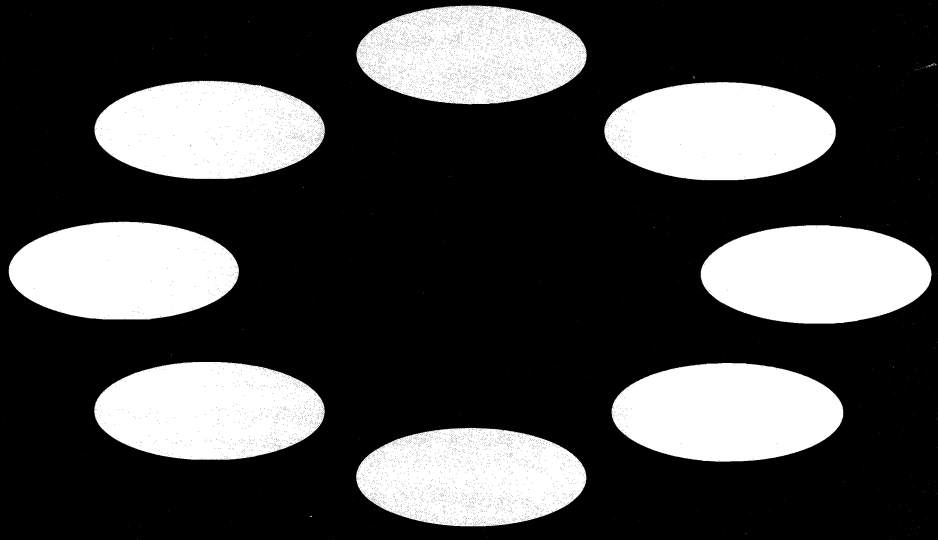
SEWING MACHINE



NUAL

"IMPORTANT SAFETY INSTRUCTIONS"

When using the sewing machine, basic safety precautions should always be followed, 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 when plugged in. Always unplug this sewing machine from the electrical outlet immediately after using and before cleaning.
2. Always unplug before relamping. Replace bulb with same type rated 15 watts.

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

1. Do not allow to be used as a toy. Close attention is necessary when 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 controller 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 of the user servicing adjustments mentioned in the instruction manual.

"SAVE THESE INSTRUCTIONS"

"This sewing machine is intended for household use."

CONGRATULATIONS ON CHOOSING OUR COMPUTER SEWING MACHINE

Your machine is the most advanced computerized home use sewing machine.
To fully enjoy all the features incorporated, however, 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
   - Lubricating and 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, 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 service center.

CONTENTS

CHAPTER 1

SETTING UP **3**

PRINCIPAL PARTS 3
ACCESSORIES 4
OPTIONS 5
SELECTION KEY 6
OPERATION KEY 8
ADJUSTING SCREEN CONTRAST 9
BOBBIN WINDING/LOWER THREADING 10
Setting bobbin 11
UPPER THREADING 12
STITCH WIDTH AND STITCH LENGTH 14
THREAD TENSION 16
CHANGING PRESSER FOOT 18
CHANGING NEEEDLE 20
CHANGING LIGHT BULB 22
CLEANING 23

CHAPTER 2

1. SEWING **24**

TRIAL SEWING 24
Stitch selection 26
UTILITY STITCH SELECTION 27
Stitches you can select from "BASIC SEWING" 27
USEFUL SKILL 29
Sewing thick material 29
Sewing thin material 30
Sewing elastic material 30
Sewing corner 30
Sewing folded part 30
Sewing curve 30
Sewing edge 31
Free arm 31
LOCK STITCH 32
OVERCASTING 34
BUTTONHOLE 35
ZIPPER INSERTION (CENTERED APPLICATION, SIDE APPLICATION) 39
BAR TACK 42
BLIND STITCH 45
APPLIQUE 47
SCALLOP 48

CONTENTS

OVERCASTING STITCH (WITH SIDE-CUTTER) 49
PINTUCK 51
GATHERING 53
FLAT FELL SEAM 55
DART SEAM 57
ZIGZAG 58
FAGGOTING/PATCHWORK 59
EYELET 61
DARNING 62
BASTING 65
LATERAL SEWING (STRAIGHT/ZIGZAG) 66

2. CHARACTER AND DECORATIVE 67

CHARACTER SEWING 67
- Combination of character 69
- Correction 70
- Changing size 70
- Uppercase & Lowercase 71
- Confirming entry 71
- Automatic thread cutting 72
- Tips for neater sewing results 72

DECORATIVE STITCHES 73
- Selecting decorative stitches 75
- Listing decorative stitches 75
- Switching screens 75
- Mirror image 76
- Changing size 76
- Single/Repeat sewing 78
- Confirming entry of combined stitch pattern 79
- Automatic thread cutting 80
- Tips for neater sewing results 80

STEP PATTERN 81
- Making step pattern 82
- Confirming entry of combined stitch pattern 83
- Let's make various pattern combinations 84

ADJUSTING STITCH PATTERN 85

3. EMBROIDERING 87

EMBROIDERY 87
PREPARATION BEFORE SEWING 89
- Fitting embroidery unit 89
- Inserting memory card 90
- Set fabric to embroidery frame 90
- Fitting embroidery frame 91

HOW TO SELECT AND SEW PATTERN .. 92
- In case of "Character" card 92
- How to combinate characters 92
- In case of "Flower" card 93
- How to select pattern 93
- Color mode 94
- Mono-color mode 94

MOVING LOCATION (LAYOUT) 95
- Moving pattern location 96
- Starting embroidering from edge ... 96
- Checking embroidering area 96

WHEN THREAD BREAKS WHILE SEWING OR WHEN RE-SEWING IN THE MIDDLE (HELP) 97
- If sewing is needed from the middle 98
- When thread breaks whilst sewing 98
- Re-sewing from the beginning 99

4. MEMORY 100

MEMORY 100
- Memorizing combined pattern 100
- Recalling pattern 101

SEWING CHART 102

ERROR MESSAGE 105

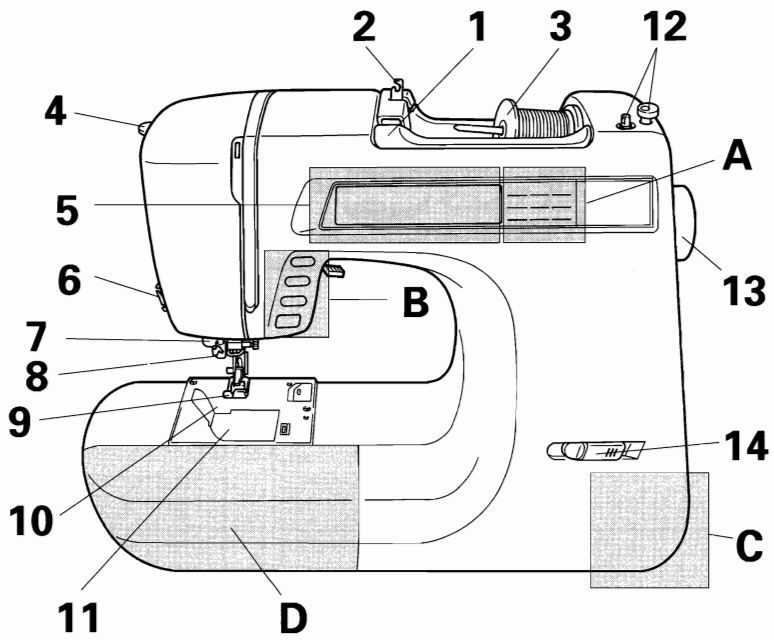
TROUBLESHOOTING 110

FIRST NEEDLE DROP POINT 112

PATTERNS (PROGRAMMED IN MACHINE) 114

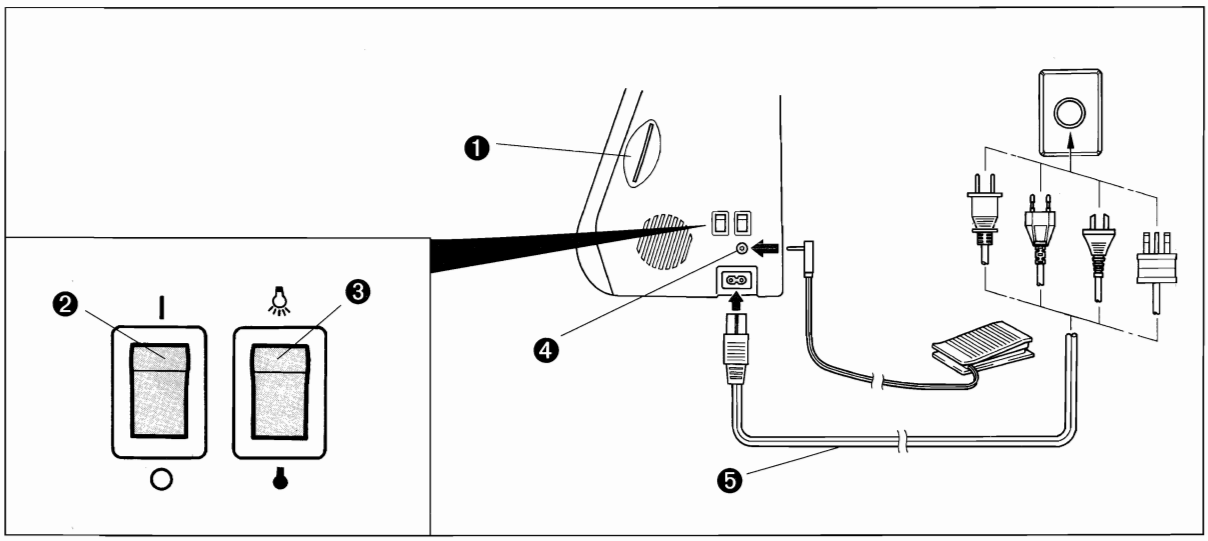
PATTERNS (MEMORY CARD) 116

PRINCIPAL PARTS



1–Handle
2–Thread guide for bobbin winding
3–Spool cap
4–Needle threader lever
5–L.C.D. (Liquid Crystal Display)
6–Thread cutter
7–Buttonhole lever
8–Needle threader lever
9–Presser foot
10–Feed dog
11–Bobbin cover
12–Bobbin winder device
13–Pulley
14–Speed range control lever

A– Selection key (Refer to page 7)
B– Operation key (Refer to page 8)
C– Main power switch and connectors
D– Accessories compartment

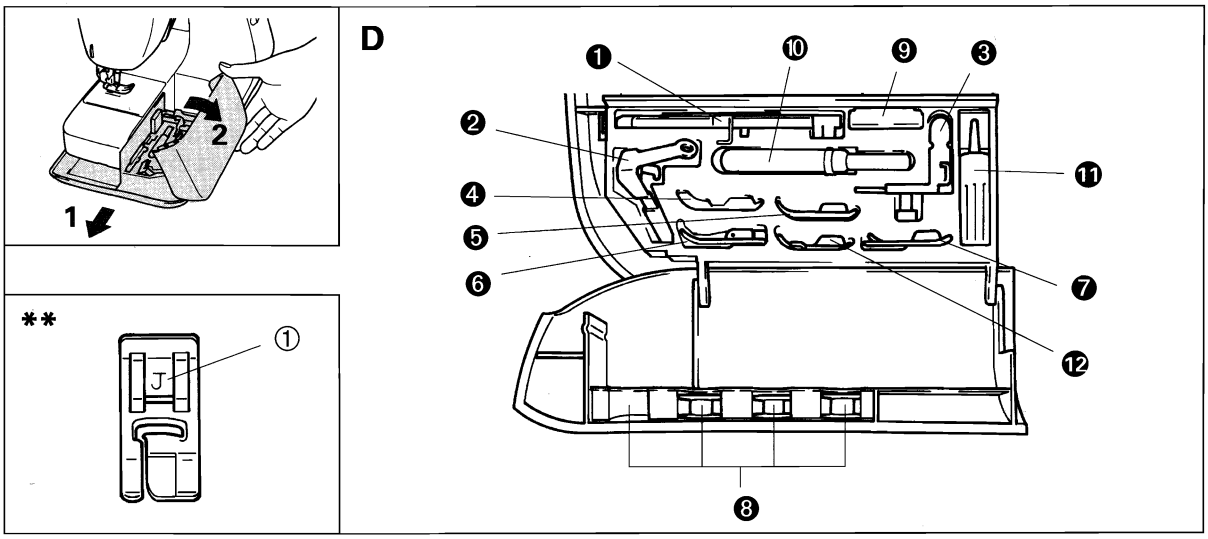


C. MAIN POWER SWITCH AND CONNECTOR

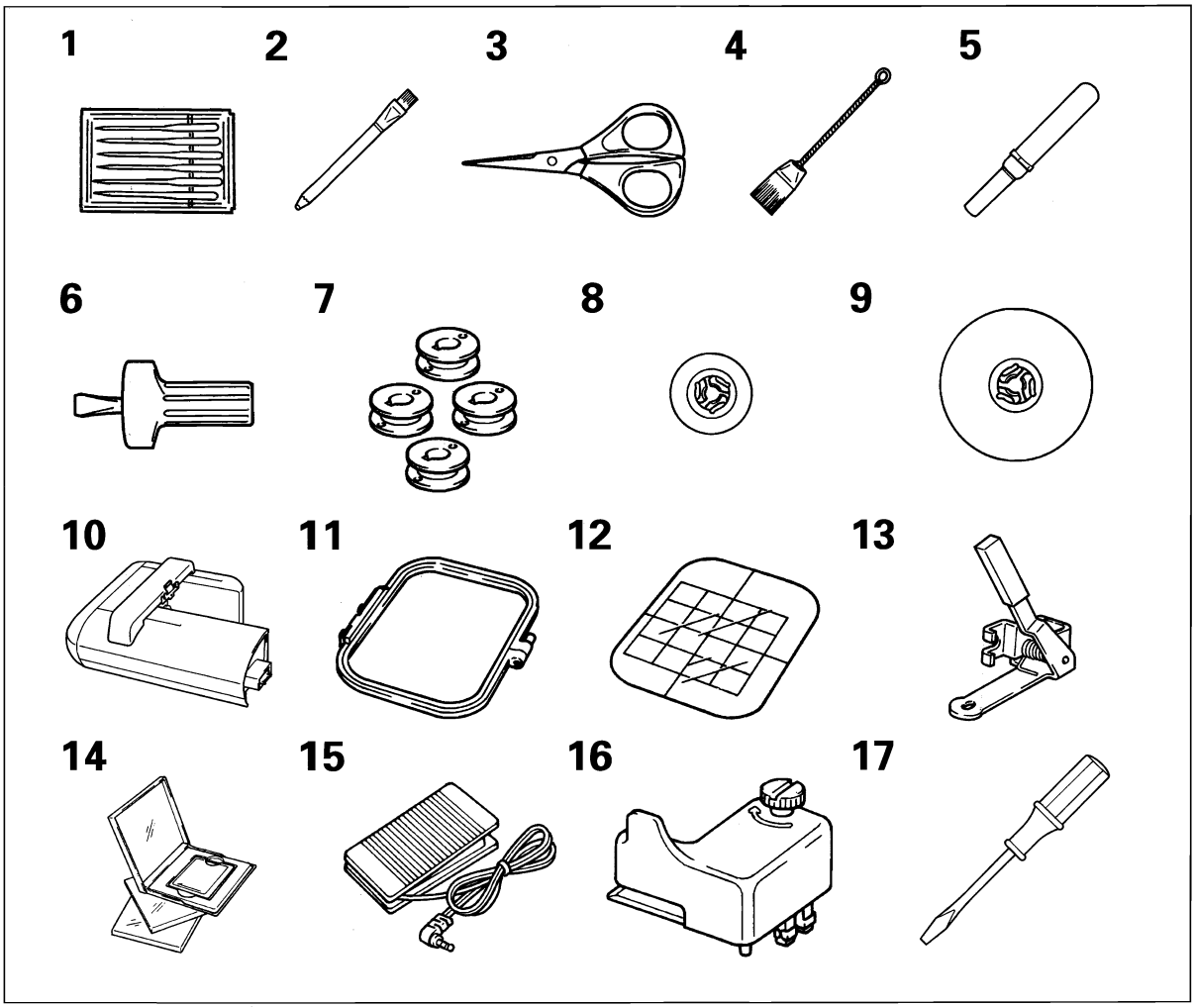
❶ **Card slot**
Slot for Memory Card insertion.
❷ **Main power switch**
Turn on/off the main power.
❸ **Light switch**
Turn on/off the sewing light.
❹ **Controller jack**
Insert for foot controller operation.
❺ **Power code**
Connect machine to power supply.

– When leaving the sewing machine unattended, the mains 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 lamps, the machine or the electrical set must be disconnected from the supply by removing the plug from the socket-outlet



ACCESSORIES



D. ACCESSORIES COMPARTMENT

❶ Buttonhole foot "A"
❷ Embroidery foot "Q"
❸ Zipper foot "I"
❹ Space for Zigzag foot "J" (**)
❺ Monogramming foot "N"
❻ Blind stitch foot "R"
❼ Overcasting foot "G"
❽ Bobbin
❾ Needle set
❿ Seam ripper
⓫ Screw driver (Small)
⓬ Stitch guide foot "P"

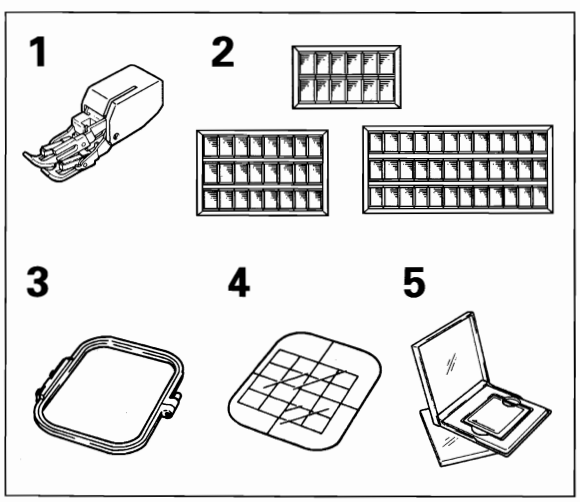
* Always use plastic bobbin supplied with machine or in accessories compartment. (Parts code : X80309-001)
* Always use exclusive accessories for this machine.

** Each symbol is indicated on each presser foot.

① Presser foot symbol

1– Needle set
75/11: 2 pcs
90/14: 2 pcs
14 Golden needle
(for stretchable materials): 2 pcs
2– Chalk pen
3– Scissors
4– Cleaning brush
5– Seam ripper
6– Screw driver
7– Bobbins (4 pcs)
8– Spool cap (Small)
9– Spool cap (Large)
10–Embroidery unit
11–Embroidery frame (Large)
12–Embroidery sheet (Large)
13–Embroidery foot
14–Memory card
15–Foot controller
Parts code: 141-291-036-01
16–Side cutter
Parts code: 184875-001
17–Screw driver

OPTIONS

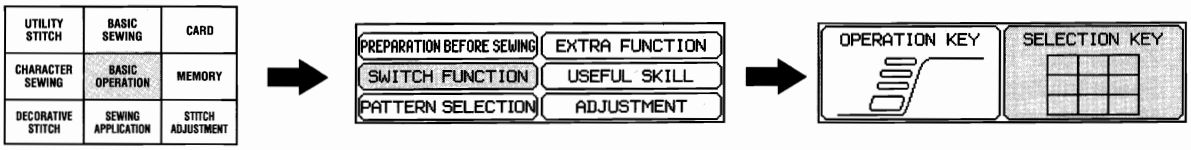


1– Walking foot
Parts code: 184961-001
2– Embroidery thread set
Parts code:
(12 pcs) X80409-001
(24 pcs) X80417-001
(36 pcs) X80418-001

3– Embroidery frame (Small)
Parts code: X57468-001
4– Embroidery sheet (Small)
Parts code: X57469-002
5– Memory card
Parts code:
No. 4 Sports X58366-001
No. 5 Animals X58370-001

SELECTION KEY

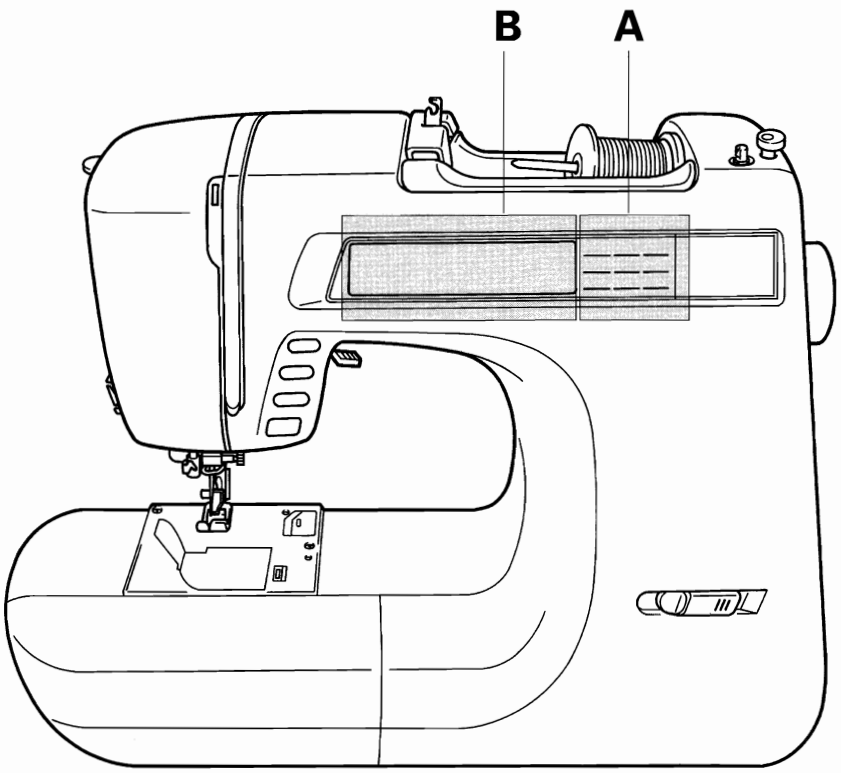
Operation

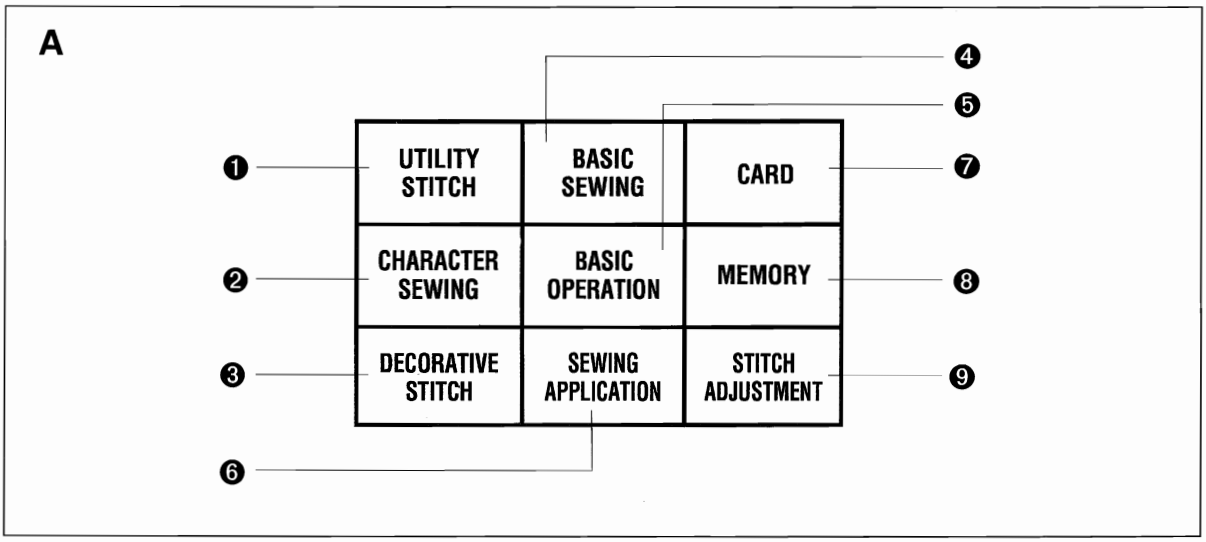


1. Touch "BASIC OPERATION".
2. Touch "SWITCH FUNCTION".
3. Touch "SELECTION KEY".

* Most of the instructions are memorized in the machine's memory. Screen message guides you through each operation.

Screen message guides you through each operation.





A. SELECTION KEY

❶ UTILITY STITCH KEY
Use this key when you sew utility stitches such as straight stitch, button hole etc.

❷ CHARACTER SEWING KEY
Use this key when you sew characters such as alphabet, number etc.

❸ DECORATIVE STITCH KEY
Use this key when you sew decorative stitches.

❹ BASIC SEWING KEY
Use this key for basic sewing such as zipper insertion, gathering etc.

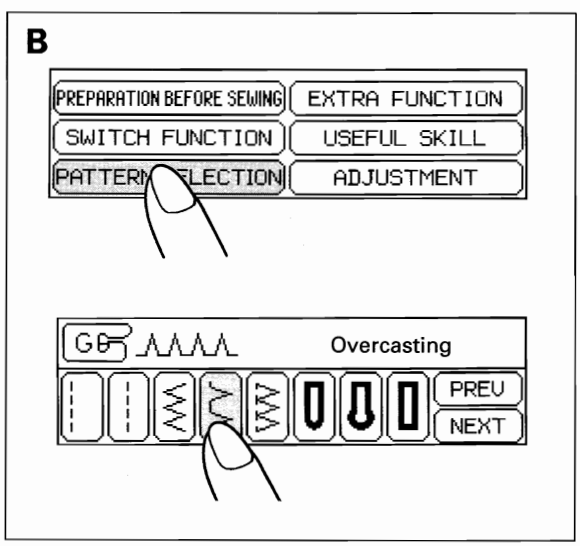
❺ BASIC OPERATION KEY
Use this key when you wish to know how to use this sewing machine.

❻ SEWING APPLICATION KEY
You can obtain explanation of the stitch selected by using this key such as purpose or how to sew the stitch.

❼ CARD KEY
Use this key when you use Memory card. When you insert or remove the memory card from machine, main power switch should be always turned off.

❽ MEMORY KEY
Use this key when you memorize combinated patterns into machine or call the memory.

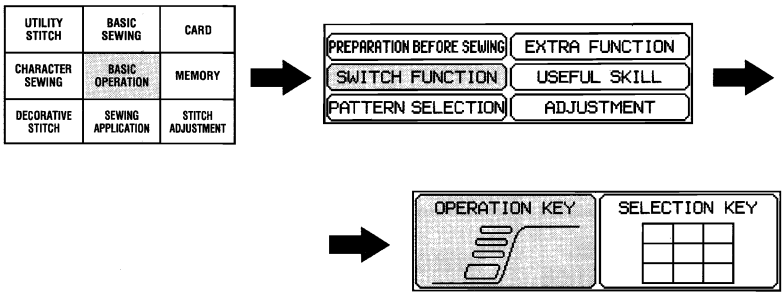
❾ STITCH ADJUSTMENT KEY
Use this key to adjust stitch length and width or thread tension.

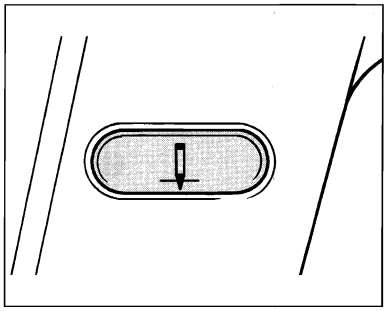


B. KEYS ON LCD

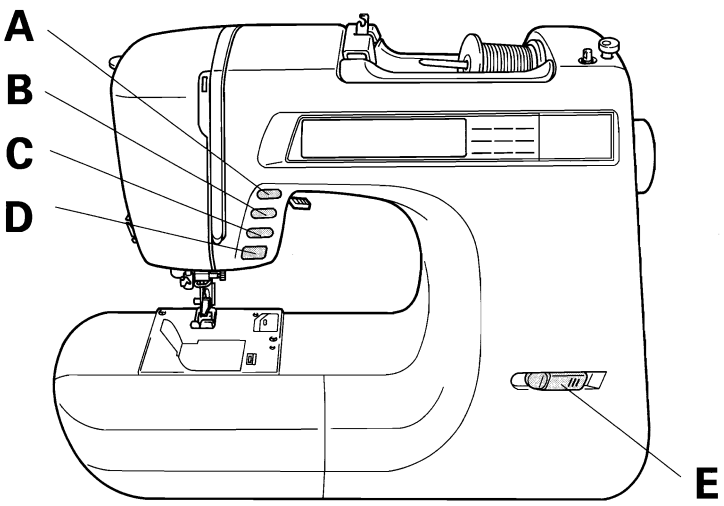
Touch key on the screen for selection.

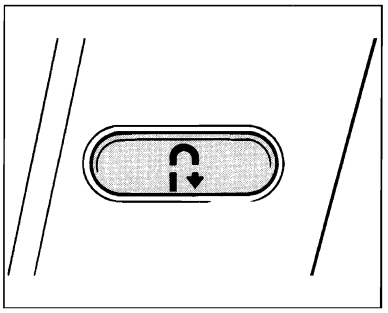
OPERATION KEY

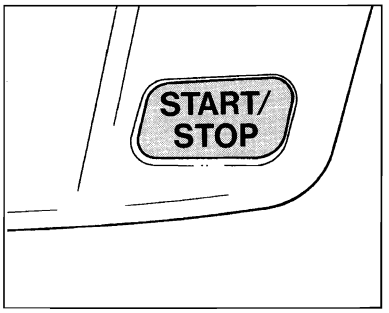




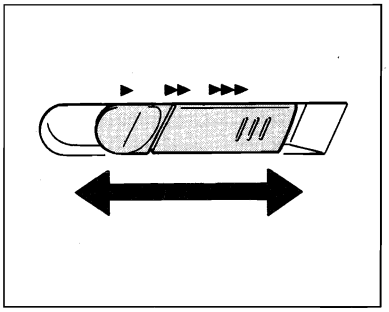
Let's learn function of operation keys.

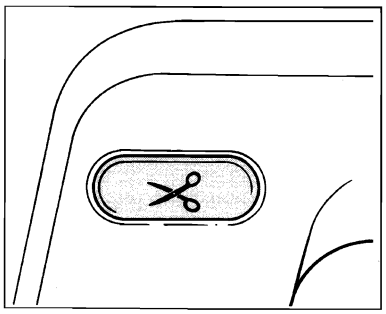






WARNING
Machine does not work properly without upper thread because of upper thread sensor.
With some sewing patterns, needle keeps it's highest position while fabric is fed. Note that unique sound during this operation does not affect operation of machine.

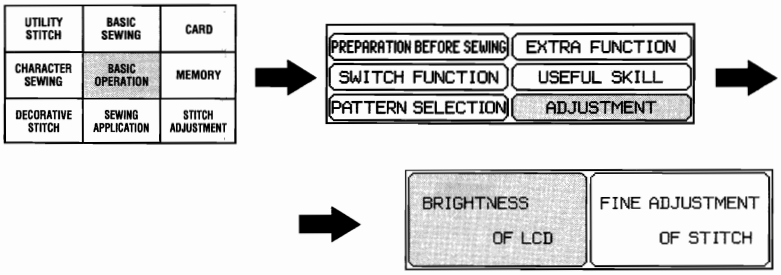




A. "AUTOMATIC THREAD CUTTER" BUTTON
When you press this button, both upper and lower threads are cut automatically and needle is placed at its highest position.

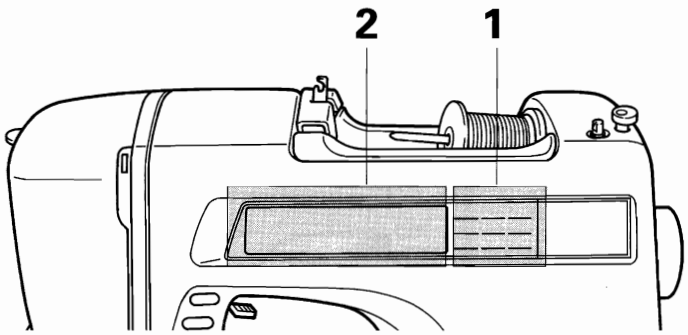
ADJUSTING SCREEN CONTRAST

B. "NEEDLE POSITION" BUTTON
Press for changing needle position from up to down or from down to up.



C. "ENFORCEMENT STITCH" BUTTON
Machine sew reverse stitching with low speed while you press this button.

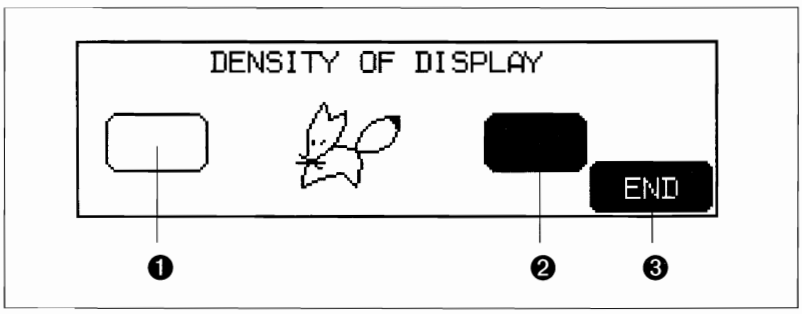
Adjust brightness of L.C.D.



1. Touch "BASIC OPERATION".
2. Touch "ADJUSTMENT", "BRIGHTNESS OF LCD" and "NEXT" in this order.

D. "START/STOP" BUTTON
Press to start or stop machine. When foot controller is connected to machine, start/stop is regulated by foot controller.

E. SPEED CONTROL LEVER
Controls the speed range. You can change the speed during sewing.
In case foot controller is used, you can control maximum speed by the speed control lever. The control lever should be set at right (Fastest) position for normal usage with foot controller.

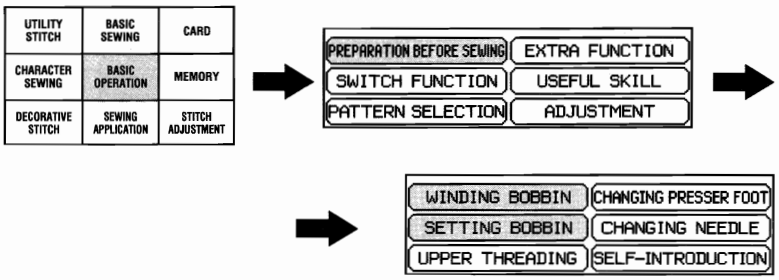


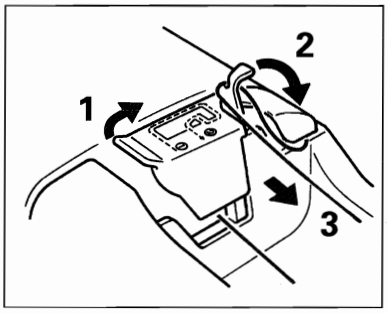
How to adjust the density of display

❶ Dull contrast
❷ Sharp contrast
❸ Touch "END" when the adjustment is finished

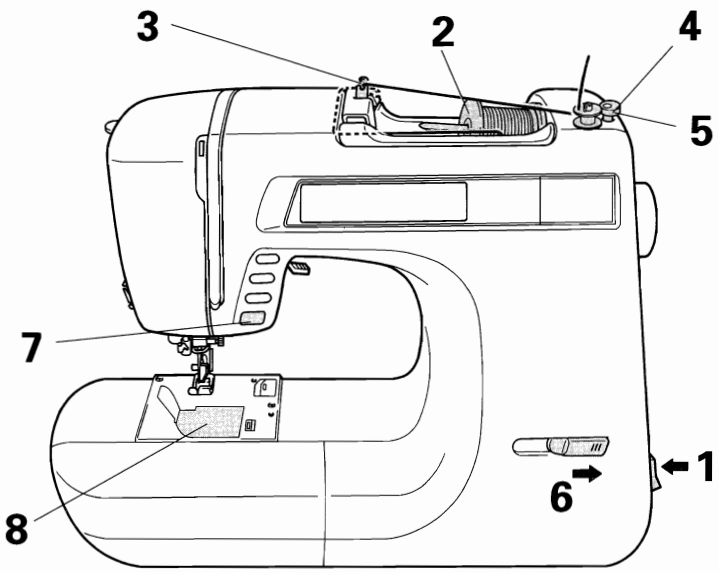
* When you change the density too much, the message on screen becomes invisible, re-adjust it by switching the machine off and on again.

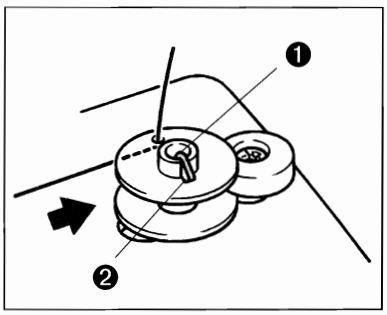
BOBBIN WINDING / LOWER THREADING

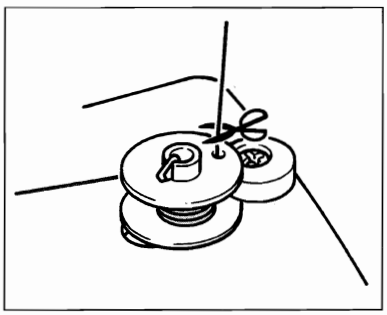


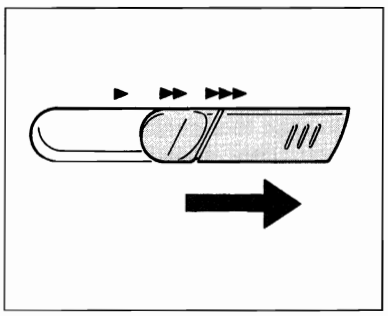


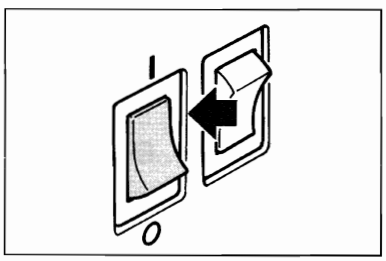
How to wind bobbin and to set lower thread.



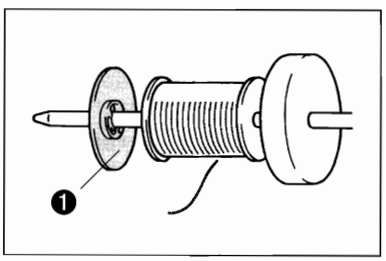








1. Connect the machine to power supply and turn on the main power.



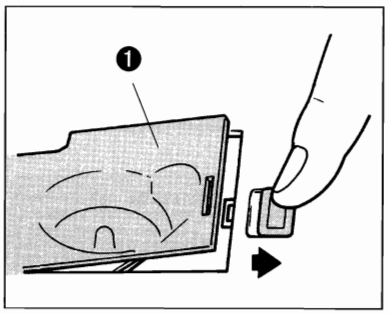
2. Set thread spool. The thread end should come from the front of spool.

❶ Spool cap

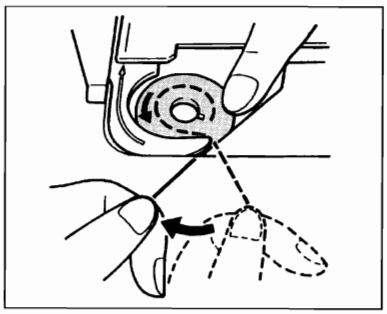
Setting bobbin

1. Slide open bobbin cover.

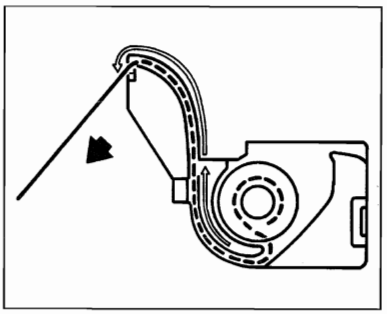
❶ Bobbin cover



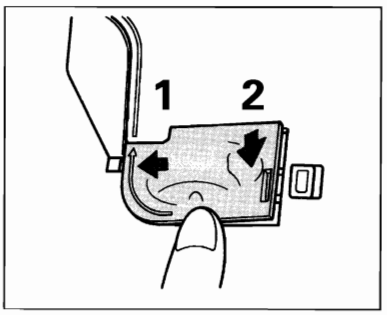
2. Insert bobbin into shuttle. Mind bobbin spinning direction as illustrated.
(Use bobbin code No. X80309 -001)



3. Deliver thread end through the slit, pull the thread toward you and cut excess thread.



4. Shut bobbin cover.



3. Go through bobbin winding guide.

4. Thread through a small hole of bobbin. Holding thread end, Push bobbin winder shaft to right.
* Match groove of the bobbin with spring on shaft.

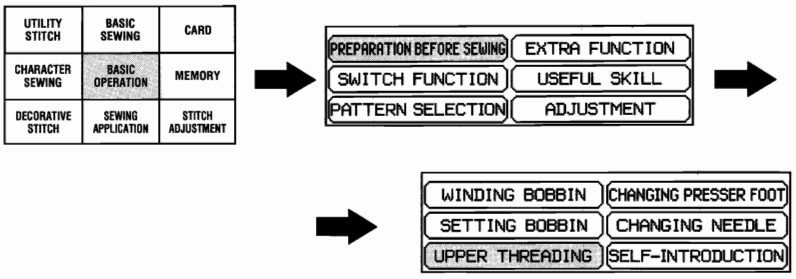
❶ Spring on shaft
❷ Groove

5. Holding thread end, press "START/STOP" button twice. Trim the excess thread after the machine stops.

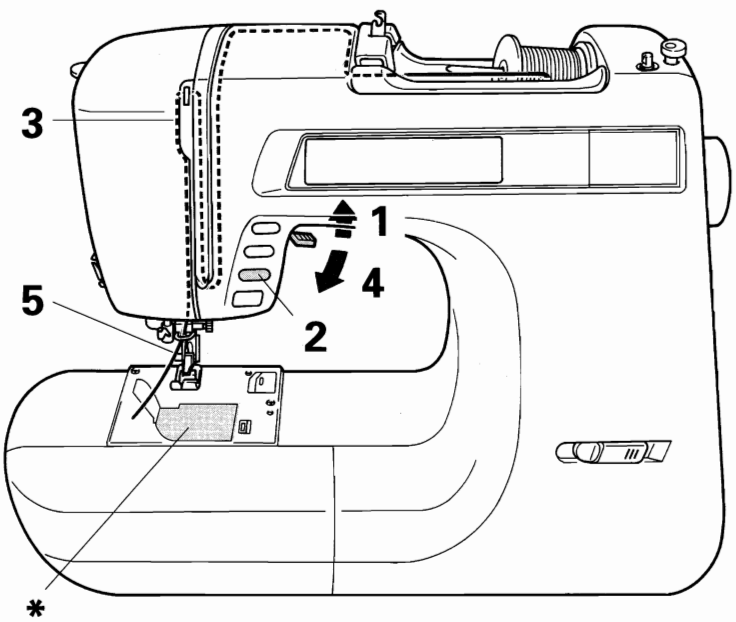
6. Set speed at maximum.

