 1–1.5 cm (7/16~5/8") from the hole. The corners should be cut rounded, as shown in the image.  
 3 Right side of the insert  
 4 Back of the garment fabric

10



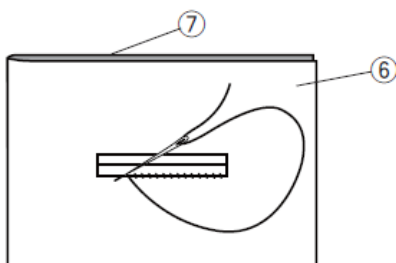
10 Place the lining on the reverse side of the garment fabric. Mark the four corners with pins, as shown in the image.  
 6 Lining  
 7 Garment fabric

11



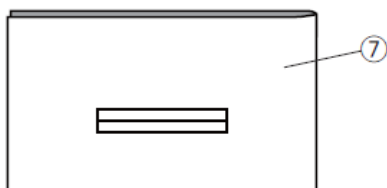
11 Turn all the layers over and cut the buttonhole opening in the lining as you did in step x. The four pins indicate the corners of the lining. Fold the flaps between the lining and the insert piece.  
 6 Lining  
 7 Garment fabric

12

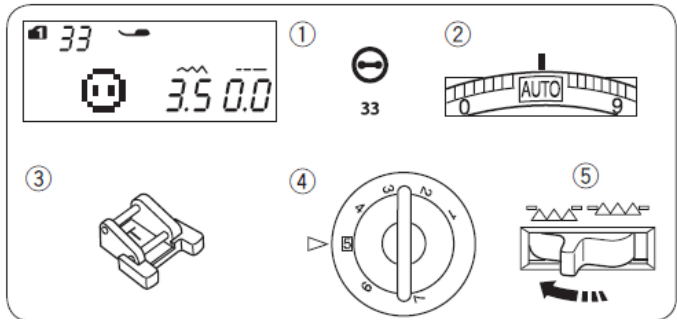


12 Sew around the opening with a needle and thread, as shown.  
 6 Lining  
 7 Garment fabric

13



13 The piped buttonhole is now complete.  
 7 Garment fabric



**-button stitching**  
**Machine settings a**

1 Pattern:	MODE 1: 33
2 Thread tension:	AUTO
3 Presser foot:	Button sewing foot T
4 Presser foot pressure:	5
5 Feed dog:	Lowered

**Fitting the T button sewing presser foot** Insert the rear pin of the presser foot into the rear slot of the presser foot holder.

- 1 Rear pin
- 2 Rear slot

Gently lower the presser foot bar, holding the presser foot with your fingers.

**Sewing**

Lower the feed dog.

Place the button on the fabric and lower the needle into the left-hand hole of the button by turning the handwheel.

Lower the presser foot to hold the button in place, aligning it with the direction of the button.

Raise the needle by turning the handwheel until the needle bar moves to the right.

Press the stitch width adjustment button so that the needle enters the right-hand hole of the button.

Start sewing and continue until the machine stops automatically.

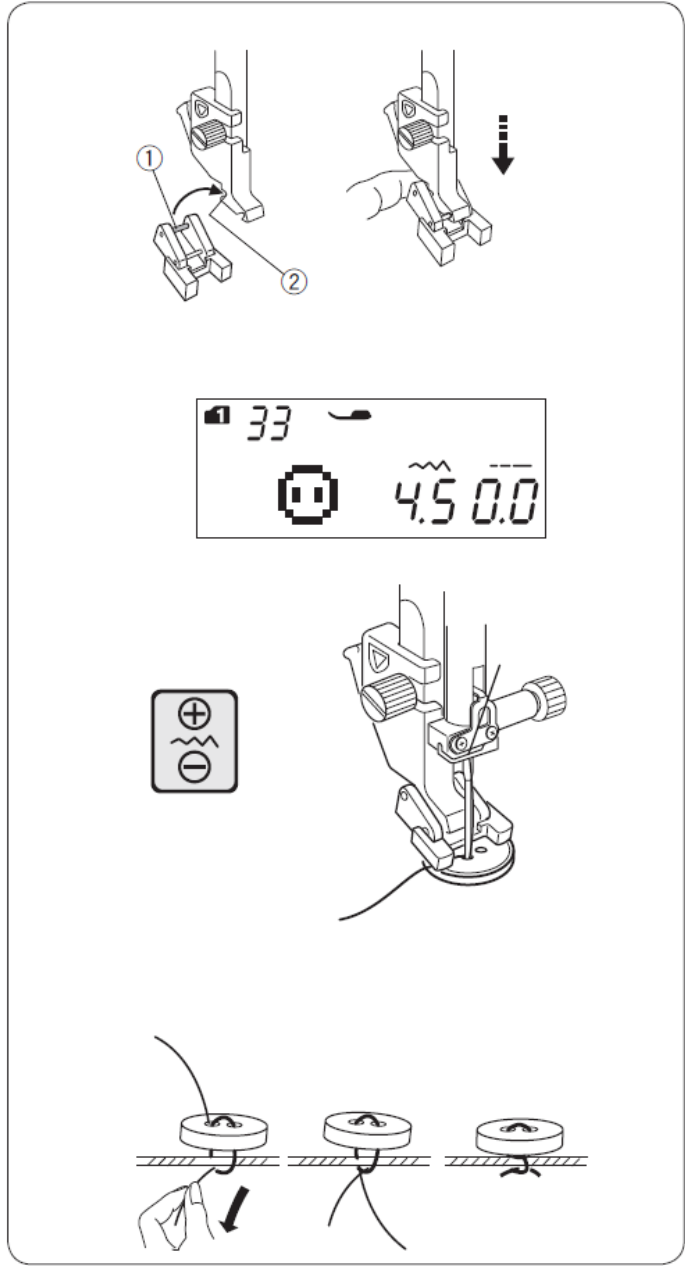
Remove the fabric from the machine.

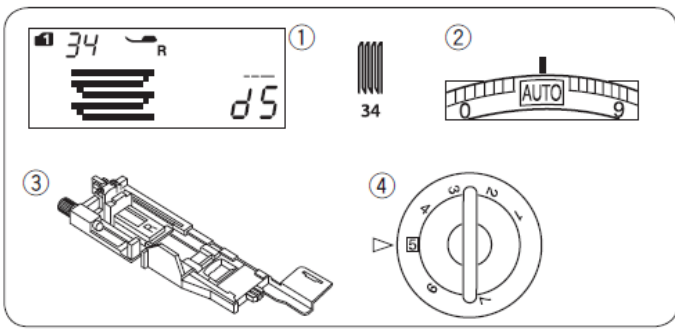
Pull the bobbin threads to bring the needle threads through to the wrong side of the fabric.

Tie the threads.

**NOTE:**

Do not use the thread cutter button to cut the threads. Otherwise, you will not be able to tie the threads.

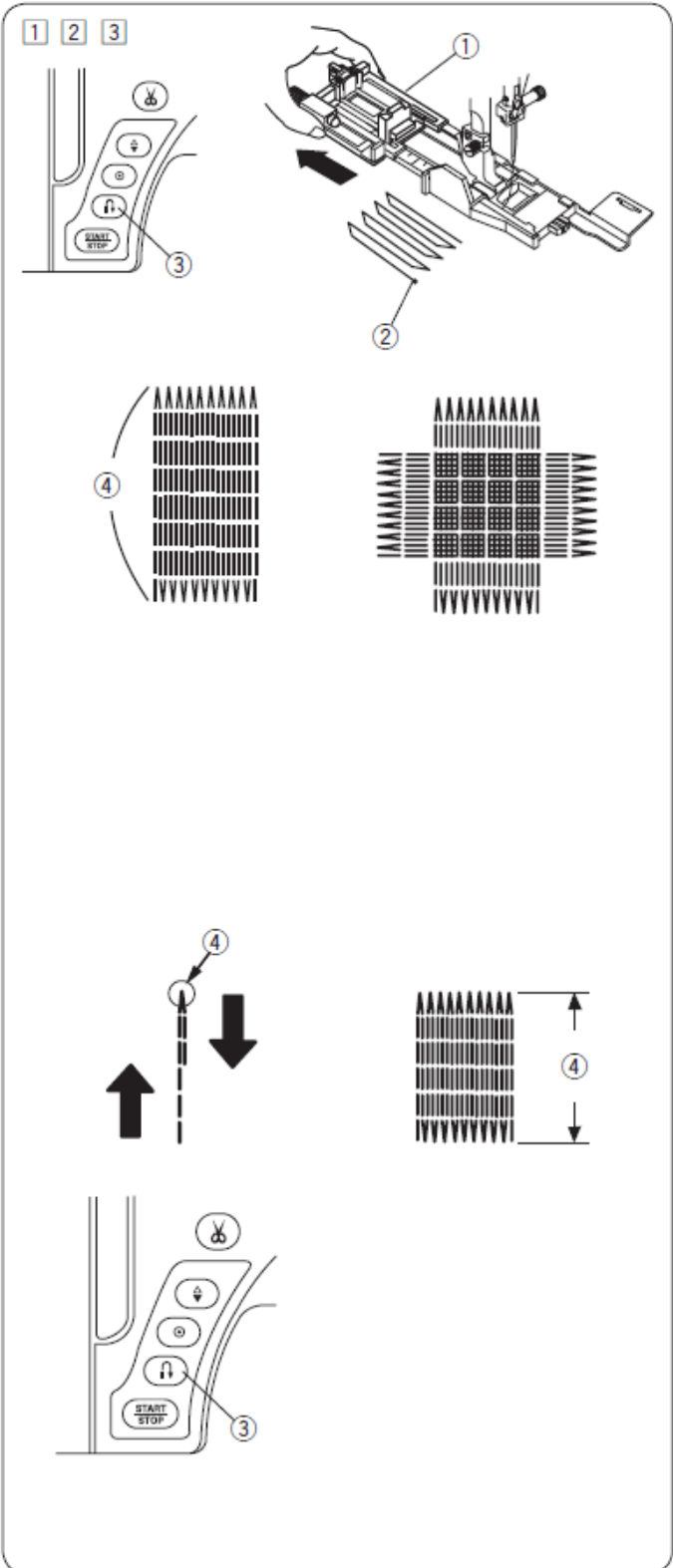




## Darning

### Machine settings

1 Pattern:	MODE 1: 34
2 Thread tension:	AUTO
3 Presser foot:	Automatic buttonhole presser foot R
4 Presser foot pressure:	5



1 Fit the automatic buttonhole foot R and pull the button holder all the way out.

Place the fabric under the presser foot and lower the needle to the starting point. Then lower the presser foot.

- 1 Button holder
- 2 Starting point

2 Start the machine and sew the required length, then press the reverse stitch button. This sets the length of the darning stitch.

Continue sewing until the machine stops automatically.

- 3 Reverse button
- 4 Required length

3 Sew another layer of darning over the first, at a right angle to it.

### NOTE:

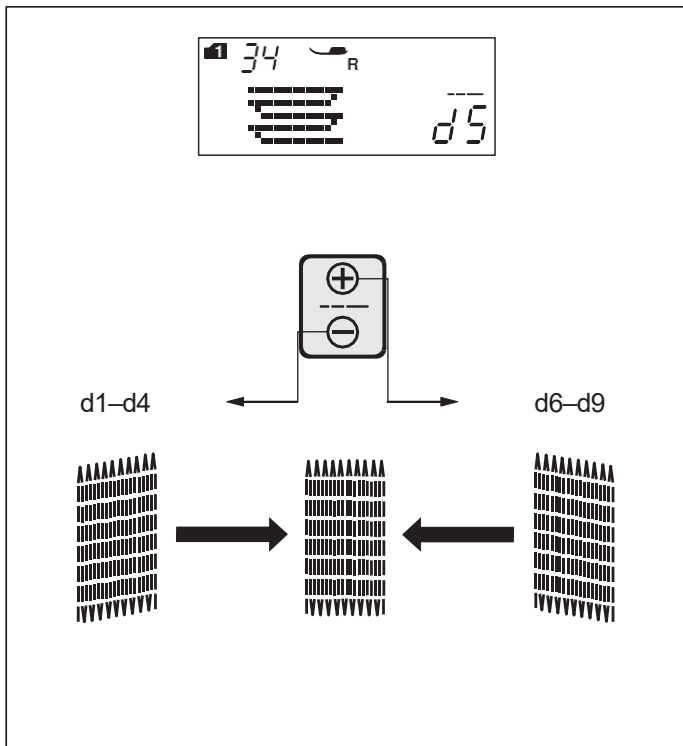
The maximum length of the darning stitch can be 2 cm (3/4") and the maximum width 0.9 cm (3/8").

### Stitching of patches of the same size

Once the stitching is complete, a confirmation message appears. Simply start the machine to sew another patch of the same size. To sew another darning stitch of a different size, press the memory button.

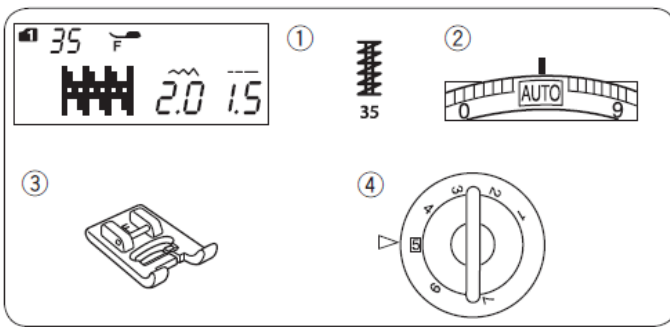
### Sewing shorter darning stitches

Sew the first line to the desired length and stop the machine. Press the reverse button and start the machine again. The machine sews the rest of the darning stitch and stops automatically.



**Adjusting the evenness of darning stitches** You can correct uneven darning stitches by pressing the “+” or “-” button on the stitch length adjustment dial. If the left corner is lower than the right, press the “-” key to correct it, and vice versa.

**NOTE:**  
The uniformity can be adjusted between d1 and d9 (the default value is d5).



## Binding

### Machine settings

1 Pattern:	MODE 1: 35
2 Thread tension:	AUTO
3 Presser foot:	F-type decorative stitch presser foot
4 Presser foot pressure:	5

Basting is used to reinforce pockets, crotch seams and waistbands, where extra reinforcement is required.

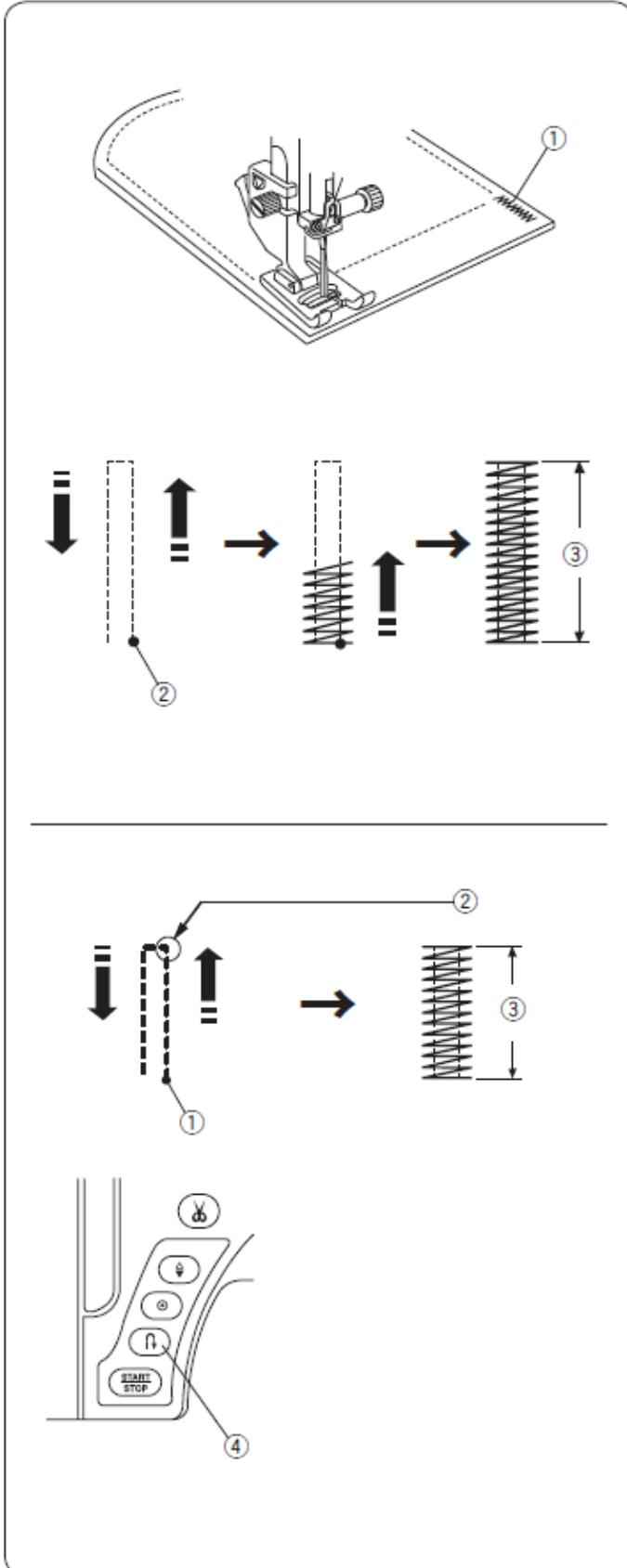
### Shorter darning stitches

Lower the needle to the starting point.

