JUKI®

COMPUTER SEWING MACHINE

# HZL-G320

# INSTRUCTION MANUAL

EN

Please access to the QR code for support tutorial videos.

https://www.youtube.com/channel/UCqTjXj_sDp8pRIcgNT4NggA/playlists

| | |
|---|---|
| ⚠ **Attention** | **Please read this instruction manual before using the machine as it contains important operational and safety information.**<br>**Keep this manual accessible so that you may refer to it at anytime while operating the machine.** |

# “IMPORTANT SAFETY INSTRUCTIONS”

When using an electrical appliance, basic safety precautions should always be followed, including the following: Read all instructions before using this sewing machine.

## “DANGER ___ To reduce the risk of electric shock:”

1. The appliance should never be left unattended when plugged in.
2. Always unplug this appliance from the electric outlet immediately after using and before cleaning.

## “WARNING ___ To reduce the risk of burns, fire, electric shock, or injury to persons:”

1. Do not allow this appliance to be used as a toy. Close attention is necessary when this appliance is used by or near children. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
2. Use this appliance only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as contained in this manual.
3. Never operate this appliance 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 appliance to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the appliance with any air openings blocked. Keep ventilation openings of the sewing machine and foot control free from the accumulation of lint, dust, and loose cloth.
5. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
6. Always use the proper stitch plate. The wrong plate can cause the needle to break.
7. Do not use bent needles.
8. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
9. Switch the sewing machine off “O” when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot.
10. Always unplug the machine from the electrical outlet when removing covers, when lubricating or when making any other user servicing adjustments mentioned in the instruction manual.
11. Never drop or insert any object into any opening.
12. Do not use outdoors.
13. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
14. To disconnect, turn all controls to the off “O” position, then remove plug from outlet.
15. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
16. Basically, the machine should be disconnected from the electricity supply when not in use.
17. If the power cord of this appliance is damaged, it must be replaced with a special cord by your nearest authorized dealer or service center.
18. (Except USA/Canada) This machine is provided with double insulation.
    Use only identical replacement parts. See instructions for servicing Double-Insulated machine.

# “SERVICING DOUBLE-INSULATED PRODUCTS”

In a double-insulated product, two systems of insulation are provided instead of grounding. No grounding means is provided on a double-insulated product nor should a means for grounding be added to the product. Servicing a double-insulated product requires extreme care and knowledge of the system and should only be done by qualified service personnel. Replacement parts for a double-insulated product must be identical to those parts in the product. A double-insulated product is marked with the words DOUBLE INSULATION or DOUBLE INSULATED.
The symbol ⧈ may also be marked on the product.

# “SAVE THESE INSTRUCTIONS”

“This sewing machine is intended for household use only.”

Congratulations on your purchase of a JUKI sewing machine.
Please be sure to read safety precautions in “To use the sewing machine safely” in the Instruction Manual before use to fully understand the functions and operating procedures of the sewing machine so as to use the sewing machine for a long time.
After you have read the Instruction Manual, please be sure to keep it together with the warranty so that you can read it whenever necessary.

## To use the sewing machine safely

Marks and pictographs included in the Instruction Manual and shown on the sewing machine are used so as to ensure safe operation of the sewing machine and to prevent possible risk of injury to the user and other people.
Warning marks are used for different purposes as described below.

| | |
|---|---|
| **⚠ WARNING** | **Indicates that there is a possible risk of death or serious injury if this mark is ignored and the sewing machine is used in a wrong manner.** |
| **⚠ CAUTION** | **Indicates the operation, etc. which can cause a possible risk of personal injury and/or physical damage if this mark is ignored and the sewing machine is used in a wrong manner.** |

Pictographs mean the following:

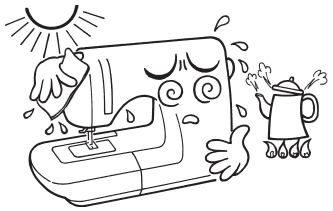
| | | | | | | | |
|---|---|---|---|---|---|---|---|
|  | **Danger warning which is not specified** |  | **There is a risk of electrical shock** |  | **There is a risk of fire** |  | **There is a risk of injury to hands, etc.** |
|  | **Prohibited matter which is not specified** |  | **Disassembly/ alteration is prohibited** |  | **Do not place fingers under the needle** |  | **Do not pour oil, etc.** |
|  | **Generally required behavior** |  | **Disconnect the power plug** | | | | |

## ⚠ WARNING

For the combination of the material and the thread and needle, in particular, refer to the explanation table in “Replacement of the needle”.
If the needle or thread does not match the material used such as in the case that an extra heavy-weight material (e.g., denim) is sewn with a thin needle (#11 or higher), the needle can break resulting in an unexpected personal injury.

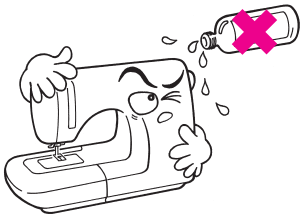
## Other precautions

- Do not put the sewing machine under the direct sunlight or in a humid place.



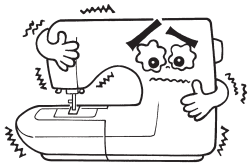
- Do not wipe the sewing machine with solvent such as thinner.

When the sewing machine is soiled, put a small quantity of neutral detergent on a piece of soft cloth and carefully wipe off the sewing machine with it.



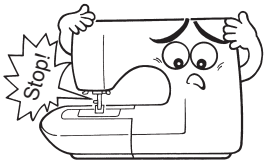
Be aware that the following state can take place since the sewing machine incorporates semi-conductor electronic parts and precise electronic circuits.

- Be sure to use the sewing machine in the temperature range from 5ºC to 40ºC.
  If the temperature is excessively low, the machine can fail to operate normally.



- This sewing machine will stop due to safety mechanism to prevent the machine from overheating, when it sews slowly and for a long time. In this event, Start and Stop button will not light.

The sewing machine will return to working condition after about 10 minutes.




* The operating temperature of the sewing machine is between 5ºC and 40ºC. Do not use the sewing machine under the direct sunlight, near the burning things such as a stove and candle, or in a humid place. By so doing, the temperature in the interior portion of the sewing machine can rise or the coating of the power cord can melt, causing fire or electrical shock.

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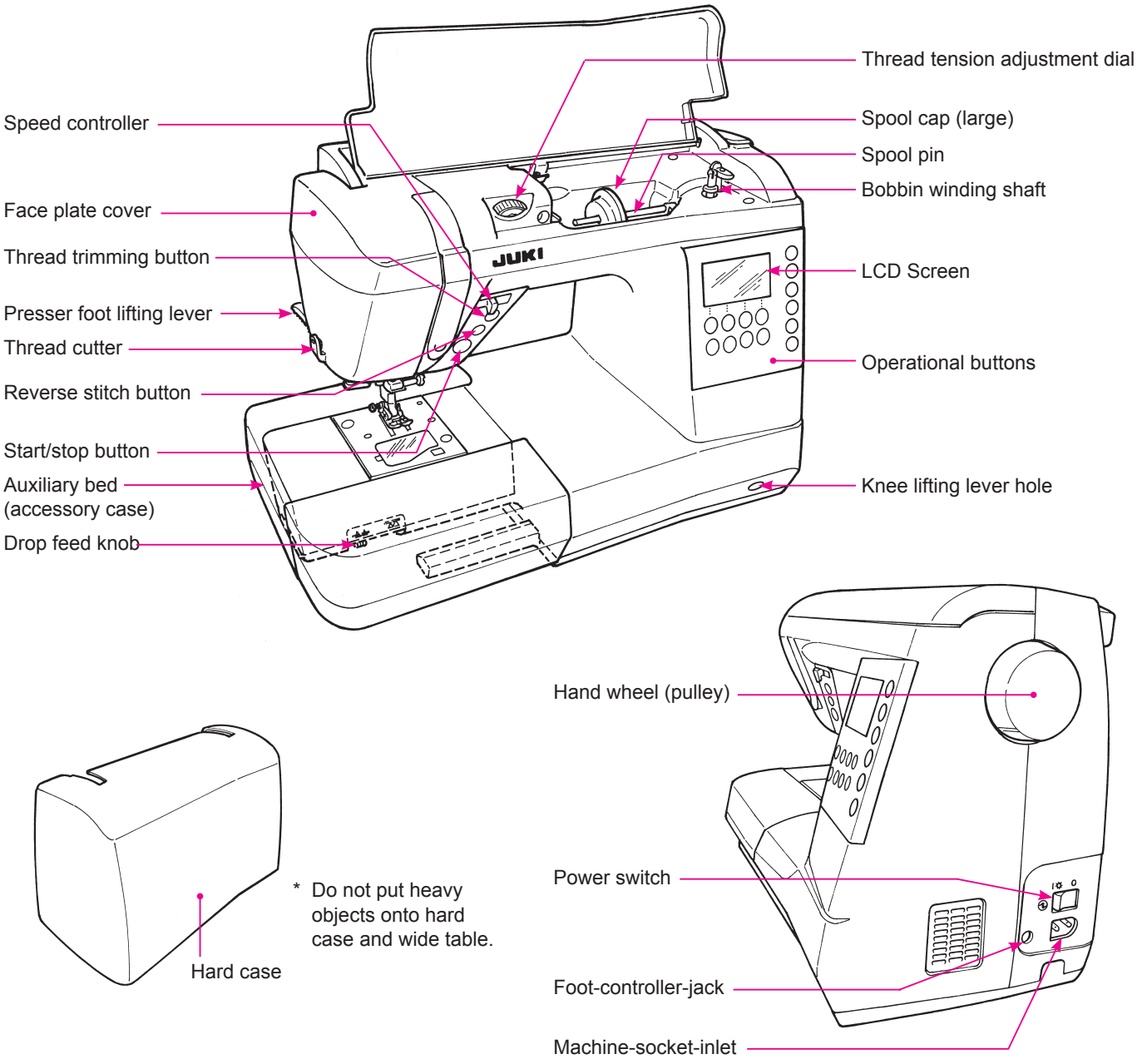
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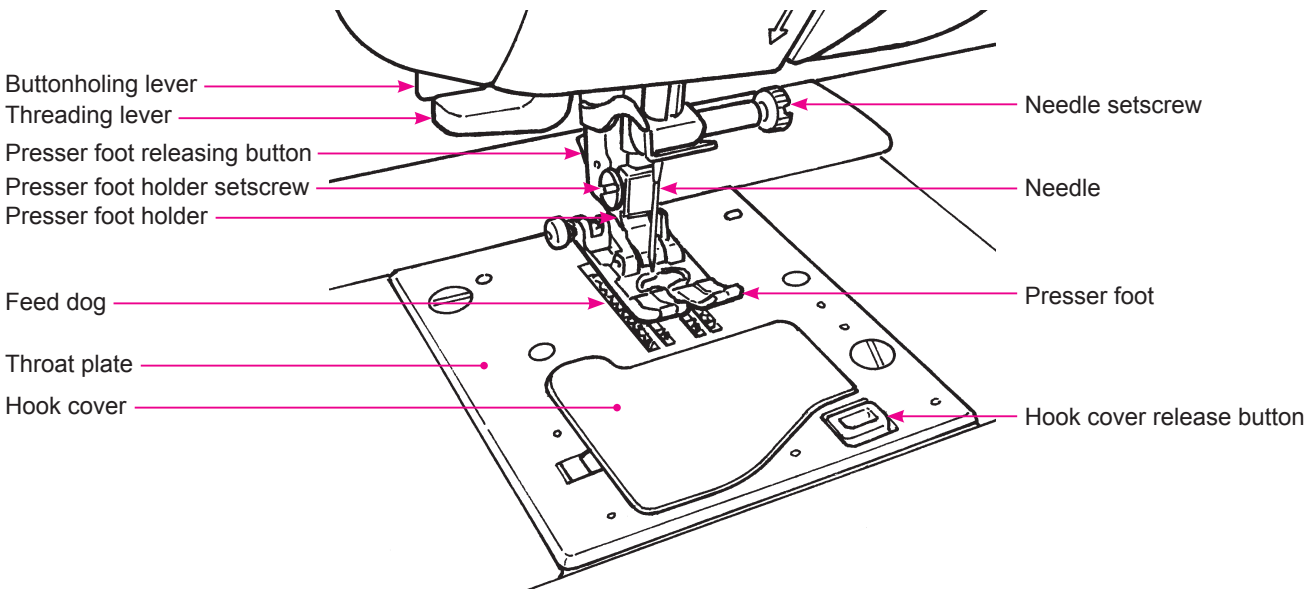
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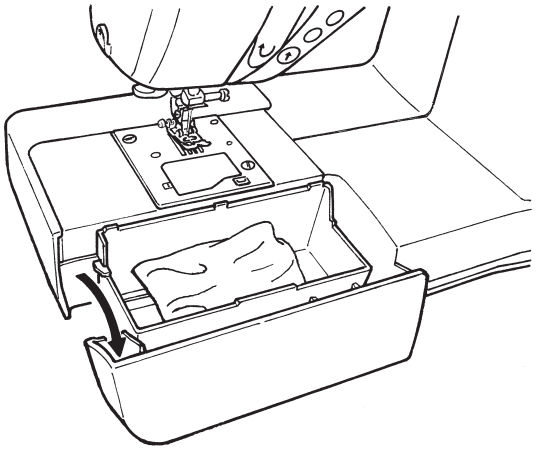
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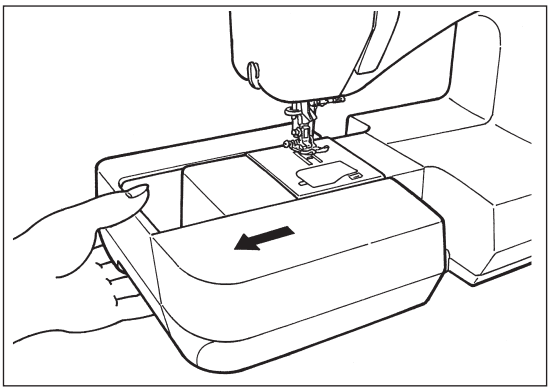
# Principal parts



