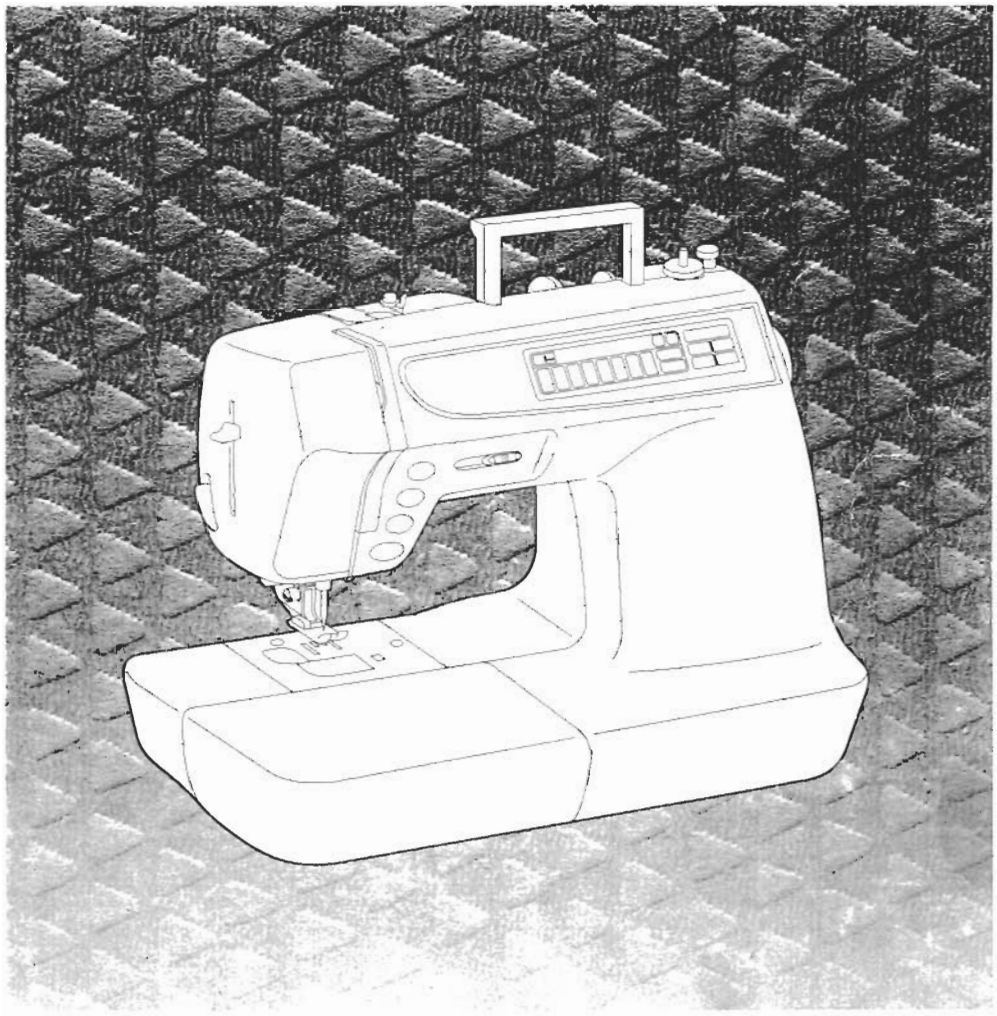
PC 6000

SEWING MACHINE



OPERATION MANUAL

brother®

"IMPORTANT SAFETY INSTRUCTIONS"

When using a sewing machine, basic safety precautions should always be taken, including the following:

"Read all instructions before using."

DANGER – To reduce the risk of electric shock.

1. The sewing machine should never be left unattended while plugged in. Always unplug the sewing machine from the electrical outlet immediately after using and before cleaning.
2. Always unplug before changing the light bulb. Replace bulb with same type rated 12V 5 watts.

WARNING – To reduce the risk of burns, fire, electric shock, or injury to persons.

1. Do not allow this sewing machine to be used as a toy. Close attention is necessary when the sewing machine is used by or near children.
2. Use this sewing machine only for its intended use as described in this manual. Use only accessories recommended by the manufacturer as contained in this manual.
3. Never operate this sewing machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the sewing machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the sewing machine with any air openings blocked. Keep ventilation openings of the sewing machine and foot control free from the accumulation of lint, dust, and loose cloth.
5. Never drop or insert any object into any opening.
6. Do not use outdoors.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. To disconnect, turn the main switch to the symbol "O" position which represents off, then remove plug from outlet.
9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
10. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
11. Always use the proper needle plate. The wrong plate can cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
14. Switch the sewing machine to the symbol "O" position when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot, and the like.
15. Always unplug the sewing machine from the electrical outlet when removing covers, lubricating, or when making any other user servicing adjustments mentioned in the instruction manual.

"SAVE THESE INSTRUCTIONS"

"This sewing machine is intended for household use."

FOR USERS IN THE UK, EIRE, MALTA AND CYPRUS ONLY.

If your sewing machine is fitted with a three-pin non-rewireable BS plug then please read the following.

IMPORTANT

If the available socket outlet is not suitable for the plug supplied with this equipment, it should be cut off and an appropriate three-pin plug fitted. With alternative plugs an approved fuse must be fitted in the plug.

NOTE
The plug sevred from the main lead must be destroyed as a plug with bared flexible cords is hazardous if engaged in a live socket outlet. In the event of replacing the plug fuse, use a fuse approved by ASTA to BS 1362, i.e. carrying the ASTA mark, rating as marked on plug.

Always replace the fuse cover, never use plugs with the fuse cover omitted.

WARNING
DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER 'E', BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR YELLOW.

The wires in this main lead are coloured in accordance with the following code:

Blue	Neutral
Brown	Live

As the colours of the wiring in the main lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black or blue.

The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red or brown.

CONGRATULATIONS ON CHOOSING A BROTHER COMPUTER SEWING MACHINE

Your machine is the most advanced computerized home use sewing machine available.
To fully enjoy all the features incorporated we suggest that you study this booklet.

PLEASE READ BEFORE USING YOUR SEWING MACHINE

For safe operation

1. Be sure to keep your eye on the needle while sewing. Do not touch the pulley, thread take-up, needle, or other moving parts.
2. Remember to turn off the power switch and unplug the cord when:
   - Operation is completed
   - Replacing or removing the needle or any other parts
   - A power failure occurs during use
   - Maintaining the machine
   - Leaving the machine unattended.
3. Do not store anything on the foot controller.
4. Plug the machine directly into the wall. Do not use extension cords.

For a longer service life

1. When storing your sewing machine, avoid direct sunlight and high humidity locations. Do not store the sewing machine beside a space heater, iron, or other hot objects.
2. Use only neutral soaps or detergents to clean the case. Benzene, thinner, and scouring powders can damage the case and machine, and should never be used.
3. Do not drop or hit the machine.
4. Always consult the operation manual when replacing or installing any assemblies, the presser feet, needle, or other parts to assure correct installation.

For repair or adjustment

In the event a malfunction occurs or adjustment is required, first follow the troubleshooting table in the back of the operation manual to inspect and adjust the machine yourself. If the problem persists, please consult your nearest authorized Brother service center.

CHAPTER 1

BEFORE USE

.....4
PART NAMES 4
OTHER INCLUDED ACCESSORIES 6
OPTIONS 6
SELECTION KEYS 7
Screen messages guide you through each operation. 7
OPERATION BUTTONS 8
Using the operation buttons. 8
POWER SUPPLY 9
USING THE SCREEN KEYS 10
Examples of the keys on LCD 10
About the screen 10
Adjusting the LCD brightness after turning on the power 11
Adjusting the brightness of the LCD. 12
HOW TO USE THE LANGUAGE SELECTION KEY 13
How to clear the language selection 14
BOBBIN WINDING / BOBBIN THREAD SETTING 15
Winding the bobbin and setting the bobbin thread 15
Setting the bobbin 17
UPPER THREADING 18
START/STOP 21
"START/STOP" button 21
Foot controller 21
SELECTING A STITCH (UTILITY STITCHES) .. 22
Selecting a stitch using " " 22
Quick adjustment reference chart for stitch width and stitch length 23
ADJUSTING THE THREAD TENSION 25
Correct tension 25
Loosening the tension 25
Tightening the tension 26
CHANGING THE PRESSER FOOT 27
Change the presser foot according to the LCD message. 27
Removing the Presser Foot Holder (while cleaning, etc.) 27
Feed dog adjustment 28
CHANGING THE NEEDLE 29
Setting the needle securely 29
Checking needle 29
USING "OPERATION GUIDE" 30

CHAPTER 2

1. SEWING

.....31
TRIAL SEWING 31
Sewing by using "UTILITY STITCH" 31
AUTOMATIC REINFORCEMENT STITCHING 33
Cancelling automatic reinforcement stitching 33
AUTOMATIC THREAD CUTTING 34
Cancelling programmed automatic thread cutting 34
UTILITY STITCH SELECTION " " 35
USEFUL SKILLS 37
Sewing corners 37
Sewing folded parts 37
Sewing curves 37
Sewing thick fabric 38
Sewing thin fabric 38
Using the needle plate 39
Free-arm sewing 39

2. UTILITY STITCHES

.....40
STRAIGHT STITCHES 40
Sewing stretch fabrics 41
Changing the stitch length 41
Changing the needle position 41
ZIGZAG STITCHES 42
Overcasting (using a zigzag stitch) 42
Applique (using a zigzag stitch) 42
Patchwork (for crazy quilt) 42
OVERCASTING 43
When using 1, 2 or 4 stitches 43
When using 3, 5 or 6 stitches 43
OVERCASTING (WHEN USING THE SIDE CUTTER) 44
BLIND HEM STITCHES 46
Adjusting the needle drop position 47
BUTTONHOLE STITCHES 48
Order of one cycle 50
Sewing stretch fabrics 50
Buttons that do not fit into the guide plate (Odd-shaped buttons) 51
Changing the stitch length 51
Changing the stitch width 51
BAR TACKING 52
Thick fabrics 53
Changing the bar tack stitch length 53
Changing the bar tack stitch width 53
DARNING 54
Changing the length of the darning stitch 55
Changing the bar tack stitch width 55
Darning stitch cycle 55
TAPE ATTACHING 56
EYELET STITCH 57
Size of eyelet (Actual size) 57
BUTTON SEWING 58
Attaching buttons with four holes 59
Attaching a shank to the button 59
BASTING 60
ZIPPER INSERTION (CENTERED AND SIDE APPLICATION) 61
Centered application 61
Side application 62
DART SEAM 64
GATHERING 65
Pulling out the bobbin thread 66
PINTUCK 67
FLAT FELL SEAM 68
Finished flat fell seam 69
APPLIQUES 70
Sewing the applique around corners 70
APPLIQUE QUILTS 71
SCALLOP STITCH 72
SMOCKING STITCH 73
PATCHWORK STITCH 74
FAGOTING 75
DECORATIVE STITCHING 76
Decorative stitching 76
Shell tacking 76

HEM-STITCH (HEIRLOOM STITCH) 77
"[I]" hem-stitching 77
"[II]" hem-stitching 78
LATERAL SEWING (STRAIGHT/ZIGZAG) 79

3. FONTS AND DECORATIVE STITCHES

..... 81
SELECTING A PATTERN 81
CHARACTER SEWING 82
Combining characters 82
DECORATIVE, SATIN AND CROSS STITCH SEWING 83
SELECTING A DECORATIVE PATTERN 84
Changing the stitching density 84
SELECTING A SATIN STITCH PATTERN 85
SELECTING A CROSS STITCH PATTERN 86
Changing fonts 87
Changing the size 87
Changing the pattern length (elongation) 88
Changing the stitch length and the stitch width 89
Adjusting the stitch length 90
Making step patterns 91
Checking the step pattern 92
Examples of combinations 92
Checking the combined pattern 94
When using the satin stitch 94
MEMORY 95
Saving a pattern combination 95
Recalling a stored pattern combination 96
SEWING 97
Sewing attractive finishes 97
Using a pattern sheet 97
Sewing 98
ADJUSTING STITCH PATTERNS 100

MAINTENANCE

..... 101
CLEANING 101
Cleaning the screen 101
Cleaning the sewing machine surface 101
Cleaning the shuttle 101
CHANGING THE LIGHT BULB 103
RELATED CHART OF SEWING FABRICS, THREAD AND NEEDLE 104

ERROR MESSAGES

..... 105
Warning messages 105
Messages 106
Alarm 106
Troubleshooting 107
Trouble with threads and stitches 108
Trouble with threads and stitches 109

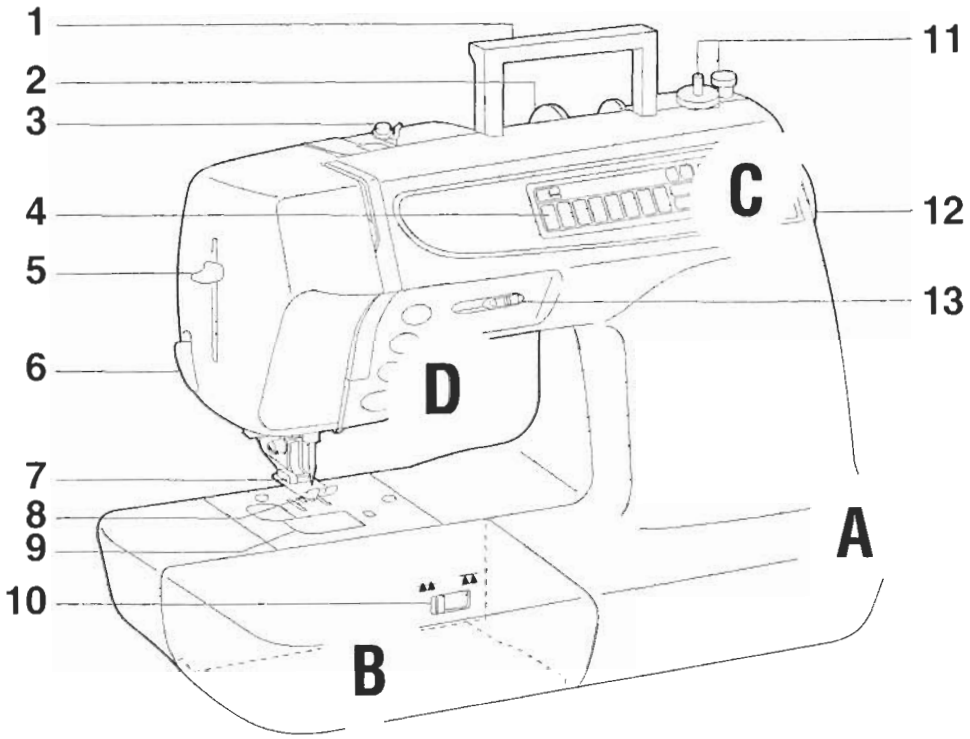
SEWING CHART

..... 110

PATTERNS (PROGRAMMED IN MACHINE)

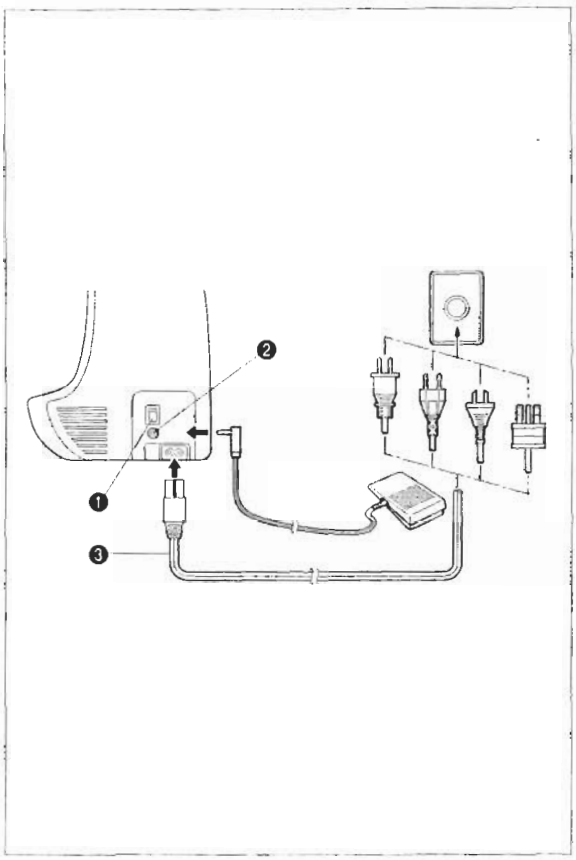
..... 113
Utility stitches 113
Character sewing 113
Decorative stitches 114

PART NAMES



1– Handle
2– Spool cap
3– Thread guide for bobbin winding
4– LCD (liquid crystal display)
5– Needle threader lever
6– Thread cutter
7– Presser foot
8– Feed dog
9– Bobbin cover
10– Feed dog adjustment lever
11– Bobbin winder device
12– Balance wheel
13– Speed range control lever

A– Main Power Switch and Connectors
B– Accessory compartment
C– Selection keys
D– Operation buttons



A. MAIN POWER SWITCH AND CONNECTORS

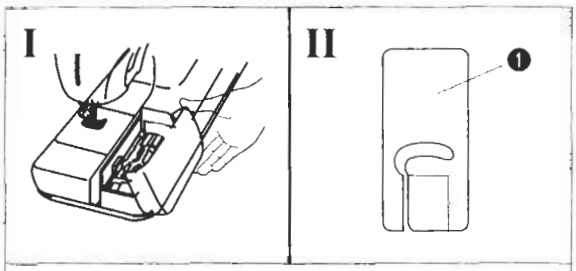
❶ **Main power switch.**
Use to turn on/off the main power.

❷ **Controller jack**
Insert for foot controller operation.

❸ **Power cord**
Use to connect machine to power supply.

CAUTION

- **When leaving the sewing machine unattended, the main switch of the machine must be switched off or the plug must be removed from the socket-outlet.**
- **When servicing the sewing machine, or when removing covers or changing bulbs, the machine or the electrical set must be unplugged.**
- **For U.S.A. only**
  This appliance has a polarized plug (one blade wider than the other). To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way.
  If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.

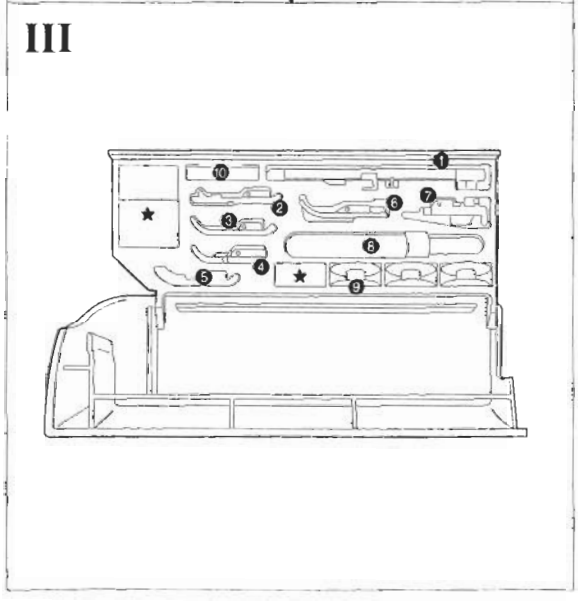


B. FLAT BED ATTACHMENT WITH ACCESSORY COMPARTMENT

I Tilt the lid of the accessory compartment toward you to open.

II **Each presser foot has a symbol.**

❶ **Presser foot symbol**



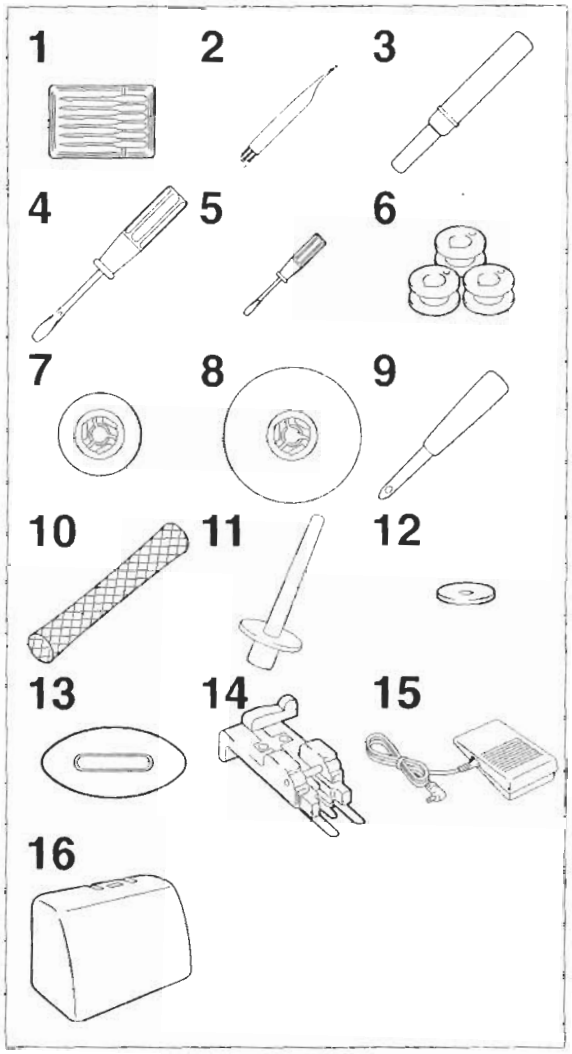
III ACCESSORY LIST

The location of each accessory is shown in figure III.

No.	Part Name	Part Code
❶	Buttonhole foot "A"	X57789-101
❷	Overcasting foot "G"	X51162-001
❸	Monogramming foot "N"	X53840-201
❹	Zipper foot "I"	X59370-051
❺	Space for Zigzag foot "J"	137748-101
❻	Blind stitch foot "R"	X56409-001
❼	Button-sewing foot "M"	130489-001
❽	Seam ripper	X54243-001
❾	Bobbins	136492-101
❿	Needle set	X58358-001

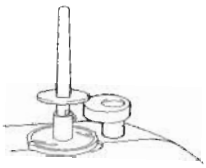
- The areas marked with "★" are empty. No enclosed accessories fit in these areas.
- Always use the plastic bobbin which is supplied with machine or in accessory compartment.
- Always use BROTHER accessories with this machine.

OTHER INCLUDED ACCESSORIES



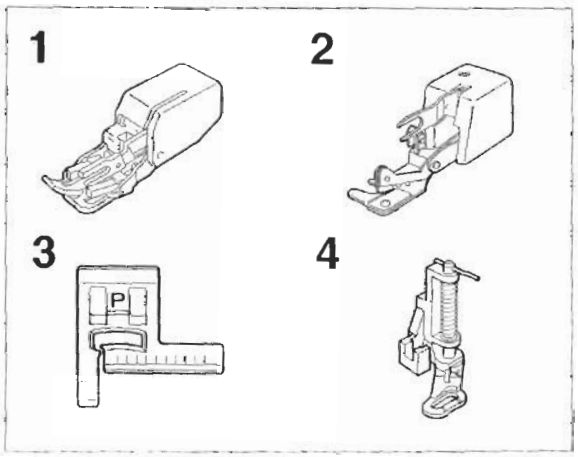
No.	Part Name	Part Code	
		U.S.A.	Others
1	Needle set 90/14: 4 pcs 14 Golden needle (for stretch fabrics): 2 pcs	X58358-001	
2	Cleaning brush	XA4527-001	
3	Seam ripper	X54243-001	
4	Screwdriver (Large)	X55467-051	
5	Screwdriver (Small)	X55468-051	
6	Bobbin (3)	136492-101	
7	Spool cap (Small)	130013-003	
8	Spool cap (Large)	130012-003	
9	Eyelet punch	135793-001	
10	Net*	127610-000	
11	Extra spool pin*	XA3336-051	
12	Spool felt	X57045-001	
13	Disc-shaped screwdriver	XA2005-051	
14	Button fitting foot "M"	130489-001	
15	Foot controller	XA3931-051	
16	Hard case	XA2482-052	

* Always use a thread net with metallic threads.
* If using special threads which wind quickly off the thread spool, place a net on the spool before using.
* If using the walking foot, please refer to the explanatory sheet which is inserted in the instruction book.
* The extra spool pin which is provided as an accessory should be attached to the end of the bobbin winder shaft during use.



Note (For U.S.A. only)
Foot controller: Model N5V
This foot controller can be used for sewing machine model PC-6000.

OPTIONS



1– Walking foot*
Parts code: 184987-001

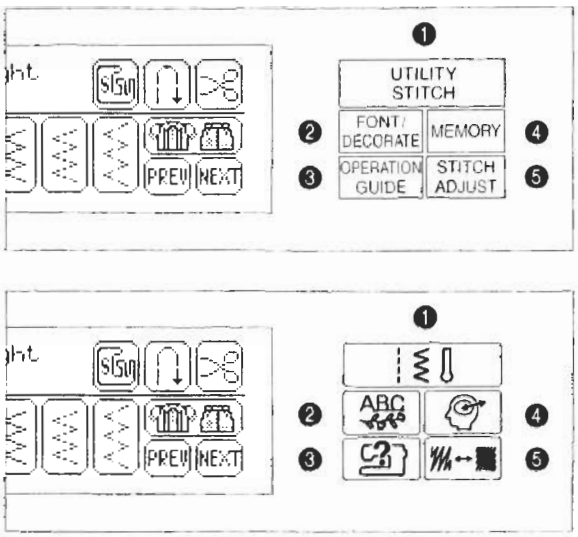
2– Side cutter
Parts code: X81028-001

3– Stitch guide foot "P"
Parts code: X51804-001

4– Quilting foot
Parts code: XA4322-001

SELECTION KEYS

Screen messages guide you through each operation.



C. SELECTION KEYS

Depending on the country of destination, the selection keys may be displayed by means of fonts or by illustrations.

❶ **"UTILITY STITCH" button**
Push this button to sew utility stitches such as straight stitches, overcast stitching or buttonholes.

❷ **"FONT/DECORATIVE STITCH" button**
Push this button to sew alphabetical fonts and patterns such as decorative stitches, satin stitches and cross-stitching.

❸ **"OPERATION GUIDE" button (Refer to page 30.)**
Push this button to see information on how to use machine functions such as upper threading, bobbin winding and bobbin thread setting.

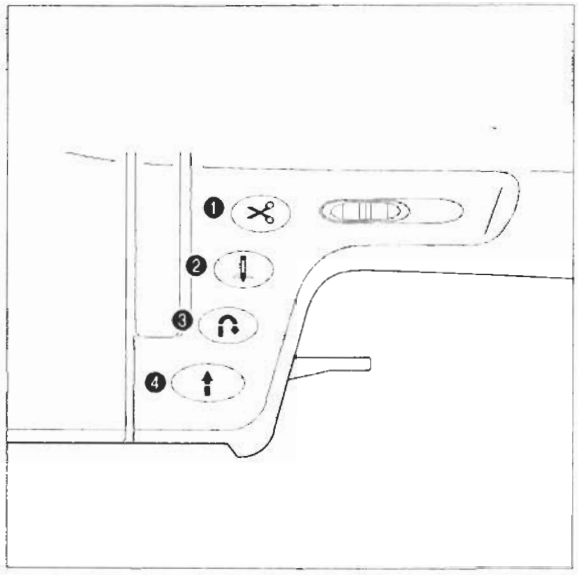
❹ **"MEMORY" button (Refer to page 95.)**
Push this button to store or recall combined patterns.

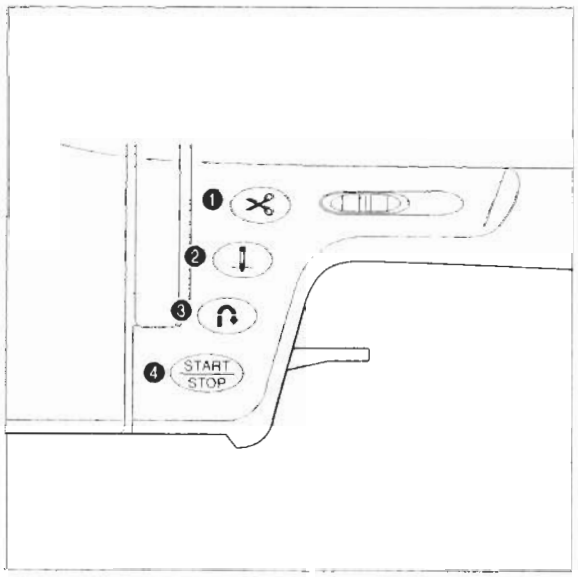
❺ **"STITCH/THREAD ADJUSTMENT" button (Refer to pages 25 and 26.)**
Push this button to change the stitch width and length and the thread tension.

Power Cord- XC6052051

OPERATION BUTTONS

Using the operation buttons.





D. OPERATION BUTTONS

❶ **"THREAD CUTTER" button**
Push this button to automatically cut both the upper thread and the bobbin threads.

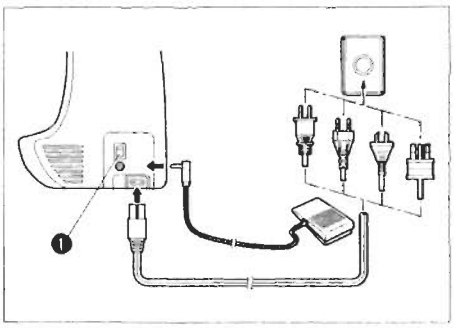
❷ **"NEEDLE POSITION" button**
Push this button to move the needle either up or down. Continue pushing this button to move the needle up and down and sew a few stitches.

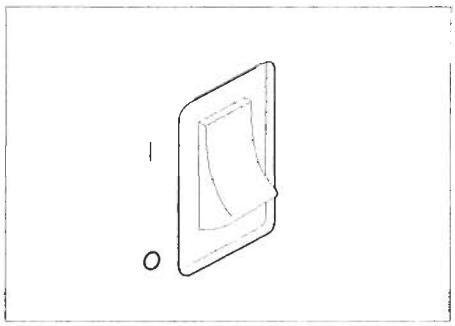
❸ **"REVERSE STITCH" button**
Push this button to sew backwards or in the same place at a slow speed. The reverse stitch function stitches backwards. The reinforcement stitch function sews three stitches at the same position.

❹ **"START/STOP" button**
This lighted button changes to green when the machine is ready to start or while it is sewing. If the machine cannot be started, this button changes to red. In addition, this button lights up in orange while the bobbin thread is winding onto the bobbin (the bobbin winder shaft is moved to the right).

* Sewing continues at a slow speed while the button is pushed.
* The needle drops to its lowest position when the machine is stopped.

POWER SUPPLY



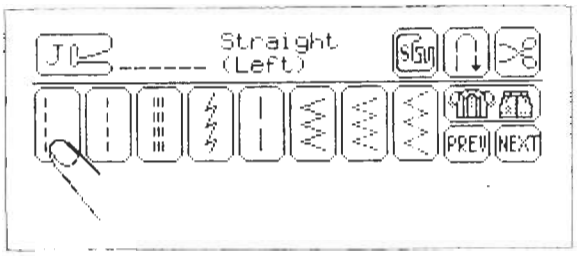


1. Insert the plug into a wall outlet.

❶ **Main power switch**

2. Set the main power switch to " I ".
3. To turn off the sewing machine, set the main power switch to " O ".

USING THE SCREEN KEYS



Touch a key on the screen with your finger to select the pattern which appears inside the key or to start the function or operation indicated inside the key.

CAUTION
Be sure to touch the key with your finger only. Never use a pointed instrument such as a sharp pencil or a screwdriver or a hard object to touch the key.
Furthermore, do not press down too hard on the screen, otherwise problems may result.

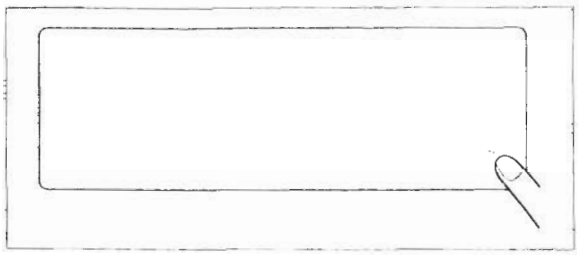
Examples of the keys on LCD

"PREV":
Touch this key to return the precious screen.
"NEXT":
Touch this key to move the next screen.
"CHECK":
If an error message appears, touch this to return to the original screen.
"END":
Touch this key to stop using the function.

About the screen

Notes
- All or parts of the screen may become darker or lighter at times because of changes in the ambient temperature around the screen. This is normal and is not the sign of a malfunction. Adjust the screen if it is difficult to read. Please refer to instructions on the next page for LCD adjustments.
- The screen may be dark, immediately after the power is turned on. This is a feature of the light which illuminates the screen, and is not the sign of a malfunction. The screen will return to its normal level of brightness after approximately 10 minutes.

Adjusting the LCD brightness after turning on the power



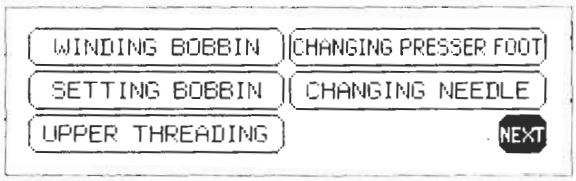
1. While touching the LCD (anywhere is OK), turn the power off and then back on again.

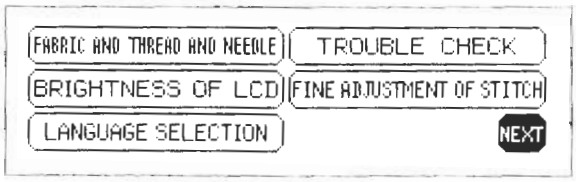
* The "START/STOP" button will not illuminate at this time.

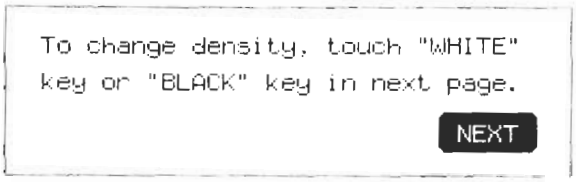
2. Push either "OPERATION GUIDE" or "STITCH/THREAD ADJUSTMENT" to make the LCD darker each time one of the buttons is pushed. Push "UTILITY STITCH" to make the LCD lighter.

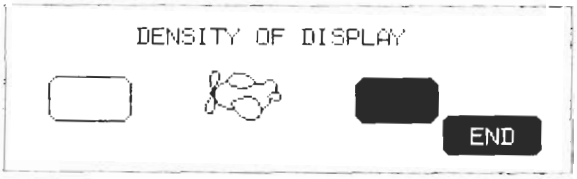
3. After you have finished adjusting, turn the power off and back on again once more.