Lower the presser foot and sew until the machine stops automatically.

The machine will automatically sew a 1.5 cm (9/16") long basting stitch.

- 1 Basting
- 2 Starting point
- 3 1.5 cm (9/16")



### Sewing shorter basting stitches

To sew a basting stitch shorter than 1.5 cm (9/16"), stop the machine when you have sewn to the desired length and press the reverse button.

This will set the desired length.

Start the machine and continue sewing until it stops automatically.

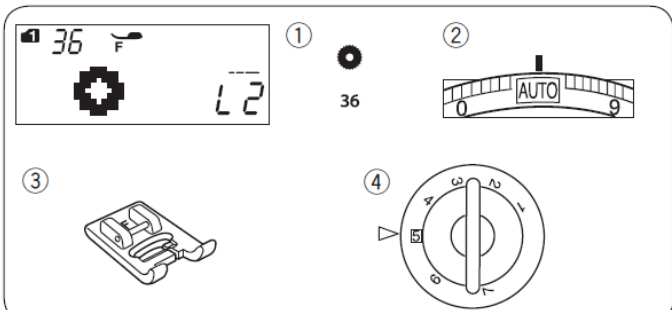
- 1 Starting stitch
- 2 Required length
- 3 Basting length
- 4 Reverse button

### Sewing basting stitches of the same size

To sew another basting stitch of the same size, simply restart the machine. It will stop automatically when the stitching is complete.

### Sewing darts of a different size

To sew the next basting stitch in a different size, press the memory button to set a new size and start sewing from the beginning.



**Small buttonhole  
Machine settings**

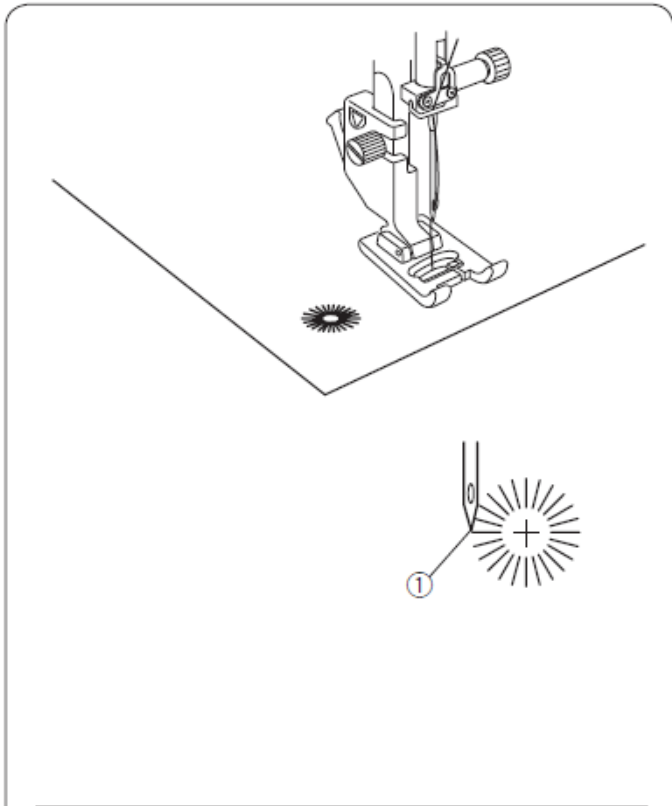
- |                          |                       |
|--------------------------|-----------------------|
| 1 Pattern:               | MODE 1: 36            |
| 2 Thread tension:        | AUTO                  |
| 3 Presser foot:          | F-stitch presser foot |
| 4 Presser foot pressure: | 5                     |

The eyelet is used for belt loops, for example.

**Sew**

Sew until the machine stops automatically. Open the buttonhole with an awl, punch or sharp scissors.

- 1 Starting stitch

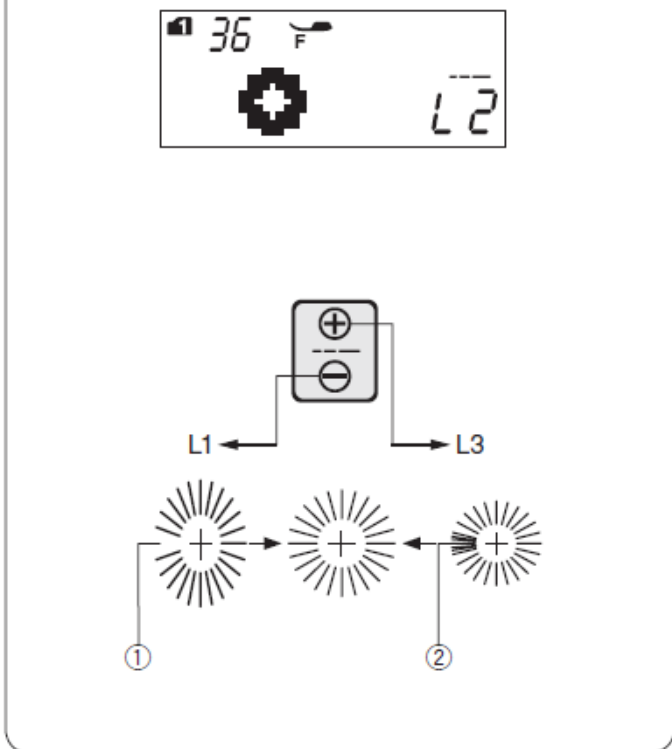


**Adjusting the shape of the eyelet**

Adjust the shape of the eyelet as follows: If the eyelet opening is too wide, press “⊖” on the stitch length adjustment button.

If the eyelet overlaps, press “⊕” on the stitch length adjustment button.

- 1 Buttonhole with an open gap
- 2 Overlapping buttonhole



**NOTE:**

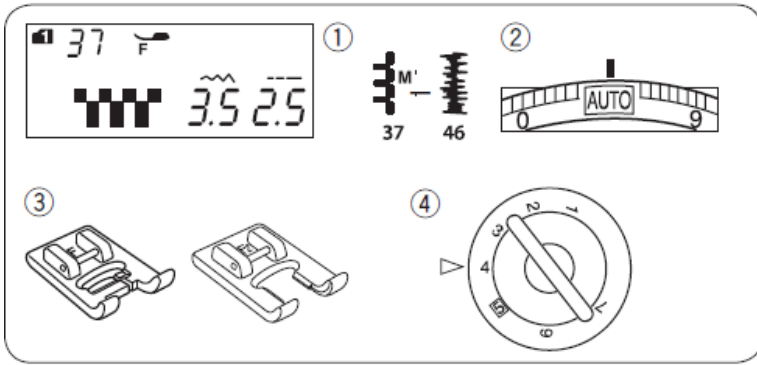
The shape can be adjusted between L1 and L3 (the default setting is L2).

## DECORATIVE STITCHES

### Appliqués

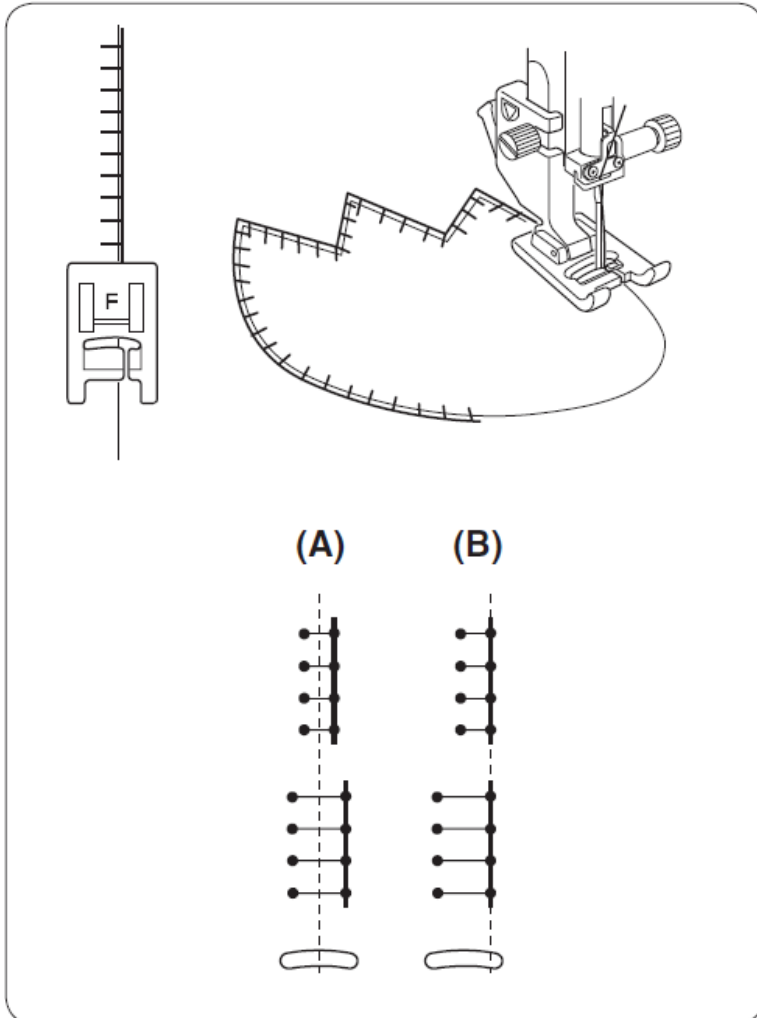
#### Machine settings

1 Pattern:	MODE 1: 37-46
2 Thread tension:	AUTO
3 Presser foot:	F-type decorative stitch presser foot
4 Presser foot pressure:	4



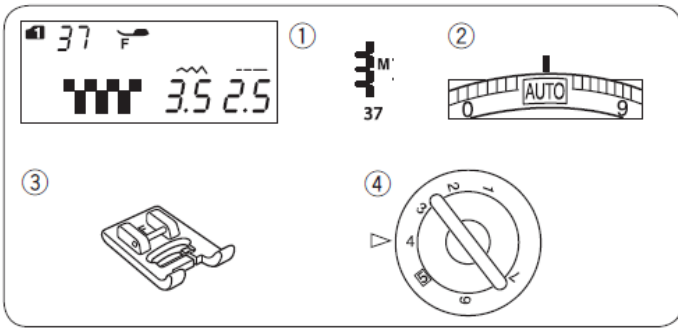
Place an appliqué on the fabric and baste it in place, or use fusible web to secure the appliqué.

Guide the appliqué fabric so that the needle falls outside the edge of the appliqué when the needle swings to the right.



(A) : Patterns 37, 38 and 42 (mode 1) have a fixed needle drop position in the centre.  
The stitch width changes symmetrically.

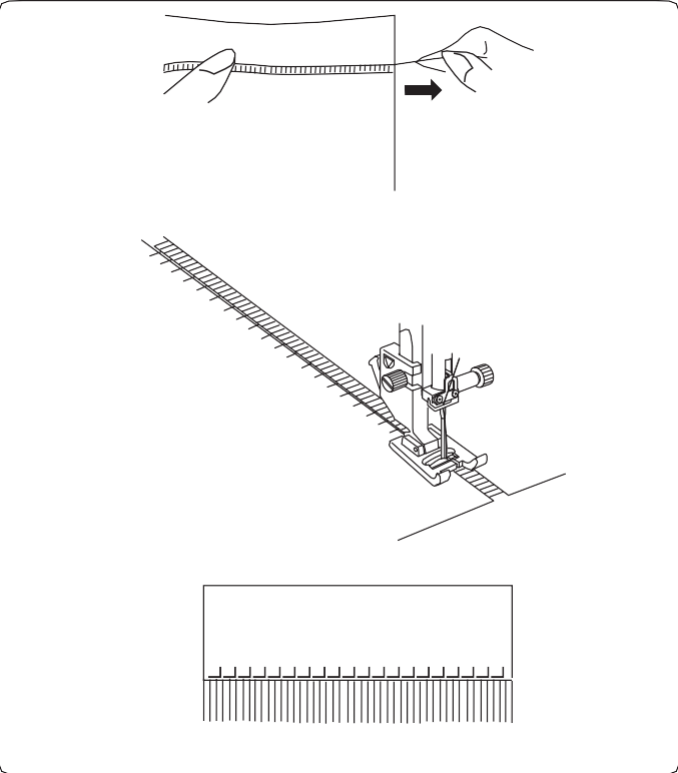
(B) : Patterns 39, 40, 41, 43 and 44 (mode 1) have a fixed needle drop position on the right.  
When the stitch width is changed, the needle drop position shifts to the left.



## Fringes

### Machine settings

1 Pattern:	MODE 1: 37
2 Thread tension:	AUTO
3 Presser foot:	F-type decorative stitch presser foot
4 Presser foot pressure:	4

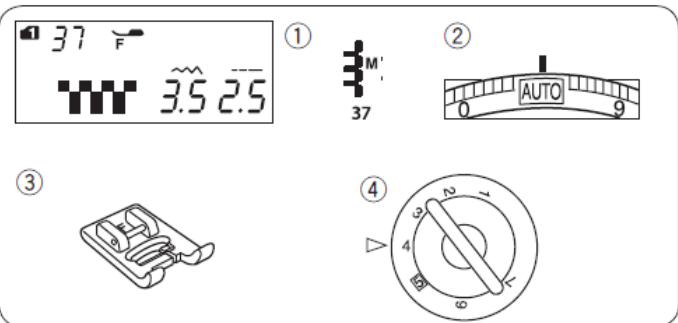


Fringes add a special touch to tablecloths or table runners. Choose a sturdy woven fabric from which the threads can be easily removed.

Carefully cut the fabric along the grain. Remove the threads where the fringes are to start.

Sew the left side so that the stitches on the right are in the open space.

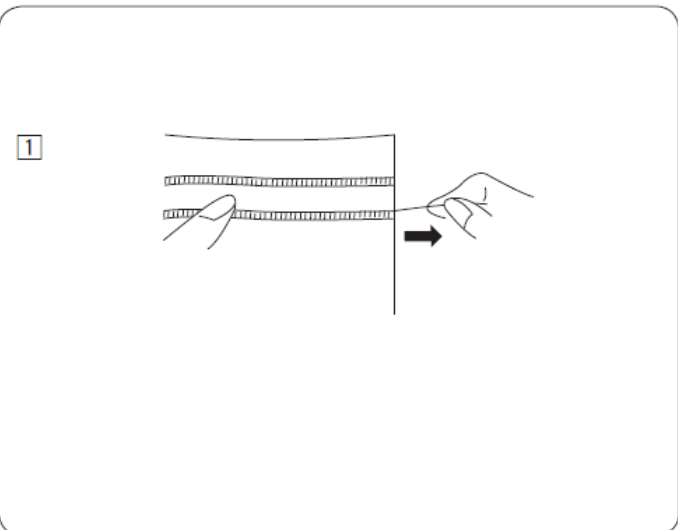
Remove the excess threads to the right of the seam and create the fringe.



## Fraying

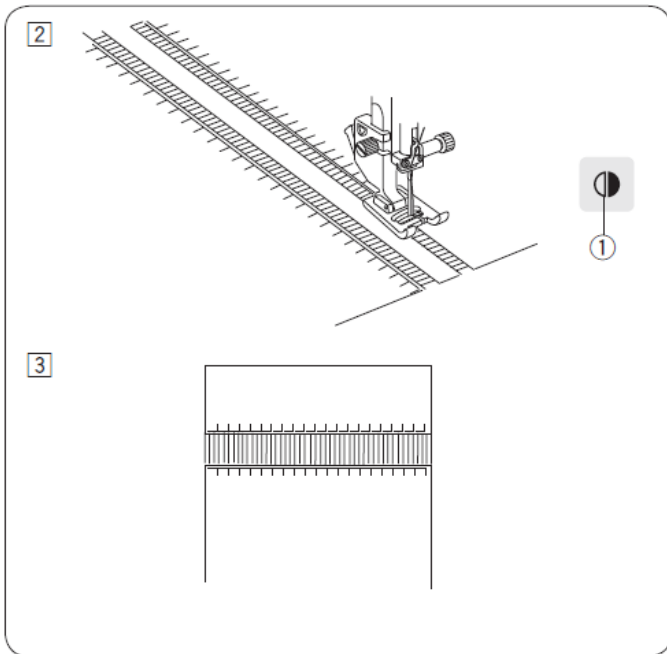
### Machine settings

1 Pattern:	MODE 1: 37
2 Thread tension:	AUTO
3 Presser foot:	F-type decorative stitch presser foot
4 Presser foot pressure:	4



Fringing uses the same method as fringes. Choose a sturdy woven fabric from which the threads can be easily removed.

1 Carefully cut the fabric along the grain. Determine the width of the fraying and remove one thread from the fraying or the fabric at each end.

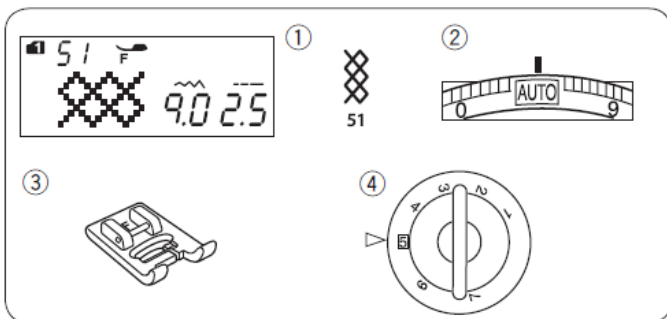


2 Sew the left side, guiding the fabric so that the stitches on the right fall within the open space.

When you have finished the left side, press the mirror key. Sew the other side (see page 73 for information on mirror sewing).