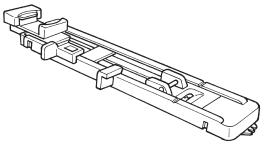
# Accessories





Draw the auxiliary bed out to the left.

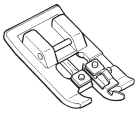
**● Inside the auxiliary bed.**



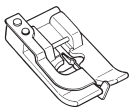
Buttonhole presser foot (E)



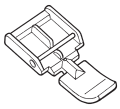
Manual buttonhole presser foot (I)



Overcasting presser foot (C)



Blind stitch presser foot (D)



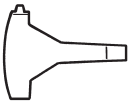
Zipper presser foot (B)



Bobbin (3)



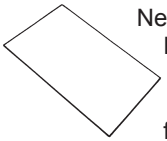
Ripper / Cleaning brush



T-shape screwdriver



Spool cap (Small)



Needle set
HA X 1 # 11 (1)
# 14 (1)
# 16 (1)
for knit # 11 (1)

**● Supplied with the machine**



Standard presser foot (A)



Bobbin (1)

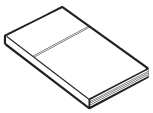


Spool cap (large)

**● Placed at styrofoam**



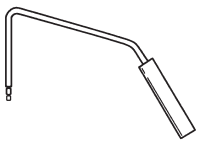
Foot Controller
(model name; 4C-339G)



Instruction manual
(This manual)

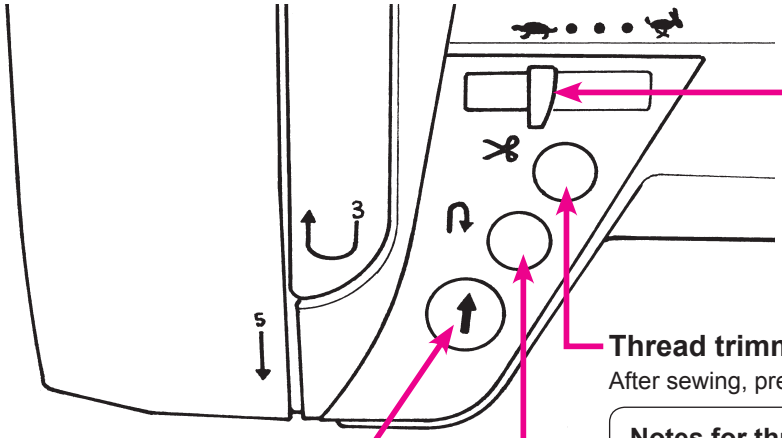


Power cord



Knee lifting lever

## Function of operational buttons



### Speed controller
While sewing, speed can be adjusted.

### Thread trimming button
After sewing, press this button to trim both threads automatically.

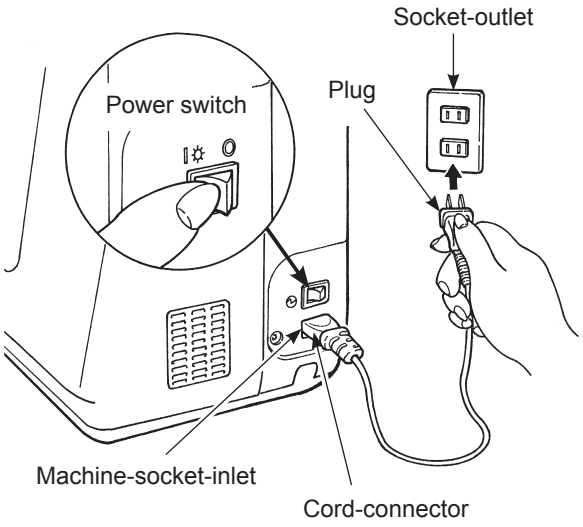
**Notes for thread trimming:**
1. Do not use thread thicker than No.30.
2. After trimming, the stitch can be done without pulling up bobbin thread.
3. When sewing again after thread trimming, if you pull up the bobbin thread again and place it underneath the presser foot together with needle thread, you can avoid birds nest on the wrong side of the fabric.
4. Regularly clean the machine (refer to page 49), as dust in the area of the thread trimming unit may cause malfunction.

### Start/stop button
When pressing this button, machine starts to sew slowly and then up to the speed set by speed controller. When pressing this button again, machine stops with needle at its down position. Color of button indicates machine status.
**Green:** Ready to start and/or while sewing
**Red:** Not ready to start (When it is pushed in red condition, needle moves by one stitch.)
**Orange:** Machine is in bobbin winding condition.

### Reverse stitch button
While pressing this button, machine sews reverse (lock stitch).

# Connecting to the power supply

| Warning | • Disconnect the plug and turn off the power switch (turn to “O”) that always sewing machine is not to use. Otherwise, it may cause electric shock and/or fire. |
|---|---|

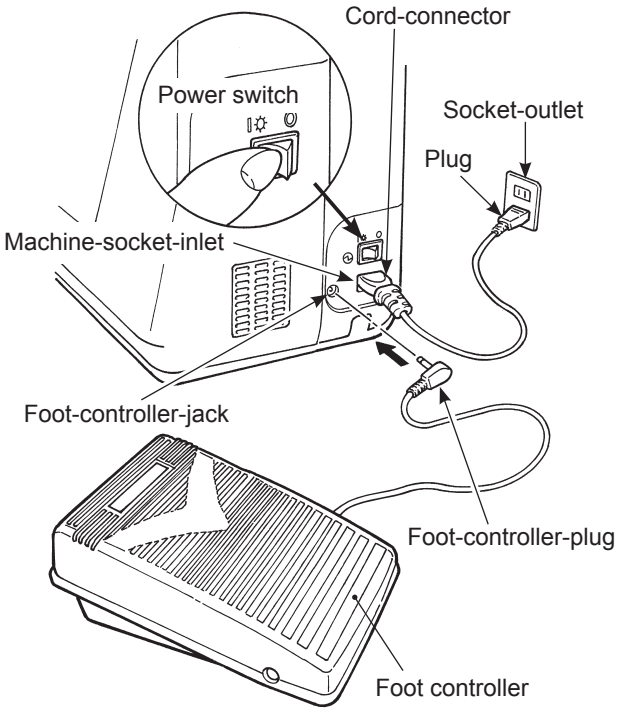



★ **Not-using foot-controller that using start/stop-button:**

1. Turn OFF the power switch (turn to “O”)
2. Insert cord-connector into machine-socket-inlet.
3. Insert plug into socket-outlet.
4. Turn ON the power switch. (Turn to “I”)

**WARNING (For U.S.A.,Canada only)**

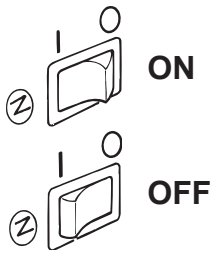
This appliance has a polarized plug (one blade wider than the other). To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install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




★ **Using the foot-controller:**

1. Turn OFF the power switch (turn to “O”)
2. Insert the foot-controller-plug into the foot-controller-jack.
3. Insert cord-connector into machine-socket-inlet.
4. Insert plug into socket-outlet.
5. Turn ON the power switch. (Turn to “I”)

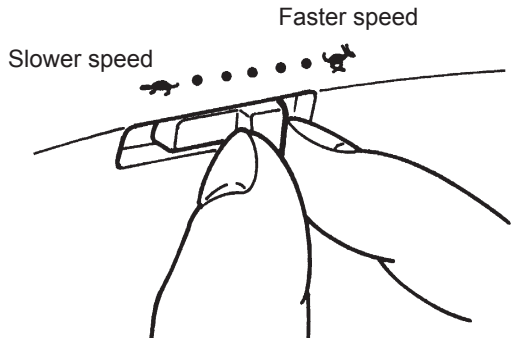
* When the foot controller is plugged in, the start/stop button cannot be used to start sewing.
Start button: Can not operate to start sewing.
Stop button: Can operate to stop sewing.



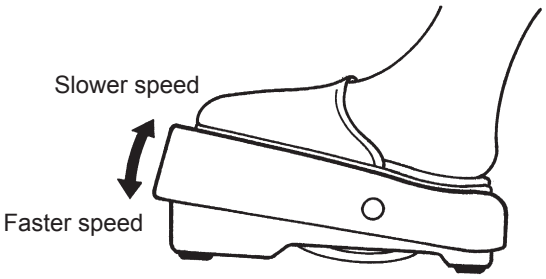

★ **Operating power switch:**

Turn OFF the machine, set the power switch to "0".
Turn ON the machine, set the power switch to "I".

## Speed control



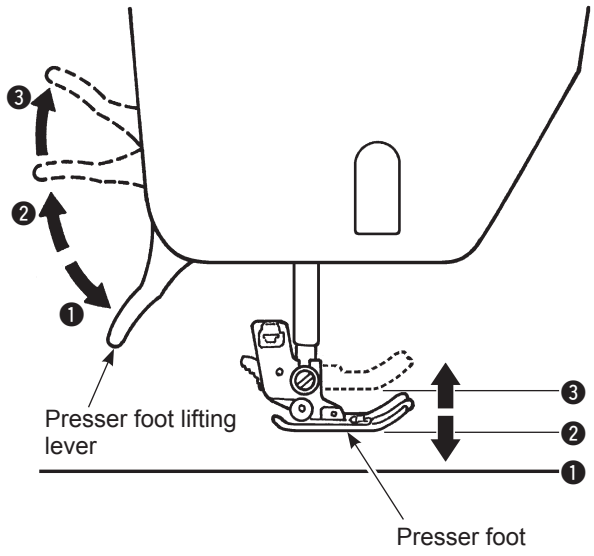

★ **Speed controller**
Maximum sewing speed can be freely set by the speed controller.




★ **Foot controller**
To run the machine, press the foot controller.
The harder you press, the faster the machine sews.
Speed controller will set the maximum sewing speed.
**Pressing harder → faster speed**
**Pressing weaker → slower speed**

* Always clean the foot controller.
It is important that you do not place any objects on the foot controller as it may cause injury to the user and may cause malfunctions.