7. Press "START/STOP" button. Machine stops automatically when bobbin is full. Press "START/STOP" button to stop.
8. Set bobbin into shuttle.

UPPER THREADING



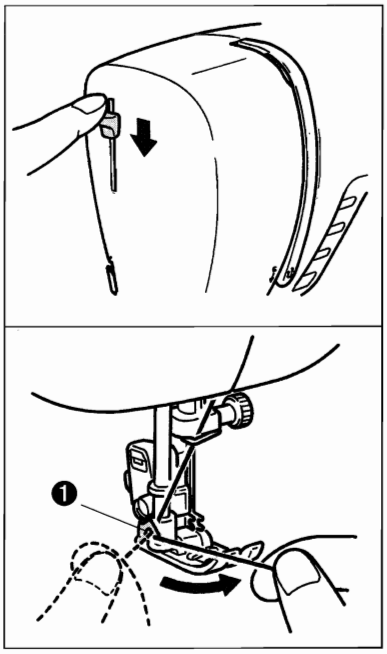
Thread according to number and arrow mark on machine.

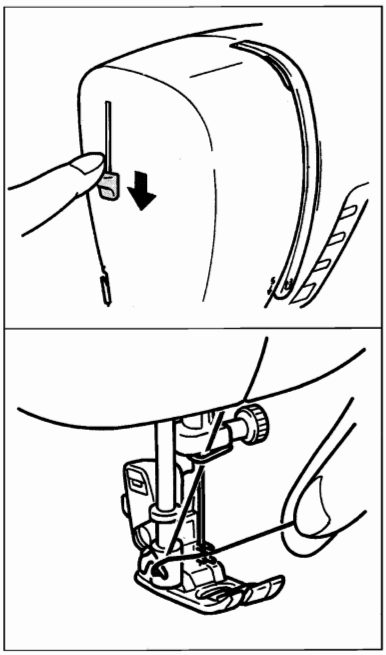


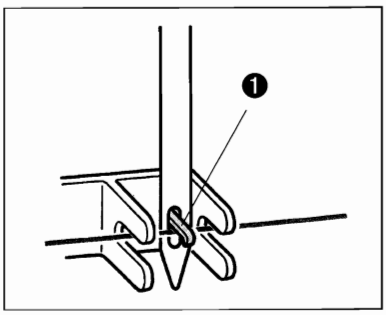
1. Raise presser foot lever (If the presser foot is not raised, the upper thread cannot be threaded.)
2. Raise needle to up position.
3. Thread upper thread as illustrated.
4. Lower presser foot.
5. Thread through needle eye.

* You do not need to pull to lower thread up before start sewing.

Auto-threading device

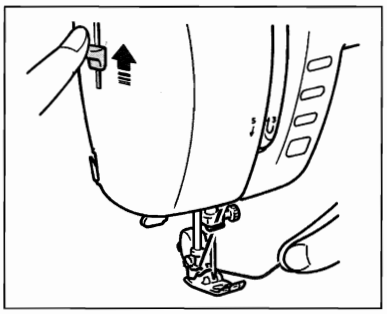




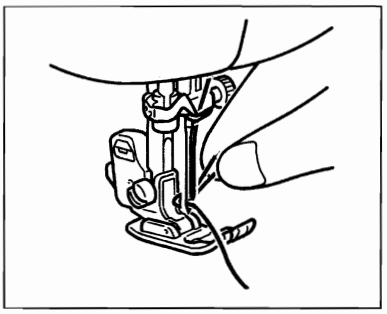


1. Holding thread end by right hand. Lower needle thread lever and position thread to the right side passing beneath the catcher.

❶ Hook



3. Release lever and thread at the same time. This makes needle threader deliver thread through needle eye.



4. Draw loop behind the needle towards the back.

2. Lower lever to bottom position and make sure thread is located beneath hook.

NOTE

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

Auto-threading device cannot accept combination as above.
Transparent nylon thread can be used regardless of the chart providing needle used in 90/14 – 100/16.

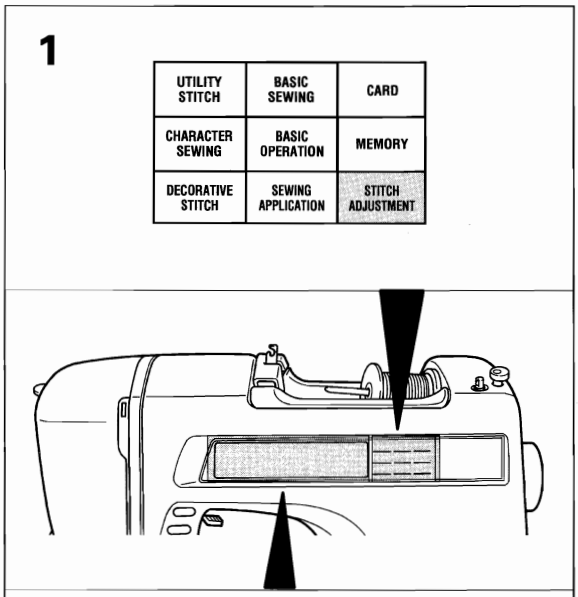
❶ Catcher

STITCH WIDTH AND STITCH LENGTH

UTILITY STITCH	BASIC SEWING	CARD
CHARACTER SEWING	BASIC OPERATION	MEMORY
DECORATIVE STITCH	SEWING APPLICATION	STITCH ADJUSTMENT

Use this procedure when changing stitch width and stitch length from default setting.

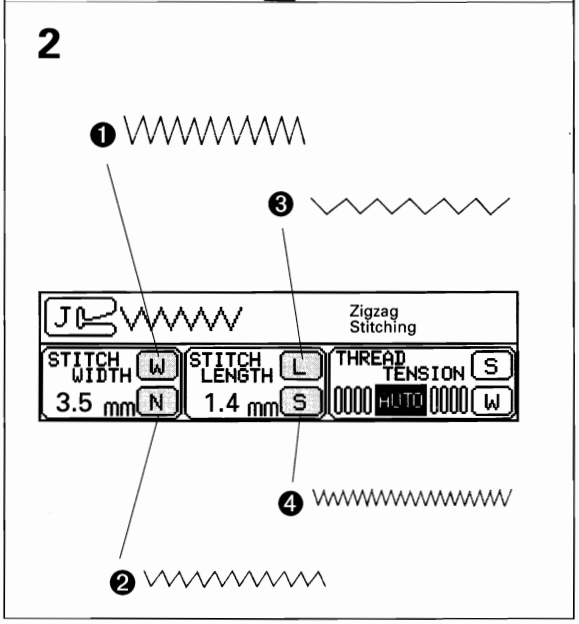
1



1. Touch "STITCH ADJUSTMENT".

NOTE
Stitch pattern must be selected first.

2

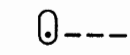
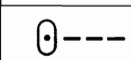
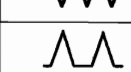
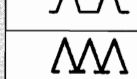
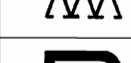
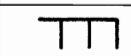
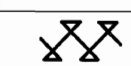
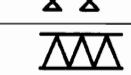
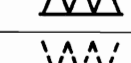
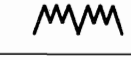
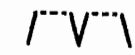
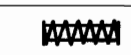
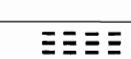
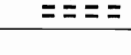
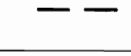


2. Select the desired stitch width and stitch length.

To change width
❶ Touch "W" (Wide)
❷ Touch "N" (Narrow)

To change length
❸ Touch "L" (Long)
❹ Touch "S" (Short)

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 (0.0–0.276)	2.5 (0.098)	0.4–5.0 (0.016–0.197)
Straight (Middle)		–	–	2.5 (0.098)	0.4–5.0 (0.016–0.197)
Zigzag		3.5 (0.138)	0.0–7.0 (0.0–0.276)	1.4 (0.055)	0.0–2.0 (0.0–0.079)
Overcasting		3.5 (0.138)	2.5–5.0 (0.098–0.197)	2.0 (0.079)	1.0–2.5 (0.039–0.098)
		5.0 (0.197)	2.5–5.0 (0.098–0.197)	2.5 (0.098)	1.0–2.5 (0.039–0.098)
Buttonhole		5.0 (0.197)	3.0–5.0 (0.118–0.197)	0.4 (0.016)	0.3–1.0 (0.012–0.039)
		7.0 (0.276)	3.0–7.0 (0.118–0.276)	0.5 (0.197)	
		5.0 (0.197)	3.0–5.0 (0.118–0.197)	0.4 (0.016)	
Applique		3.5 (0.138)	2.5–5.0 (0.098–0.197)	2.5 (0.098)	1.6–2.5 (0.063–0.098)
Faggoting		5.0 (0.197)	2.5–7.0 (0.098–0.276)	2.5 (0.098)	1.0–2.5 (0.039–0.098)
Patchwork		5.0 (0.197)	2.5–7.0 (0.098–0.276)	2.5 (0.098)	1.0–2.5 (0.039–0.098)
Elastic zigzag		5.0 (0.197)	2.5–7.0 (0.098–0.276)	1.0 (0.039)	0.2–1.4 (0.008–0.055)
Stretch stitching		[0.0 (0.0)]	0.0–7.0 (0.0–0.276)	2.5 (0.098)	1.5–2.5 (0.059–0.098)
Blind stitch		0.0 (0.0)	3←–→3 (0.188←–→0.118)	2.0 (0.079)	1.0–3.5 (0.039–0.138)
Bar tacking		2.0 (0.079)	1.0–3.0 (0.039–0.118)	0.4 (0.016)	0.3–1.0 (0.012–0.039)
Scallop		7.0 (0.276)	2.5–7.0 (0.098–0.276)	0.4 (0.016)	0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0 (0.012, 0.016, 0.020, 0.024, 0.028, 0.035, 0.039)
Darning		7.0 (0.276)	2.5–7.0 (0.098–0.276)	2.0 (0.079)	0.4–2.5 (0.016–0.098)
Basting		0.0 (0.0)	0.0–7.0 (0.0–0.276)	2.0 (0.079)	5, 10, 15, 20, 25, 30 (0.197, 0.39, 0.59, 0.79, 0.98, 1.18)
Lateral sewing (Straight)		–	–	–	–
					
Lateral sewing (Zigzag)		–	–	–	–
					

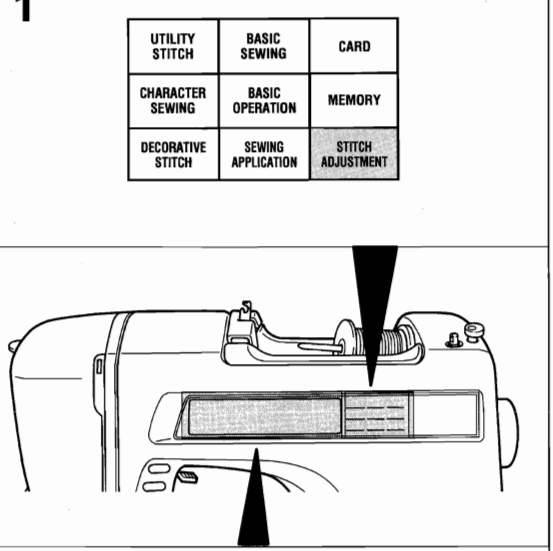
* Conditions marked "–" are set with proper condition automatically and you cannot change it.

THREAD TENSION

UTILITY STITCH	BASIC SEWING	CARD
CHARACTER SEWING	BASIC OPERATION	MEMORY
DECORATIVE STITCH	SEWING APPLICATION	STITCH ADJUSTMENT

Use this procedure when changing upper thread tension manually.

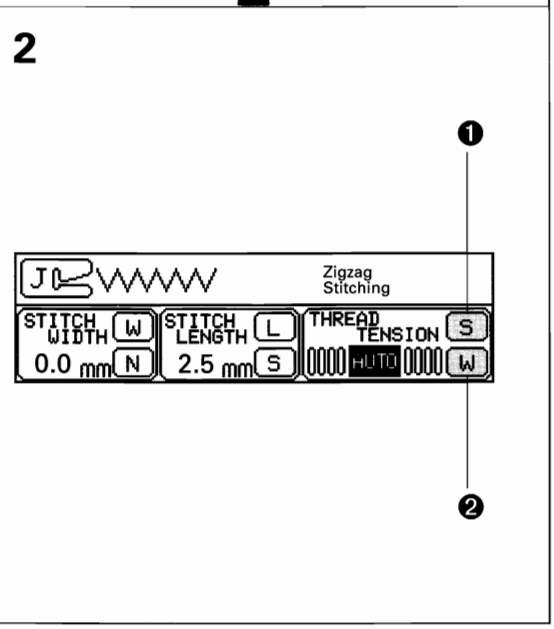
1



* Thread tension is automatically set to the most appropriate point irrespective of chosen fabric and thread kinds.

1. Touch "STITCH ADJUSTMENT".

2



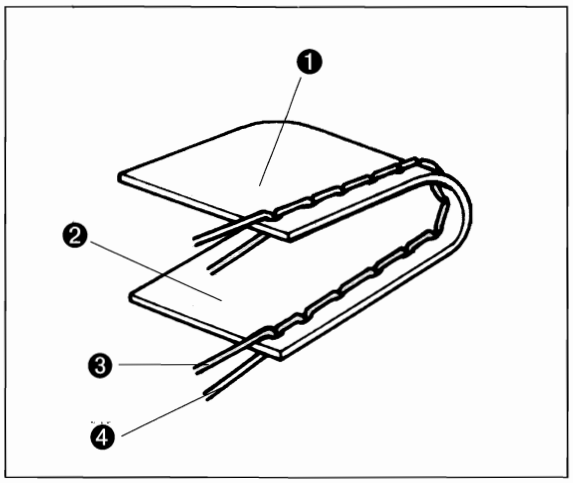
2. Change upper thread tension.

"S" (Strong)
❶ Every touch tightens upper thread tension.

"W" (Weak)
❷ Every touch loosens upper thread tension.

* Thread tension is set at "AUTO" position normally.

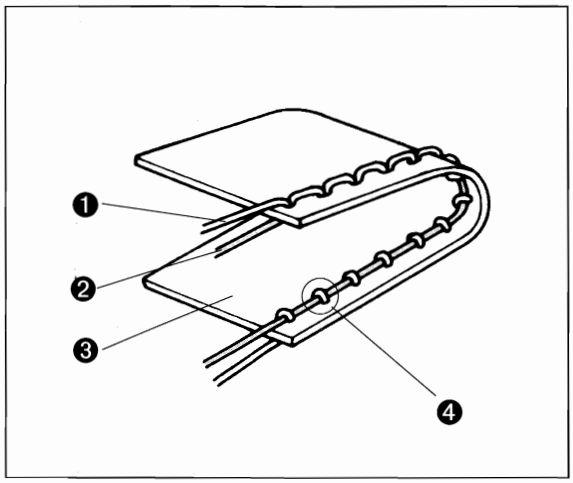
Correct tension



❶ Fabric
❷ Surface
❸ Upper thread
❹ Lower thread

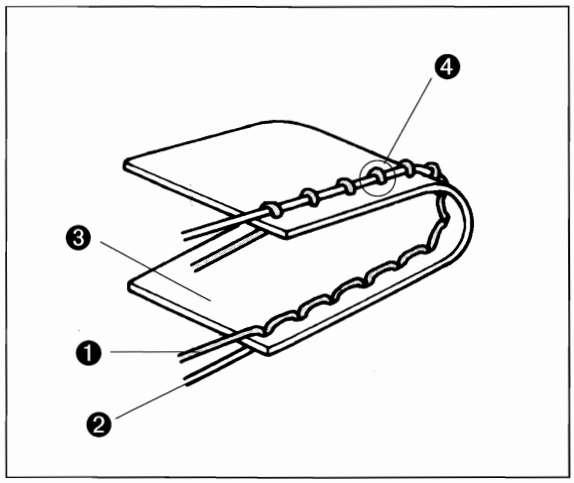
Correct tension is important because too much or too little tension will weaken your seams or cause your fabric to pucker.

Tighten tension by touching "S" (Strong).



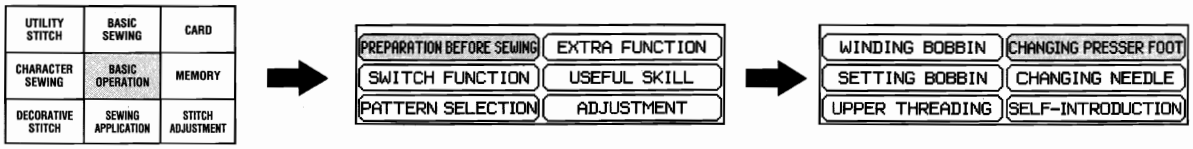
❶ Lower thread
❷ Upper thread
❸ Surface
❹ Locks appear on surface of fabric.

Loosen tension by touching "W" (Weak).

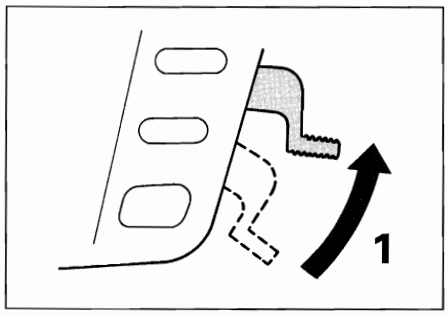


❶ Upper thread
❷ Lower thread
❸ Surface
❹ Locks appears on reverse side of fabric.

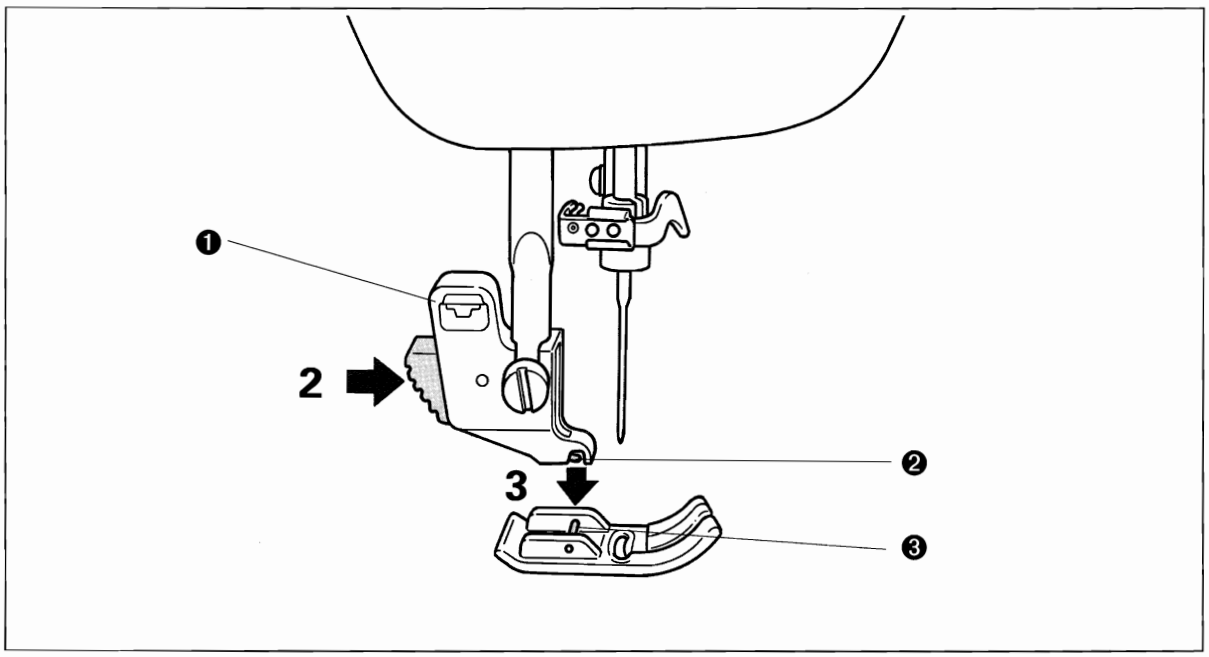
CHANGING PRESSER FOOT



Change presser foot according to screen message.



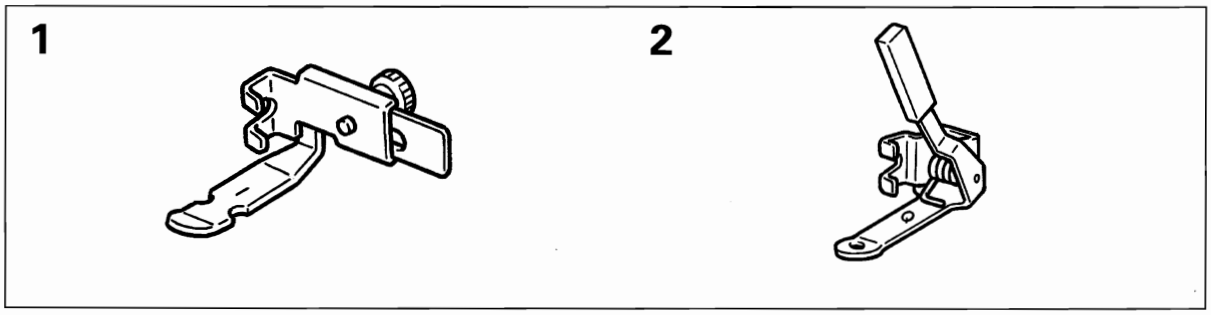
1. Raise presser foot.



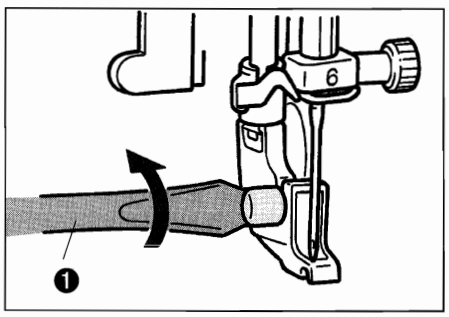
2. Press the button located at back of holder to release foot.
3. Locate foot pin to be positioned immediately below the holder-end and lower presser foot lever.

❶ Holder
❷ Hook
❸ Pin

How to set zipper foot and embroidery foot

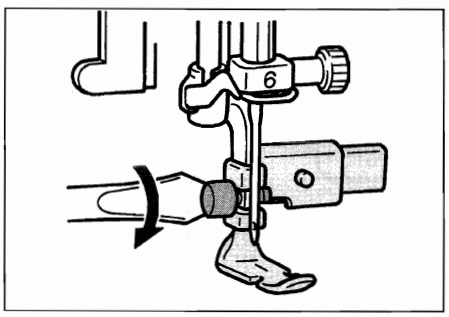


1– Zipper foot "I"
2– Embroidery foot "Q"

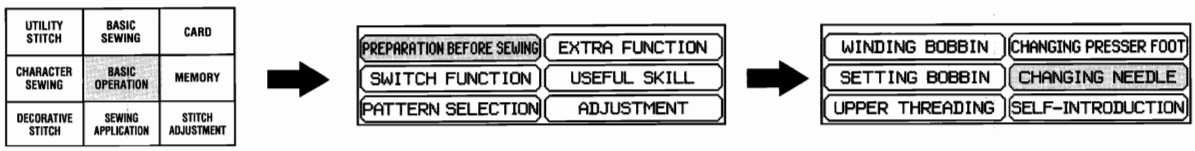


1. Raise presser foot lever and loosen the screw to remove the shank.

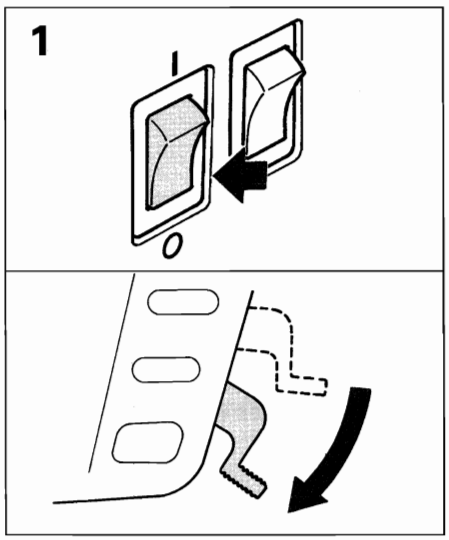
❶ Driver



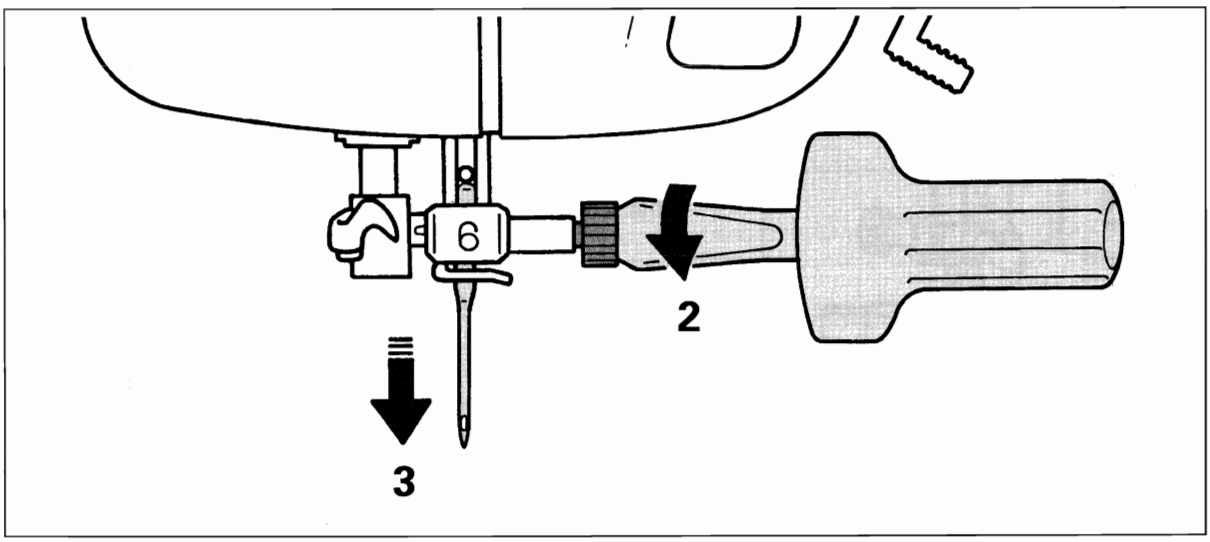
2. Attach zipper or embroidery foot to needle bar and fasten the screw while holding the foot at the lower position.



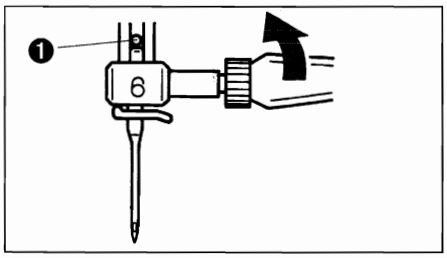
Set needle securely.



1. Turn off power switch and lower presser foot.



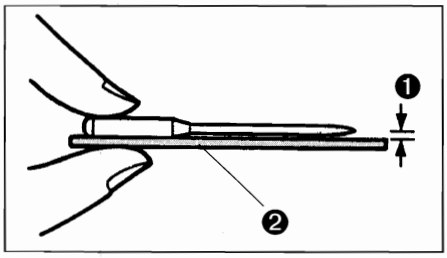
2. Loosen screw with screw driver.
3. Pull out needle.



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

❶ Needle stopper

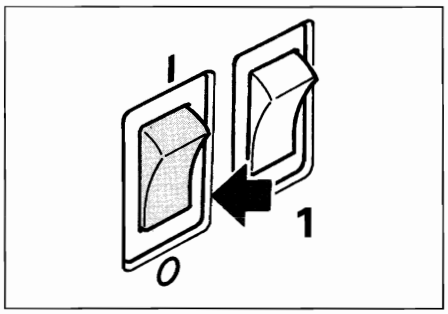
Checking needle



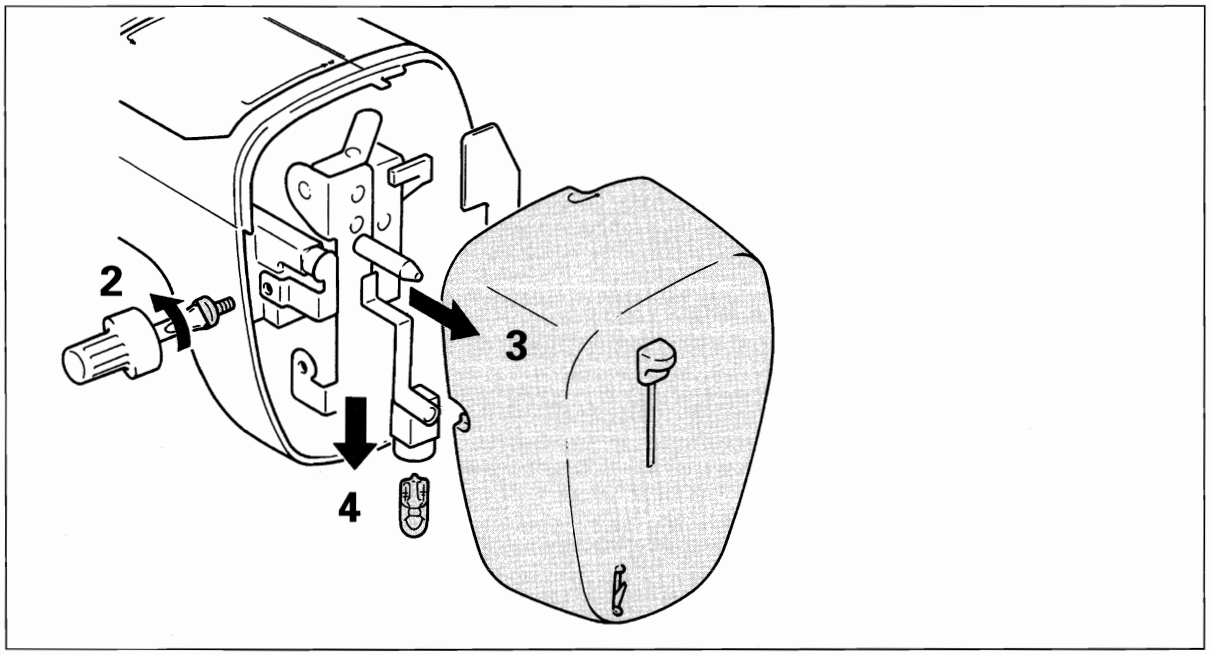
❶ Place a needle on flatside, check whether the space is parallel or not.
❷ Flat side
(Needle-plate, glass, etc.)

CHANGING LIGHT BULB

When replacing light bulb



1. Turn off the main power switch.

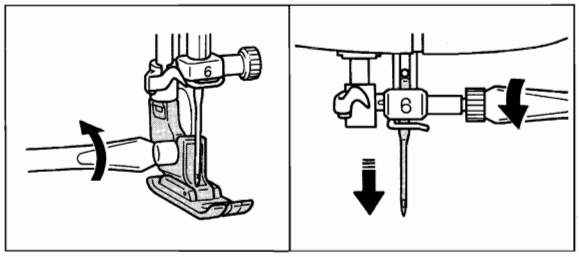


2. Loosen screw.
3. Remove face plate.
4. Replace the light bulb for a new one.

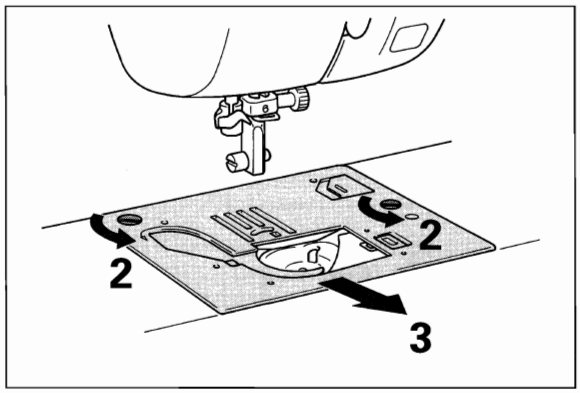
* Light bulb (8 V, 2.4 W/Parts code X50228-001)

CLEANING

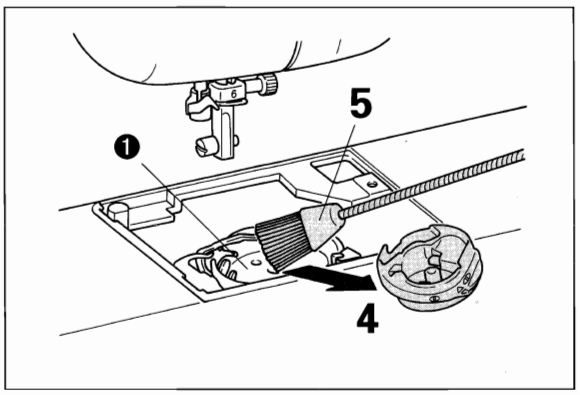
Always keep the machine clean.



1. Turn off main power switch and remove presser foot holder and needle.

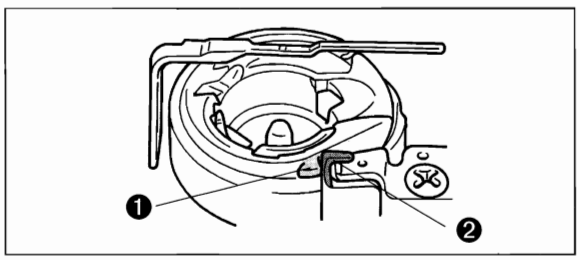


2. Loosen screws.
3. Remove needle plate.



4. Take out inner rotary hook.
5. Remove accumulated lint and thread from the inner hook and race with brush or vacuum cleaner.

❶ Race

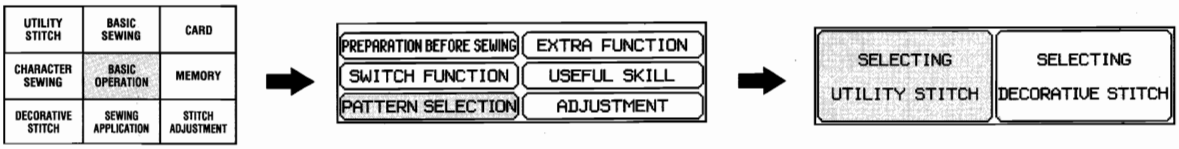


6. Set inner rotary hook by positioning the projection of hook to spring of stopper.

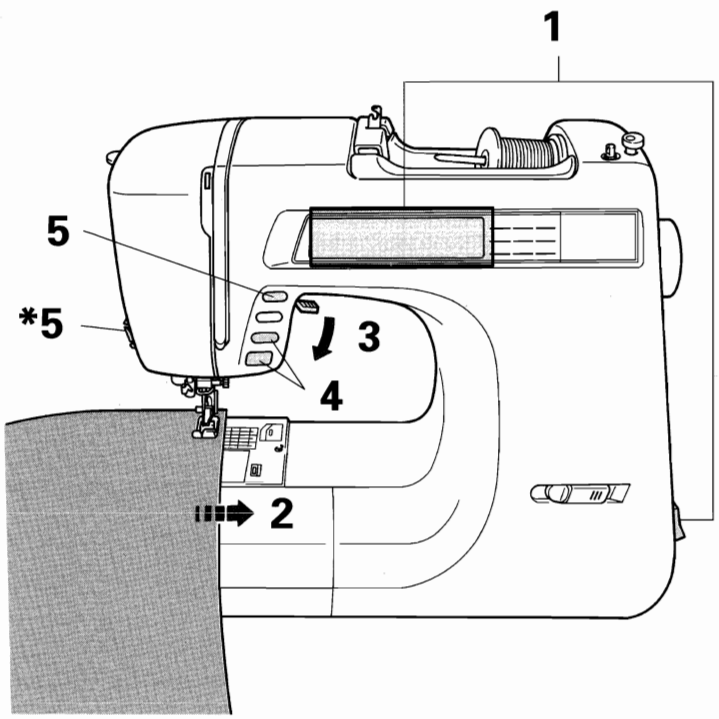
❶ Projection
❷ Spring

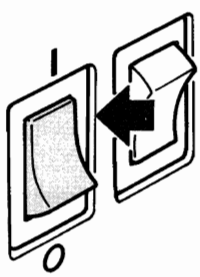
* Lint and dust accumulated in race sometimes causes bad stitching or malfunction of lower thread sensor.

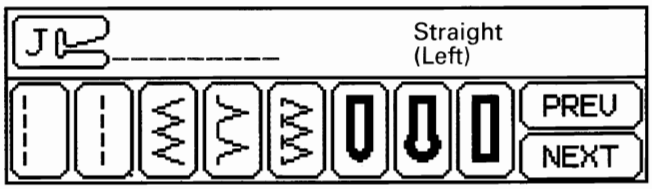
TRIAL SEWING



Let's try sewing with fabric (by "SELECTING UTILITY STITCH)

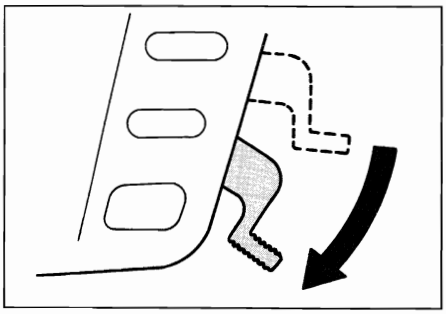




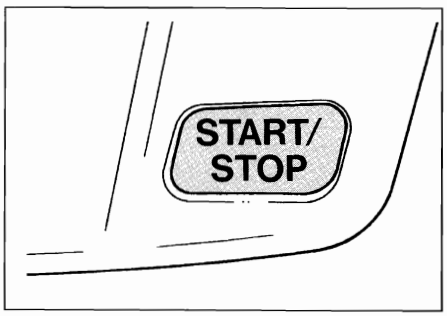


75/11 embroidery thread is set on machine at factory.

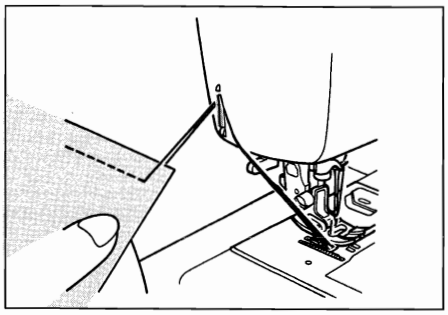
1. When machine is turned on, straight (left) stitch is selected.
2. Place fabric.



3. Lower presser foot.



4. Position fabric end with 3–4 stitches behind presser foot. Press "ENFORCEMENT STITCH" button for reverse stitching. Press "START/STOP" button for forward sewing. While pressing this button, machine runs at slow speed.



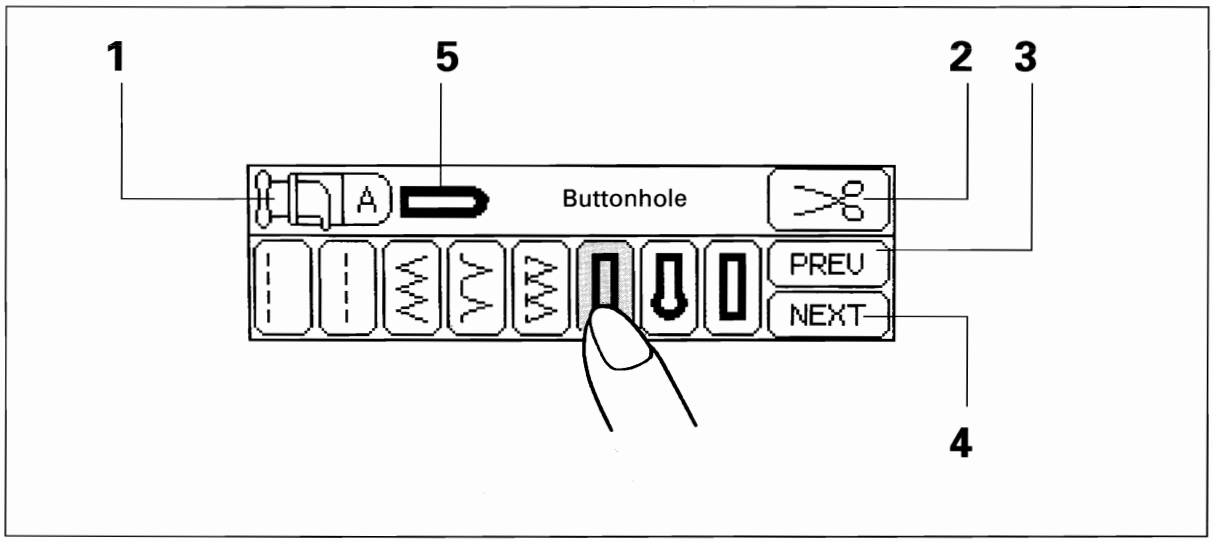
5. Cut threads by "AUTOMATIC THREAD CUTTER" button.

*5. Cut thick thread (thicker than # 30) by another cutter on face plate as illustrated.

Bobbin thread is running out.

* THREAD-END DETECTOR FOR LOWER THREAD
When warning message appears on message screen, lower thread is running out. Replace lower thread.