1 Mirror key

3 Remove the frayed edge or threads from the fabric between the seams.

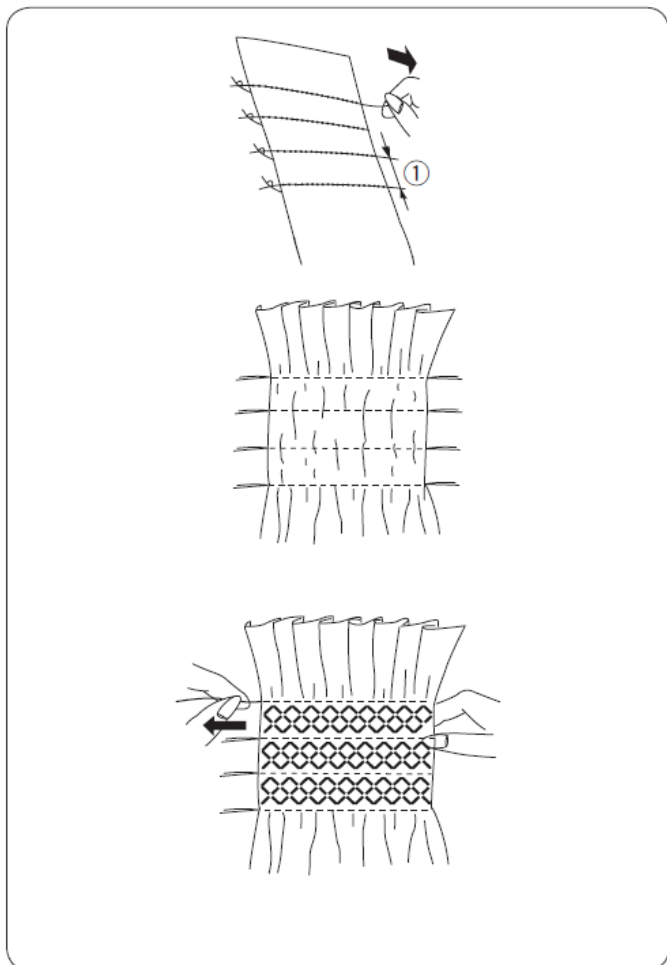
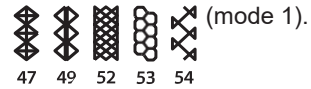


### Gathering

#### Machine settings

- |                          |                                       |
|--------------------------|---------------------------------------|
| 1 Pattern:               | MODE 1: 51                            |
| 2 Thread tension:        | AUTO                                  |
| 3 Presser foot:          | F-type decorative stitch presser foot |
| 4 Presser foot pressure: | 5                                     |

\* Stitch patterns can also be used



Choose a soft, lightweight fabric, such as batiste, guinga or chali. Cut the fabric to a width three times that of the intended width.

Sew rows of straight stitches 1 cm (3/8") apart with a stitch length of "5.0" and the thread tension set to "1" across the entire area to be gathered.

1 1 cm (3/8")

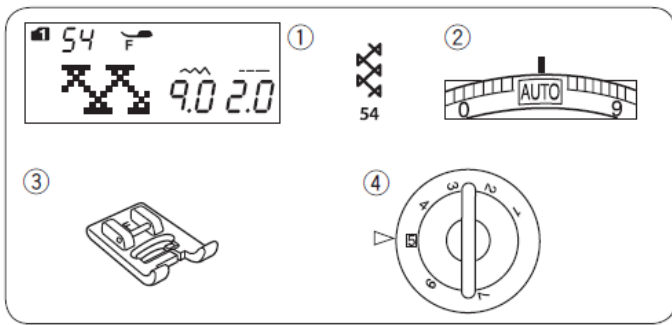
Tie the threads at one end. From the other edge, pull the bobbin threads to distribute the gathering evenly.

#### NOTE:

Pull the bobbin thread and pull out a 10 cm (4") length of thread from the back before starting to sew. Use the thread cutter on the front plate.

Select an embroidery stitch and set the thread tension indicator to "AUTO".


Sew the gathering stitches between the gathered rows. Unpick the straight stitches between the gathered rows.

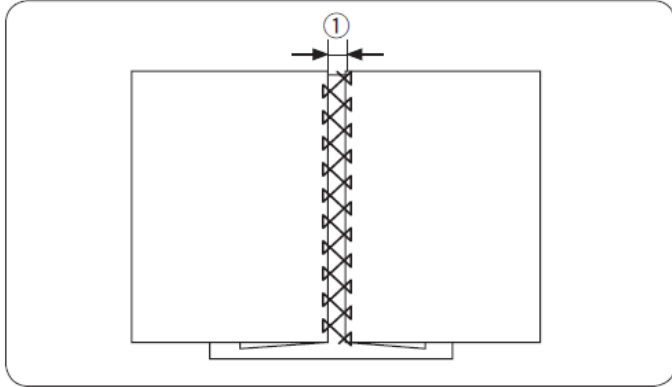


### Fagotting

#### Machine settings

- |                          |                                       |
|--------------------------|---------------------------------------|
| 1 Pattern:               | MODE 1: 54                            |
| 2 Thread tension:        | AUTO                                  |
| 3 Presser foot:          | F-type decorative stitch presser foot |
| 4 Presser foot pressure: | 5                                     |

\* You can also use stitch patterns (mode 1),  
 (mode 2).



Use this stitch to join two pieces of fabric and create an open-stitch appearance to enhance the design.

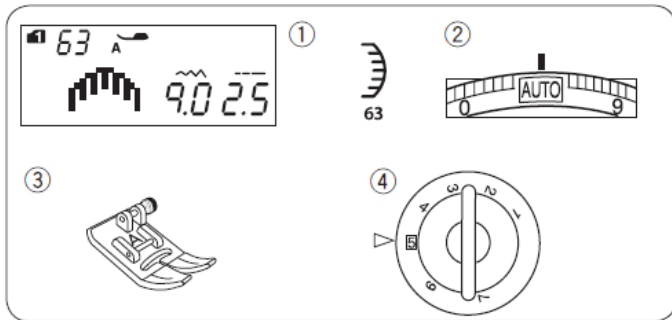
Make a 1.5 cm (5/8") fold at the edge of each piece of fabric and press.

Pin the two edges to a piece of paper, spacing them 0.3 cm (1/8") apart.

1 0.3 cm (1/8")

Sew slowly, guiding the fabric so that the needle catches the folded edge on both sides.

When you have finished sewing, remove the paper.

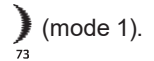


### Scalloping

#### Machine settings

- |                          |                       |
|--------------------------|-----------------------|
| 1 Pattern:               | MODE 1: 63            |
| 2 Thread tension:        | AUTO                  |
| 3 Presser foot:          | Zigzag presser foot A |
| 4 Presser foot pressure: | 5                     |

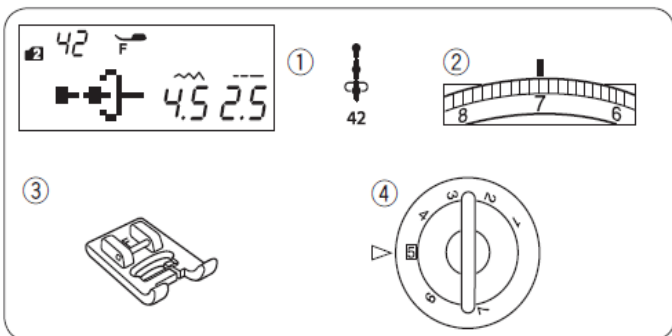
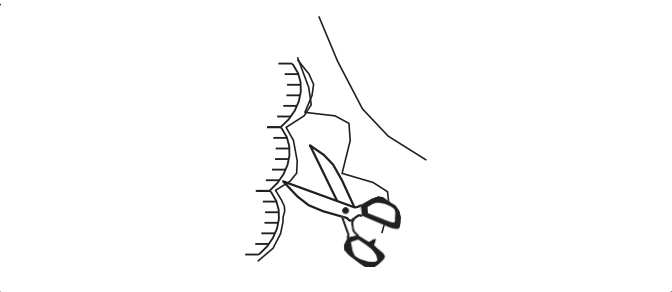
\* You can also use stitch pattern



Sew a 1 cm (3/8") blanket stitch from the edge of the

fabric. Trim the seam allowance close to the seams.

Make sure not to cut through the stitches.

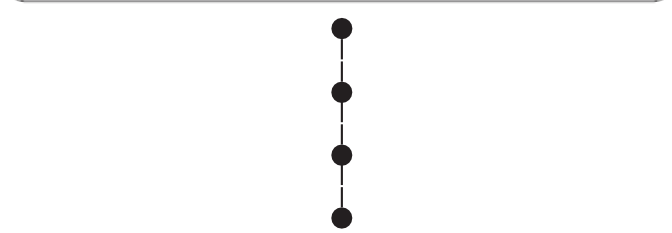


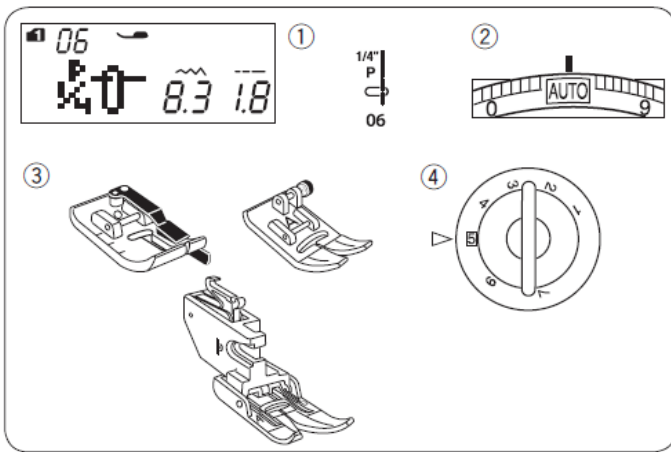
### r French knots

#### Machine settings

- |                          |                       |
|--------------------------|-----------------------|
| 1 Pattern:               | MODE 2: 42            |
| 2 Thread tension:        | 5-8                   |
| 3 Presser feet:          | F-stitch presser foot |
| 4 Presser foot pressure: | 5                     |

Set the thread tension to 5-8 when sewing.





## Joining patchwork pieces

### Machine settings

- |                          |   |
|--------------------------|---|
| 1 Pattern:               | MODE 1: 05-07, 05S-07S                              |
| 2 Thread tension:        | AUTO  |
| 3 Presser foot:          | 1/4" sewing foot or A-zigzag foot or even-feed foot |
| 4 Presser foot pressure: | 5   |

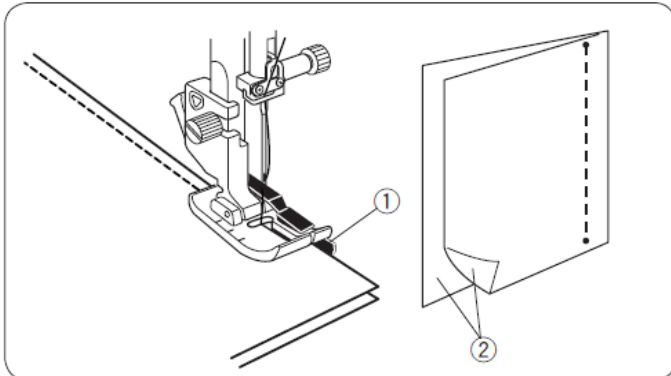
### NOTE:

Use the 1/4" straight stitch foot OR for stitch patterns 06, 07, 06S and 07S in mode 1.  
Use the zigzag presser foot or the AD double feed presser foot for stitch patterns 05 and 05S.

Select pattern 06 (mode 1).

Place the patchwork pieces with the right sides together. Sew by guiding the edge of the fabric along the presser foot guide to maintain a precise 1/4" seam allowance.

- 1 Guide
- 2 Right sides of the fabric



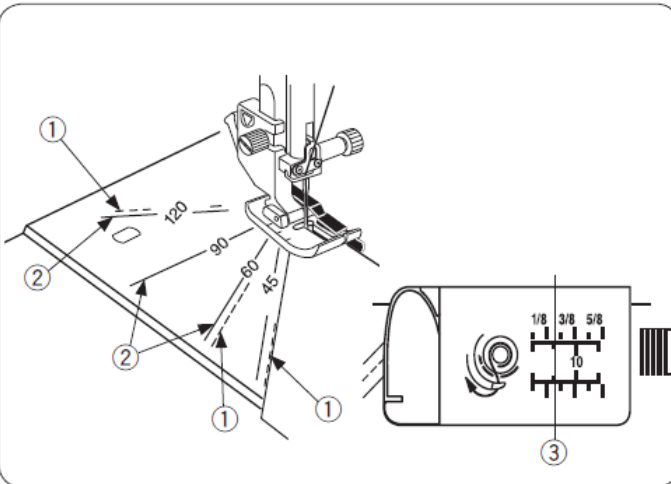
### Needle plate brackets

To sew at the angle you want, you don't need to make markings: use the angle guides on the needle plate. The marked angles are 45, 60, 90 and 120 degrees. Quilting guide bar for the even-feed presser foot. Press the quilting guide bar down into the slot on the uniform feed foot.

- 1 Dotted line

### NOTE:


Use continuous lines when joining patchwork pieces with the zigzag presser foot A. Align the edge of the fabric with the 1/4" sewing guide line.  
2 Solid line  
3 1/4" sewing guide line



## Patching

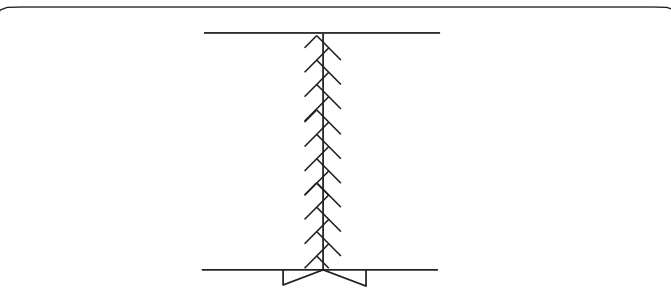
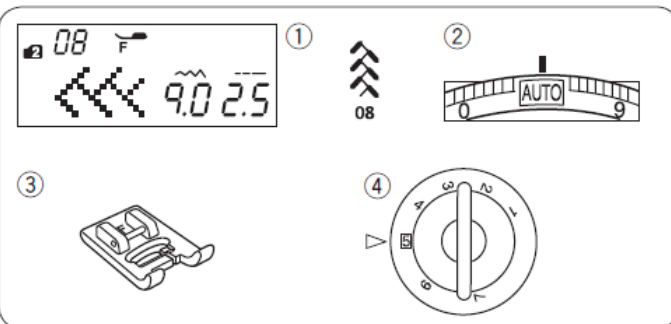
### Machine setup

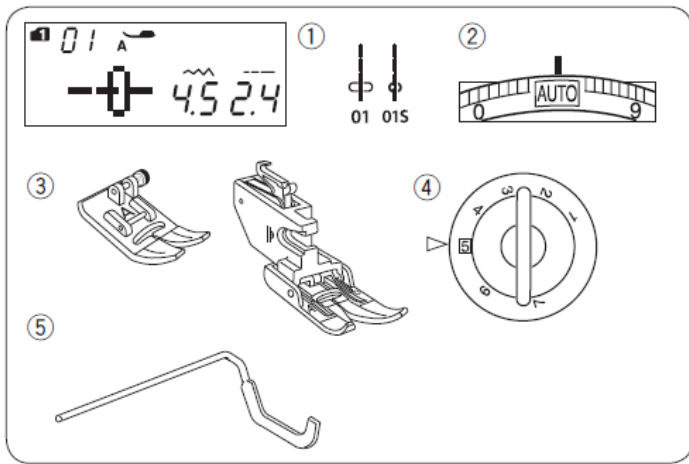
- |                          |                                       |
|--------------------------|---------------------------------------|
| 1 Pattern:               | MODE 2: 08                            |
| 2 Thread tension:        | AUTO                                  |
| 3 Presser foot:          | F-type decorative stitch presser foot |
| 4 Presser foot pressure: | 5                                     |

\* Stitch patterns can also be used (mode 1)  (mode 2).



Open the seam fully with the right side facing up and sew a few patchwork stitches along the seam line.