## Presser foot lifting lever

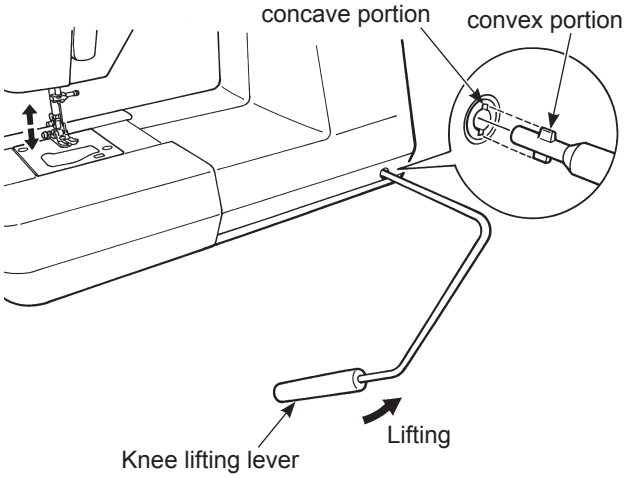



The presser foot can be up or down position by using the presser foot lifting lever.

❶ Lowered position …… Presser foot should be lowered when sewing.
❷ Ordinary lift position …… This position is used for fabric removal and/or changing the presser foot.
❸ Extra lift position …… This position is used to put heavy materials underneath the presser foot.

* Be careful that the presser foot and the needle should not interfere when the needle is in down position and the presser foot is raised to the extra lift position.

### ■ Installation of knee lifting lever




The knee lifting lever is useful when a quilt is being sewn and for other projects that require the use of both hands. With the knee lifting lever, you are able to control the position of the presser foot without using your hands.

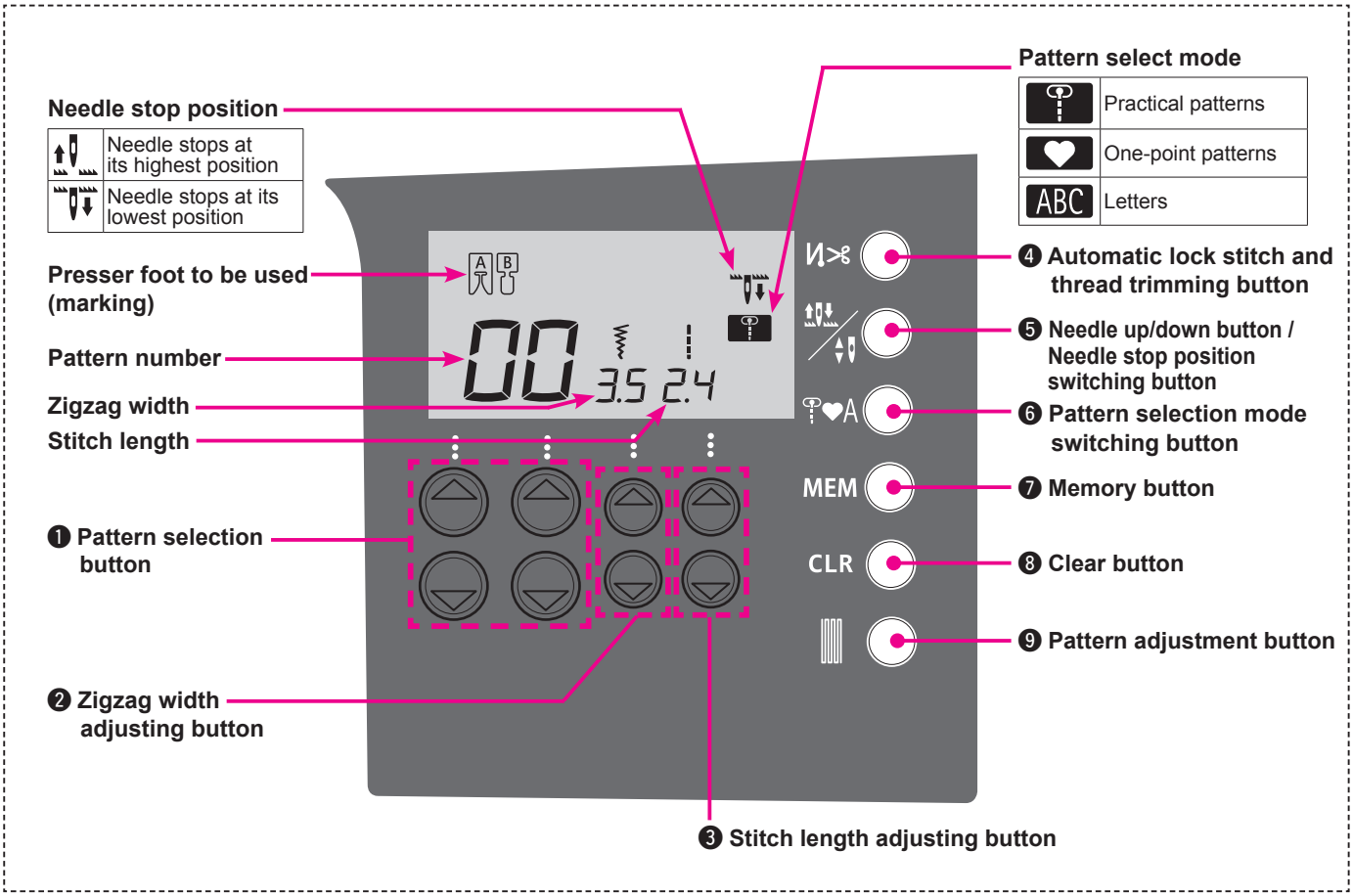
Insert the knee lifting lever so that concave and convex meet.

Push the lever to right-hand side to lift the presser foot.
The presser foot is lowered when the lever goes back to the original position.

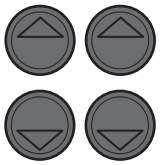
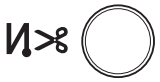
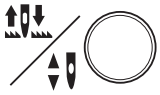
* Do not touch the knee lifting lever while sewing.
It may cause a deformation of a stitch pattern.

# Name and function of other operational buttons

## ■ Operational buttons and screen



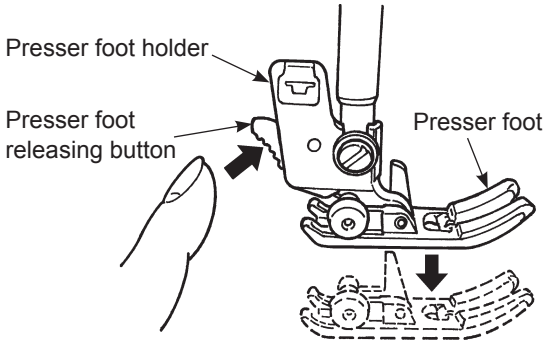
## ■ Name and function of operational buttons

| | | | |
|---|---|---|---|
| ❶ |  | **Pattern selection button** | This is used to choose the pattern.<br>Left side for number of tens.<br>Right side for number of units. |
| ❷ |  | **Zigzag width adjustment buttons** | This is used to change the zigzag width and the needle position. |
| ❸ |  | **Stitch length adjustment buttons** | This is used to change the stitch length. |
| ❹ |  | **Automatic lock stitch and thread trimming button** | When it is pressed, symbol “  “ will be shown on the screen.<br>The machine will automatically lock stitches at sewing-start and sewing-end and then trim both threads. |
| ❺ |  | **Needle up/down button / Needle stop position switching button** | While sewing machine stops sewing, press this button to change up/down position of the needle instantly. When the needle is in up position and press it, then needle moves down and when the needle is in down position and press it, then needle moves up.<br>When the button is pressed continuously, it is programmable and you can choose the needle stop position either up or down.<br>When it is pressed, either symbol “  ” or “  ” will be shown on the screen.<br>When sewing with symbol “  ”, the needle stops at its highest position.<br>When sewing with the symbol “  ”, the needle stops at its lowest position. |
| ❻ |  | **Pattern selection mode switching button** | This is used to change the pattern selection mode.<br>Practical patterns  / One point patterns (Decorative patterns)  /<br>Letters  |
| ❼ |  | **Memory button** | This is used to store the selected letters or one point patterns into memory. |
| ❽ |  | **Clear button** | This is used to delete the selected stitch pattern. When the button is pressed just one time, the selected pattern will be deleted and when it is pressed continuously, all the saved stitch patterns will be deleted. |
| ❾ |  | **Pattern adjustment button** | This is used to adjust the shape of patterns.<br>(Refer to page 41) |

# Changing the presser foot

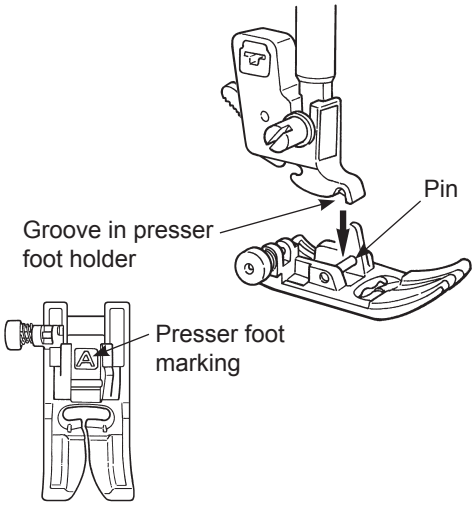
## ■ Removing and installing the presser foot

| Attention | Turn OFF the power switch before replacing the presser foot. |
|---|---|




★ **Removing presser foot**

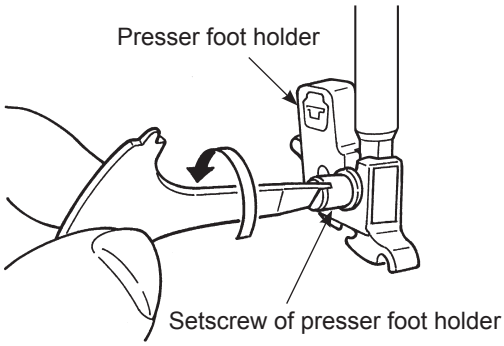
1. Raise the needle and presser foot.
2. Press the presser foot releasing button to remove the presser foot.




★ **Installing presser foot**

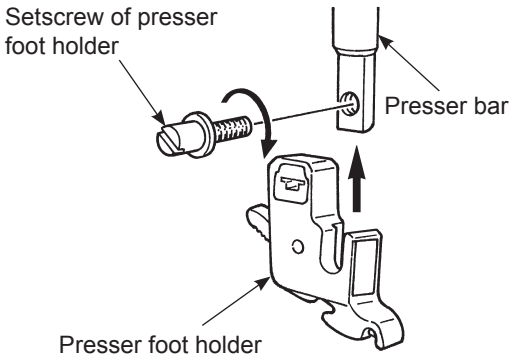
Align the pin of the presser foot and the groove in the presser foot holder.
Then lower the presser foot holder with the presser foot lifting lever.
* Each presser foot has a marking. Use the appropriate presser foot for the stitch pattern to be sewn.

## ■ Removing and installing presser foot holder




★ **Removing presser foot holder**

1. Lift the needle and presser foot lifting lever.
2. Loosen the setscrew of the presser foot holder to the left and remove the presser foot holder.

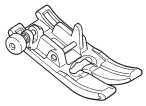
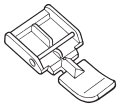
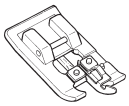
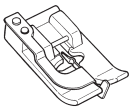
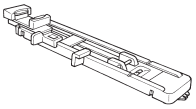



★ **Installing presser foot holder**

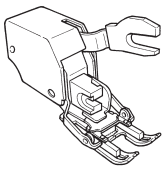
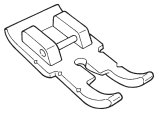
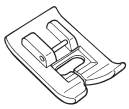
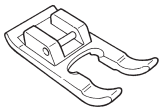
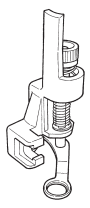
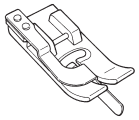
Align the screw hole at the presser bar with the hole of presser foot holder (long groove). Tighten the setscrew firmly by turning it to the right side.