Adjusting the brightness of the LCD.





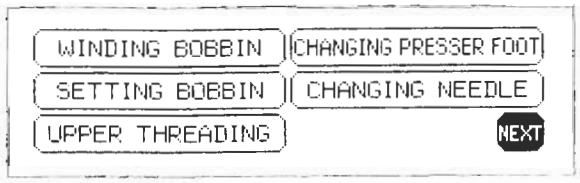


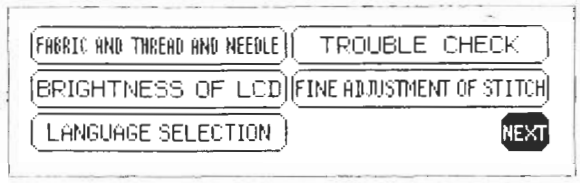


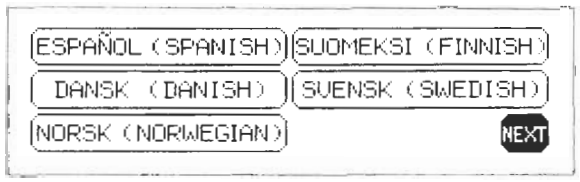
Adjusting the LCD brightness during operation

1. Push the "OPERATION GUIDE" button.
2. Touch the "NEXT" key.
3. Touch the "BRIGHTNESS OF LCD" key.
4. Touch the "NEXT" key.
5. If the LCD is too dark, touch the "WHITE" key. The LCD becomes lighter each time the key is touched.
6. If the LCD is too light, touch the "BLACK" key. The LCD becomes darker each time the key is touched.
7. After making the adjustment, touch "END".

HOW TO USE THE LANGUAGE SELECTION KEY







Example: To change the display language to Spanish.

1. Touch the "OPERATION GUIDE" key.
2. Touch the "NEXT" key.
3. Touch the "LANGUAGE SELECTION" key.
4. Touch the "NEXT" key.
5. Touch the "ESPAÑOL (SPANISH)" key.

How to clear the language selection

Example: To change the display language from Spanish back to English

1. Touch the "OPERATION GUIDE" key.
2. Touch the "NEXT" key.
3. Touch the "LANGUAGE SELECTION" key.
4. Touch the "ENGLISH" key.
   This will cancel the Spanish language setting and return all screen displays and error messages to the English language.

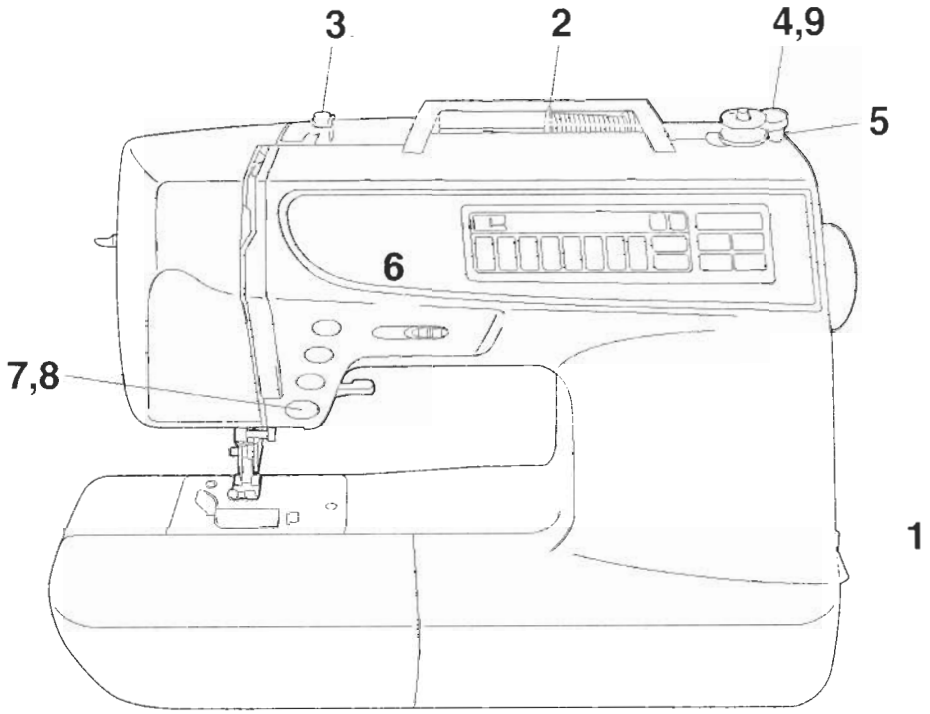
CAUTION

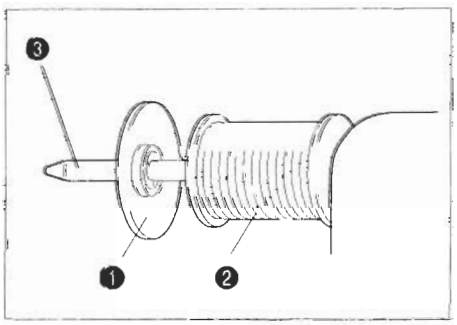
- **This function can not be used as a translation function.**
- **If the power supply is turned off, the current language setting will be retained and will not be cleared.**

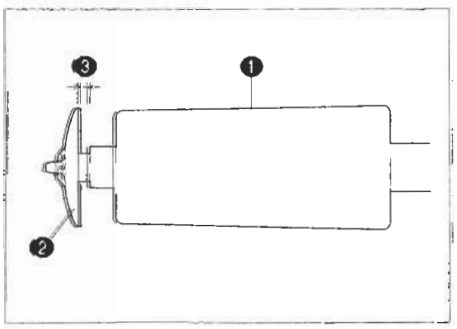
BOBBIN WINDING / BOBBIN THREAD SETTING

Winding the bobbin and setting the bobbin thread

CAUTION
Be sure to use the specified bobbin (part code 136492-101). Use of a different part may result in injuries or damage.







1. Connect the machine to the power supply and turn on the main power.

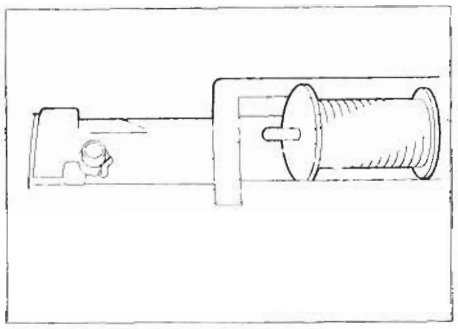
2. Set the thread spool. The thread end should come from the bottom front of the spool. The spool cap closest to the thread spool size should be used to hold the spool securely on the spool pin.

❶ Spool cap
❷ Spool
❸ Spool pin

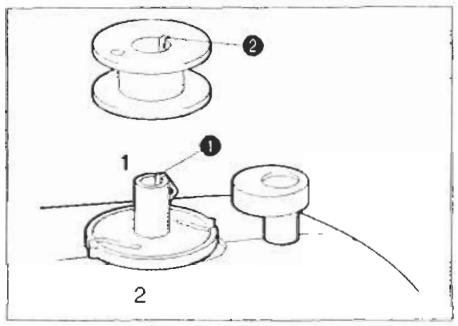
* The spool cap should be pushed on as far as it will go.

Note
If using a fine thread such as cross wound thread, slightly separate the spool cap (small) from the thread on the spool before using.

❶ Cross wound thread
❷ Spool cap (small)
❸ Gap



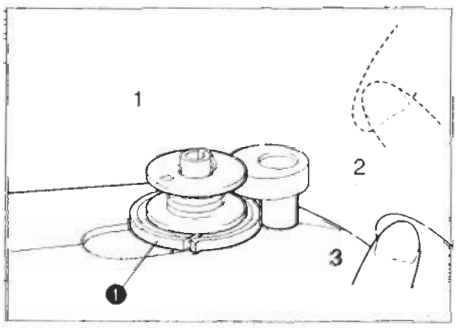
3. Pass the thread through the thread guide as shown by the arrows.



4. Place the bobbin on the bobbin winder shaft. Push the bobbin winder shaft to the right.

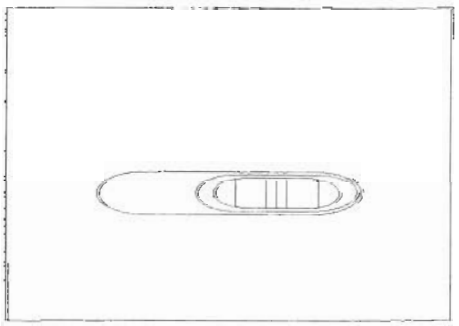
❶ **Spring on the shaft**
❷ **Groove of the bobbin**

* Align the groove of the bobbin with the spring on the shaft.



5. Wind the thread clockwise around the bobbin four or five times, pass the end of the thread through the slit in the bobbin winder seat, and then pull the thread in the direction shown in the illustration. Use the cutter to cut the thread.

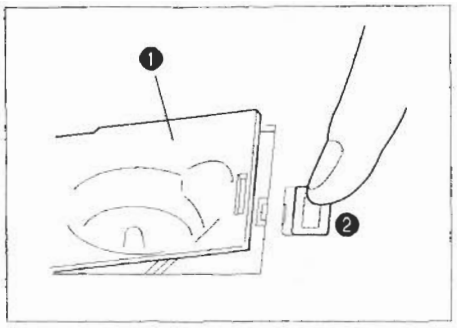
❶ **Bobbin winder seat**



6. Slide the speed range control lever to its maximum (as far to the right as possible).
7. Push the "START/STOP" button. The machine will stop automatically when the bobbin is full.
8. After the bobbin has stopped moving, push the "START/STOP" button to stop the machine.
9. Cut the thread, slide the bobbin winder shaft to the left and remove the bobbin.

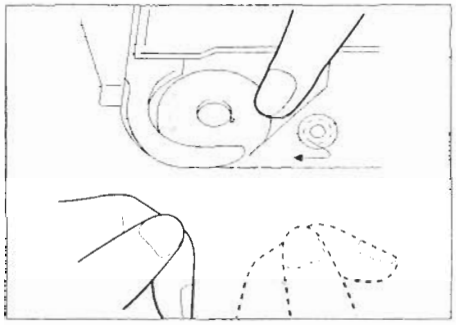
Note
Immediately after winding the bobbin, it is normal to hear the sound of the clutch engaging when beginning to sew or manually turning the balance wheel.

Setting the bobbin

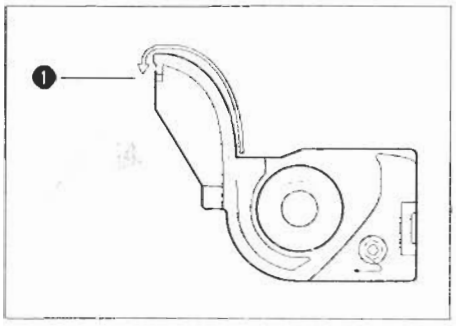


1. Slide open the bobbin cover.

1 Bobbin cover
2 Bobbin cover release button

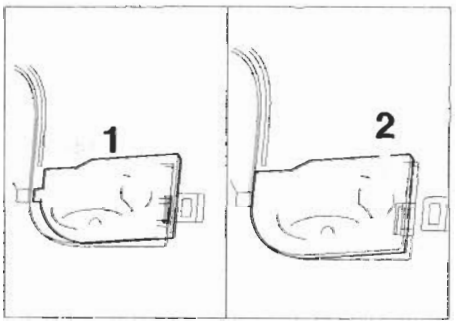


2. Insert the bobbin into the shuttle with the thread direction as noted in the diagram.



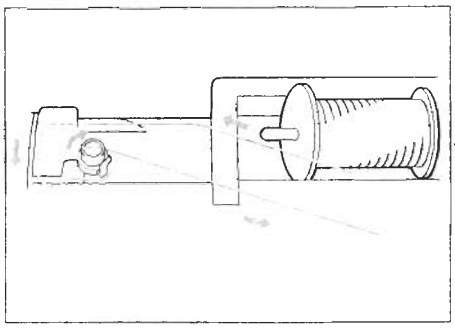
3. Guide the thread end through the slit, then pull the thread toward you to cut off any excess thread.

1 Built-in thread cutter

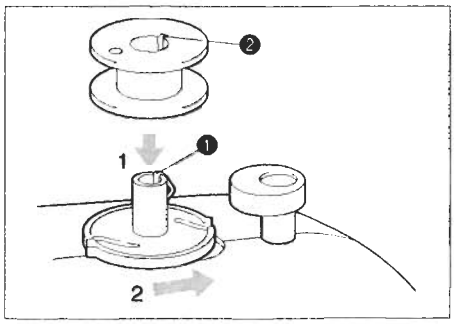


4. Close the bobbin cover by placing the left end in place and pressing down lightly on the right end so that it snaps into place.

* Sewing can begin without drawing up bobbin thread.



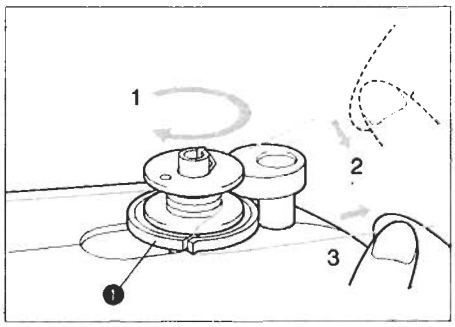
3. Pass the thread through the thread guide as shown by the arrows.



4. Place the bobbin on the bobbin winder shaft. Push the bobbin winder shaft to the right.

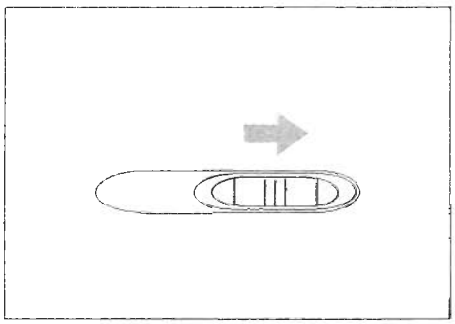
❶ **Spring on the shaft**
❷ **Groove of the bobbin**

* Align the groove of the bobbin with the spring on the shaft.



5. Wind the thread clockwise around the bobbin four or five times, pass the end of the thread through the slit in the bobbin winder seat, and then pull the thread in the direction shown in the illustration. Use the cutter to cut the thread.

❶ **Bobbin winder seat**

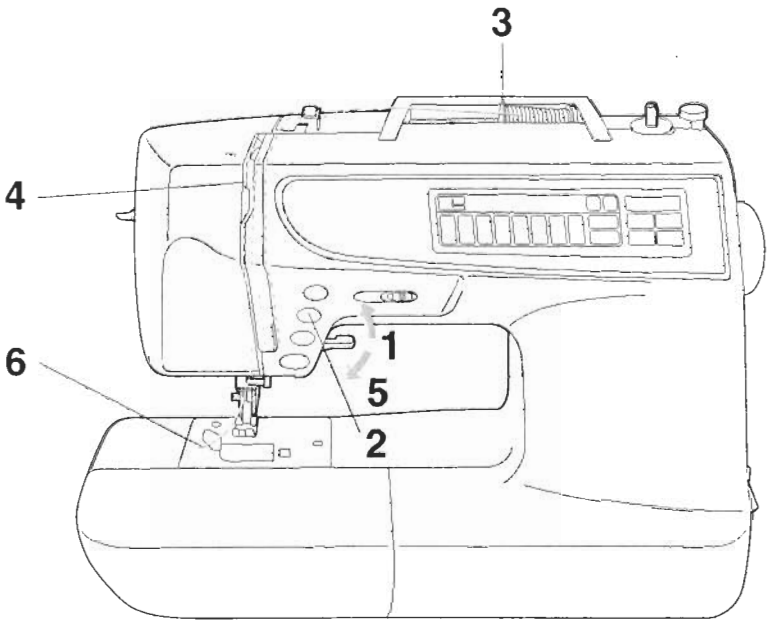


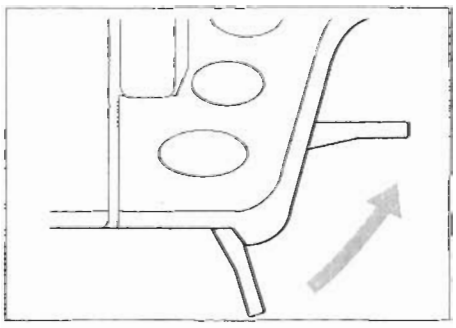
6. Slide the speed range control lever to its maximum (as far to the right as possible).
7. Push the "START/STOP" button. The machine will stop automatically when the bobbin is full.
8. After the bobbin has stopped moving, push the "START/STOP" button to stop the machine.
9. Cut the thread, slide the bobbin winder shaft to the left and remove the bobbin.

Note
Immediately after winding the bobbin, it is normal to hear the sound of the clutch engaging when beginning to sew or manually turning the balance wheel.

UPPER THREADING

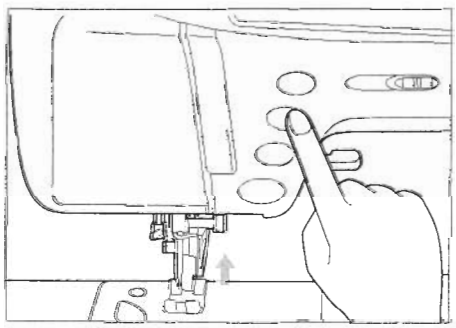
Note
When threading the sewing machine, be sure that a presser foot mentioned in this Operation Manual is installed.



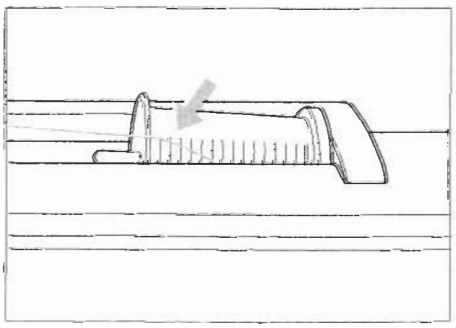


1. Raise the presser foot lever. (If the presser foot is not raised, the upper thread cannot be threaded.)

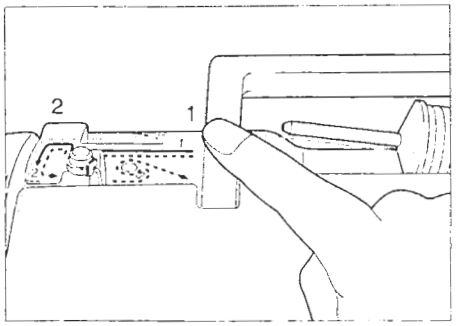
Note
In order to ensure that the upper threading is done correctly, this sewing machine is equipped with an upper threading shutter which prevents upper threading or needle threading while the presser foot is lowered.



2. Push the "NEEDLE POSITION" button to raise the needle.



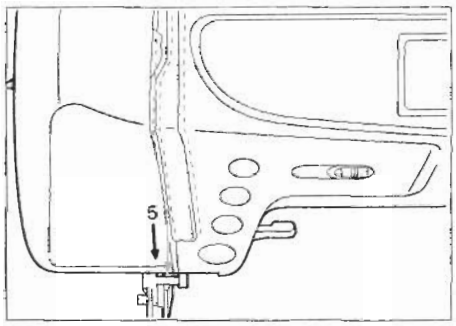
3. Place the spool of thread on the spool pin so that the thread comes from the front of the spool.

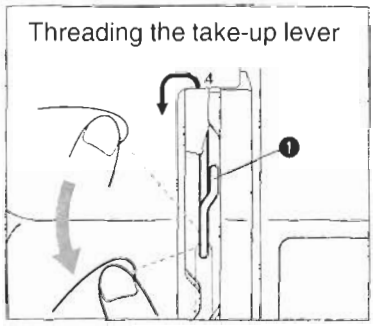


4. While holding the end of the thread with your left hand, pass the thread through the guides in the order shown by the numbers.

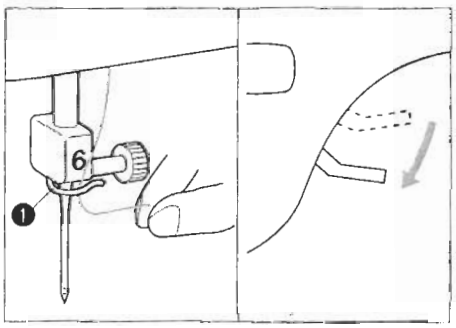
Note

- If the thread is pushed down at 1 to make it taut, it can be passed around the other thread guides more easily.
- Incorrectly feeding the thread will result in faulty sewing.





❶ **Thread take-up lever**



5. Lower the presser foot.
6. Guide the thread through the wire loop and thread through needle eye.

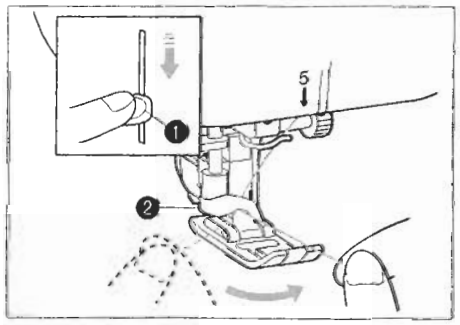
❶ **Wire loop**

* You do not need to pull the bobbin thread up before you start sewing.

7. Pass the thread underneath the presser foot and pull it out from the rear of the machine by about 5 cm.

Note

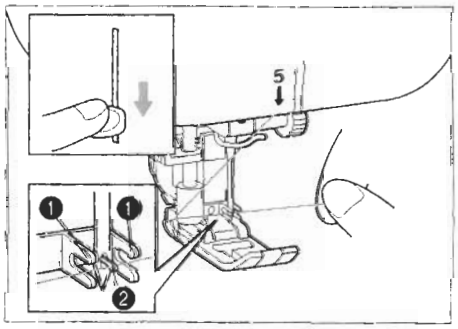
Always raise the presser foot before removing the upper thread from the machine or damage may occur to the auto thread tension unit.



8. When using the auto-threading device, gently pull the thread towards you.

❶ **Needle threader lever**
❷ **Guide (Large hook)**

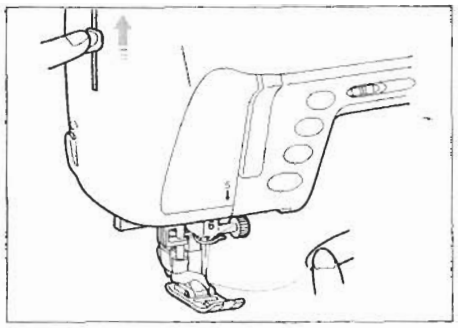
* Lowering the presser foot will engage the automatic tension and will allow you to grip the thread as you proceed.



9. Lower the needle threader lever all the way down using your left index finger. Check that the thread is held by the guide (large hook) and that the third hook on the needle threader has passed through the eye of the needle.

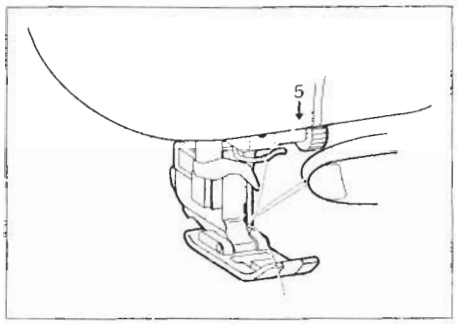
❶ **Second set of hooks**
❷ **Third hook**

10. As you lower the needle threader lever, pull the thread to the left and catch it on the large hook. When the needle threader lever is in the lowest position, pull the thread in front of the needle's eye and catch it on the third hook.



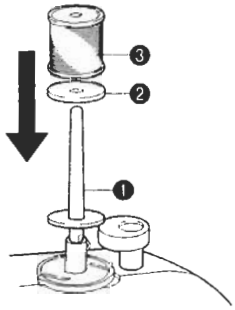
* Rotating your right hand slightly to check that the thread is engaged.

11. While gently holding the thread, raise the needle threader lever.



12. Pull the thread towards the rear to finish the upper threading.
13. Pass the thread underneath the presser foot and pull it out from the rear of the machine by about 5 cm.

USING THE EXTRA SPOOL PIN AND THE NET



Extra spool pin

Use when embroidering with metallic thread.

1. Insert the extra spool pin onto the end of the bobbin winder shaft.
2. Install the spool felt and the thread spool in that order, and then thread the upper thread.

❶ Insert the extra spool pin into the end of the bobbin winder shaft
❷ Spool felt
❸ Thread spool

* When setting the thread spool, set it so that the thread winds off from the front of the spool.
* If using metallic thread, we recommend that you use a 90/14 home sewing machine needle and a thread net.

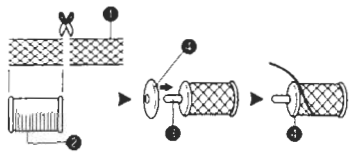
Note

This method keeps the thread from twisting as it comes off the spool pin.

Net

If using special threads which wind quickly off the thread spool, attach a net to the spool before using.

* Cut the net to match the size of the spool.



❶ Net
❷ Thread spool
❸ Spool pin
❹ Spool cap

Depending on the model, the net may be available as an optional part.

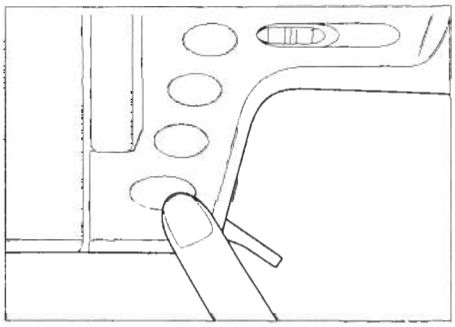
Needle	Thread (cotton)
65/9	#30, 50, 60
75/11	#30
90/14	#30
100/16	#20

Note

The auto-threading device cannot be used with the combinations shown at left.
Transparent nylon thread can be used regardless of the chart providing needle used in 90/14 to 100/16.

START/STOP

"START/STOP" button

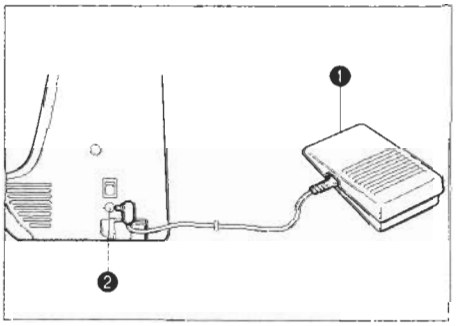


1 Place the fabric under the presser foot, lower the presser foot, and then push the lighted "START/STOP" button. The sewing machine starts sewing.

* Slide the speed range control lever to adjust the sewing speed.
* Hold down the "START/STOP" button to sew at a slow speed.

2. Push the "START/STOP" button to stop the machine.

Foot controller



1. With the sewing machine turned off, insert the foot controller plug into its jack on the sewing machine.

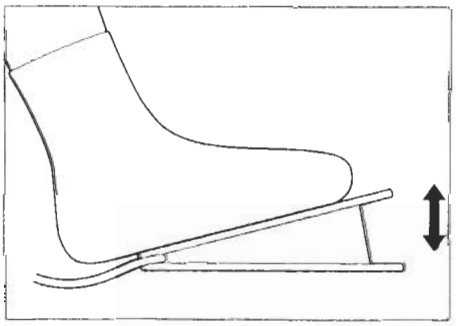
❶ **Foot controller**
❷ **Jack for the foot controller**

2. Turn on the sewing machine, then slowly depress the foot controller to start sewing.

* The speed setting of the speed range control lever is the foot controller's maximum sewing speed.

3. Release the foot controller to stop the sewing machine.

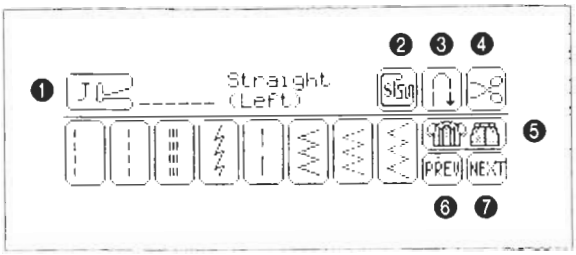
* When the foot controller is being used, the "START/STOP" button has no effect on the sewing.



Note (For U.S.A. only)
Foot controller: Model N5V
This foot controller can be used for sewing machine model PC-6000.

SELECTING A STITCH (UTILITY STITCHES)

This sewing machine is equipped with 53 built-in utility stitches.

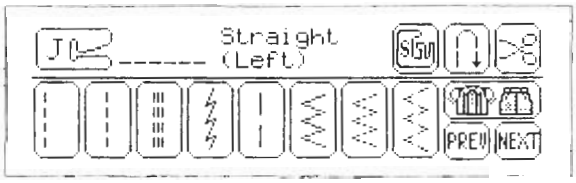


Touch "PREV" or "NEXT" until the desired stitch is displayed on the screen, then touch the key for the stitch that you wish to use.

❶ **Attach the presser foot that is indicated by this presser foot code.**
❷ **Touch this key to use the side cutter.**
❸ **Touch this key before sewing to automatically make reverse stitches (reinforcement stitches) at the beginning and end of sewing. (Refer to page 33.)**
❹ **Touch this key before sewing to automatically cut the thread at the end of sewing. (Refer to page 34.)**
❺ **An advice screen will appear if you touch this key while sewing.**
❻ **Touch this key to return to the previous screen.**
❼ **Touch this key to move to the next screen.**

Selecting a stitch using " [icon] "

We recommend using " [icon] " to select stitches for beginning sewers. For example, when the correct buttonhole stitch or the buttonhole sewing method is not known, simply touch " [icon] ", select the most appropriate stitch for the sewing application, then follow the operating procedures that appear on the display.



Example: For sewing a buttonhole

1. Touch the " [icon] " key on the Utility Stitch screen.

2. Touch the "BUTTONHOLE" key.

3. Touch the stitch key for the sewing application. The operating procedures for the selected stitch are displayed.

Quick adjustment reference chart for stitch width and stitch length

STITCH		Stitch width [mm (inch.)]		Stitch length [mm (inch.)]	
		Auto.	Manual	Auto.	Manual
Straight (Left)		[0.0 (0.0)]	0.0–7.0 (0–9/32)	2.5 (3/32)	0.2–5.0 (1/128–13/64)
Straight (Middle)		–	–	2.5 (3/32)	0.2–5.0 (1/128–13/64)
Stretch stitch		[0.0 (0.0)]	0.0–7.0 (0–9/32)	2.5 (3/32)	1.5–2.5 (1/16–3/32)
		1.0 (3/64)	1.0–3.0 (3/64–1/8)	2.5 (3/32)	1.0–4.0 (3/64–5/32)
Zigzag		3.5 (1/8)	0.0–7.0 (0–9/32)	1.4 (1/16)	0.0–4.0 (0–5/32)
Elastic zigzag		5.0 (13/64)	1.5–7.0 (1/16–9/32)	1.0 (3/64)	0.2–4.0 (1/128–5/32)
		5.0 (13/64)	1.5–7.0 (1/16–9/32)	1.0 (3/64)	0.2–4.0 (1/128–5/32)
Overcasting		3.5 (1/8)	2.5–5.0 (3/32–13/64)	2.0 (5/64)	1.0–4.0 (3/64–5/32)
		5.0 (13/64)	2.5–5.0 (3/32–13/64)	2.5 (3/32)	1.0–4.0 (3/64–5/32)
		5.0 (13/64)	0.0–7.0 (0.0–9/32)	2.5 (3/32)	0.5–3.0 (1/64–1/8)
		5.0 (13/64)	3.5–5.0 (1/8–13/64)	2.5 (3/32)	1.0–4.0 (3/64–5/32)
		5.0 (13/64)	0.0–7.0 (0.0–9/32)	2.5 (3/32)	0.5–3.0 (1/64–1/8)
		4.0 (5/32)	0.0–7.0 (0.0–9/32)	4.0 (5/32)	1.0–4.0 (3/64–5/32)
Blind hem stitch		0.0 (0.0)	+3 – –3	2.0 (5/64)	1.0–3.5 (3/64–1/8)
Buttonhole		5.0 (13/64)	3.0–5.0 (1/8–13/64)	0.4 (1/64)	0.3–1.0 (1/64–3/64)
		5.0 (13/64)	3.0–5.0 (1/8–13/64)	0.4 (1/64)	0.2–1.0 (1/128–3/64)
		6.0 (1/4)	3.0–6.0 (1/8–1/4)	1.0 (3/64)	0.5–2.0 (1/64–5/64)
		6.0 (1/4)	3.0–6.0 (1/8–1/4)	1.5 (1/16)	1.0–3.0 (3/64–1/8)
		7.0 (9/32)	3.0–7.0 (1/8–9/32)	0.5 (1/64)	0.3–1.0 (1/64–3/64)

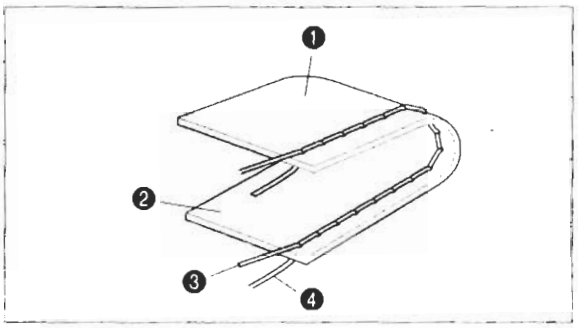
STITCH		Stitch width [mm (inch.)]		Stitch length [mm (inch.)]	
		Auto.	Manual	Auto.	Manual
Darning		7.0 (9/32)	2.5–7.0 (3/32–9/32)	2.0 (5/64)	0.4–2.5 (1/64–2/32)
Bar tack		2.0 (5/64)	1.0–3.0 (3/64–1/8)	0.4 (1/64)	0.3–1.0 (1/64–3/64)
Tape attaching		4.0 (5/32)	0.0–7.0 (0.0–9/32)	1.0 (3/64)	0.2–4.0 (1/128–5/32)
Eyelet		7.0 (9/32)	7.0 6.0 5.0 (9/32–13/64)	7.0 (9/32)	7.0 6.0 5.0 (9/32–13/64)
Button sewing		3.5 (1/8)	2.5–4.5 (3/32–3/16)	–	–
Basting		0.0 (0.0)	0.0–7.0 (0–9/32)	20.0 (13/16)	5.0–30.0 (13/64–1 13/64)
Applique		3.5 (1/8)	2.5–5.0 (3/32–13/64)	2.5 (3/32)	1.6–2.5 (1/16–3/32)
		1.5 (1/16)	0.5–3.5 (1/64–1/8)	1.4 (1/16)	0.8–4.0 (1/32–5/32)
Scallop		5.0 (13/64)	2.5–7.0 (3/32–9/32)	0.4 (1/64)	0.1–1.0 (1/128–3/64)
Smocking stitch		5.0 (13/64)	1.5–7.0 (1/16–9/32)	1.6 (1/16)	0.2–4.0 (1/128–5/32)
Patchwork stitch		5.0 (13/64)	2.5–7.0 (3/32–9/32)	2.5 (3/32)	1.0–2.5 (3/64–3/32)
		4.0 (5/32)	0.0–7.0 (0.0–9/32)	1.2 (3/64)	0.2–4.0 (1/128–5/32)
		5.0 (13/64)	0.0–7.0 (0.0–9/32)	1.2 (3/64)	0.2–4.0 (1/128–5/32)
Fagoting		5.0 (13/64)	0.0–7.0 (0.0–9/32)	2.5 (3/32)	2.5–3.0 (3/32–1/8)
		5.0 (13/64)	2.5–7.0 (3/32–9/32)	2.5 (3/32)	1.0–2.5 (3/64–3/32)

STITCH		Stitch width [mm (inch.)]		Stitch length [mm (inch.)]	
		Auto.	Manual	Auto.	Manual
Decorative stitch		4.0 (5/32)	0.0–7.0 (0.0–9/32)	2.5 (3/32)	1.0–4.0 (3/64–5/32)
		4.0 (5/32)	0.0–7.0 (0.0–9/32)	3.0 (1/8)	2.0–4.0 (5/64–5/32)
		5.5 (7/32)	0.0–7.0 (0.0–9/32)	1.6 (1/16)	1.0–4.0 (3/64–5/32)
		3.5 (1/8)	0.0–7.0 (0.0–9/32)	1.6 (1/16)	0.2–4.0 (1/128–5/32)
		0.0 (0)	0.0–7.0 (0.0–9/32)	2.5 (3/32)	1.0–4.0 (3/64–5/32)
		5.0 (13/64)	1.5–7.0 (1/16–9/32)	1.0 (3/64)	0.2–4.0 (1/128–5/32)
Lateral sewing (Straight)		–	–	–	–
		–	–	–	–
Lateral sewing (Zigzag)		–	–	–	–
		–	–	–	–
Heirloom		6.0 (1/4)	1.5–7.0 (1/16–5/32)	2.5 (3/32)	1.5–4.0 (1/16–5/32)
		5.0 (13/64)	2.0–7.0 (1/16–5/32)	1.6 (1/16)	1.0–4.0 (3/64–5/32)
		5.0 (13/64)	1.5–7.0 (1/16–5/32)	4.0 (5/32)	1.5–4.0 (1/16–5/32)
		3.5 (1/8)	1.5–7.0 (1/16–5/32)	3.0 (1/8)	1.6–4.0 (1/16–5/32)
		5.0 (13/64)	3.0–7.0 (1/8–5/32)	3.5 (1/8)	2.0–4.0 (5/64–5/32)

*–: Non-adjustable

ADJUSTING THE THREAD TENSION

Correct tension



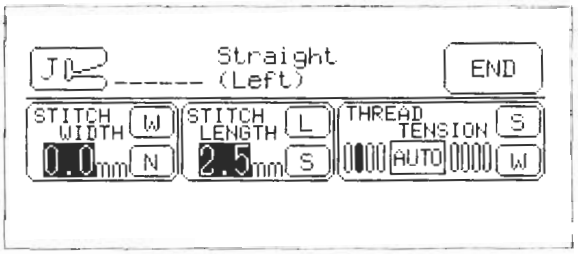
The thread tension is set to automatically adjust for general sewing applications. (Refer to the Fabric/Thread/Needle Combination Chart on page 104.) However, in the following cases, push "STITCH/THREAD ADJUSTMENT" to adjust the thread tension as desired.