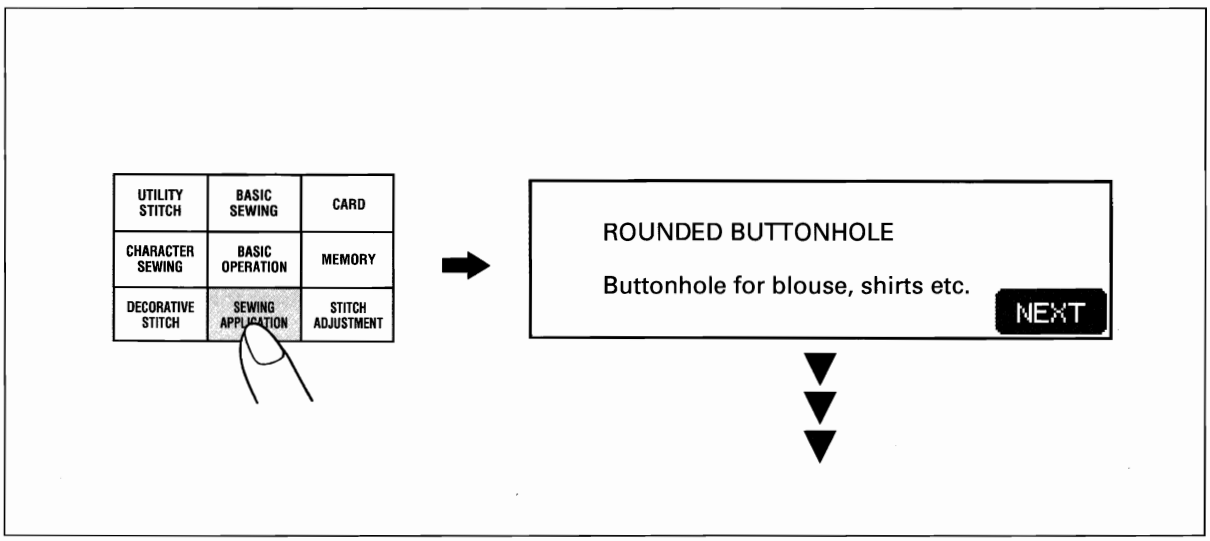
Stitch selection



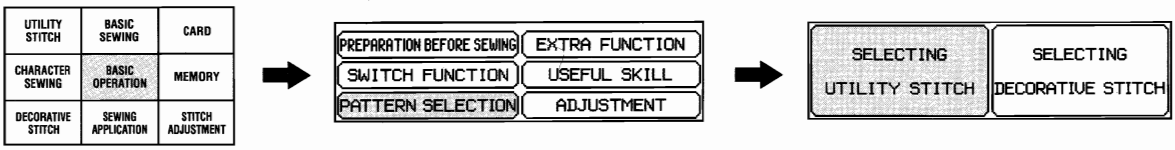
1– Type of presser foot (Change presser foot as shown.)
2– Touch "SCISSORS" before sewing. Thread is automatically trimmed after sewing.
3– To return to the previous screen.
4– To go to the next screen.
5– Selected stitch pattern

Choose the desired pattern by using "NEXT" or "PREV" and touch pattern key on the screen.

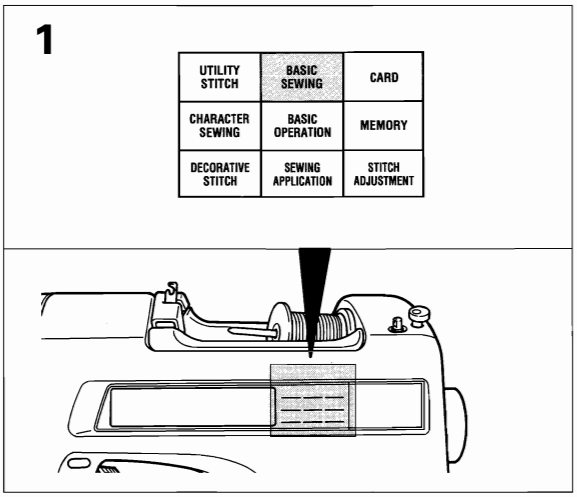
"SEWING APPLICATION" shows application of selected pattern and sewing procedure.



UTILITY STITCH SELECTION

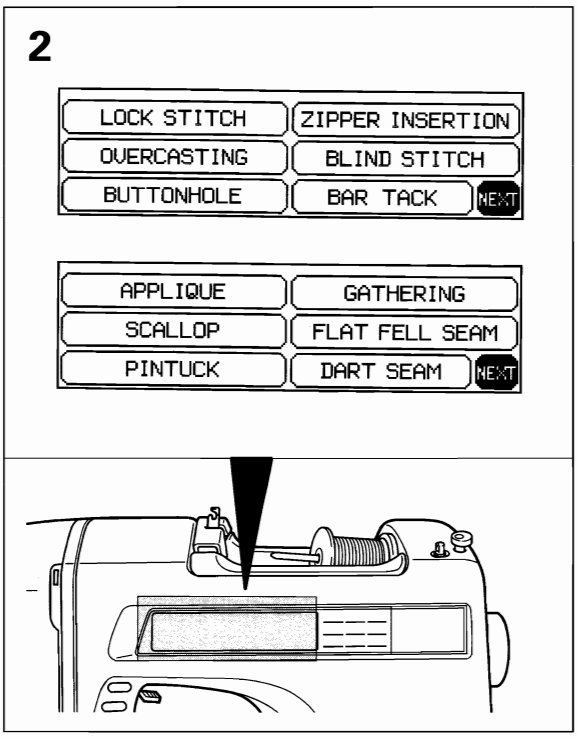


You can select pattern from "BASIC SEWING".



1. Touch "BASIC SEWING".

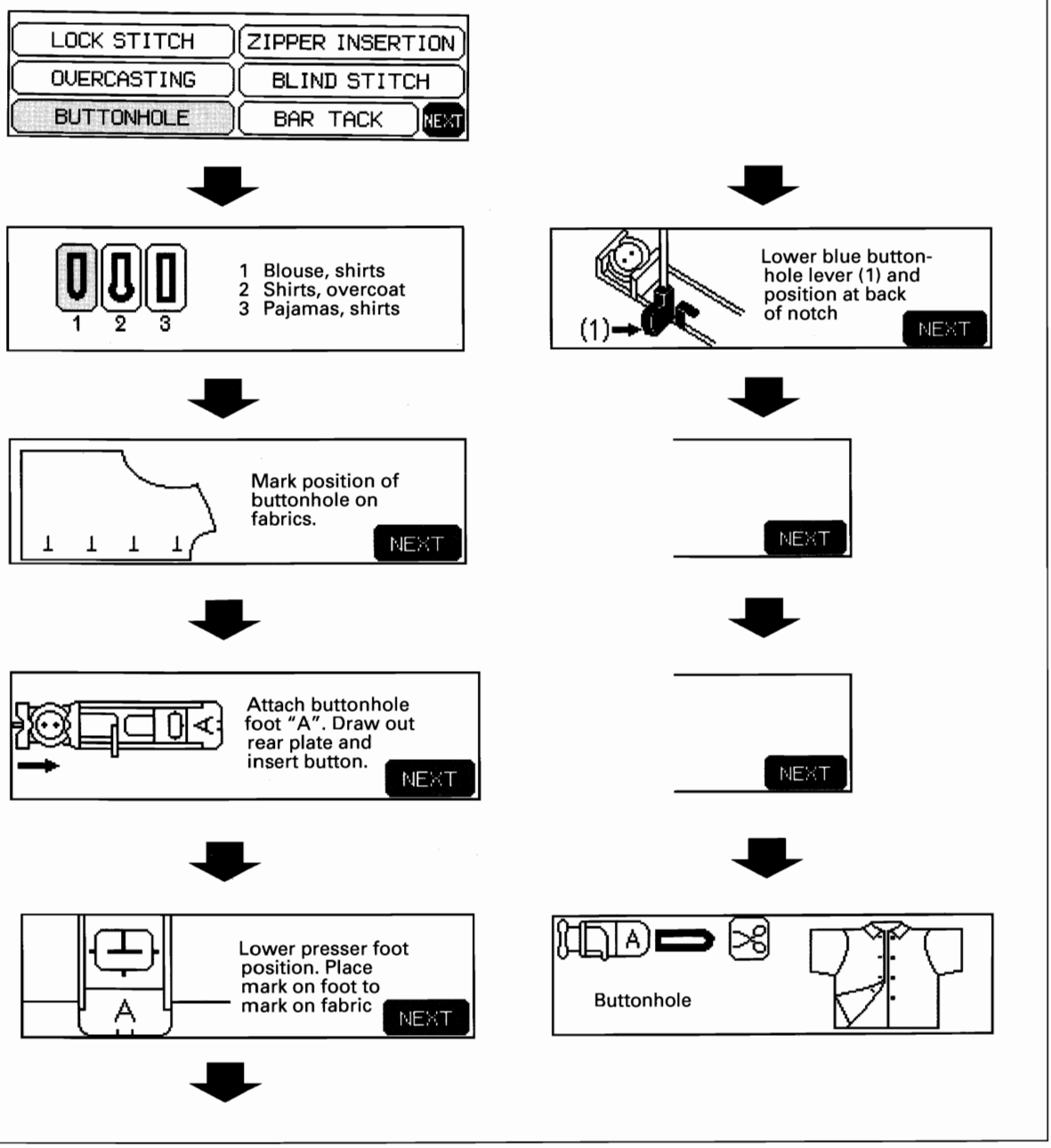
Stitches you can select from "BASIC SEWING".



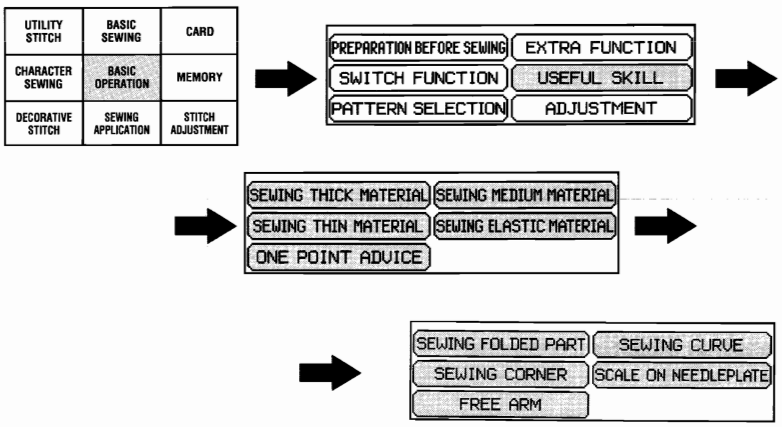
2. Select the desired application.
   The available stitch and sewing procedure appears on the screen step by step.

EXAMPLE: Buttonhole for shirts

Touch "Buttonhole for blouse, shirt".
Rounded buttonhole is selected and sewing procedures are shown on screen step by step.

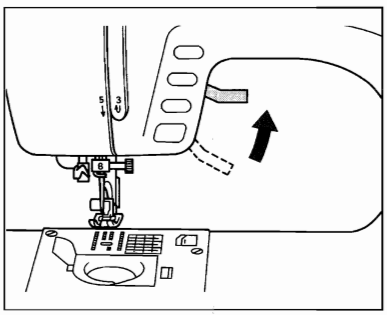


USEFUL SKILL

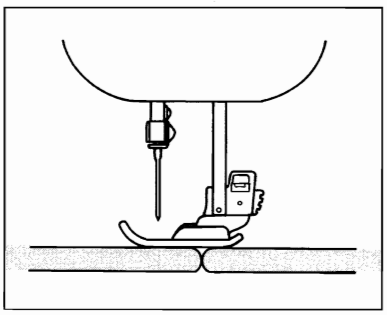


1. Touch "BASIC OPERATION".
2. Touch "USEFUL SKILL".
3. Touch key you desire.

Sewing thick material

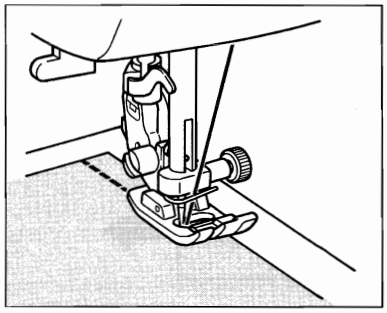


1. When you raise presser foot lever further, presser foot is raised to higher position in order to put heavy material under presser foot easier.

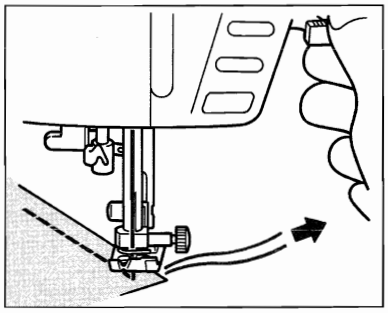


2. If the fabric won't feed at beginning of sewing, please place another fabric at the back as thick as original.

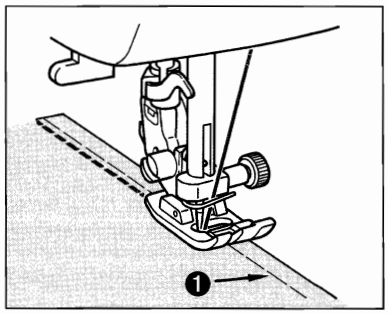
Sewing thin material



Place thin paper under the fabric, and start sewing.



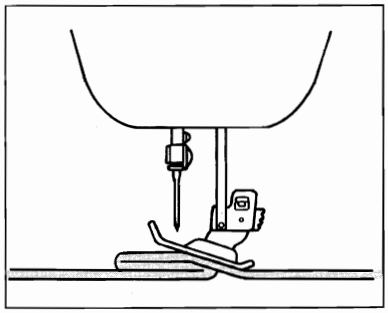
Sewing elastic material



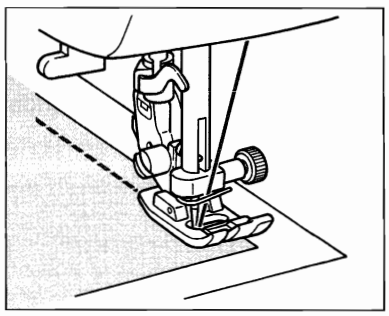
Baste edge of the fabric beforehand and sew to the basting.
Or place thin paper under the fabric, and start sewing.

❶ Baste

Sewing folded part



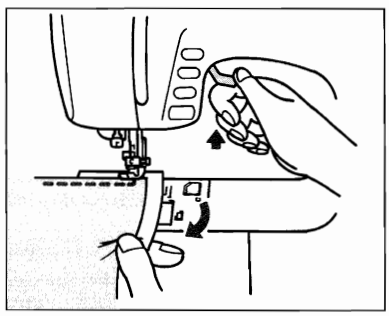
Sewing corner



* Use stitch "Straight (Left)" in case of straight stitch.

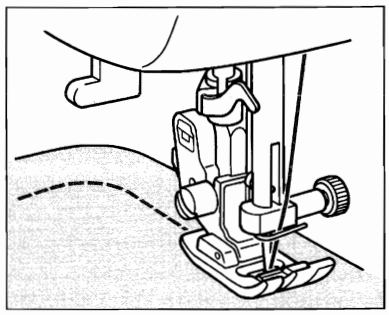
In case of thin material

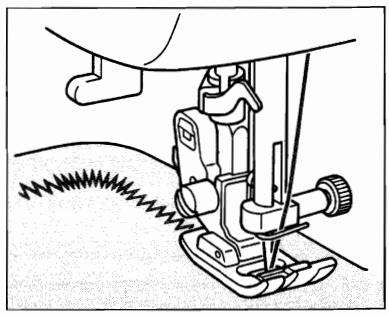
1. Place thin paper under fabric, and start sewing.



2. Keep needle in material at corner, then raise presser foot and turn material with paper.

Sewing curve

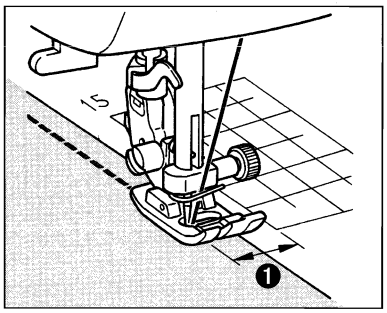




Sewing edge

In case of short stitch less than 0.5 cm (0.20 inch)

Set basting thread at corner point. Turn direction at corner then start sewing pulling basting thread backward.

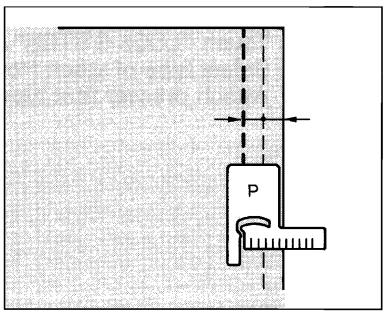


1. Scale on needle plate

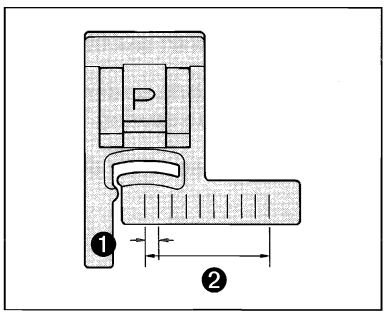
Scale on needle plate is useful to sew fabric, keeping same width from fabric edge.

❶ 1.5 cm (0.59 inch)

Support fabric feeding by hand, sew fabric to folded side.



2. Stitch guide foot "P" for edge sewing.



The scale of the presser foot "P" is graduated at interval 2 mm (0.079 inch).

❶ 2 mm (0.079 inch)
❷ 18 (2 x 9) mm
[0.709 (0.079 x 9) inch]

NOTE
Stitch guide foot "P" can be used for all utility stitches except button holes.
This foot cannot be used at gap (folded part) of fabric.

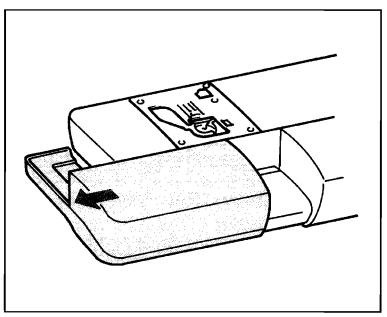
In case of straight stitch

Sew slowly, keeping seams in parallel with fabric edge.

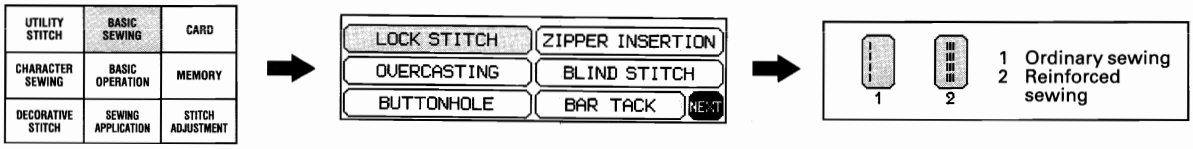
Free arm

In case of zigzag stitch

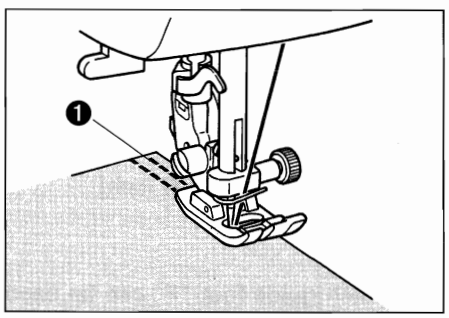
Set stitch length "Short" in order to obtain fine stitch.



Free arm is convenient to sew tubular areas, cuffs, etc.



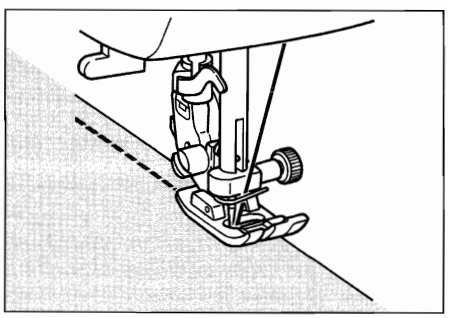
1. Touch "BASIC SEWING".
2. Touch "LOCK STITCH".
3. Select type of stitch from screen.
4. Attach presser foot type "J".



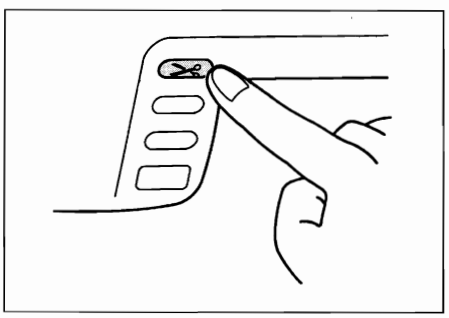
1. Baste the fabric or set pin, and reverse stitch at beginning then start sewing.

* Set fabric under presser foot keeping space from edge for reverse sewing.

❶ Reverse stitch at start

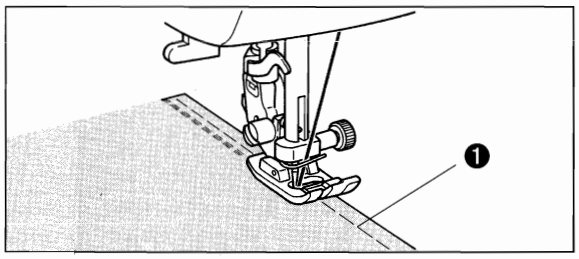


2. Sew slow speed near the end then stop the machine after reverse sewing.



3. Cut thread by pressing "AUTOMATIC THREAD CUTTER" button.

In case of reinforcement or elastic material

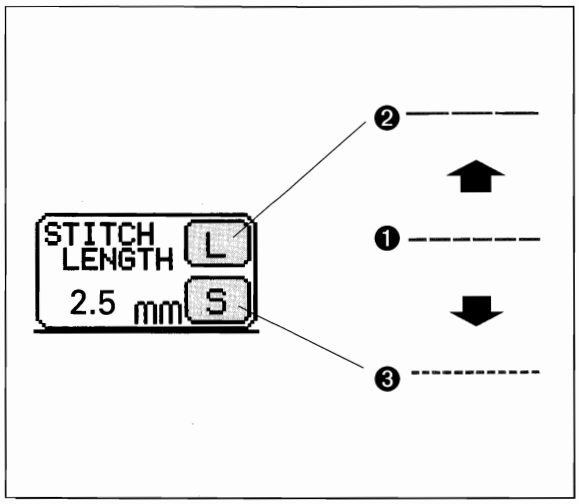


Baste the fabric beforehand and sew along to the basting using stretch straight stitch.

* You cannot change stitch length of stretch straight stitch.
* Don't pull the fabric during sewing.

❶ Basting

To change stitch length

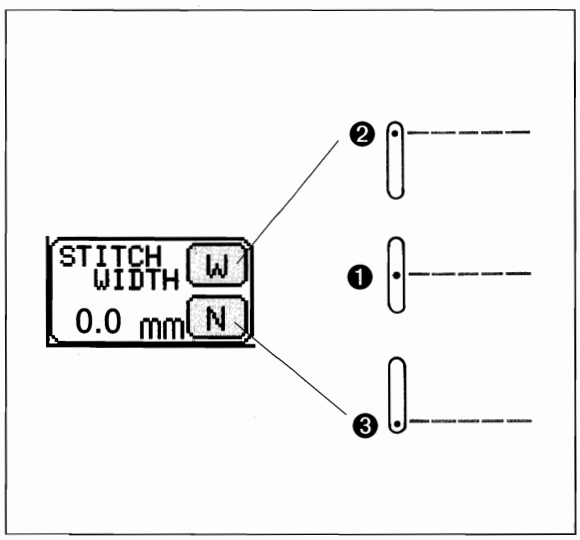


Touch "STITCH ADJUSTMENT" and adjust the stitch length by touching "L" (Long) or "S" (Short) on screen.

❶ Original length: 2.5 mm (0.098 inch)
❷ Long
❸ Short

* In case of thin material less than 1 mm (0.039 inch), stitch length is set 4 mm (0.157 inch) automatically during sewing even if you set the length at 5 mm (0.197 inch).

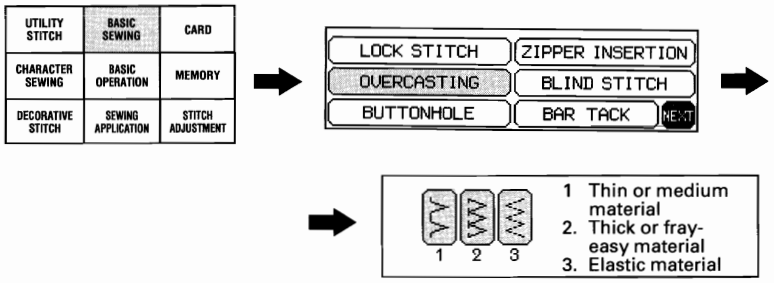
To change needle position



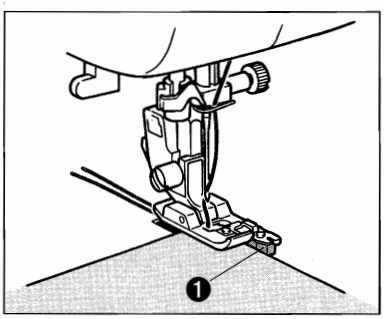
Touch "STITCH ADJUSTMENT" and adjust the needle position by touching "W" (Right) or "N" (Left) on screen.

❶ Needle position: 3.5 mm (0.138 inch)
❷ Needle position: 7.0 mm (0.276 inch)
❸ Needle position: 0.0 mm (0.0 inch)

OVERCASTING



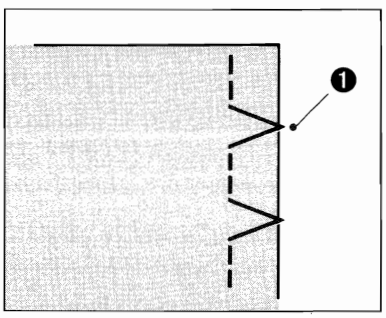
1. Touch "BASIC SEWING".
2. Touch "OVERCASTING".
3. Select type of stitch.
4. Attach presser foot type "G" or "J".



2. Sew fabric applying fabric edge to guide on presser foot "G".

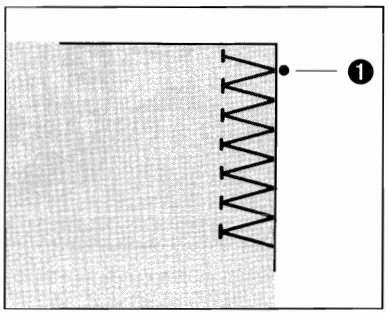
❶ Guide

Thin or normal material

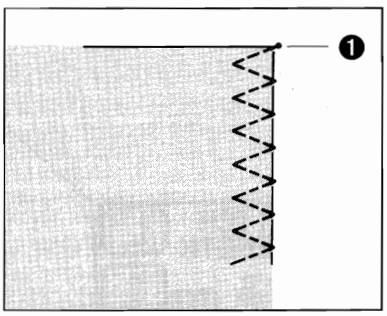


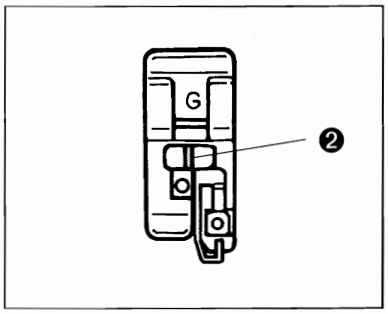
❶ Needle drop point

Thick of frayeasy material

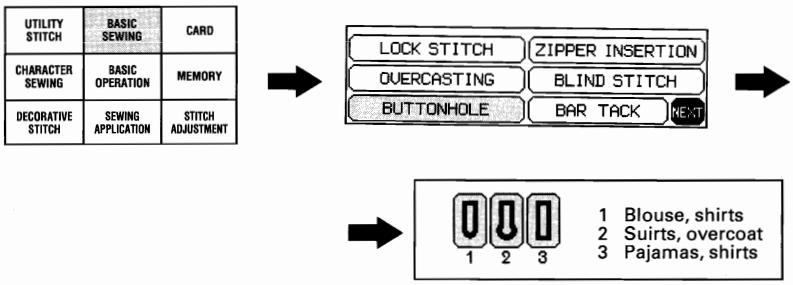


Elastic material





❶ Needle drop point



You can use these stitches not only for buttonholes but also holes for ribbon.

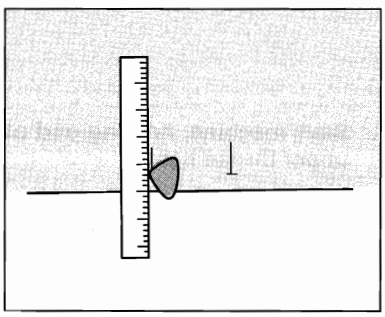
1. Touch "BASIC SEWING".
2. Touch "BUTTONHOLE".
3. Select type of Buttonhole.
4. Attach presser foot "A".

Attach presser foot "J" and drop needle just outside fabric then start sewing.

❶ Needle drop point

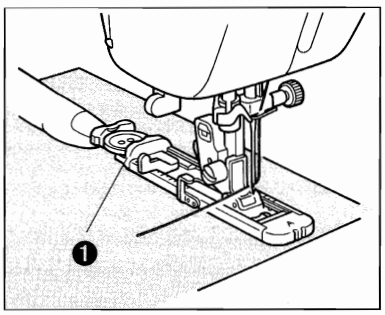
When adjusting stitch width by manual setting, make sure needle does not hit guide of presser foot.

❷ Needle should not hit the presser foot.



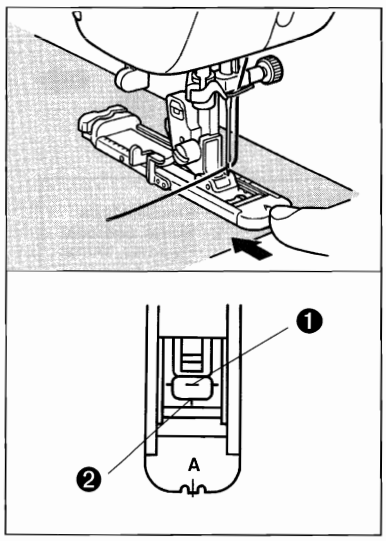
1. Mark position of buttonhole on fabrics.

* Max. of buttonhole length is 3 cm (1.2 inch). (diameter + thickness of buttonhole)



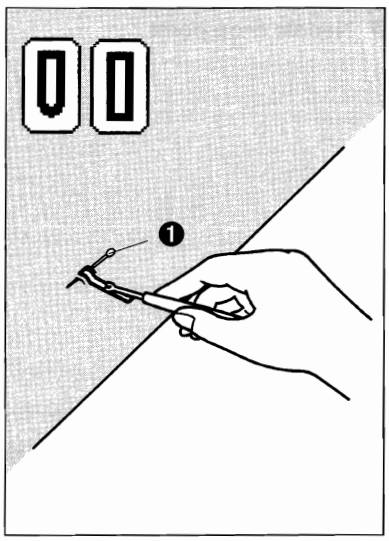
2. Draw out rear plate and insert button.

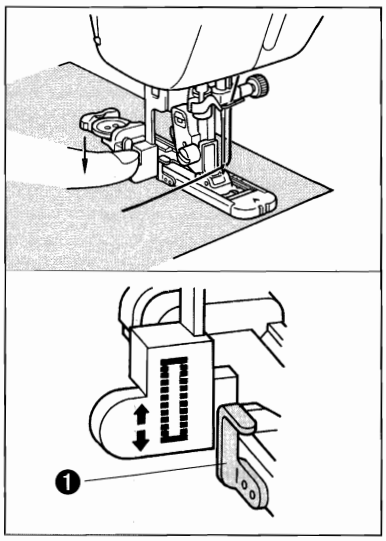
❶ Rear plate



3. Lower presser foot into position. Place the red mark on the foot over the starting mark of your buttonhole.

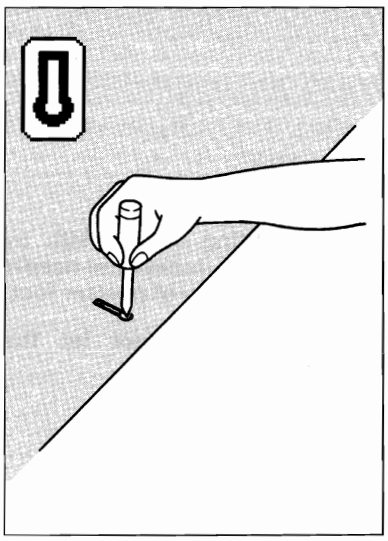
❶ Mark on fabric
❷ Mark on presser foot

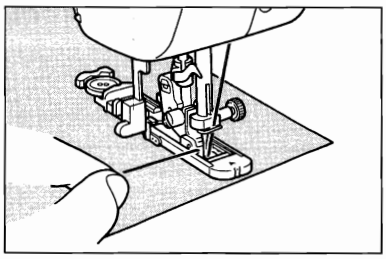




4. Lower blue buttonhole lever and position at back of notch.

❶ Notch





5. Start machine, holding end of upper thread lightly.

* Feed fabric by hand lightly.
* Machine will stop with reinforcement stitch automatically on completion of buttonhole.
* Machine cuts thread and stops automatically when you touch "SCISSORS" before sewing.

6. Open the hole

In case of normal buttonhole and rounded buttonhole.

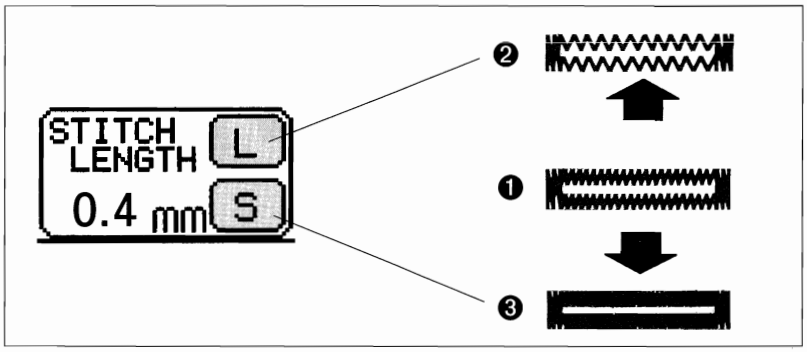
Insert a pin in front of the inside edge of both bar tacks. Insert seam ripper into centre of buttonhole. Cut towards the first pin. Then do the same for the other side.

❶ Pin

In case of Keyhole buttonhole

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

Sewing edge



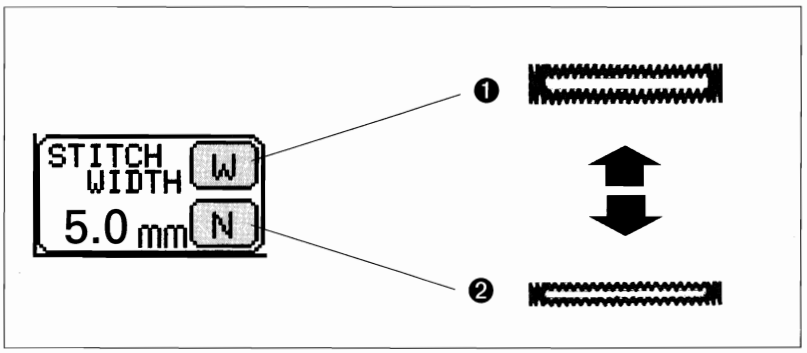
Touch "STITCH ADJUSTMENT" and adjust the stitch length by "L" (Long) or "S" (Short).

❶ Normal position 0.4 mm (0.016 inch)
❷ Long
❸ Short

* If the stitch length is too close, adjust the stitch legth by pressing "L" (Long).

1. Touch "BASIC OPERATION".
2. Touch "USEFUL SKILL".
3. Touch key you desire.

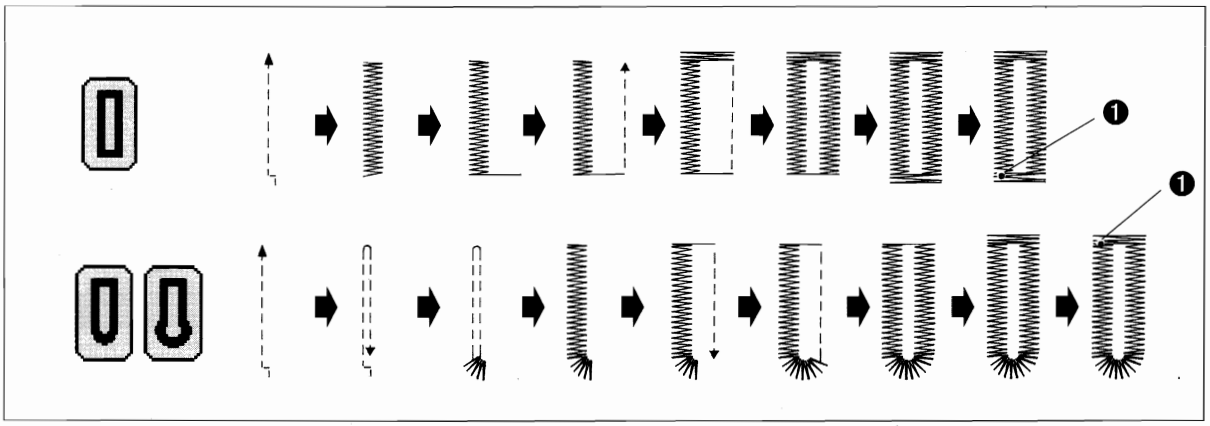
To change stitch width



Touch "STITCH ADJUSTMENT" and adjust the stitch width by "W" (Wide) or "N" (Narrow).

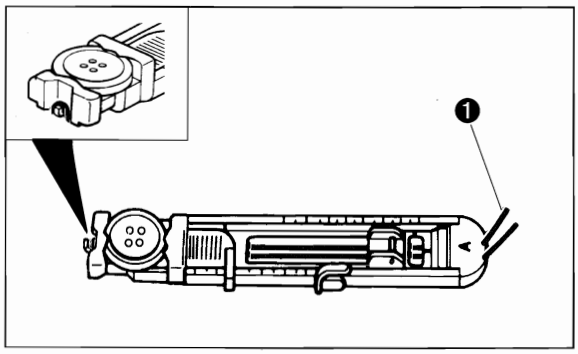
❶ "AUTO" position 5.0 mm (0.197 inch)
❷ "N" (narrow)

The order of one cycle.



❶ Reinforcement stitch

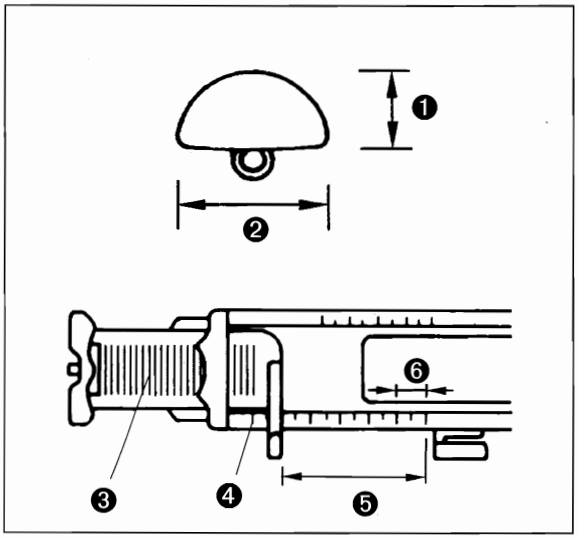
For elastic fabric



For reinforced or corded gimp on the sole of foot buttonholes place. (For normal buttonhole only)

❶ Gimp

In case button does not fit with plate (Odd shape button)

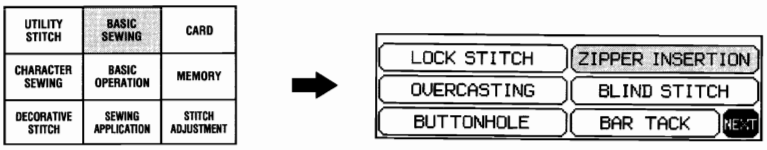


Measure button diameter + thickness and set plate.

EXAMPLE:
In case of diameter 1.5 cm (0.59 inch), thickness 1 cm (0.39 inch), set scale at 2.5 cm (0.98 inch).

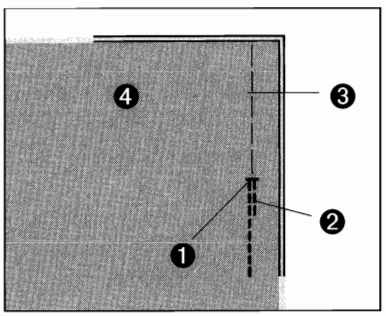
❶ Thickness [1 cm (0.39 inch)]
❷ Diameter [1.5 cm (0.59 inch)]
❸ Plate
❹ Scale
❺ Diameter + thickness [2.5 cm (0.98 inch)] [0.5 cm (0.20 inch) in one scale.]
❻ 0.5 cm (0.20 inch)

ZIPPER INSERTION (CENTERED APPLICATION, SIDE APPLICATION)



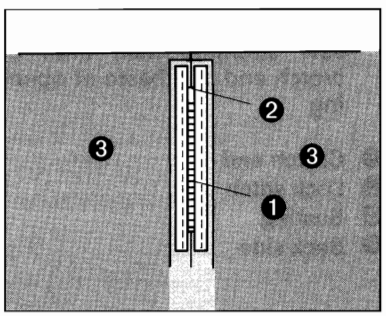
1. Touch "BASIC SEWING".
2. Touch "ZIPPER INSERTION".
3. Attach presser foot "I".

Centered application



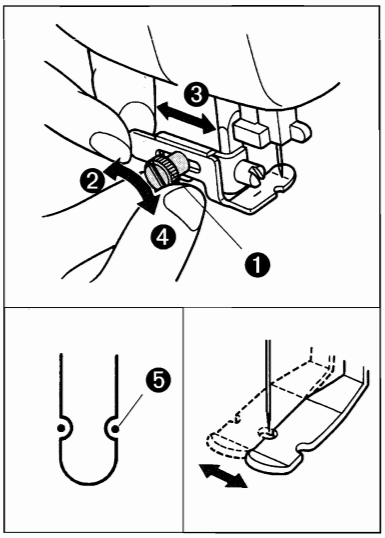
1. Attach presser foot "I" and sew straight stitch until you reach the crotch end of the length of the zipper at the rear, baste at opening.

❶ Crotch end
❷ Lock stitch
❸ Basting
❹ Back side



2. Press seam allowance open and place zipper with basting in middle.

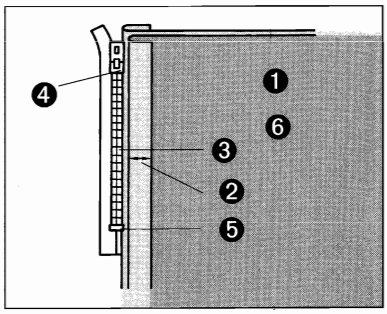
❶ Zipper
❷ Basting
❸ Back side

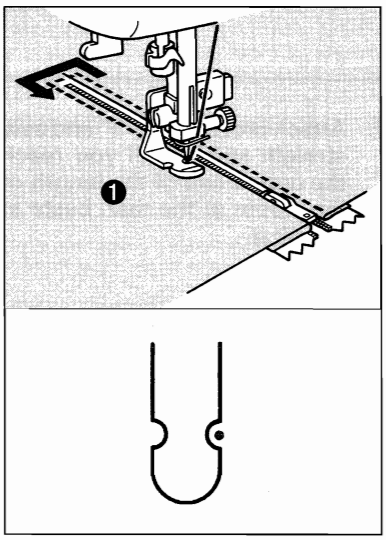


3. Attach presser foot "I" (refer to page 19) then adjust position of foot by turning the screw at the rear of the foot.

* Make sure needle will not hit presser foot by turning pulley by hand.