## ■ The type and application of the presser foot

Marking of presser foot ↓

| | | | |
|---|---|---|---|
|  | **Standard presser foot** | **A** | This is used mainly for straight stitch and zigzag stitches. Use this presser foot especially when sewing heavy-weight materials. |
|  | **Zipper presser foot** | **B** | This is used to attach zippers. |
|  | **Overcasting presser foot** | **C** | This presser foot is used exclusively for overcasting to prevent the cut edge of fabrics from fraying. |
|  | **Blind stitch presser foot** | **D** | This presser foot is used for blind stitch on hems of trousers and skirts, or sleeves. |
|  | **Buttonhole presser foot** | **E** | This presser foot is used for automatic buttonholing. |
|  | **Manual buttonhole presser foot** | **I** | This is used for sewing decorative stitches, letters and bartacks. |

## ★ Optional presser feet

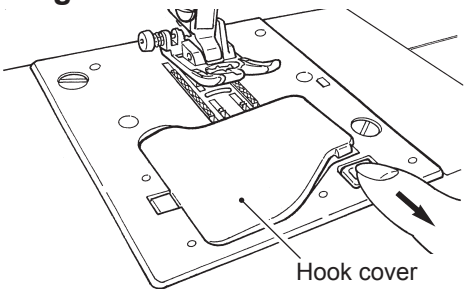
| | | | |
|---|---|---|---|
|  | **Walking foot** | **N** | In general, this presser foot is used for difficult-to-feed” materials such as knits, jersies, vinyl, artificial leather and leather or quilting. |
|  | **Patchwork presser foot** | **P** | This presser foot is used for patchwork stitches. There are two seam lines, 1/4-inch and 1/8-inch from center needle position. |
|  | **Smooth presser foot** | **T** | This presser foot is used for non-slippery materials like vinyl and satin stitches. |
|  | **Open toe presser foot** | **O** | This is used for the applique and decorative stitches.<br>(Front part of the presser foot is open for better visibility.) |
|  | **Quilt presser foot** | **Q** | This is used for the quilt stitch.<br>(Machine setting: Straight Stitch and Center needle position) |
|  | **Edge Sewing presser foot** | **R** | This is used for patchwork, sewing center line of joined materials by using the center guide of the presser foot.<br>* Fine tune the needle position by zigzag width adjustment dial. |

# Bobbin thread preparation

| Attention | Turn OFF the power switch before the bobbin is taking out and/or put into the bobbin case. |
|---|---|

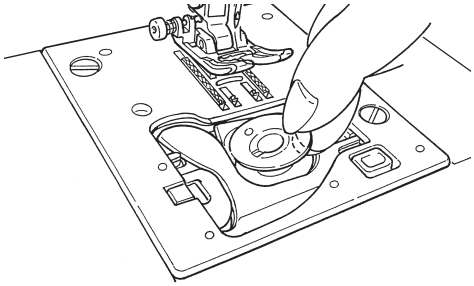
## ■ Taking out the bobbin

1




● **Open the hook cover.**

2

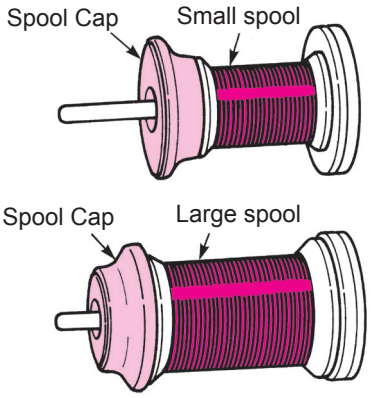


● **Take out the bobbin.**

* If the bobbin has too little thread, do not use it as the thread will get tangled.

* Use only the designated bobbin. Other bobbins may cause malfunction.

## ■ Setting thread spool

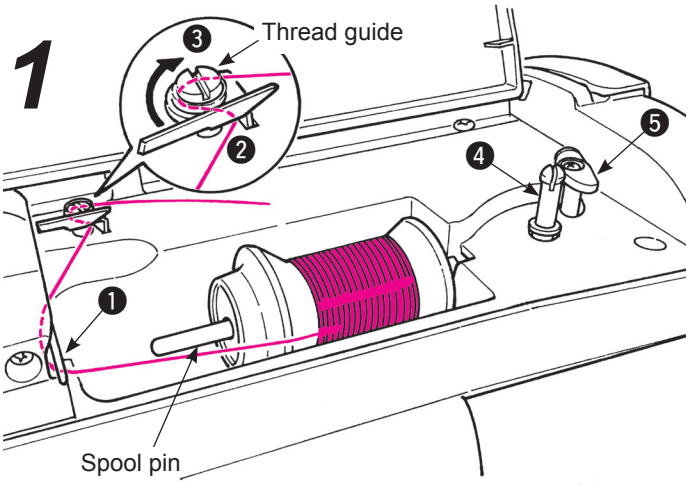



● **Place a thread spool to spool pin and a spool cap onto the spool pin.**

*** Do not use the thread cone with a small amount of thread. This may cause thread tangling and/or the thread coming out of the eye of the needle when starting to sew.**

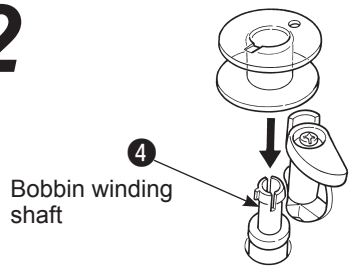
## ■ Winding the bobbin thread

1



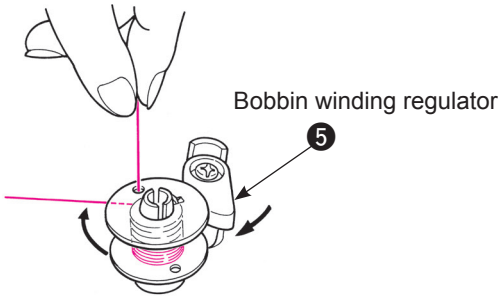

● **Thread the guide ❶, then thread the thread guides ❷ and ❸ (guides in the circle) for bobbin winding.**

2



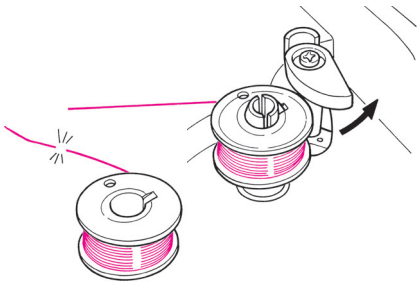

● **Set the bobbin on the bobbin winding shaft ❹.**

3




● **Press the bobbin winding regulator ❺ towards the bobbin. Start/stop button now becomes orange. When start/stop button is pressed, machine starts to wind the bobbin thread.**

4

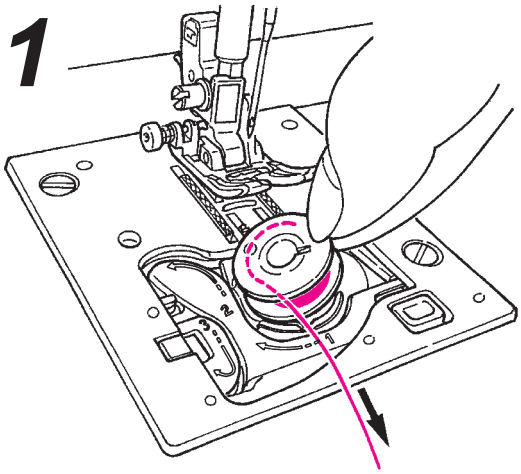


● **When winding is finished, the shaft stops automatically, the bobbin winding regulator moves to right and return to the original position. Remove the bobbin from the bobbin winding shaft and cut the thread.**

*** Bobbin winding will automatically stop even while winding, when the winding speed is reduced due to a load to the bobbin winding motor caused by thread tangling.**

## ■ Setting the bobbin

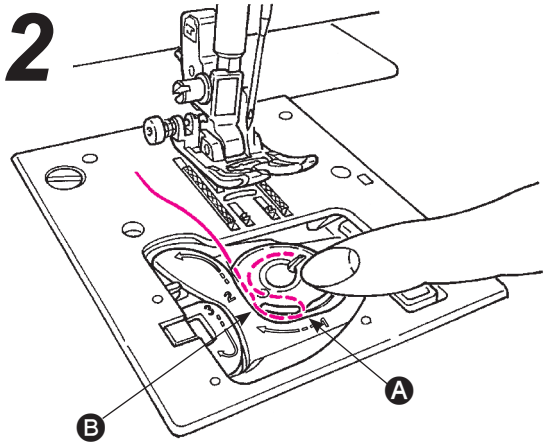
**1**



● **Put the bobbin in the bobbin case.**

* **Place the bobbin so that thread winds counterclockwise.**

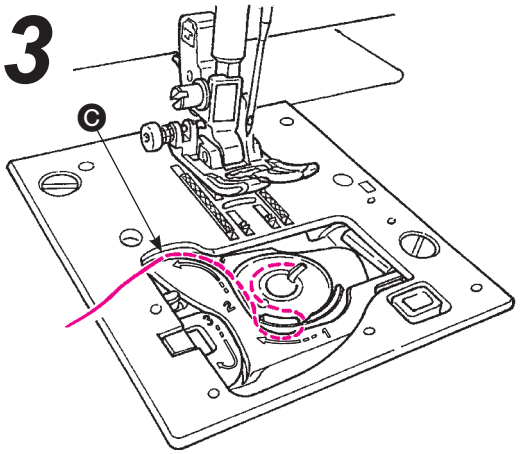
**2**




● **Thread groove Ⓐ and Ⓑ by pulling the thread end.**

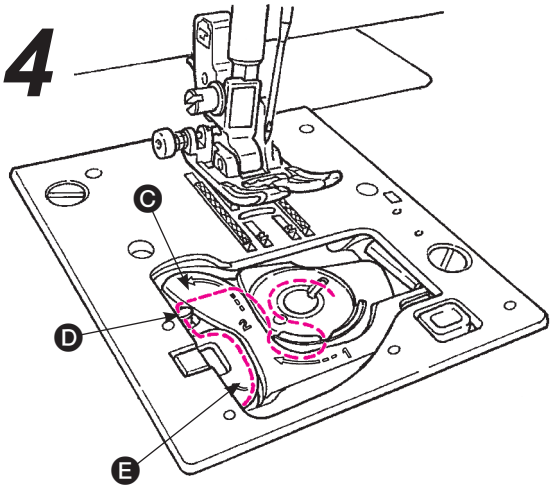
* **It will be easier to thread grooves when you press the bobbin lightly with your finger.**

**3**




● **Thread guide Ⓒ by pulling the thread to left side.**

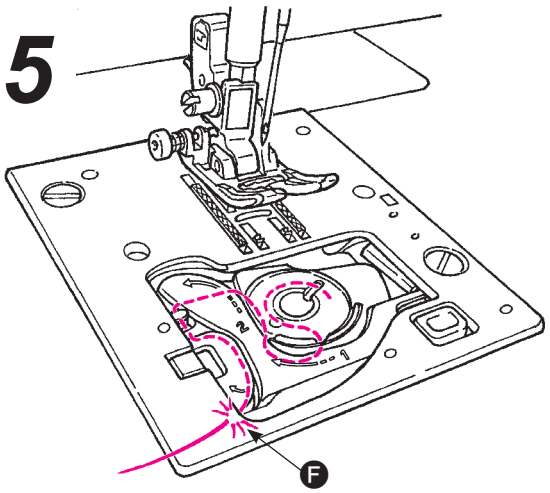
**4**




● **Thread to guide Ⓓ and Ⓔ leave the thread underneath. (Thread guide Ⓔ first and it will thread to guide Ⓓ as well.)**

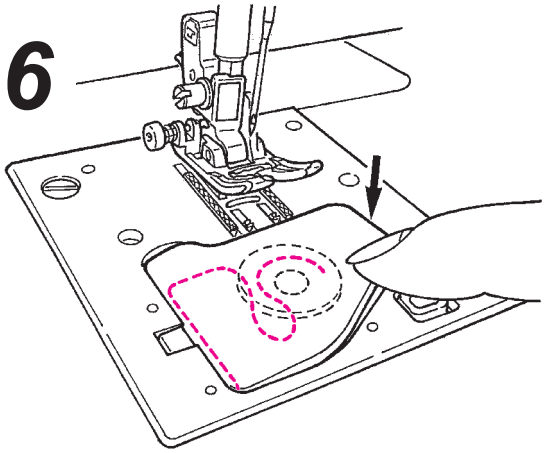
* **When pulling bobbin thread, bobbin rotates counterclockwise. If bobbin rotates clockwise, put the bobbin upside down.**