* when using special thread or sewing on special fabric
* when sewing gathers
* when the automatic settings do not give the desired result

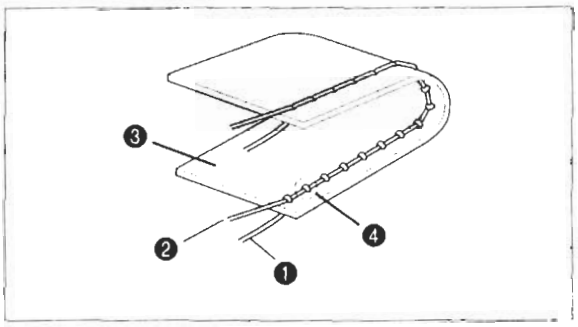
The upper thread and the bobbin thread should cross at about the center of the fabric. If the thread tension is incorrectly set, flat attractive seams will not be sewn or the fabric will pucker.

❶ **Reverse side**
❷ **Surface**
❸ **Upper thread**
❹ **Bobbin thread**

Loosening the tension

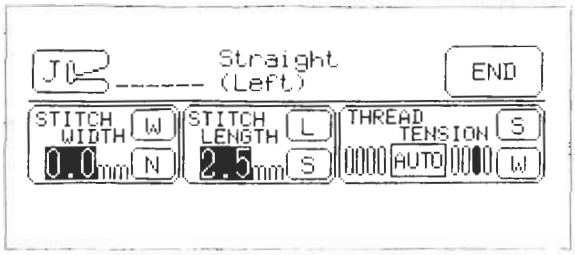


Push the "STITCH/THREAD ADJUSTMENT" button, then touch " [W] " key. The upper thread becomes weaker each time the key is touched.

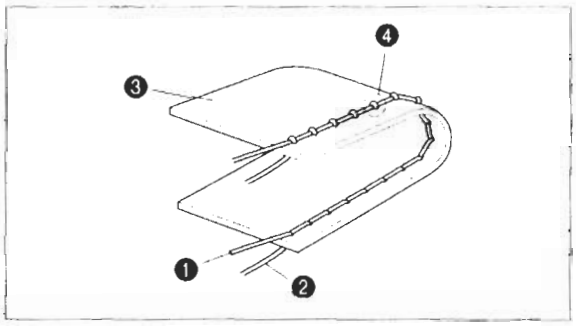


❶ **Bobbin thread**
❷ **Upper thread**
❸ **Surface**
❹ **If the upper thread is too strong, locks appear on the surface of the fabric.**

Tightening the tension



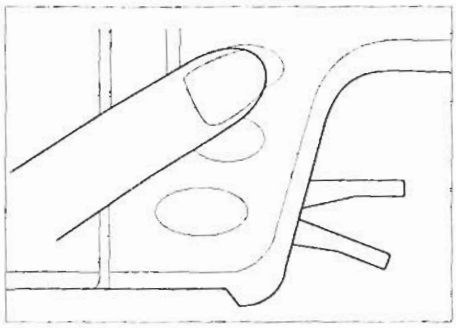
Push the "STITCH/THREAD ADJUSTMENT" button, then touch the " [S] " key. The upper thread becomes stronger each time the key is touched.



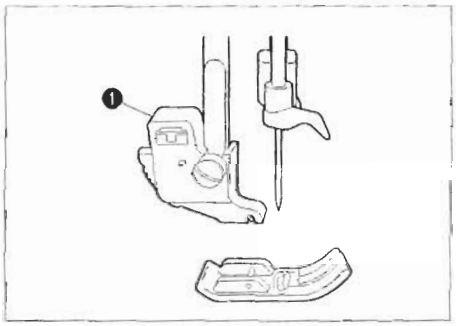
❶ **Upper thread**
❷ **Bobbin thread**
❸ **Reverse side**
❹ **If the upper thread is too weak, locks appear on the reverse side of the fabric.**

CHANGING THE PRESSER FOOT

Change the presser foot according to the LCD message.

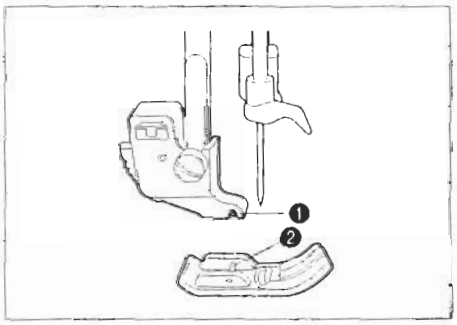


1. Push the "NEEDLE POSITION" button to raise the needle, and then turn off the power.
2. Raise the presser foot lever.



3. Press the black button located at the back of the presser foot holder to release the foot.

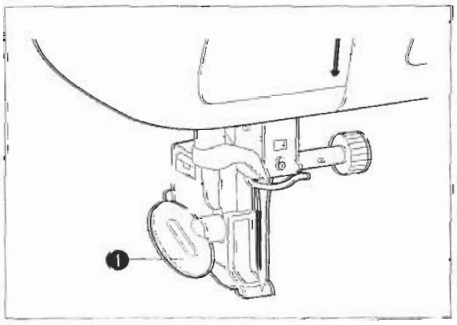
❶ **Presser foot holder**



4. Place the presser foot pin directly below the holder-end and lower the presser foot lever to attach the presser foot.

❶ **Holder-end**
❷ **Foot pin**

Removing the Presser Foot Holder (while cleaning, etc.)

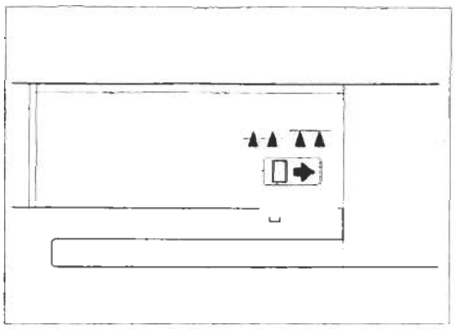


Loosen the presser foot holder screw, then pull the presser foot holder down to remove it.

Note
When reattaching the presser foot holder, first attach presser foot to the presser foot holder. Then, lower the presser foot lever, install the presser foot holder and securely tighten the presser foot holder screw. The thread tension may be inaccurate if the presser foot holder is incorrectly attached.

❶ **Disc-shaped screwdriver**

Feed dog adjustment

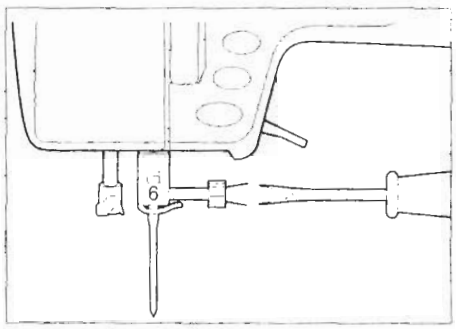


With the accessory compartment off the machine, the feed dog adjustment lever can be seen on the base of the sewing machine. Sliding the lever to the right will lower the feed dogs. Feed dogs are lowered during button sewing as well.
If you are continuing to sew, slide the lever to the left and the feed dogs will raise.

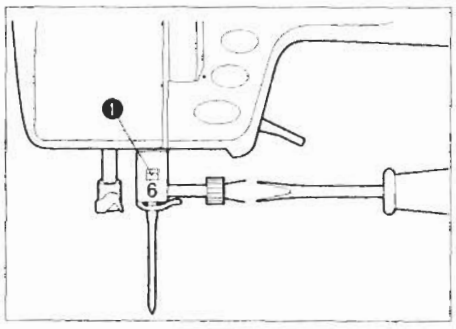
The feed dogs will not raise if the balance wheel does not turn, even if the lever is slid to the left.

CHANGING THE NEEDLE

Setting the needle securely



1. Turn off the power and lower the presser foot.
2. Loosen the screw with a screwdriver.
3. Pull out the needle.

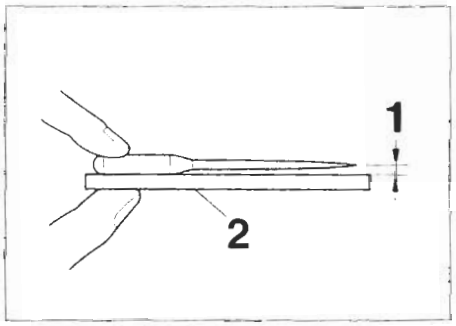


4. With the flat side of the needle facing the back, insert the needle as far as it will go against the needle stopper. Fasten the screw securely with a screwdriver.

❶ Needle stopper

5. Turn the power on.

Checking needle

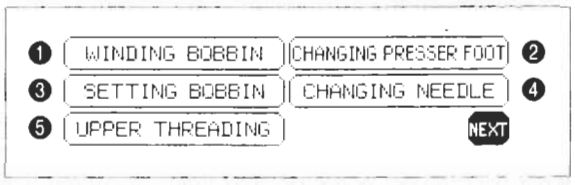


1. Place the needle on a flat surface and check whether the space is parallel or not.
2. Flat surface
   (Needle plate, glass, ruler, etc.)
   If the space is not parallel then the needle is bent and should be thrown away to prevent damage to your project or to the machine.

USING "OPERATION GUIDE"

The procedures that appear on the display are based on the information in this manual.
Pressing "OPERATION GUIDE" shows basic operating procedures such as bobbin winding and upper threading on the display allowing you quickly and easily operate the sewing machine.

Example: For bobbin setting



1. Push "OPERATION GUIDE".

❶ Touch this key to find out how to wind the bobbin thread.
❷ Touch this key to find out how to replace the presser foot.
❸ Touch this key to find out how to set the bobbin thread.
❹ Touch this key to find out how to replace the needle.
❺ Touch this key to find out how to thread the upper thread.

2. Touch "BOBBIN SETTING". The bobbin setting procedures appear on the display.

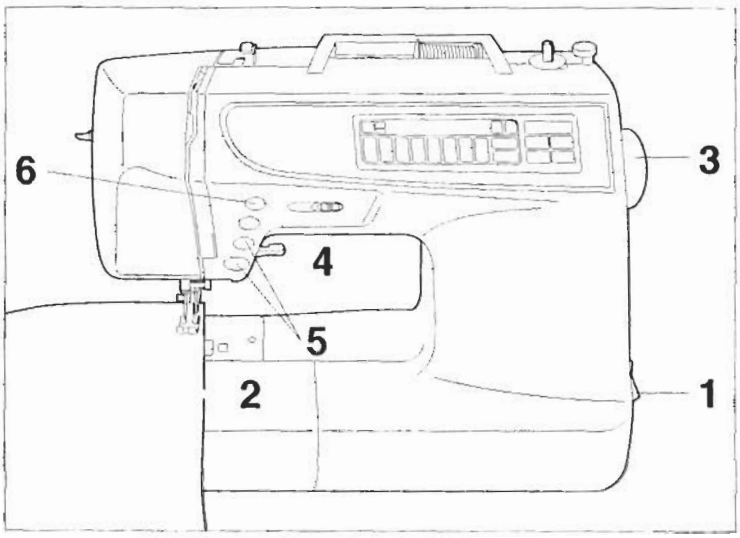
3. Touch "NEXT" to display the next part of the procedure.

Follow the procedure to set the bobbin correctly.

4. Touch "END" to return to the main screen.

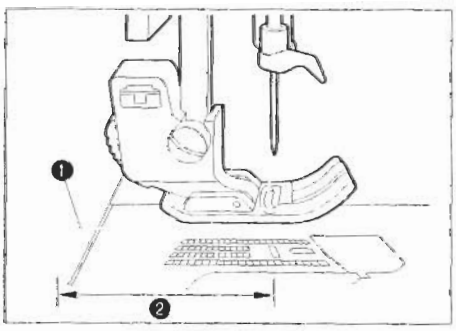
TRIAL SEWING

Sewing by using "UTILITY STITCH"



CAUTION

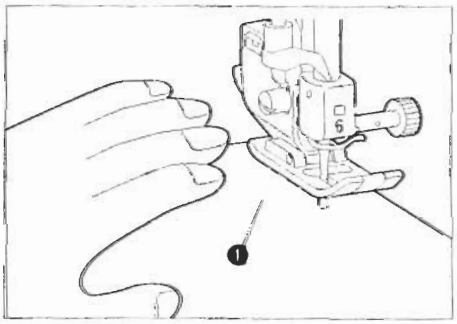
- **Be aware of the needle at all times while sewing, and keep your hands away from all moving parts such as the needle, balance wheel and thread take-up lever, otherwise injury may result.**
- **Do not pull or push the fabric too hard while sewing, otherwise injury may result.**
- **Never use bent needles. Such needles can easily break, which could result in injury.**



1. Turn on the sewing machine, then touch the display. The straight stitch (left) is selected.
2. Place the fabric under the presser foot, then pull out about 5 cm (2") of the upper thread and pass it under the presser foot.

* Sewing can begin without drawing up the bobbin thread.

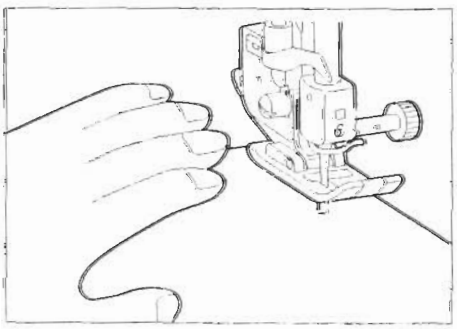
❶ **Upper thread**
❷ **5 cm (2")**



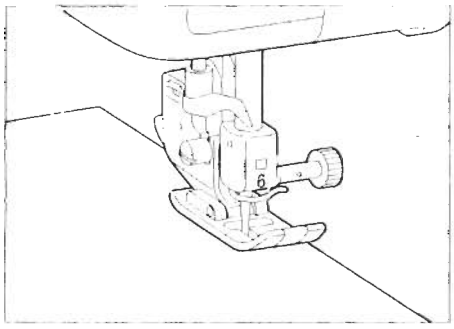
3. While pressing down on the thread and the fabric with your left hand, turn the balance wheel with your right hand to move the needle to the sewing start position.

❶ **Thread**

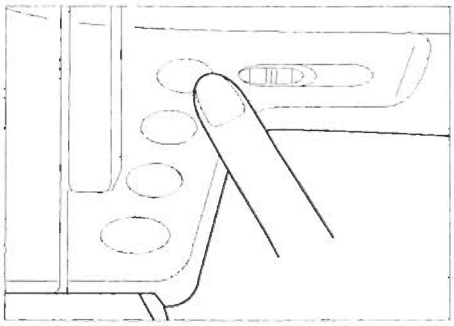
* Sewing can begin without pulling out the bobbin thread.



4. Lower the presser foot. Push the "REVERSE STITCH" button to sew reverse stitches, and then press the "START/STOP" button. The machine will start to run at a slow speed.



5. When sewing is completed, push the "REVERSE STITCH" button to sew reverse stitches.



6. Push the "THREAD CUTTER" button to cut the thread and raise the needle.

Note

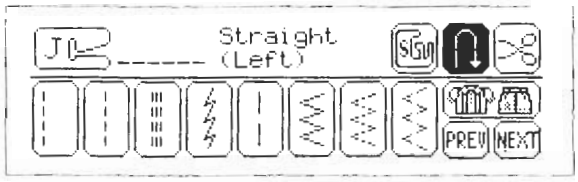
- Do not push the "THREAD CUTTER" button if no fabric is in the machine or while the machine is sewing. Doing so may damage the machine or cause injuries.
- Use the cutter on the left side of the machine to cut threads thicker than #30 or nylon, metallic and other speciality threads.

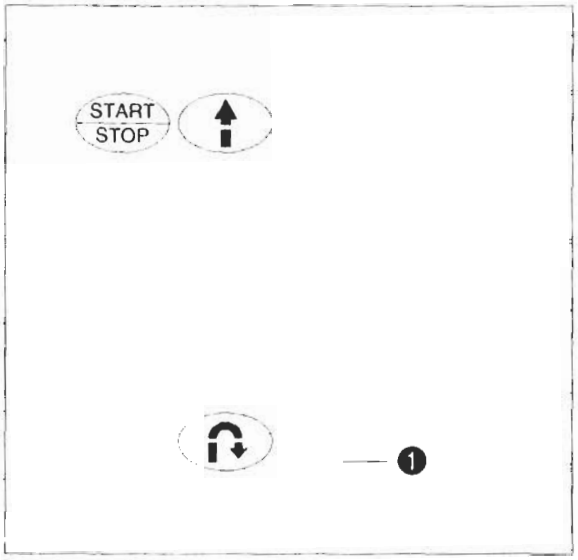
7. Raise the presser foot and remove the fabric.

* BOBBIN THREAD SENSOR
  If a warning message appears on the message screen, the bobbin thread is running out. Replace the bobbin thread at this time.

AUTOMATIC REINFORCEMENT STITCHING

This stitch automatically prevents fraying.





1. Select a stitch.
2. Touch the "REVERSE STITCHING" key and the key changes to "BLACK REVERSE STITCHING".

* The reinforcement stitching is automatically set to be sewn when some stitches such as the buttonhole and bar tack are selected.

3. Push the "START/STOP" button to make reinforcement stitches (reverse stitches if the straight stitch was selected), and then start sewing.

* To pause sewing, push the "START/STOP" button. If the sewing is paused, the ending reinforcement stitches will not be made.

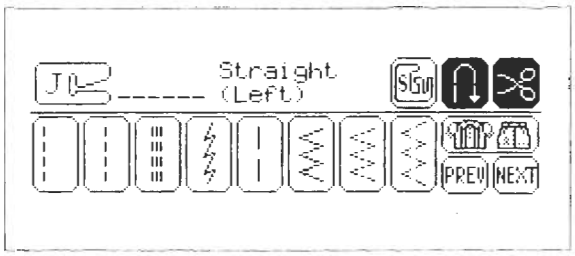
4. To finish the stitch, push the "REVERSE STITCH" button to make ending reinforcement stitches (reverse stitches if the straight stitch was selected) before the machine stops.

❶ **The machine automatically stops.**

Cancelling automatic reinforcement stitching

Touch the "BLACK REVERSE STITCHING" key and the key changes back to the "REVERSE STITCHING" key.

AUTOMATIC THREAD CUTTING



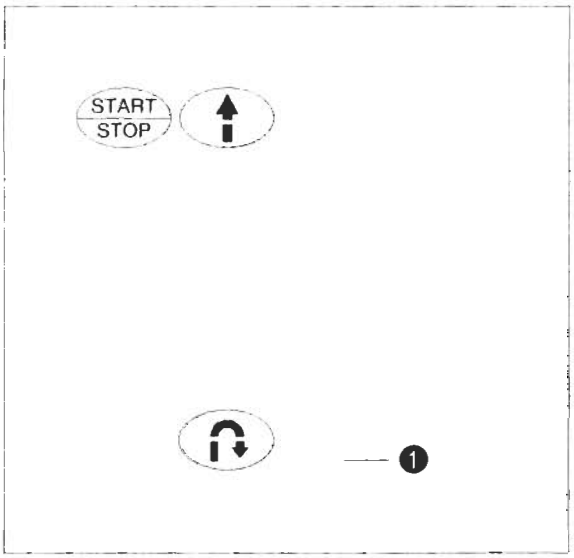
After a stitch is chosen, turning on the automatic thread cutting function cuts the thread after the sewing is finished. This function is convenient when sewing buttonholes or bar tacks.

1. Select the stitch.

2. Touch the "THREAD CUTTING" key and the key changes to the "BLACK THREAD CUTTING" key.

Note
Automatic reinforcement stitching also turns on whenever automatic thread cutting is turned on.

- Automatic thread cutting and the automatic reinforcement stitch must be used together.
- Automatic thread cutting is convenient for use on buttonholes, bar tacking and other areas.



3. Push the "START/STOP" button to make reinforcement stitches (reverse stitches if the straight stitch was selected), and then start sewing.

4. To finish the stitch, push the "REVERSE STITCH" button to make ending reinforcement stitches (reverse stitches if the straight stitch was selected) and cut the thread before the machine stops.

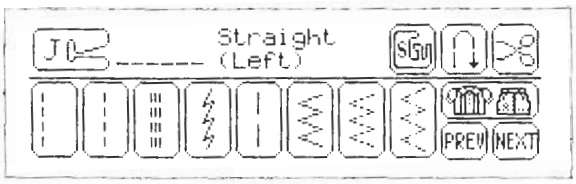
❶ **Automatically trims the thread and stops.**

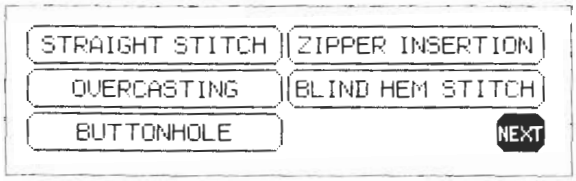
- Fabric should be placed 3 to 4 stitch lengths behind the presser foot before sewing the reinforcement stitch.

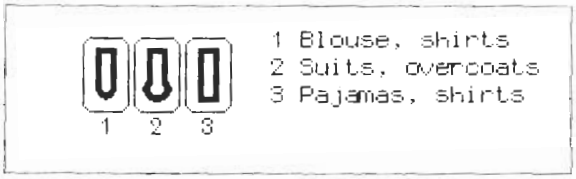
Cancelling programmed automatic thread cutting

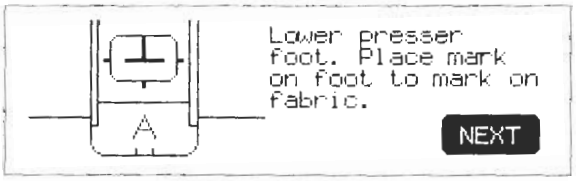
Touch the "BLACK THREAD CUTTING" key and the key changes back to the "THREAD CUTTING" key.

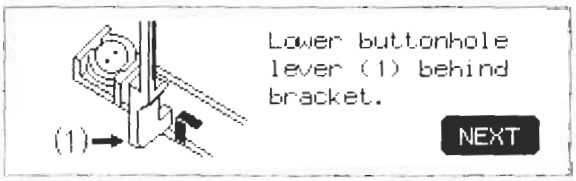
UTILITY STITCH SELECTION " [icon] "











We recommend using " [icon] " to select stitches for beginning sewers. For example, when the correct buttonhole stitch or the buttonhole sewing method is not known, simply touch " [icon] ", select the most appropriate stitch for the sewing application, then follow the operating procedures that appear on the display.

Example: For sewing a buttonhole

1. Touch the " [icon] " key in the Utility Stitch screen.
2. Touch the "BUTTONHOLE" key.
3. Touch the stitch key for the sewing application. The operating procedures for the selected stitch are displayed.
4. Touch "NEXT" to display the next part of the procedure.
   Follow the procedure to sew the buttonhole stitch.

When sewing thicker fabrics, adjust as follows. Touch "STITCH ADJUSTMENT" key then touch "L" key.

NEXT

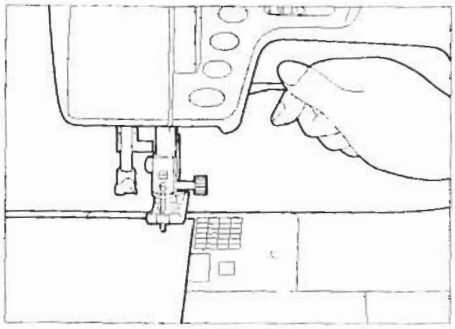
If "SCISSORS" key is pre-set, thread will be automatically cut at sewing end.

NEXT

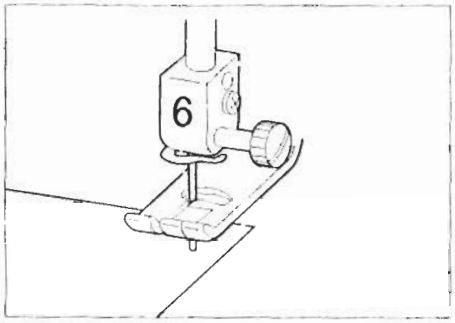
Buttonhole

USEFUL SKILLS

Sewing corners

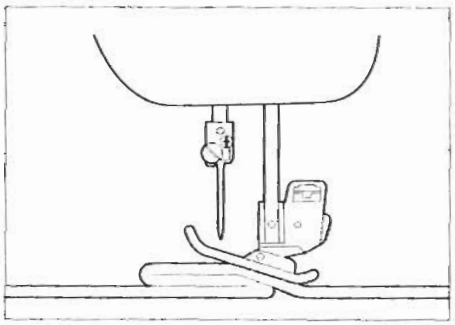


Keep the needle in the fabric at the corner, then raise the presser foot and turn the fabric.



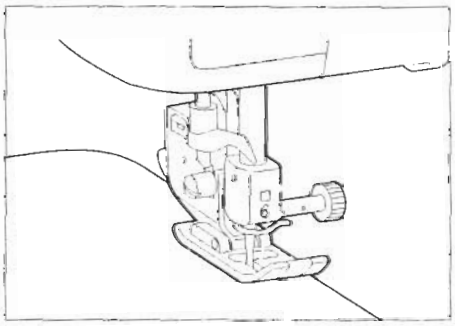
When sewing seams which are less than 5.0 mm (13/64" in width), baste the corner, then continue sewing while changing the sewing direction and pulling the basting thread toward the back.

Sewing folded parts



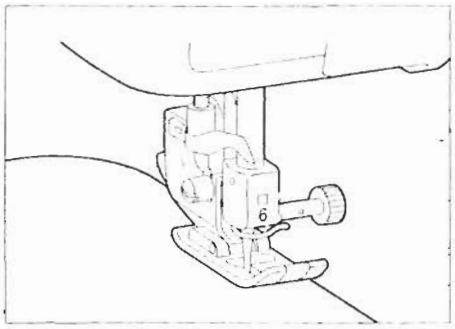
Support the fabric while feeding by hand, and sew the fabric toward the folded side.

Sewing curves



Sewing a curve with a straight stitch

Sew slowly, while keeping the seams parallel with the fabric edge as you guide the fabric around the curve.

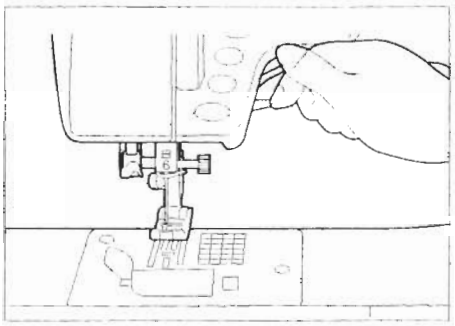


Sewing a curve with a zigzag stitch

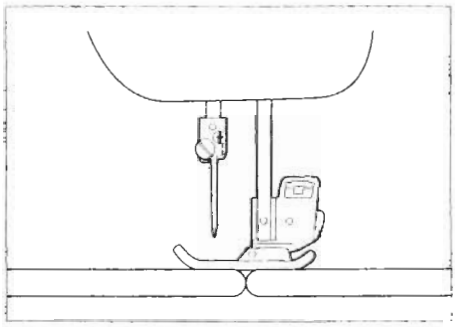
Set the stitch length short in order to obtain a fine stitch. Sew slowly while keeping the seams parallel with the fabric edge as you guide the fabric around the curve.

* For sharp corners, temporarily stop sewing while keeping the needle in the material, then raise the presser foot and carefully turn the fabric while keeping it level with the presser foot. Lower the presser foot and continue sewing.

Sewing thick fabric



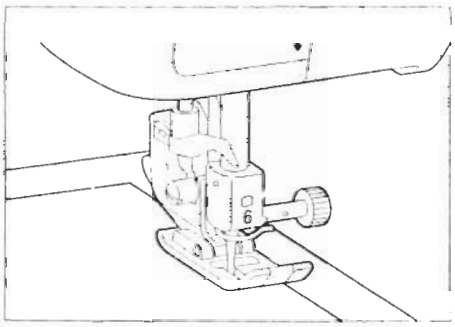
1. When you raise the presser foot lever further, the presser foot is raised to a higher position to handle thicker fabrics.
   With the presser foot in the up position, raise the presser foot lever higher to make room for thicker fabrics.



2. If the fabric will not feed at the beginning of sewing, place another piece of fabric with the same thickness at the back of the material.

* Using a straight stitch foot (optional accessory item SA108 or X80823001) will stop the fabric lifting up and down as the needle pierces very thick fabrics.

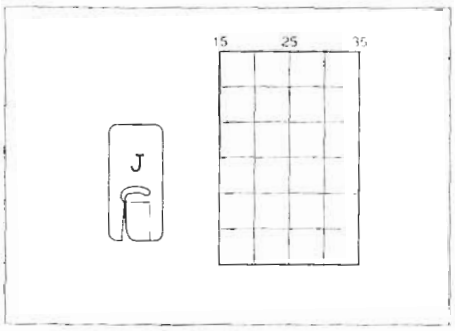
Sewing thin fabric



Place thin paper or stabilizer material under the fabric, and then start sewing.

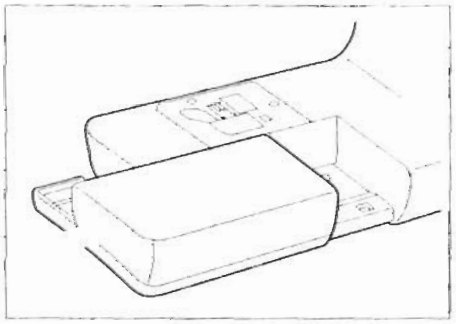
* Use a straight stitch foot to eliminate any puckering. Remember to select the center needle position. Additional adjustment of stitch length and tension may be necessary.

Using the needle plate



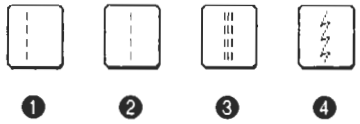
Align the edge of the material with a line on the needle plate to sew even seam allowances.

Free-arm sewing

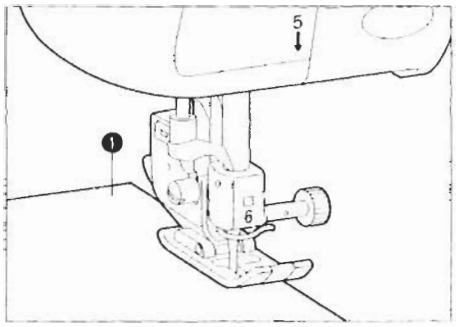


Free-arm sewing is convenient for sewing tubular areas such as pant hems and cuffs.

STRAIGHT STITCHES



❶ **Normal sewing**
❷ **Normal sewing**
❸ **Reinforced sewing**
❹ **Stretch fabric sewing**

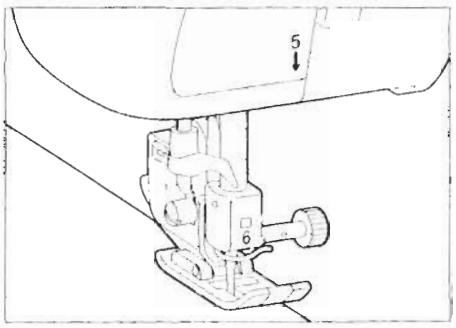


Preparation: Baste or pin the fabrics together.