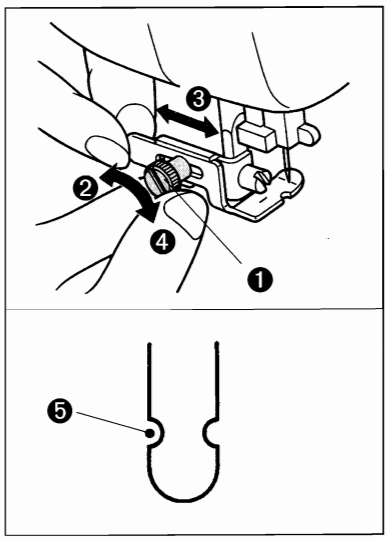
❶ Screw
❷ Loosen
❸ Left / right
❹ Tighten
❺ Needle drop point



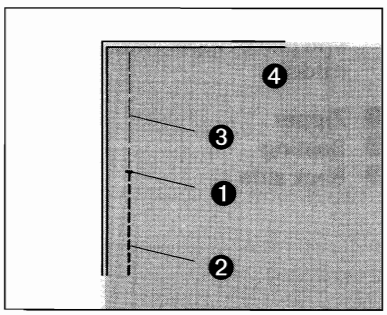


4. Stitch from outside of work and remove basting.

❶ Surface

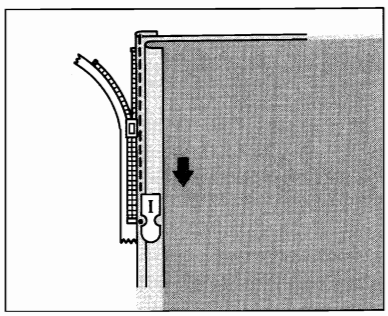


Side application



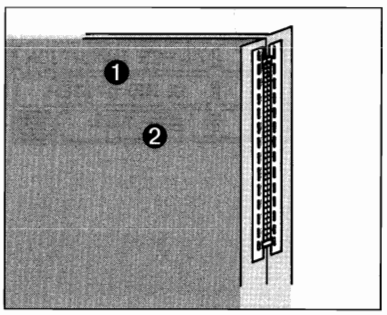
1. Attach presser foot "J" and sew straight stitch until at crotch end and baste at opening.

❶ Crotch end
❷ Lock stitch
❸ Basting
❹ Back side



2. Press seam allowance open and place edge of the back skirt along the teeth of the zipper keeping 0.3 cm (0.12 inch) for sewing space on back skirt.

❶ Front skirt
❷ Keep 0.3 cm (0.12 inch) for sewing
❸ Teeth
❹ Slider
❺ Crotch end
❻ Back side



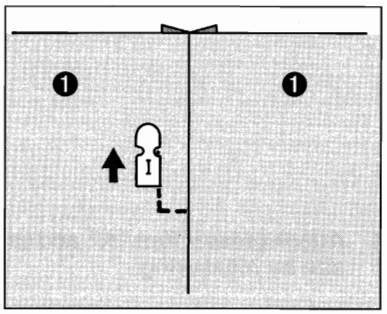
5. Close zipper, turn over the fabric then sew the other side of zipper on fabric.

❶ Back skirt
❷ Back side

3. Attach presser foot "I" and adjust position of foot by turning the screw at the rear of the foot.

* Make sure needle does not hit presser foot by turning pulley by hand.

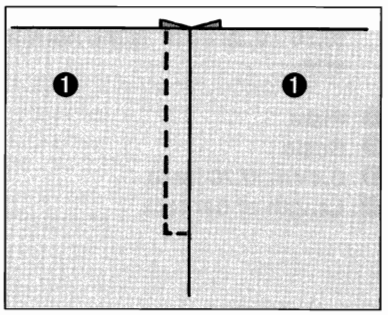
❶ Screw
❷ Loosen
❸ Left / right
❹ Tighten
❺ Needle drop point



6. Turn over the fabric to right side and sew straight stitch.

* To avoid uneven stitching around zipper head simply reposition head of zip further down, when you reach position of head simply close the zip once more.

❶ Surface

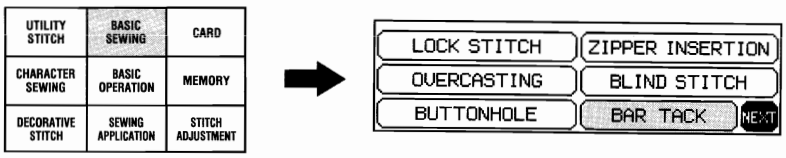


7. Finish.

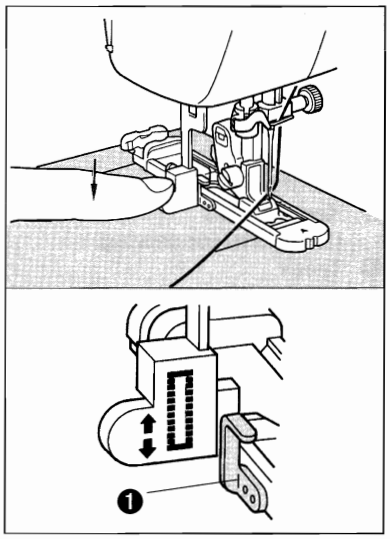
❶ Surface

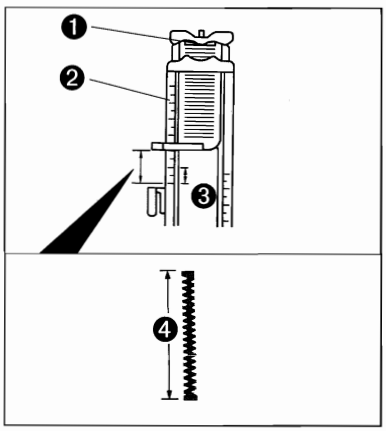
4. Sew up to crotch end.

BAR TACK



1. Touch "BASIC SEWING".
2. Touch "BAR TACK".
3. Attach presser foot "A".

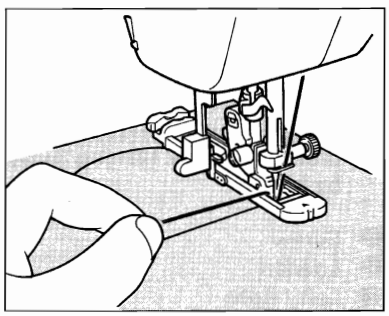


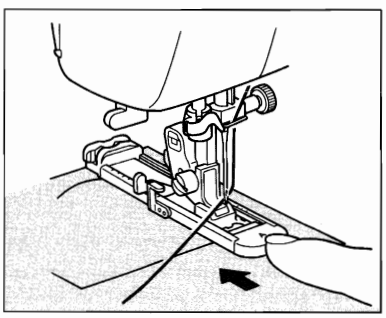


1. Attach presser foot "A" and set size by measuring.

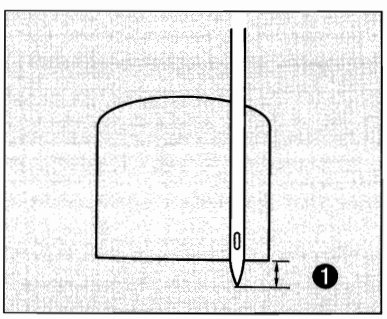
* 0.5 – 3 cm (0.20 – 1.2 inch) is suitable for bar tack. 0.5 – 1 cm (0.20 – 0.39 inch) is the normal size.

1 Plate
2 Scale
3 0.5 cm (0.20 inch)
4 Length of bar tack





2. Position pocket as illustrated.



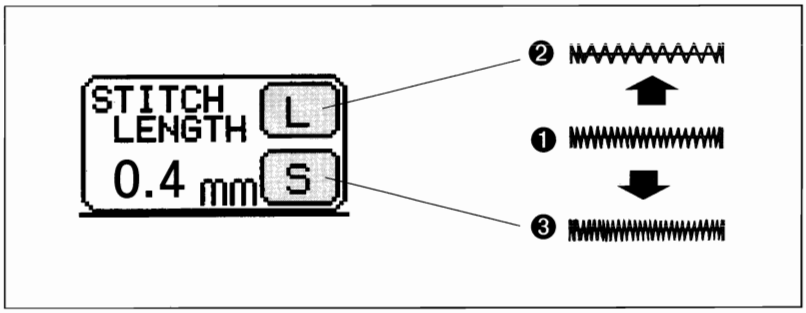
3. Check first needle dropping point and lower presser foot.

1 0.2 cm (0.08 inch)

4. Lower blue buttonhole lever and position at back of the notch of the "A" foot.

❶ Notch

To change stitch length



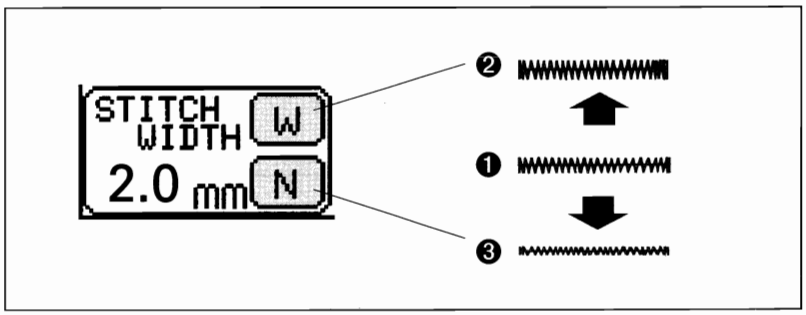
Touch "STITCH ADJUSTMENT" and adjust stitch length by "L"(Long) or "S"(Short).

❶ "AUTO" position 0.4 mm (0.016 inch)
❷ "L"(Long)
❸ "S"(Short)

5. Start machine holding end of upper thread lightly.

* Machine will stop after reinforcement stitch automatically.
* Machine cuts thread and stops automatically when you touch "SCISSORS".

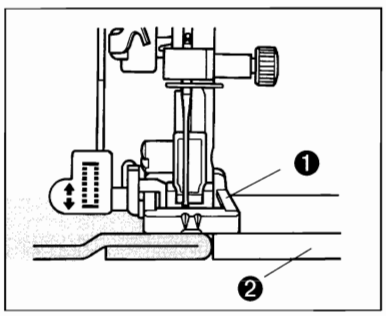
To change stitch width



Touch "STITCH ADJUSTMENT" and adjust stitch width by "W"(Wide) or "N"(Narrow).

❶ "AUTO" position 2.0 mm (0.079 inch)
❷ "W"(Wide)
❸ "N"(Narrow)

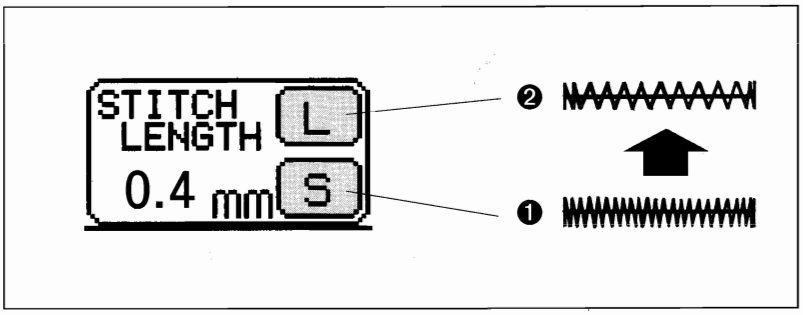
In case of thick fabric



Place another fabric or card-board at the back as thick as original. This raises the presser foot to the same height and allows for easier feeding.

❶ Presser foot
❷ Card-board

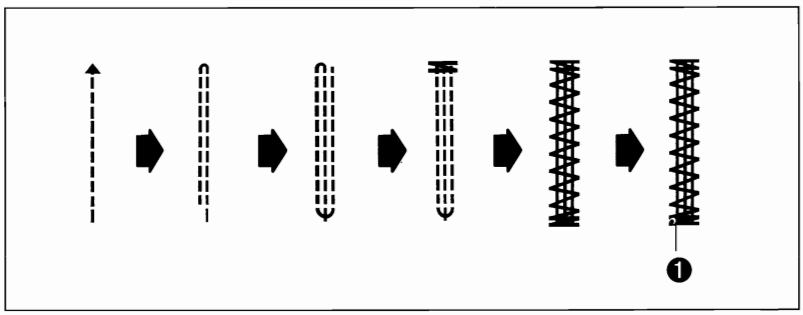
In case the stitch is too fine



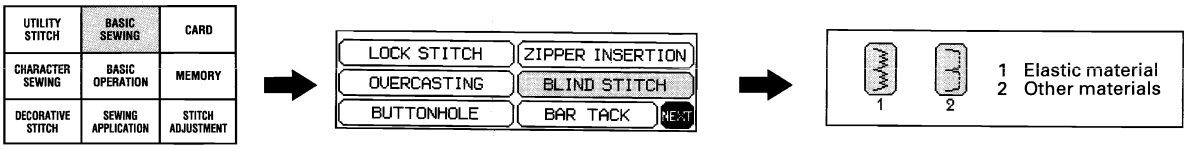
Touch "STITCH ADJUSTMENT" and adjust the stitch length to coarse by "L"(Long).

❶ "AUTO" position 0.4 mm (0.016 inch)
❷ "L"(Long)

The order of one cycle

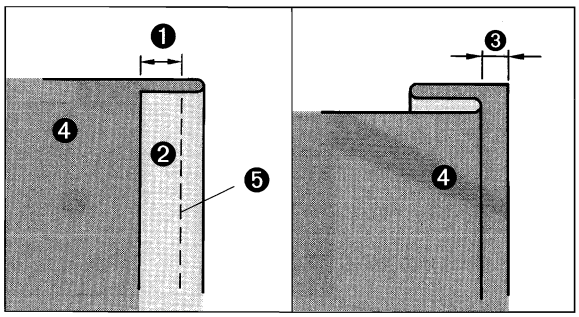


❶ Reinforcement stitch



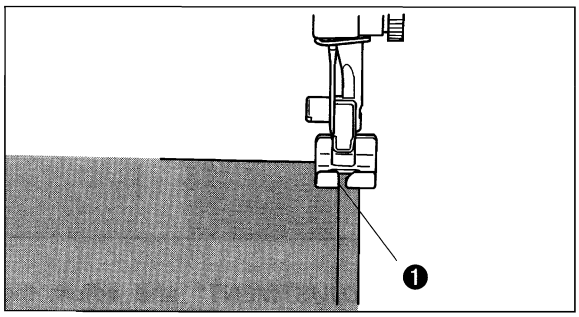
For turning up hems of skirts etc.

1 Touch "BASIC SEWING".
2 Touch "BLIND STITCH".
3 Touch "NEXT".
4 Select type of stitch.
5. Attach presser foot "R".



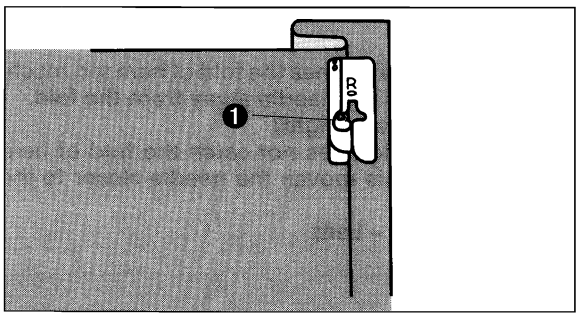
1. Fold the fabric and baste it as illustrated.

❶ 1 cm (0.39 inch)
❷ Surface
❸ 0.5 cm (0.20 inch)
❹ Back side
❺ Basting



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

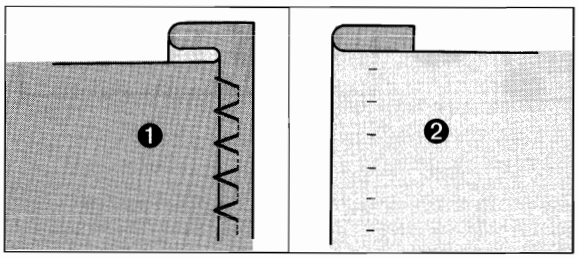
❶ Guide



3. Adjust needle position by "STITCH ADJUSTMENT" so that needle slightly catches fold of hem then sew the fabric.

* Select "1 Elastic material" key for elastic material.

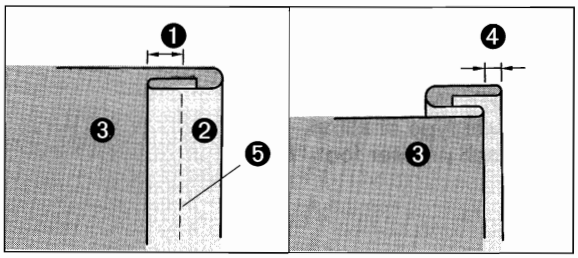
❶ Needle drop position



4. Turn over the fabric and remove basting.

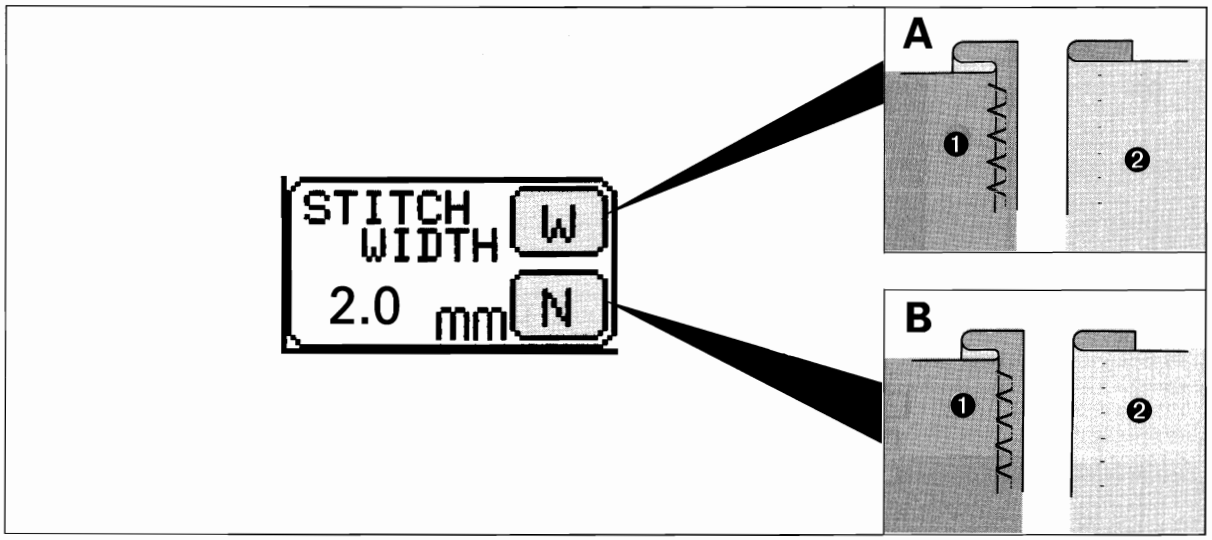
❶ Back side
❷ Surface

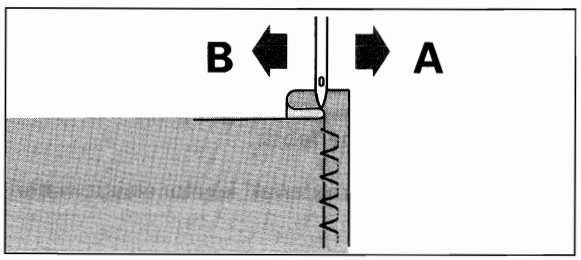
Blind hem folding method for fine fabrics



❶ 1 cm (0.39 inch)
❷ Surface
❸ Back side
❹ 0.5 cm (0.20 inch)
❺ Basting

To adjust needle drop position



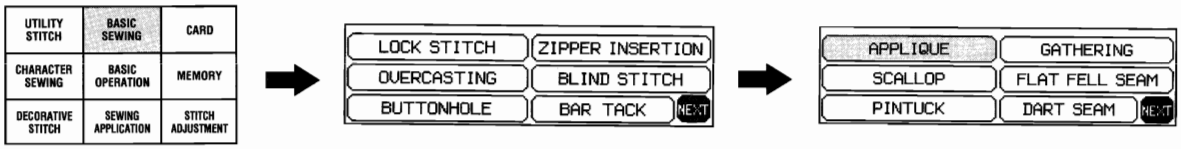


Touch "STITCH ADJUSTMENT" and adjust the needle drop position by "W" (Wide = Left) or "N" (Narrow = Right) so that needle slightly catches fold of hem.

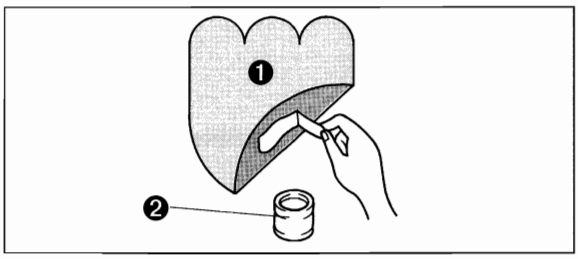
A– If the needle catches the fold of hem too much. This moves the needle away from the fold.
"N" (Narrow = Right)

B– If the needle does not catch the fold of hem enough. This moves the needle closer to the fold.
"W" (Wide = Left)

❶ Back side
❷ Surface



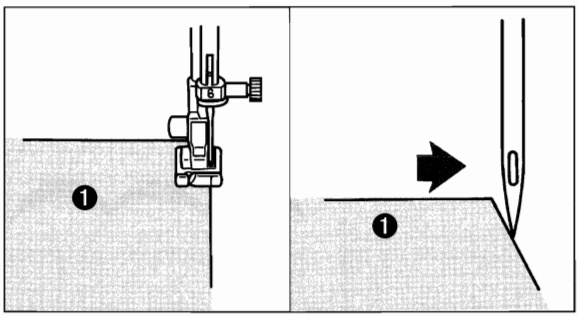
1. Touch "BASIC SEWING".
2. Touch "NEXT".
3. Touch "APPLIQUE".
4. Attach presser foot "J".



1. Attach the applique on material.

* The applique should be attached with glue or basting stitch so that the applique will not move during sewing.

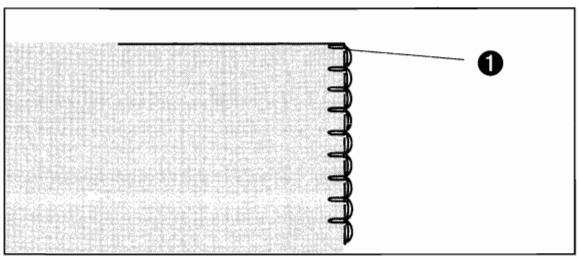
❶ Applique
❷ Glue



2. Make sure that the needle drop point is just outside the applique when the needle is at right side and start sewing.

* Reverse sew or tie both end of the threads at beginning and end of sewing.

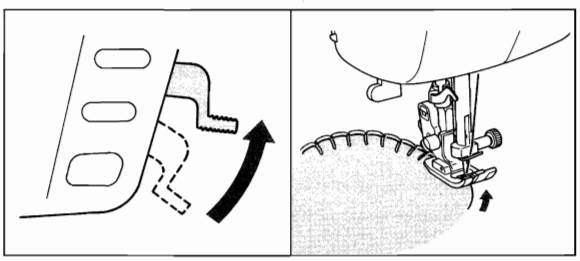
❶ Applique



3. Finish

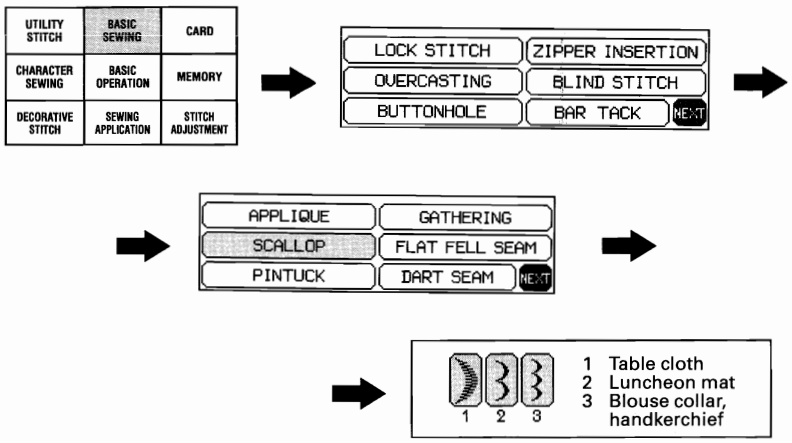
❶ Needle drop point

To applique around corners

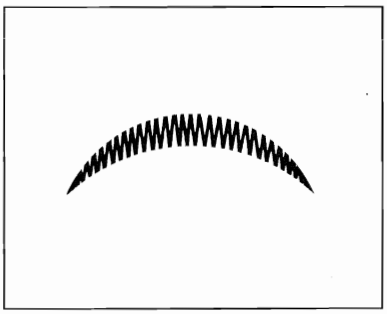


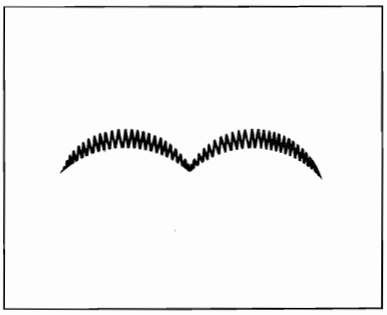
1. Stop machine and position needle just outside of the applique.
2. Raise presser foot and turn the material.

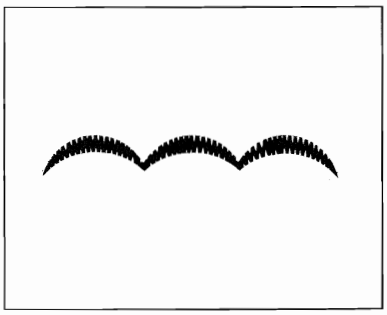
SCALLOP



Size of each type of scallop stitch (Actual size)

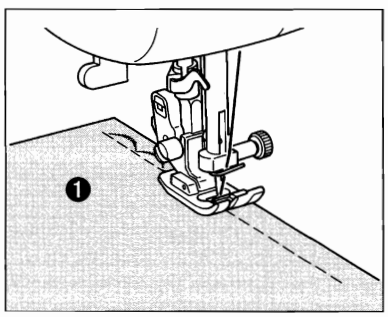






Stitch for decorating collar of blouse, edge of table cloth etc.

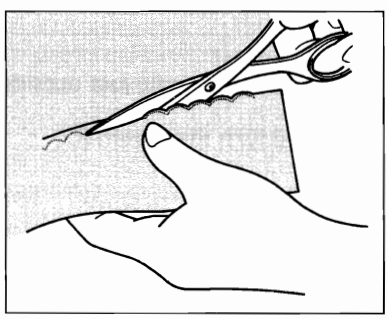
1. Touch "BASIC SEWING".
2. Touch "NEXT".
3. Touch "SCALLOP".
4. Touch "NEXT".
5. Select type of scallop stitch.
6. Attache presser foot "N".



1. Mark the line then stitch along marked line.

* At beginning of stitch, the machine sews fastening stitch automatically.

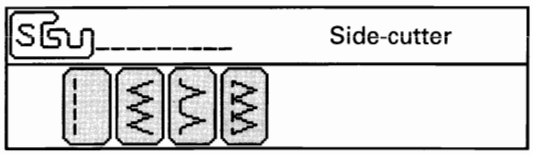
❶ Surface



2. Trim along the stitches carefully so as not to cut the stitches.

Table cloth

* You can not change the stitch width, length and sewing speed.



Luncheon mat

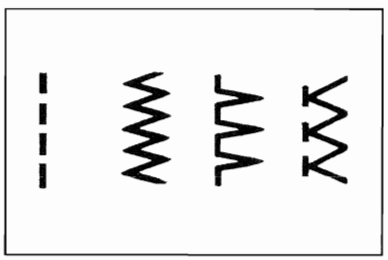
* You can not change the stitch width, length and sewing speed.

1. Set side cutter.
2. Attach presser foot "S".
3. Select pattern.

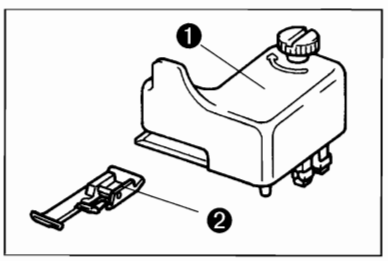
*When side cutter is set.

Collar of blouse, handkerchief

* When you select scallop stitch by "UTILITY STITCH", this type of stitch is selected automatically.
* You can change stitch width, length and sewing speed.

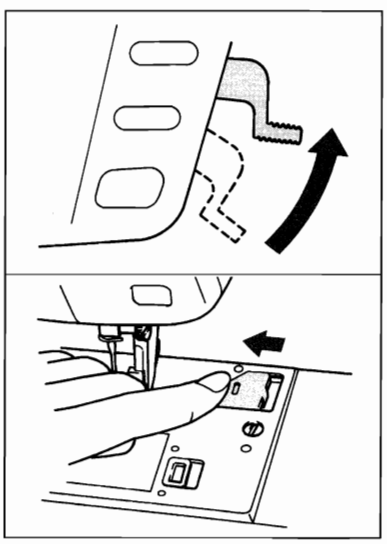


4. Patterns for side cutter are only available.

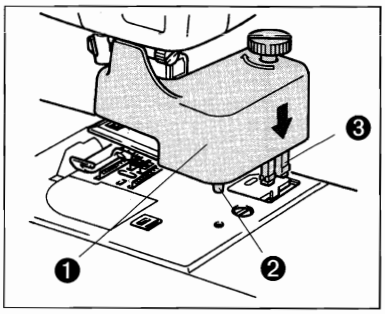


Compartment for side-cutter

❶ Side-cutter
❷ Presser foot "S" for side-cutter

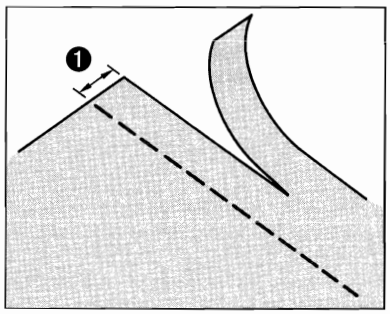


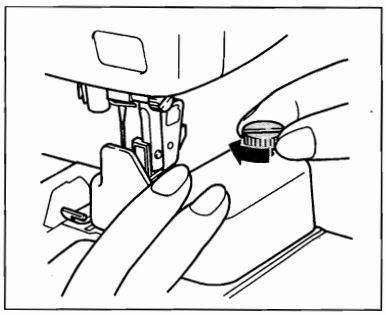
1. Raise presser foot and slide open the plate.



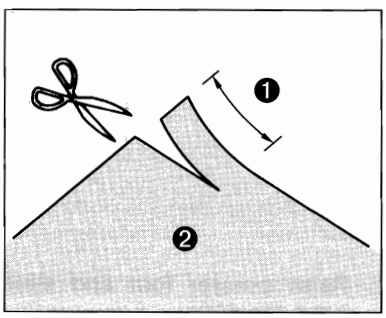
2. Locate guide pin above the hole and insert the nail to machine.

❶ Side-cutter
❷ Guide pin
❸ Nail



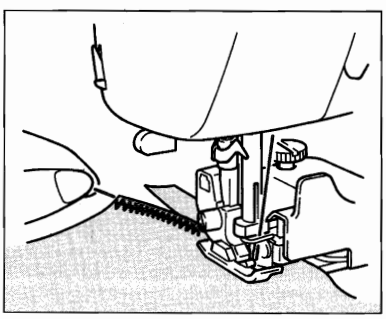


3. Fasten the screw.



4. Make a cut by 1 cm (0.39 inch) from the edge.

❶ 1 cm (0.39 inch)
❷ Fabric



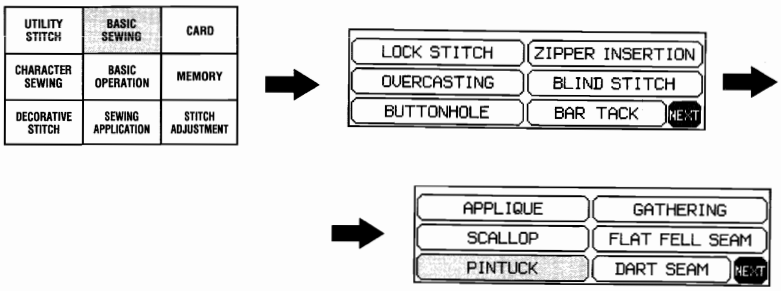
5. Both threads should be passed through the lower side of presser foot and held lightly with fingers.

* Depending on the fabrics, adjust stitch width.

Straight/Zigzag stitching with side-cutter.

Margin is 0.5 cm (0.20 inch).

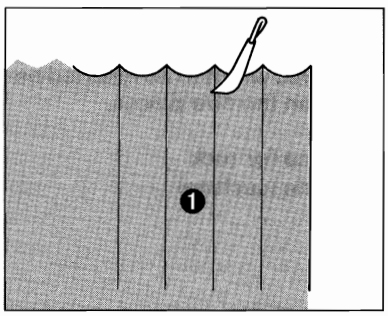
❶ 0.5 cm (0.20 inch)



* When side-cutter is on the machine, only 4 stitches are applicable.
* When other stitch is in-use and side-cutter is attached to machine, stitch number automatically changes to number "03".

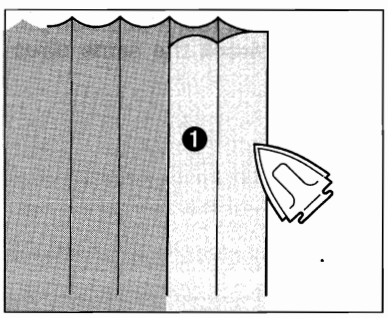
1. Touch "BASIC SEWING".
2. Touch "NEXT".
3. Touch "PINTUCK".
4. Attach presser foot "I".

NOTE
- When side-cutter is used, pressure foot also should be changed to type "S".
- Side-cutter accepts maximum of 3 ply of denim.
- Make sure to clean side-cutter after every time it is used.



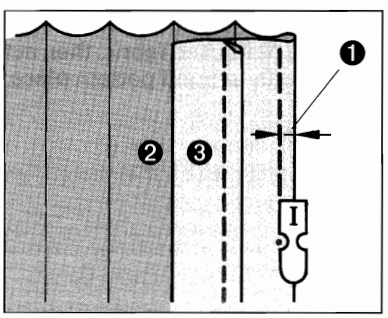
1. Mark along folds on reverse side of material by lancet.

❶ Back side



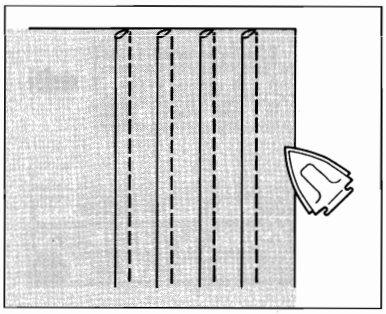
2. Fold along each mark, and iron folded part only.

❶ Surface



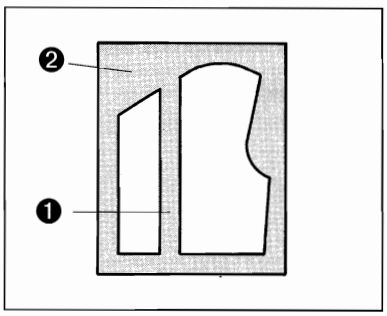
3. Attach presser foot "I" then sew a line parallel with the edge a few millimetres from the edge, this forms the pintuck.

❶ Width for pintuck
❷ Surface
❸ Back side



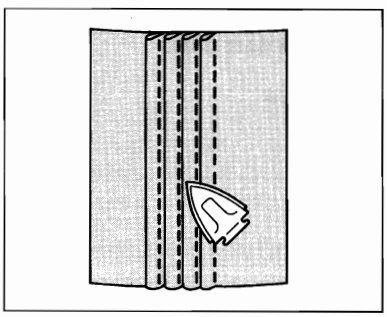
4. Iron folds toward the same direction.

How to cut the tuck.

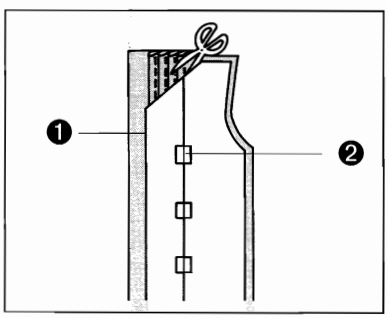


1. Choose the width of pintuck desired. Slice pattern and allow for this width to be inserted between the two pieces.

❶ Space for tuck
❷ Fabric (surface)



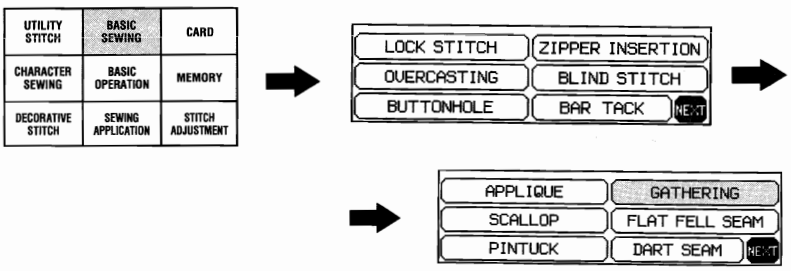
2. Pintuck the fabric and iron pintucks toward the same direction.



3. Place the paper pattern on top of the pintucked fabric, then cut normally around pattern place.

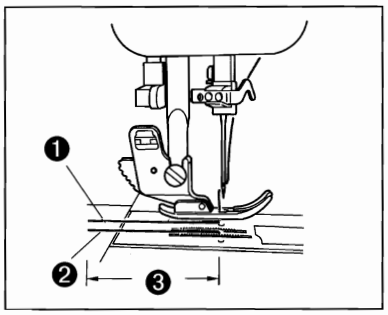
❶ Flyleaf
❷ Tape

GATHERING



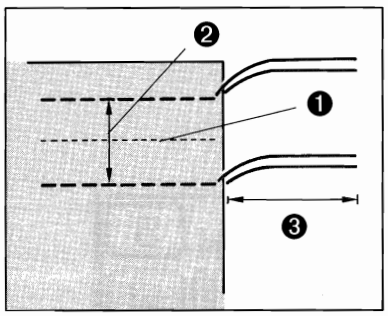
Use on waist of a skirt, the sleeve of a shirt, etc.

1. Touch "BASIC SEWING".
2. Touch "NEXT".
3.. Touch "GATHERING".
4. Attach presser foot "J".



1. Pull out lower and upper threads by 5 cm (1.97 inch).

❶ Upper thread
❷ Lower thread
❸ About 5 cm (1.97 inch)

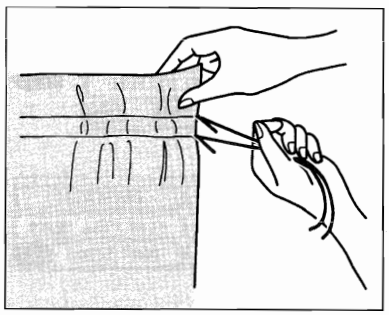


2. Sew 2 rows of straight stitch parallel with seam line, then cut excess thread leaving 5 cm (1.97 inch) of thread remaining.

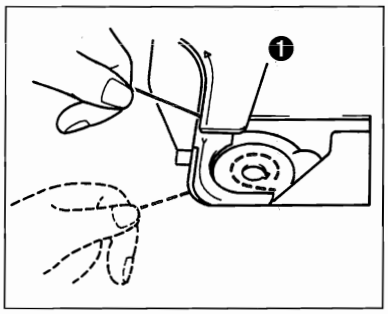
* In the case of material in which a needle penetration hole will remain, sew 2 rows of parallel stitches over the seam line.
* Do not use "AUTOMATIC THREAD CUTTER" button.

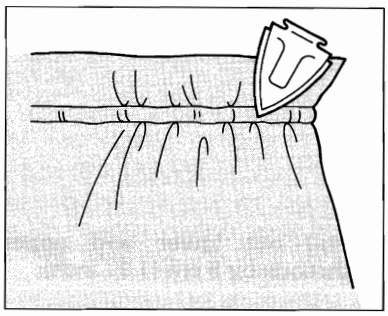
❶ Finish line
❷ 1.0 –1.5 cm (0.39 – 0.59 inch)
❸ About 5 cm (1.97 inch)

How to pull lower thread out

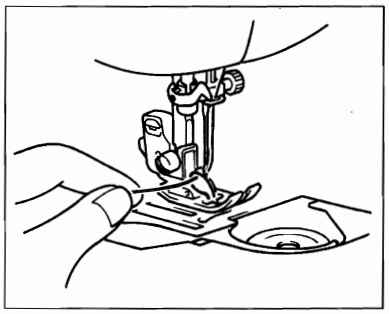


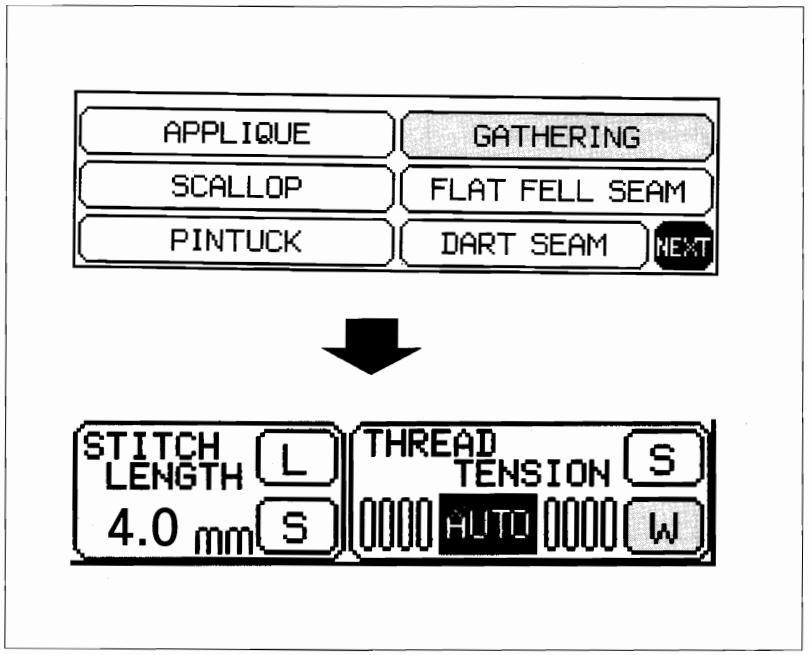
3. Pull lower threads of both rows and make gathers on the fabric, then tighten the each end of thread.