**5**




● **Cut the thread with the built-in cutter Ⓕ.**

**6**



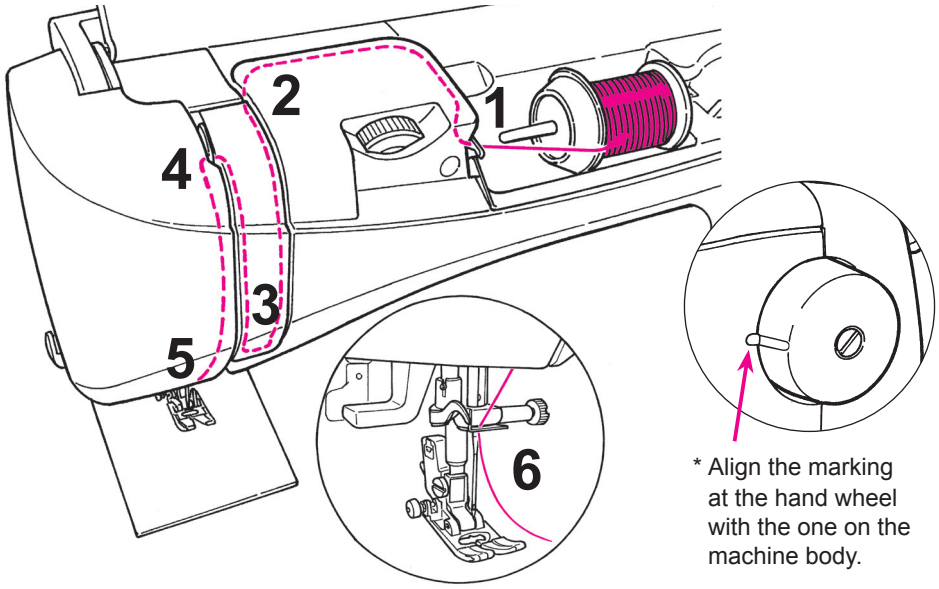
● **Close the hook cover.**

**You can start to sew in this condition (without pulling up the bobbin thread), however, if you want to sew with the bobbin thread pulled out, refer to "Pulling up the bobbin thread" in the page 17.**

# Needle thread preparation

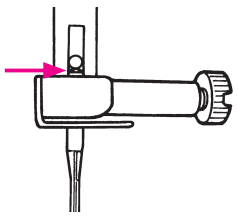
| Warning | Turn OFF the power switch before winding the bobbin thread. |
|---|---|

## ■ Threading the needle thread




* Align the marking at the hand wheel with the one on the machine body.

**Note** :
Make sure to push the needle to the top.

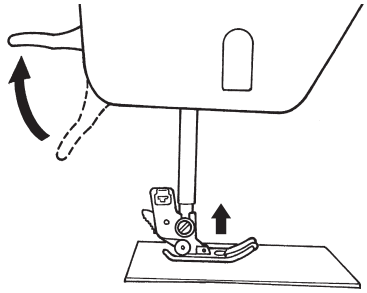


It is impossible to perform stitching if the needle is not correctly installed or a bent needle is used. Pay close attention as this will cause machine malfunction.

*** Use the needle: No.11-16 and the thread: No.30-90.**
*** When twin needle is used, the automatic needle threader can not be used.**

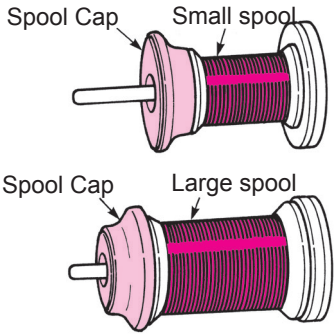
---

①



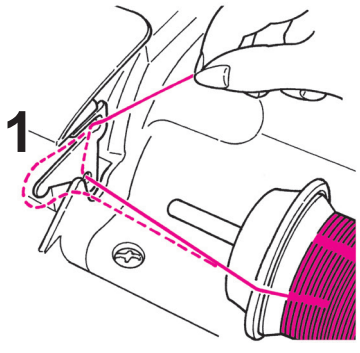
● **Lift the presser foot lifting lever.**

②

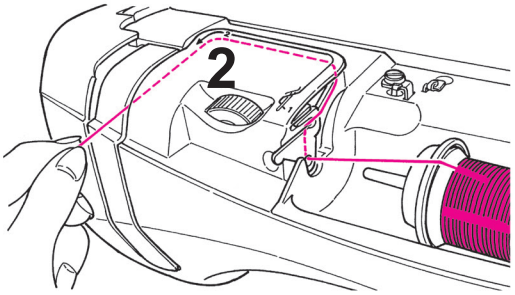



● **Place a thread spool to the spool pin and a spool cap onto the spool pin.**

③

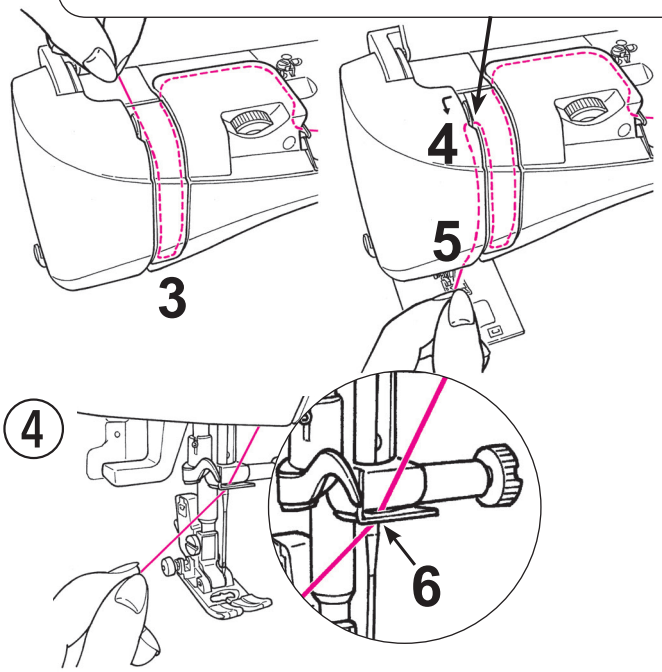



● **Thread to guide 1.**



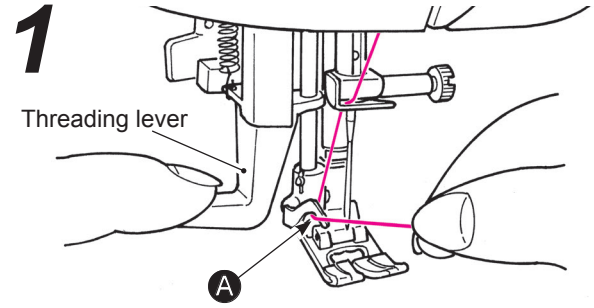

● **Hold the thread end and thread according to the arrow marking.**
*** Make sure that the presser foot is raised. Otherwise the machine is not correctly threaded.**

*** Check that the thread take-up is correctly threaded.**

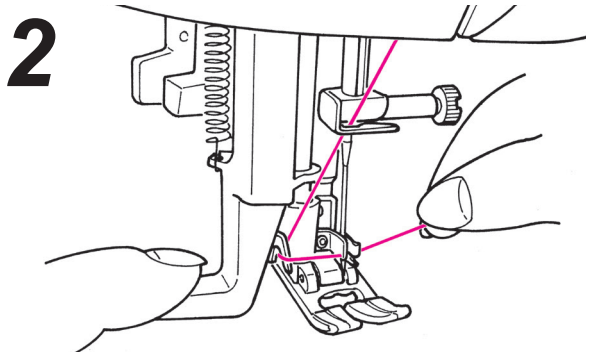



● **Thread the guide 6 from the right-hand side.**

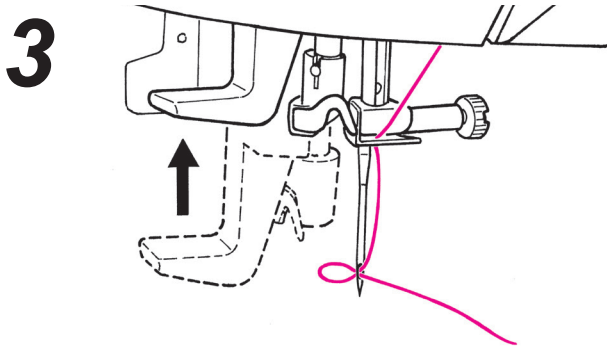
## ■ Automatic needle threader



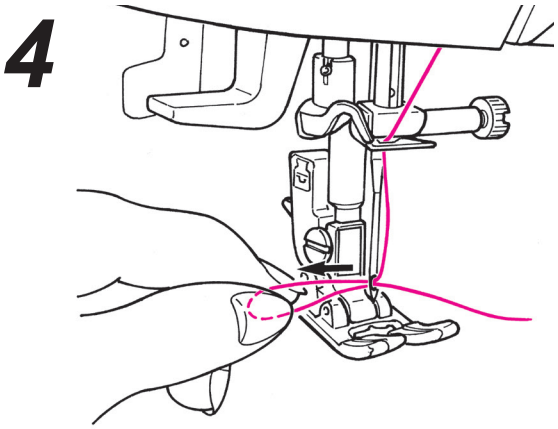

- **Lower the presser foot.**
- **Raise the needle. Then, lower the needle threader halfway (until it becomes heavy) and thread the thread to Ⓐ.**




- **Lower the needle threader fully. Then, thread the thread between the guides completely. (Needle threader will catch the thread through needle eye.)**



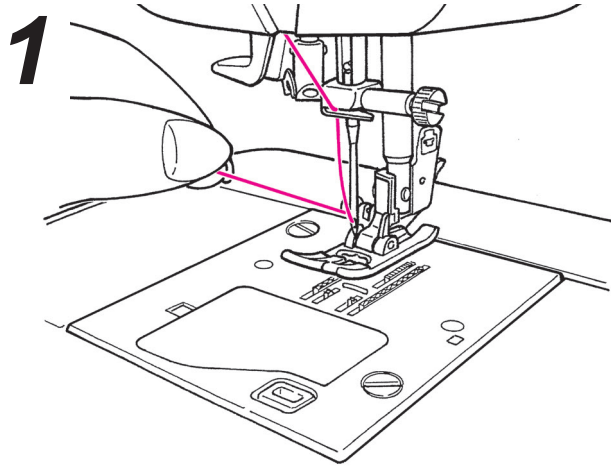

- **Release the threading lever and the needle thread is threaded to the needle eye.**



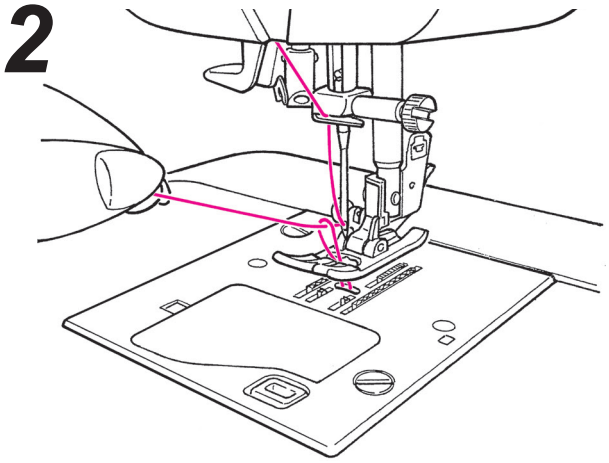

- **Pull the thread backward.**
  Pull out the thread from the needle eye by approx. 10 cm or 4 inches long.

## ■ Pulling up the bobbin thread

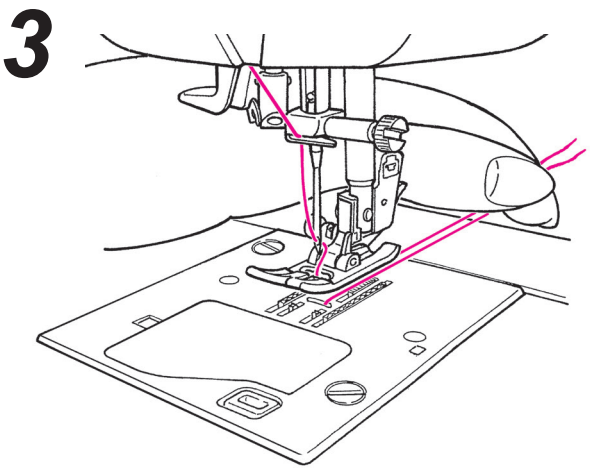
**Basic operation:**
You can start to sew without pulling up the bobbin thread, however, if you want to sew with the bobbin thread pulled out, follow the directions below.