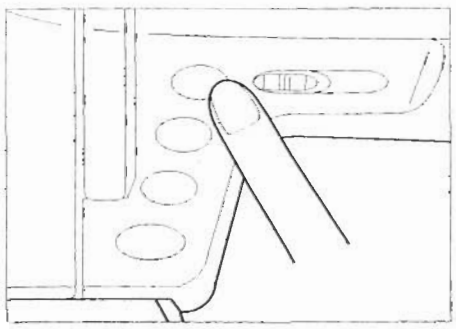
1. Attach presser foot "J", sew three or four reverse stitches at the beginning, then start sewing.

❶ **3 to 4 reverse stitches**

* Place the fabric under presser foot while keeping space from the edge for reverse sewing.



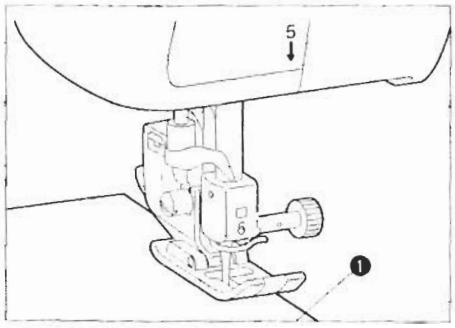
2. Sew at a slow speed as you approach the end of the sewing area, then push the "REVERSE STITCH" button to sew several reverse stitches and stop the machine.



3. Push the "THREAD CUTTER" button to cut the thread.

* If "REVERSE STITCHING" and "THREAD CUTTING" were set before sewing, the reverse stitches would automatically be sewn at the beginning of sewing. At the end of sewing, pushing the "REVERSE STITCH" button will make reverse stitches, stop the machine, and then cut both threads.

Sewing stretch fabrics

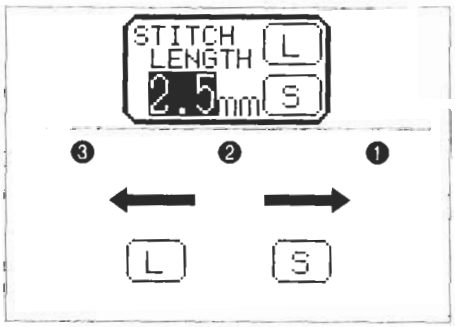


Baste the fabrics together, then sew along the basting without pulling the fabric.

* Do not pull the fabric during sewing.

❶ **Basting**

Changing the stitch length

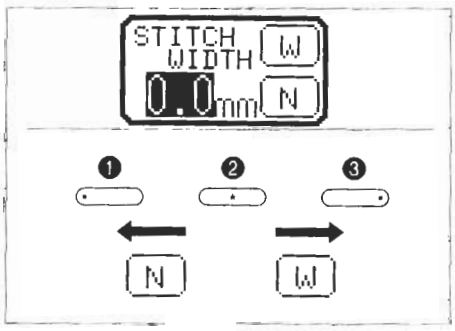


Touch the " [L] " and " [S] " stitch length setting keys to adjust the stitch length.

❶ **[L]: Longer**
❷ **Original length: 2.5 mm (3/32")**
❸ **[S]: Shorter**

* For thin material which is less than 1.0 mm (3/64"), the stitch length will be set to 4.0 mm (5/32") automatically during sewing even if you set the length to 5.0 mm (13/64").

Changing the needle position



Touch the " [N] " and " [W] " stitch width setting keys to adjust the needle position.

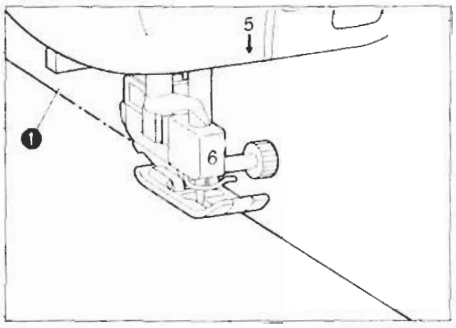
❶ **[N]: Left needle position: 0 mm (0")**
❷ **Center needle position: 3.5 mm (1/8")**
❸ **[W]: Right needle position: 7.0 mm (9/32")**

* The needle position cannot be changed for the " [ ] " and " [ ] " stitches.

❶ ❷ ❸

❶ Zigzag stitch
❷ Elastic zigzag stitch
❸ Elastic zigzag stitch

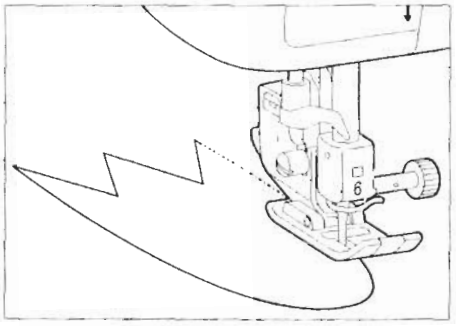
Overcasting (using a zigzag stitch)



Sew the overcasting along the edge of the fabric so that the right-hand needle drop point is over the edge of the fabric.

❶ Needle drop point

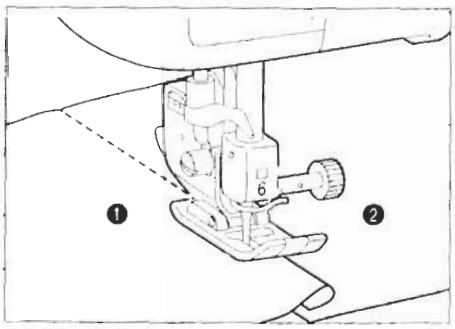
Applique (using a zigzag stitch)



Attach the applique using adhesive or basting, then sew it.

- Sew a zigzag stitch, while positioning the right hand needle drop point just outside the edge of the fabric.

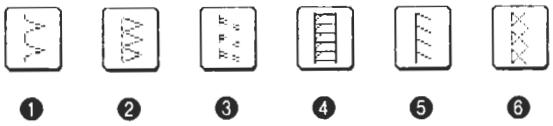
Patchwork (for crazy quilt)



Turn back the desired width of fabric and position it over the lower fabric, then sew so that the stitch bridges both pieces of fabric.

❶ Upper fabric
❷ Lower fabric

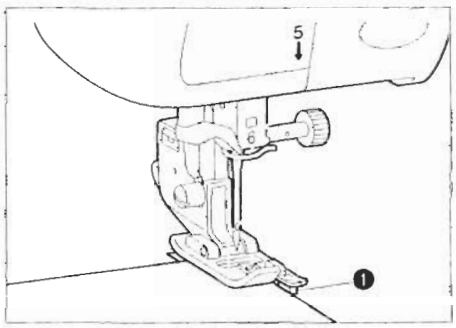
OVERCASTING



❶ ❷ ❸ ❹ ❺ ❻

❶ Thin and medium fabrics
❷ Thick fabric
❸ Thick and medium stretch fabrics
❹ Medium stretch fabric
❺ Stretch fabric
❻ Stretch fabric

When using ❶, ❷ or ❹ stitches

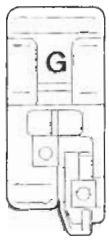


Sew the fabric while placing fabric edge against the guide of presser foot "G".

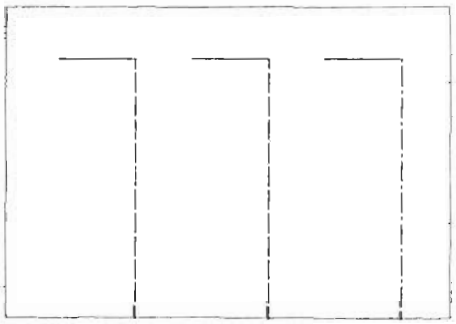
❶ Guide

* When the automatic thread cutting and automatic reinforcement stitch are preset, a reinforcement stitch will be sewn automatically at the start of sewing. Press the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.

CAUTION
After the stitch width has been adjusted, turn the balance wheel by hand and check that the needle does not touch the presser foot.
If it does touch, the needle may break and cause on injury.



When using ❸, ❺ or ❻ stitches



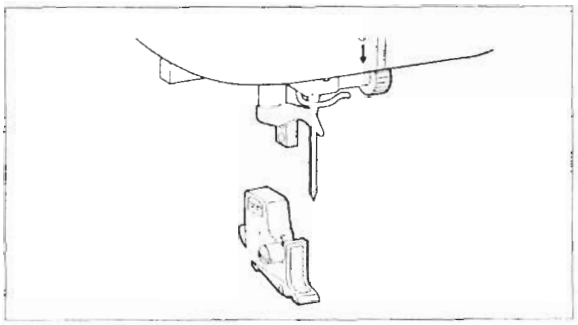
Attach presser foot "J" and let the needle drop slightly past the edge of the fabric before starting sewing.

* When the automatic thread cutting and automatic reinforcement stitch are preset, a reinforcement stitch will be sewn automatically at the start of sewing. Press the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.

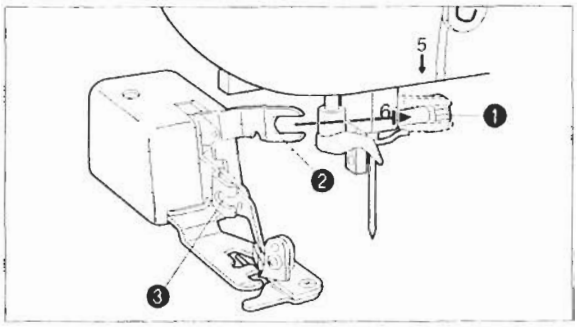
OVERCASTING (WHEN USING THE SIDE CUTTER)

❶ **Thin and medium fabrics**
❷ **Thick fabric**
❸ **Thick and medium stretch fabrics**
❹ **Normal sewing**
❺ **Zigzag stitch**

By using the side cutter, you can do overcasting while cutting the fabric.
If using the side cutter, select the pattern and then touch the " " key.



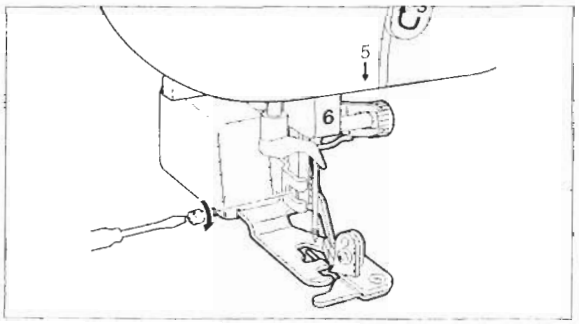
1. Push the "NEEDLE POSITION" button to raise the needle, and then turn off the power.
2. Raise the presser foot lever.
3. Unscrew screw on the presser foot holder and remove the presser foot holder.



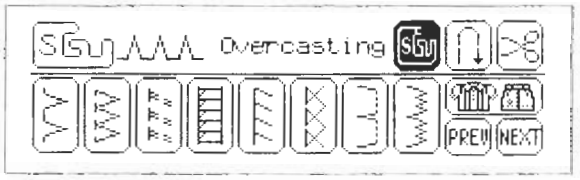
4. Set the screw of the needle into the fork of the operating lever.

❶ **Screw of the needle**
❷ **Operating lever**
❸ **Notch**

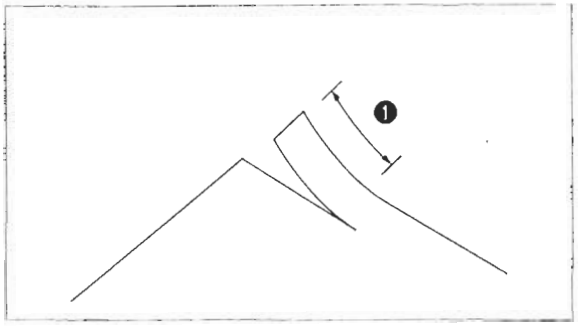
* Make sure that the screw is held firmly by the fork.



5. With the presser foot raised, align the presser foot holder screw hole directly with the notch in the side cutter, then insert the screw and lightly tighten it. Lower the presser foot lever and firmly tighten the screw.

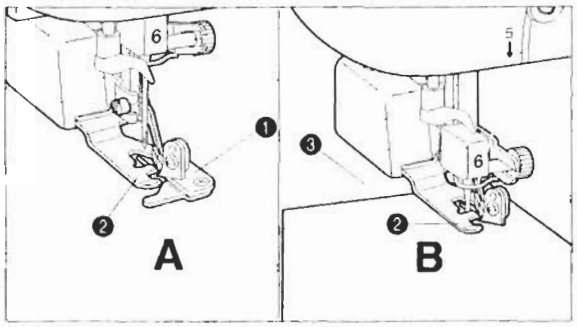


6. Select the pattern and then touch the " " key.
   The necessary adjustment for the side cutter will be carried out automatically.



7. Make a cut of about 2 cm (13/16") in the fabric.

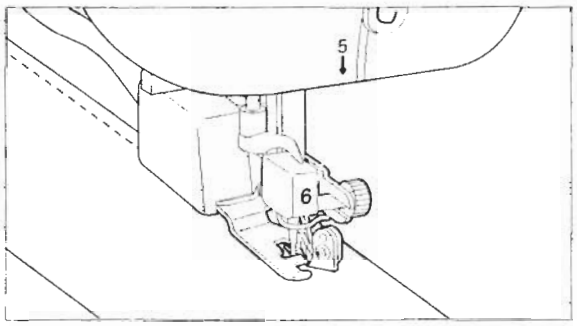
❶ 2 cm (13/16")



8. Place the fabric as shown left figure B.
   –Right side of cut: on top of the guide plate
   –Left side of cut: underneath of the presser foot

❶ Guide plate (lower knife)
❷ Presser foot

9. Thread the needle, and then pull out a long section of the upper thread, pass it below the presser foot and pull it out in the fabric feed direction. (See left figure B)

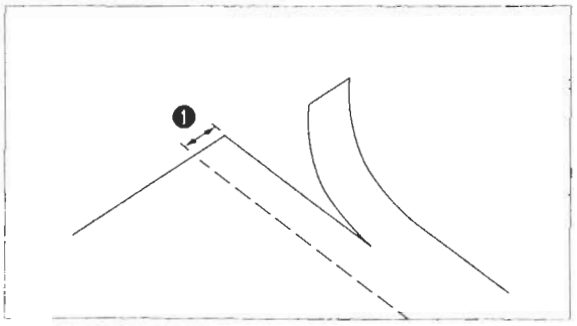


❷ Presser foot
❸ Upper thread

10. Lower the presser foot lever.

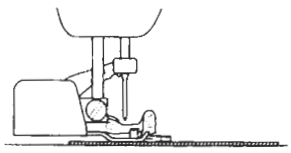
CAUTION
If the width has been adjusted, turn the balance wheel by hand to check that the needle does not touch the side cutter. If the needle touches the side cutter, it may cause the needle to break.

When sewing straight stitches only
The seam margin should be about 0.5 cm (13/64").



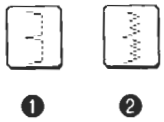
❶ Seam margin

* Make sure that you touch the " " key when using the side cutter.
* Clean the side cutter after use, otherwise dust and scraps of thread will build up on it.
* Add a small amount of oil as required to the cutting edge of the cutter.



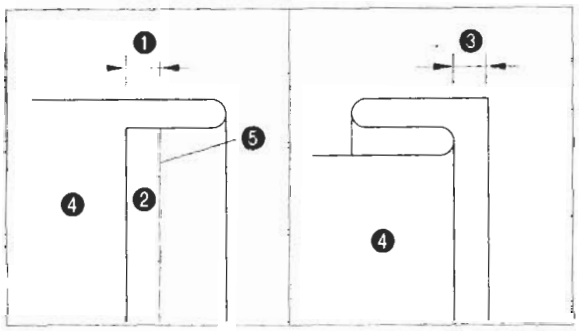
Note
- The fabric will not be cut if the whole fabric is simply spread out underneath the presser foot guide plate. Set the fabric as explained in step 8. above, and start sewing.
- Check that the needle is raised when the presser foot lever is raised.
- One layer of 13-oz denim can be cut.

BLIND HEM STITCHES



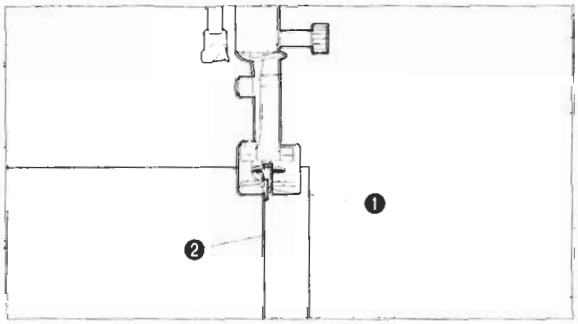
❶ ❷

❶ **Other fabric**
❷ **Stretch fabric**



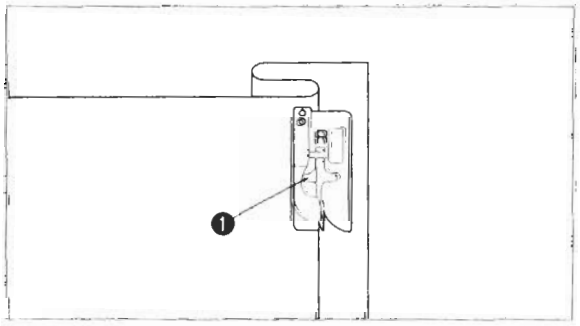
1. Fold the fabric and baste it as illustrated.

❶ **0.5 cm (13/64")**
❷ **Surface**
❸ **0.5 cm (13/64")**
❹ **Reverse side**
❺ **Basting stitch**



2. Attach presser foot "R". Lower the presser foot so that its guide meets the edge of the folded hem.

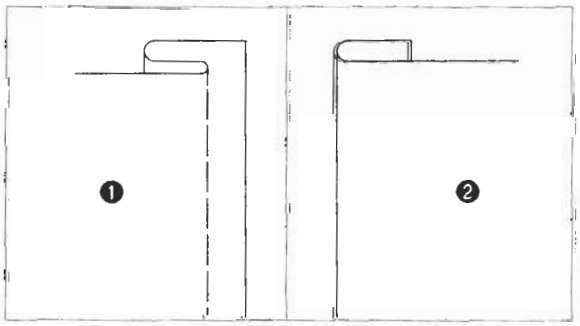
❶ **Guide**
❷ **Folded hem**



3. Adjust the needle position using the stitch width setting keys so that needle slightly catches the fold of the hem, and then sew the fabric.

❶ **Needle drop position**

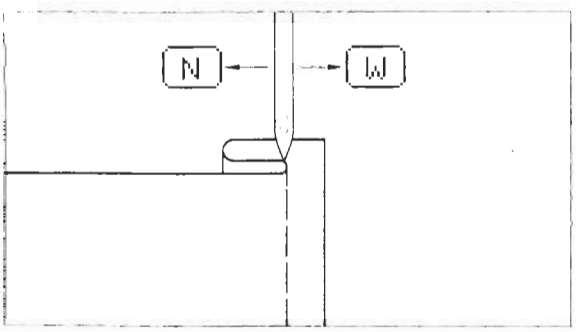
* When the automatic thread cutting and automatic reinforcement stitch are preset, a reinforcement stitch will be sewn automatically at the start of sewing. Push the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.

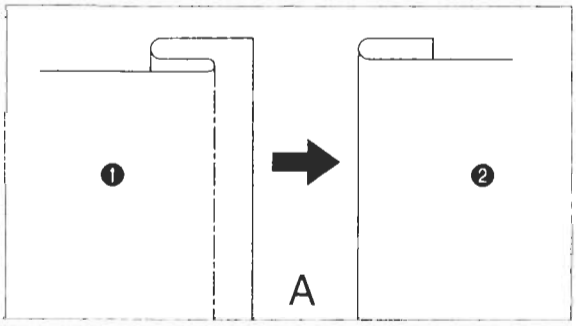


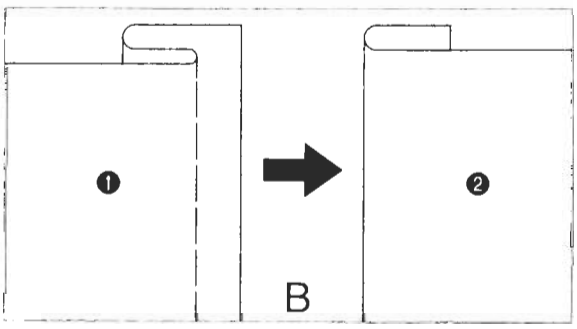
4. Turn over the fabric and remove the basting stitch.

❶ **Reverse side**
❷ **Surface**

Adjusting the needle drop position







Touch the " N " and " W " stitch width setting keys to adjust the needle drop position so that the needle slightly catches the fold of the hem.

A– If the needle catches the fold of hem too much.
— Touch the " W " stitch width setting key. This moves the needle away from the fold.

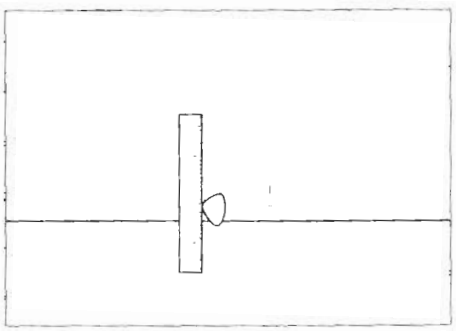
B– If the needle does not catch the fold of hem enough.
— Touch the " N " stitch width setting key. This moves the needle closer to the fold.

❶ **Reverse side**
❷ **Surface**

BUTTONHOLE STITCHES

❶ ❷ ❸ ❹ ❺ ❻ ❼

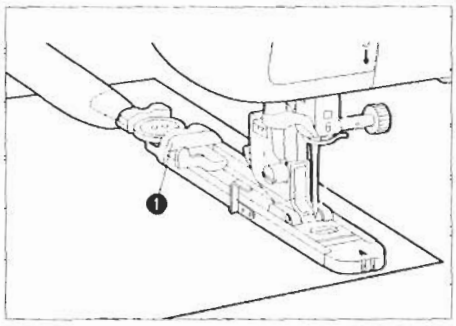
❶ **Suits, overcoats**
❷ **Jeans, trousers**
❸ **Thick coats**
❹ **Thin or medium fabrics**
❺ **Stretch fabric with coarse weave**
❻ **Stretch fabric**
❼ **Thin and medium fabrics (for horizontal holes)**



1. Mark the positions of the buttonholes on the fabric.

* The maximum buttonhole length is 3 cm (1-13/64") (total of diameter + thickness of button).

* Thick thread (#30) cannot be used in with the " [▯] " and " [▯] " buttonhole styles.

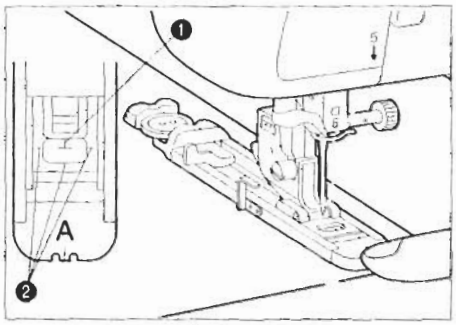


2. Draw out the button holder plate and insert the button.

❶ **Button holder plate**

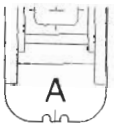
* The size of the buttonhole is determined by the button inserted in the button holder plate.

Note
The thread should be passed through the hole in the presser foot, then placed under the foot.



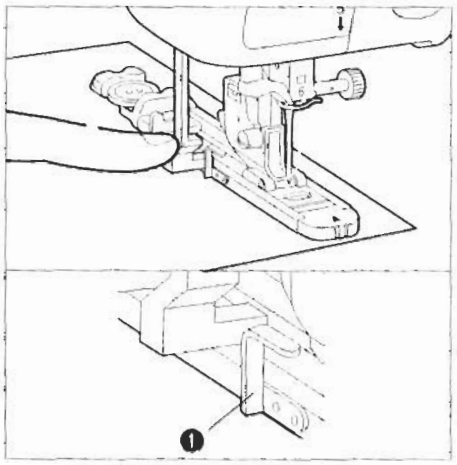
3. Raise the presser foot and adjust the fabric so that the red mark on the foot is over the starting mark of your buttonhole. Lower the presser foot into position.

❶ **Mark on fabric for buttonhole position**
❷ **Red mark on presser foot**



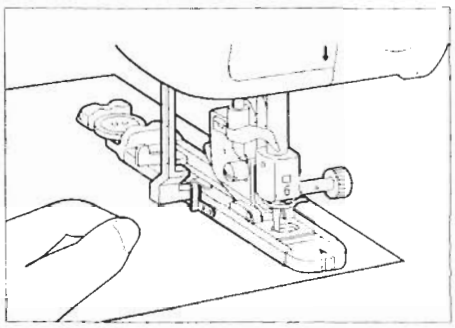
* After the presser foot lever has been lowered, set the presser foot so that there is no gap behind the section marked with an "A", otherwise the size of the stitch will not be correct. To do this, push the presser foot towards the back of the machine as shown in the figure at the left.

* Pass the thread underneath the presser foot.



4. Lower the buttonhole lever and position it behind the metal bracket on the buttonhole foot.

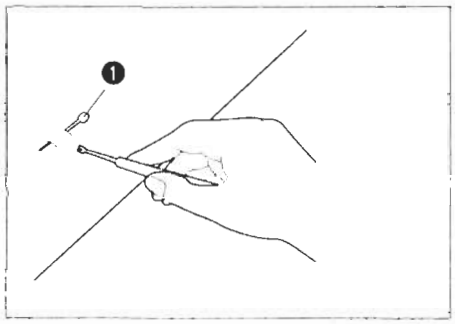
❶ **Metal bracket on the buttonhole foot**



5. Push the "START/STOP" button to start the machine, while gently holding the end of the upper thread.

* Gently, feed the fabric by hand.
* The machine will stop with a reinforcement stitch automatically after sewing is completed.
* If you touch the automatic thread cutting key prior to sewing, the machine cuts both threads automatically after sewing is completed.
* If the fabric will not feed (for instance, because it is too thick), touch the [L] stitch length setting key to increase the stitch length.

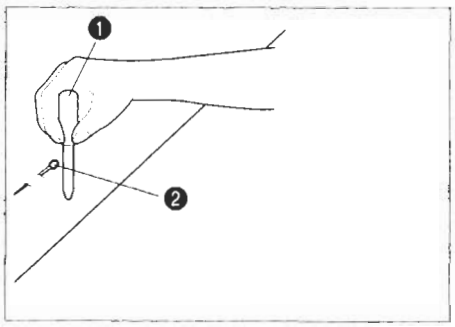
6. Open the buttonhole.



Normal buttonhole and rounded buttonhole

Insert a pin in front of the inside edge of both bar tacks. Insert the seam ripper into center of buttonhole. Cut towards the first pin. Then cut toward the other pin.

1 Pin

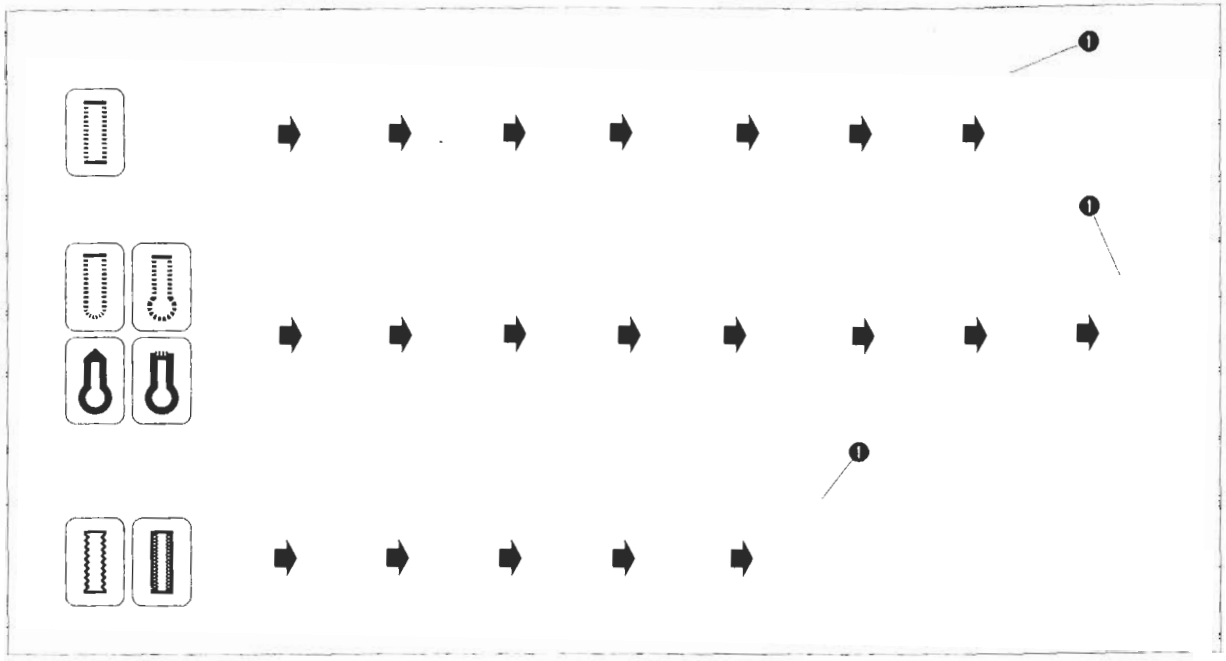


Keyhole buttonhole

7. Make a hole using the small eyelet punch in the key end, insert a pin into the inside edge of the bar tack. Insert a seam ripper into the hole made with the eyelet punch and cut towards the pin.

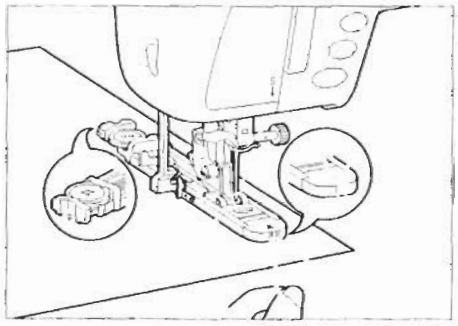
1 Small eyelet punch (accessory #9 on page 6)
2 Pin

Order of one cycle



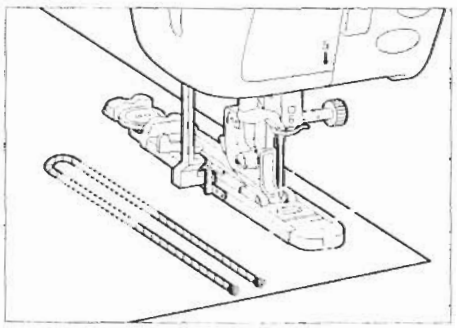
❶ Reinforcement stitch

Sewing stretch fabrics



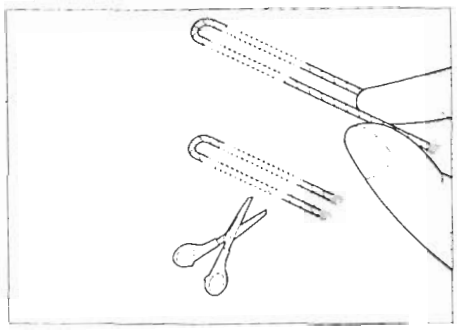
When sewing buttonholes onto stretch fabric, insert a gimp thread into the buttonhole seam (" [0] " buttonholes only).

1. Hook the gimp thread onto the end of presser foot "A", insert it into the groove at the front of the presser foot and temporarily tie it there.



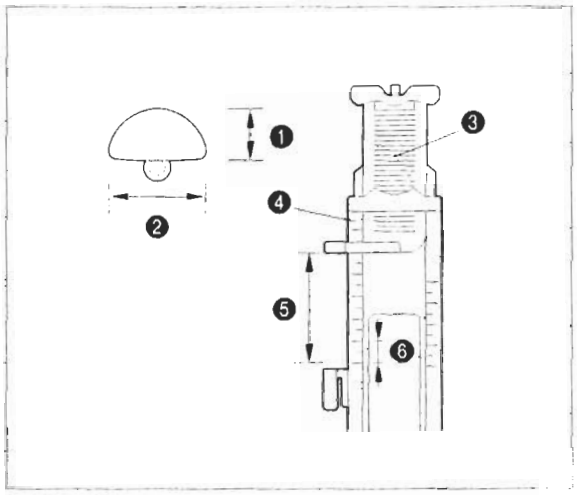
2. Lower the presser foot and start sewing.

* Set the stitch width to match the diameter of the gimp thread.



3. Once sewing is completed, pull the gimp thread gently to remove any slack, and trim any surplus length.

Buttons that do not fit into the guide plate (Odd-shaped buttons)

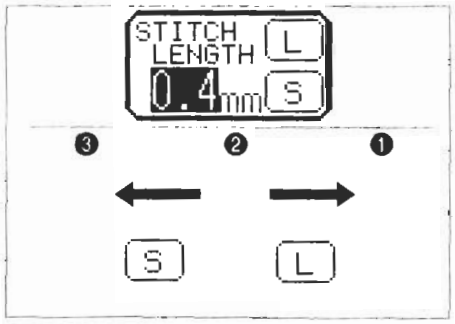


Measure the button diameter + thickness to set the plate.

Example:
For a button with a diameter of 1.5 cm (19/32") and a thickness of 1 cm (3/8"), the scale should be set at 2.5 cm (1")

❶ **Thickness [1 cm (3/8")]**
❷ **Diameter [1.5 cm (19/32")]**
❸ **Button holder plate**
❹ **Scale**
❺ **Diameter + thickness [2.5 cm (1")] [0.5 cm (13/64") in one scale.]**
❻ **0.5 cm (13/64")**

Changing the stitch length

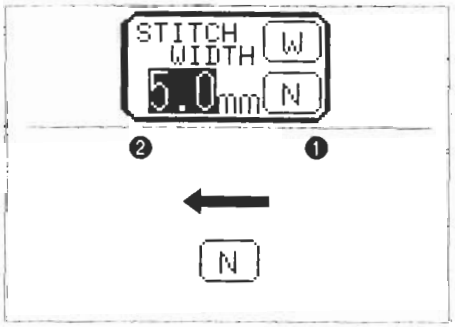


Push "STITCH/THREAD ADJUSTMENT", then touch the stitch length keys " [L] " or " [S] " to select the desired length.