4. Regulate the gather then iron the fabric.



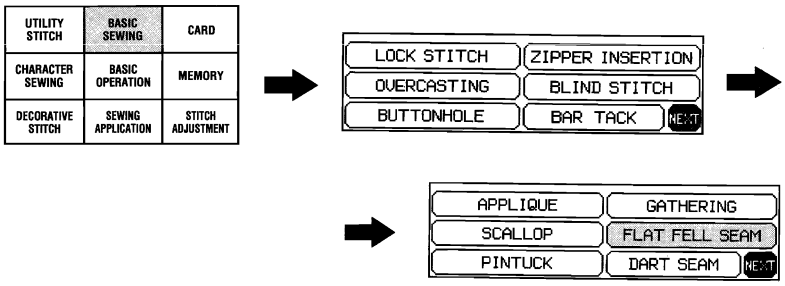


When you select gather, machine is set automatically with stitch length from 2.5 mm (0.098 inch) <standard> to 4.0 mm (0.157 inch) and thread tension to weak.

1. Thread through groove as per illustration but without cutting.

* Needle plate cover should be opened.

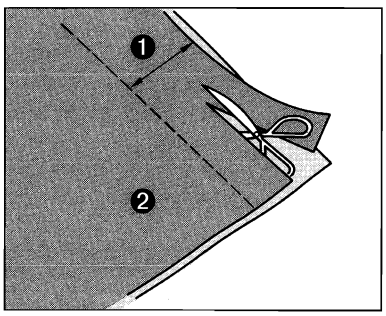
❶ Inner rotary hook



2. Press "NEEDLE POSITION" button twice holding the end of upper thread which will pull the lower thread up. Then close needle plate cover.

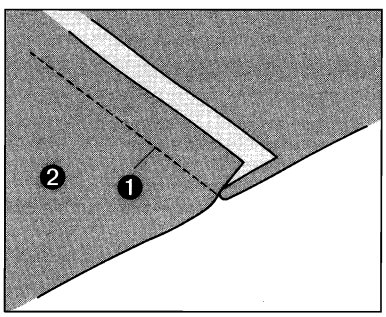
Use for reinforcing seams and finishing edges neatly.

1. Touch "BASIC SEWING".
2. Touch "NEXT".
3. Touch "FLAT FELL SEAM".
4. Attach presser foot "J".



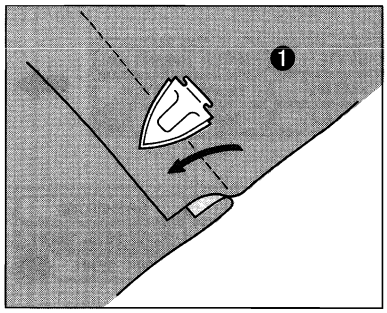
1. Sew seam line then cut half of seam allowance from the side seam will lie.

❶ About 1.2 cm (0.47 inch)
❷ Back side



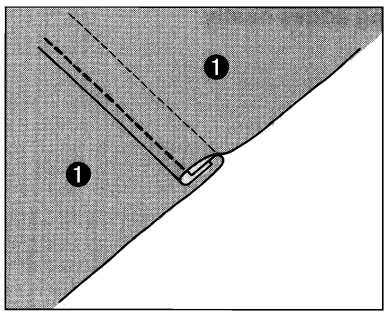
2. Open both seam allowances.

❶ Finish line
❷ Back side



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

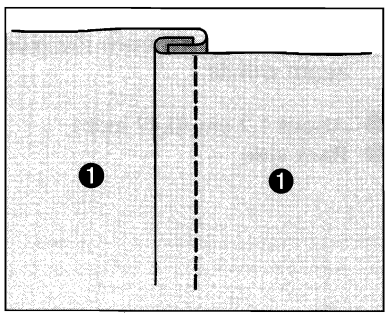
❶ Back side



4. Fold longer seam allowance under short one, and sew on edge of fold.

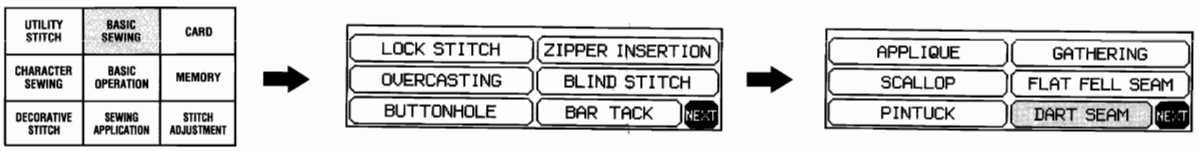
❶ Back side

Finished flat fell seam

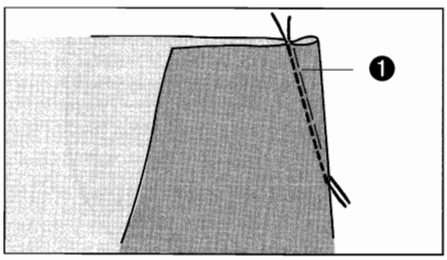


❶ Surface

DART SEAM

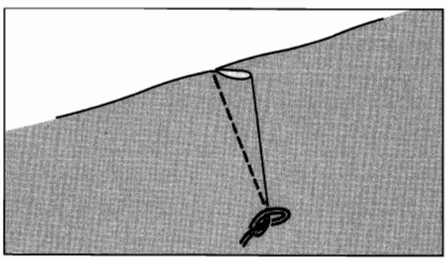


1. Touch "BASIC SEWING".
2. Touch "NEXT".
3. Touch "DART SEAM".
4. Attach presser foot "J".

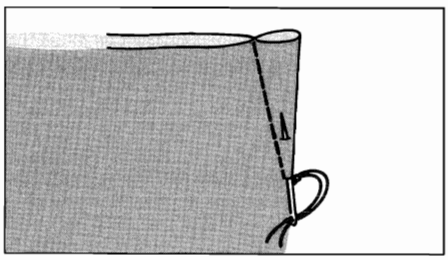


1. Reverse sew at the beginning of the dart and sew to the lower edge of the dart along marked line.

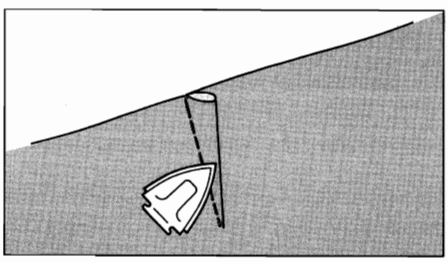
❶ Basting



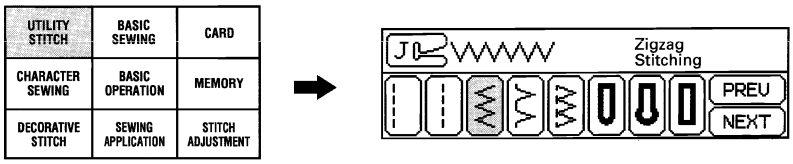
2. Cut thread at lower edge leaving 5 cm (1.97 inch) of thread, do not reverse, then the both ends of the thread.



3. Set the ends of the thread back up into the dart with a needle.

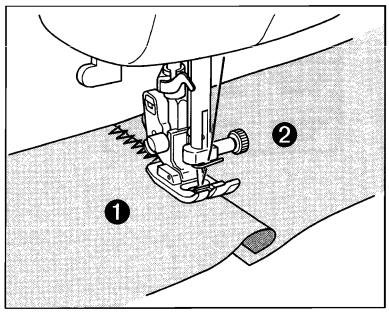


4. Iron material to the side it will lay.

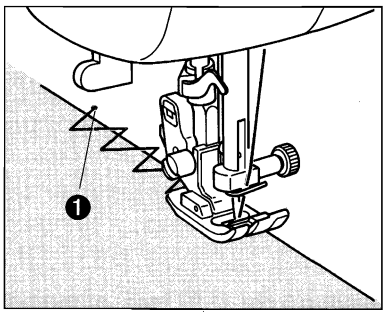


1. Touch "UTILITY STITCH".
2. Select "ZIGZAG" stitch.
3. Attach presser foot "J".

Patchwork



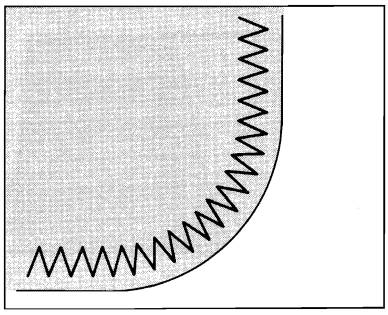
Overcasting



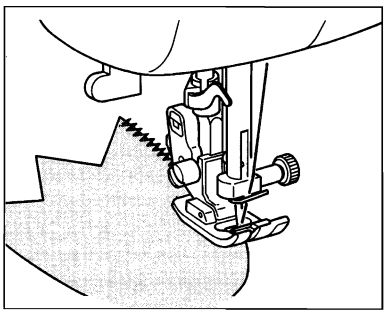
Sew the overcasting along the edge of the fabric so that the right hand side needle dropping point is over the edge of the fabric.

❶ Needle dropping point

Sewing curve



Applique

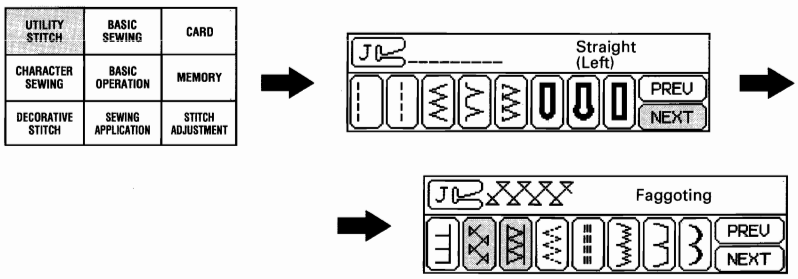


Attach applique using adhesive or basting, then sew it.

* Sew zigzag, positioning the right hand needle dropping point just outside the edge of the fabric.

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

❶ Upper side
❷ Lower side

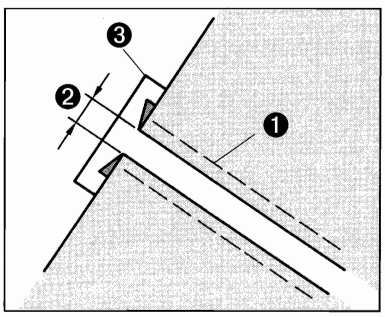


Stitch for faggoting, decoration etc.

1. Touch "UTILITY STITCH".
2. Touch "NEXT".
3. Select type of faggoting stitch.
4. Attach presser foot "J".

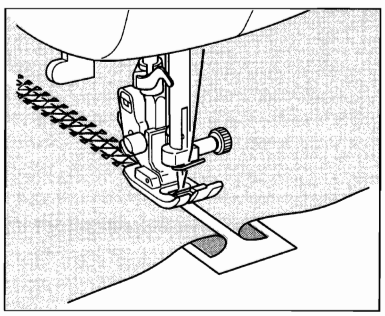
Dense stitch is better, setting stitch length at "fine".

Faggoting



1. Baste fabric onto thick paper, or water solble film.

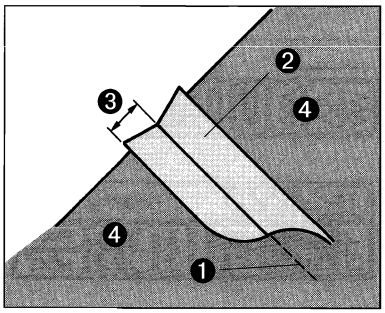
❶ Basting
❷ 0.4 cm (0.16 inch)
❸ Thin paper



2. Set centre of presser foot on the center of fabric then sew it.

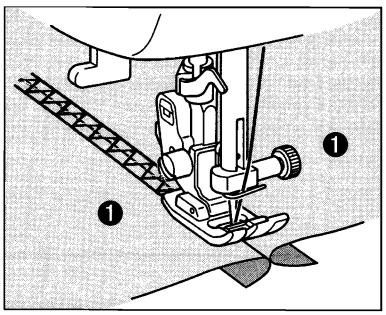
* Use thick thread.
* After sewing, remove the paper.

Patchwork



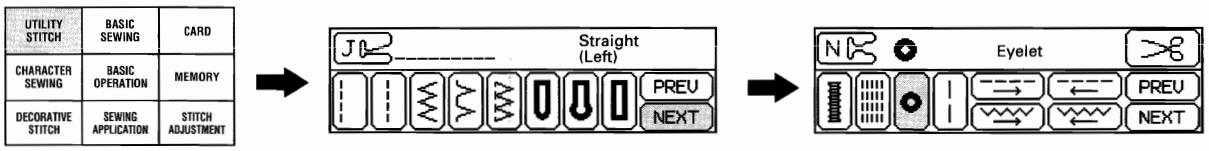
1. Join 2 fabrics as illustrated then baste them. Open the both seam allowances.

❶ Basting
❷ Seam allowance
❸ 1 cm (0.39 inch)
❹ Back side



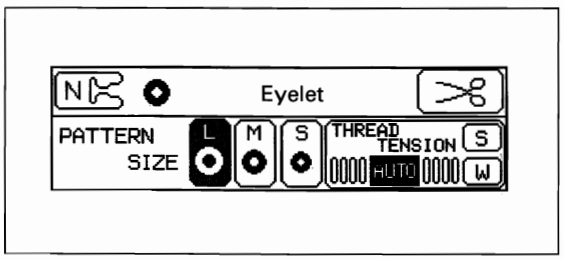
2. Set center of presser foot on the center of fabric then sew it.

❶ Surface

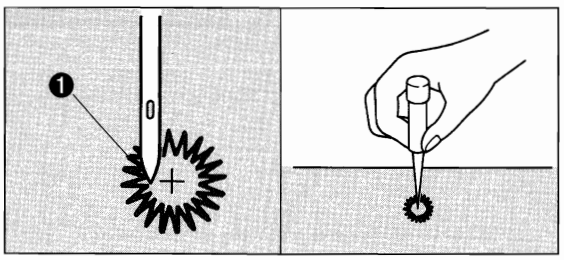


Stitch for making eyelet on belt etc.

1. Touch "UTILITY STITCH".
2. Touch "NEXT" 2 times.
3. Select eyelet.
4. Attach presser foot "N".



1. Touch "STITCH ADJUSTMENT" and set size of the eyelet.



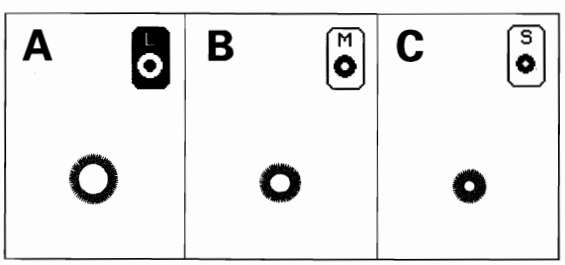
2. Check needle dropping point then start sewing.

* Machine stops automatically after enforcement stitching.
* When you set automatic trimming, the threads are cut at the end of stitch automatically.

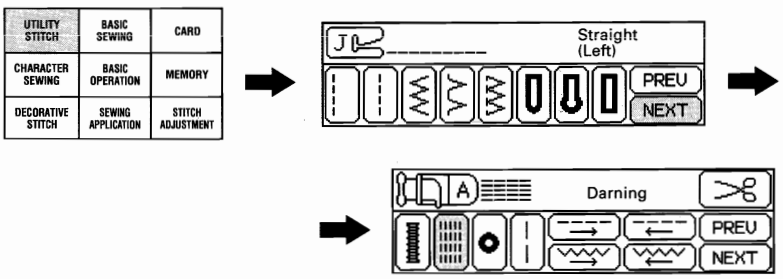
❶ Needle dropping point

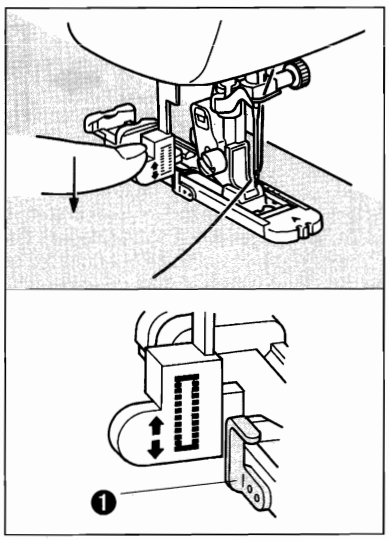
3. Make hole by punch.

Size of eyelet (Actual size)



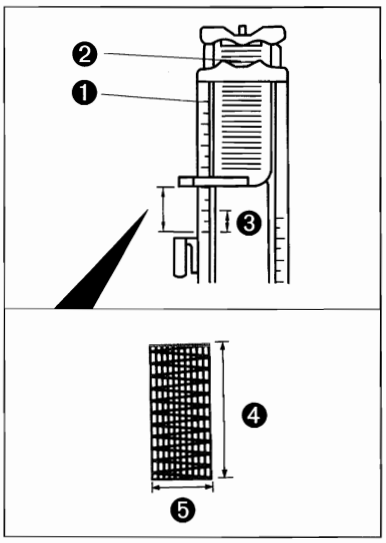
A– "L" (Large)
B– "M" (Medium)
C– "S" (Small)





Stitch used for darning.

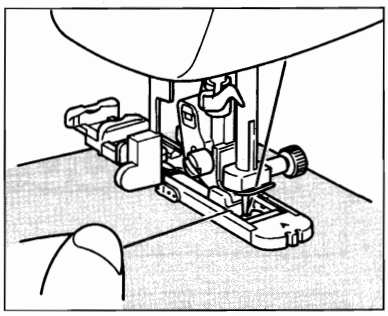
1. Touch "UTILITY STITCH".
2. Touch "NEXT" 2 times.
3. Select pattern.
4. Attach presser foot "A".

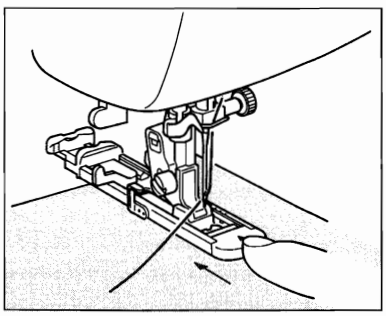


1. Set stitch length measuring on presser foot.

* The maximum stitch length of the darning is 3 cm (1.2 inch).

❶ Scale on presser foot
❷ Button plate
❸ 0.5 cm (0.2 inch)
❹ Length of darning is equal to size of the scale.
❺ Width [7 mm (0.276 inch)]



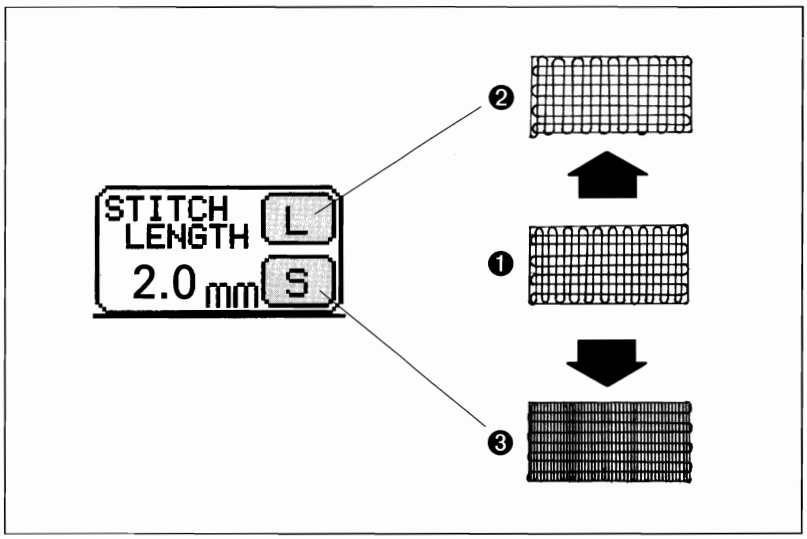


2. Lower presser foot over the space requiring darning.

3. Lower button hole lever (Blue) to set behind the notch.

❶ Notch

Changing length of stitch



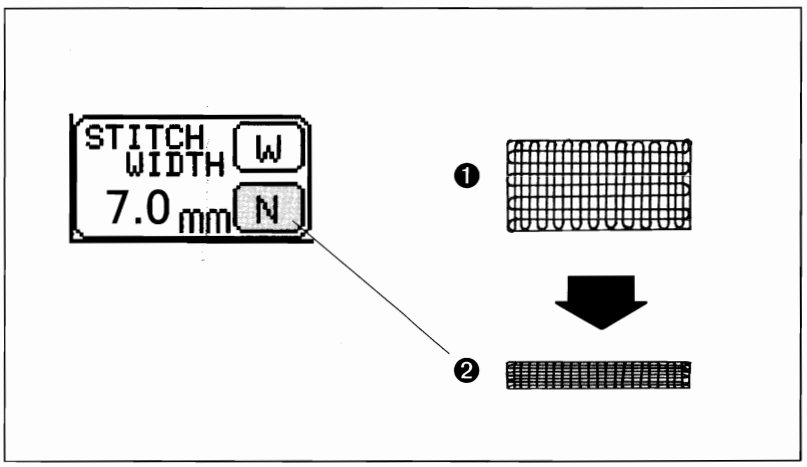
4. Start sewing holding upper thread by hand.

* Machine stops automatically after enforcement stitching.
* When automatic trimming is set, machine cuts both threads automatically after completing the darning.

Touch "STITCH ADJUSTMENT", then touch "L"(Long) or "S"(Short).

❶ Auto. 2.0 mm (0.079 inch)
❷ Long
❸ Short

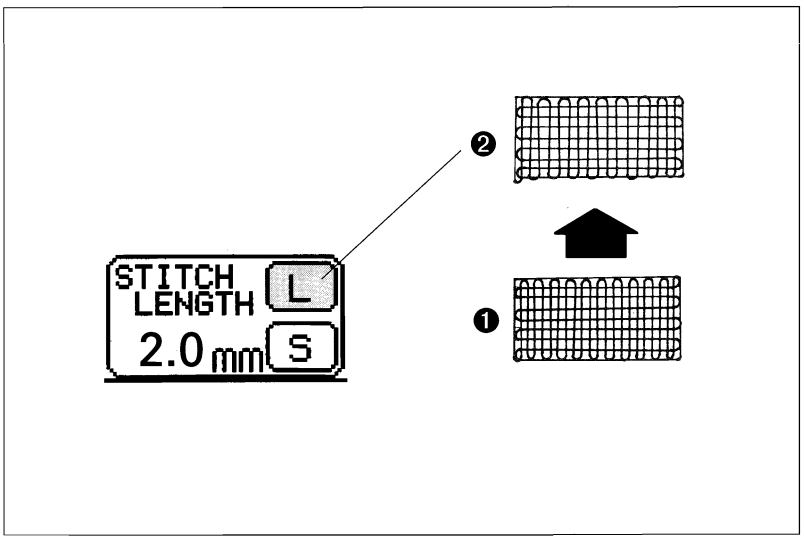
Changing width of stitch



Touch "STITCH ADJUSTMENT", then touch "N"(Narrow).

❶ Auto. 7.0 mm (0.276 inch)
❷ Narrow

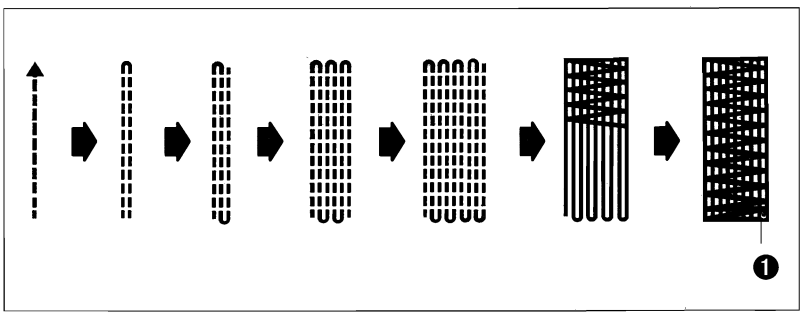
For closed stitch



Touch "STITCH ADJUSTMENT", then adjust the stitch coarse by "L"(Long).

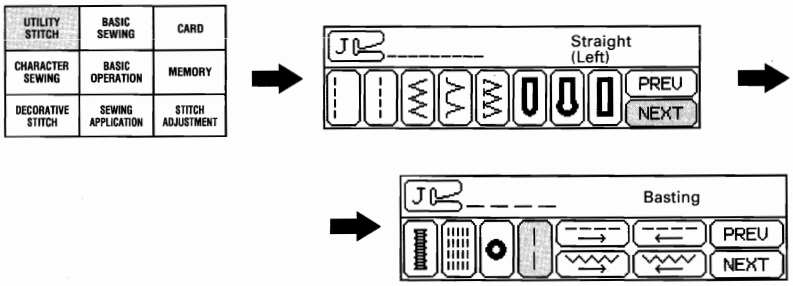
❶ Auto. 2.0 mm (0.079 inch)
❷ "L" (Long)

One cycle of darning

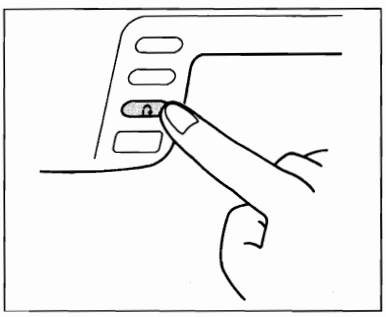


❶ Enforcement stitch.

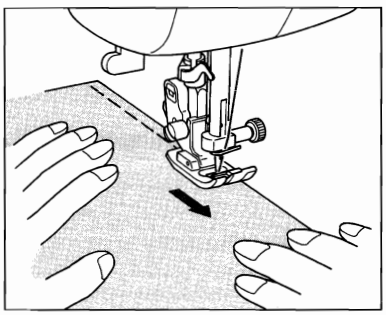
BASTING



1. Touch "UTILITY STITCH".
2. Touch "NEXT" 2 times.
3. Select pattern of basting.
4. Attach presser foot "J".

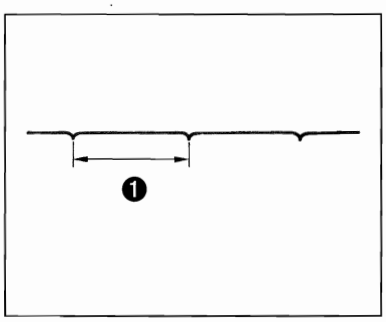


1. Press "ENFORCEMENT STITCH" button at the beginning of sewing for enforcement stitch.



2. Sew whilst keeping the fabric taunt.

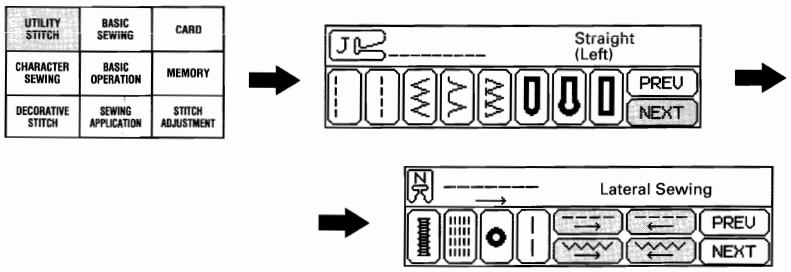
* Enforcement stitching at the end of sewing.

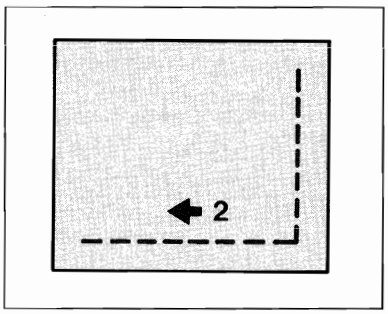


You can change the length of one stitch from 5 to 30 mm (0.197 to 1.18 inch).

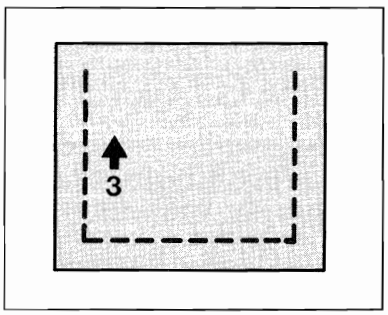
❶ 5 – 30 mm (0.197 – 1.18 inch)

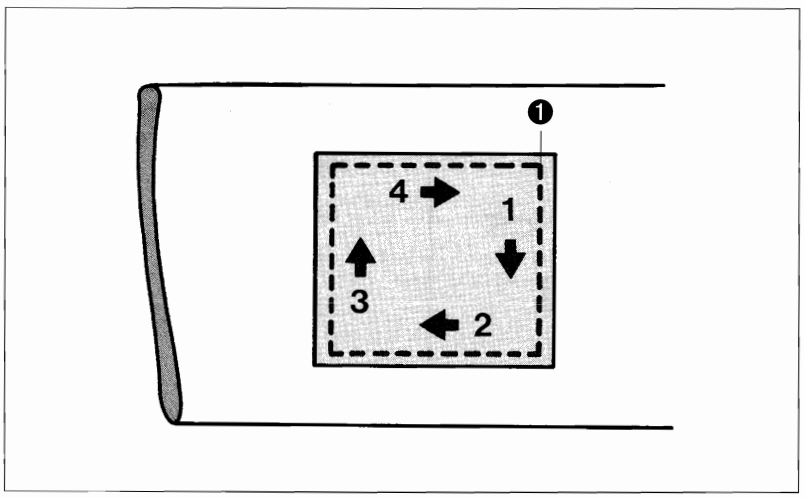
LATERAL SEWING (STRAIGHT/ZIGZAG)

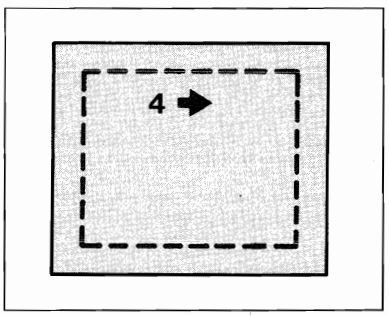




1. Touch "UTILITY STITCH".
2. Touch "NEXT" 2 times.
3. Select pattern of lateral sewing, zigzag or straight.
4. Attach presser foot "N".



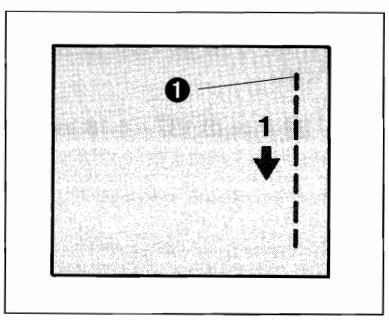




Useful for attaching applique on tubular part without turning the fabric.

❶ Start

* You can not change stitch length and width.

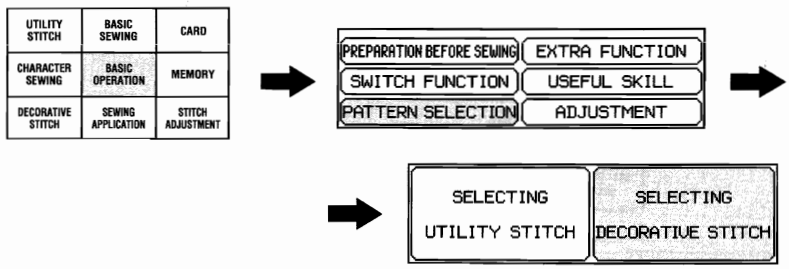


1. Set machine free arm and sew with a straight stitch (Middle) to the point required.

❶ Start

CHARACTER SEWING

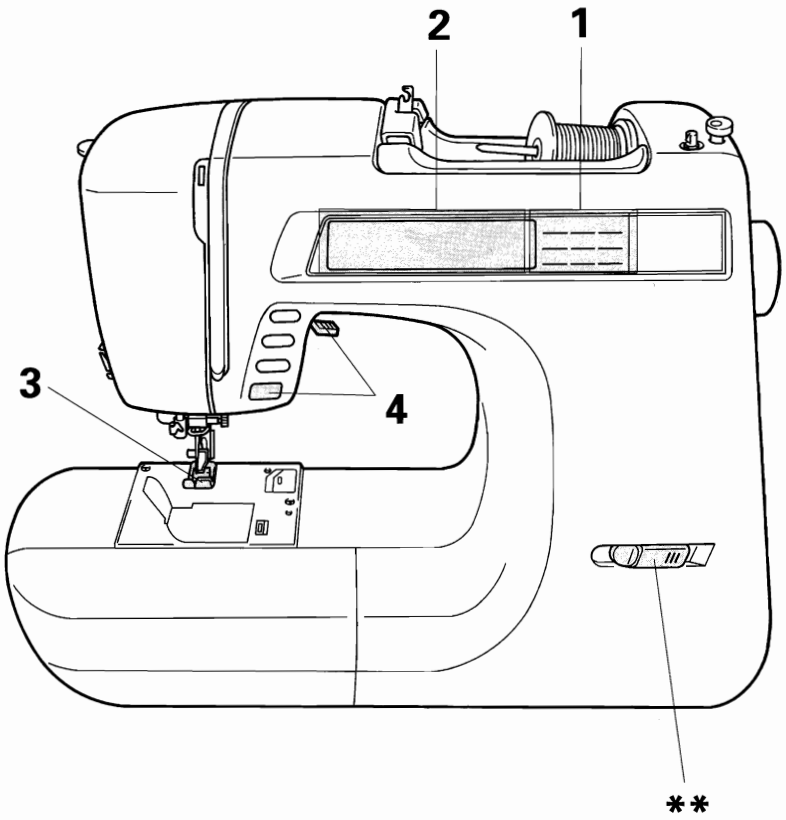
2. Select lateral sewing, straight/ left hand side direction and sew until you reach the desired length.



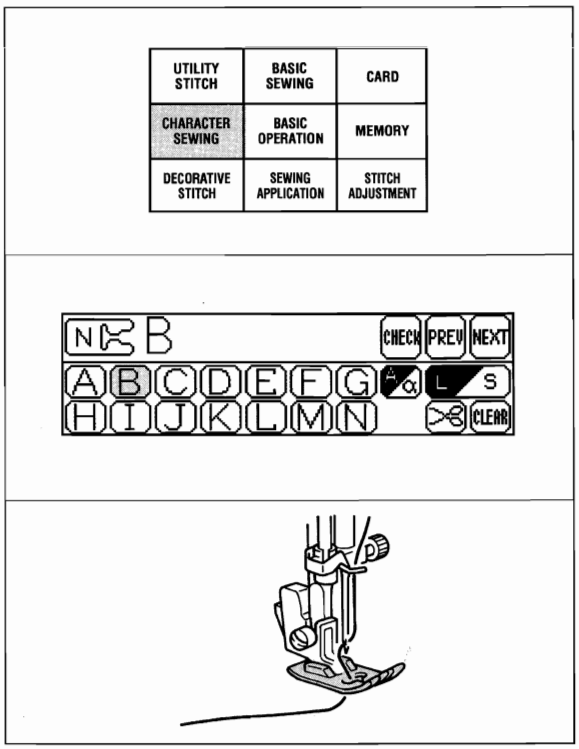
3. Select again straight stitch (Middle) and press "ENFORCEMENT STITCH" button.

4. Select lateral sewing straight/ right hand side direction and sew until you reach the starting line.

* Lateral zigzag sewing is the same procedure as above.



WARNING
With some sewing patterns, needle keeps it's highest position whilst fabric is fed. Note that unique sound during this operation does not affect operation of the machine.



1. Touch "CHARACTER SEWING".

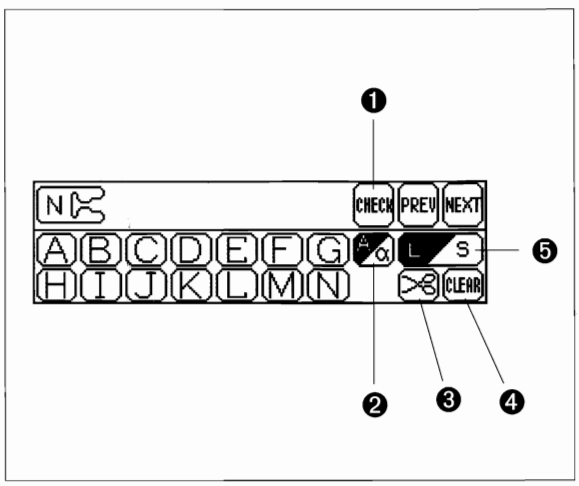
2. Select character.

3. Attach presser foot "N".
4. Lower presser foot and start sewing.

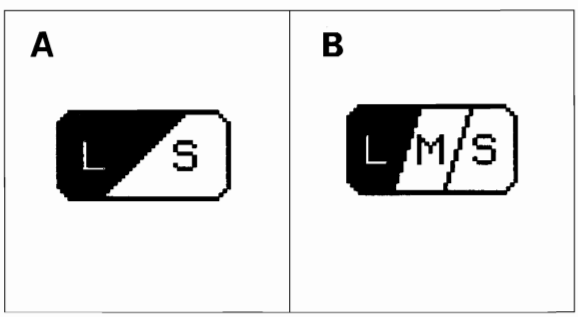
* Before lowering presser foot, place upper thread to the side as illustrated.

** The sewing speed is pre-set.

Alphabet (Block style/Italic style)



❶ "CHECK": Touch this key to confirm your entry.
❷ Touch this key to change uppercase and lowercase alternately.
❸ "SCISSORS": Touch this key to set automatic thread cutting after sewing.
❹ "CLEAR": Touch this key to cancel your entry.

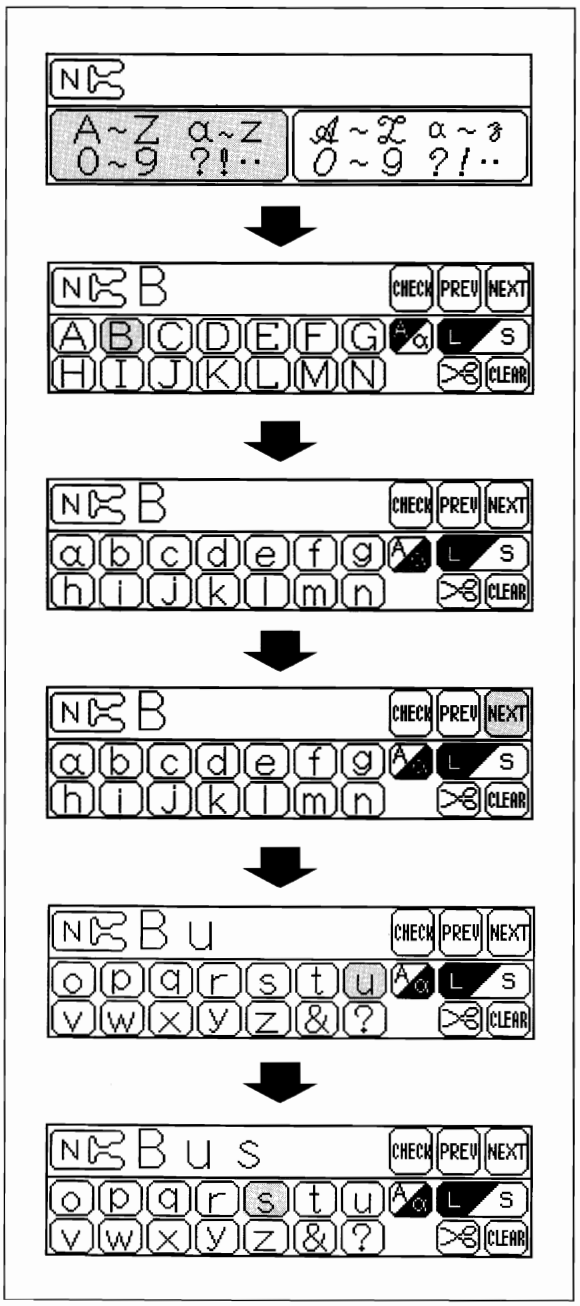


❺ Touch this key to change character size.

A– Block style
B– Italic style

Combination of character

Alphabet (Block style/Italic style)



Let's enter "Bus".

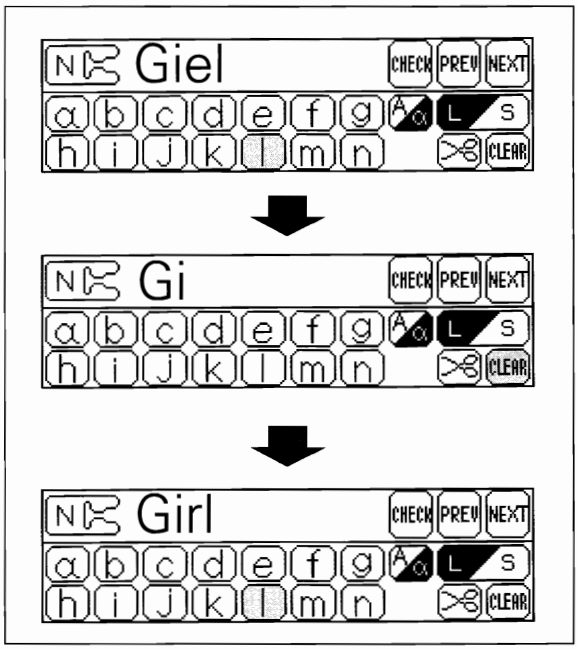
1. Select BLOCK STYLE.
2. Touch "B".
3. Touch shift to change to lowercase.
4. Touch "NEXT".
5. Touch "u".
6. Touch "s".

* 35 characters are accepted at a time.
* Combination of block style and Italic style is not possible.

Correction (Example)

Every touch of "CLEAR" key deletes the character entered last.

To correct "Giel" to "Girl".

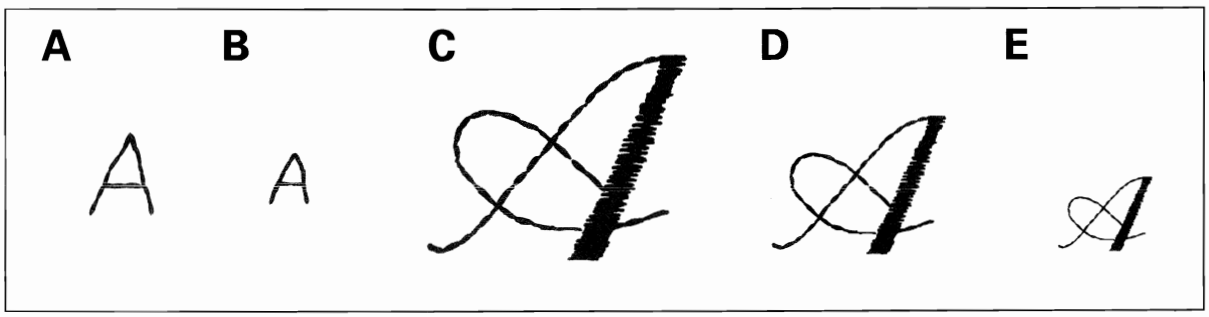


1. Touch "CLEAR" 2 times.

2. Enter correct character.

Changing size (Actual size)

Size of combined characters are decided by size of the character entered last.