- **Lift the presser foot and lightly hold the end of the needle thread.**




- **Turn the hand wheel towards you to move the needle up and down. Loop of bobbin thread will be pulled out when you will pull the needle thread lightly.**

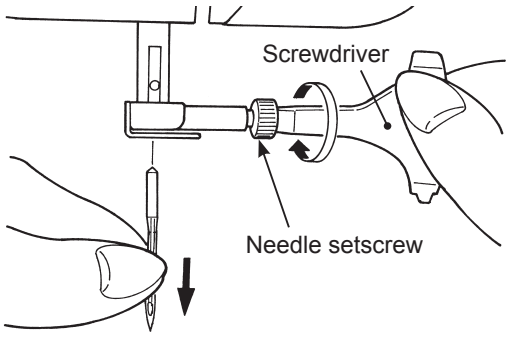



- **Pull out both needle and bobbin threads by approx. 10 cm (4 inches) long and pass them under the presser foot towards the back of the machine.**

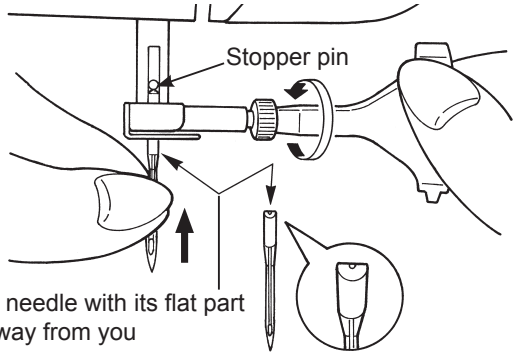
# Attaching the needle

| Warning | Turn OFF the power switch before changing the needle. |
|---|---|

**1**




**2**




## ● Removing needle

1. Turn the hand wheel towards you until the needle comes to the highest position and lower the presser foot.
2. Turn the needle setscrew towards you 1-2 times and remove the needle.

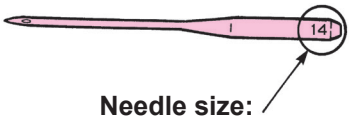
## ● Attaching the needle

**(The needle cannot be inserted unless it is correctly positioned.)**

Hold the needle with its flat part facing away from you, and insert it fully until it touches the stopper pin. Securely tighten the needle setscrew.

## ■ Needles to be purchased

When purchasing spare needles, specify HA X 1 (130/705H) or HA X 1 SP (needle for knits).

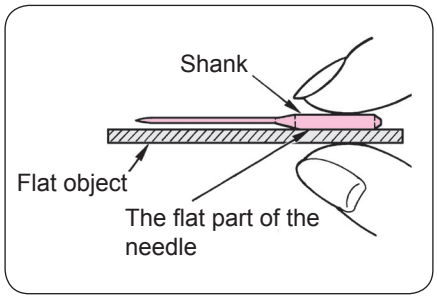



**Needle size:**
The larger the number, the thicker the needle.

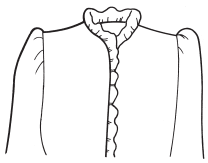
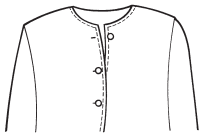
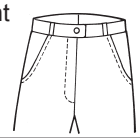
## ■ Checking the needle

Check the needle for its straightness occasionally. Any bent needle would cause skipped stitches, thread breakage or damage to materials.

**Attention: The machine will not sew if the needle is not inserted correctly and/or a bent needle is used. It will cause damage to the machine.**

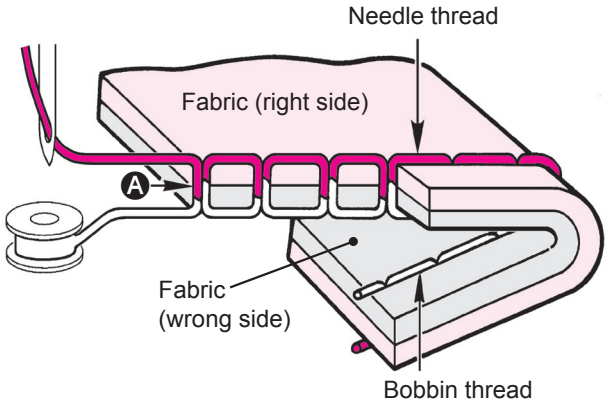



# Fabric, thread and needle table

| | Fabric | Thread | Needle HA×1 |
|---|---|---|---|
| Light-weight materials  | Lawn | Silk thread ..... No.80,90<br>Spun thread ..... No.80,90 | No.11 |
| | Georgette | | |
| | Tricot | Spun thread ..... No.60-90 | Knit needle No.11 |
| | Wool and synthetic fabrics | Silk thread ..... No.80<br>Spun thread ..... No.60−90 | No.11-14 |
| Medium-weight materials  | Cotton and synthetic fabrics | Spun thread ..... No.50, 60 | No.11-14 |
| | Light jersey | Silk thread ..... No.50<br>Spun thread ..... No.50, 60 | Knit needle No.11 |
| | Ordinary wool and synthetic fabrics | Silk thread ..... No.50<br>Spun thread ..... No.50, 60 | No.11-14 |
| Heavy-weight materials  | Denim | Spun thread ..... No.30-50 | No.14-16 |
| | Jersey | Silk thread ..... No.50<br>Spun thread ..... No.50, 60 | Knit needle No.11-14 |
| | Coat | Silk thread ..... No.50 | No.11-14 |

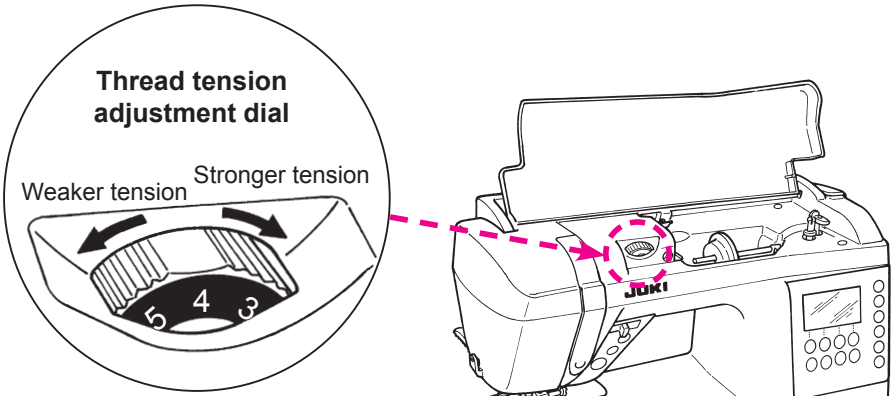
* In general, the same thread is used for both needle and bobbin threads.
* Thin thread and needle will be used for light-weight fabrics and thick thread and needle will be used for heavy-weight materials.
* Check that the combination of needle and thread is OK by trial sewing on the material which will be sewn.
* Knit needle is good for stretchy fabrics (such as knits) and synthetic fabrics.
* Use thread No. 30 - 90.
* When it is difficult to go over an overlapped section, guide the fabric by hand.
* When sewing decorative stitches or letters (Page 21), use knit needle for better finish.

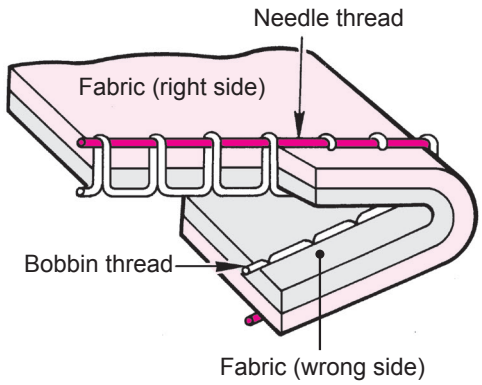
# How to adjust thread tension




## ■ Well-balanced thread tension

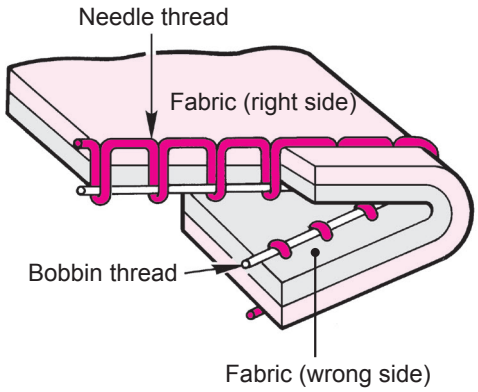
Straight stitch: Needle and bobbin threads interlace with each other at the middle of the fabric thickness. ( Ⓐ )
Zigzag stitch: Needle thread is pulled a little bit to the wrong sideof the fabric.
If the machine is set to “4”, it is suitable for most fabrics. However, adjustment may be necessary according to fabrics and sewing applications.
If the tension is not correctly set, it will cause imbalanced stitch formation, puckering, and/or thread breakage.




## ■ When the needle thread is too strong:

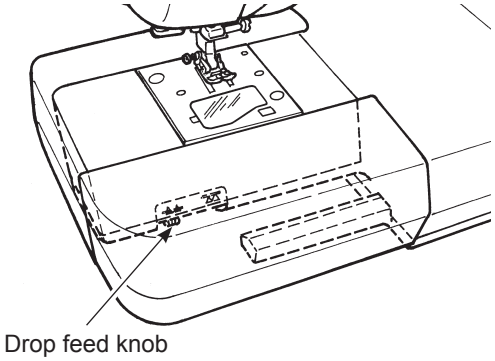
The bobbin thread will be pulled to the front side of the fabric. Turn the thread tension adjustment dial to choose smaller number.




## ■ When the needle thread is too low:

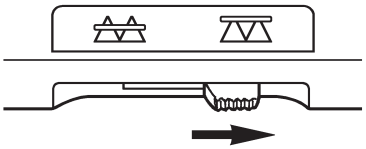
The needle thread will be pulled to the wrong side of fabric. Turn the thread tension adjustment dial to choose larger number.
In case a correct tension setting is not obtained, check thread paths for both needle and bobbin threads.

# How to lower the feed dog

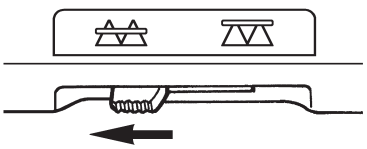



- Move the drop feed knob to the right-hand side, in case the feed dog is in the down position for free motion quilting, button sewing, etc.
  * Move the drop feed knob to the left-hand side after sewing.
  The feed dog will be engaged automatically when the machine starts to sew.

**★ When lowering the feed dog**



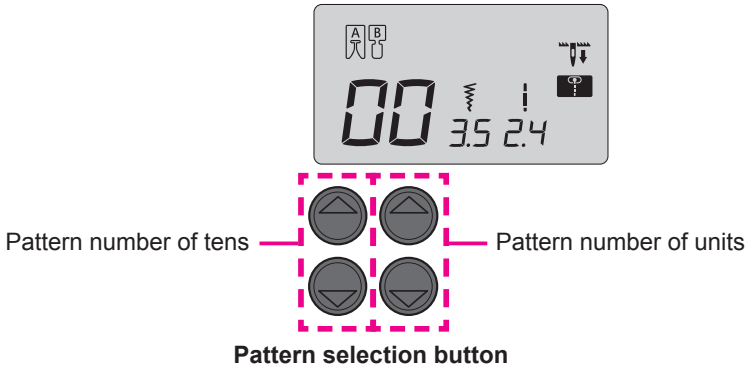
**★ When lifting the feed dog**



# How to select a stitch pattern

☆ There are 180 types of stitch patterns.
☆ When turning on the machine, the straight stitch of the center needle position is chosen automatically.
☆ There are 3 methods to select stitch pattern.

On the LCD screen you will see the selected stitch pattern No. and the marking of the presser foot to be used.




## ① Practical patterns

Choose by pattern selection mode switching button .
Then choose desired stitch pattern No. by pattern selection button.