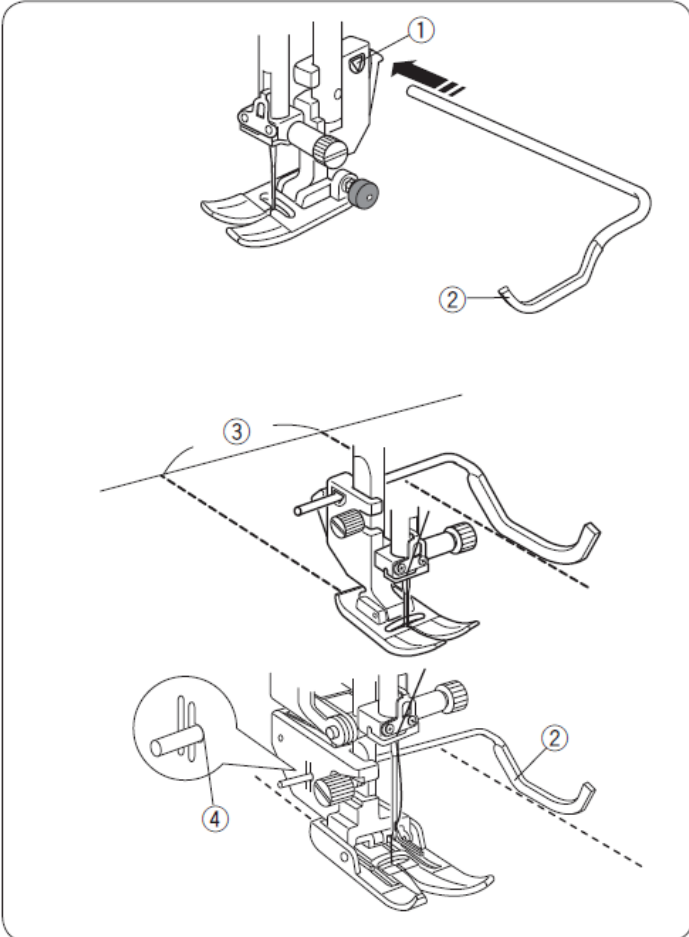


## Quilting

### Machine settings

- 1 Pattern:
- 2 Thread tension:
- 3 Presser foot:
- 4 Presser foot pressure:
- 5 Quilting guide bar

MODE 1: 01, 01S  
 AUTO  
 Zigzag foot A or Even-feed  
 foot  
 5



### Fitting the quilting guide bar

The quilting guide bar is useful for sewing parallel stitches in evenly spaced rows. Insert the quilting guide bar into the hole and slide it to the position corresponding to the desired spacing between the stitches.

- 1 Opening in the presser foot holder
- 2 Quilting guide bar
- 3 Spacing between the stitches

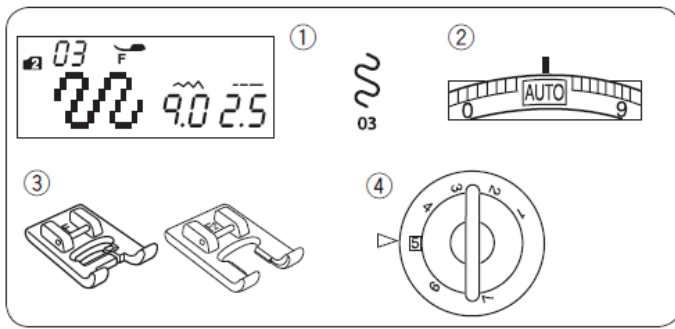
### Stitching

Sew whilst following the previous stitch with the quilting guide bar.

**Quilting guide for the top feed presser foot** Insert the quilting guide bar into the hole at the back of the presser foot holder.

Set the quilting guide bar to the desired distance.

- 2 Quilting guide bar
- 4 Hole



**Dotted line**

**Machine setup**

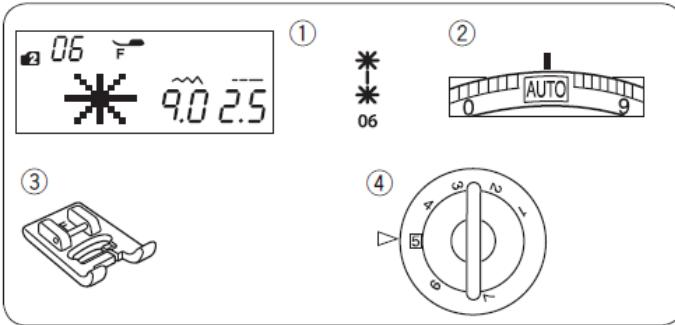
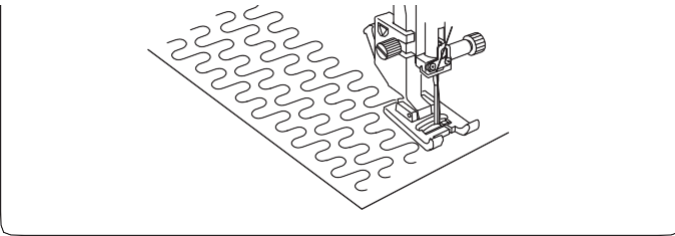
- |                          |                       |
|--------------------------|-----------------------|
| 1 Pattern:               | MODE 2: 03            |
| 2 Thread tension:        | AUTO                  |
| 3 Presser foot:          | F-stitch presser foot |
| 4 Presser foot pressure: | 5                     |

\* Stitch patterns can also be used (mode 2).

04 05

A pre-programmed zigzag stitch is a quick and easy way to quilt small areas.

Place a layer of the quilt and sew.



**-clasp stitches**

**Machine settings**

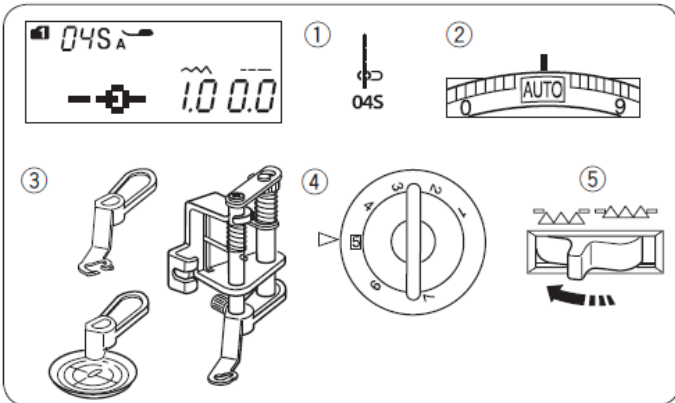
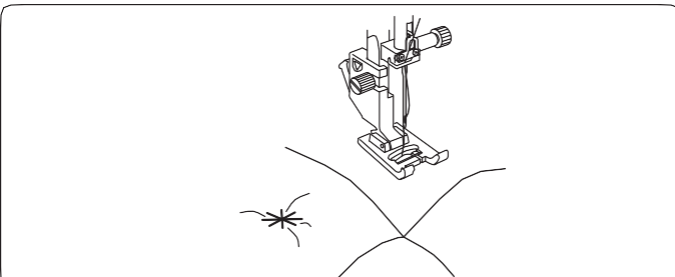
- |                          |                                       |
|--------------------------|---------------------------------------|
| 1 Pattern:               | MODE 2: 06                            |
| 2 Thread tension:        | AUTO                                  |
| 3 Presser foot:          | F-type decorative stitch presser foot |
| 4 Presser foot pressure: | 5                                     |

You can secure the quilt layers and batting using the bar tack stitch.

Select stitch pattern 06 (mode 2). Press the memory button.

Select the pattern (pattern 93 (mode 2)). Start sewing.

The machine sews bar tacks and securing stitches, then stops automatically.



**(1)**

**Machine settings**

- |                          |  |
|--------------------------|--|
| 1 Pattern:               | MODE 1: 04S  |
| 2 Thread tension:        | AUTO   |
| 3 Presser foot:          | Convertible QB-S free-motion quilting presser foot |
| 4 Presser foot pressure: | 5  |
| 5 Feed dog:              | Lowered  |

**Attaching the convertible free-motion quilting presser foot**

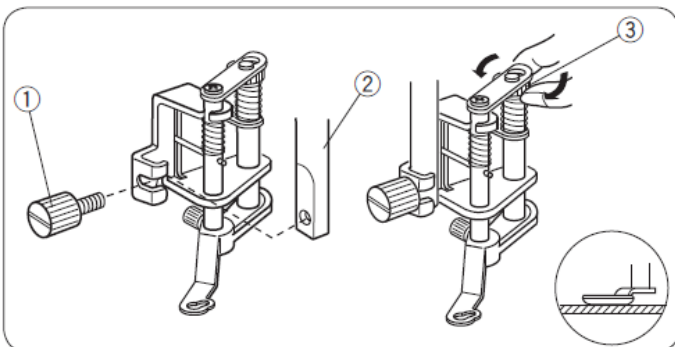
Secure the needle plate for straight stitching (see page 16). Loosen the clamping screw and remove the presser foot holder.

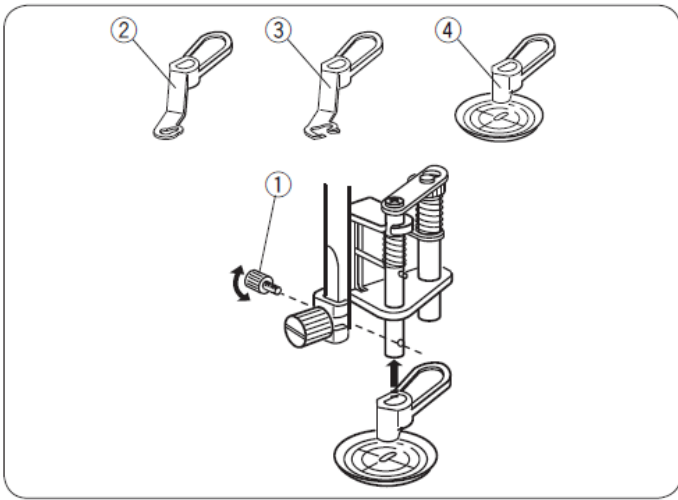
Attach the convertible free-motion quilting presser foot to the presser foot bar and tighten the clamping screw securely with the screwdriver.

Place the fabric under the presser foot.

Adjust the presser foot height by turning the round nut until the underside of the presser foot just touches the top of the fabric.

- 1 Clamping screw
- 2 Presser foot bar
- 3 Round nut





### Changing the presser foot

This presser foot comes with the fixed closed-toe presser foot; however, it can be converted to the open-toe presser foot and the see-through presser foot.

To change the presser foot, lift it up and turn the round nut to lower the presser foot to its lowest position.

Remove the retaining screw and remove the closed-toe presser foot.

Fit the desired presser foot and secure it with the fixing screw.

Adjust the presser foot height (see page 65).

- 1 Clamping screw
- 2 Closed-toe presser foot
- 3 Open-toe presser foot
- 4 Transparent presser foot

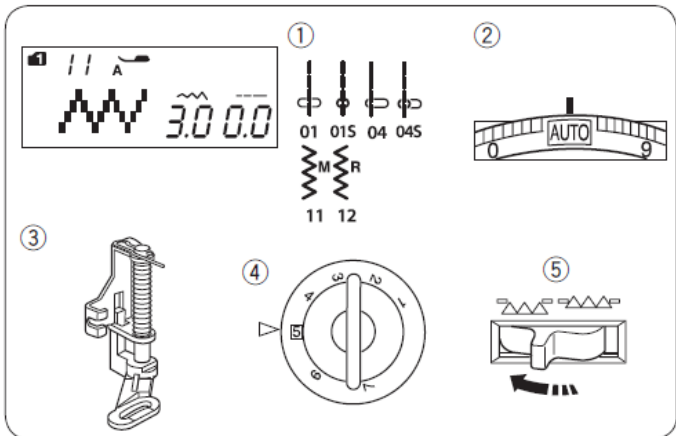
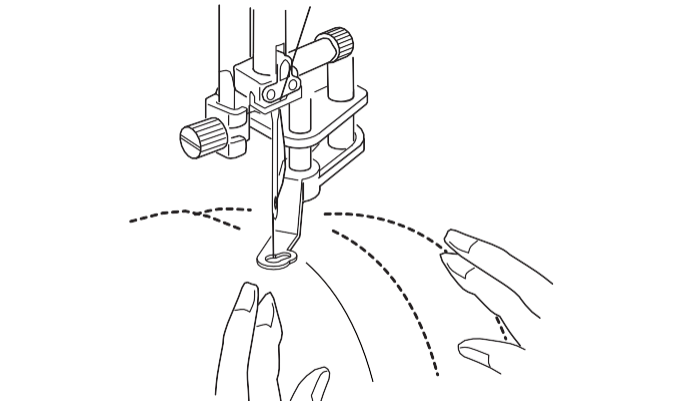
### Quilting

Baste or pin the quilting layers together. Draw a quilting pattern on the top fabric with a washable marker.

Sew at medium speed whilst guiding the quilt layers with your hands.

Move the quilt layers 3 mm (1/8") or less per stitch.

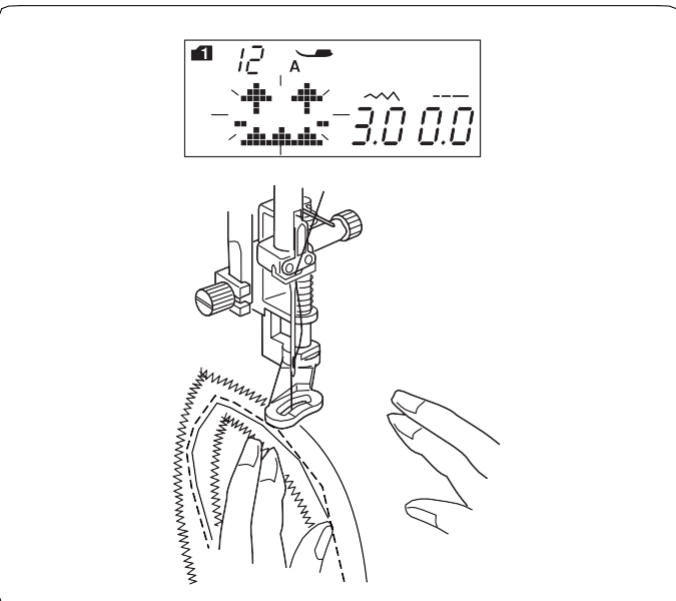
**! CAUTION:**  
 Do not select a pattern other than the straight stitch with the needle in the left position.  
 Do not pull the quilt layers towards you when the open-toe presser foot is attached.



### (2)

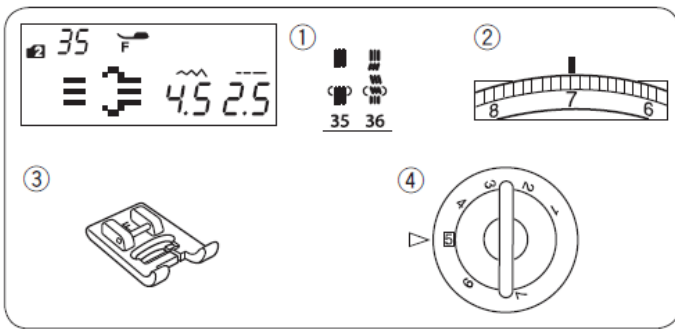
#### Machine settings

- |                          |                                  |
|--------------------------|----------------------------------|
| 1 Pattern:               | MODE 1: 01, 01S, 04, 04S, 11, 12 |
| 2 Thread tension:        | AUTO                             |
| 3 Presser foot:          | PD-H darning presser foot        |
| 4 Presser foot pressure: | 5                                |
| 5 Feed dog:              | Lowered                          |



**NOTE:**  
 A message appears when the machine is started with the feed dog lowered.  
 Start sewing again to continue with the seam.

The sewing procedure is the same as for free-motion quilting (1) (see above).

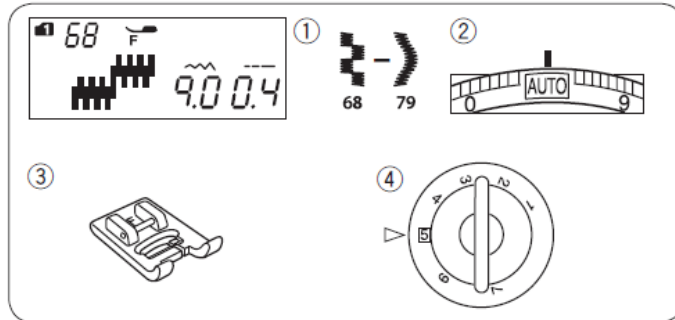


### Quilting stitches with a hand-stitched look

#### Machine settings

1 Pattern:	MODE 2: 35, 36
2 Thread tension:	6-8
3 Presser foot:	F-type decorative stitch presser foot
4 Presser foot pressure:	5

Patterns 35 and 36 (mode 2) are special stitches for quilting with a hand-stitched look. Use clear nylon thread in the needle and standard sewing thread in the bobbin. The bobbin thread comes out through the front of the fabric and the stitches look as if they were made by hand.

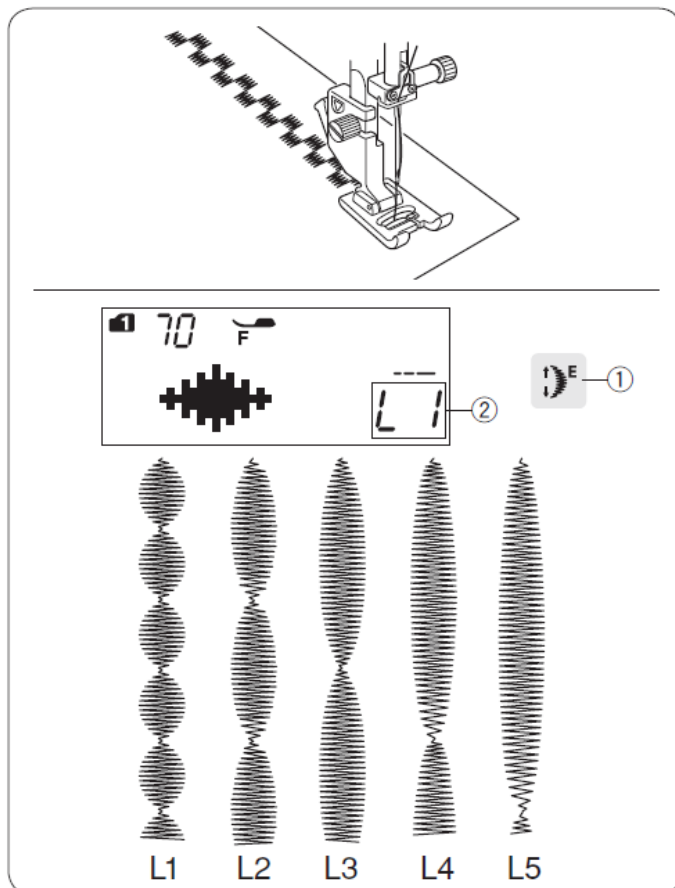


### Outline stitches

#### Machine settings

1 Pattern:	MODE 1: 68-79
2 Thread tension:	AUTO
3 Presser foot:	F-type decorative stitch presser foot
4 Presser foot pressure:	5

Stitches 68-79 in this group can be lengthened up to 5 times their original length without changing the stitch density.