❶ " [L] ": **Longer**
❷ **Normal length 0.4 mm (1/64")**
❸ " [S] ": **Shorter**

* If the fabric does not feed (for example, when sewing on thick fabric), touch stitch length key " [L] " to increase the stitch length.

Changing the stitch width

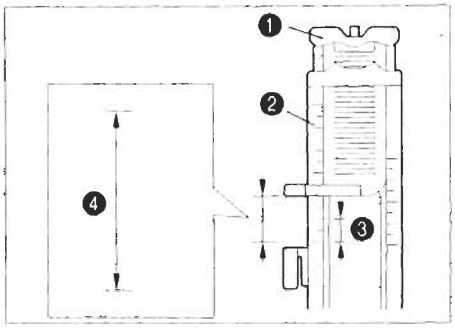


Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch width keys " [W] " or " [N] " to select the desired width.

❶ **"AUTO" width 5.0 mm (13/64")**
❷ " [N] " : **Narrower**

BAR TACKING

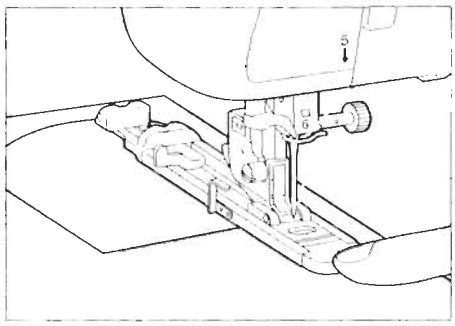
Use for reinforcing the openings of pockets, etc.



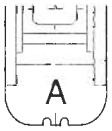
1. Attach presser foot "A" and set the size by measuring the area to be bar tacked. Pull on the end of the button holder plate to expand it. The finished size of the bar tack will be the space shown in the illustration.

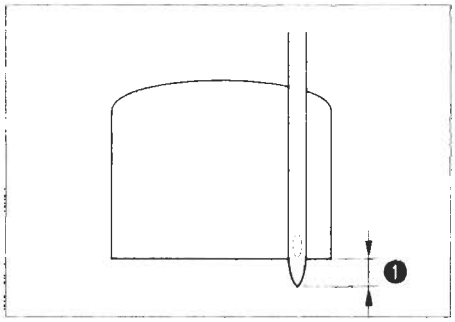
1 Button holder plate
2 Scale
3 0.5 cm (13/64")
4 Length of bar tack

* 0.5 to 3 cm (13/64" to 1-13/64") is suitable for bar tacking. 0.5 to 1 cm (13/64" to 25/64") is the normal size.



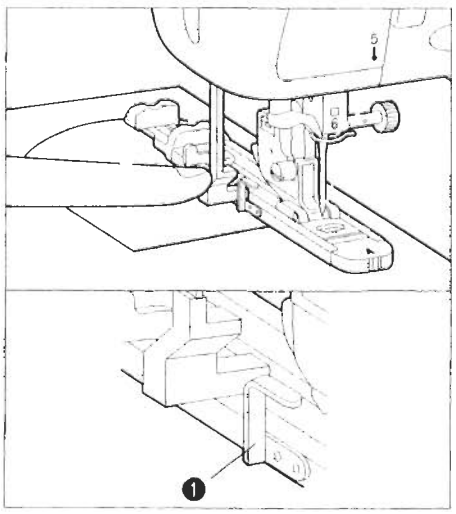
2. Position the pocket as illustrated with the top of the pocket facing you. Align the needle drop point with the corner of the pocket to be stitched and move the pocket back 2 mm (5/64") as shown below.
* After the presser foot lever has been lowered, set the presser foot so that there is no gap behind the section marked with an "A", otherwise the size of the stitch will not be correct. To do this, push the presser foot towards the back of the machine as shown in the figure at the left.
* Pass the thread underneath the presser foot.





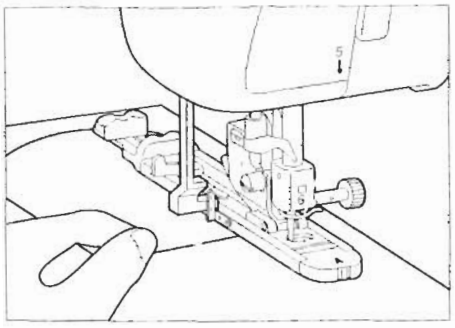
3. Check the first needle drop point, then lower the presser foot.

1 2 mm (5/64")



4. Lower the buttonhole lever and position it behind the metal bracket on the buttonhole foot.

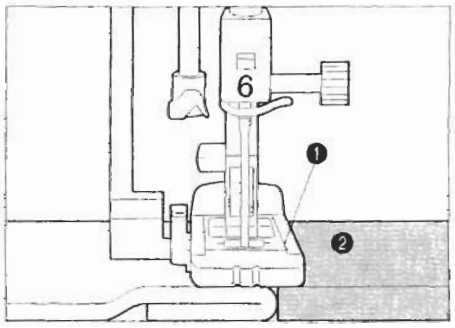
1 Metal bracket on buttonhole foot



5. While lightly holding the upper thread, push the "START/STOP" button. The machine will stop with a reinforcement stitch automatically after sewing is completed.

- If "THREAD CUTTING" was set before sewing, the machine automatically cuts both threads after stopping.
- If the fabric does not feed (for example, when sewing on thick fabric), push the "STITCH/THREAD ADJUSTMENT" button, then touch stitch length key " [L] " to increase the stitch length.

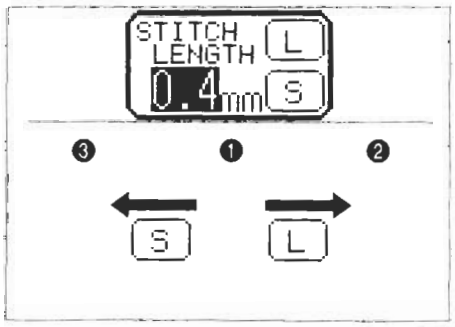
Thick fabrics



If the presser foot is not level, place a piece of cardboard or another piece of fabric with the same thickness under the open side of the presser foot.

❶ **Presser foot**
❷ **Cardboard**

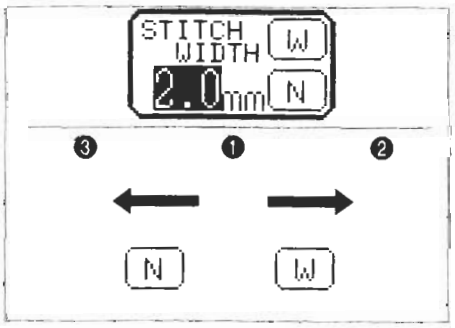
Changing the bar tack stitch length



Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch length keys " [L] " or " [S] " to select the desired length.

❶ **"AUTO" length 0.4 mm (1/64")**
❷ **" [L] " : Longer**
❸ **" [S] " : Shorter**

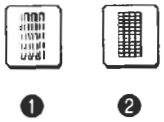
Changing the bar tack stitch width



Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch width keys " [W] " or " [N] " to select the desired width.

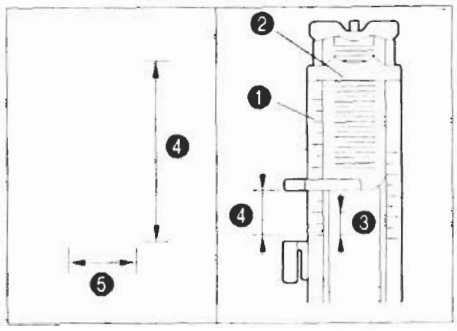
❶ **"AUTO" width 2.0 mm (1/16")**
❷ **" [W] " : Wider**
❸ **" [N] " : Narrower**

DARNING



❶ ❷

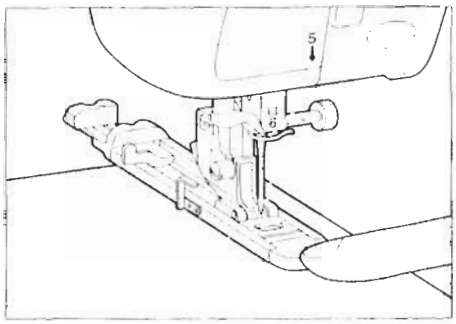
❶ **Medium fabric**
❷ **Thick fabric**



1. Set the stitch length using the scale on presser foot "A". Pull on the end of the button holder plate to expand it. The finished size of the bar tack will be the space shown in the illustration.

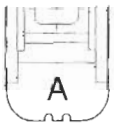
❶ **Scale on the presser foot**
❷ **Button holder plate**
❸ **5 mm (13/64") at "2" on scale**
❹ **Length of darning**
❺ **Width [7 mm (9/32")]**

* The maximum stitch length for darning is 3 cm (1-13/64").

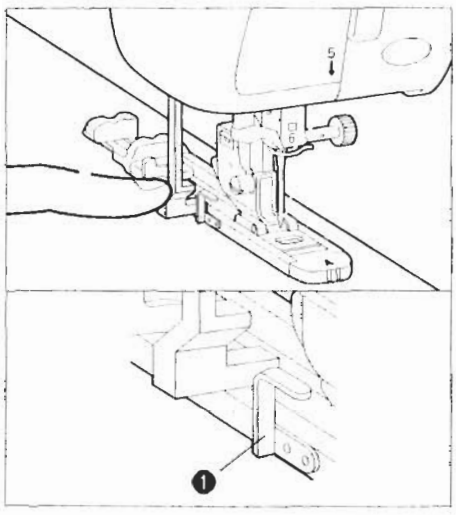


2. Check the needle drop point and then lower the presser foot.

* After the presser foot lever has been lowered, set the presser foot so that there is no gap behind the section marked with an "A", otherwise the size of the stitch will not be correct. To do this, push the presser foot towards the back of the machine as shown in the figure at the left.

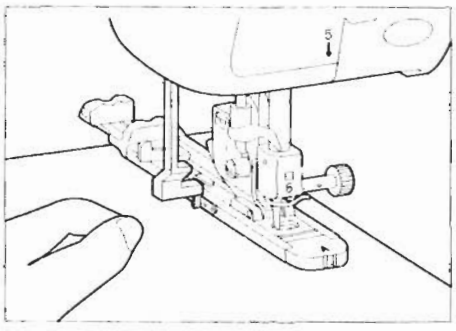


* Pass the thread underneath the presser foot.



3. Lower the button hole lever to set it behind the metal bracket.

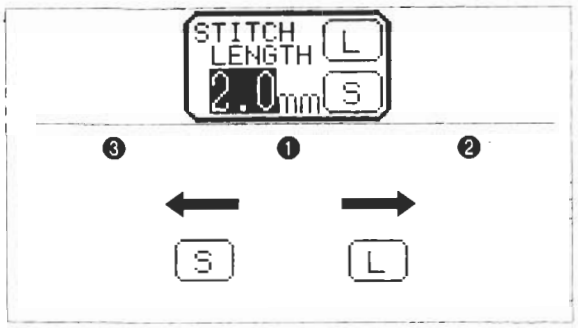
❶ **Metal bracket**



4. Start sewing while holding the upper thread by hand.

* The machine stops automatically after sewing a reinforcement stitch.
* When automatic thread cutting is set, the machine trims both threads automatically after sewing is completed.

Changing the length of the darning stitch

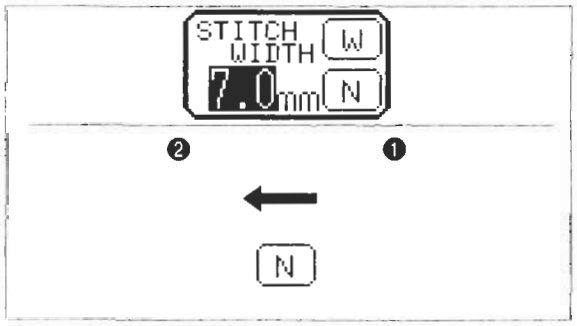


Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch length keys " [L] " or " [S] " to select the desired length.

❶ **"AUTO": 2.0 mm (5/64")**
❷ **" [L] ": Longer (less dense)**
❸ **" [S] ": Shorter (more dense)**

* If the fabric does not feed (for example, when sewing on thick fabric), touch stitch length key " [L] " to increase the stitch length.

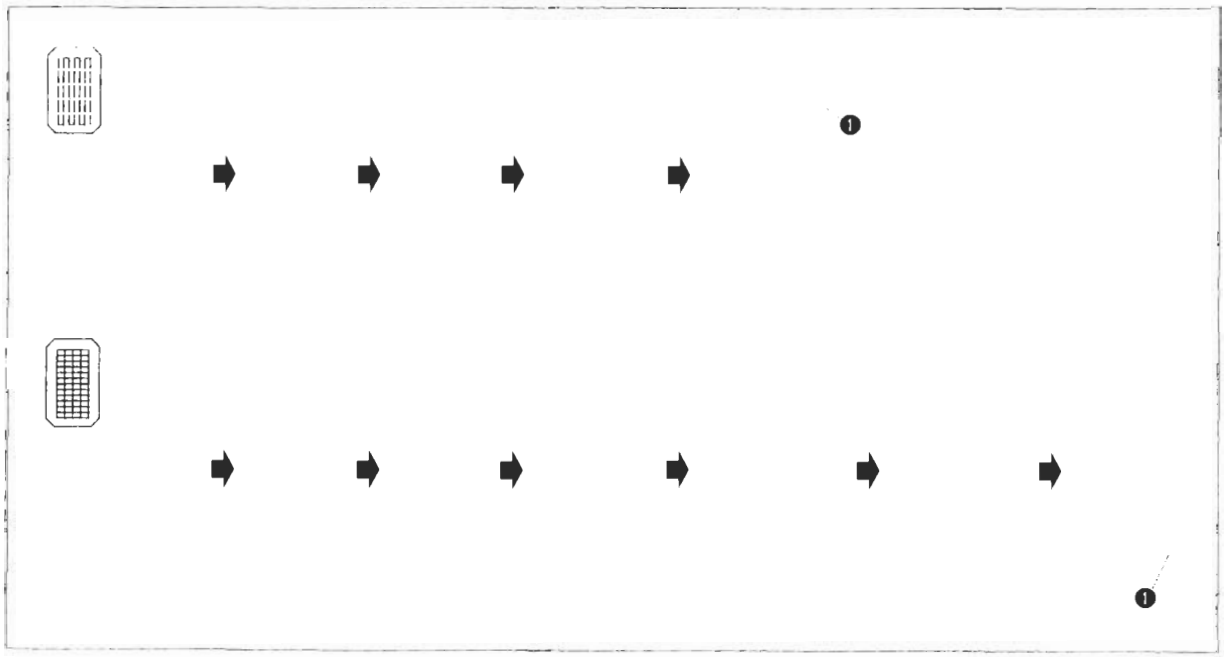
Changing the bar tack stitch width



Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch width keys " [W] " or " [N] " to select the desired width.

❶ **"AUTO" : 7.0 mm (9/32")**
❷ **" [N] " : Narrower**

Darning stitch cycle



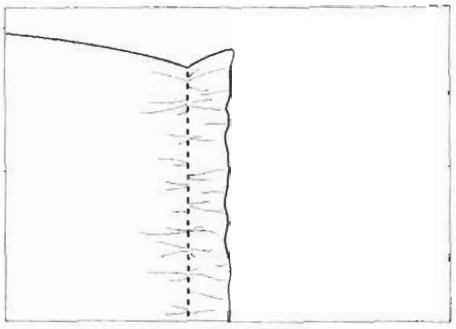
❶ **Reinforcement stitch**

TAPE ATTACHING

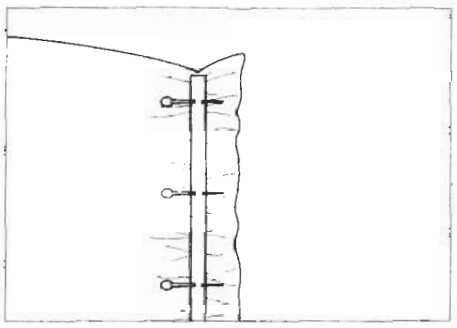
These stitches are used for attaching tape to thin and medium fabric.

❶ ❷

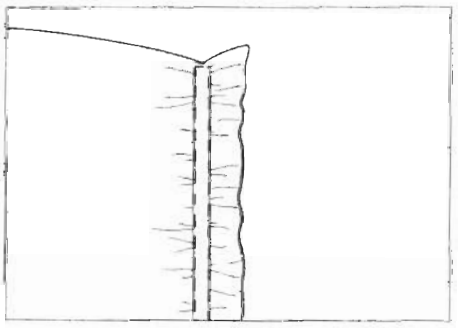
❶ **Patchwork stitch**
❷ **Elastic zigzag stitch**



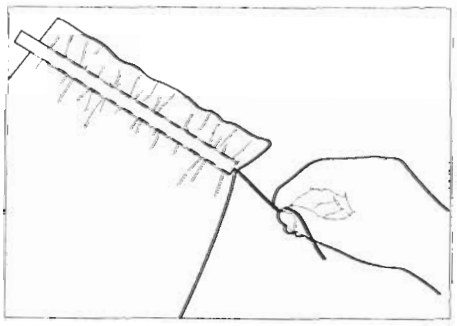
1. Attach presser foot "J", select pattern " ", set the stitch length to 4.0 mm and set the thread tension to a weak setting. Sew a straight stitch.
   Pull the bobbin thread to obtain the desired amount of gather.



2. Place the tape on top of the seam which you have just sewn and secure it with pins.



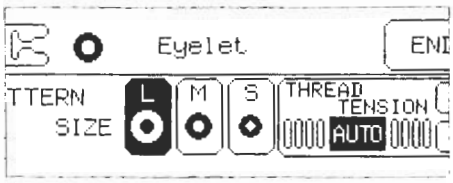
3. Select pattern " " and then sew along the top of the tape.



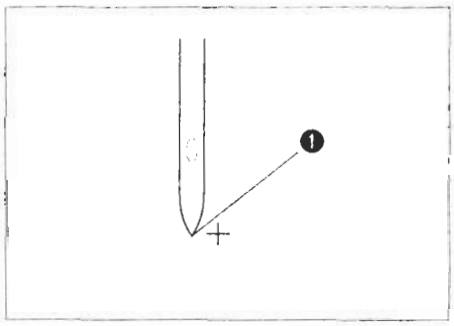
4. Pull out the straight stitch thread.

EYELET STITCH

Stitch for making eyelet on belts, etc.



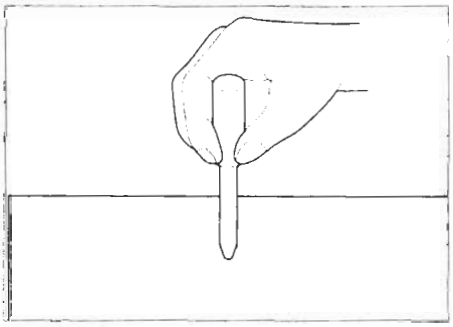
1. Push the "STITCH/THREAD ADJUSTMENT" button, then select the eyelet size.



2. Attach presser foot N, check the needle drop point and lower the presser foot, then push the "START/STOP" button to start sewing. The machine will stop with a reinforcement stitch automatically after sewing is completed.

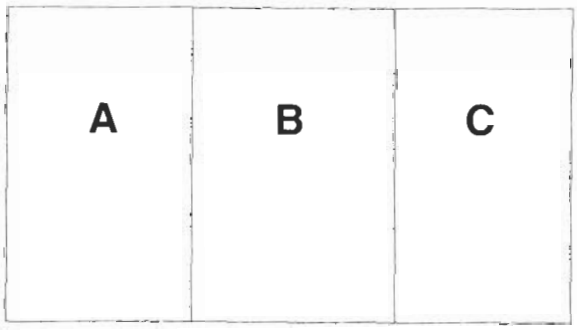
❶ Needle drop point

* If "THREAD CUTTING" was set before sewing, the machine automatically cuts both threads after stopping.



3. Make a hole at the center with the eyelet punch.

Size of eyelet (Actual size)

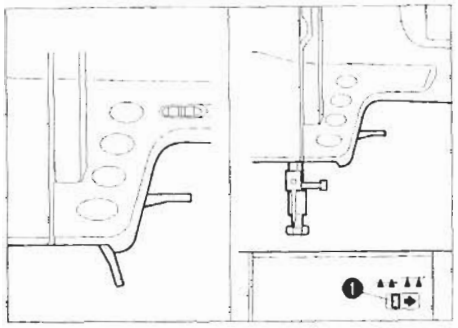


A– Large: 7.0 mm (9/32")
B– Medium: 6.0 mm (1/4")
C– Small: 5.0 mm (13/64")

BUTTON SEWING

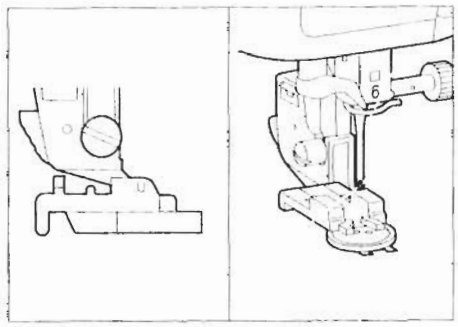
This stitch is used for attaching buttons.

Do not use the automatic thread cutter when attaching buttons. The threads will become difficult to handle and tying off will not be possible.

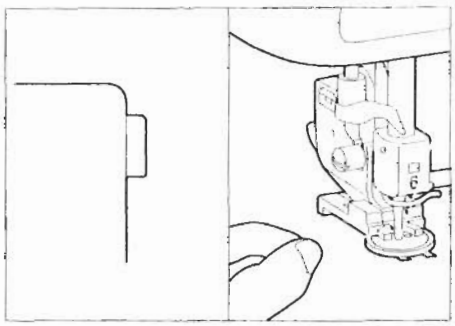


1. Raise the presser foot lever and slide the feed dog adjustment lever to the right to lower the feed dog.

❶ **Feed dog adjustment lever (Slide off the accessory compartment to expose the lever.)**

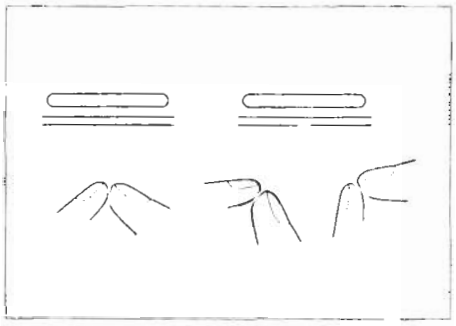


2. Attach button fitting foot "M", place the button into the presser foot and then lower the presser foot.



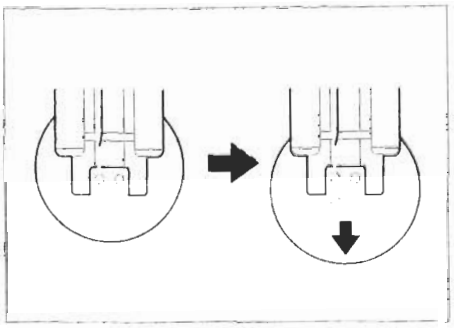
3. Turn the balance wheel to check that the needle goes into each of the holes in the button correctly, and then start sewing. To adjust the button sewing stitch width, push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch width keys " [W] " or " [N] " to select the desired width. Once sewing is completed, the sewing machine will stop automatically.

* If extra attachment strength is needed, carry out the button sewing operation twice.



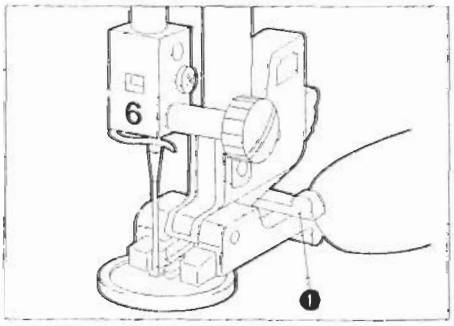
4. Once sewing is completed, return the feed dog to its original position, pull the bobbin thread at the sewing end down and pull the upper thread at the sewing end through to the reverse side of the fabric. Then tie the thread ends together and cut the threads at the sewing start.

Attaching buttons with four holes



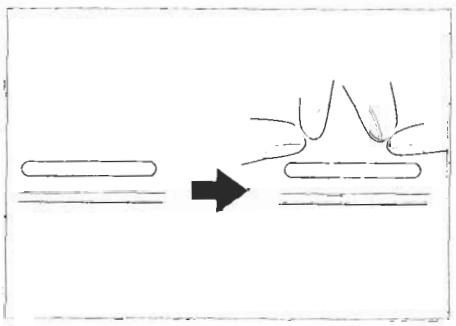
First sew the two holes which are closest to you. Once they have been sewn, raise the presser foot, move the needle to the next two holes and then sew them in the same way.

Attaching a shank to the button



1. Pull the shank lever toward you and then start sewing.

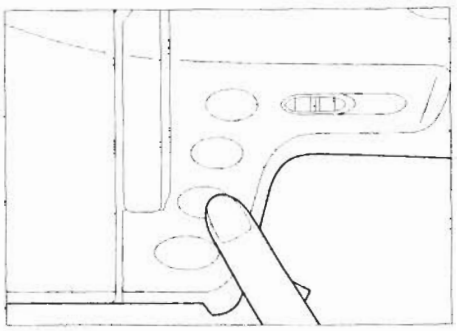
1 Shank lever



2. Hold the upper thread ends at the sewing start and sewing end which are between the button and the fabric, wind them around the shank and then tie them firmly together.

3. Tie the ends of the bobbin thread together at the reverse side of the fabric.

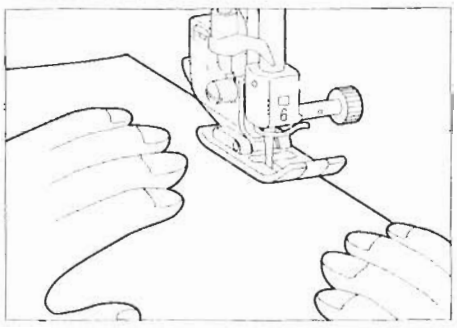
BASTING



1. Attach presser foot "J". It is suggested that the basting stitch be started with a reinforcement stitch by pressing the "REVERSE STITCH" button.

- You can change the length of one stitch to between 5 mm and 30 mm (13/64" to 1-13/64").

❶ **5 mm to 30 mm (13/64" to 1-13/64")**

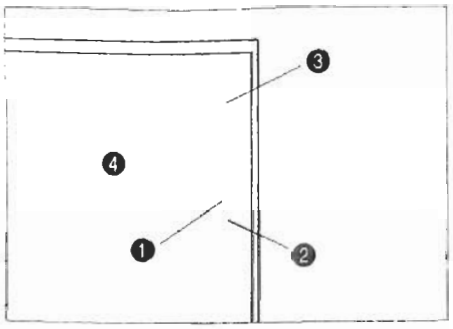


2. Sew while keeping the fabric taut.
3. End sewing with a reinforcement stitch.

ZIPPER INSERTION (CENTERED AND SIDE APPLICATION)

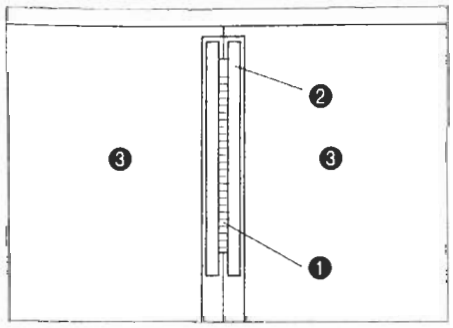
Select the pattern and then touch the " [I] " key.

Centered application



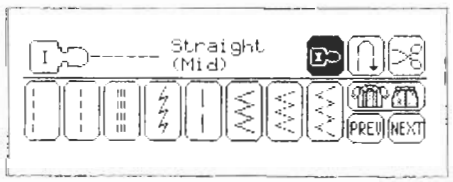
1. Attach presser foot "J" and sew straight stitches up to the crotch end. Change to a basting stitch and sew to the top of the fabric.

1 End of opening
2 Reverse stitch
3 Basting stitch
4 Reverse side



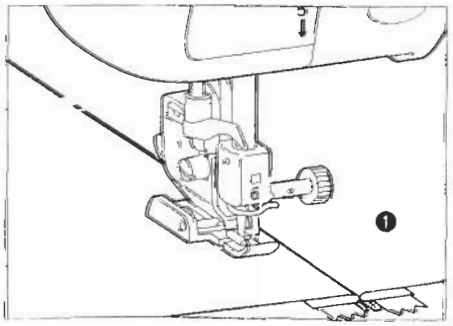
2. Press the seam allowance open and attach the zipper with a basting stitch in the middle of the zipper tape.

1 Zipper
2 Basting
3 Reverse side



3. Attach the right pin of presser foot "I" to the presser foot holder, then touch "PRESSER FOOT I". The thread tension adjusts for presser foot "I".

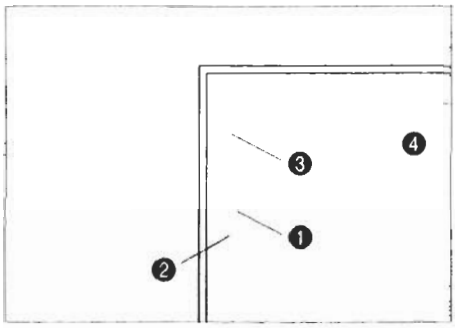
Note
If " [👕] ", and then "ZIPPER INSERTION" were touched, the thread tension would automatically adjust.



4. Topstitch 1 cm (25/64") from the seamed edge of the fabric and then remove the basting.

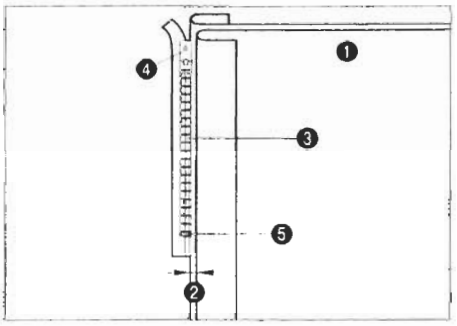
1 Surface

Side application



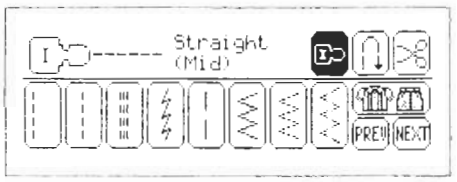
1. Attach presser foot "J" and sew straight stitches up to the crotch end. Change to a basting stitch and sew to the top of the fabric.

❶ End of opening
❷ Reverse stitch
❸ Basting stitch
❹ Reverse side

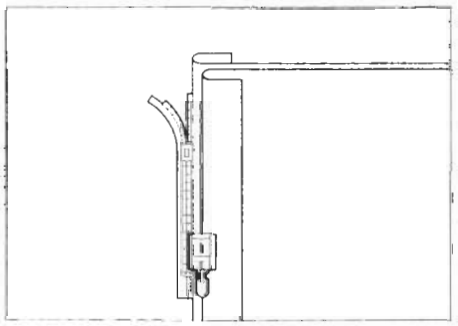


2. Press the seam allowance open and align the folded hem along the teeth of the zipper, while allowing 3 mm (1/8") for the sewing space.

❶ Reverse side
❷ Allow 3 mm (1/8") for sewing
❸ Teeth of zipper
❹ Slider on head of zipper
❺ Crotch end (Base of zipper)

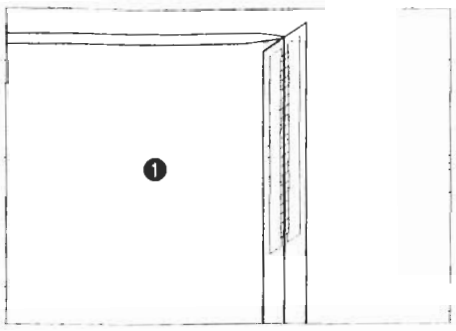


3. Select the " | " stitch and then touch the " ⊢⊃ " key.
The necessary adjustment for zipper insertion will be carried out automatically.



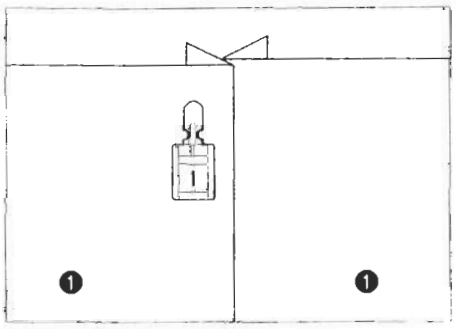
4. Put the left side of presser foot "I" into the holder, and then sew the bottom layer to the crotch end (base of zipper).

* When the automatic thread cutting and automatic reinforcement stitch are preset, reinforcement stitches will be sewn automatically at the start of sewing. Push the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.



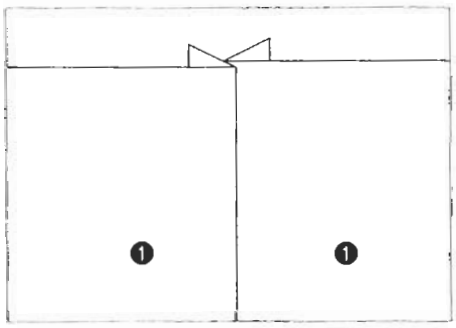
5. Close the zipper and turn over the fabric. Then sew the other side of the zipper to the fabric.

1 Reverse side



6. Turn the fabric over to the right side and sew a straight stitch 5 cm from the end, stop the machine, lower the needle, raise the presser foot and then remove the basting stitches.

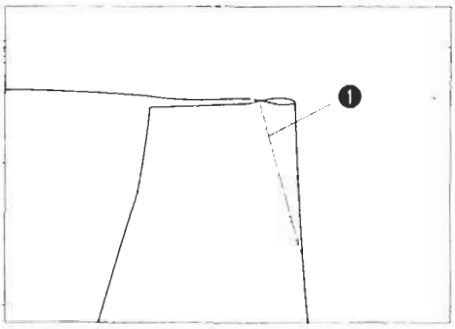
1 Surface



7. Move the zipper pull and sew the remaining part.

1 Surface

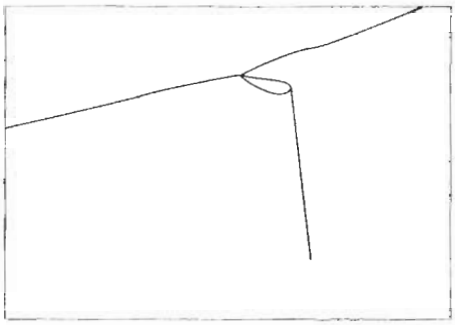
DART SEAM



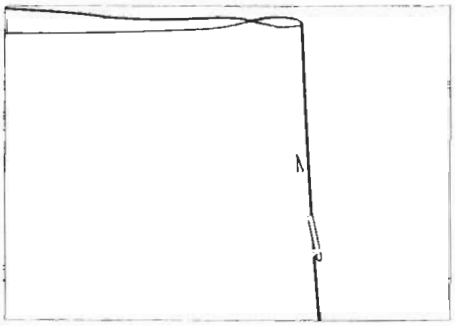
1. Attach presser foot "J". Sew a reverse stitch at the beginning of the dart and then sew from the wide end to the other end without stretching the fabric.