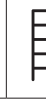
| Pattern No. | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|---|---|---|---|---|---|---|---|---|---|---|
| Pattern | | | | | | | | | | |
| Application | Center needle position / Straight stitch | Left needle position / Straight stitch | Straight stitch for elastic | Zigzag stitch | Three point zig zag | Applique | Over casting stitch | Blind stitch | Straight reinforced stitch | Buttonhole |
| Refer to page | 22 | 26 | 26 | 27 | 27 | 40 | 27 | 28 | 26 | 30 |

| Pattern No. | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pattern | | | | | | | | | | | | | |
| Application | Center needle position / Lock stitch (stay stitches) | Left needle position / Zigzag stitch | Right needle position / Zigzag stitch | Two point zig zag | Overcasting stitch | Overcasting stitch Used for lightweight material | Overcasting stitch Used for flexible material | Ornamental pattern | Blind stitch Used for lightweight material | Shell tuck | Bar tack | Eyelet | Darning |
| Refer to page | 26 | 26 | | - | 27 | 27 | - | - | 28 | - | 34 | - | - |

• **Buttonhole patterns**

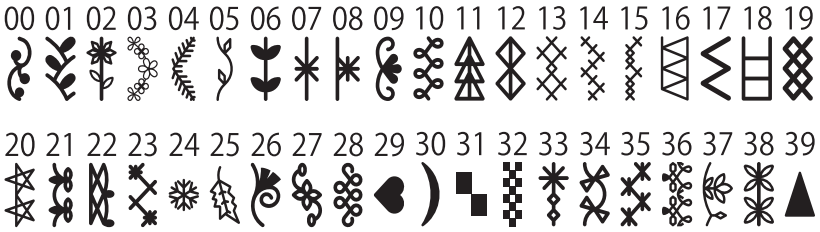
| Pattern No. | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
|---|---|---|---|---|---|---|---|
| Pattern |  |  |  |  |  |  |  |
| Application | Rounded end | Keyhole buttonholes | Rounded end | For knit | | Decorative | |
| Refer to page | 30 | | | | | | |

• **Quilt patterns**

| Pattern No. | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|
| Pattern |  |  |  |  |  |  |  |  |  |  |
| Application | Quilt patterns | | | | | | | | | |
| Refer to page | 39 | | | | | | | | | |

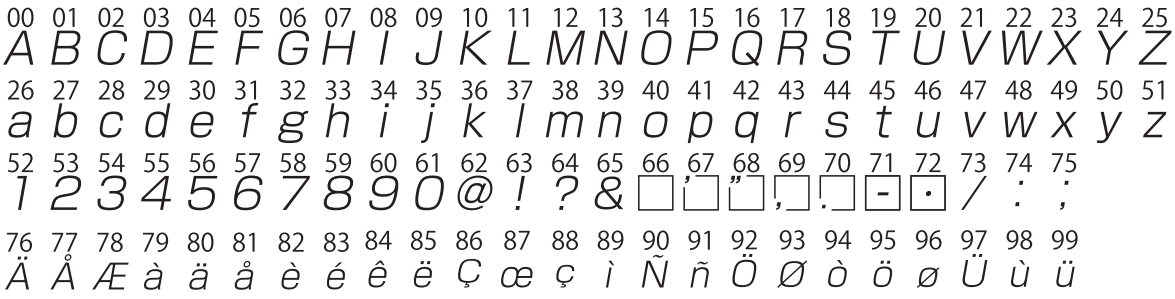
## ② Decorative stitches and one point pattern

Choose by pattern selection mode switching button . Then choose desired stitch pattern No. by pattern selection button.

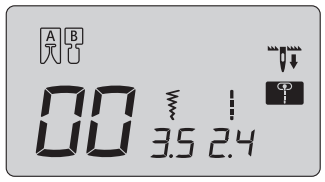
| Pattern |  |
|---|---|
| Refer to page | 41~43 |

## ③ Letters ABC

Choose ABC by pattern selection mode switching button . Then choose desired stitch pattern No. by pattern selection button.

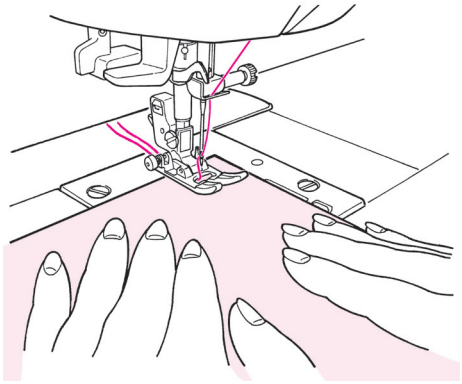
| Pattern |  |
|---|---|
| Refer to page | 41~43 |

# Straight stitch



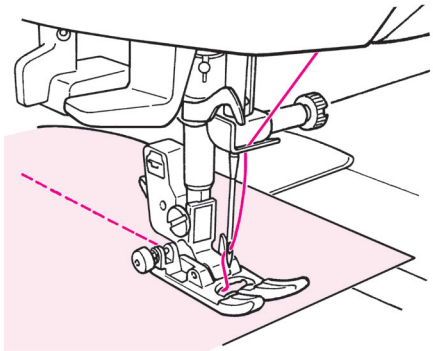

| | |
|---|---|
| **Pattern No.** | **Practical 00** |
| **Presser foot** | **Standard presser foot (A)** |
| **Thread tension** | **Auto** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |



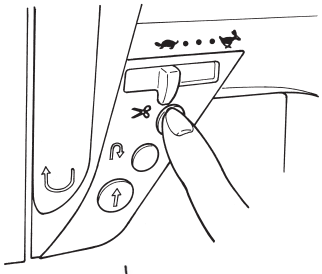
## ■ Sewing start

Pull the needle and bobbin threads under the presser foot to the rear of the machine and lower the presser foot to start sewing.

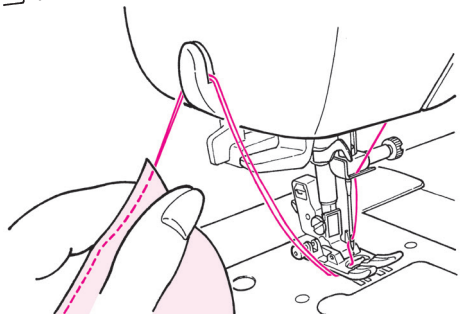


## ■ Sewing end

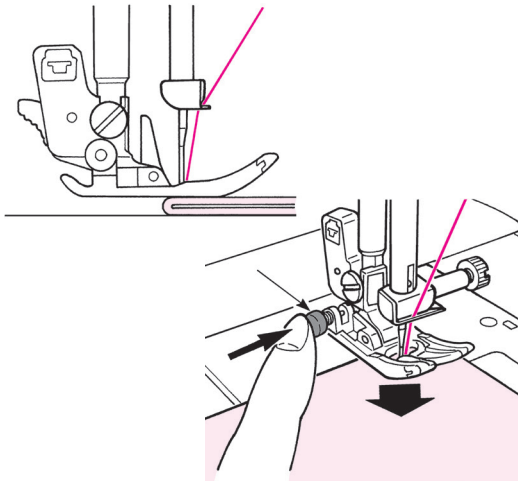
Stop sewing and push the thread trimming button to trim the threads.



<by thread trimming button>
Push the thread trimming button to trim the threads.



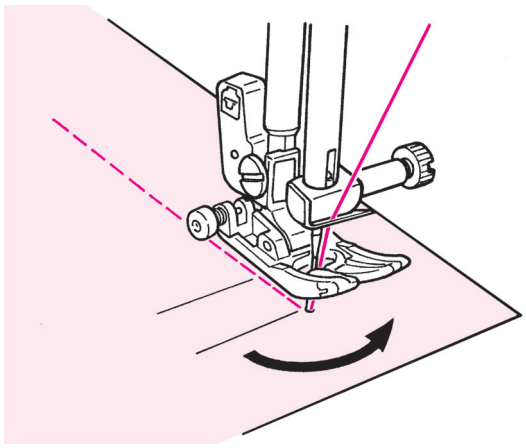
<by thread cutter at the face plate cover>
You can also cut the threads by the thread cutter at the face plate cover.



## ■ When sewing the edge of thick fabrics

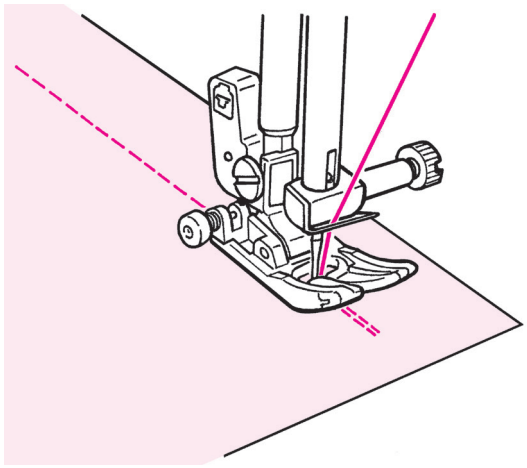
Turn the hand wheel and let the needle enter at the position of sewing start.

Push the black button by finger and lower the presser foot. Release the finger from the black button and start sewing. When the presser foot will be on the fabric completely, the black button will be disengaged automatically.



## ■ When changing the sewing direction

Stop sewing in front of the predetermined position and then continue to sew, stitch by stitch, by using needle up/down button until the target point. Leave the needle inside the fabrics and raise the presser foot. With the needle inside the fabrics change the sewing direction, lower the presser foot and then start sewing.



## ■ Lock stitch after sewing-end

<When start/stop button is used>

After the sewing is finished, push the reverse stitch button. While it is pressed, the machine will sew reverse and when it is released, the machine will stop sewing reverse.

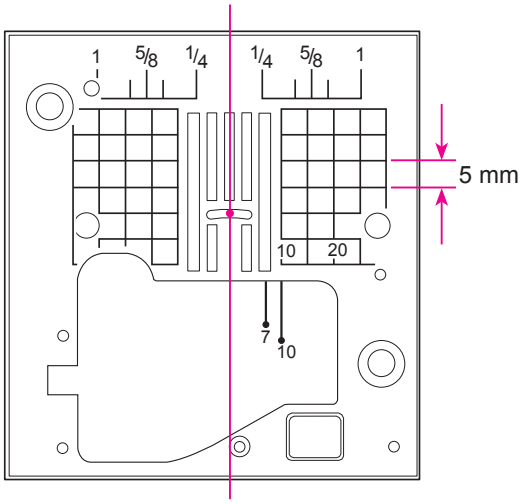
* When reverse stitching, the sewing speed is slow.

<When foot controller is used>

The machine will sew reverse at almost the same speed as the normal sewing.

When the reverse stitch button is released, the machine sews straight.

On center needle position basis

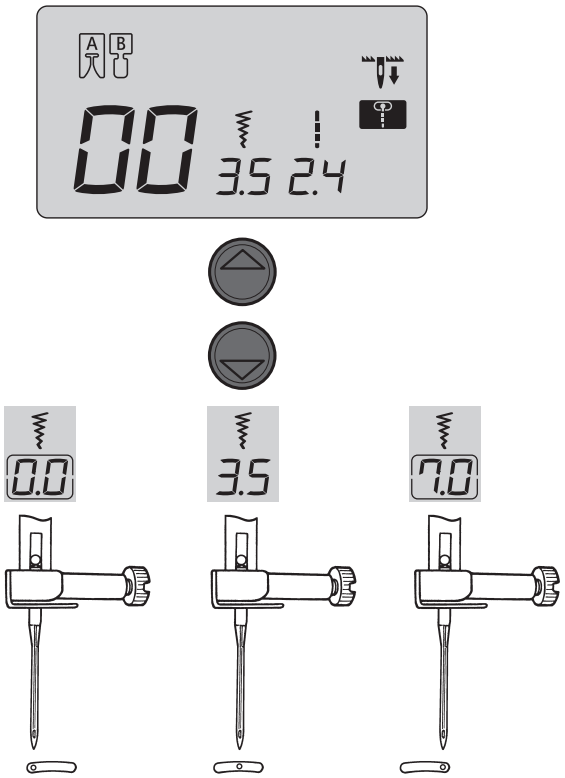



## ★ Seam guide line on the throat plate

Align the fabric edge with a seam guide line and sew.