### Extension ratio

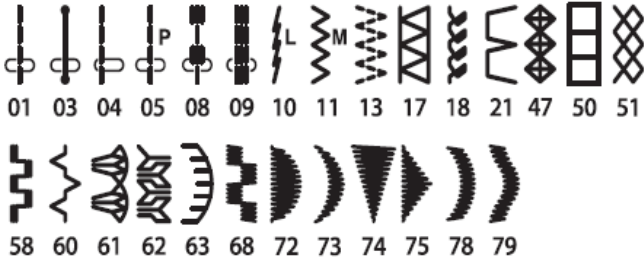
**Example:** Pattern number 70 (mode 1) Select pattern number 70 (mode 1). Select pattern number 70 (mode 1).

Press the stretch key to select the desired stretch ratio. The magnification ratio is indicated in multiples of the original pattern length; L1 (original length) to L5.

- 1 Enlargement key
- 2 Stretch ratio

It is also possible to adjust the stitch length and width.

## MODO 1



## MODO 2



## Sewing with the double-needle

The utility stitches and decorative stitches shown on the left can be sewn with a twin needle.

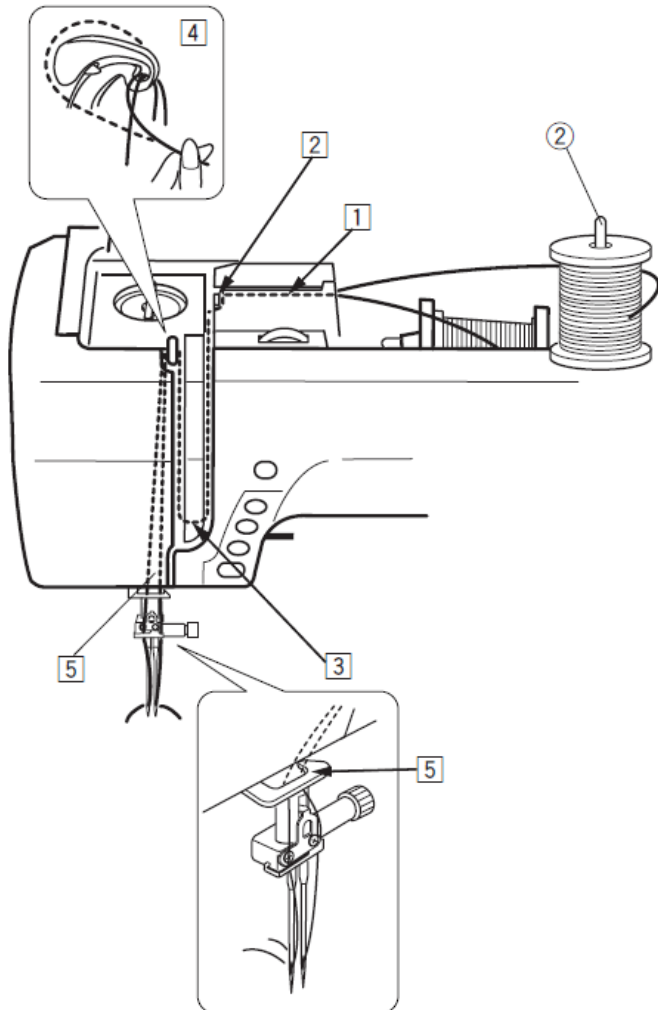
Replace the needle with the twin needle supplied with the standard accessories.

### ! CAUTION:

Switch off the machine or press the lock button to change the needle.

Do not use a twin needle other than the one included in the standard accessories, otherwise the needle may strike the needle plate, presser foot or bobbin case and break.

1 Lock button



Insert the second pin into the hole in the presser foot storage compartment.

Place a spool of thread on the second spool pin and secure the spool with the spool holder.

2 Second spool pin

Pull the threads from the bobbins and pass them through Threading Guide points 1 to 5.

Make sure the two threads from the bobbins do not get tangled.

### NOTE:

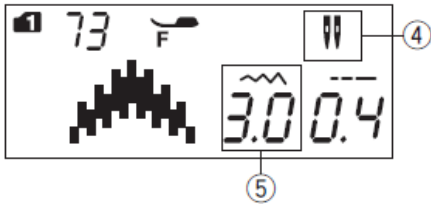
Threading steps 1 to 5 are the same as for a single needle (see page 21).

Slide one of the threads through the thread guide on the left needle bar, and the other through the one on the right.

Thread the needles from front to back.

### NOTE:

The needle threader cannot be used with the double needle.



**NOTE:**

- When sewing patterns with the twin needle, test the stitches first before sewing on the garment.
- Use presser foot A for zigzag or presser foot F for topstitching when sewing with the twin needle.
- When changing the sewing direction, raise the needle and

the presser foot and turn the fabric.

- When selecting stitch patterns that are not for the twin needle and pressing the twin needle button, the twin needle symbol flashes on the LCD screen and the warning beep sounds.



- Stitch patterns cannot be stored in twin needle mode.
- Use the thread cutter on the front cover when trimming the threads.
- Use fine threads #60 or thicker for sewing with the twin needle.

Buttonholes and special stitches, such as darning, eyelet and monogram, cannot be selected.

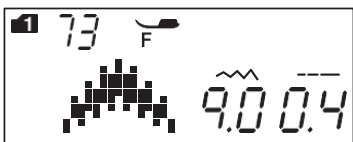
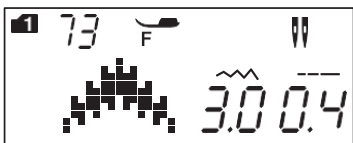
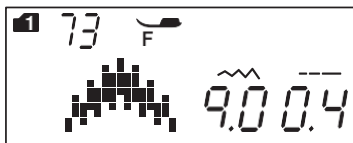
3 Twin needle button

4 Twin needle icon

5 Maximum width (3.0)

Select the pattern you wish to use for sewing with the twin needle.

Press the twin needle button.



The LCD screen displays the twin needle icon and the maximum allowable stitch width is 3.0 mm.

The needle drop position for straight stitches is restricted to between 3.0 and 6.0.

Once you have finished sewing with the twin needle, press the twin needle button. The twin needle icon flashes.

Replace the twin needle with a single needle.

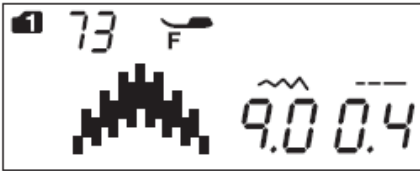
Turn the power switch off and on, or press the twin needle button to return to single stitch mode.

## PROGRAMMING A PATTERN COMBINATION USING THE ' ' FUNCTION

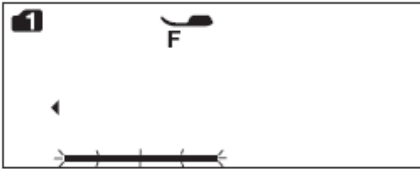
### pattern combination

Example: Programming patterns 73 and 75 (mode 1).

1



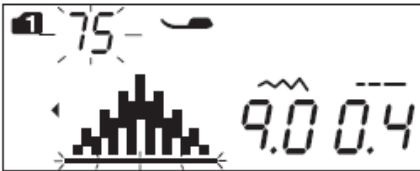
2



M

1 Select pattern 73 (mode 1).

3



2 Press the memory key.

4

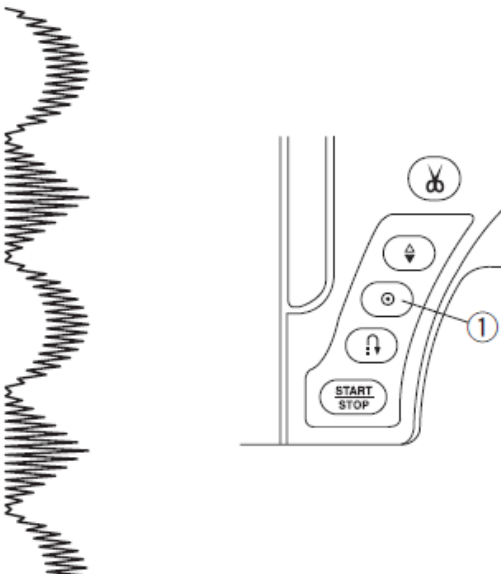


M

3 Select pattern 75 (mode 1).

4 Press the memory key or the confirm button.

5

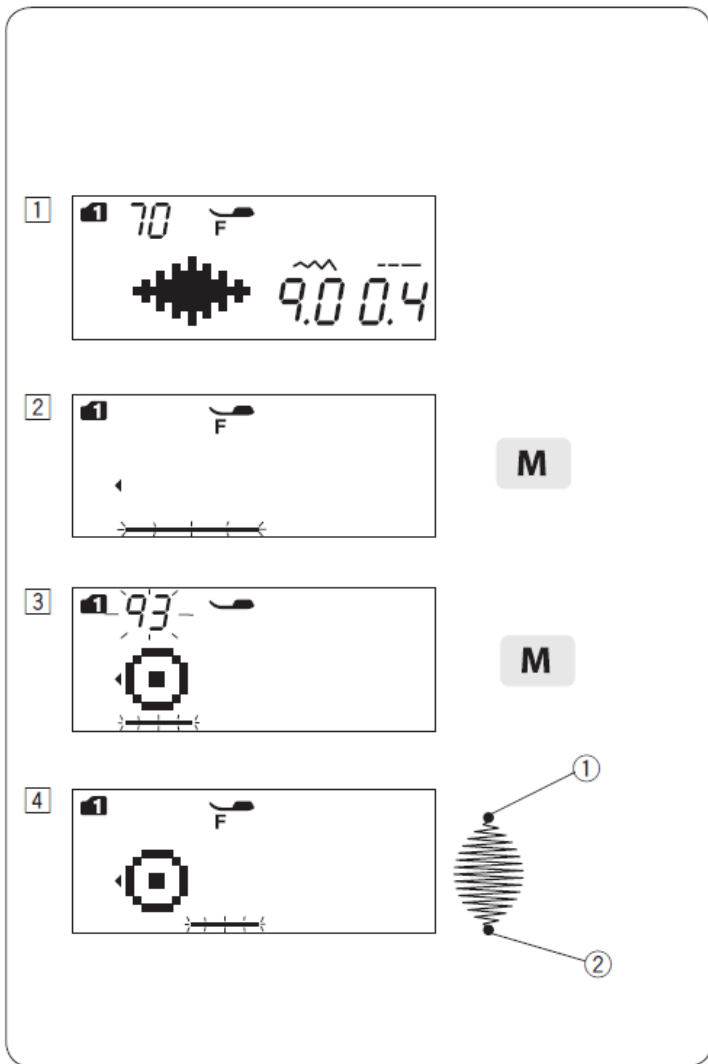


5 Start sewing. Patterns 73 and 75 will be sewn continuously.

#### NOTE:

If you press the auto-stop button in the middle of sewing, the machine will sew to the end of the current pattern, sew a few securing stitches and stop automatically.

1 Auto-stop button



### Programming the automatic closing stitc

**Example:** Programming patterns 70 (mode 1) and automatic lockstitch The machine will sew the pattern, the automatic lockstitch and stop automatically.

1 Select pattern 70 (mode 1).

2 Press the memory key.

3 Select pattern 93 (mode 1).  
1 Press the memory button

4 Start sewing. Patterns 70 and 93 and the automatic locking stitch will be sewn automatically.  
The automatic backtack will be sewn at the start and end of the stitch pattern.  
2 Automatic locking stitch

**NOTE:**

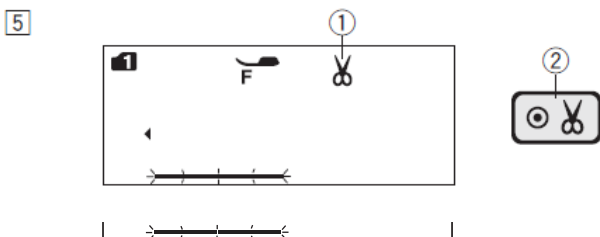
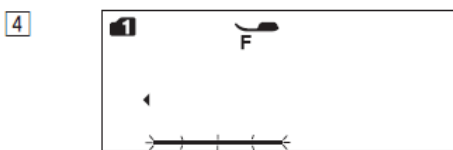
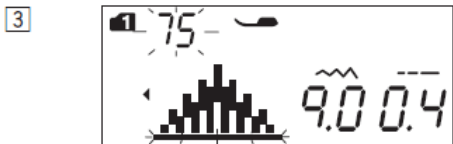
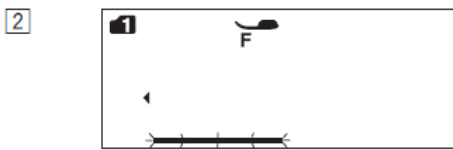
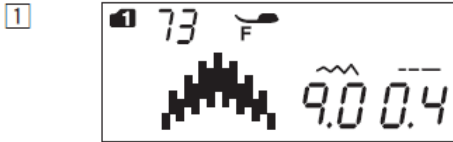
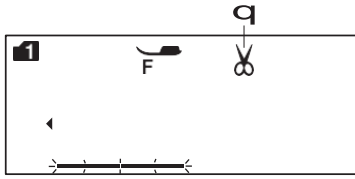
The start-off stitch is pre-programmed.

## Programming the automatic thread cutter

To cut the threads automatically after sewing the pattern combination, press the automatic thread cutter button after setting the pattern combination.

The cutter symbol will appear on the LCD screen and flash.

1 Automatic thread cutter button



1 Select pattern 73 (mode 1).

2 Press the memory key.

3 Select pattern 75 (mode 1).

4 Press the memory button.

5 Press the automatic thread cutter button.

The cutting signal will appear on the LCD screen.

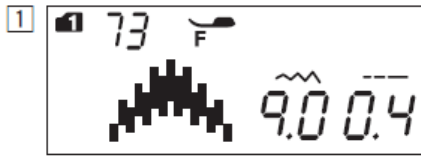
2 Thread cutter button

6 Start sewing.

The machine will sew the pattern combination, perform the automatic locking stitch, cut the threads and stop automatically.

## Pattern combination with a mirrored image

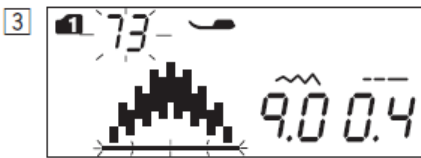
**Example:** Pattern 73 (mode 1) and its mirror image



M

1 Select pattern 73 (mode 1).

2 Press the memory key.

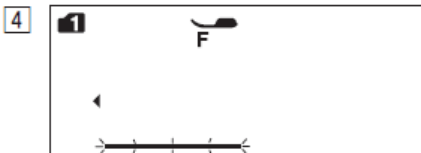
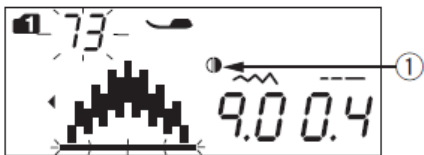


3 Select pattern 73 (mode 1).

Press the mirror image.

The mirror symbol will appear on the LCD screen.

1 Mirror sign



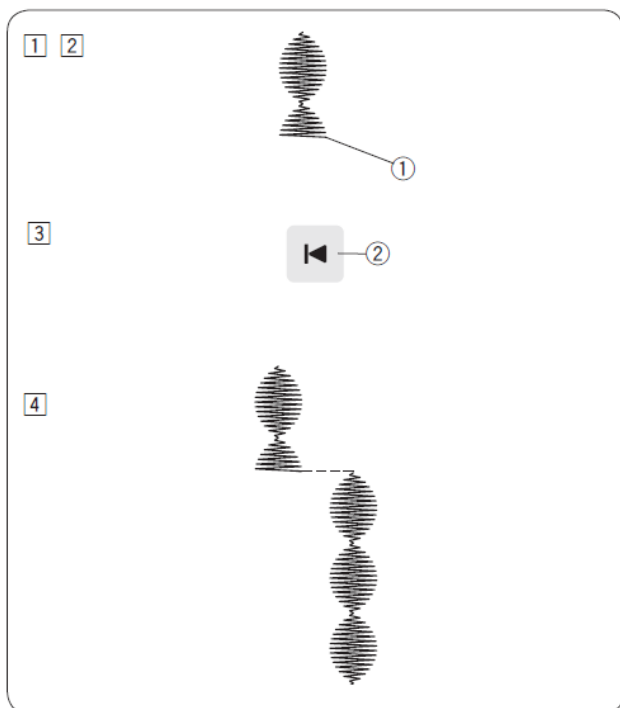
M

4 Press the memory key.



5 Start sewing.

The machine will sew the pattern combination repeatedly.