1 Basting

* If automatic reinforcement stitching is preset, a reinforcement stitch will automatically be sewn at the sewing start.

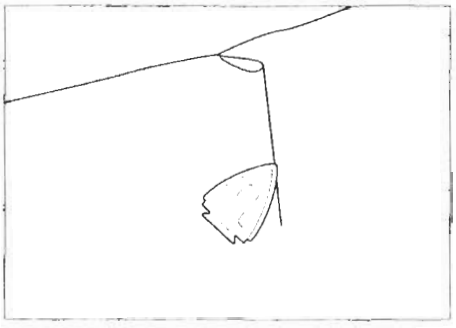


2. Do not sew a reverse stitch at end. Cut the thread at the end leaving 5 cm (2"), and then tie both ends together.



3. Insert the ends of the thread into the dart with a needle.

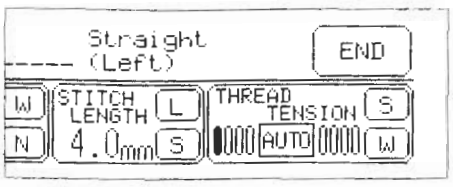
* When you reach the narrow end of the dart; stop, lift the presser foot, slide your fabric towards you (19 mm). Touch "STITCH LENGTH", reduce to 0.4 mm. Sew 3 stitches on the seam line. This will secure the thread ends, cut the thread.



4. Iron the dart to one side so that it is flat.

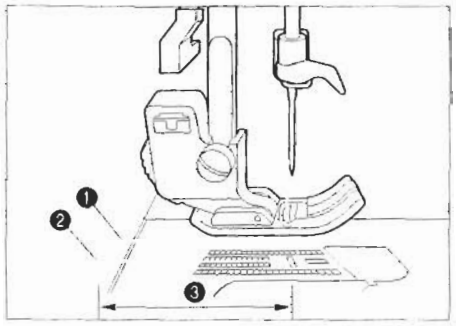
GATHERING

Use on waists of skirts, the sleeves of shirts, etc.



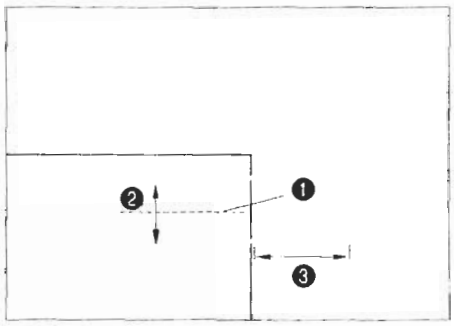
1. Set the stitch length to 4.0 mm (5/32") and the thread tension to weak.

* If " " , and then "GATHERING" were touched, a stitch length of 4.0 mm (5/32") and a weak thread tension would automatically be selected.



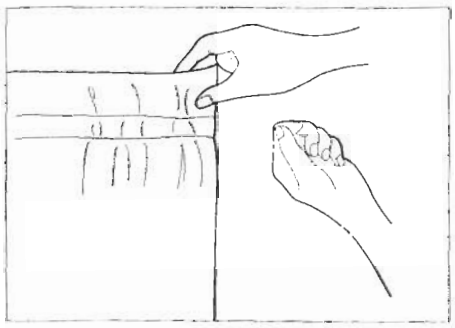
2. Attach presser foot "J". Pull out the bobbin and upper threads by 5 cm (2").

1 Upper thread
2 Bobbin thread
3 About 5 cm (2")

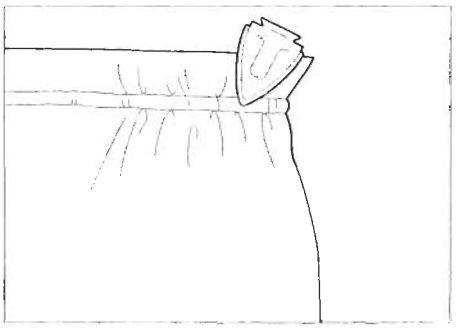


3. Sew two rows of straight stitches parallel to the seam line, then trim excess thread leaving 5 cm (2") .

1 Seam line
2 1.0 to 1.5 cm (25/64" to 19/32")
3 About 5 cm (2")

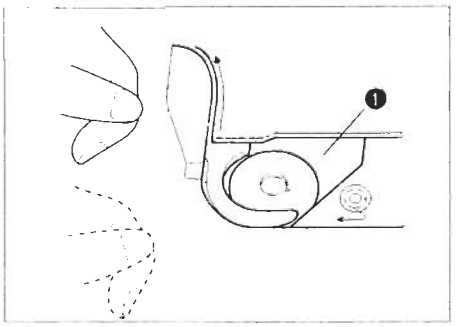


4. Pull the bobbin threads to obtain the desired amount of gather, then tie the upper and lower threads to secure.



5. Smooth the gathers by ironing them.

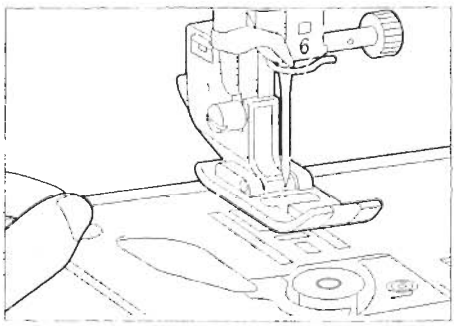
Pulling out the bobbin thread



1. Pass the thread along the groove in the direction of the arrow. and leave it there without cutting it.

1 Shuttle

* The bobbin cover should still be removed.

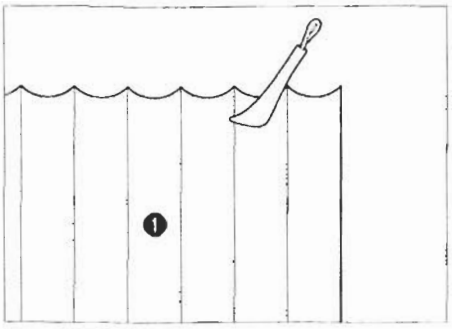


2. While holding the upper thread, push the "NEEDLE POSITION" button twice and then pull out the bobbin thread.

3. Replace the bobbin cover.

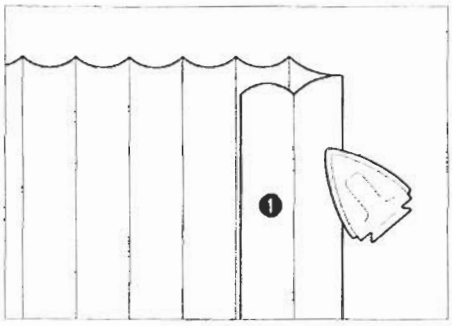
PINTUCK

Select the " [⋮] " stitch and then touch the " [ ] " key.



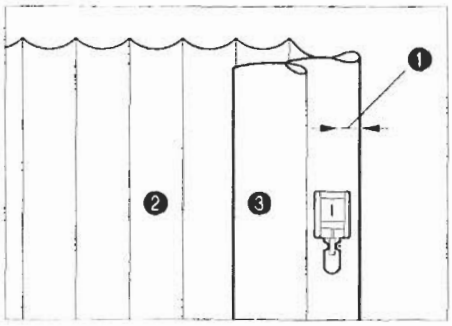
1. Mark along the folds on the reverse side of the fabric with a spatula.

❶ **Reverse side**



2. Fold the fabric so that the surface faces upward and iron only the folded parts.

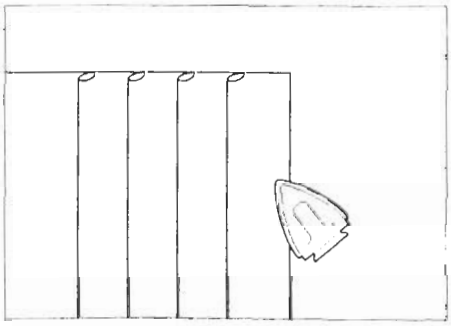
❶ **Surface**



3. Put the right end of presser foot "I" into the holder, and sew a straight stitch along the fold.

❶ **Width for pintuck**
❷ **Reverse side**
❸ **Surface**

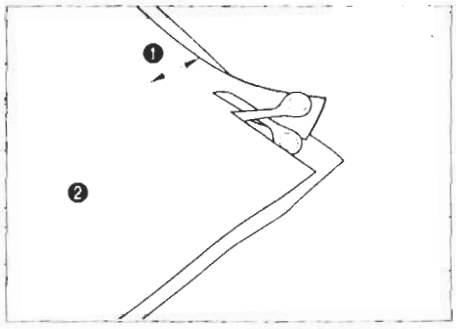
* When the automatic thread cutting and automatic reinforcement stitch are preset, reinforcement stitches will be sewn automatically at the start of sewing. Push the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.



4. Iron the folds toward the same direction.

FLAT FELL SEAM

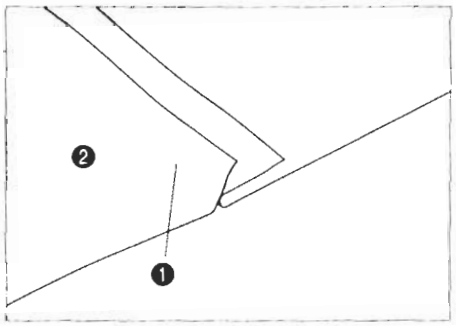
Use for reinforcing seams and finishing edges neatly.



1. Attach presser foot "J". Sew the seam line, then cut half of the seam allowance from the side that the flat fell seam will lie against.

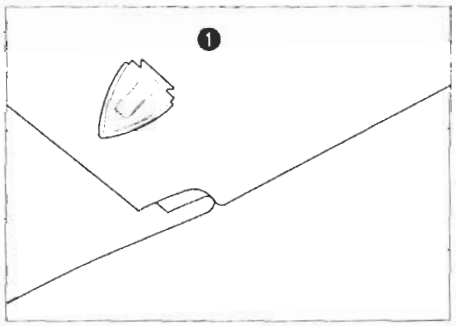
1 About 1.2 cm (1/2")
2 Reverse side

- When the automatic thread cutting and automatic reinforcement stitch are preset, reinforcement stitches will be sewn automatically at the start of sewing. Press the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.



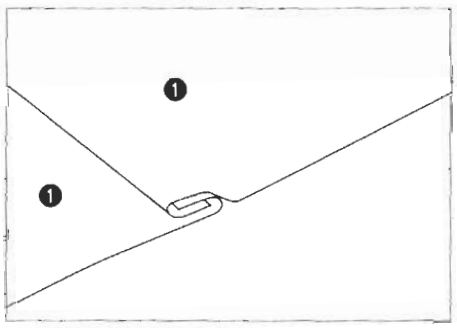
2. Spread out the fabric along the finish line.

1 Finish line
2 Reverse side



3. Lay both seam allowances to the shorter one's (cut one) side and iron them.

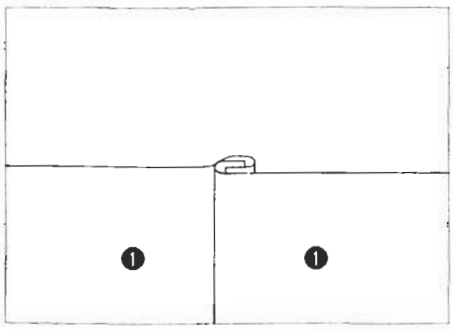
1 Reverse side



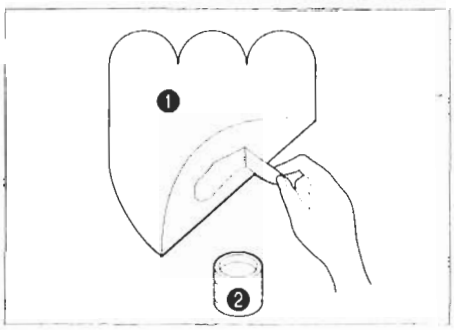
4. Fold the longer seam allowance around the shorter one, and sew the edge of the fold.

1 Reverse side

Finished flat fell seam



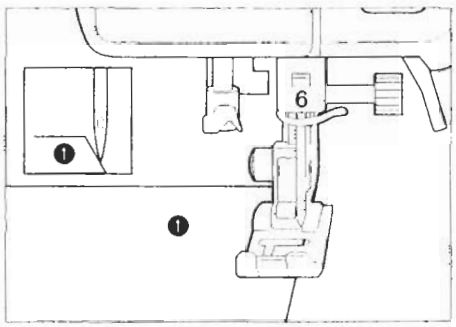
❶ Surface



1. Attach the applique to the fabric.

1 Applique
2 Fabric glue

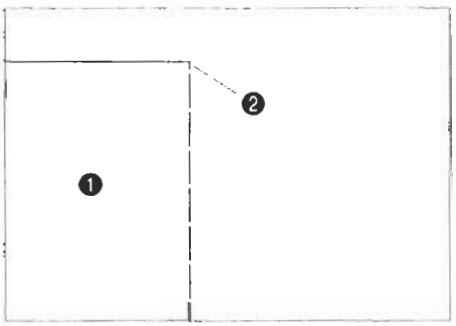
- The applique should be attached with fabric glue or a basting stitch so that it will not move during sewing.



2. Attach presser foot "J". Make sure that the needle drop point is just outside the applique and then start sewing.

1 Applique

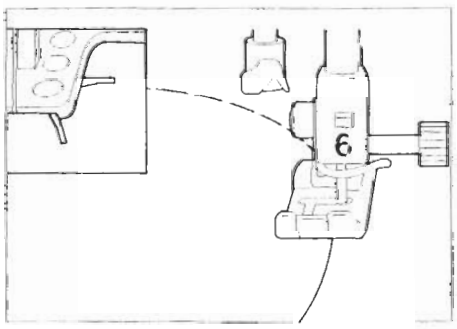
- When the automatic thread cutting and automatic reinforcement stitch are preset, reinforcement stitches will be sewn automatically at the start of sewing. Press the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.



3. Finish

1 Applique
2 Needle drop point

Sewing the applique around corners

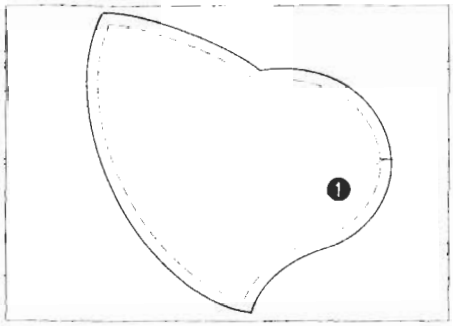


1. Stop the machine and position the needle just outside the applique.

2. Raise the presser foot and turn the fabric as needed to keep the correct needle position.

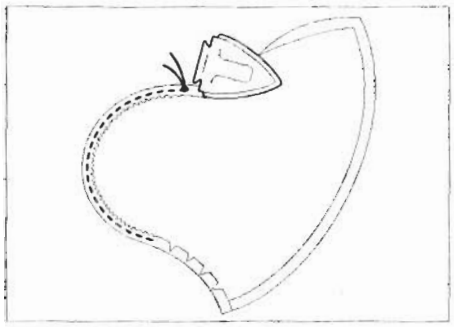
APPLIQUE QUILTS

Use a blind hem stitch for applique quilts.

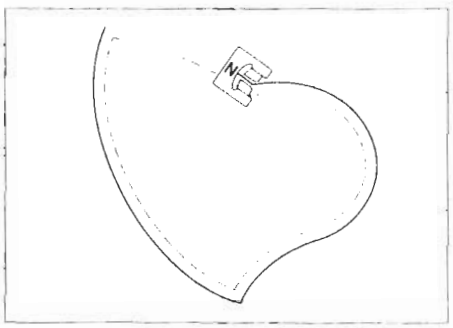


1. Trace the pattern onto the applique fabric and then cut around it.

❶ **Seam margin (0.3 to 0.5 mm)**

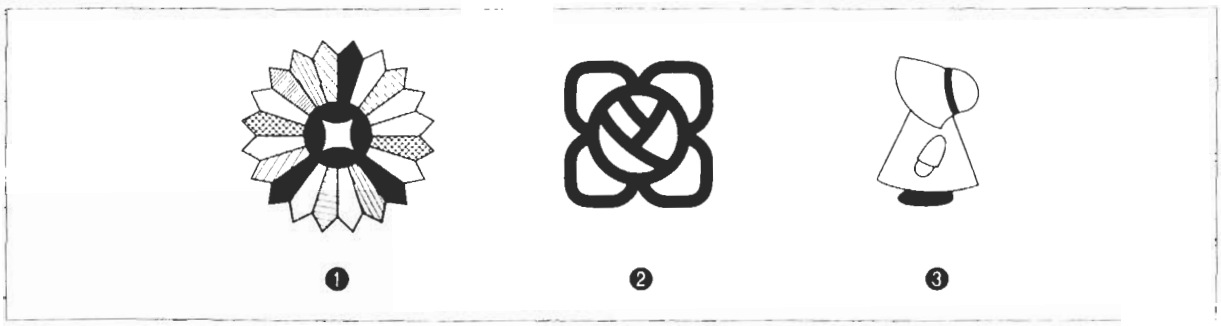


2. Place a piece of thick paper cut to the finished size of applique onto the fabric, and then fold over the seam margin using an iron.



3. Turn the fabric over and sew basting stitches around the edge. Attach monogramming foot "N" and then sew around the edge, while dropping the needle as close to the edge as possible.

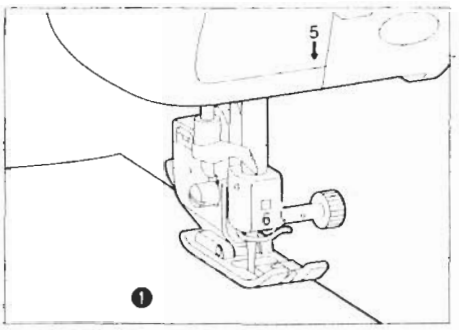
* When the automatic thread cutting and automatic reinforcement stitch are preset, reinforcement stitches will be sewn automatically at the start of sewing. Press the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.

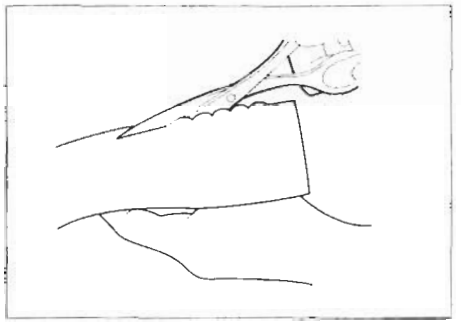


❶ **Dresden Plate**
❷ **Stained Glass**
❸ **Sunbonnet Sue**

SCALLOP STITCH

Stitch for decorating collars of blouses, edges of table cloths, etc.





1. Attach presser foot "N". Sew the remaining edge of the fabric so that the stitch doesn't go right to the edge of the fabric.

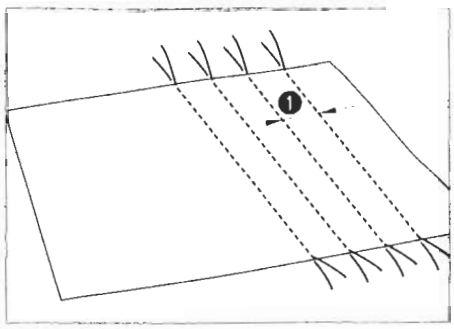
❶ **Surface**

* When the automatic thread cutting and automatic reinforcement stitch are preset, reinforcement stitches will be sewn automatically at the start of sewing. Press the "REVERSE STITCH" button to sew a reinforcement stitch and trim the thread automatically at the finish of sewing.

2. Trim along the stitches carefully so as not to cut the stitches.
* There are products in the marketplace that will "seal" the trimmed areas. This will give a more finished appearance.

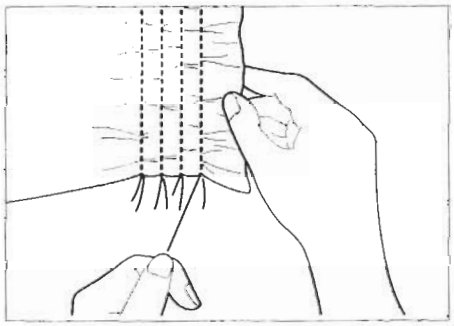
SMOCKING STITCH

This stitch is used for decorative stitching on clothing.

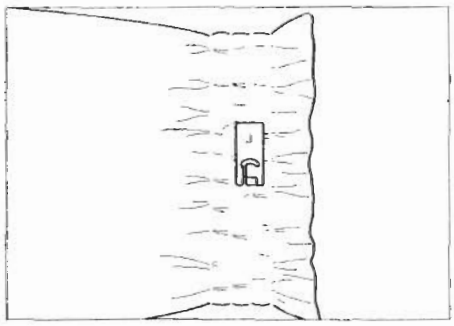


1. Select the "▯" stitch, set the stitch length to 4.0 mm and set the thread tension to a weak setting. Then sew columns of straight stitches at intervals of 1 cm.

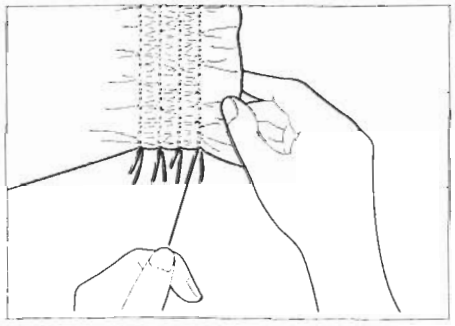
❶ **About 1 cm (25/64")**



2. Pull the bobbin threads to obtain the desired amount of gather, and then smooth the gathers by ironing them.

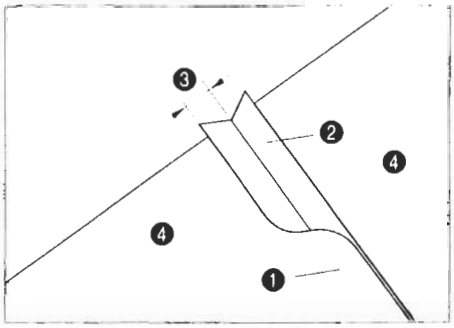


3. Attach presser foot "J" and sew over the top of the straight stitches, selecting from one of the two decorative stitches shown above.



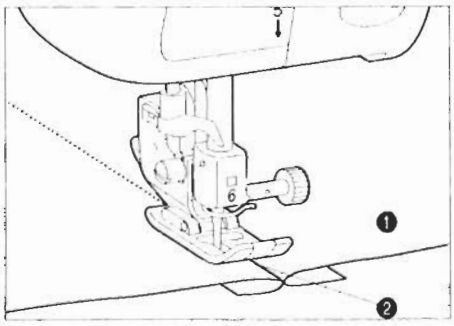
4. Pull out the straight stitch threads.

PATCHWORK STITCH



1. Match the fabric seams right sides together, join together with a straight stitch. Open seam allowance [about 1 cm (25/64")] and press flat.

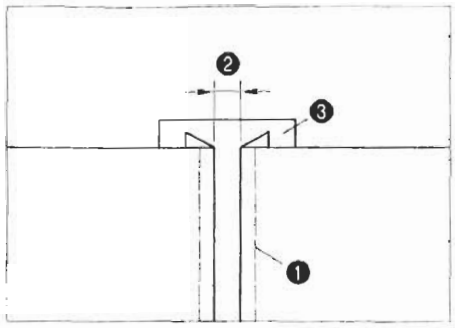
❶ **Straight stitch**
❷ **Seam allowance**
❸ **1 cm (25/64")**
❹ **Reverse side**



2. Attach presser foot "J". Set the center of the presser foot on the seam line of the joined fabrics and then sew over the seam, using one of the decorative stitches shown above.

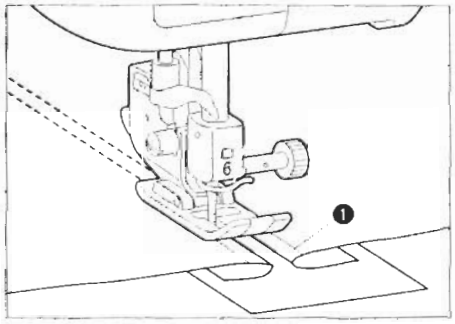
❶ **Surface**
❷ **Seam**

Stitch for fagoting, decoration, etc.



1. Baste the fabric onto thin paper or water-soluble stabilizer sheet.

❶ **Basting stitch**
❷ **0.4 cm (5/32")**
❸ **Thin paper or stabilizer sheet**



2. Attach presser foot "J". Set the center of the presser foot on the centers of both fabrics and begin sewing.

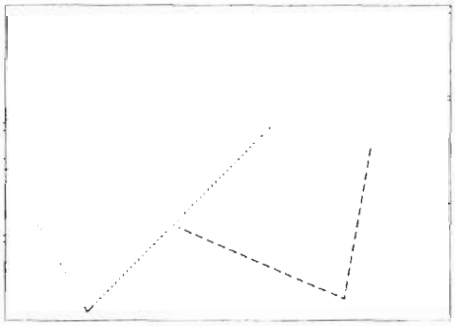
❶ **Basting stitch**

- Use a heavier weight thread (Example: 30# topstitching or cotton thread for machine quilting)
- After sewing, remove the paper.

DECORATIVE STITCHING

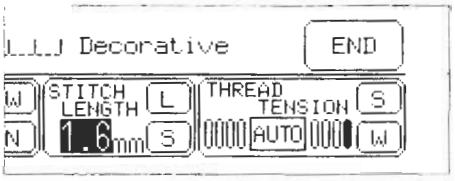
Select the stitch you would like to use.

Decorative stitching

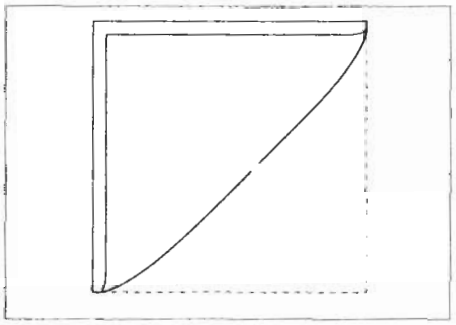


These stitches are used to embellish the seams of crazy quilts or as decorative hem stitches. Use a contrasting thread color or decorative embroidery thread.

Shell tacking

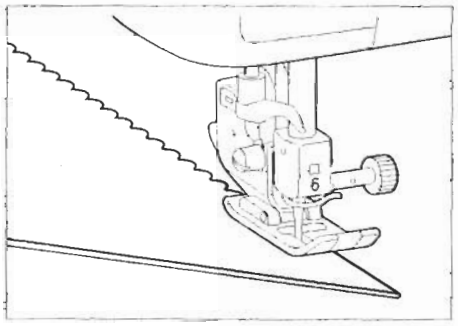


1. Attach presser foot "J", select " " and set the thread tension to a strong setting.



2. Fold the fabric in half diagonally.

* Use a thin fabric.



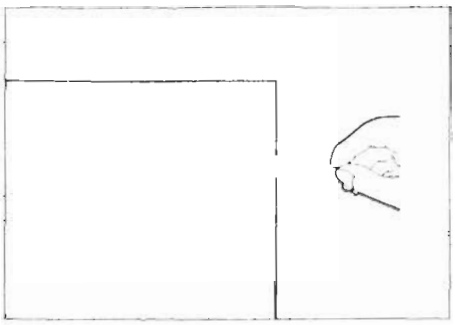
3. Drop the needle slightly to the outside of the edge of the fabric, and then start sewing.
4. Open out the fabric and iron the fold down to one side.

HEM-STITCH (HEIRLOOM STITCH)

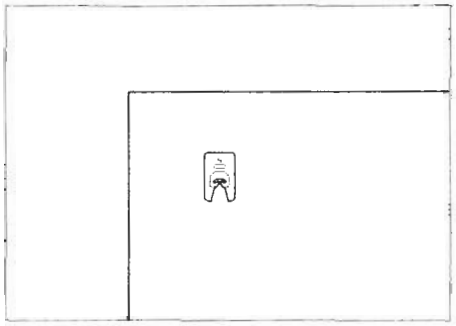
Use for sewing tablecloths, decorative hems on clothes and decorative stitching on shirtfronts.

A more attractive finish can be obtained if you use the "130/705H Wing" needle when sewing these patterns.
If using a wing needle and the stitch width has been set to manual, check that the needle will not touch the presser foot before starting sewing.

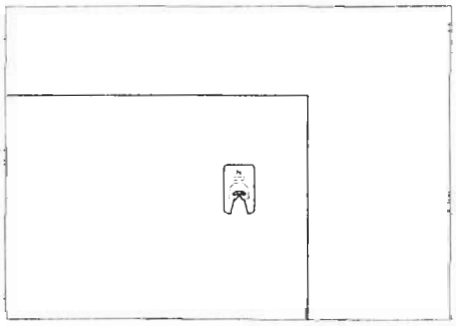
" " hem-stitching



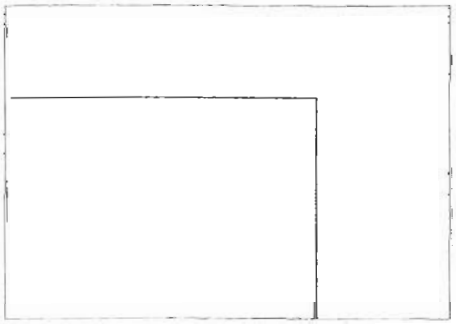
1. Pull out several threads from one area on a piece of fabric. This will leave the fabric frayed in this one area. About 5 or 6 threads will leave a 3 mm (1/8" area).



2. Attach presser foot "N". With the reverse side of the fabric facing up, sew one edge of the frayed part.

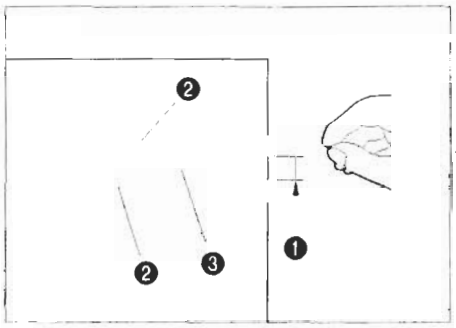


3. With the back side of the fabric continuing to face you, turn the fabric and sew the other edge of the frayed part, aligning the stitches so they are parallel.



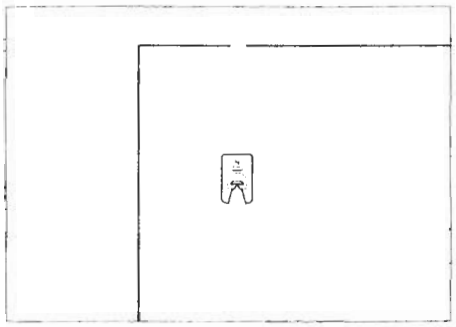
4. Illustration of finished product.

" " hem-stitching



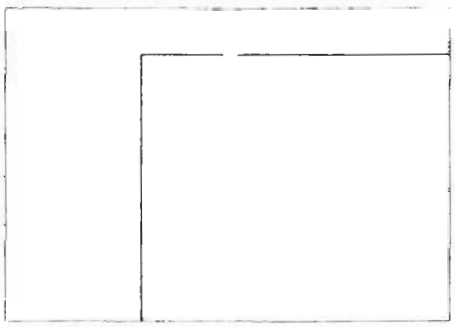
1. Pull out several threads from both sides of the 4 mm (5/32") part which is not yet frayed.
   [Pull out four threads, leave five threads and then pull out four threads, the width of five threads is approximately 4mm (5/32") or less.]

❶ **Approx. 4.0 mm (5/32") or less.**
❷ **Four threads (Pull out)**
❸ **Five threads (Leave)**



2. Sew the decorative stitch on the center of the five threads created above.

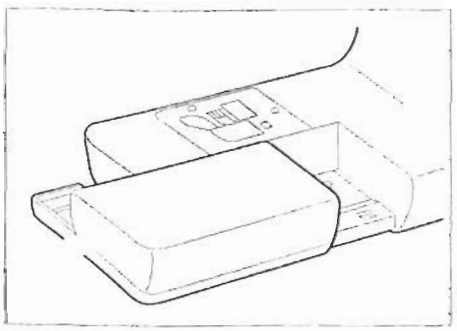
* Wing needle is an option.



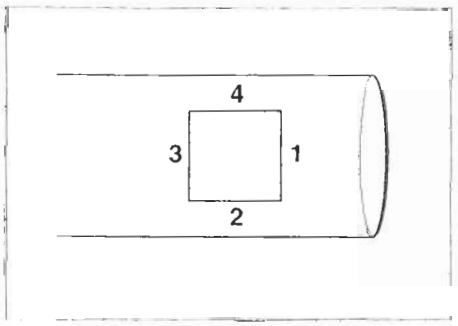
3. Illustration of finished product.

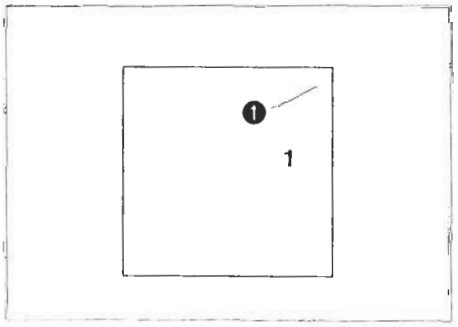
LATERAL SEWING (STRAIGHT/ZIGZAG)

Multi-directional sewing on tubular fabrics.



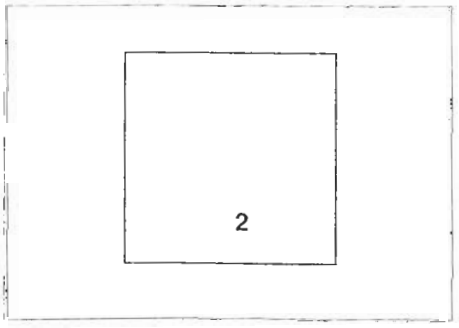
Slide the flat bed attachment off the machine to create the free arm.