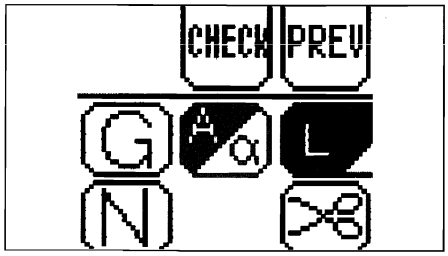
Alphabet <Block style> in 11 mm (0.43 inch) and 7 mm (0.28 inch) high.

A– Large
B– Small

Alphabet <Italic style> in 27 mm (1.06 inch), 17 mm (0.67 inch) and 9 mm (0.35 inch) high.

C– Large
D– Medium
E– Small

Uppercase & Lowercase

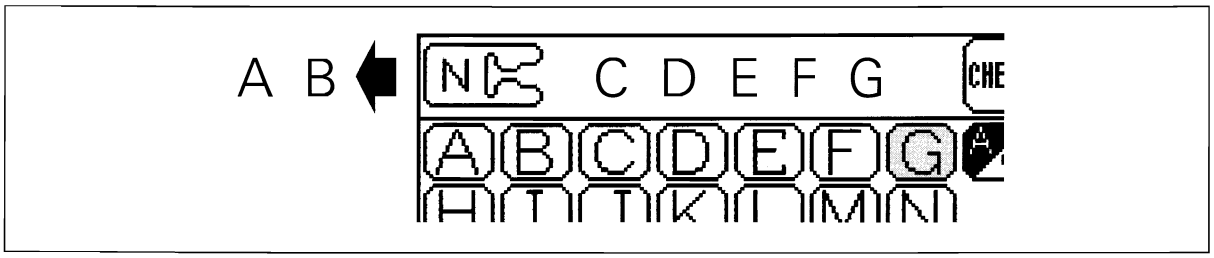


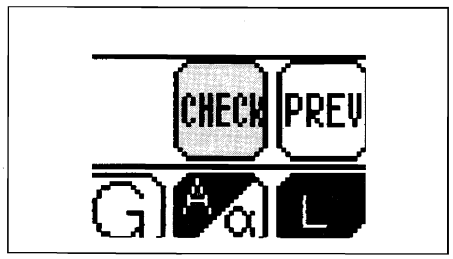
Touch "A/a" and select characters in either upper or lower case.

Confirming entry (Example)

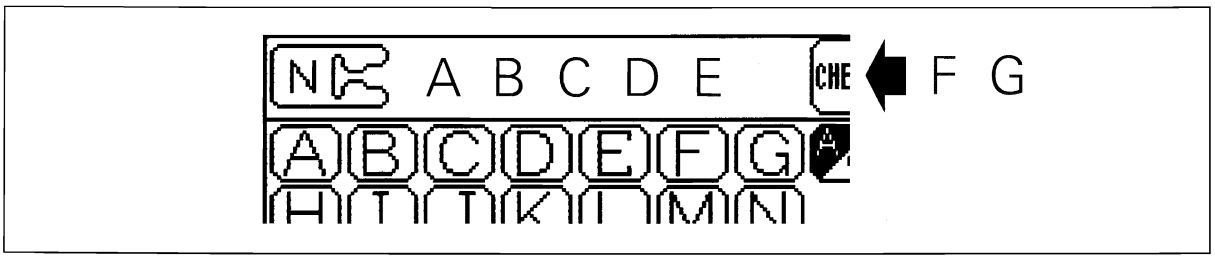
Touch "CHECK" to check the characters entered.

In case of combination "ABCDEFG".





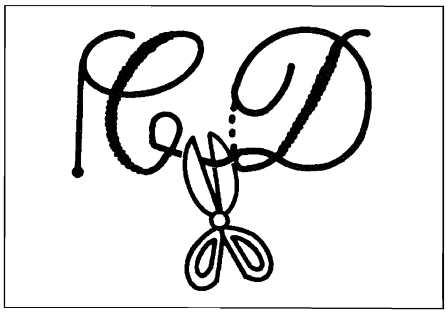
The characters appear from the first one entered. When characters entered are too numerous for the screen, the program will scroll across the screen.



* When the programmed characters appear on the screen in whole, they will not move.

Automatic thread cutting

Touch "SCISSORS" before sewing. Thread is automatically cut at end of sewing and needle is positioned at the first stitching point of next character.



Trim unnecessary loop thread between characters.

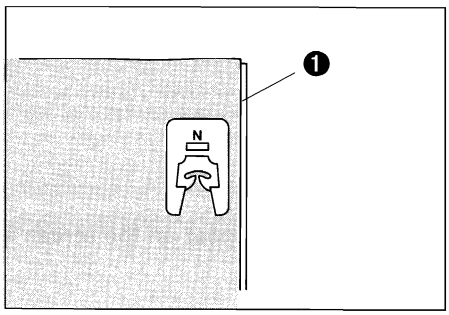
* Enforcement stitching is automatically done at the start and end of sewing.

Tips for neater sewing results

Needle and thread

Type of thread	# 50 – 60
Type of needle	Normal, Thin material: 75/11 home use needle, Thick material: 90/14

* If the thread and cloth cause skipped stitches to occur, use a #14 golden needle.

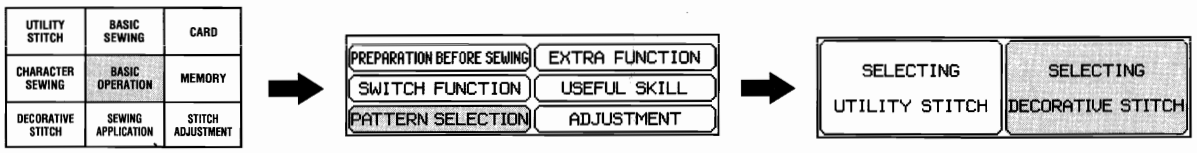


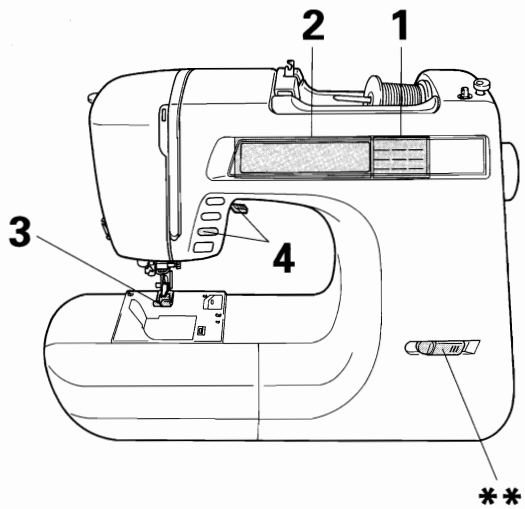
Elastic or rough-surface material

Stick adhesive paper on reverse side for stretch or rough-surface material.

* Or apply thin paper under the fabric.

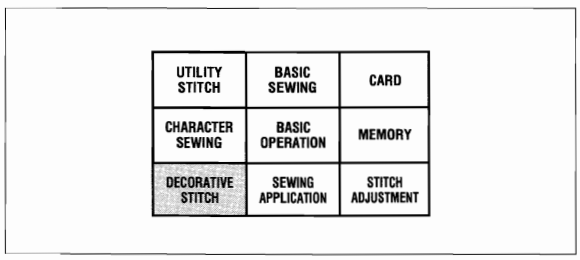
❶ Thin paper



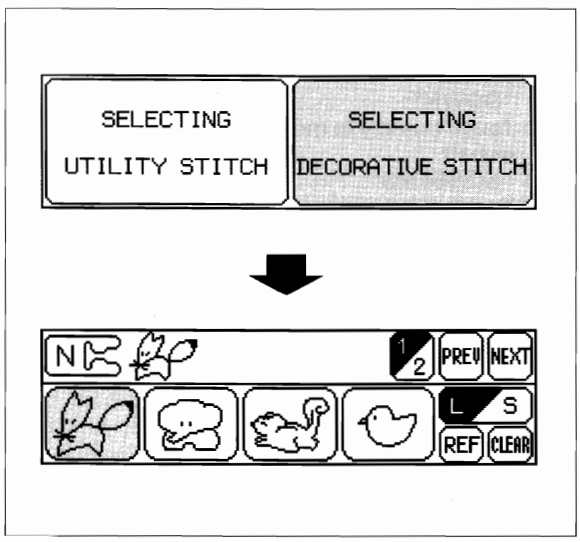


WARNING
With some sewing patterns, needle keeps it's high position and fabric is fed. Note that unique sound during this operation does not affect the operation of the machine.

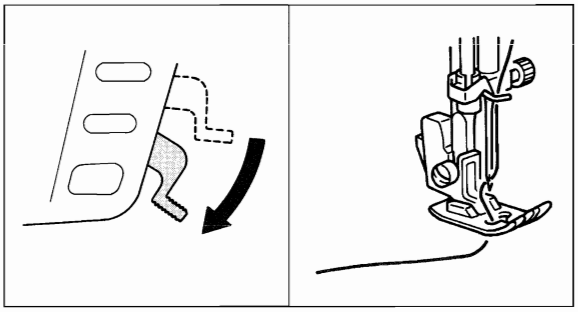
** Sewing speed is pre-set except for satin stitches.



1. Touch "DECORATIVE STITCH".



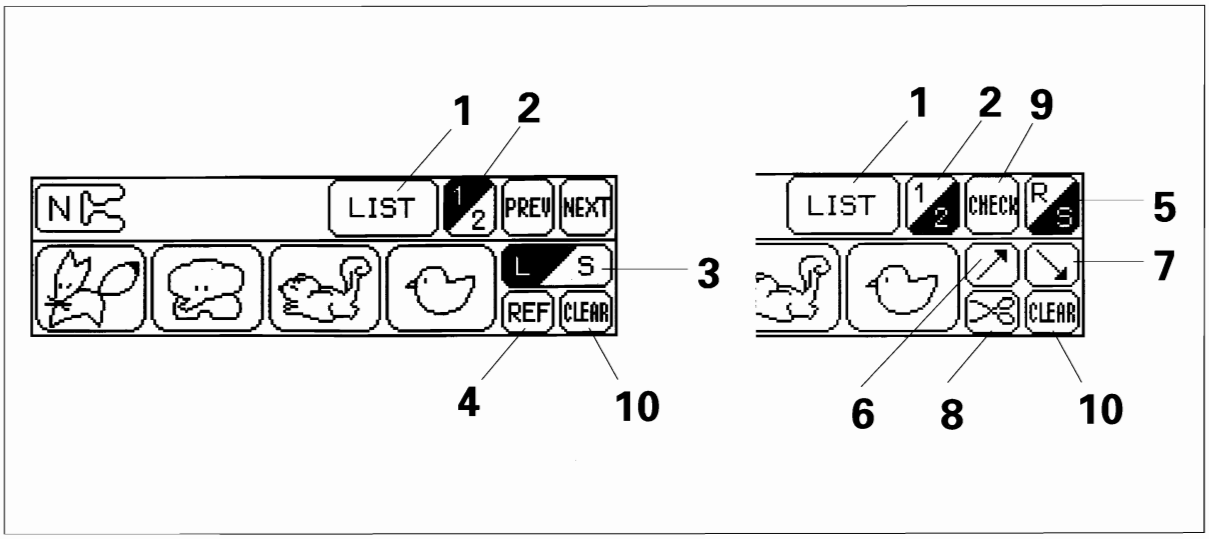
2. Select stitch pattern.
3. Attach presser foot "N".



4. Lower presser foot and start sewing.

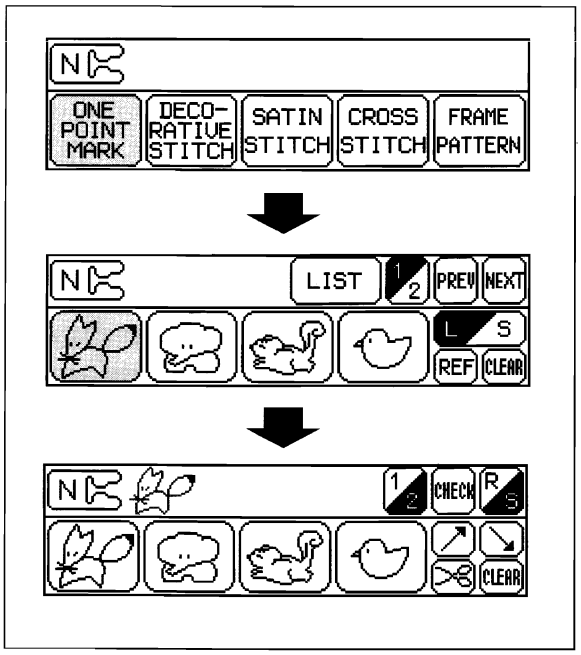
* Before lowering presser foot, place upper thread at the side of the foot as illustrated.

Screen 1 and Screen 2



1– "LIST":
Touch this key to list all decorative stitches.
2– "1/2":
Touch this key to switch screen 1 and screen 2.
3– "SIZE":
Touch this key to change size.
4– "REFLECTION":
Touch this key to get mirror image.
5– "R/S":
Touch this key to select single or repeat sewing.
6– "UP":
Touch this key to move sewing position to upper half.
7– "DOWN":
Touch this key to move sewing position to lower half.
8– "SCISSORS":
Touch this key to set automatic thread cutting after sewing.
9– "CHECK":
Touch this key to confirm your entry.
10–"CLEAR":
Touch this key to cancel your entry.

Selecting decorative stitches



1. Select stitch group.

2. Select stitch pattern.

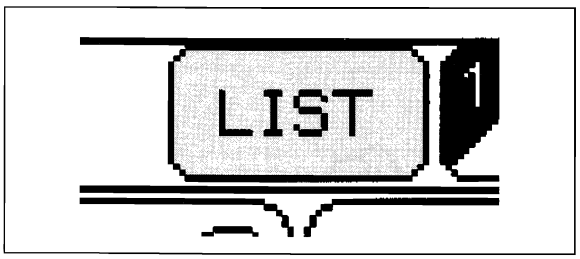
3. The selected stitch pattern will appear on the screen.

   Repeat this procedure to combine decorative stitches.

* 35 stitch patterns are accepted at a time.
* Combination of decorative stitch, cross stitch and frame stitch is not possible.
* Combination of different stitch group is not possible.

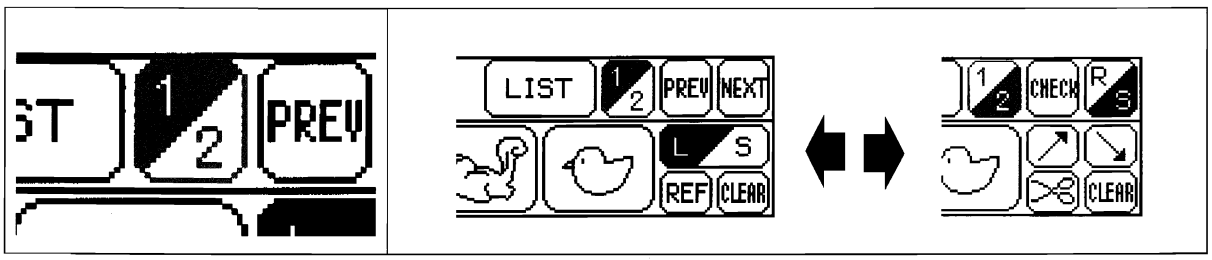
Listing decorative stitches

LIST



Touch "LIST". All decorative stitches appear on screen.
The desired stitch pattern can be selected from this list.

Switching screens

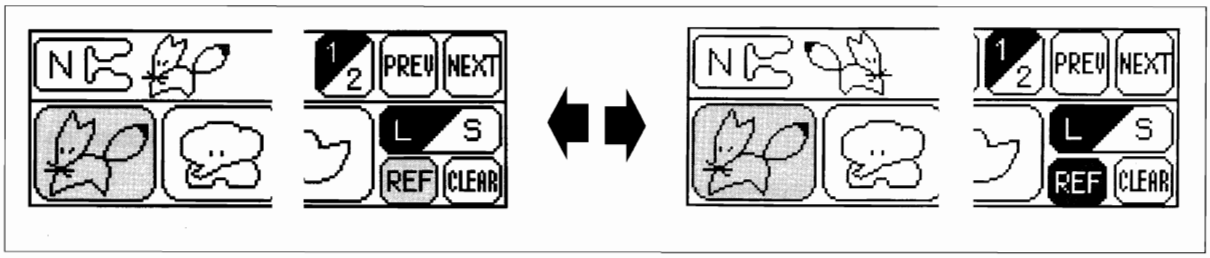


Touch "1/2". The screen 1 and 2 appears alternately.

Mirror image

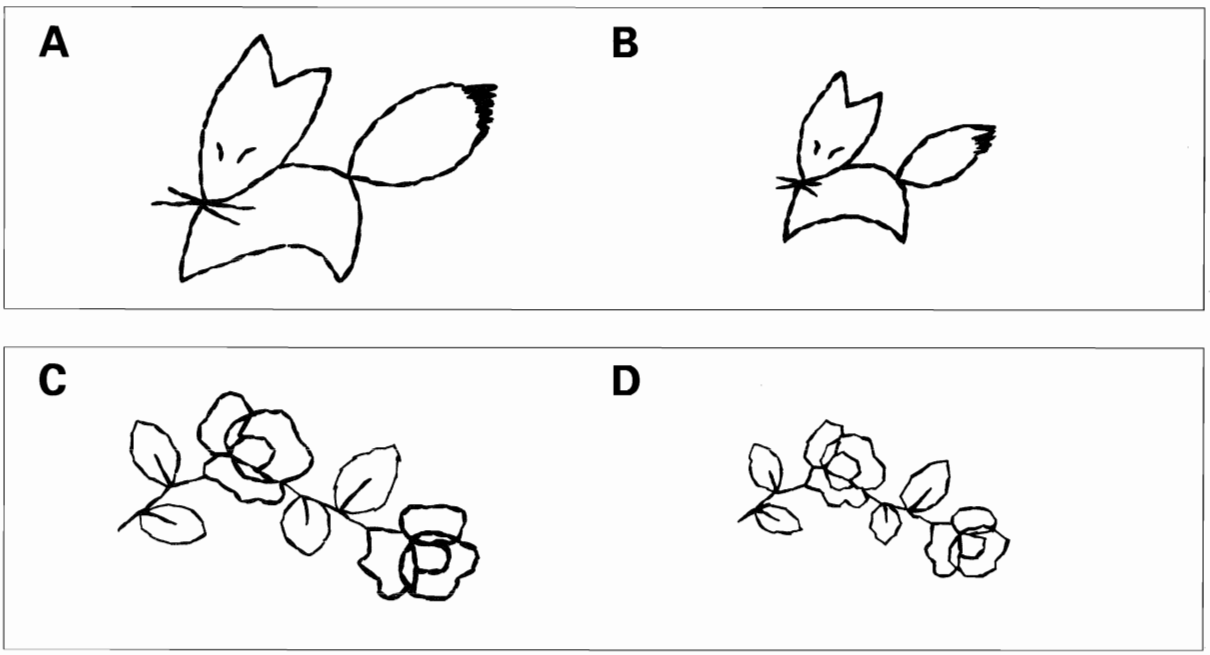
REF

You can sew mirror image of the pattern.
Repeat this procedure for each stitch pattern in mirror image.



Changing size (Actual size)

LIST

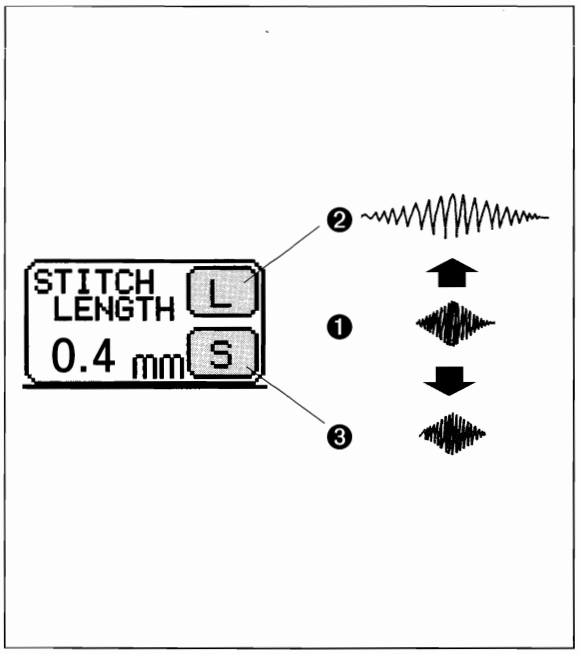


One point and Decorative stitches

Size of combined stitch patterns are decided by size of the last stitch pattern entered.

One point stitch
A– Large
B– Small

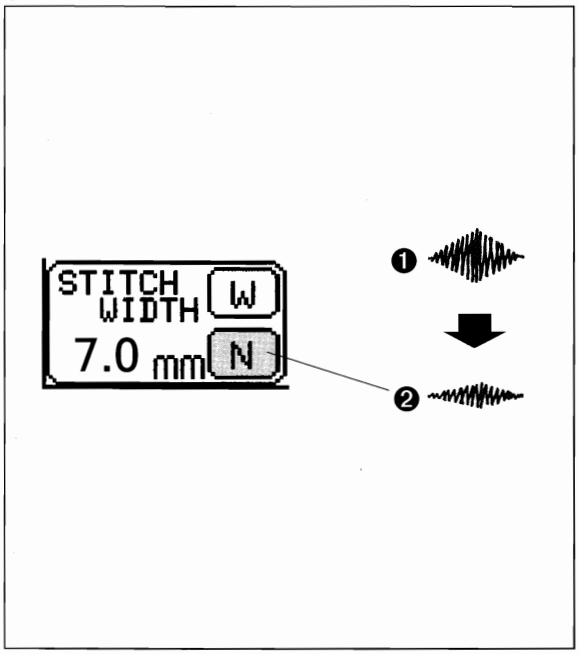
Decorative stitch
C– Large
D– Small



Satin stitch

Changing satin stitch length
Touch "STITCH ADJUSTMENT", then "L"(Long) or "S"(Short).

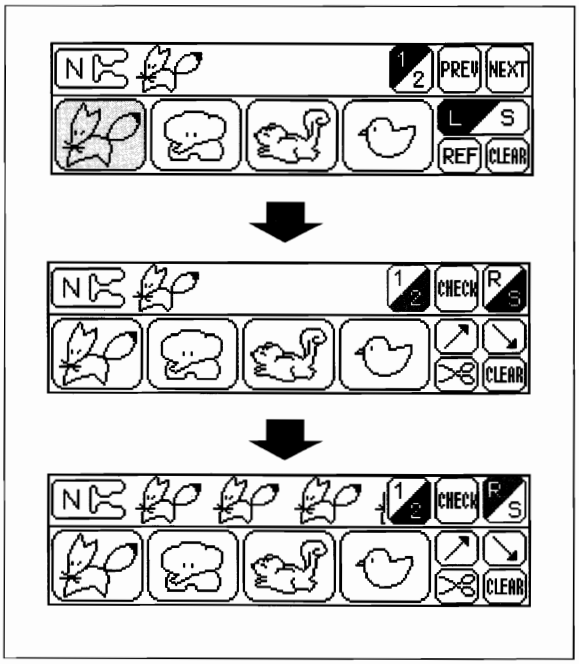
❶ Pre-set length 0.4 mm (0.016 inch)
❷ "L" (Long)
❸ "S" (Short)



Changing satin stitch width
Touch "STITCH ADJUSTMENT", then "W" (Wide) or "N" (Narrow).

❶ Pre-set width 7.0 mm (0.276 inch)
❷ "N" (Narrow)

Touch "R" (repeat) to sew one stitch pattern only or to repeat same stitch pattern.

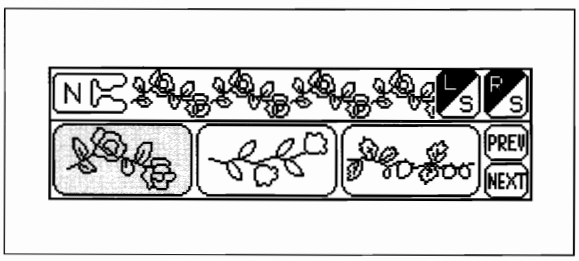


One point pattern

1. Select stitch pattern.

2. Touch "1/2" to switch to screen.

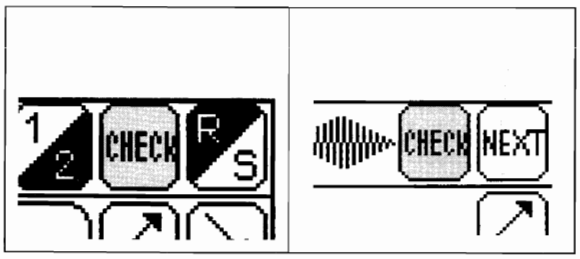
3. Touch "R/S" (repeat/single). The selected stitch pattern is repeated.



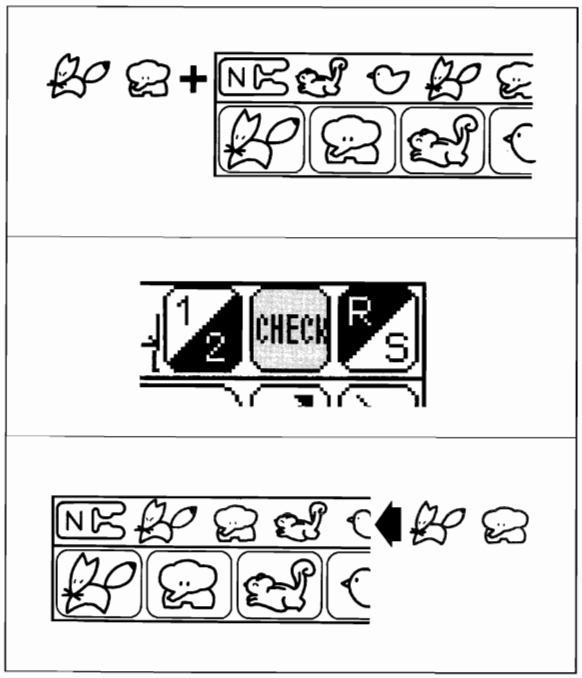
Decorative or Satin stitch

After selecting stitch pattern, touching "R/S" cancels repeat function.

Confirming entry of combined stitch pattern



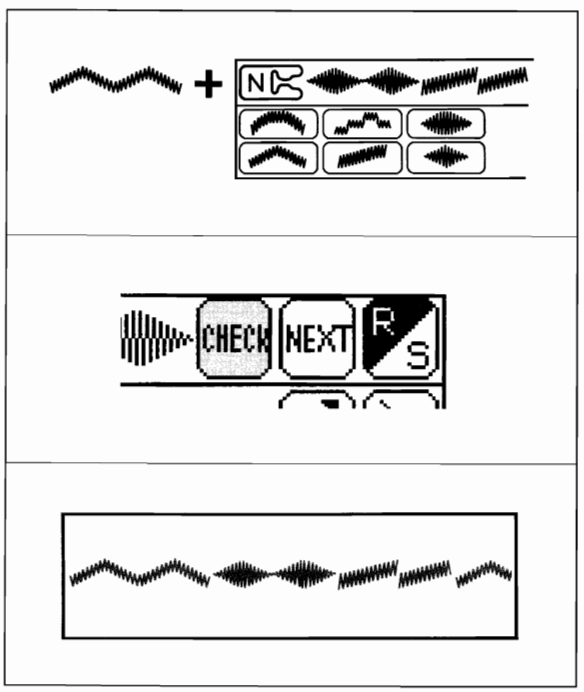
Touch "CHECK". Stitch patterns appear on screen in moving.



One point pattern

Touch "CHECK". The combined stitch patterns appear from the first one entered.
When screen space is not enough, stitch patterns move along.

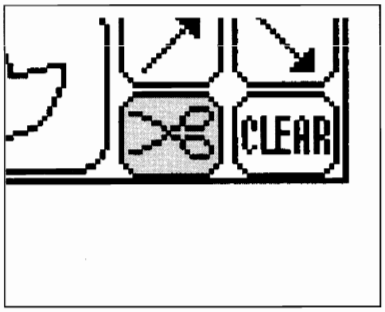
* When the programmed character appear on the screen in whole, they will not move.



Satin stitch

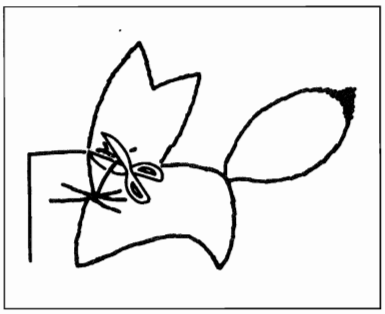
Touch "CHECK". Stitch patterns appear on screen moving.

Automatic thread cutting



One point or Frame stitch pattern

Touch "SCISSORS" before sewing. Thread is automatically cut at end of sewing and needle is positioned at the first stitching point of next character.



Cut unnecessary loop thread between stitch patterns.

* Enforcement stitching is automatically done at the start and end of sewing.

Decorative, Satin and Cross stitches

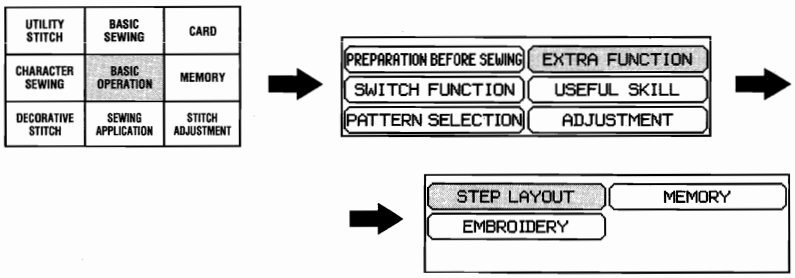
Automatic thread cutting cannot be set for these stitches.

* Enforce stitch at end of sewing manually and then cut thread.

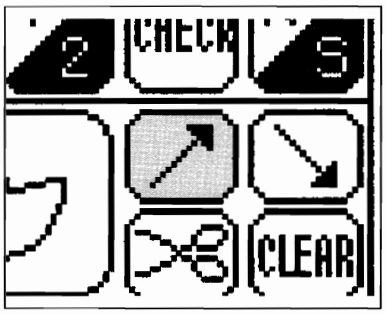
Tips for neater sewing results

Refer to page 72 "Tips for neater sewing results".

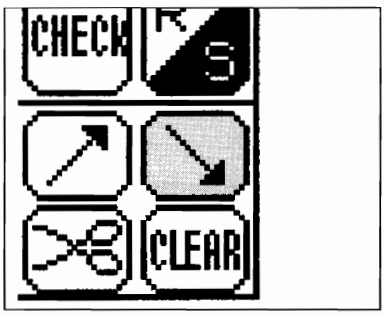
STEP PATTERN



Let's make your own pattern by combining satin and one point stitches and using "UP" and "DOWN" .

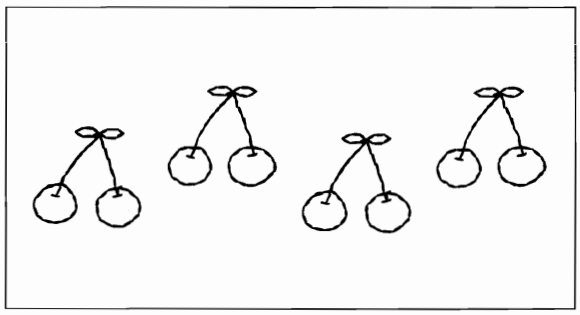


One touch of the "UP" will move the stitch pattern up half of its finished height.

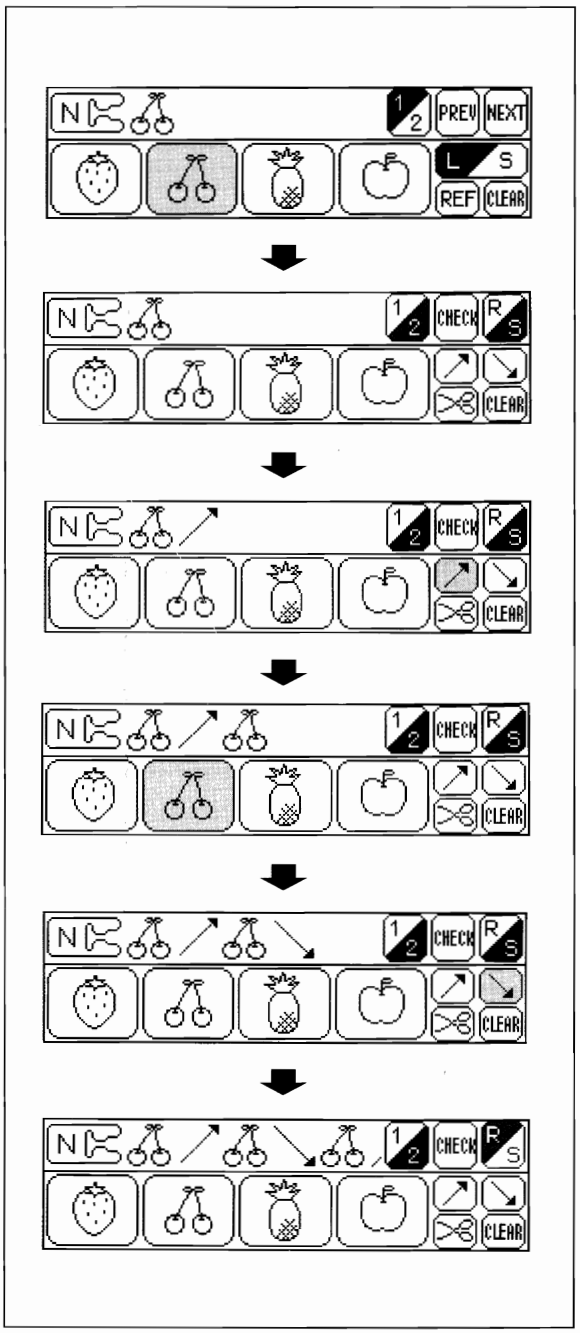


One touch of the "DOWN" will move the stitch pattern down half of its finished height.

Making step pattern (Example)



One point



1. Select stitch pattern.

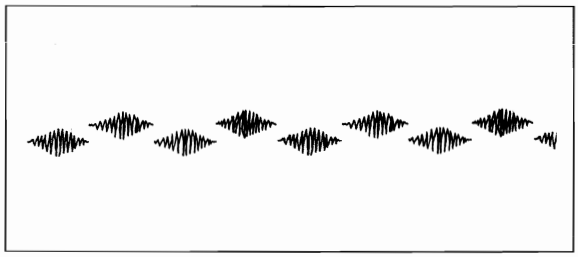
2. Touch "1/2" to switch to screen 2.

3. Touch "UP".

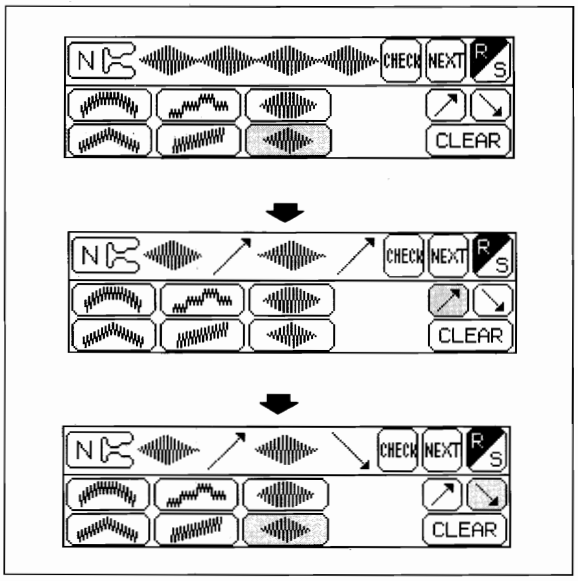
4. Select stitch pattern.

5. Touch "DOWN".

6. Touch "R/S" for repeat sewing.



Satin stitch

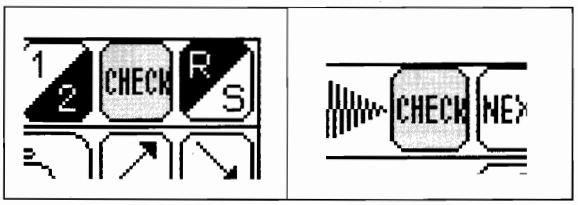


1. Select stitch pattern.

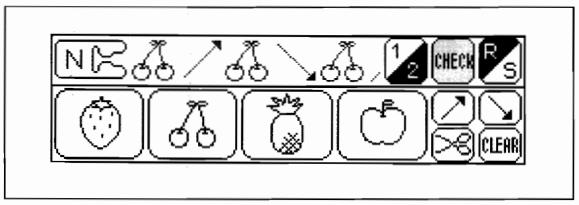
2. Touch "UP", then stitch pattern again.

3. Touch "DOWN".

Confirming entry of combined stitch pattern



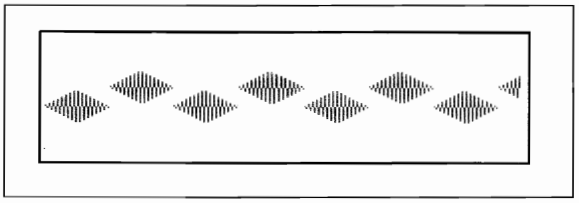
Touch "CHECK" to check entry of combined stitch pattern.



One point pattern

The combined stitch patterns appear on screen.

* When the screen space is not enough to display combined stitch patterns, the patterns will scroll from right to left.

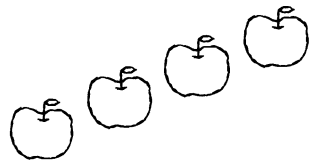
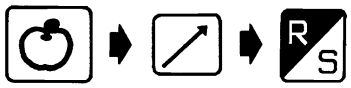
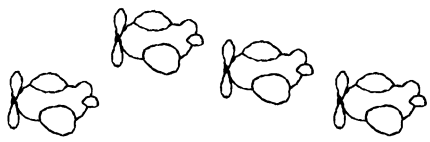
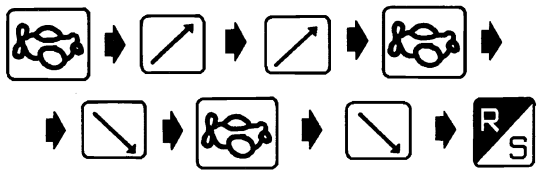
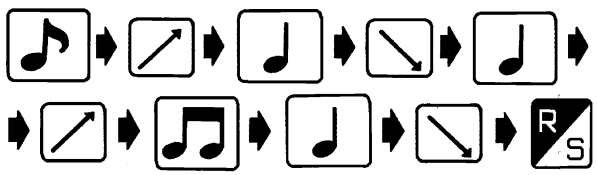


Satin stitch

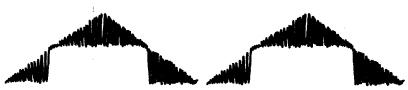
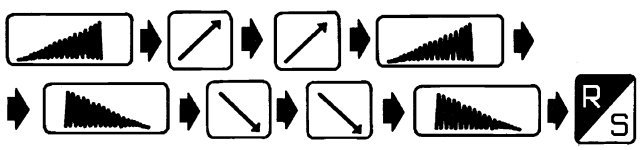
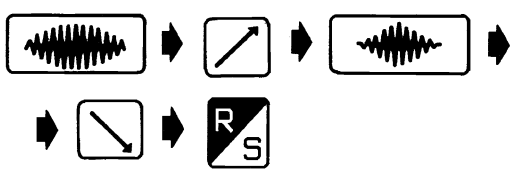
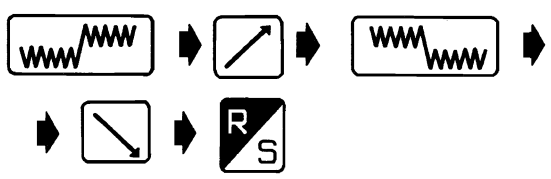
Stitch patterns are sewn as shown on screen.

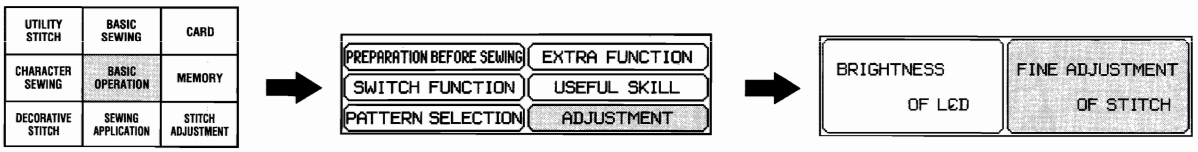
Let's make various pattern combinations

One point pattern

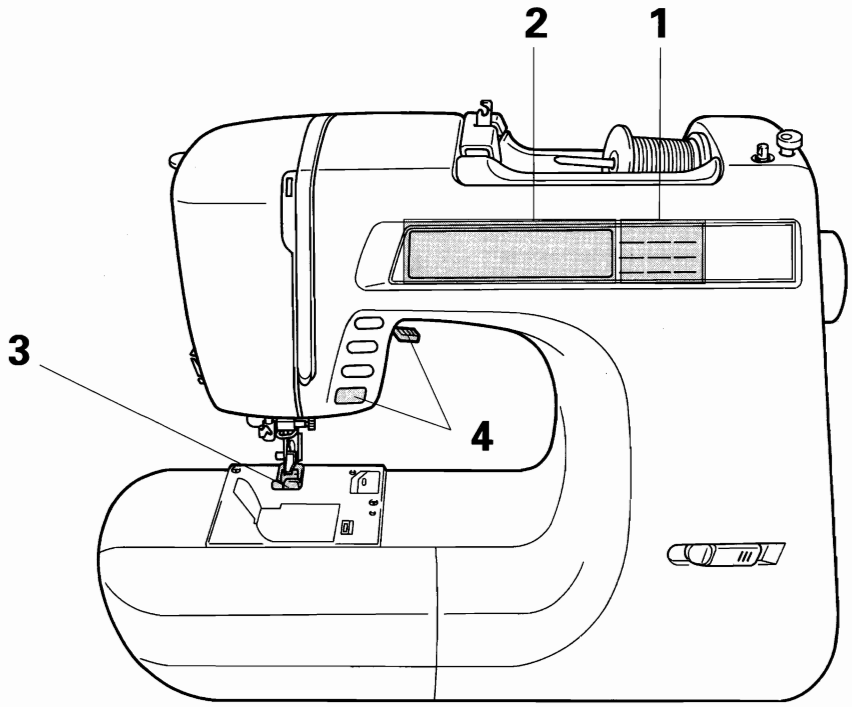
Stitch pattern	Operation
	
	
	

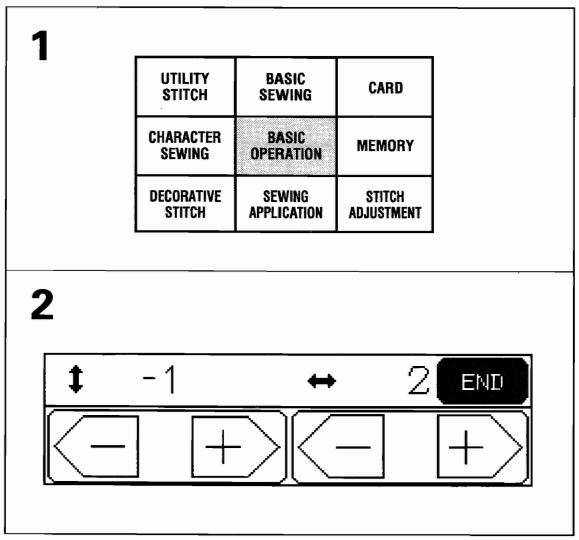
Satin stitch

Stitch pattern	Operation
	
	
	



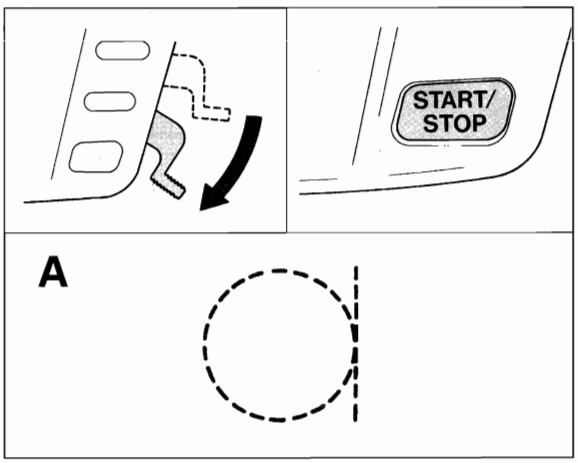
This procedure adjusts the shape of the stitch pattern.