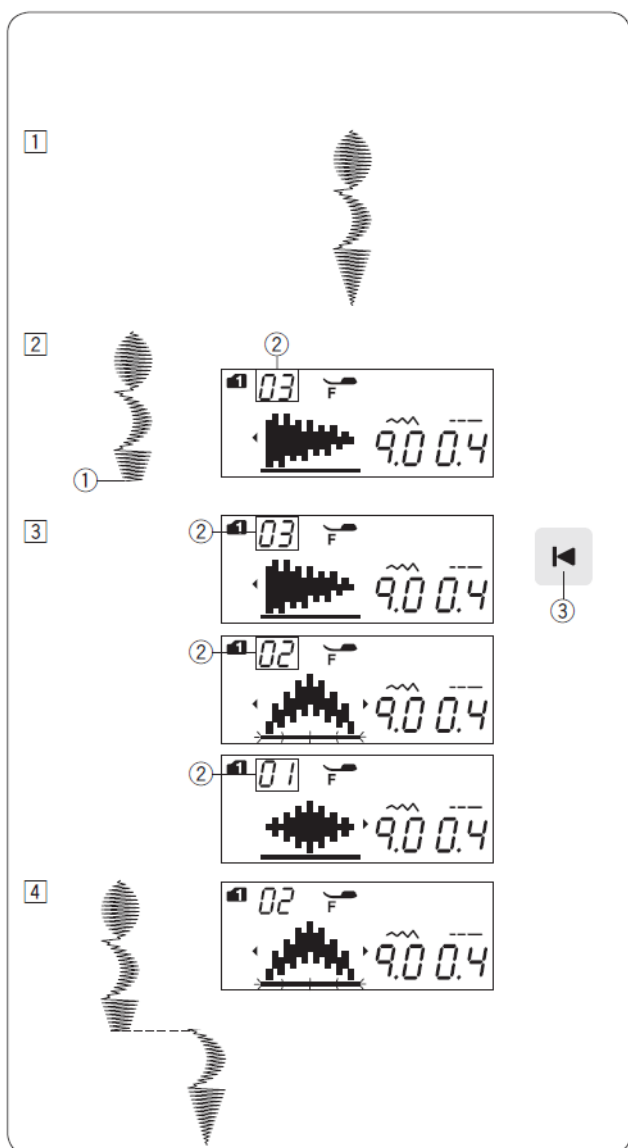
### Resuming a pattern from the start

If you have to stop sewing in the middle of a pattern and wish to sew it again, press the reset key to sew the pattern from the start.

**Example:** Pattern 70 (mode 1)

- 1 Select pattern 70 (mode 1). Start sewing.
- 2 Sewing stopped.
  - 1 Stopped position
- 3 Press the reset key.
  - 2 Reset key

4 Sewing starts from the beginning of the pattern.



### Resuming a pattern combination from the start

If you need to stop sewing in the middle of a pattern combination and wish to restart from the incomplete pattern, press the reset key to select the pattern from which you wish to start.

**Example:** Combination of patterns 70, 73 and 74 (mode 1)

1 Set the combination of patterns 70, 73 and 74 (mode 1). Start sewing.

2 Stitching stopped. The stitch sequence number appears on the LCD screen.

- 1 Stopped position
- 2 Stitch sequence

3 Press the reset key. The number will count down and the stitch image will be displayed each time you press the reset key. Select the stitch pattern from which you wish to start again.

3 Reset button

4 Press the start/stop button.

Sewing starts from the number of the programmed stitch pattern.

### r bridge stitches

Stitch patterns 37 and 41 (mode 2) are bridge stitches, which are used to insert straight stitches after a stitch pattern.

#### NOTE:

Bridge stitches numbers 39 and 41 (mode 2) cannot be selected individually. Insert the bridge stitches after a stitch pattern.

**Example:** Combination of patterns 47 (mode 1) and pattern 39.

1 Select pattern 47 (mode 1).

2 Press the memory key.

3 Select pattern 39 (mode 2).

4 Press the memory key.

5 Start sewing.

Two straight stitches are added after pattern 47.

1 Bridge stitch

#### NOTES:

The number shown to the right of the stitch image indicates the number of stitches to be inserted.

The stitch length and needle drop position in patterns 37, 38 and 40 (mode 2) are independent of those in the combined pattern.

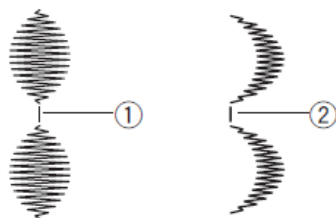
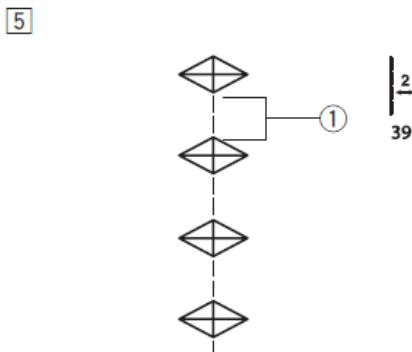
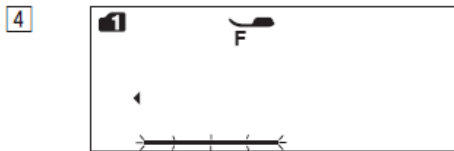
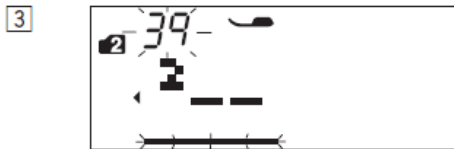
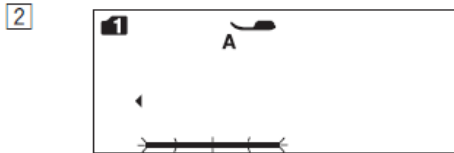
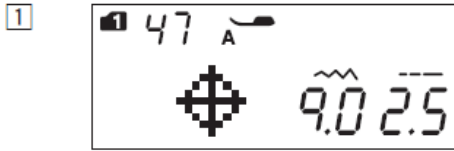
Patterns 39 and 41 (mode 2) use the same stitch length and needle drop position as the previous pattern in the programmed pattern combination.

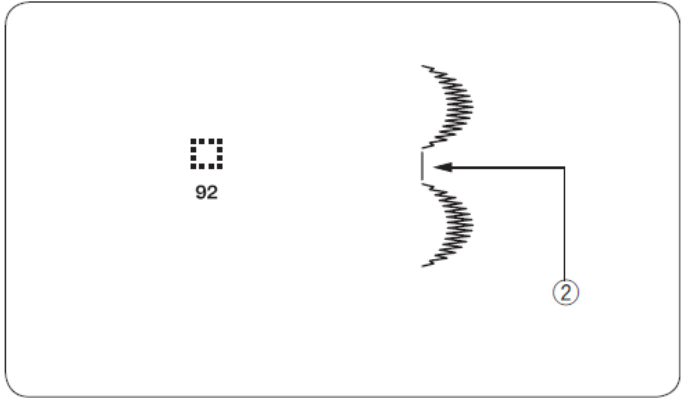
Use patterns 37 to 38 (mode 2) with topstitching.

1 Pattern 37

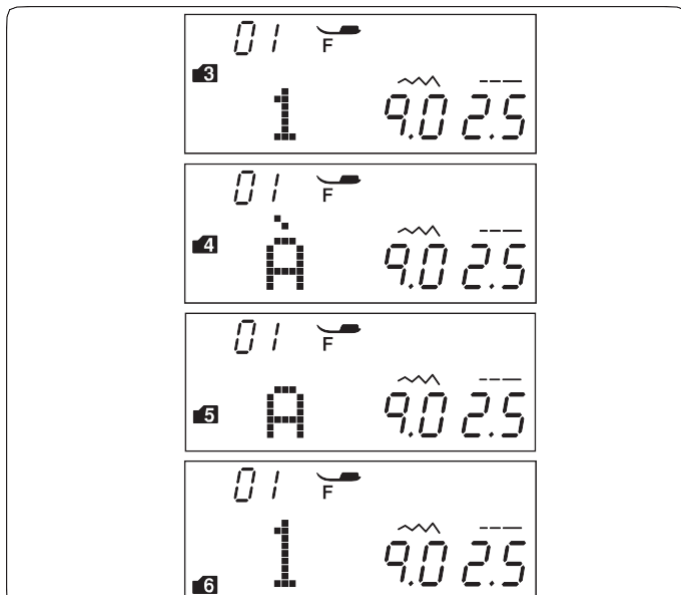
2 Pattern 38

Use pattern 40 (mode 2) if you wish to add elastic straight stitches.





Use pattern 92 (mode 1 or 2) if you wish to insert a space  
between stitch patterns.  
2 Blank space



## Monograms

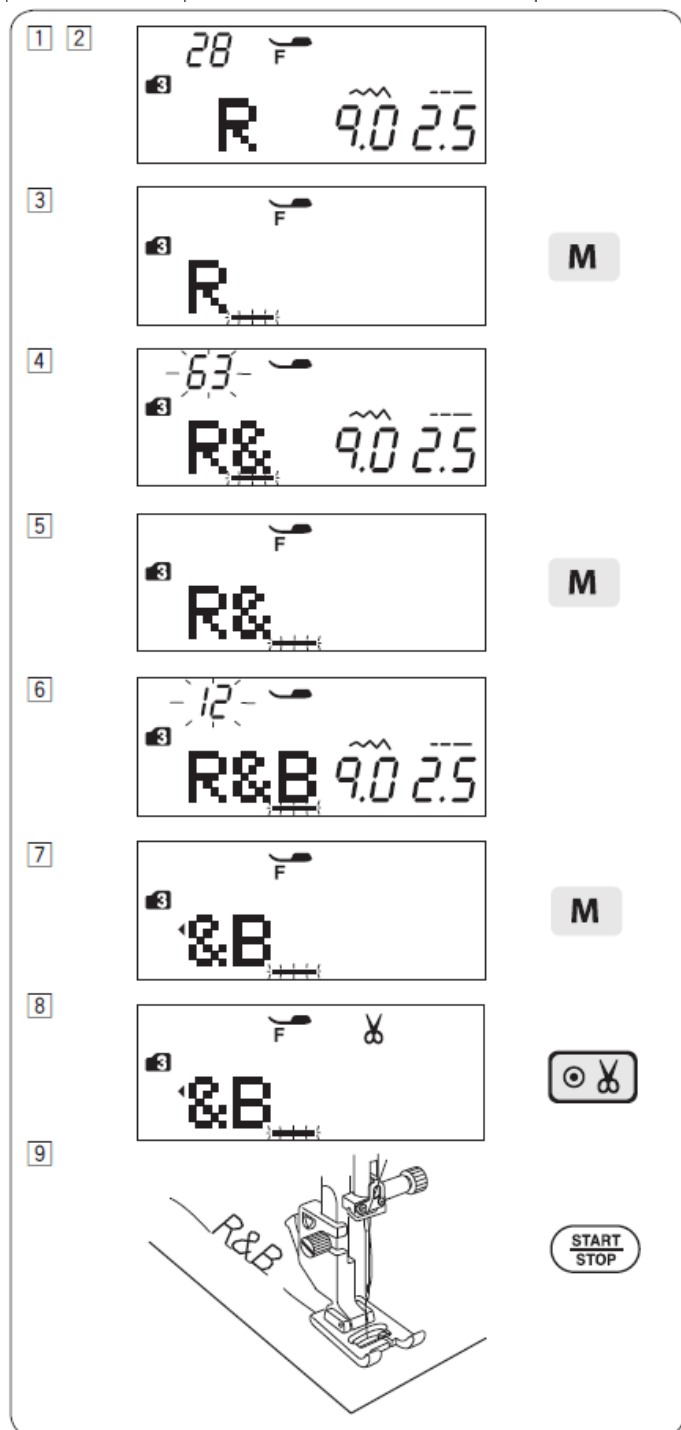
### Selecting a font style

In modes 3, 4, 5 and 6, you can program text by entering the number of the letter of the alphabet.

MODE 3: Alphabet/number/symbol

MODE 4: European accented letters MODE 5: Cyrillic alphabet

MODE 6: 9 mm monogram (uppercase letters and numbers only)



### Programming monograms

**Example:** To program "R&B"

1 Press the mode key twice to enter mode 3.

2 Select pattern 28.

3 Press the memory key.

4 Select pattern 63.

5 Press the memory key.

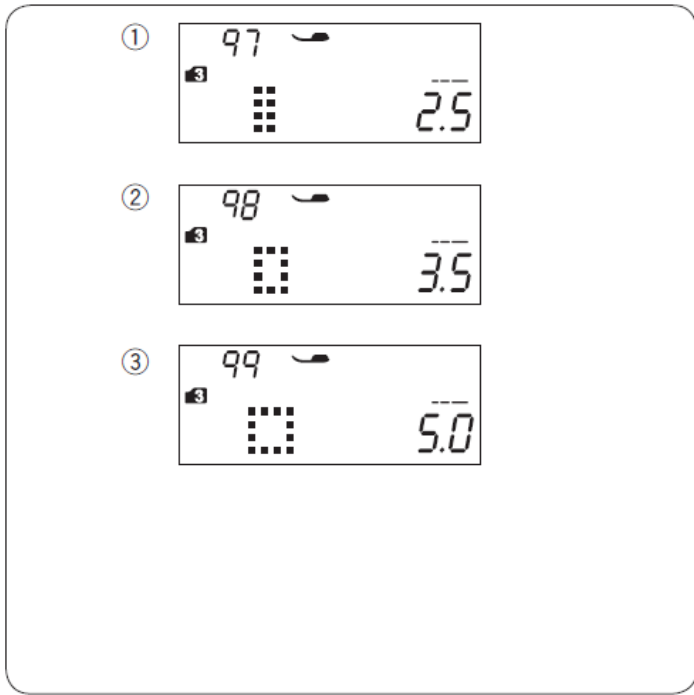
6 Select pattern 12.

7 Press the memory key.

8 Press the automatic thread cutting button. The cutter signal will appear.

9 Press the start/stop button.

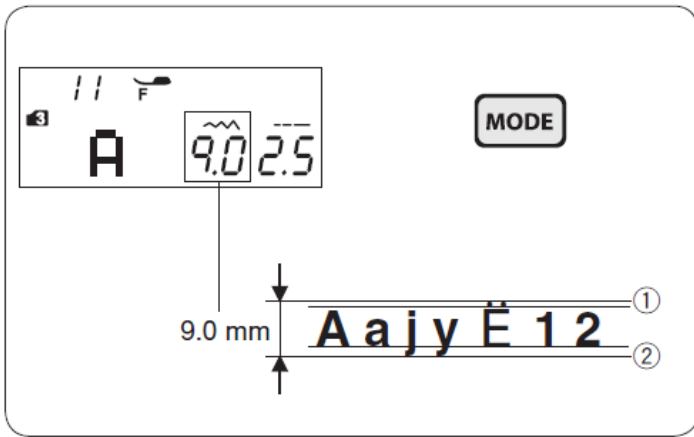
The machine will sew "R&B", cut the threads and stop automatically.



**Spacing**

To enter spacing in monograms, select stitch pattern 97, 98 or 99 in mode 3, 4, 5 or 6.

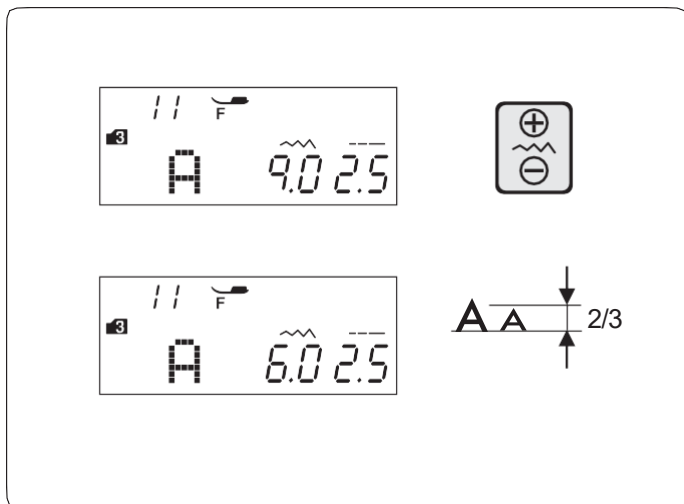
- 1 Pattern 97: Small spacing (2.5 mm)
- 2 Pattern 98: Medium spacing (3.5 mm)
- 3 Pattern 99: Large spacing (5.0 mm)



**Monogram size**

The stitch width of the monogram does not indicate the actual size of the character. That is, an overall height including the front and back borders. To sew monograms with a full height of 9 mm (uppercase alphabet only), press the mode key 5 times to enter mode 6.

- 1 Front edge
- 2 Back edge



**Reducing the size of the letters**

To reduce the font height to approximately 2/3 of its original size, select the font using the edit key and press “⊖” on the stitch width adjustment key.

**NOTE:**

The 9 mm monogram size (mode 6) cannot be reduced.

## Editing a combination of patterns

### Displaying a long combination

The LCD screen only displays one pattern at a time.