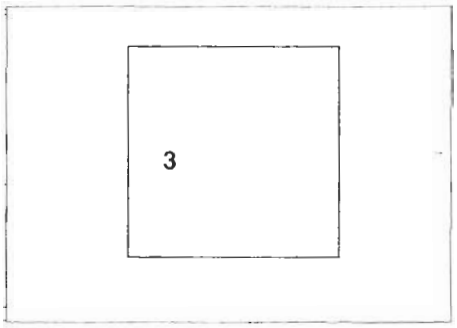


1. Attach presser foot "N". Sew with the "[⋮]" stitch to the point required.

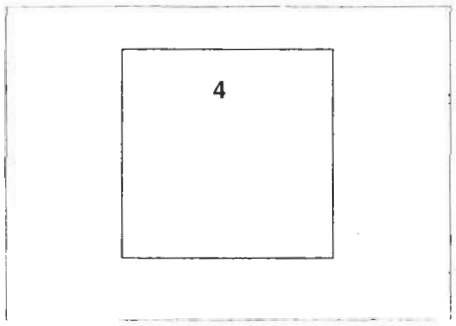
1 Start point



2. Select the "[⎯]" stitch, and then sew until you reach the desired length.



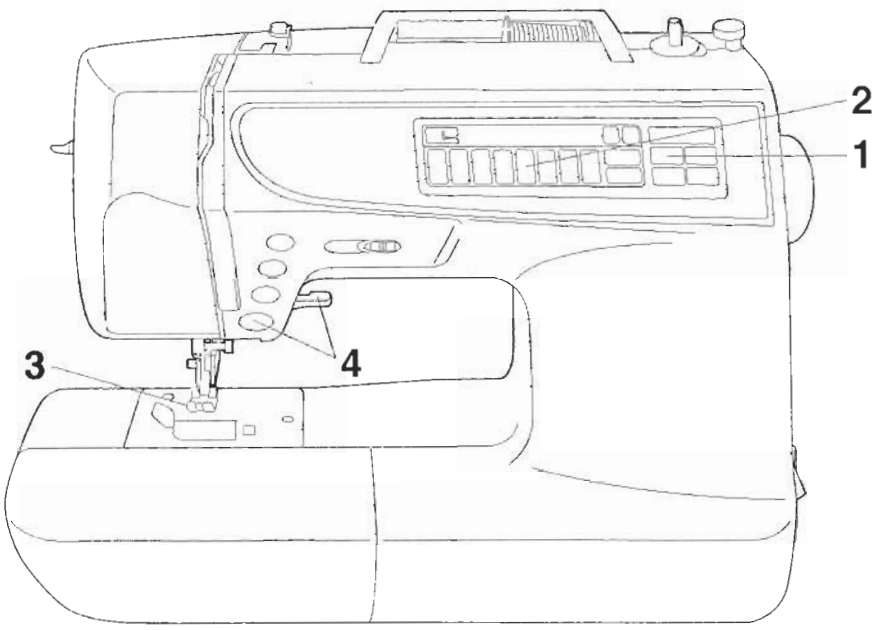
3. Select the " [ ] " stitch again, and push the "REVERSE STITCH" button.

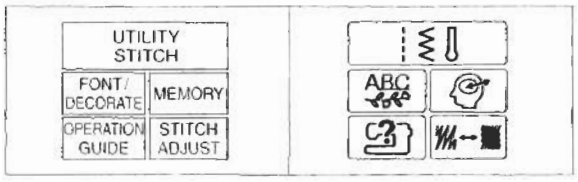


4. Select the " [ ] "stitch, and then sew until you reach the starting point.

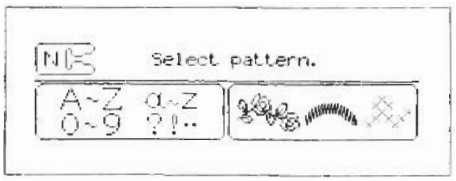
* Lateral zigzag sewing should be carried out using the same procedure as lateral straight sewing.

SELECTING A PATTERN

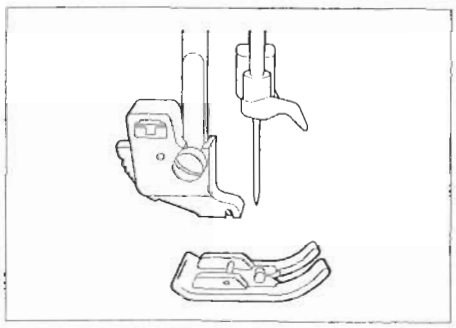




1. Push the "FONT/DECORATIVE STITCH" button.



2. Select the desired character or designs pattern key. (Refer to pages 82 to 94.)

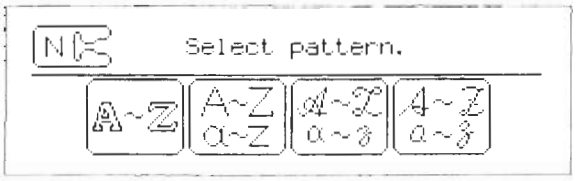


3. Attach presser foot N.

4. Lower the presser foot, then push the "START/STOP" button to start sewing. (Refer to page 98 for more details on how to sew.)

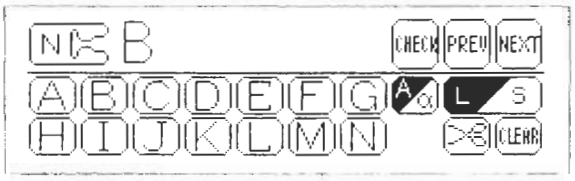
Combining characters

Example: To write the word "Bus"

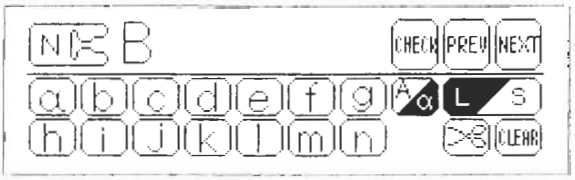


Touch the alphabetical font key for the style that you wish to use.

❶ **Touch "B".**



❷ **Touch "** Aα **" to switch to lowercase.**

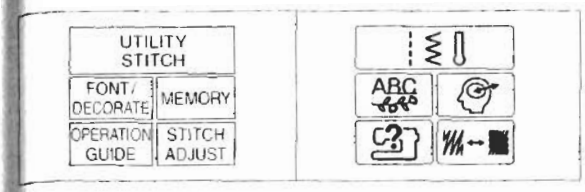


❸ **Touch "NEXT".**

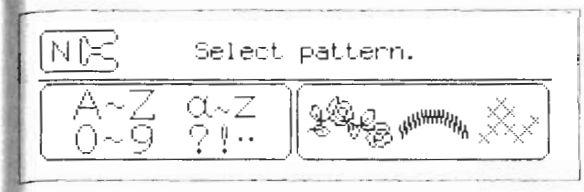
❹ **Touch "u", then "s".**

* Up to 70 fonts or spaces can be combined.

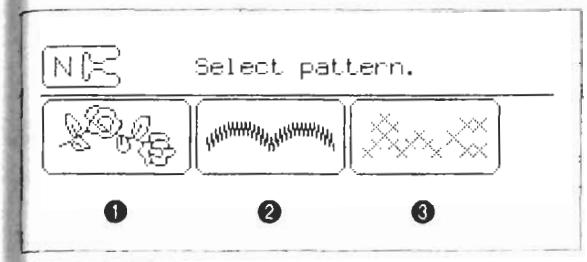
DECORATIVE, SATIN AND CROSS STITCH SEWING



1. Push the "FONT/DECORATIVE STITCH" button.

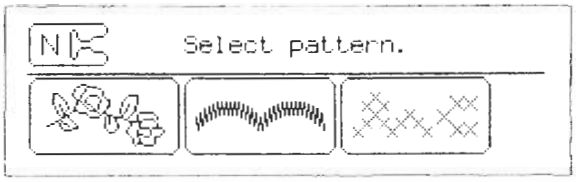


2. Touch the "DESIGNS" key.

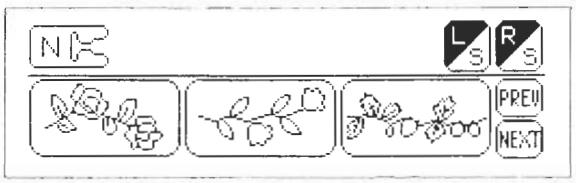


❶ **Decorative patterns**
❷ **Satin stitch patterns**
❸ **Cross stitch patterns**

SELECTING A DECORATIVE PATTERN

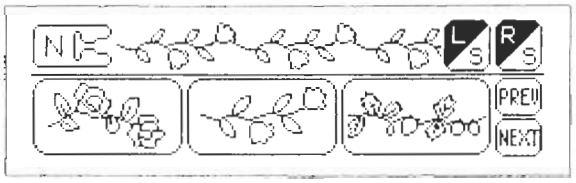


1. Touch the "DECORATIVE" patterns key.



2. Touch the key of the desired decorative pattern.

* There are a total of 21 screens showing decorative patterns.



L S "L" represents large size patterns
"S" represents small size patterns

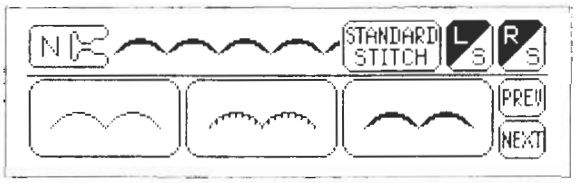
R S "R" represents repeating patterns
"S" represents a single pattern

PREV represents the previous pattern choices

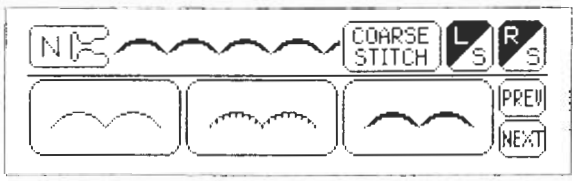
NEXT represents the next pattern choices

Changing the stitching density

The stitching density for some decorative stitches (" ", " ", " ", " ", " " and " ") can be changed.

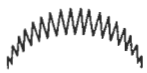


1. If one of the decorative stitches listed above is selected. " " appears on the display.

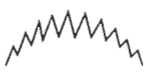


2. Touch " " to change the stitching density to " ". Two stitching densities are available: STANDARD and COARSE.

Note
Depending on the types of fabric and thread used, the thread may become tangled when the STANDARD density is used. Therefore, the COARSE density setting should be used.

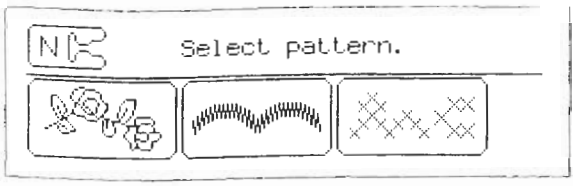


STANDARD

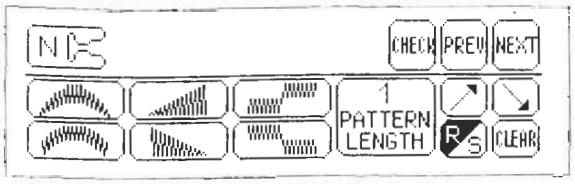


COARSE

SELECTING A SATIN STITCH PATTERN

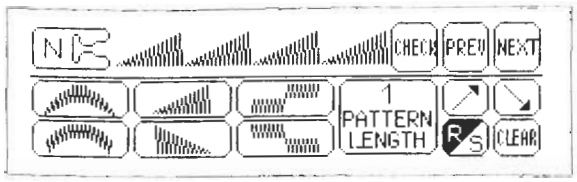


1. Touch "SATIN STITCH".



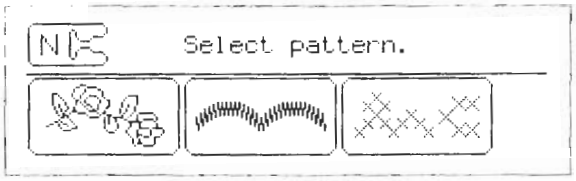
2. Touch the key of the desired satin stitch pattern.

* There are a total of 3 screens showing satin stitch patterns.
Up to 70 different satin stitch patterns can be combined into a single pattern.

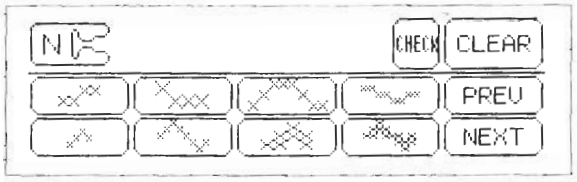


The thread may easily become knotted when certain types of fabric or thread are used; therefore, the upper thread tension should be adjusted according to the application.

SELECTING A CROSS STITCH PATTERN

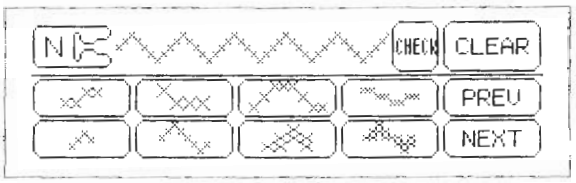


1. Touch the "CROSS STITCH" key.



2. Touch the key of the desired cross stitch pattern.

* There are a total of 2 screens showing cross stitch patterns.



3. Touch the pattern that you would like to use. The pattern you touch will then be selected for use.

* If you select the wrong pattern by mistake, touch the "CLEAR" key to clear the pattern selection.
* Up to 70 different patterns can be combined into a single pattern.

Changing fonts

1. Touch the "Clear" key.
   Each touch of the key deletes the last letter that was selected.

2. Touch the keys of the correct letters.

Changing the size

Touch "L/S" until the desired size changes to black.

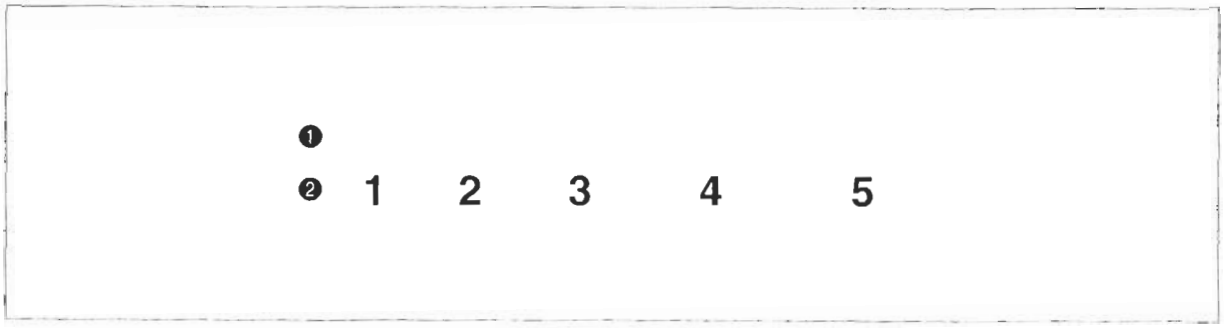
When the large size is selected [L]
When the small size is selected [S]

(Large) 11 millimeters (Small) 7 millimeters

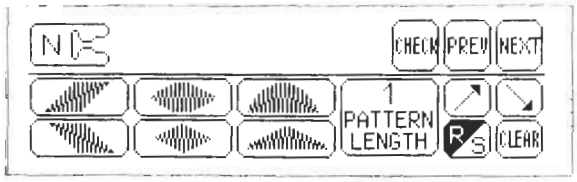
(Large) 27 millimeters (Small) 15 millimeters

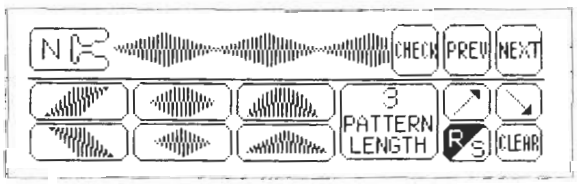
Changing the pattern length (elongation)

Use "PATTERN LENGTH1" through "PATTERN LENGTH5" to lengthen a satin stitch pattern to one of 5 different sizes without changing the stitch width or length.



❶ **Actual size**
❷ **Pattern length**

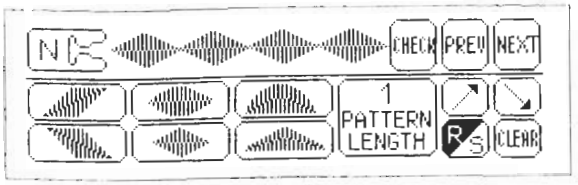


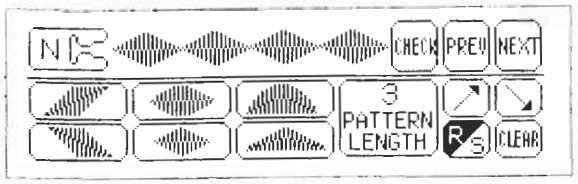


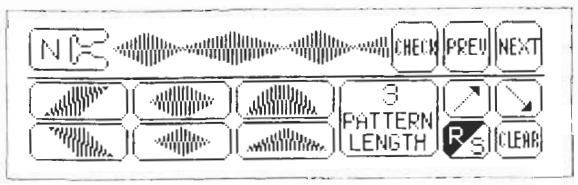
Example: To change a pattern length with "LENGTH3"

1. Touch "LENGTH1" until it changes to "LENGTH3".

2. Touch the key of the desired satin stitch pattern.







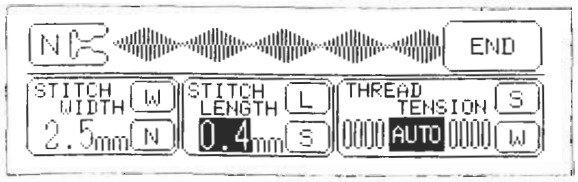
Example: To combine patterns made with "PATTERN LENGTH1" and "PATTERN LENGTH3"

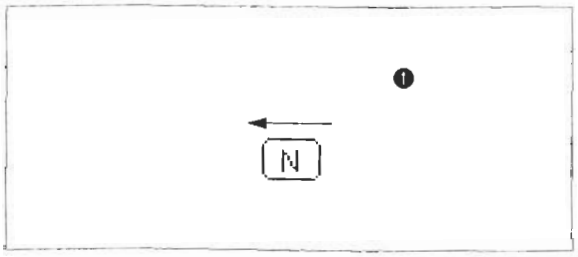
1. Touch the " [ ] " key.

2. Touch "PATTERN LENGTH1" until it changes to "PATTERN LENGTH3".

3. Touch the " [ ] " key.

Changing the stitch length and the stitch width

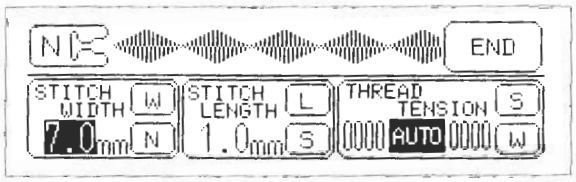




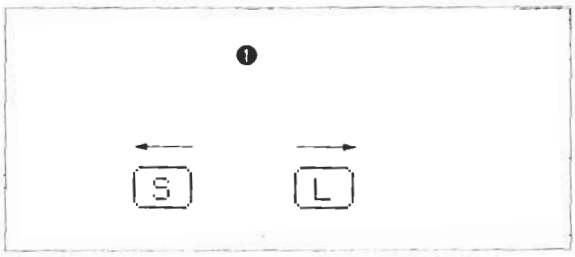
Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch width keys " [N] " or " [W] " to select the desired width.

❶ **Initial width: 7.0 mm (9/32")**

Adjusting the stitch length



Push the "STITCH/THREAD ADJUSTMENT" button, then touch the stitch length keys " L " or " S " to select the desired length.

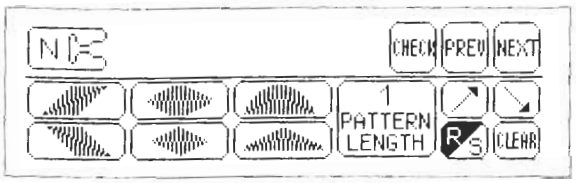


❶ **Initial length: 0.4 mm (1/64)**

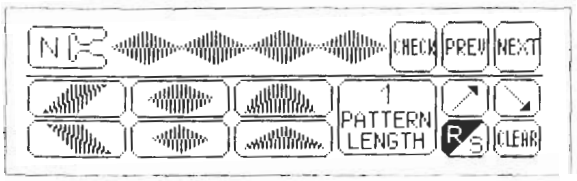
The thread may easily become knotted when certain types of fabric or thread are used; therefore, the upper thread tension should be adjusted according to the application.

Making step patterns

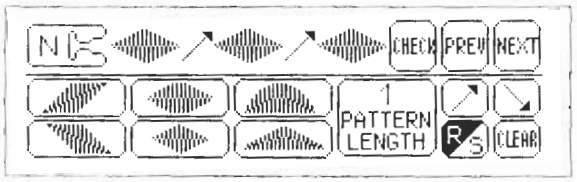
A step pattern is made by using " [↗] " and " [↘] " to move the positions of patterns into a steplike design.
Use " [↗] " and " [↘] " to make step patterns with satin stitch patterns.
Touch " [↗] " once to move the pattern up one half of its height.
Touch " [↘] " once to move the pattern down one half of its height.



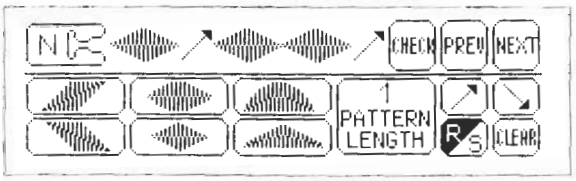
1. Touch the " [≈] " key.



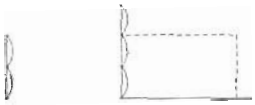
2. Touch the " [↗] " key.
The position of the next pattern is moved up one half of its height.

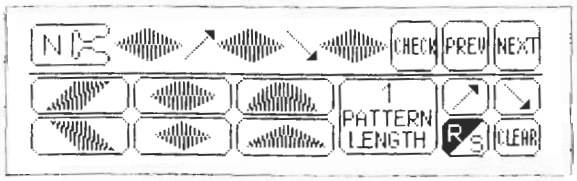


3. Touch the " [≈] " key.



4. Touch the " [↘] " key.

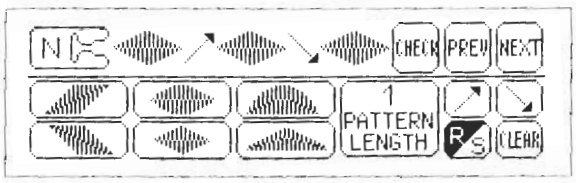




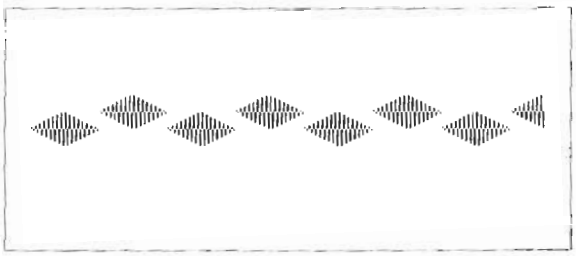
Checking the step pattern

One touch of the "up" key will move the stitch pattern up half of its finished height.

One touch of the "down" key will move the stitch pattern down half of it's finished height.

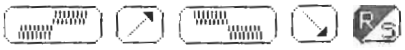


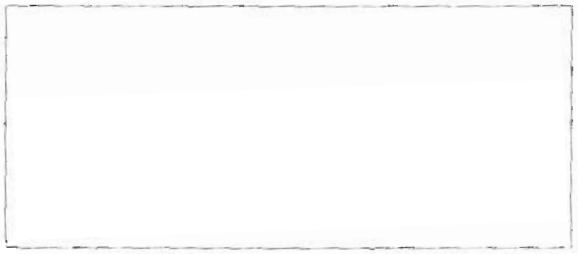
Touch the "CHECK" key.

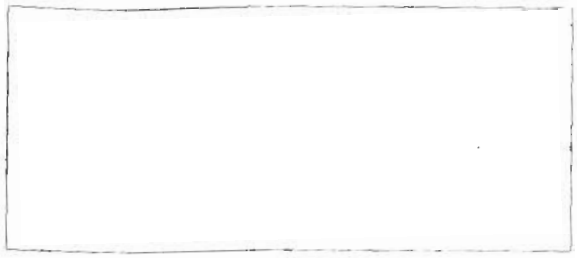


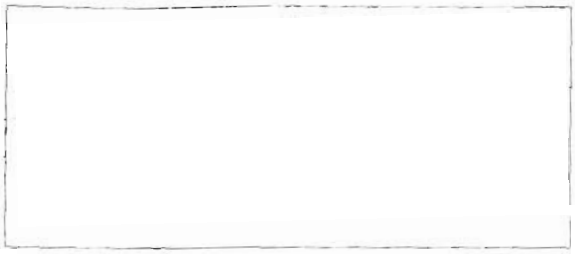
The step pattern from the beginning is scrolled across the display.

Examples of combinations

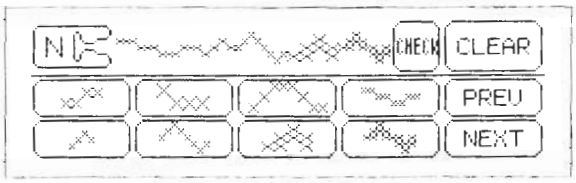


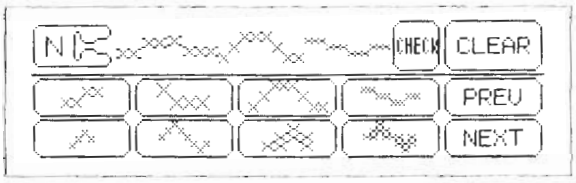






Checking the combined pattern

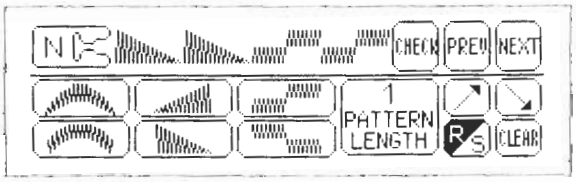


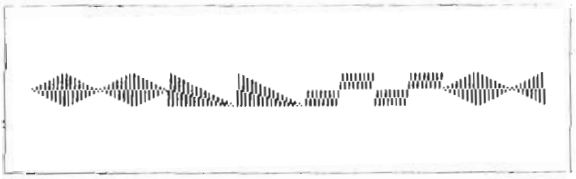


Example: When " " is combined

Touch the "CHECK" key to scroll the combined patterns from the beginning across the display.

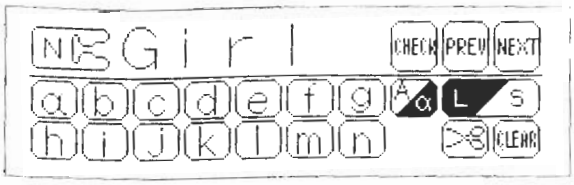
When using the satin stitch



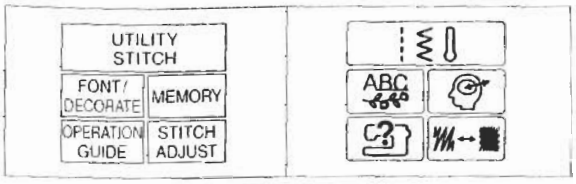


Example: When " " is combined

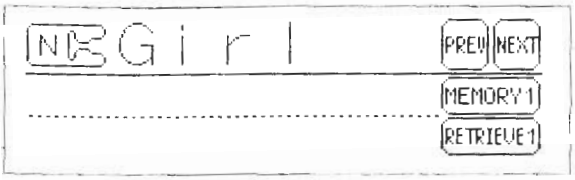
Saving a pattern combination



Enter the fonts to create the name or saying.



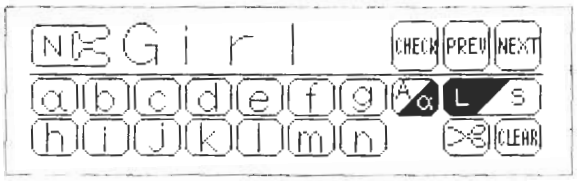
2. Push the "MEMORY" key.



3. Touch the "MEMORY" key.

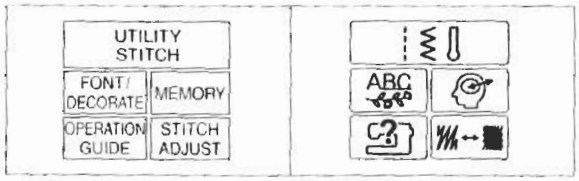
CAUTION

- **If a pattern is saved at an address which already contains a pattern, the previous pattern will be deleted.**
- **Do not turn off the power while a pattern is being saved.**
- **Five pattern combinations can be stored.**
- **Each memory address can save upto 70 different characters, spaces or designs.**



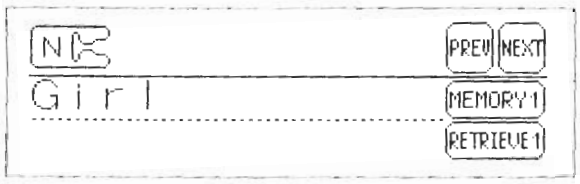
4. The pattern is stored.

Recalling a stored pattern combination

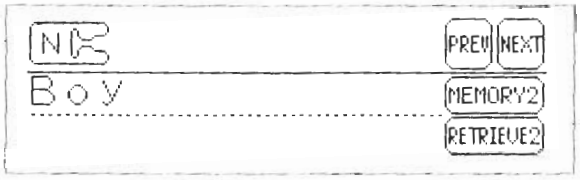


Example: To recall the "MEMORY" pattern stored in memory address 2

1. Push the "MEMORY" key.



2. Touch the "NEXT" key.



3. Touch the "RETRIEVE 2" key.

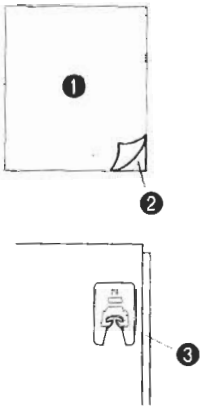
4. The pattern is recalled.

* To clear out a memory address leave the area blank instead of filling it with characters. Press the "MEMORY" key and save this blank area in the memory address you wish to "clear" out.

Sewing attractive finishes

Refer to the table below and the "RELATED CHART OF SEWING FABRICS, THREADS AND NEEDLES" for recommended fabrics, threads and needles to use in order to obtain attractive sewing finishes. Furthermore, pattern slippages may occur when using different fabric thicknesses or types of stabilizers. Be sure to carry out a test sewing beforehand to check.

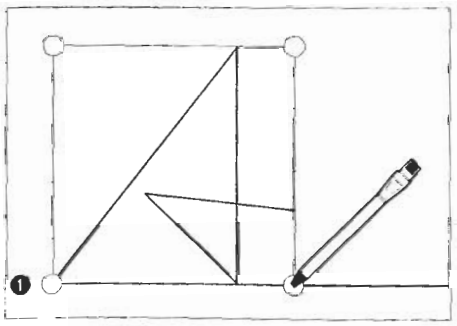
FABRIC	When sewing thin or stretch fabrics, fabrics with coarse weaves, or characters/decoratives stitches stored in the machine attach interfacing to the reverse side. If you do not wish to attach interfacing, place the fabric onto some thin paper such as tracing paper before starting to sew. This acts as a stabilizer.
THREAD	#50 – #60
NEEDLE	Thin and medium fabrics 75/11 (Embroidery) Thick fabrics 90/14 (Embroidery) Stretch fabrics #14 golden needle



1 Fabric
2 Stabilizer
3 Thin paper

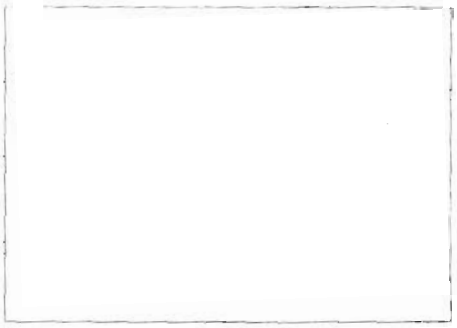
Using a pattern sheet

The enclosed pattern sheet can be used to mark the sewing position of large fonts and one-point patterns on fabric.



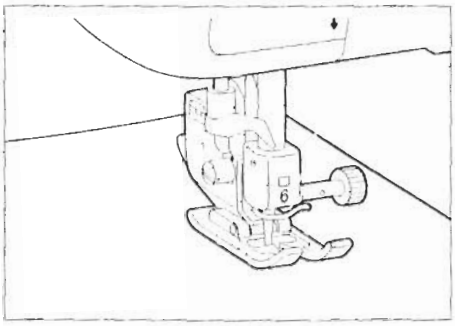
1. Use the enclosed eyelet punch to make holes at the circles in the pattern sheet.
2. Align the picture on the pattern sheet with the place on the fabric where it is to be sewn, and use a chalk pen to mark the fabric using the positions of the holes.

1 Initial needle drop point

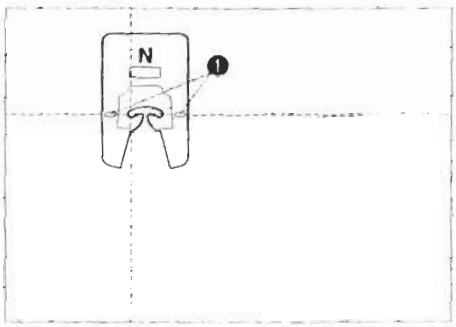


3. Draw lines to join the marks as shown in the illustration.

Sewing

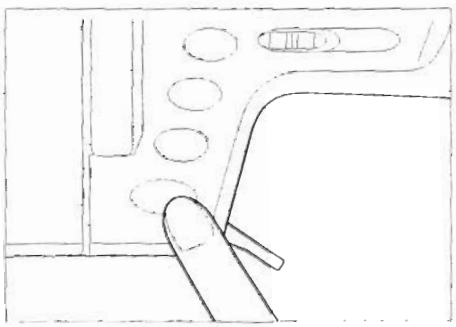


1. Attach presser foot "N".
2. Place the fabric under the presser foot, pull the upper thread out to the side and then lower the presser foot.

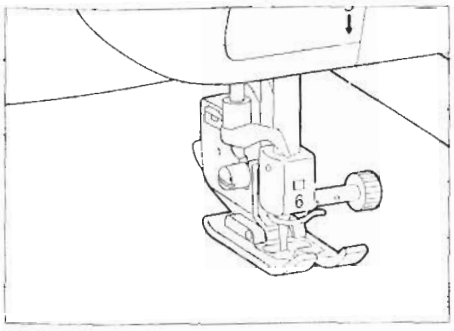


- If you used the pattern sheet to make positioning marks on the fabric, position the fabric so that the marks align with the needle reference points in the presser foot, then pull the upper thread out to the side before lowering the presser foot.
- Be sure that the material is positioned so that pattern will be sewn facing the correct direction.