1. Touch "BASIC OPERATION".
2. Touch "STITCH ADJUSTMENT", "FINE ADJUSTMENT OF STITCH" and "NEXT" in this order.
   Touch "END" when the adjustment is finished.
3. Attach presser foot "N".

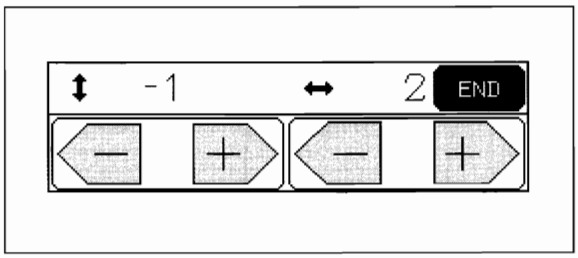
* When a stitch pattern gets deformed due to the thread or cloth, first make a trial stitching, and then make adjustments for each stitch pattern.



4. Lower presser foot and start sewing. The stitch as per illustration is sewn.

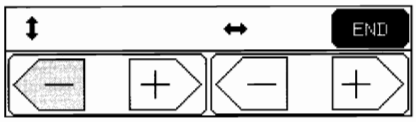
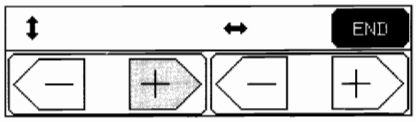
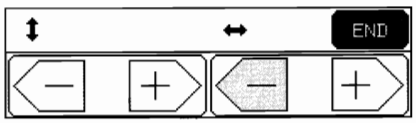
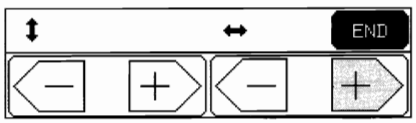
A– Stitch pattern

Stitch pattern adjustment



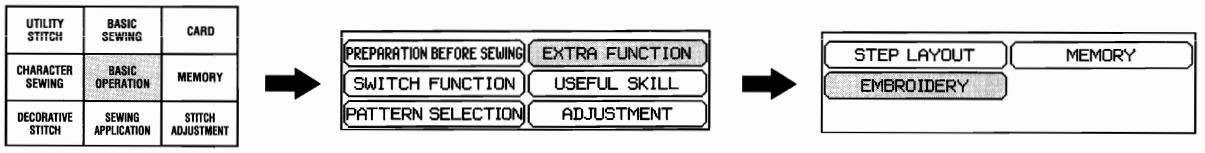
Adjust shape of stitch by "+" and "–".

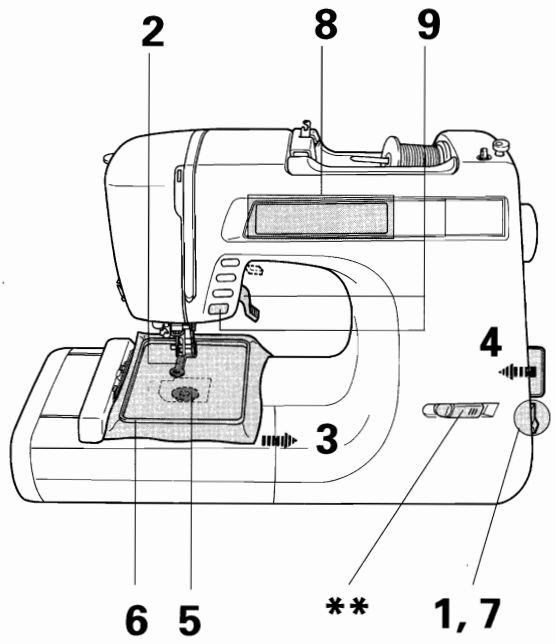
* From –10 to +10

Stitch pattern	Remedy
	Correct shape
	
	
	
	

3. EMBROIDERING

EMBROIDERY

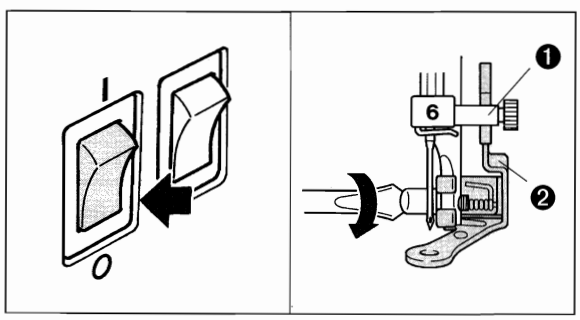




NOTE FOR EMBROIDERY ATTACHMENT

(1) Always turn off main power switch when setting or removing embroidery attachment, embroidery card (memory card).
(2) Set embroidery attachment firmly with adjusting connector and socket.
(3) Do not touch connector of embroidery attachment.
(4) You can not use a foot controller when the embroider attachment is operational.
(5) Always keep embroidery attachment and memory card by designated case.
(6) Do not carry machine whilst embroidery attachment is set in.

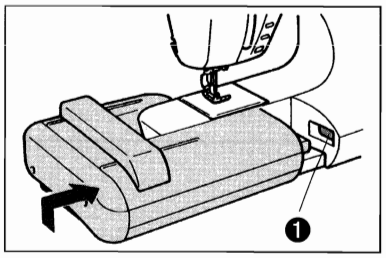
** Sewing speed is controlled by machine automatically according to pattern.



1. Turn off main power switch.
2. Attach presser foot "Q".

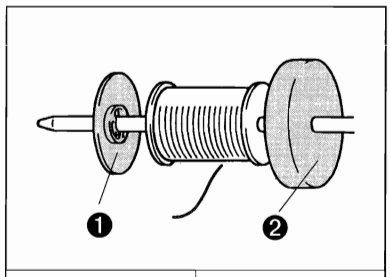
* Set arm of presser foot "Q" on needle holder and attach the foot by using a screw driver.

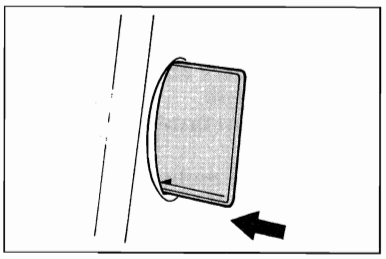
❶ Needle holder
❷ Arm



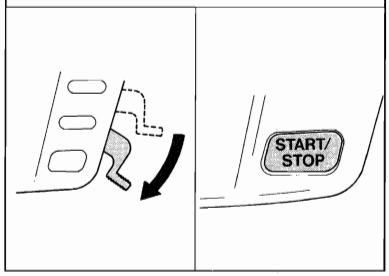
3. Set embroidery attachment to machine.

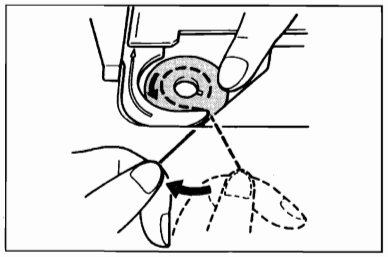
❶ Connecting slot





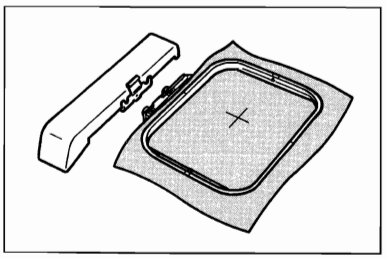
4. Insert memory card.



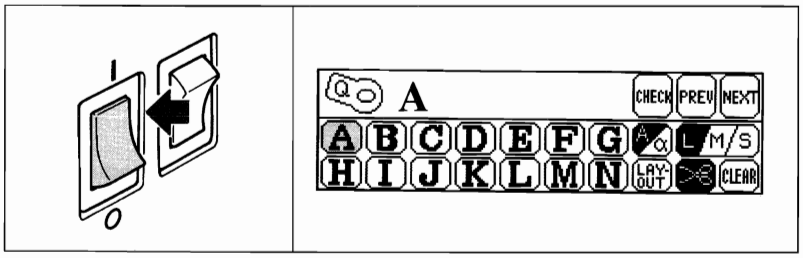


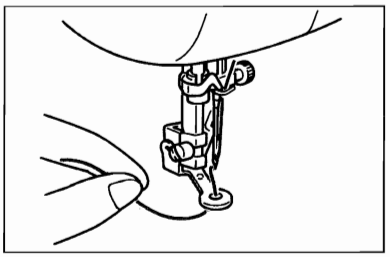
5. Set lower thread (bobbin).

Type of thread	Designated embroidery thread #50 Silk thread #50–80
Type of needle	75/11

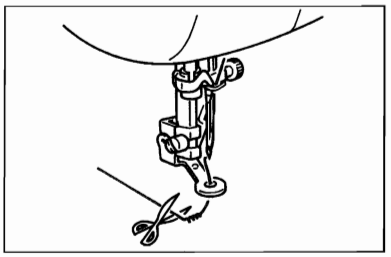


6. Place fabric in frame and fit frame into embroidery attachment.





7. Turn on main power switch.
8. Select pattern.



Always turn off power supply before the procedure below.

9. With upper thread ready, lower presser foot and start machine.

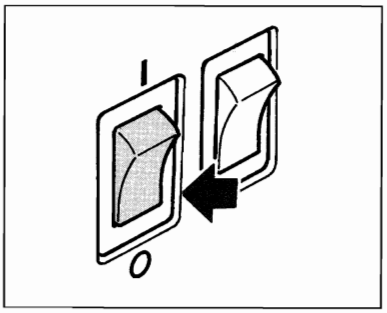
❶ Spool cap
❷ Felt

For good result
* It is recommendable to use designated embroidery thread # 120, silk or synthetic mercerized thread # 60 – 90 for lower thread.
* Attach adhesive non-woven fabric (bonded fiber fabric) under thin material or elastic material.

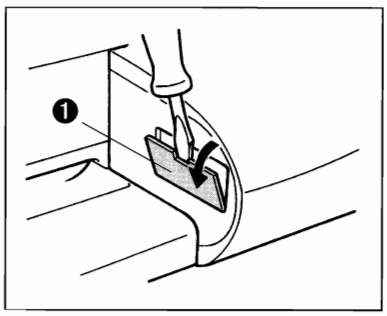
At the beginning of embroidering
Thread needle eye and hole of presser foot "Q" as illustrated. Hold thread end lightly.

Lower presser foot, sew 5 – 6 stitches, stop the machine once. Raise presser foot, trim excess thread and then start machine again.

Fitting embroidery unit



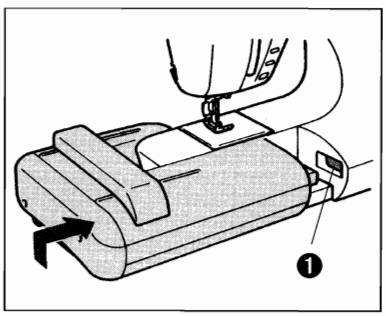
1. Turn off power supply.



2. Remove cover of embroidery unit connecting slot with screw driver.

❶ Connecting slot

* When embroidery unit is not used for long period, cover connection slot.



3. Insert connector of embroidery unit into slot and ensure connection.

❶ Connecting slot

Put machine on flat and horizontal surface and slide embroidery unit towards machine.

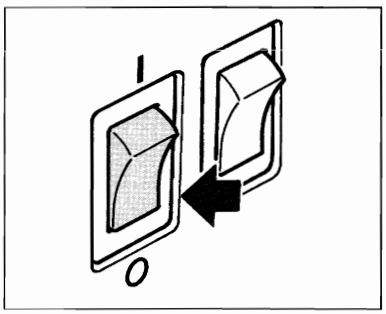
* Turn off power supply and detach the unit slowly.

EMBROIDERY UNIT SAFETY PROTECTION
Machine has safety protection to prevent embroidery unit from falling down by accident. Embroidery unit cannot be detached from machine while machine is lifted.

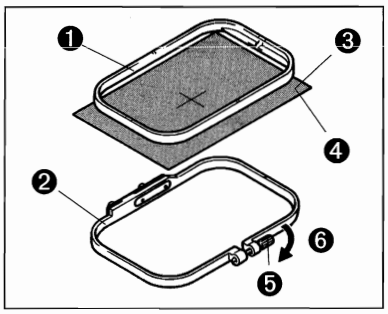
* Be sure to turn off the power before installing and removing the embroidery unit and embroidery card.
* When installing and removing the embroidery unit and embroidery card, lift up the left side of the embroidery unit slightly as shown below.
* When installing the embroidery unit, be sure to insert the connector of the embroidery unit securely into the slot.
* Do not carry the sewing machine with the embroidery unit attached.
* Use designated embroidery thread for embroidery.

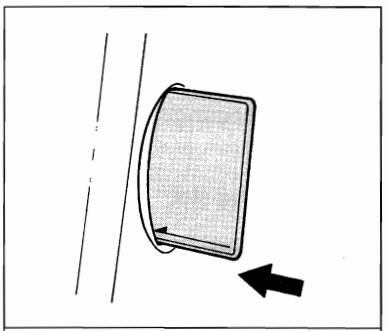
Always turn off power supply before the procedure below.

Inserting memory card



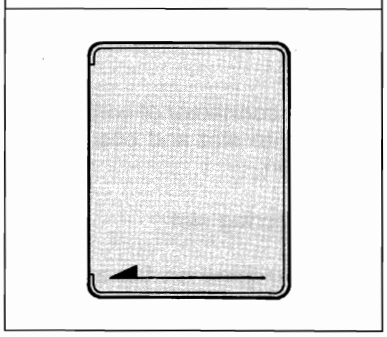
1. Turn off power supply.

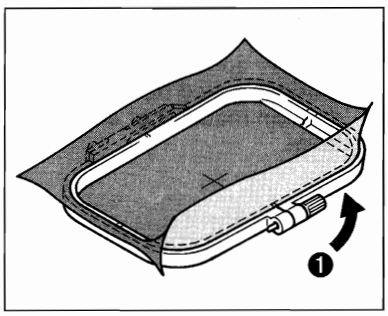


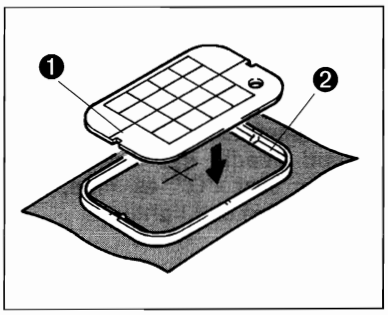


2. Insert memory card straight into card slot as it illustrated.

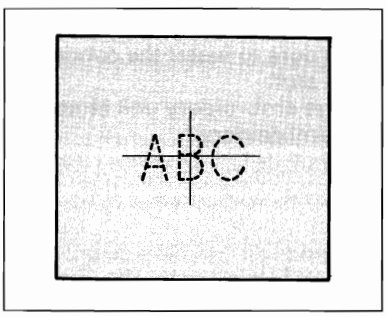
* Arrow mark should face towards you. Avoid inserting card in wrong direction or by excessive force which may damage connector inside slot.
* Turn off power before pulling out card.



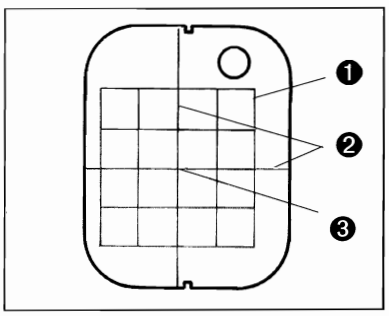




Set fabric to embroidery frame

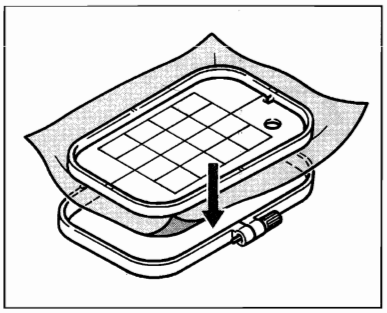


1. Mark fabric using chalk or marking pen to position embroidery.

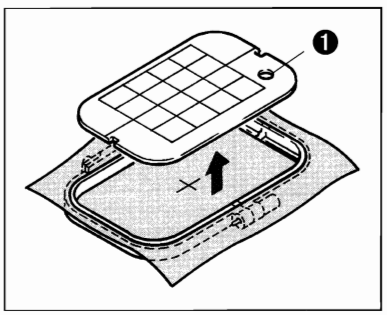


2. Loosen adjusting screw and place fabric onto outer frame. Insert inner frame into outer frame.

❶ Inner frame
❷ Outer frame
❸ Fabric
❹ Surface for embroidering
❺ Adjusting screw
❻ Loosen



5. Put fabric and inner frame on outer frame with adjusting mark and standard line as per previous page.



6. Remove embroidery sheet.

❶ Hole for removing

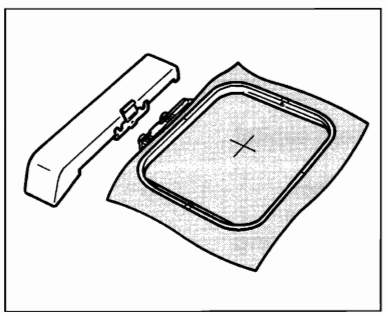
3. Tighten adjusting screw and adjust fabric to be taunt of the hoop.

❶ Tighten

Fitting embroidery frame

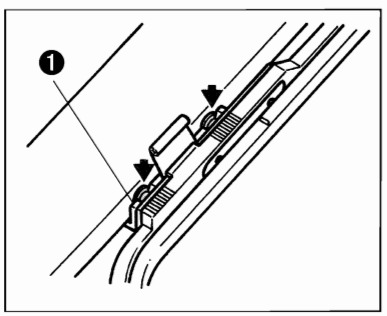
4. Put embroidery sheet on inner frame and adjust standard line on embroidery sheet and mark on fabric.

❶ Standard line
❷ Inner frame



1. Holding clamp at it's highest position, pass frame under clamp.

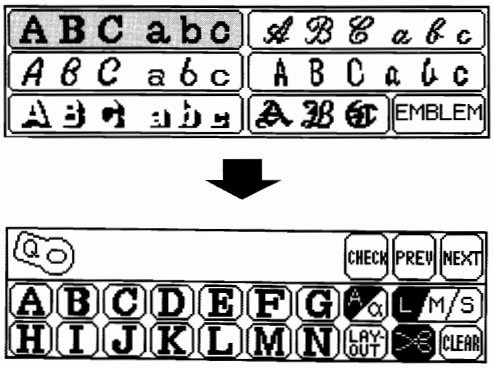
❶ Space for embroidering
❷ Standard line
❸ Center of pattern



2. Put pins of frame to holder slit and insert frame into clamp holder until it clicks.

❶ Frame holder

In case of "Character" card

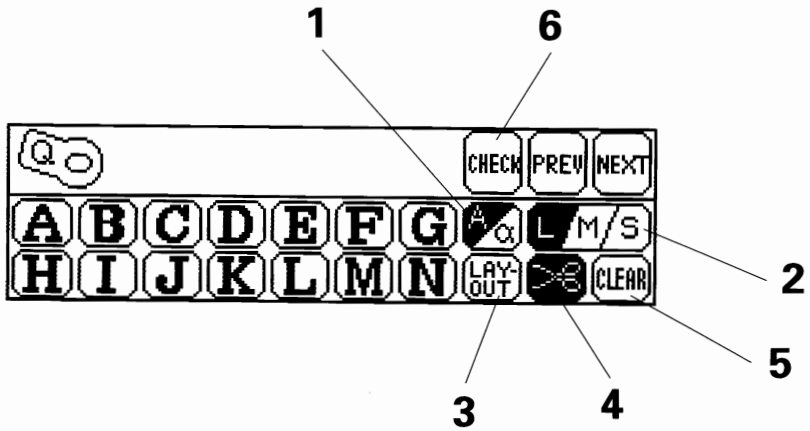


How to combinate characters

1. Select character required.

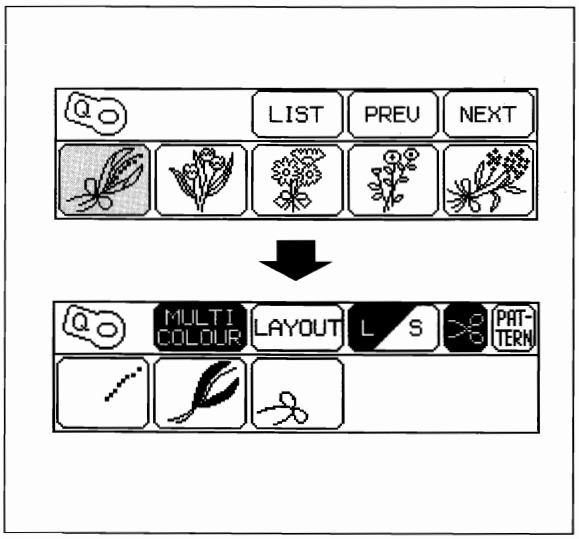
2. Combine characters.
   (Refer to page 69, "COMBINATION OF CHARACTER".)

* Character is sewn with single color only.



1– Touch this key to change Alphabet from capital letters to small letters.
2– Touch this key to change size of character.
3– Touch this key to move position of sewing.
4– Touch this key to set automatic thread cutting after sewing.
(The machine automatically cut the thread with every automatic stop.)
5– Touch this key to cancel the pattern you selected.
6– Touch this key to check the combined characters.

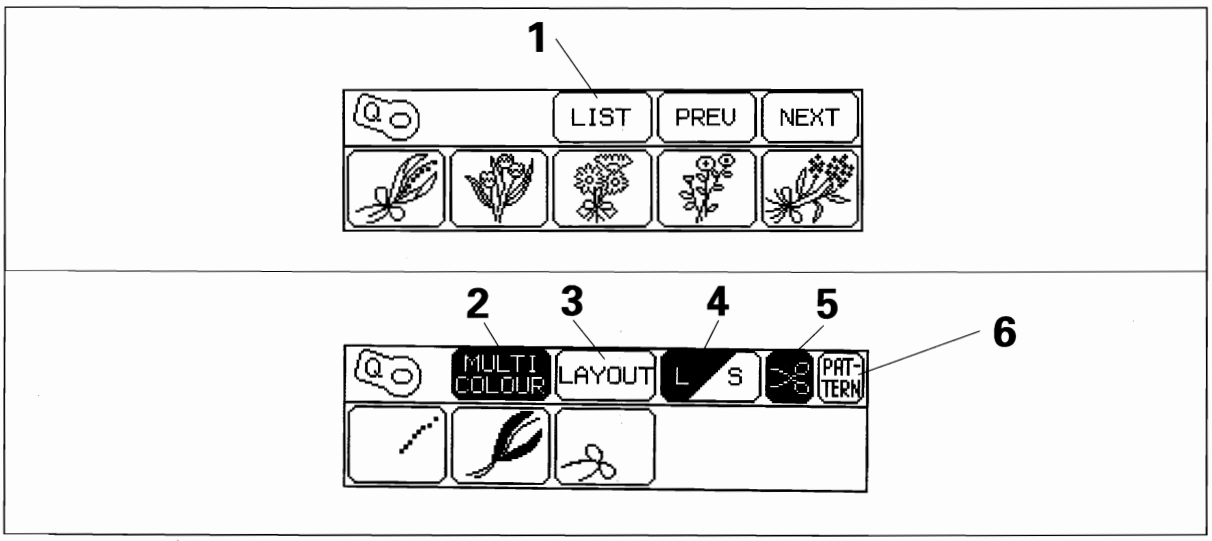
In case of "Flower" card



How to select pattern

1. Select the pattern you require.

2. The pattern is selected in lower part of LCD display.



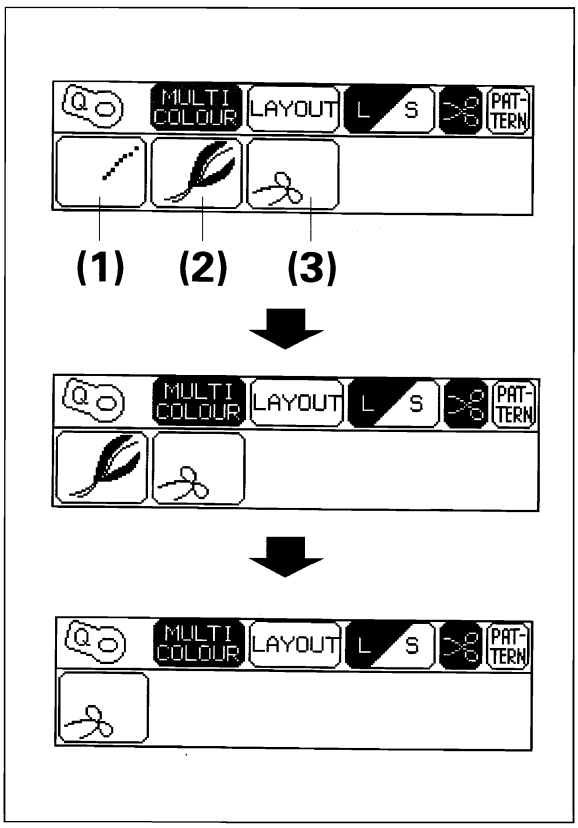
1– "LIST":
Touch this key to list all decorative stitches.
2– Select color mode and mono-color mode.
3– Touch this key to move position of the pattern.
4– Touch this key to change size of pattern.
5– Touch this key to set automatic thread cutting after sewing. (The machine will automatically cut the thread with every automatic stop.)
* When you select pattern, machine is automatically set with automatic thread cutting.

6– Touch this key to return back to the first screen for pattern selection.

Color mode

Sewing order of pattern

* Change upper thread to proper color with reference to color pattern list packed with the Memory card.



1. The selected pattern and the sewing order of each part is indicated on LCD.
   Machine will stop automatically after it finishes each part.

   (1) First color part
   (2) Second color part
   (3) Third color part

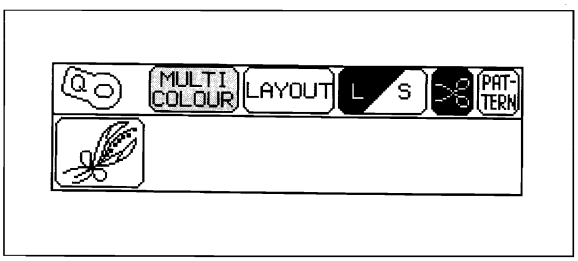
2. Change upper thread then start again. Machine sews second part and stops automatically.

* The screen will move one to the left automatically after it starts sewing.

3. Change upper thread then start again. Machine sews third part and stops automatically.

4. Cut unnecessary thread between each part.

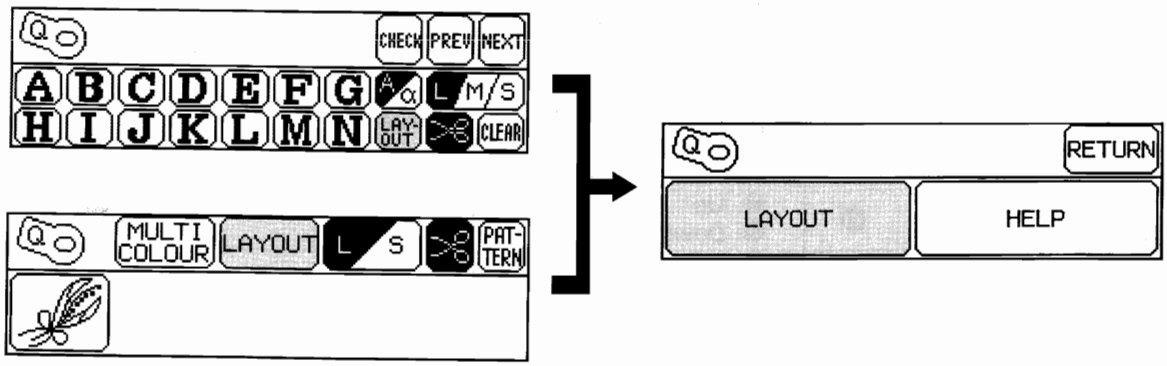
Mono-color mode



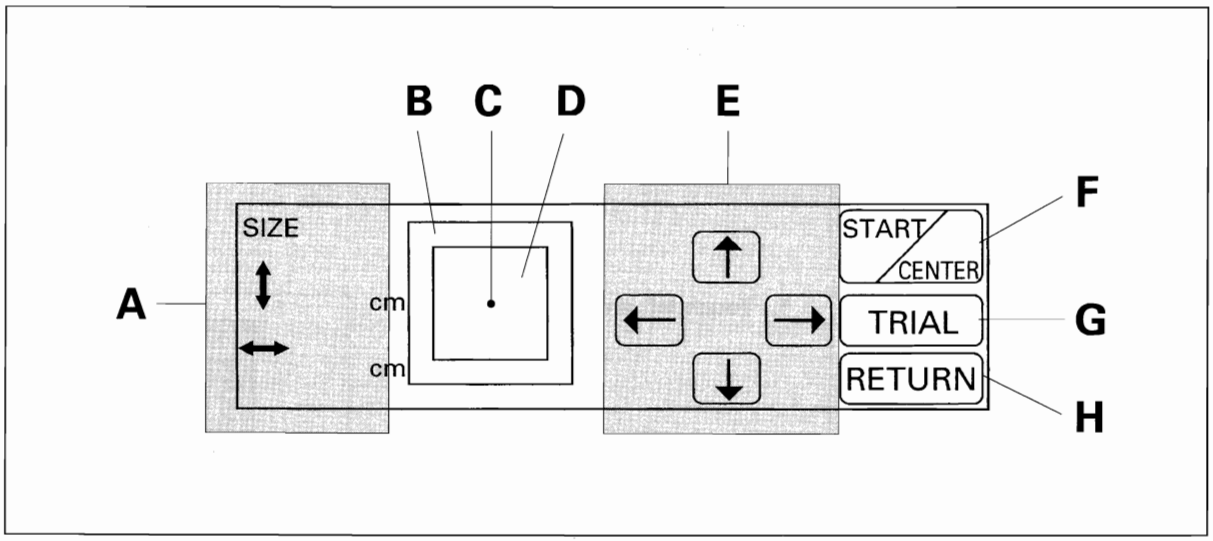
1. Release multi-color mode by touching "MULTI COLOUR". Machine automatically stops after it finishes sewing the whole pattern.

2. Cut unnecessary thread between each part.

MOVING LOCATION (LAYOUT)



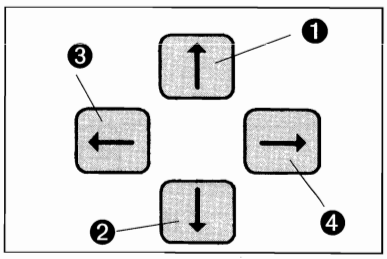
"LAYOUT":
Touch this key to move pattern location in sewing area.



A– Pattern size is shown.
B– Possible sewing area
C– Needle drop position
D– Embroidering area for selected pattern.
E– Arrow key to move pattern location.
F– Needle position key:
Touch this key to position first needle drop point at center or your desired point.

G– "TRIAL":
Touch this key to check embroidering location before actually embroidering.
H– "RETURN":
Touch this key to return to previous screen.

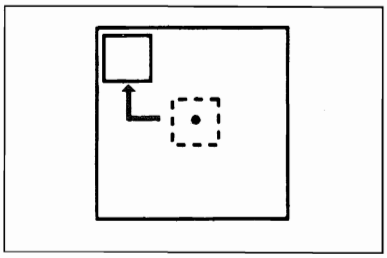
Moving pattern location



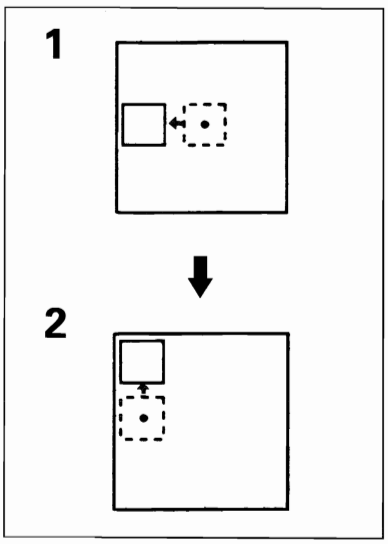
Move embroidering location by using arrow keys.

* Move the location based on hole of presser foot and do not lower needle.

❶ Up
❷ Down
❸ Left
❹ Right



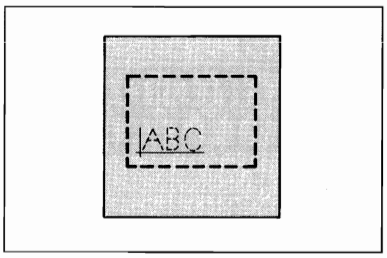
For example
To move pattern to top-left corner

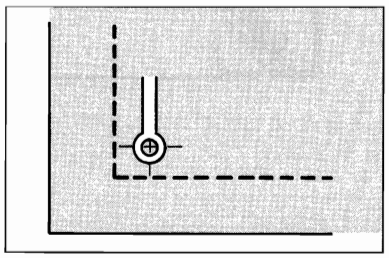


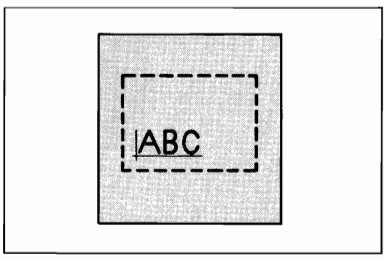
1. Touch left arrow key.

2. Touch up arrow key.

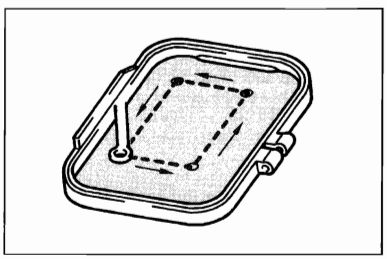
Starting embroidering from edge







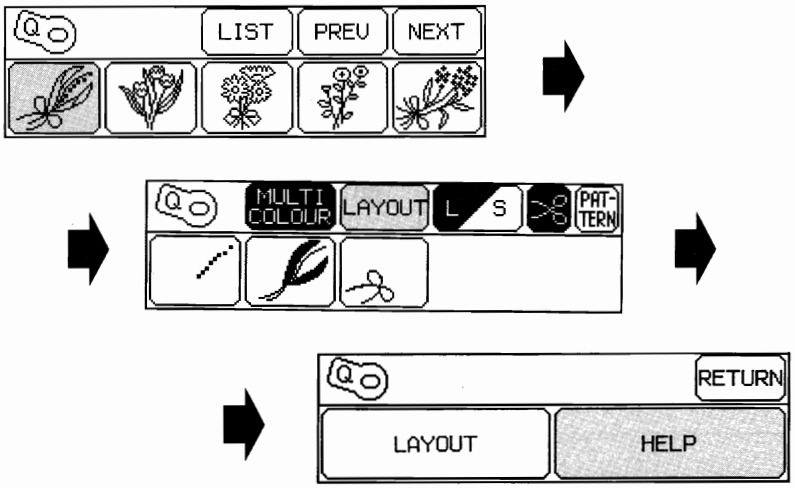
Checking embroidering area



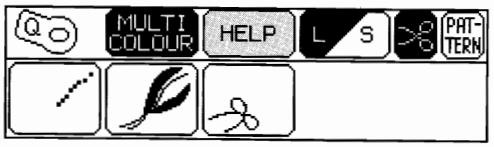
1. Mark first needle drop point on fabric.

2. Touch needle position key to change the needle position from "center" to "start". Match hole of embroidery foot with mark on fabric by using arrow keys as illustrated.

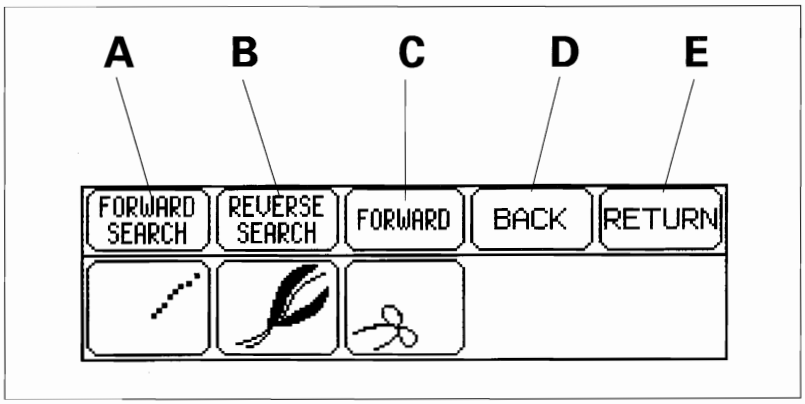
Before sewing



In Sewing



3. Finish.



A– Forward without sewing according to color number.
B– Reverse without sewing according to color number.
C– Forward without sewing one drop of needle.
D– Reverse without sewing one drop of needle.
E– Return to the previous screen.

* If "FORWARD" or "BACK" is repeatedly touched, it will go forward or reverse nine-stitches each from the 5th drop of the needle.

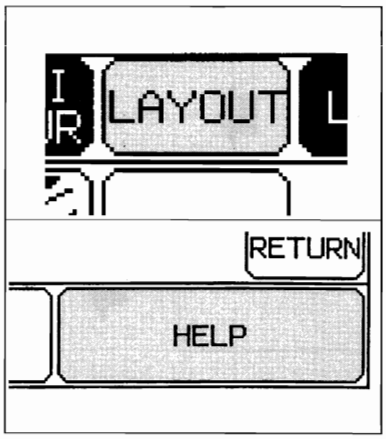
TRIAL

Touch "TRIAL". Foot traces embroidering area.

* Keep needle at high position.

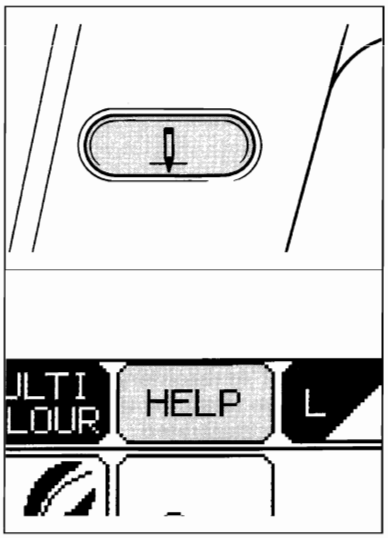
If sewing is needed from the middle

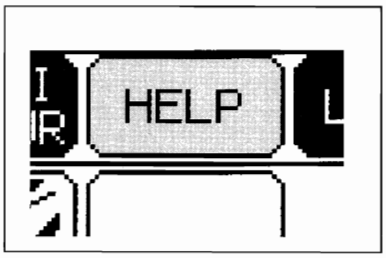
FORWARD SEARCH



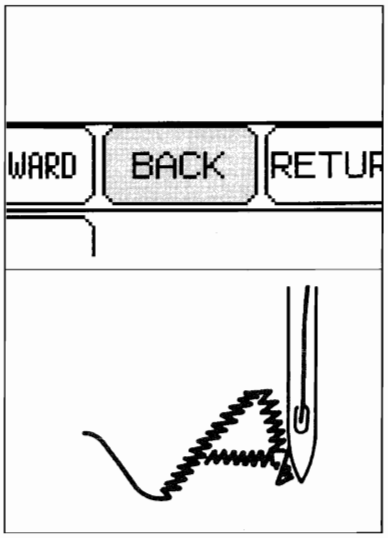
Before sewing
(1) Touch "LAYOUT".

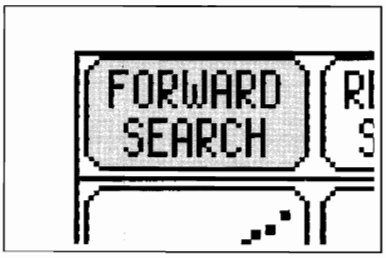
(2) Touch "HELP".



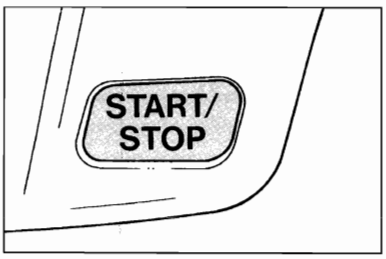


In sewing
Touch "HELP".





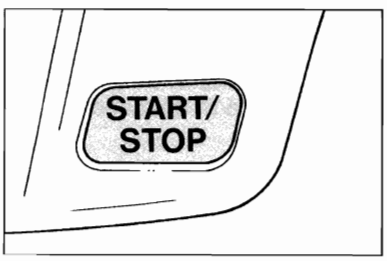
1. Keep touching "FORWARD SEARCH" until the desired color number appears at the left side.