If the full combination is not displayed, press the cursor key to view the rest of the combination.

Press the right arrow “▶” q on the edit key to move the cursor to the right.

Press the left arrow “◀” w on the edit key to move the cursor to the left.

#### NOTE:

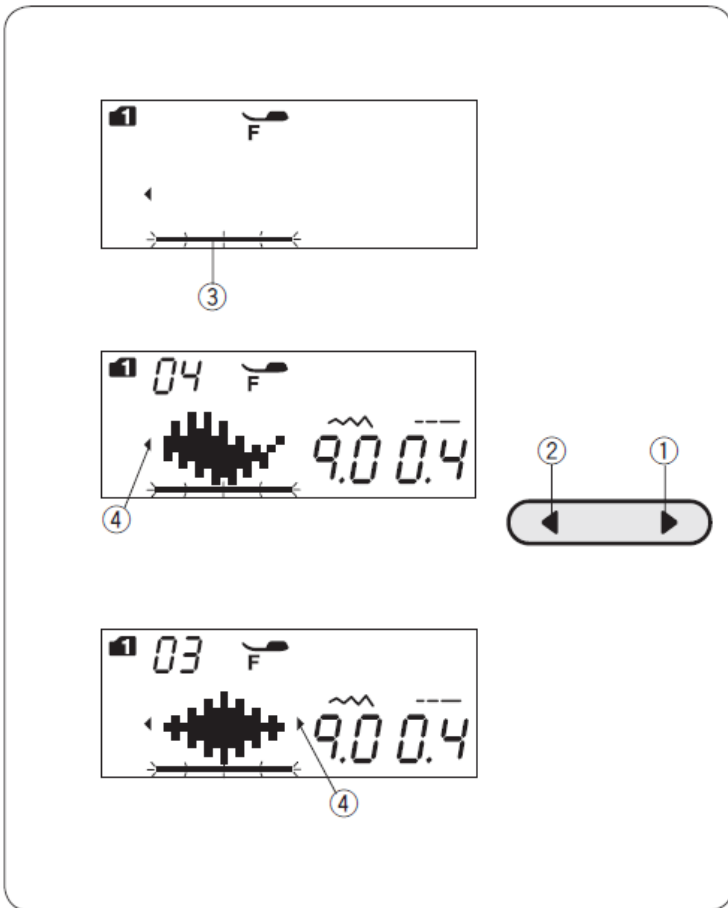
The arrow symbols ( , ▶ ) on the LCD screen indicate that the rest of the combination will be entered in that direction.

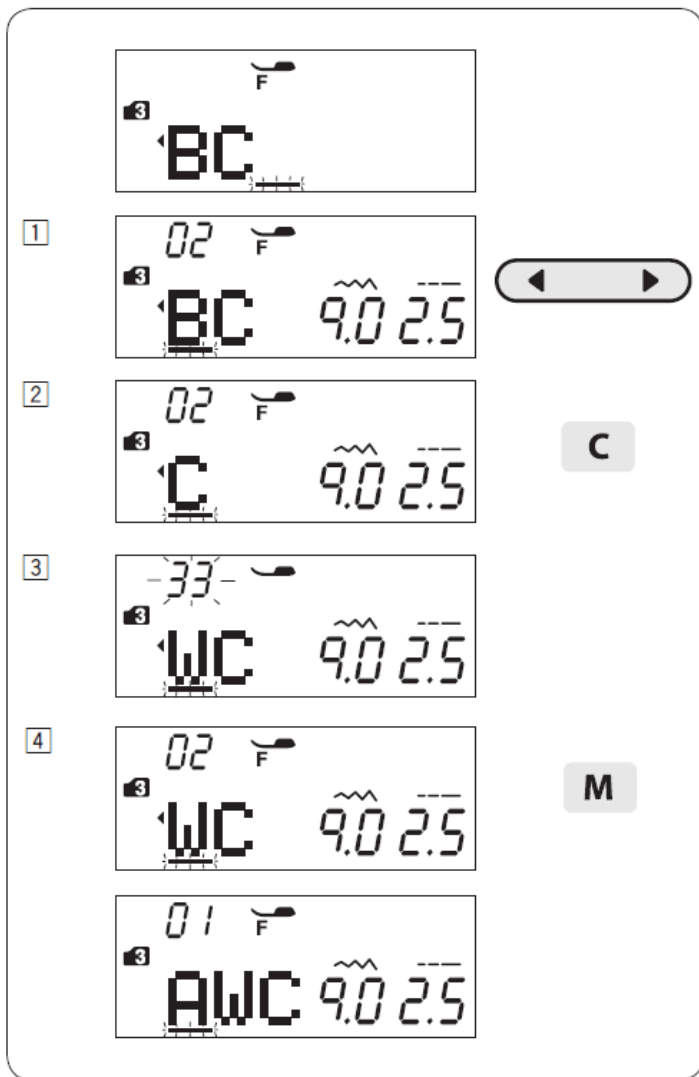
Once sewing has started, the cursor appears below the first pattern and will move to the right as you sew.

Press the edit key again to view hidden patterns or to edit the pattern combination.

The cursor will flash and can be moved to the desired position.

- 1 Right arrow
- 2 Left arrow
- 3 Cursor
- 4 Arrow symbol





## Deleting and entering pattern

**Example:** Deleting pattern "B" and entering "W" from "ABC".

1 Press the cursor key to place the cursor under the pattern "B".

2 Press the delete key. The pattern "B" will be deleted.

3 Enter "W". The "W" pattern will be inserted between "A" and "C".

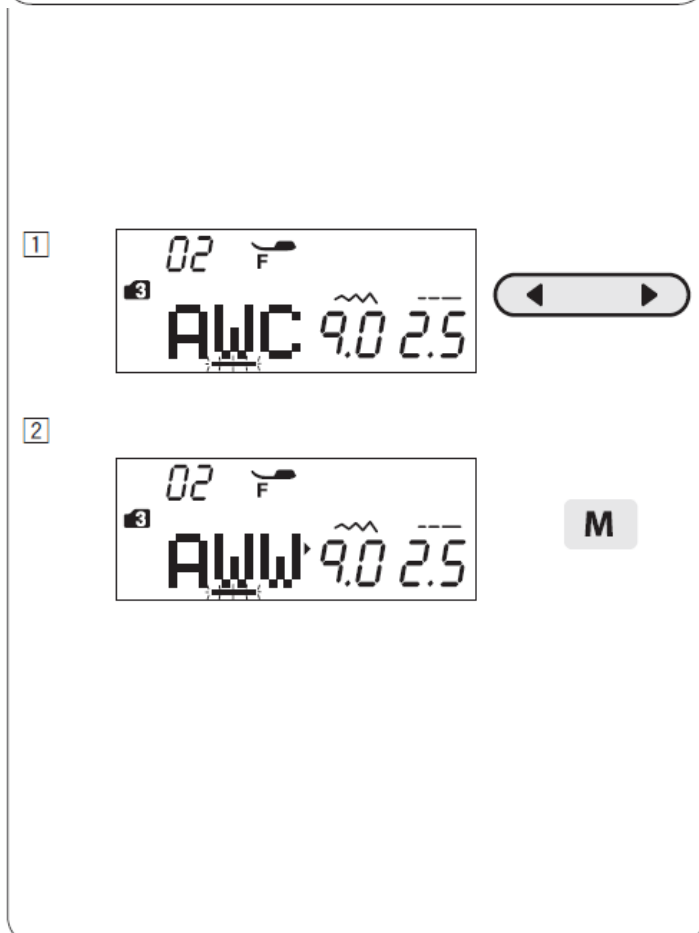
4 Press the memory key to save the new pattern combination.

### NOTE:

If you hold down the clear key, all programmed patterns will be deleted and the LCD screen will return to the screen displayed before programming.

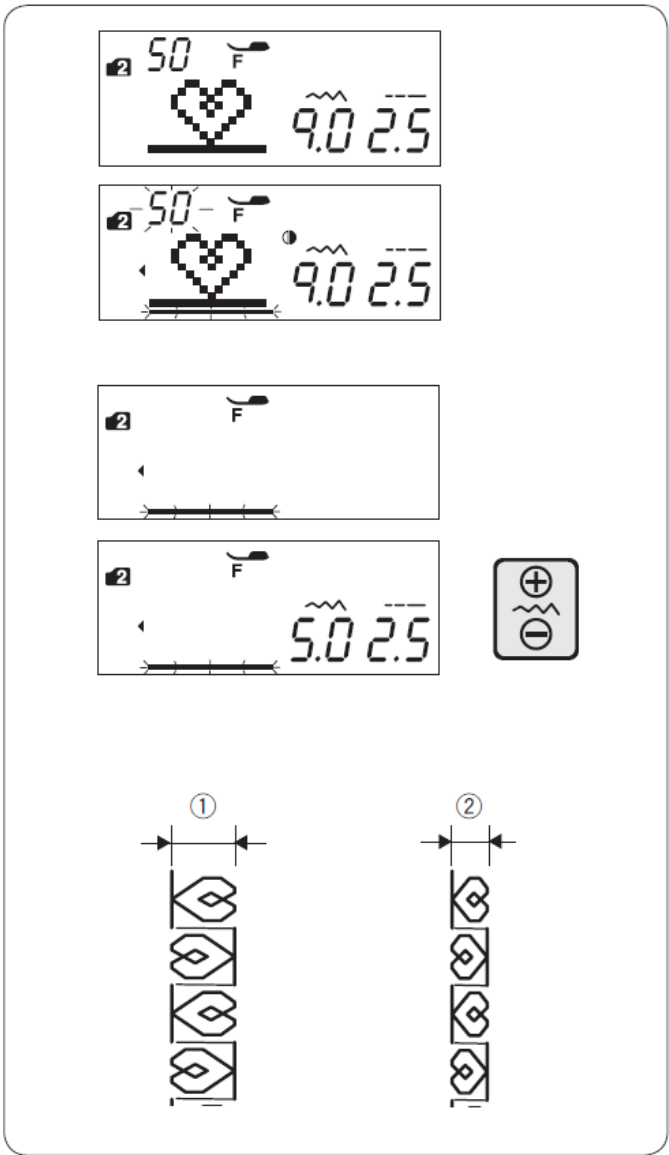
## Duplicating a patter

**Example:** Duplicating a "W" pattern.



1 Press the edit key to place the cursor under the pattern you wish to duplicate.

2 Press the memory key and a "W" pattern will be duplicated after the "W" pattern.



**Individual adjustment of stitche**

The stitch width and length in programmed patterns can be adjusted uniformly.

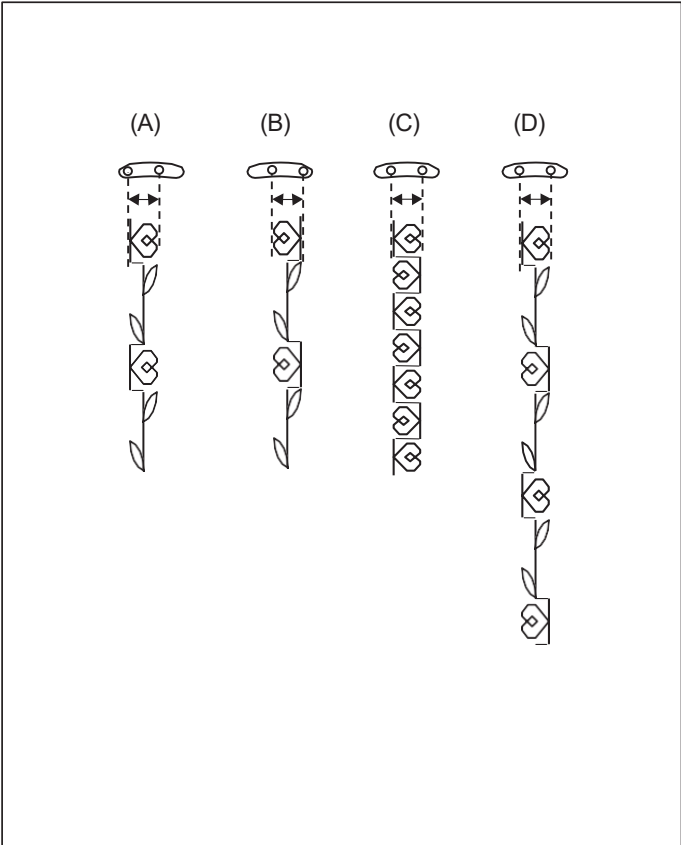
**Example:** Adjusting the stitch width of programmed pattern 50 (mode 2) and its mirror image

Place the cursor to the right of the last programmed pattern. Press the stitch width adjustment key to adjust the stitch width.

**NOTE:**  
The stitch length can be adjusted uniformly if the programmed patterns have been programmed in the same category (embellishment or elastic stitches).

The stitch width of the programmed patterns will be adjusted uniformly.

- 1 Original width
- 2 Uniformly adjusted width



**Justification of the needle drop position ( )**

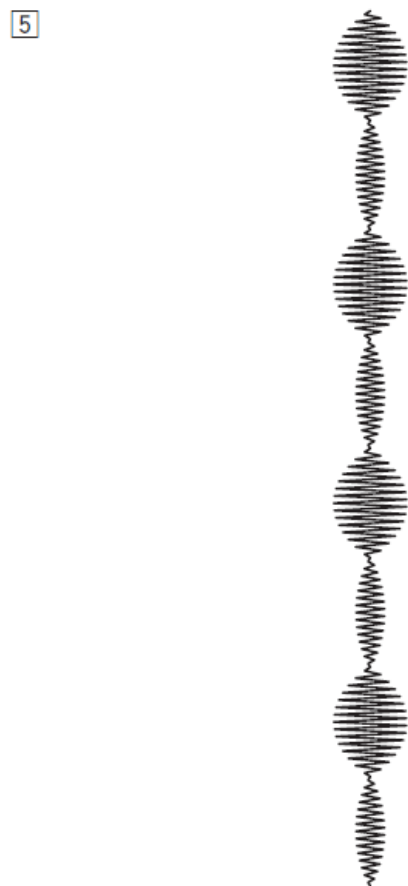
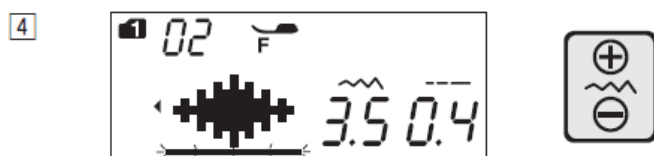
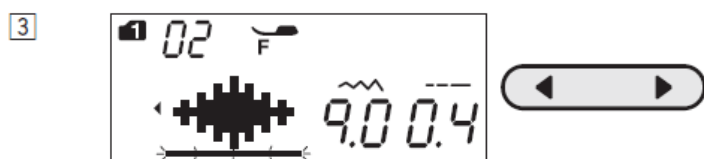
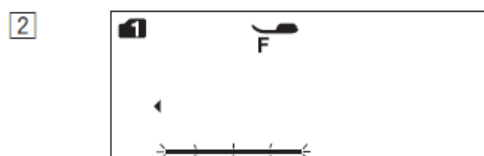
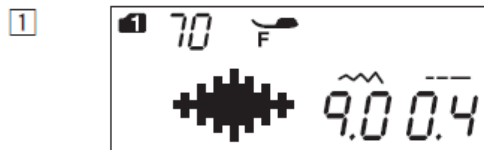
The drop position of the needle in the programmed patterns will vary depending on the combination of these:

- (A) Left-aligned when patterns with the needle in the left and centre positions are combined.
- (B) Right-aligned when patterns with the needle in the centre and right positions are combined.
- (C) Centred when patterns with the needle in the left and right positions are combined.
- (D) Centred when combining patterns with the needle in the left, centre and right positions.

### Individual adjustment of the stitch

The stitch width and length can be adjusted separately for each pattern in the programmed combination.

**Example:** Changing the stitch width of a pattern in the combination



1 Select pattern 70 (mode 1).  
Press the memory key.

2 Press the memory key again.

3 Press the cursor key until the cursor is positioned under the second pattern.

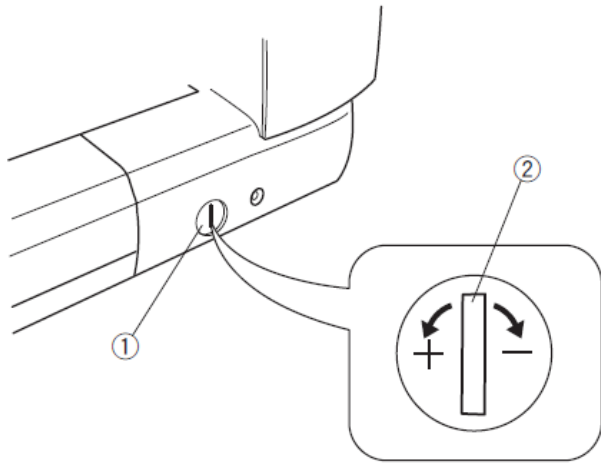
4 Press the stitch width adjustment key to set the width to "3.5".

5 Press the start/stop button.  
The machine will sew the pattern combination.  
The stitch width of the second pattern in the combination is adjusted.

#### NOTES:

To view the stitch settings for each pattern, place the cursor under the desired pattern and press the stitch width or stitch length adjustment key. The values will appear at the bottom of the LCD screen.

If you press the stitch width or length adjustment key when the cursor is to the right of the last programmed pattern, a custom setting will be cancelled and a uniform setting will be applied.