1 Needle hole reference line



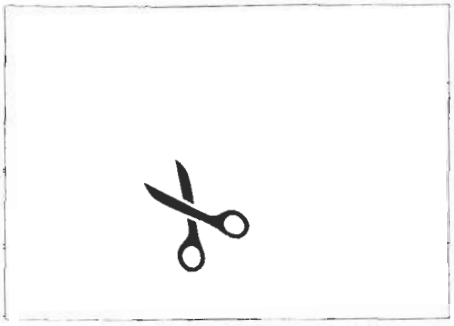
3. Push the "START/STOP" button to start sewing.



4. Once sewing of the font has been completed, the sewing machine will automatically sew reinforcement stitches, and then stop.

* If "THREAD CUTTING" was set before sewing, the machine automatically cuts both threads after stopping.

When sewing continuous patterns, push the "START/STOP" button to stop the sewing machine, then push the "REVERSE STITCH" button to sew reinforcement stitches.

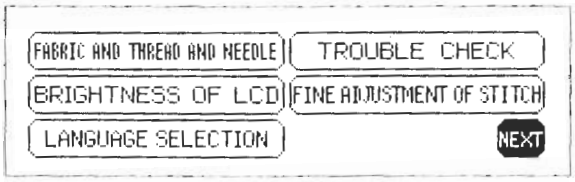


5. When sewing is completed, trim any excess thread.

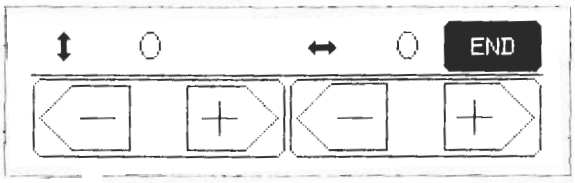
CAUTION
When sewing some patterns, the needle will stop in the raised position while the fabric is fed due to the needle bar separation mechanism which is used in this sewing machine. At such times, a clicking sound which is different from the sound generated during sewing will be heard, but this sound is normal and is not the sign of a malfunction.

ADJUSTING STITCH PATTERNS

A stitch pattern may get deformed due to the thread or cloth. It is a good idea to first make a trial stitching, and then make adjustments for each stitch pattern if necessary.



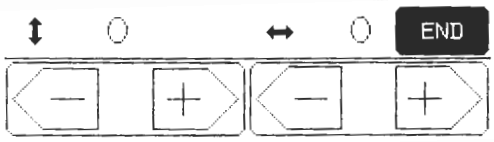
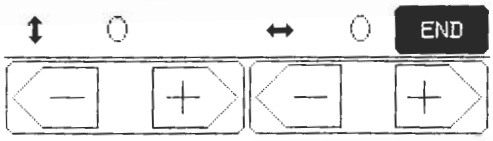
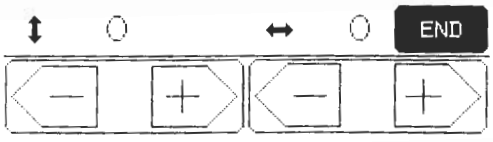
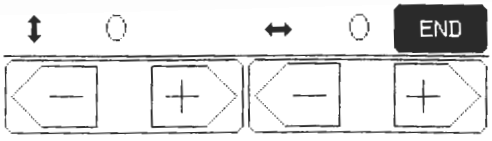
1. Touch the "OPERATION GUIDE" key.
2. Touch the "FINE ADJUSTMENT OF STITCH" key.



3. Attach presser foot "N" and then start embroidering. A trial pattern for adjustment purposes can then be embroidered.
   Adjust shape of stitch using the "+" and "–" keys.

* From –9 to +9

4. Touch the "END" key when the adjustment is finished.

Stitch pattern	Remedy
	Correct shape
	
	
	
	

CLEANING

Cleaning the screen

CAUTION
Disconnect the power cord from the wall socket before cleaning the screen, otherwise injury or electrical shock may result.

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

Cleaning the sewing machine surface

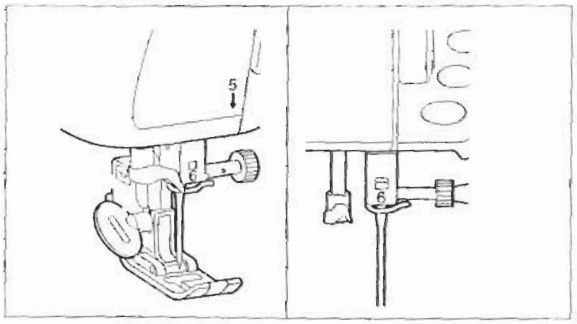
CAUTION
Disconnect the power cord from the wall socket before cleaning the sewing machine surface, otherwise injury or electrical shock may result.

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

Cleaning the shuttle

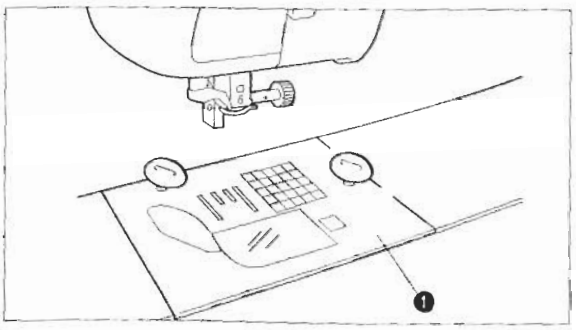
CAUTION
Disconnect the power cord from the wall socket before cleaning the shuttle, otherwise injury or electrical shock may result.

Sewing performance will suffer and bobbin thread detection will become unreliable if dust collects in the shuttle. It should be kept clean at all times.



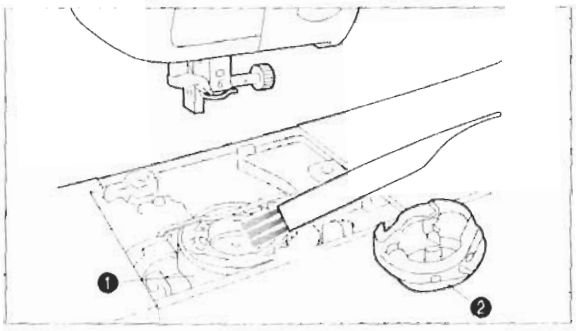
Always keep the machine clean.

1. Turn off the power and remove the presser foot holder and the needle.



2. Loosen the screws.
3. Remove the needle plate.

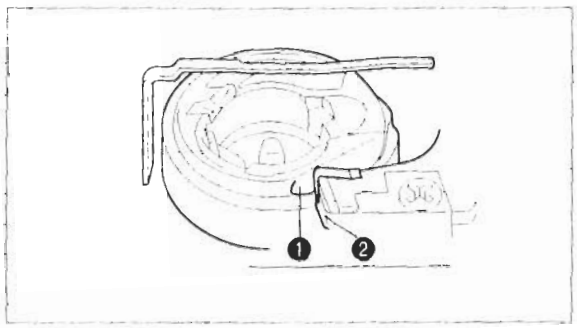
❶ **Needle plate**



4. Take out the shuttle.

5. Remove accumulated lint and thread from the inner shuttle and race with a brush or a vacuum cleaner.

❶ **Race**
❷ **Shuttle**



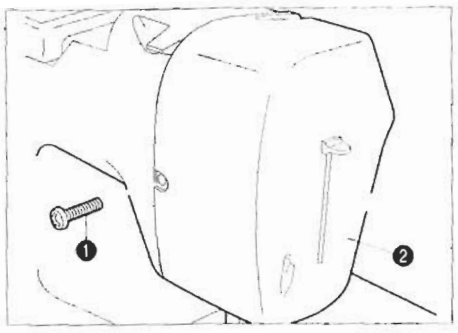
6. Set the shuttle by aligning the shuttle projection with spring of the stopper.

❶ **Projection**
❷ **Spring**

* Lint and dust accumulated in the race will sometimes cause poor stitching or malfunction of bobbin thread sensor.

CHANGING THE LIGHT BULB

When replacing the light bulb



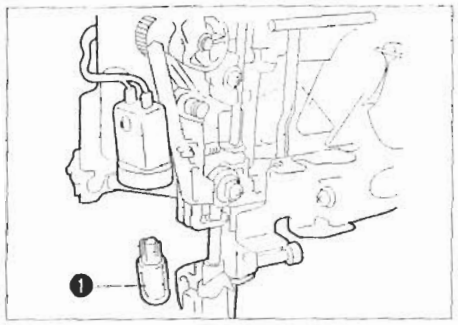
1. Turn the power off.

* The power cord plug must be removed from the electric outlet prior to changing the bulb.

2. Loosen the screw on the reverse side of sewing head.

3. Remove the end cap.

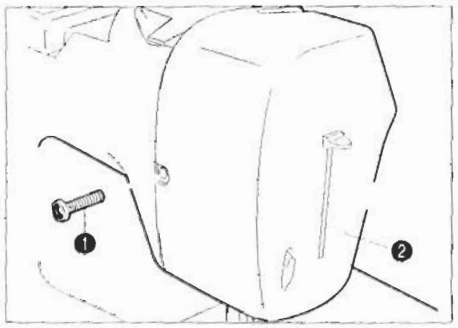
1 Screw
2 End cap



4. Replace the snap in the light bulb with a new one.

1 Light bulb

* Light bulbs are available through your dealer. (12V, 5W/ Parts code XA2037001)



5. Set the end cap.

6. Tighten the screw.

1 Screw
2 End cap

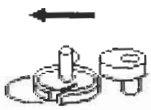
RELATED CHART OF SEWING FABRICS, THREAD AND NEEDLE

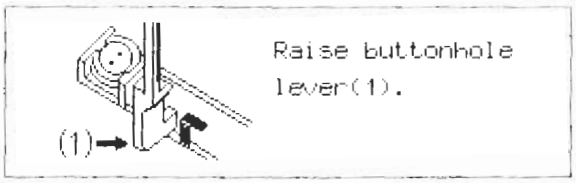
Sewing fabrics		Thread		Size of needle
		Type	Size	
Medium	Broad cloth	Cotton	60-80	11-14
	Taffeta	Synthetic mercerized	60-80	
	Flannel, Gabardine	Silk	50-80	
Thin	Lawn	Cotton	60-80	9-11
	Georgette	Synthetic mercerized	60-80	
	Challis, Satin	Silk	50-80	
Thick	Denim	Cotton	30-50	14-16
	Corduroy	Synthetic mercerized	50	
	Tweed	Silk	50	
Stretch	Jersey	Thread for knit		Golden needle 11-14
	Tricot			
In case of top stitch thread		Synthetic mercerized	30	14-16
		Silk	30	

* For sewing on the popular stretch variety of fabrics, embroidery and decorative stitch sewing, "Golden needle" should be used.
* Today there are many different types of needles to suit a variety of sewing needs. Be sure to select the correct needle for a specific sewing project. For example, there are needles for denim material or needles for sewing with metallic threads.

If the machine is not properly setup when the "START/STOP" or "REVERSE STITCH" button is pushed, or a correction of your operating procedure is necessary, the machine will not start and will instruct you with an alarm and warning message on the LCD.

Warning messages

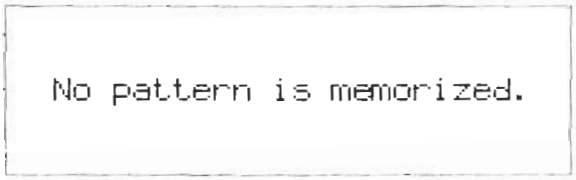
Check if thread is entangled. Check if needle is bent.	This message is displayed when the motor is locked, such as when the thread becomes entangled.
Check if upper thread is cut.	This message is displayed when the machine finds that there is no upper thread or that it is cut. If the thread is cut, start from the beginning and re-thread it.
Lower presser foot lever.	This message is displayed when the "START/STOP", "REVERSE STITCH" or "THREAD CUTTER" button is pushed, or when the foot controller is pressed down while the presser foot is raised.
This pattern can not be saved in memory.	This message is displayed when the pattern that you tried to store could not be combined.
No more stitches can be combined.	This message is displayed when you tried to combine more than 71 patterns.
 Return bobbin winding shaft to left.	This message is displayed when the "REVERSE STITCH", "NEEDLE POSITION" or "THREAD CUTTER" button is pushed while the bobbin winder shaft is at the right.
Start/Stop button does not work when foot control is connected. Disconnect foot control.	This message is displayed when the "START/STOP" button is pushed while the foot controller is connected.



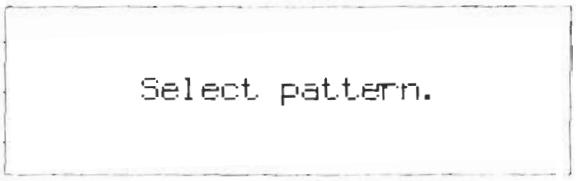
This message is displayed when a pattern other than a buttonhole is selected and the "START/STOP" or "REVERSE STITCH" button is pushed while the buttonhole lever is lowered.

This message is displayed when a buttonhole pattern is selected and the "START/STOP" or "REVERSE STITCH" button is pushed while the buttonhole lever is raised.

* In this case, the machine can only rotate once.



This message is displayed when a "RETRIEVE" key is touched, but no patterns have been stored.



This message appears when the "START/STOP" or "REVERSE STITCH" button is pushed or "STITCH/THREAD ADJUSTMENT" is touched, but no pattern has been selected.

Messages

This message appears when the "MEMORY" key is touched to store a pattern.

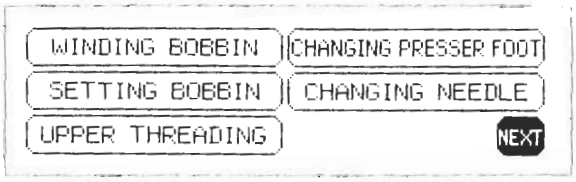
This message appears while the bobbin is winding.

Alarm

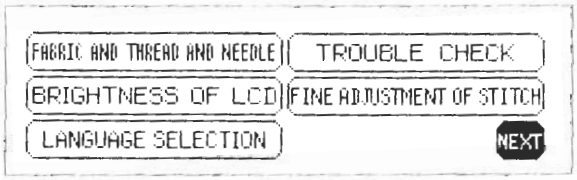
- When operating correctly : 1 beep
- When operating incorrectly : 2 beeps or 4 beeps

Troubleshooting

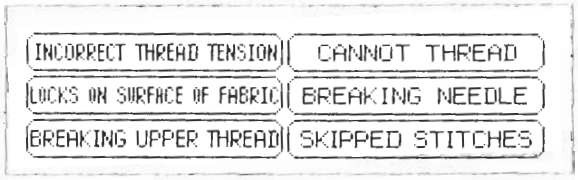
This sewing machine is equipped with an easy-to-use troubleshooting function which provides assistance when there is a problem with sewing. Touch the applicable problem and check for the cause of the problem.



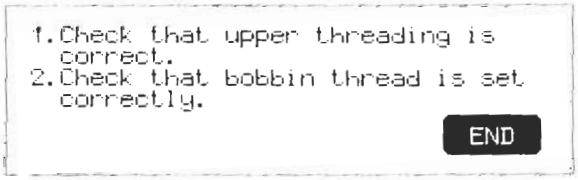
1. Push the "OPERATION GUIDE" button.
2. Touch the "NEXT" key.



3. Touch the "TROUBLE CHECK" key.



4. Touch the "INCORRECT THREAD TENSION" key.



5. Follow the advice and check the sewing machine.

* Touch "END" to return to the main screen.

Trouble with threads and stitches

Before calling for service, check the following items. If the problem still persists, contact the place of purchase or your nearest authorized Brother dealer.

Symptom	Probable cause	Remedy
1. Upper thread breaks	1. Upper threading is not correct.	1. Re-thread upper thread.
	2. Upper thread is entangled.	2. Remove thread ends in the race or shuttle.
	3. Spool of thread is not correctly set.	3. Set spool of thread correctly.
	4. Correct needle is not used.	4. Change to proper needle.
	5. Shuttle is damaged.	5. Contact service center.
2. Bobbin thread breaks	1. Upper thread is entangled.	1. Remove thread ends in the race or inner shuttle.
	2. Bobbin is not threaded properly in the shuttle.	2. Set bobbin properly and pull out the bobbin thread.
3. Skipped stitches	1. Needle is not correctly inserted.	1. Insert needle properly.
	2. Correct needle is not used.	2. Change to proper needle.
	3. The combination of fabric, thread and needle is not correct.	3. Check the "RELATED CHART OF SEWING FABRICS, THREAD AND NEEDLE".
	4. Dust is clinging under the needle plate.	4. Remove dust by cleaning with a brush.
	5. Upper threading is not correct.	5. Re-thread upper thread.
4. Fabric puckers	1. Threading is not correct.	1. Re-thread upper and bobbin thread correctly.
	2. Correct needle is not used.	2. Change to proper needle.
	3. Combination of fabric, thread and needle is not correct.	3. Check the "RELATED CHART OF SEWING FABRICS, THREAD AND NEEDLE".
	4. Check if thread tension is set at "AUTO" position.	4. Refer to "THREAD TENSION" on page 25.
5. Inability to thread needle	1. Needle position is not collect.	1. Set needle at proper position using "NEEDLE POSITION" button.
	2. Hook of needle threader does not fit into the eye of the needle.	2. Set needle at proper position using "NEEDLE POSITION" button.
6. Inability for thread tension control	1. Upper threading is not correct.	1. Re-thread upper thread.
	2. Set of bobbin thread is not correct.	2. Set bobbin properly and pull out the bobbin thread.
	3. Combination of fabric, thread and needle is not correct.	3. Check the "FABRIC/THREAD/NEEDLE COMBINATION CHART".
	4. Presser foot holder is not correctly installed.	4. Install the foot holder correctly.
7. Shifted sewing position of fonts and patterns	1. Pattern sewing position is not correctly adjusted.	1. Adjust the pattern with the "PATTERN ADJUSTMENT" key.

Trouble with threads and stitches

Symptom	Probable cause	Remedy
1. Fabric is not fed properly	1. Feed dog is lowered.	1. Raise the feed dog with the feed dog adjustment lever.
	2. Stitch length is set at no feeding.	2. Set stitch length properly.
	3. The combination of selected stitch and presser foot is not correct.	3. Change presser foot to correct one.
	4. Correct needle is not being used.	4. Change to proper needle.
	5. Thread is entangled.	5. Remove thread-ends in the race or inner shuttle.
2. Needle breaks	1. Needle is not correctly inserted.	1. Set needle properly.
	2. Correct needle is not used.	2. Change to proper needle.
	3. The combination of fabric, thread and needle is not correct.	3. Check the "FABRIC/THREAD/NEEDLE COMBINATION CHART".
	4. The fabric is pulled too much.	4. Guide the fabric allowing it to sew without pulling.
3. Machine does not start	1. "START/STOP" button is not pressed.	1. Press "START/STOP" button.
	2. Main power switch is in the off position.	2. Turn the power on.
	3. Presser foot is not lowered.	3. Lower the presser foot.
4. Display is hard to read	1. LCD contrast is not correct.	1. Adjust the LCD contrast with the "BRIGHTNESS OF LCD" key.

Note

- This sewing machine is installed with automatic thread cutters. If the "START/STOP" button is pushed while the upper part of the machine is not threaded, the machine cannot be operated normally. In addition, when sewing some patterns, the needle will stop in the raised position while the fabric is fed due to the needle car separation mechanism which is used in this machine. At such times, a clicking sound which is not normally generated during sewing will be heard, but this sound is normal and is not clicking a sign of a malfunction.
- If the power goes out while the sewing machine is being operated:
  Turn off the sewing machine and unplug its power cord.
  When the sewing machine is restarted, operate it correctly according to the operating procedure.

SELECT KEY	NAME OF PATTERN	PATTERN	TYPE OF PRESSER FOOT	USE	REINFORCEMENT STITCH KEY	STITCH WIDTH BY STITCH ADJUSTING KEY	STITCH LENGTH BY STITCH ADJUSTING KEY	AUTOMATIC THREAD CUTTING	AUTOMATIC REINFORCEMENT STITCHING
UTILITY STITCH	STRAIGHT			General sewing, gathering, pintuck, etc.	R	★	★	C	T
					R	-	★	C	T
	TRIPLE STITCH			General sewing for reinforcement	△	★	★	C	T
	STRETCH STITCH		J	Straight stitching (attaching sleeves, reinforcing, sewing stretch fabrics)	△	★	★	C	T
	ZIGZAG			Overcasting, patchwork	R	★	★	C	T
	DOTTED ZIGZAG			Overcasting (medium, thick and stretch fabrics) Tape attaching, darning	△	★	★	C	T
	DIVIDED ZIGZAG			Overcasting (medium and stretch fabrics) Tape attaching, darning	△	★	★	C	T
	OVERCASTING STITCH		G	Reinforcing of thin and medium fabric	△	★	★	C	T
				Reinforcing of thick fabric	△	★	★	C	T
			J	Reinforcing of medium stretch fabric and thick fabric, decorative stitching	△	★	★	C	T
			G	Reinforcing of medium, thick and easily-frayable fabric	△	★	★	C	T
			J	Reinforcement of stretch fabric	△	★	★	C	T
				Reinforcement of stretch fabric	△	★	★	C	T
	BLIND HEM STITCH		R	Reinforcement of skirts	△	★	★	C	T
				Reinforcement of skirts with stretch fabric	△	★	★	C	T
	BUTTONHOLE STITCH		A	Buttonholes for blouses and shirts		★	★	C	T
				Buttonholes for pajamas and shirts		★	★	C	T
				Buttonholes for stretch fabric		★	★	C	T
				Buttonholes for stretch		★	★	C	T
				Buttonholes for suits and overalls		★	★	C	T
				Buttonholes for jeans and trousers		★	★	C	T
				Buttonholes for thick coats		★	★	C	T
	BAR TACK			Reinforcement at opening of pocket, etc.		★	★	C	T

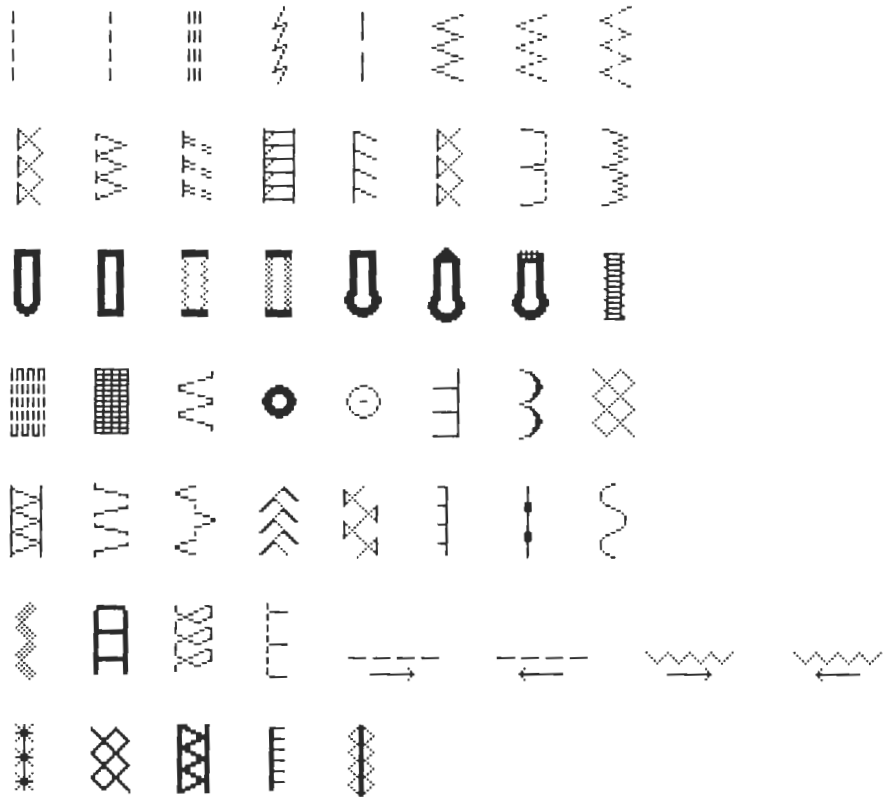
SELECT KEY	NAME OF PATTERN	PATTERN	TYPE OF PRESSER FOOT	USE	REINFORCEMENT STITCH KEY	STITCH WIDTH BY STITCH ADJUSTING KEY	STITCH LENGTH BY STITCH ADJUSTING KEY	AUTOMATIC THREAD CUTTING	AUTOMATIC REINFORCEMENT STITCHING
UTILITY STITCH	DARNING STITCH		A	Darning of medium fabric		★	★	C	T
				Darning of thick fabric		★	★	C	T
	TAPE ATTACHING		J	Attaching tape to thin and medium stretch fabric	△	★	★	C	T
	EYELET		N	For making eyelet on belt, etc.		L	S	C	T
	BUTTON SEWING			Attaching buttons	△	★	-	C	T
	BASTING			Basting	△	★	★	C	T
	APPLIQUE		J	Appliques	△	★	★	C	T
				Appliques	△	★	★	C	T
	SCALLOP		N	Decorating collar of blouse, edge of handkerchief	△	★	★	C	T
	SMOCKING			Smocking, decorative stitching	△	★	★	C	T
	PATCHWORK STITCH		J	Patchwork stitches, decorative stitching	△	★	★	C	T
				Patchwork stitches, decorative stitching	△	★	★	C	T
				Patchwork stitches, decorative stitching	△	★	★	C	T
	FAGOTING			Fagoting, decorative stitching	△	★	★	C	T
				Fagoting, decorative stitching	△	★	★	C	T

SELECT KEY	NAME OF PATTERN	PATTERN	TYPE OF PRESSER FOOT	USE	REINFORCEMENT STITCH KEY	STITCH WIDTH BY STITCH ADJUSTING KEY	STITCH LENGTH BY STITCH ADJUSTING KEY	AUTOMATIC THREAD CUTTING	AUTOMATIC REINFORCEMENT STITCHING
UTILITY STITCH	DECORATIVE STITCH			Decorative stitching for cuffs made from stretch fabric	△	★	★	C	T
				Decorative stitching for cuffs made from stretch fabric	△	★	★	C	T
				Decorative stitching	△	★	★	C	T
				Decorative stitching of thin to medium stretch fabric	△	★	★	C	T
				Decorative stitching	△	★	★	C	T
				Decorative stitching	△	★	★	C	T
	LATERAL SEWING			For attaching applique on tubular part	△	–	–	C	T
					△	–	–	C	T
					△	–	–	C	T
					△	–	–	C	T
	HEIRLOOM			Decorative hems	△	★	★	C	T
				Decorative hems	△	★	★	C	T
				Decorative hems	△	★	★	C	T
				Decorative hems	△	★	★	C	T
				Decorative hems	△	★	★	C	T

SELECT KEY	NAME OF PATTERN	TYPE OF PRESSER FOOT	USE	MEMORY	STITCH WIDTH BY STITCH ADJUSTING KEY	STITCH LENGTH BY STITCH ADJUSTING KEY	AUTOMATIC THREAD CUTTING	AUTOMATIC REINFORCEMENT STITCHING
CHARACTERS	ALPHABET		Character sewing	★	L, S		C	T
	DECORATIVE STITCH		Decorative stitching	–	L, S		–	–
	SATIN STITCH			★	★	★	–	–
	CROSS STITCH			★	–	–	–	–

R : The machine sews in reverse while the "REVERSE STITCH" button is pushed.
△ : The machine sews three reinforcement stitches and stops when the "REVERSE STITCH" button is pushed.
★ : Adjustments can be made.
– : Adjustments cannot be made.
L, S: Pattern size can be changed
L (Large)
S (Small)
T : Reverse stitches are automatically sewn at the beginning and end of sewing a pattern.
T : If "REVERSE STITCHING" was set before sewing, reverse stitches are automatically sewn at the beginning of sewing and end of sewing.
C : If "THREAD CUTTING" was set before sewing, the machine automatically cuts both threads after stopping.

Utility stitches



Character sewing

Alphabet (Block style)

Size "L" (Large) : 11 mm (7/16"), "S" (Small) : 7 mm (1/4")

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
Ä Å Æ Ñ Ö Ø Ç Ü ä à å æ ë è é ê ñ ö ò ø ì ç ü ù ß
0 1 2 3 4 5 6 7 8 9 & ? ! . _ – ( ) ' ,

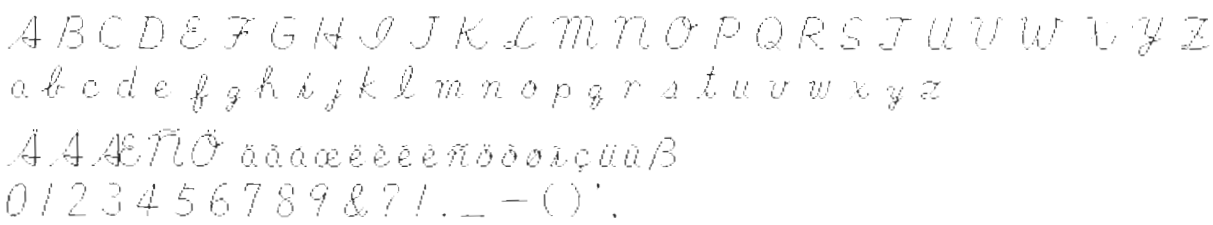
Alphabet (Italic style)

Size "L" (Large) : 11 mm (7/16"), "S" (Small) : 7 mm (3/8")

A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z
Ä Å Æ Ñ Ö Ø Ç Ü ä à å æ ë è é ê ñ ö ò ø ì ç ü ù ß
a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 & ? ! . _ – ( ) ' ,

Alphabet (Cursive hand writing style)

Size "L" (Large) : 27 mm (1"), "S" (Small) : 15 mm (3/8")



Alphabet

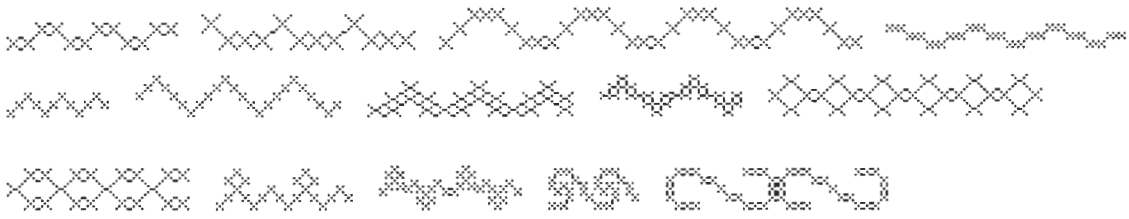
Size cannot be changed.

Decorative stitches

Satin stitches

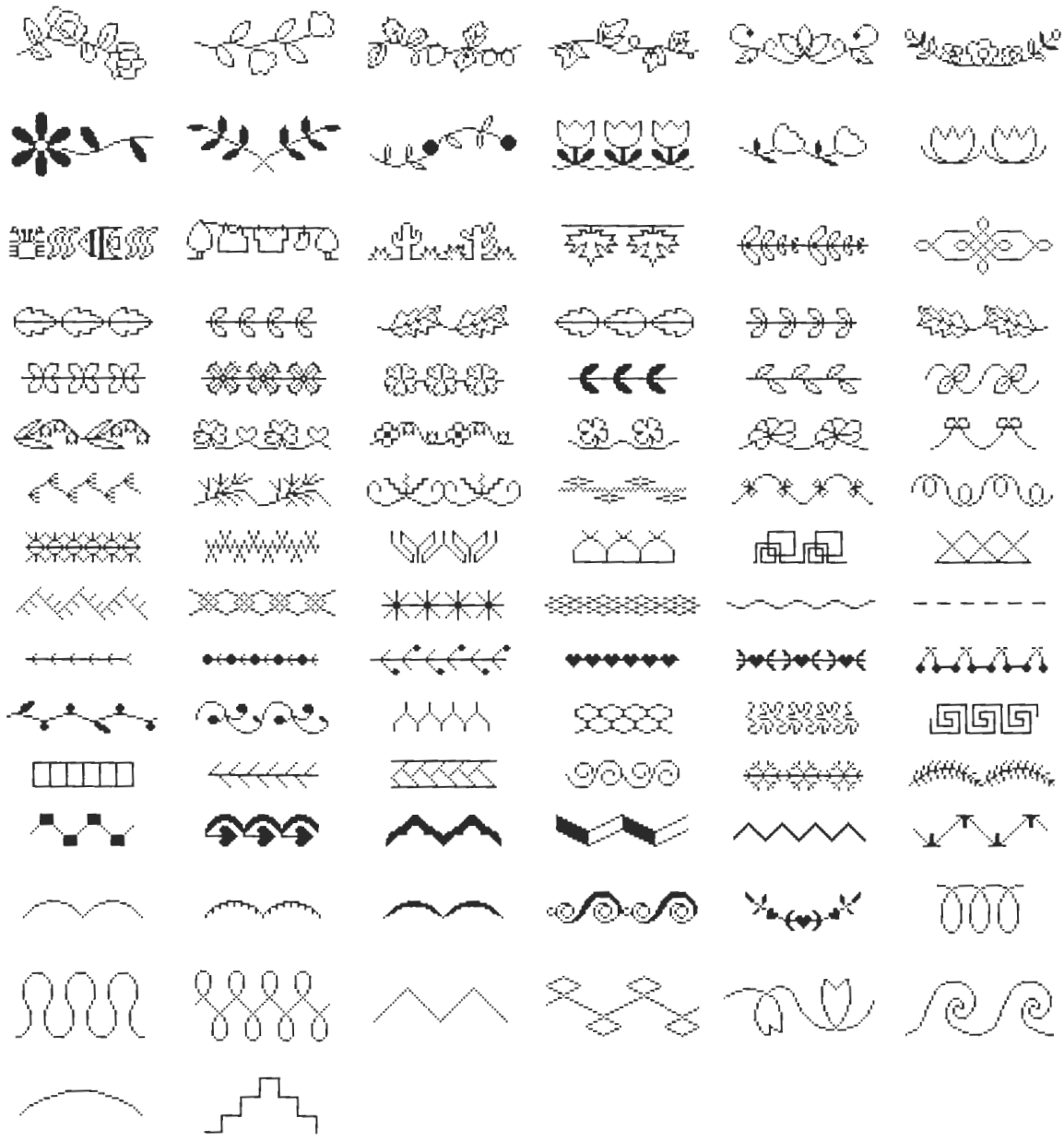
Cross stitches

Size cannot be changed.



Decorative stitch

Size can be set to "L" (Large) or "S" (Small).



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