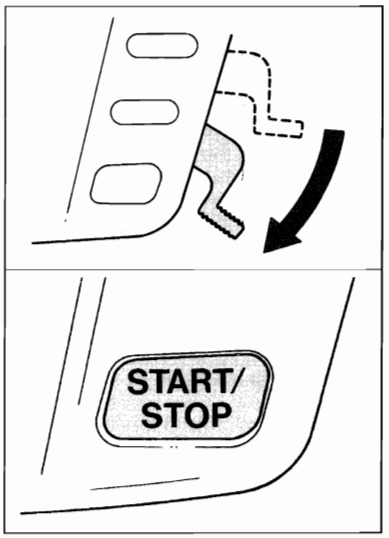
2. Press "START/STOP" button.

When thread breaks while sewing

BACK



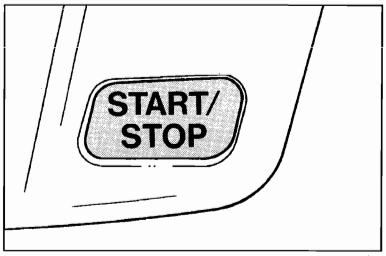
1. Stop the machine by pressing "START/STOP" button.



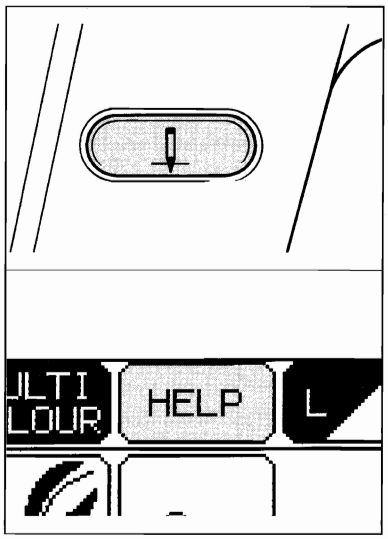
Re-sewing from the beginning

REVERSE SEARCH

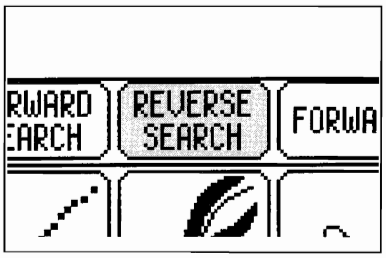
1. Stop the machine by pressing "START/STOP" button.



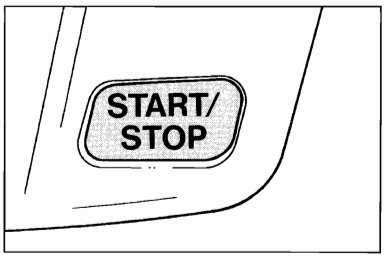
2. Raise the needle by "NEEDLE POSITION" button and touch "HELP".



3. Keep touching "REVERSE SEARCH" until the part for first color will appear at the left side.



4. Press "START/STOP" button.



2. Raise the needle by "NEEDLE POSITION" button and touch "HELP".

3.

- If upper thread breaks
  Re-thread upper thread
- If bobbin thread breaks
  Cut upper thread, and remove embroidery frame.
  Re-set bobbin thread, and attach embroidery frame.

4. Touch "BACK" further than the point the thread broke.

* In case it will not go back to the desired point, touch "REVERSE SEARCH" and go forward until desired point appears by touching "FORWARD".

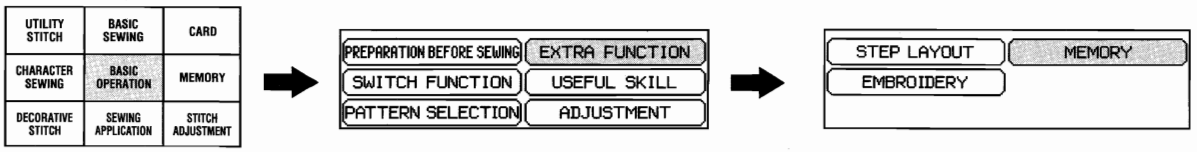
5. Lower the presser foot, and press the "START/STOP" button.

* Pull out the thread where you started from back of material, make a knot, and cut it after sewing is finished.

4. MEMORY

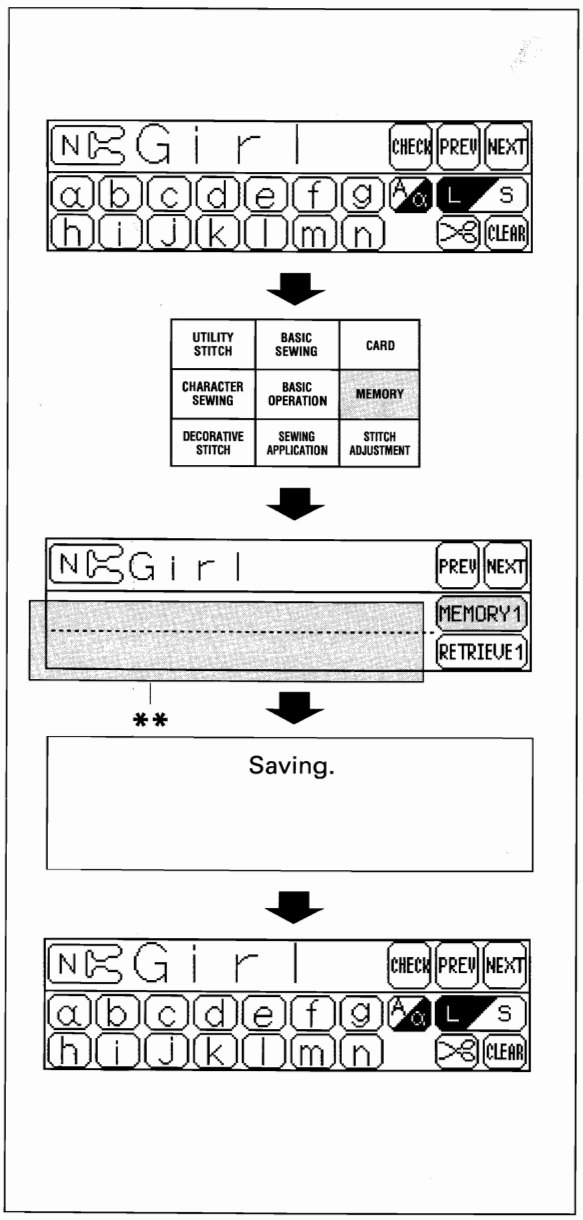
MEMORY (EXAMPLE)

Memorizing combined pattern in memory for later use. (5 memories are available)



Memorizing combined pattern

MEMORY



Let's memorize pattern "Girl".

1. Make combined pattern "Girl".

2. Touch "MEMORY".

3. Touch "MEMORY 1".

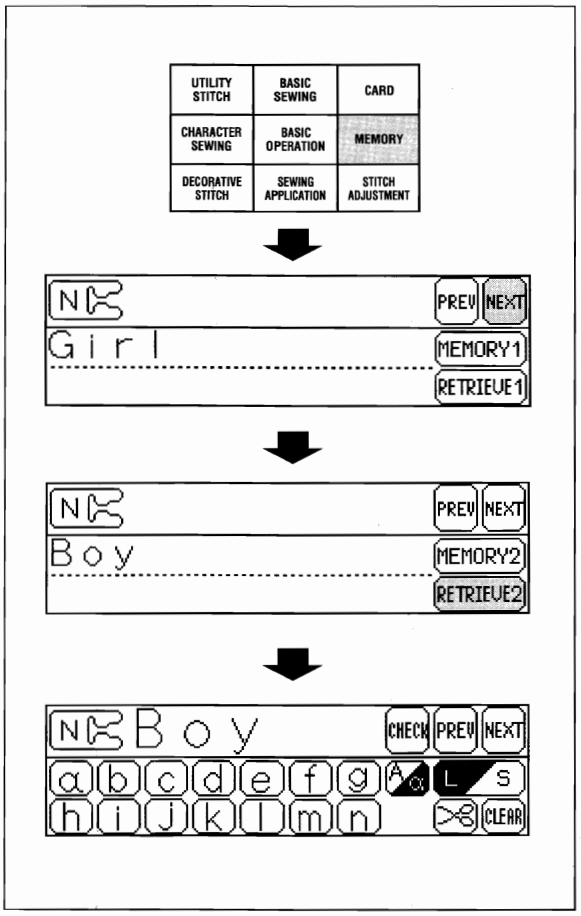
* New pattern is memorized while replacing old one in memory.
* Do not turn off power supply during memorizing pattern.

** Patterns already memorized are indicated.

4. Pattern "Girl" is in memory.

Recalling pattern

RETRIEVE



Let's recall pattern "Boy" from memory 2.

1. Touch "MEMORY".

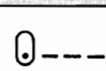
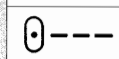
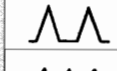
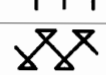
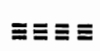
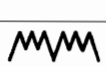
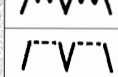
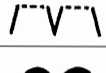
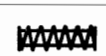
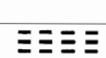
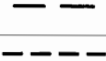
2. Touch "NEXT".

3. Touch "RETRIEVE 2".

4. Pattern "Boy" in memory 2 appears on screen.

* Pattern in embroidery card can be recalled only when embroidery unit and card are set with machine.

SEWING CHART

SELECT KEY	NAME OF PATTERN	PATTERN	TYPE OF PRESSER FOOT	USAGE	ENFORCEMENT STITCH KEY	STITCH WIDTH BY STITCH ADJUSTING KEY	STITCH LENGTH BY STITCH ADJUSTING KEY	SIDE CUTTER	EDGE SEWING	PROGRAMMED AUTOMATIC THREAD TRIMMING	AUTOMATIC ENFORCEMENT STITCHING
UTILITY STITCH	STRAIGHT			Zipper insertion, Pintuck etc.	R	★	★				
				General sewing, gather, Pintuck etc.	R (△)	★	★	C	P		
					R	▲	★		P		
	ZIGZAG			Overcasting, Applique, Patch work etc.	R (△)	★	★	C	P		
	OVERCASTING			For thin or normal material	△	★	★	C	P		
				For heavy or frayeasy material and stretch material	△	★	▲	C	P		
	BUTTONHOLE			For blouse, shirts		★	★			T	●
				For suits, overcoat		★	★			T	●
				For pajamas, shirts		★	★			T	●
	APPLIQUE			Applique	△	★	★		P		
	FAGGOTING			Decorative stitch, faggoting	△	★	▲		P		
	PATCHWORK			Decorative stitch, patch work	△	★	▲		P		
	ELASTIC			Overcasting for frayeasy material, elastic tape fitting	△	★	★		P		
	TRIPLE STRETCH			General sewing for reinforcement	△	★	▲		P		
	BLIND			For elastic material	△	★	★		P		
				For skirt etc.	△	★	★		P		
	SCALLOP			Decorating collar of blouse, edge of handkerchief		★	★		P		■
	BAR TACK			Reinforcement at opening of pocket etc.		★	★			T	●
	DARNING			Darning		★	★			T	●
	EYELET			For making eyelet on belt etc.	L, M, S					T	●
	BASTING			Basting	△	★	★				
	LATERAL SEWING			For attaching applique on tubular part	△	▲	▲				
											

SELECT KEY	NAME OF PATTERN	TYPE OF PRESSER FOOT	USAGE	STITCH WIDTH BY STITCH ADJUSTING KEY	STITCH LENGTH BY STITCH ADJUSTING KEY	EDGE SEWING	PROGRAMMED AUTOMATIC THREAD TRIMMING	AUTOMATIC ENFORCEMENT STITCHING	MEMORY BY MEMORY KEY
CHARACTER SEWING	ALPHABET (BLOCK)		Character sewing	L, S			T	●	○
	ALPHABET (DECORATIVE)			L, M, S			T	●	○
DECORATIVE STITCH	ONE POINT MARK		Decorative stitch	L, S			T	●	○
	DECORATIVE STITCH			L, S			T	●	○
	SATIN STITCH			★	★	P		■	○
	CROSS STITCH			▲	▲			■	
	FRAME PATTERN			▲	▲		T	●	
MEMORY CARD	ALPHABET		Character sewing	L, M, S			T	●	○
	FLOWER		Decorative stitch (Flower)	L, M, S			T	●	

R : Reverse sewing by Enforcement stitch button
△ : Stop stitching by Enforcement stitch button
★ : Adjustable
▲ : Automatic and Non adjustable
C : Side cutter is available
(Always use presser foot for side cutter "S".)
(△) : In case of usage with side cutter
L, M, S or L, S:
Pattern size can be changeable
L (Large)
M (Medium)
S (Small)
P : Stitch can be made in parallel with edge sewing.
(Use the stitch guide foot marked "P".)
T : Programmed Automatic thread trimming is available.
● : Automatic stop stitching at beginning and end of the pattern.
■ : Automatic stop stitching at only beginning of the pattern.
○ : Available

Relative chart of sewing materials, needle and thread

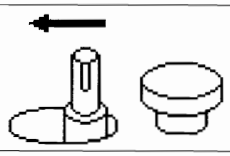
Sewing materials		Thread		Size of needle
		Type	Size	
Medium	Broad	Cotton	60–80	11–14
	Taffeta	Synthetic mercerized	60–80	
	Flano, Gabardine	Silk	50–80	
Light	Lawn	Cotton	60–80	9–11
	Georgette	Synthetic mercerized	60–80	
	Fresco, Poral	Silk	50–80	
Heavy	Denim	Cotton	40–50	14–16
	Corduroy	Synthetic mercerized	50	
	Tweed	Silk	50	
Elastic	Jersey	Thread for knit		Golden needle 11–14
	Tricot			
Loose		Cotton	50–80	9–14
		Synthetic mercerized	50–80	
		Silk	50–80	
In case of 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.

ERROR MESSAGE

When the machine is not properly set and "START/STOP" button is pressed, or a correction on your operation is required, machine does not start and will instruct you with an alarm and warning message on LCD.

Warning message

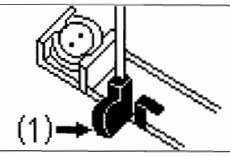


Return bobbin winding shaft to left.

When bobbin winding shaft is located at right side, button for "NEEDLE POSITION" or "AUTOMATIC THREAD CUTTER" is pressed.

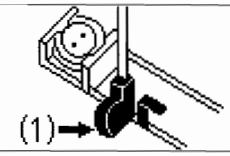
Lower presser foot lever.

When presser foot is at upper position, button for "START/STOP" or "AUTOMATIC THREAD CUTTER is pressed.



Lift blue lever (1).

When buttonhole lever is lowered, pattern other than buttonholes is selected and button for "START/STOP", "ENFORCEMENT STITCH" or Foot controller is pressed.



Lower blue lever (1).

When buttonhole lever is raised, buttonhole is selected and button for "START/STOP", "ENFORCEMENT STITCH" or Foot controller is pressed.

* In this case, the machine works one cycle.

Select pattern.

When any pattern is not selected and any of the following keys are pressed,

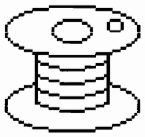
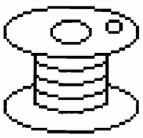
- "START/STOP" button
- "ENFORCEMENT STITCH" button
- "AUTOMATIC THREAD CUTTER" button
- Foot controller
- "STITCH ADJUSTMENT" key
- "SEWING APPLICATION" key

No more stitches can be combined.	When a pattern of more than 36 stitches is combined.
Check if upper thread is cut.	When machine finds that upper thread is cut.
Check if thread is entangled. Check if needle is bent.	When motor is rocked.
Side cutter cannot be used for this pattern. Remove side cutter.	When side cutter is set and 5 keys except "UTILITY STITCH", "STITCH ADJUSTMENT", "BASIC OPERATION" or "SEWING APPLICATION" is touched.
Remove side cutter.	When side cutter is attached in embroidery, move and power switch on.
Start/Stop switch does not work when foot control is connected. Disconnect foot control.	When foot controller is set and "START/STOP" button is pressed.
No pattern is memorized.	When memory that is not stored is recalled.

This pattern is stored in other embroidery card.	When recalling pattern that is not stored in machine or in card by "MEMORY".
This pattern cannot be saved in memory page.	When trying to store patterns that cannot be combined.
This button does not work when embroidery attachment is connected. Turn off main power and remove embroidery attachment.	When "UTILITY STITCH", "CHARACTER SEWING", "DECORATIVE STITCH" or "BASIC SEWING" is touched in embroidery mode.
This button does not work when embroidery attachment is connected.	When "ENFORCEMENT STITCH" button is pressed in embroidery mode.
Embroidery pattern is exceeding sewing area.	When operated for the pattern outline to be bigger than the frame in embroidery mode.
This button does not work when needle is at low position. Raise needle to high position and touch key again.	When operated in embroidery mode with needle position down to start embroidery frame.
Color cannot be changed halfway.	When Multiple color key is pressed during embroidering or pause.

Complete pattern entry.	When "START/STOP" button is pressed when pattern storage is not completed.
Foot control does not work when embroidery attachment is connected. Disconnect foot control.	When foot controller is used with embroidery attachment.
Raise needle to high position by pressing needle position button.	When needle position is down with embroidery attachment on with memory card.
Embroidery card is not inserted. Turn off main power and insert embroidery card.	When power switch and embroidery attachment are on without memory card inserted.
Embroidery attachment is not connected. Turn off main switch and connect attachment.	When machine is switched on with memory card only then "CARD" is pressed.
Embroidery card is not inserted. Turn off main power and insert card.	When "CARD" is pressed without memory card.
Raise presser foot and thread again.	When you cut thread to change thread color and "START/STOP" button is pressed in embroidery mode without raising presser foot.

Instruction message

 Winding bobbin thread.	During bobbin winding.
 Bobbin thread is running out.	When machine finds that lower thread is running out.
Saving	When storing pattern that can be stored by "MEMORY".

Alarm

- In case of proper operation: One time "Pi"
- In case of wrong operation: Two times "Pi, Pi" or four times "Pi, Pi, Pi, Pi"

TROUBLESHOOTING

Whenever sewing difficulty is encountered, review the section of the instruction book that explains the operation you are performing to make sure you are using the machine correctly. If the problems still exists, the following check list may help you correct it. If you still difficulties, contact your nearest service center.

Trouble with threads and stitches

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 inner rotary hook.
	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. Inner rotary hook is damaged.	5. Contact service center.
2. Lower thread breaks	1. Upper thread is entangled.	1. Remove thread-ends in the race or inner rotary hook.
	2. Bobbin is not threaded properly in the shuttle.	2. Set bobbin properly and pull out the bobbin thread.
3. Slipped stitches	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 "RELATIVE CHART OF SEWING FABRICS, NEEDLE AND THREAD".
	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 lower 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 "RELATIVE CHART OF SEWING FABRICS, NEEDLE AND THREAD".
	4. Check if thread tension is set at "AUTO" position.	4. See page "THREAD TENSION".
5. Inability to thread needle	1. Needle position is not correct.	1. Set needle at proper position by "NEEDLE POSITION" button.
	2. Hook of needle threader does not fit into the eye of needle.	2. Set needle at proper position by "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 "RELATIVE CHART OF SEWING FABRICS, NEEDLE AND THREAD".
	4. Check if the thread tension is set at "AUTO" position.	4. See page "THREAD TENSION".

Mechanical trouble

Symptom	Probable cause	Remedy
1. Fabric is not fed properly.	1. Stitch length is set at no feeding.	1. Set stitch length properly.
	2. The combination of selected pattern and presser foot is not correct.	2. Change presser foot to correct one.
	3. Correct needle is not used.	3. Change to proper needle.
	4. Thread is entangled.	4. Remove thread-ends in the race or inner rotary hook.
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. Combination of fabric, thread and needle is not correct.	3. Check "RELATIVE CHART OF SEWING FABRICS, NEEDLE AND THREAD".
	4. The fabric is pulled too much.	4. Sew without pulling but just guide the fabric.
3. Machine is noisy, slow speed, thread trimming is not good	1. Dust is clinging under the needle plate.	1. Remove dust by cleaning with a brush.
4. 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. Check Error messages.	4. See page "ERROR MESSAGE".
5. Embroidery unit does not work	1. Power switch is in the off position.	1. Turn the power on.
	2. Embroidery unit is not correctly connected to the machine.	2. Connect embroidery unit properly to the machine.
	3. Memory card is not inserted.	3. Turn off the machine then insert the memory card.
	4. Check Error messages.	4. See page "ERROR MESSAGE".

Caution

- **This machine has a detector for thread breakages. Accordingly, the machine does not start properly without threading upper thread.**
  Also due to needle bar holding mechanism, the fabric is fed with needle being kept at its highest position according to the pattern. In this case, mechanical sound which is different from sewing sound is caused but please note that it is not affect operation of the machine.

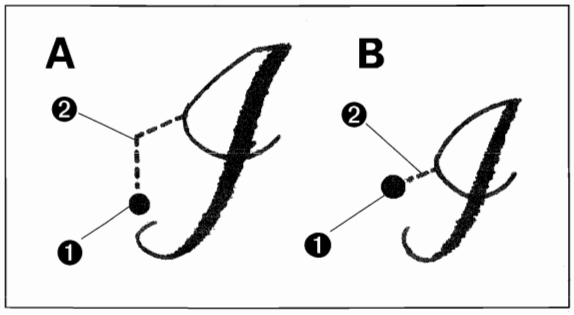
- **In case electricity stops during sewing.**

  - **Turn off power, and unplug.**
  - **To start again, follow the instruction for operation.**

FIRST NEEDLE DROP POINT

List of first needle drop point (start point) and base line

Alphabet



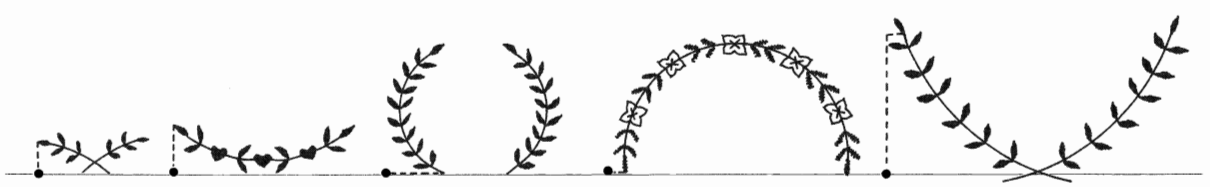
* First needle drop point moves when size changes.

A– Large
B– Small

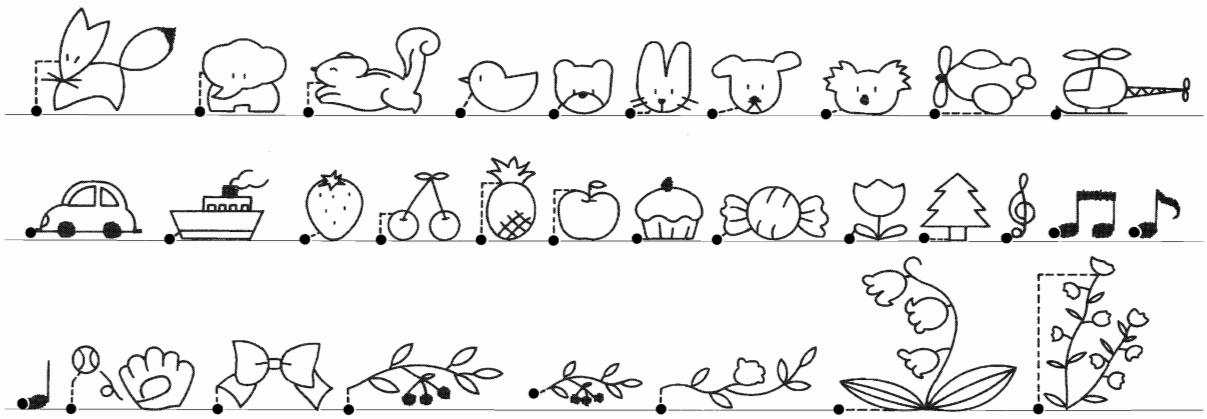
❶ First needle drop point
❷ Trim unnecessary loop thread after sewing.

* Although there are 3 different sizes of letters, sometimes the first needle drop point does not change for each size. When this occurs, the needle drop point will only be indicated on the large size.

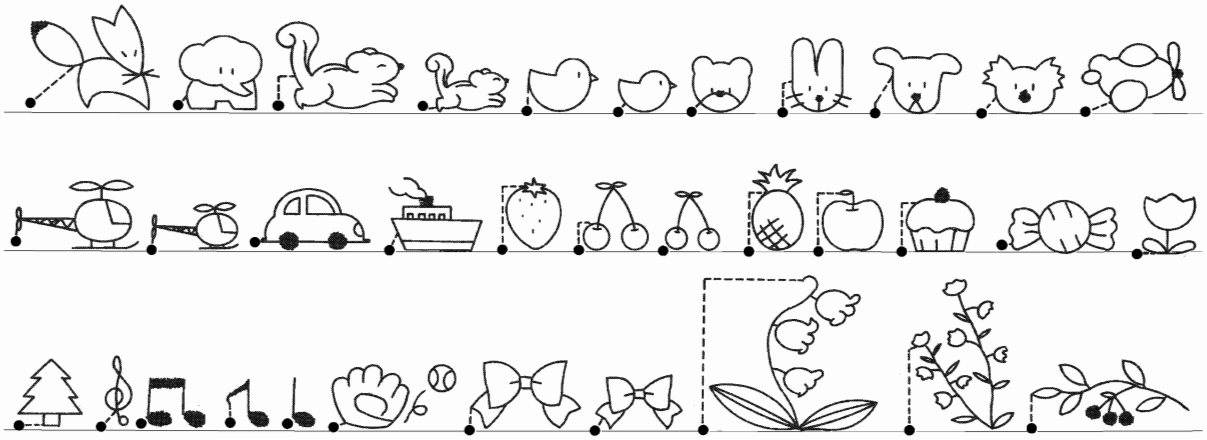
Frame pattern



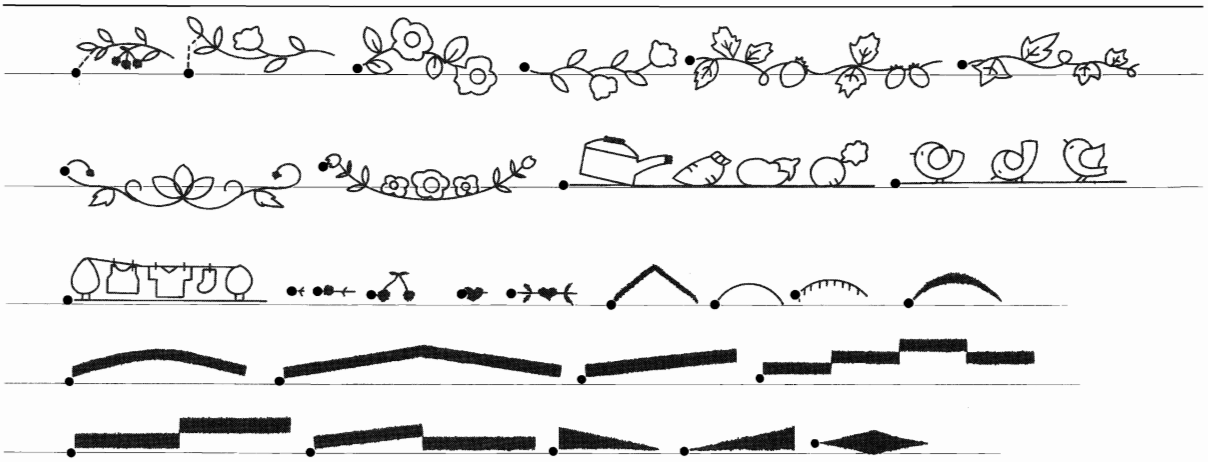
One point pattern



One point pattern in mirror image

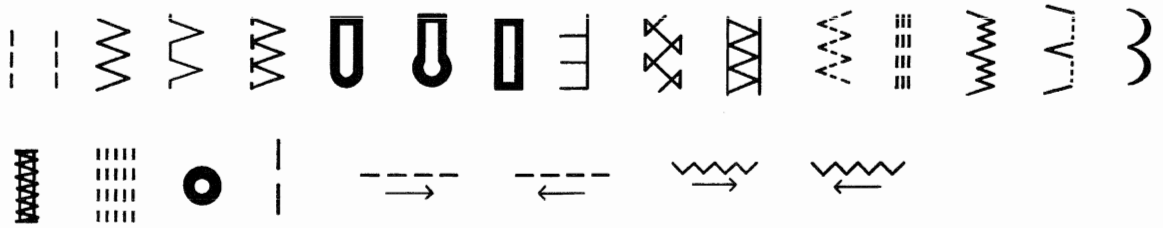


Decorative pattern



PATTERNS (PROGRAMMED IN MACHINE)

Utility stitch



Character sewing

Alphabet (Block style)

Size "L" (Large) : 11 mm (0.43 inch), "S" (Small) : 7 mm (0.28 inch)

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 ó ì ç ü ù ß

0 1 2 3 4 5 6 7 8 9 & ? !

Alphabet (Italic style)

Size "L" (Large) : 27 mm (1.06 inch), "M" (Medium) : 17 mm (0.67 inch), "S" (Small) : 9 mm (0.35 inch)

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

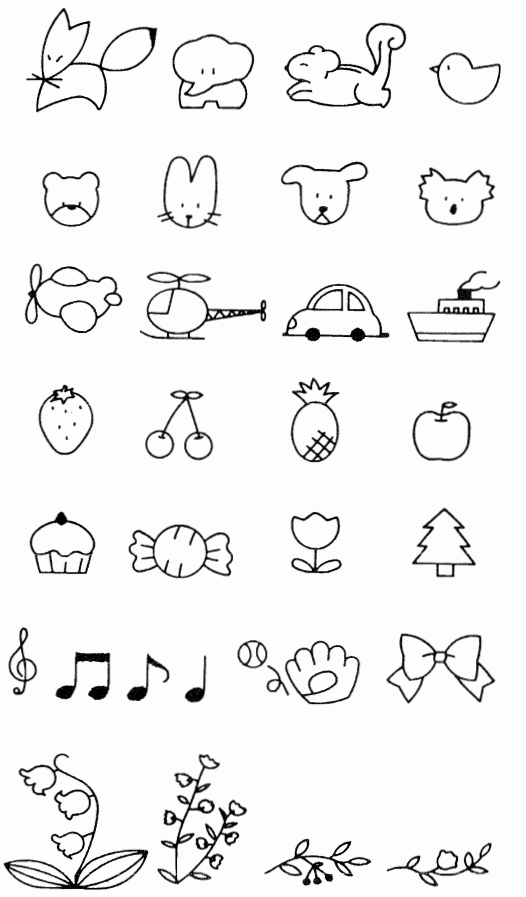
ä à å æ ë è é ê ñ ö ò ø ì ç ü ù ß

0 1 2 3 4 5 6 7 8 9 & ? !

Decorative stitch

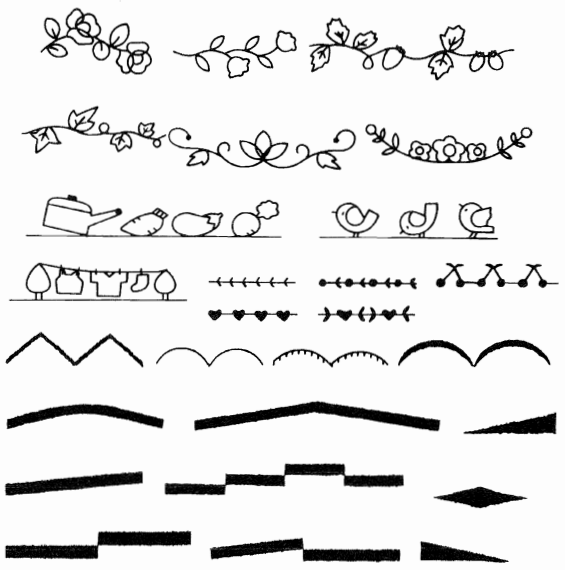
One point (Normal and mirror image)

Size can be selected "L" (Large) and "S" (Small).

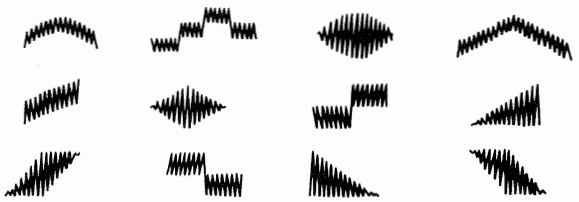


Decorative stitch

Size can be selected "L" (Large) and "S" (Small).

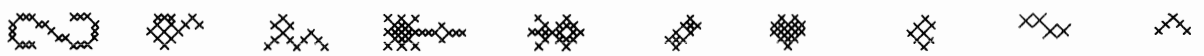


Satin stitch



Cross stitch

Size cannot be changed.



Frame pattern

Size cannot be changed.

PATTERNS (MEMORY CARD)

"Character" card

Alphabet

Size "L" (Large) : 30 mm (1.18 inch), "M" (Medium) : 15 mm (0.59 inch), "S" (Small) : 10 mm (0.39 inch)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz ÄÅÆÑÖØ
ÇÜ äàåæëèéêñöòøìçüùß 0123456789 &?!□',.-

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz ÄÅÆÑÖØÇÜ
äàåæëèéêñöòøìçüùß 0123456789 &?!□',.-

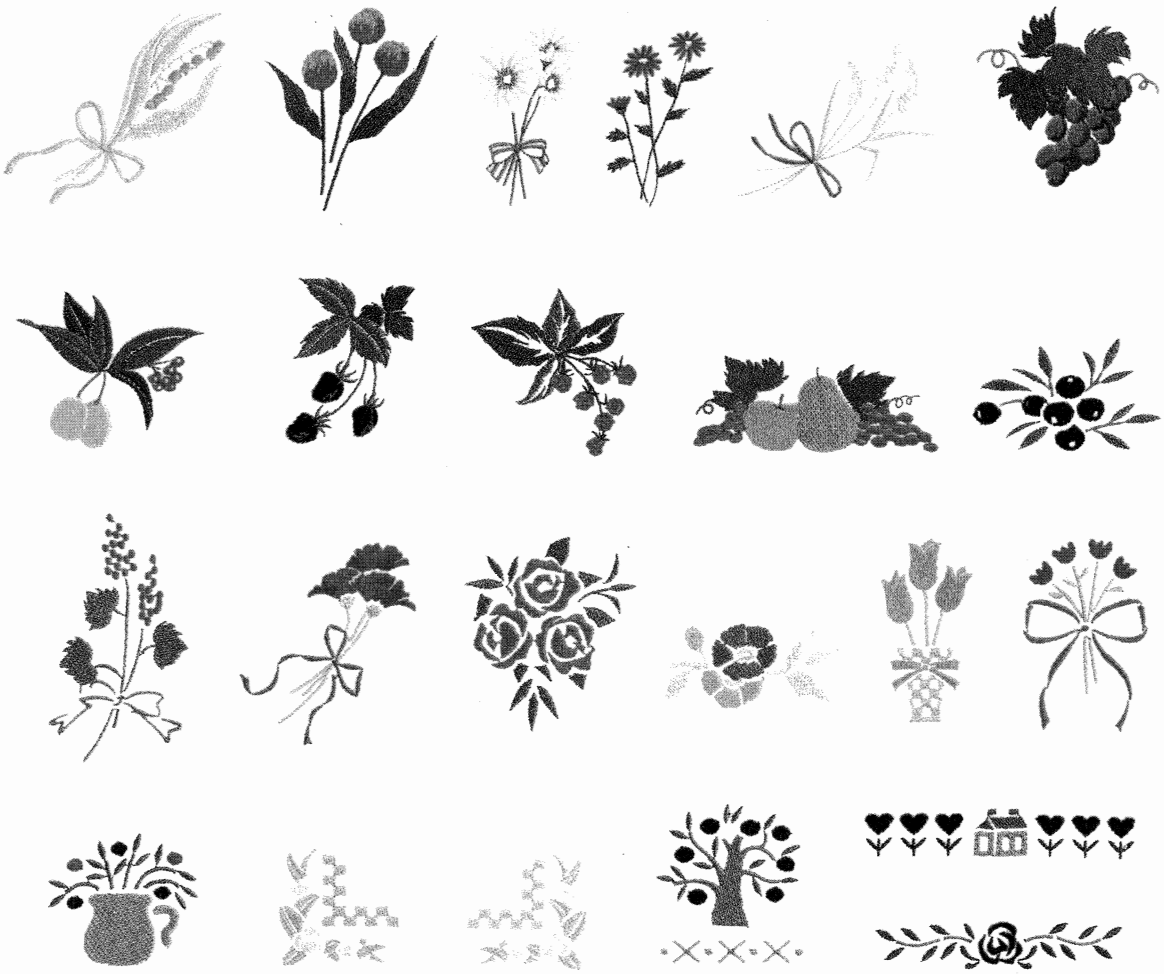
ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrst
uvwxyz ÄÅÆÑÖØÇÜ äàåæëèéêñöòøìçüùß
0123456789 &?!□',.-

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
0123456789 &?!□',.-

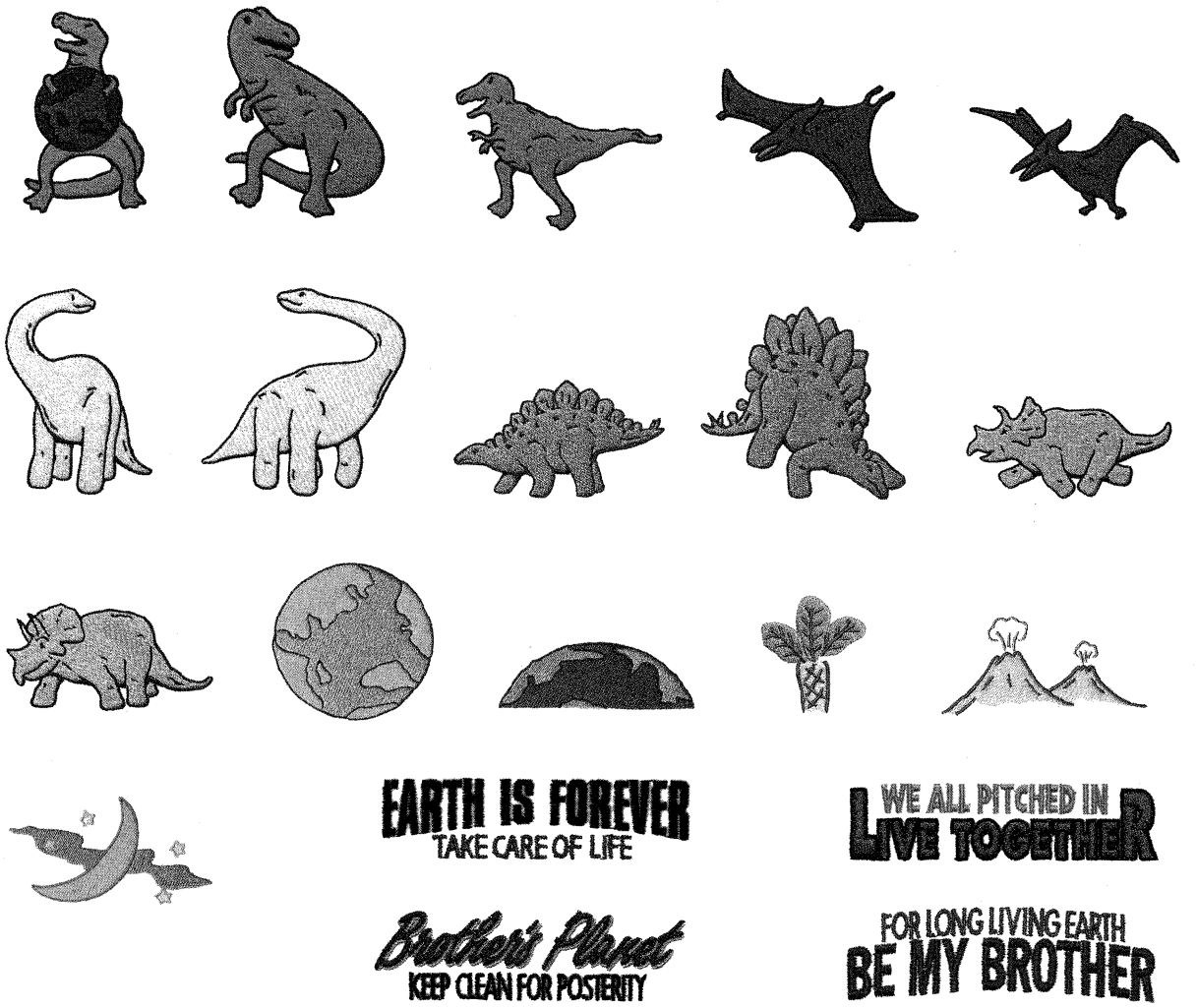
ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklm
nopqrstuvwxyz 0123456789 &?!□',.-

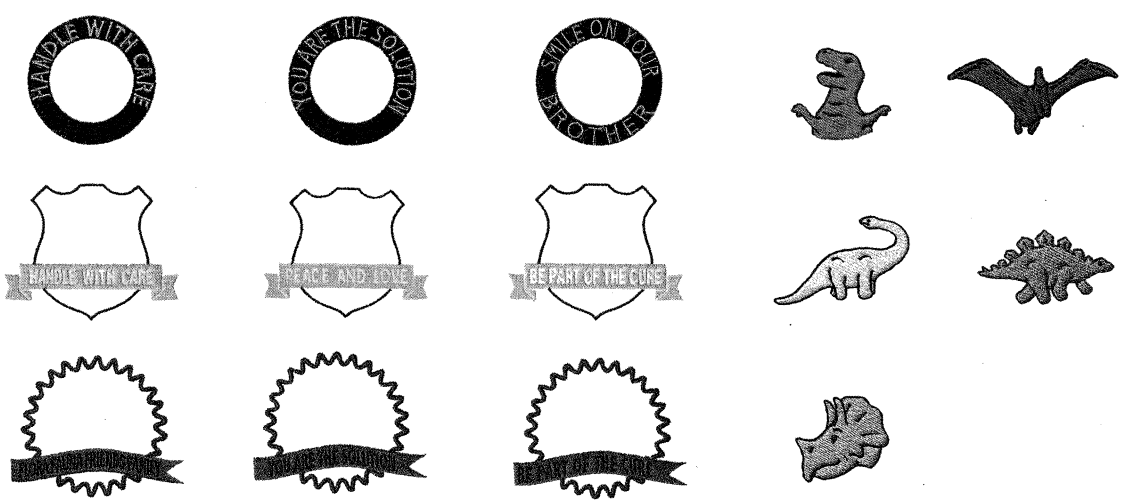
ABCDEFGHIJKLMNOPQRSTUVWXYZ.□

"Flower" card



"Dinosaur" card





ENGLISH
114-895
191895-017
Printed in Japan