**Correcting distorted stitch patterns** Stitching results with patterns may vary depending on sewing conditions, such as speed, fabric type, number of layers, etc.

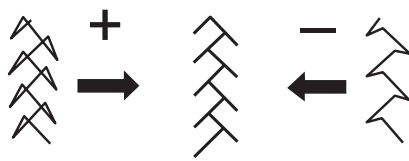
Before sewing, always carry out a test on a scrap of the fabric you intend to use.

If stitch patterns, monograms or elastic buttonholes become distorted, correct them using the shift balance wheel. Set the feed balance wheel to the neutral position for normal sewing.

- 1 Shift balance wheel
- 2 Neutral position

**NOTE:**

Return the fabric offset balance wheel to the neutral position when you have finished sewing.

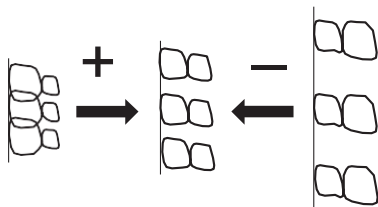


**Straight elastic patterns**

**Example:** Pattern 08 (mode 2)

If the pattern is compressed, turn the offset balancing wheel towards "+".

If the pattern is too stretched, turn the offset balancing wheel towards "-".

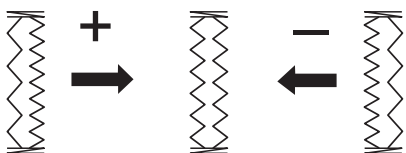


**Letters and numbers**

**Example:** Pattern 08 (mode 3)

If the pattern is compressed, turn the offset balancing wheel towards "+".

If the pattern is too stretched, turn the shift balance wheel towards "-".



**Balancing the elastic loops**

**Example:** Pattern 29 (mode 1)

If the right-hand row is denser, turn the wheel towards "+".

If the left row is denser, turn the wheel towards "-".

## CARE AND MA

### CAUTION:

Switch off and unplug the machine before cleaning it.

### Cleaning the needle plate and bobbin case area

Clean the hook area at least once a month. Remove the needle plate (see page 16).

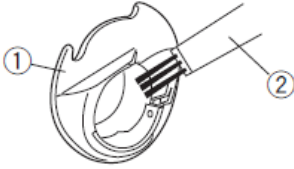
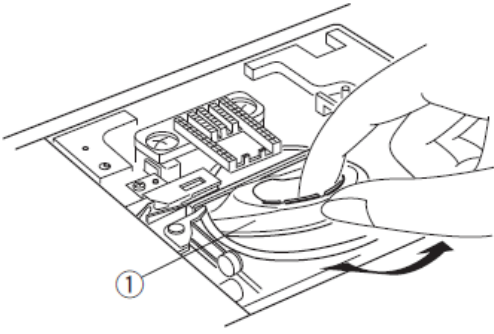
Switch off the machine and unplug it.

Remove the needle and the presser foot.

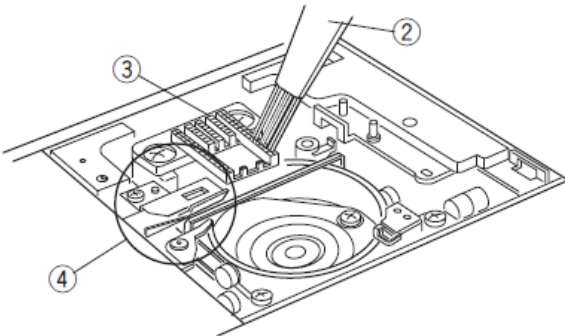
### NOTE:

The machine should only be disassembled as explained in this section.

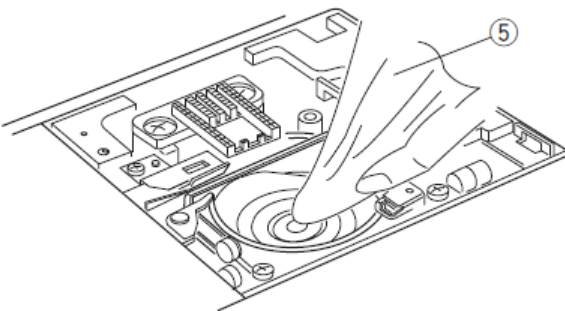
1



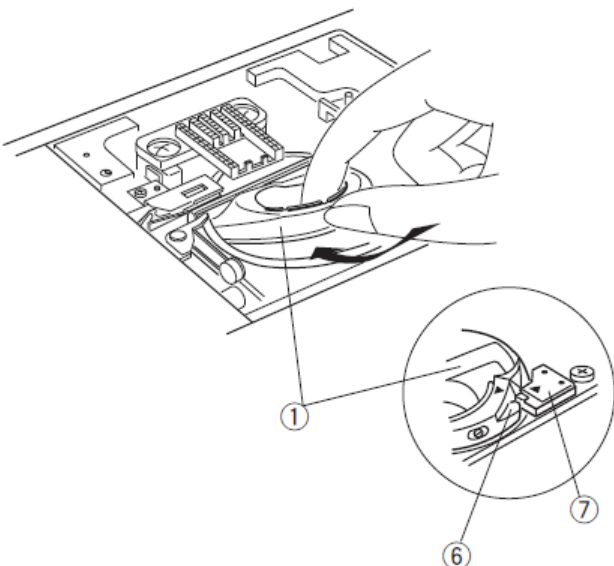
2



3



4



1 Remove the bobbin and the bobbin case.

1 Bobbin holder

2 Clean the bobbin holder with a lint brush.

Clean the feed dogs and the thread cutter with the lint brush.

2 Lint brush

3 Feed dogs

4 Automatic thread cutter

3 Clean the bobbin case with a soft cloth.

5 Soft cloth

4 Insert the bobbin holder so that the pin fits close to the stop on the bearing ring. Insert the bobbin. Fit the needle plate, presser foot and needle.

6 Knob

7 Stop

## Cleaning the inside of the thread guide

Clean the inside of the thread guide plate under the top cover at least once a month.

1 Remove the thread from the needle and remove the thread guide plate by pulling it out.

1 Thread guide plate

2 Remove lint and dust from the brush under the thread guide plate using a lint brush.

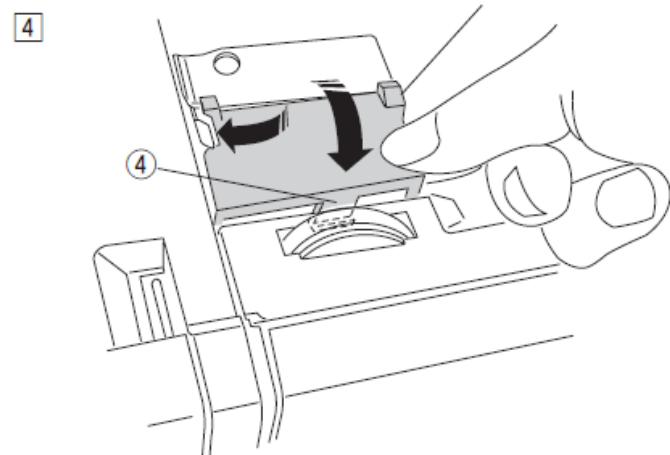
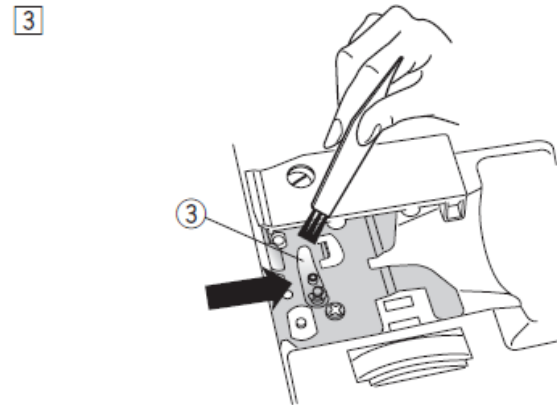
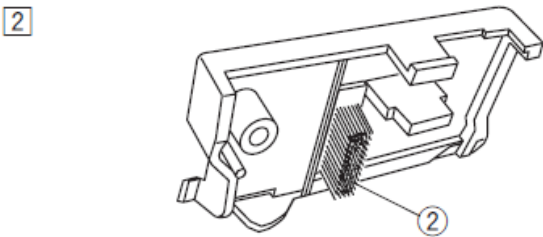
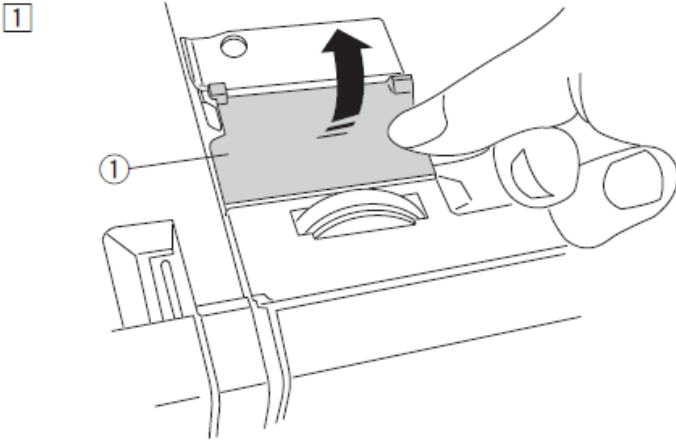
2 Thread guide plate brush

3 Clean the area around and under the tension plate with the lint brush.

3 Pre-tensioning plate

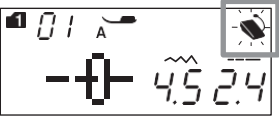
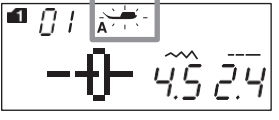


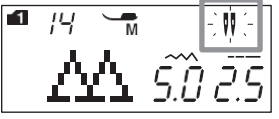

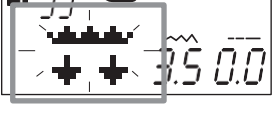
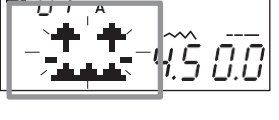

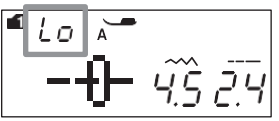
4 Fit the thread guide plate to the machine, inserting the pins into the slots. Press down on the thread guide plate to secure it in place.

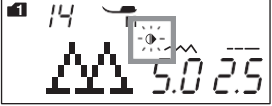

4 Pin



## Problems and warning signs

Follow these instructions if you hear a beep and a warning message appears on the screen.

Warning signal	Cause	Try the following
	<ol style="list-style-type: none"> <li>The start/stop button is pressed whilst the pedal is connected.</li> <li>The foot control is out of order. (The presser foot control signal continues to flash.)</li> </ol>	<p>Connect the foot control and start the machine. Contact the technical support centre or the shop where you purchased the machine.</p>
	<p>The machine has been switched on without lowering the presser foot.</p> <p>The machine stops if the presser foot is raised whilst sewing.</p>	<p>Lower the presser foot and start the machine.</p> <p>Lower the presser foot and start the machine again.</p>
	<p>The bobbin winder spindle moves to the right.</p>	<p>Move the bobbin winder spindle to the left for stitching.</p>
	<p>The machine stops if the buttonhole is sewn without lowering the buttonhole lever.</p>	<p>Lower the buttonhole lever and restart the machine.</p>
	<p>The twin needle button has been pressed with a pattern that does not support twin needle sewing.</p>	<p>Select the appropriate pattern for sewing with a twin needle.</p>
	<p>The twin needle button is pressed when the twin needle symbol is displayed on the LCD screen.</p>	<p>Replace the twin needle with a single needle and press the twin needle button.</p>
	<p>The machine has been started without lowering the feed dog with the basting or buttonhole mode selected.</p>	<p>Lower the feed dog.</p>
	<p>The machine has been started with the feed dog lowered.</p>	<p>Raise the feed dog.</p>
	<p>The machine has been started without the needle plate.</p>	<p>Fit the needle plate. Replace the needle plate.</p>
	<p>The machine has started up after stopping due to an overload.</p>	<p>Wait at least 15 seconds before restarting the machine. Remove any threads tangled around the thread take-up lever, the bobbin case and the automatic thread cutter mechanism.</p>

Warning sign	Cause	Try the following
	The mirror image key has been pressed with a pattern that cannot be rotated.	Select a pattern that can be rotated.
<p>(E1-E7)</p> 	The machine is not working properly due to a problem with the control circuit.	Contact the technical support centre or the shop where you purchased the machine.

Beep	The beep sounds when:
beep	operation is normal.
beep-beep	when deleting a pattern combination using the delete key.
beep-beep-beep	an invalid operation or a malfunction occurs.
peep	an error E1-E7 occurs.
pip beep-beep-beep-beep	The buttonhole is complete.

## problem detection and resolution

Problem	Cause	Reference
The needle thread breaks	<ol style="list-style-type: none"> <li>1. The needle thread is not threaded correctly.</li> <li>2. The needle thread is too tight.</li> <li>3. The needle is bent or damaged.</li> <li>4. The needle is not inserted correctly.</li> <li>5. The needle thread is not under the presser foot when you start sewing.</li> <li>6. The fabric moves too quickly when free-motion quilting.</li> <li>7. The thread is tangled around a bobbin.</li> </ol>	Page 21 Page 12 Page 17 Page 17 Page 28 Page 66 Use the bobbin holder bobbin holder.
The bobbin thread breaks	<ol style="list-style-type: none"> <li>1. The bobbin thread is not threaded correctly into the bobbin case.</li> <li>2. Lint has built up in the bobbin case.</li> <li>3. The bobbin is damaged and does not rotate properly.</li> </ol>	Page 20 Page 84 Replace the bobbin.
The needle breaks	<ol style="list-style-type: none"> <li>1. The needle is not inserted correctly.</li> <li>2. The needle clamp screw is loose.</li> <li>3. The fabric is pulled forward when using the open-toe presser foot.</li> <li>4. The needle is too thin for the fabric being used.</li> <li>5. The wrong presser foot is being used.</li> </ol>	Page 17 Page 17 Page 66  Page 17 Use the correct presser foot.
Skipped stitches	<ol style="list-style-type: none"> <li>1. The needle is not inserted correctly, or is bent or damaged.</li> <li>2. The needle and/or threads are not suitable for the job.</li> <li>3. The stretch needle is not being used for sewing very fine, stretchy or synthetic fabrics.</li> <li>4. The needle thread is not threaded correctly.</li> <li>5. A poor-quality needle is being used.</li> </ol>	Page 17 Page 17 Use the stretch stitch needle. Page 21 Change the needle.
Gathering seams	<ol style="list-style-type: none"> <li>1. The needle thread is too tight.</li> <li>2. The needle thread is not threaded correctly.</li> <li>3. The needle is too thick for the fabric you are working with.</li> <li>4. The stitch is too long for the fabric.</li> <li>5. The presser foot pressure has not been set correctly.</li> <li>6. A stabiliser is not being used when working with very fine fabrics.</li> </ol>	Page 12 Page 21 Page 17 Shorten the stitches. Page 11 Use a stabiliser.
The fabric is not feeding properly	<ol style="list-style-type: none"> <li>1. There is lint on the feed dogs.</li> <li>2. The stitches are too fine.</li> <li>3. The feed dogs have not been raised after sewing with them down.</li> </ol>	Page 84 Lengthen the stitches. Page 11
Loops in the seams	<ol style="list-style-type: none"> <li>1. The needle thread is not tight enough.</li> <li>2. The needle is too thick or too thin for the thread.</li> </ol>	Page 12 Page 17
The machine does not work	<ol style="list-style-type: none"> <li>1. The machine is not plugged in or the foot control has not been connected.</li> <li>2. There is thread caught in the bobbin case.</li> <li>3. The presser foot has not been lowered.</li> </ol>	Page 6 Page 84 Page 10
The buttonholes are not sewn properly	<ol style="list-style-type: none"> <li>1. The stitch density is not suitable for the fabric used.</li> <li>2. No interfacing has been used with stretch or synthetic fabrics.</li> <li>3. The buttonhole lever has not been lowered.</li> </ol>	Page 48 Use interfacing. Page 46
The machine is making a noise	<ol style="list-style-type: none"> <li>1. There is thread caught in the bobbin case.</li> <li>2. Lint has accumulated in the bobbin case or on the bobbin.</li> </ol>	Page 84 Page 84
The layers of fabric are slipping	<ol style="list-style-type: none"> <li>1. The presser foot is not suitable for the fabric being used.</li> </ol>	Page 11
Automatic thread trimming error	<ol style="list-style-type: none"> <li>1. The thread is too thick for the automatic thread cutter.</li> <li>2. There is yarn caught in the thread cutter mechanism.</li> </ol>	Page 7 Page 84
The stitch pattern cannot be selected.	<ol style="list-style-type: none"> <li>1. The straight stitch needle plate is fitted to the machine.</li> <li>2. The selected stitch is 39 or 41 in mode 2 (bridge stitches).</li> </ol>	Page 32 Page 75
The needle thread appears on the wrong side of the fabric when the stitch width exceeds "7.0".	<ol style="list-style-type: none"> <li>1. The thread tension is not balanced.</li> </ol>	Page 12

It is normal to hear a humming sound coming from the internal motors.

The LCD screen and the function key area may become warm after several hours of continuous use.