* Numbers on the guide line show the distance in mm and inches between the center needle position and the guide line.
  Numbers, 7, 10 and 20 are millimeter.
  Numbers, 1/ 4, 5/ 8 and 1 are inches.

## ★ How to change needle positions / How to change the stitch length

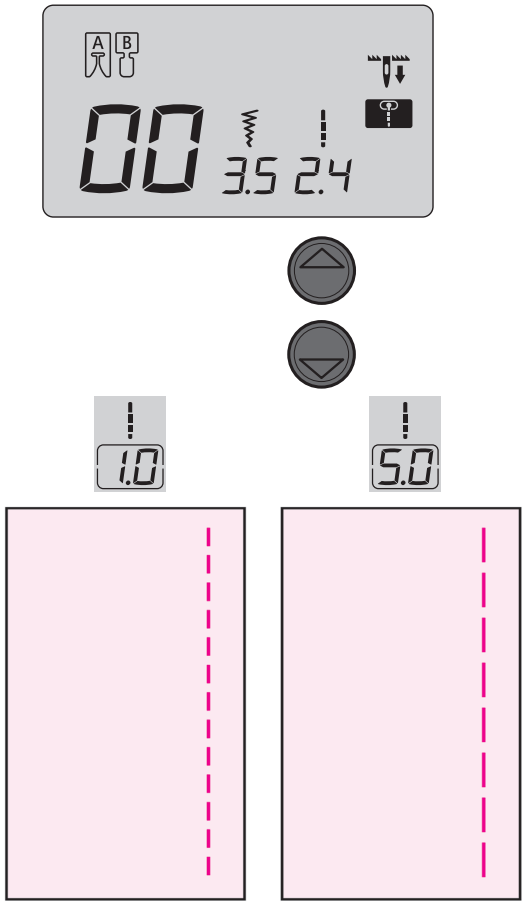



### ■ When changing the needle position of straight stitch

It is possible to change the needle position with the zigzag width adjusting button.

Pushing " ", the needle moves to the left.

Pushing " ", the needle moves to the right.




### ■ When changing the stitch length

It is possible to change the stitch length with the stitch length adjusting button.

Pushing " ", the displayed value becomes smaller and the stitch length becomes smaller accordingly.

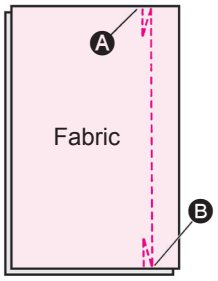
Pushing " ", the displayed value becomes larger and the stitch length becomes larger.

## ★ Automatic lock stitch and thread trimming

After selecting a stitch pattern, push И>⁸ ◯ one time.
The machine will sew a few reverse stitches (lock stitches), trim both needle and bobbin threads and stop.
Symbol on screen: И>⁸

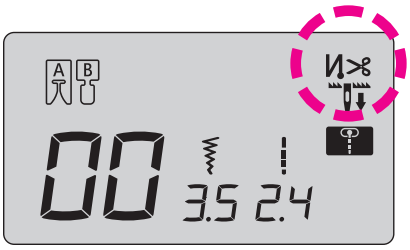
When И>⁸ ◯ is pushed once again, this function will be cancelled.

Example: straight stitch



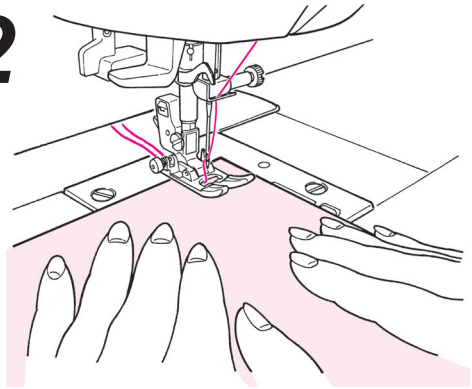

**1**

И>⁸ ◯



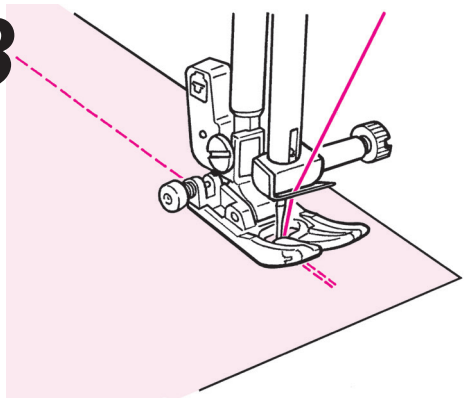

● **After selecting a pattern, you can press И>⁸ ◯ to display И>⁸ on the screen.**

**2**



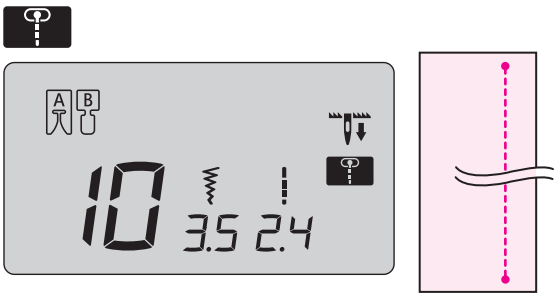
● **Place the fabric in the sewing start position and begin sewing.** Ⓐ
The machine sews a few back stitches and continue.

**3**



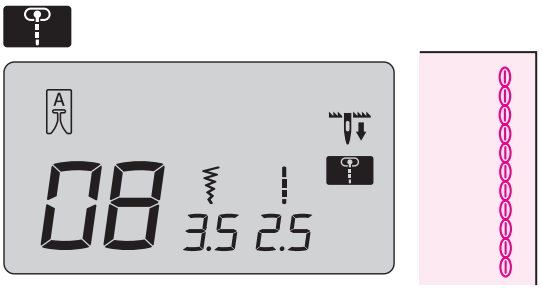
● **Press the reverse stitch button.** Ⓑ
The machine sews reverse stitches, stop sewing and trim both needle and bobbin threads automatically.

## ★ Other straight stitch patterns



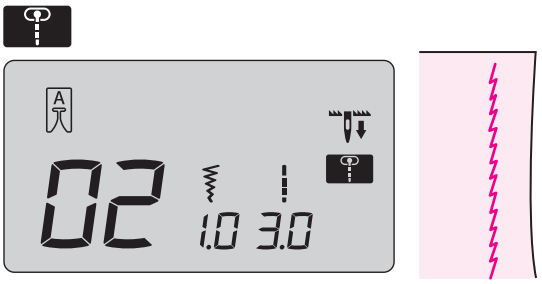

### ■ Lock stitch (stay stitches)

At the sewing-end, push the reverse stitch button.
The machine will sew several stay stitches and stop.




### ■ Reinforced stretch stitch

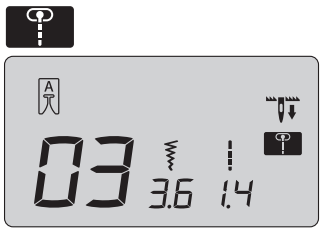
The reinforcing stretch stitch helps reinforce seams when used for sewing of elastic fabric or the force-exerted part of fabric that is likely to fray.




### ■ Straight stitch for elastic fabric

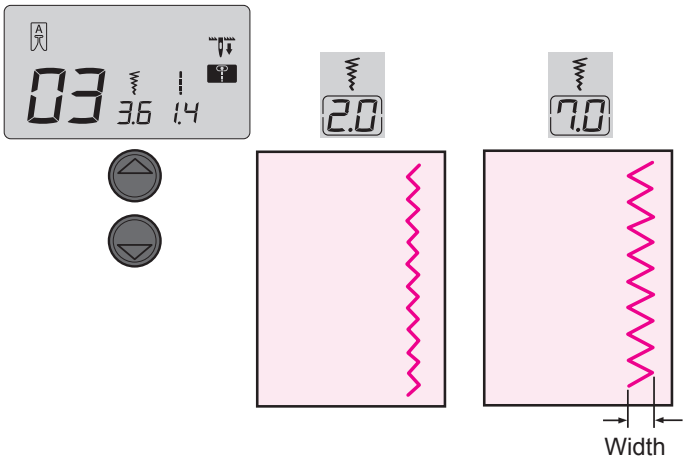
Finished seams are elastic. This stitch system can be used for producing straight stitches on elastic fabrics such as knits and jersey.

## Zigzag stitch




| | |
|---|---|
| **Pattern No.** | **Practical 03** |
| **Presser foot** | **Standard presser foot (A)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

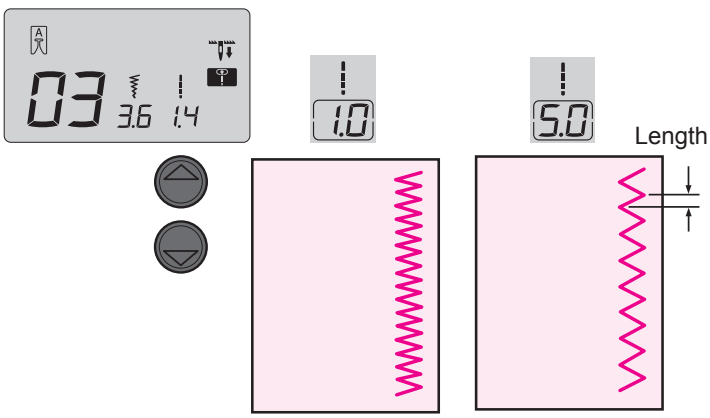



### ■ When changing the zigzag width

The zigzag width can be adjusted while sewing.

Pushing " ▼ ", displayed value becomes smaller and the zigzag width becomes smaller accordingly.

Pushing " ▲ ", displayed value becomes larger and the zigzag width becomes larger accordingly.




### ■ When changing the stitch length

The stitch length can be adjusted while sewing.

Pushing " ▼ ", the displayed value becomes smaller and the stitch length becomes smaller accordingly.

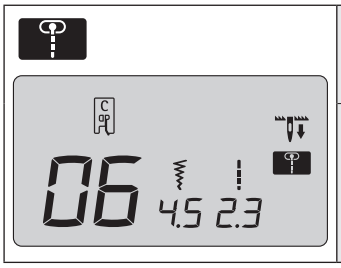
Pushing " ▲ ", the displayed value becomes larger and the stitch length becomes larger accordingly.

# Overcasting stitch

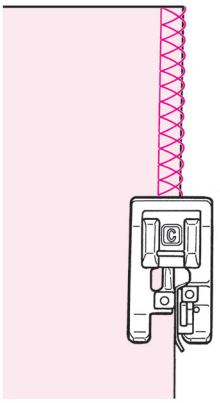
| Attention | Turn OFF the power switch before replacing the presser foot. |
|---|---|

This stitch is used to prevent the edge of fabric from fraying.

## ■ Overcasting stitch 1



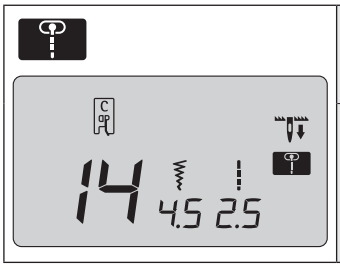

| Pattern No. | Practical 06 |
|---|---|
| Presser foot | Overcasting presser foot (C) |



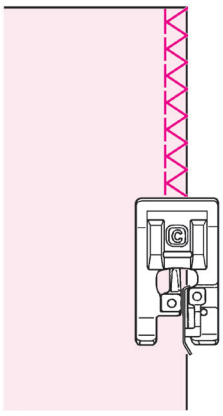
- Push the fabric towards the guide and sew. If the fabric and guide are apart, it will not make a nice stitch formation. Make sure to guide the fabric along the guide and sew slowly.

* Before sewing, make sure to check that the needle will not hit the presser foot.

## ■ Overcasting stitch 2



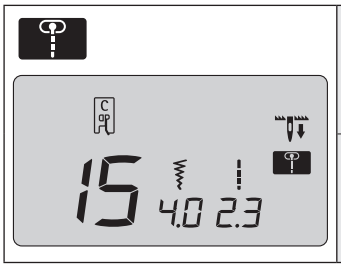

| Pattern No. | Practical 14 |
|---|---|
| Presser foot | Overcasting presser foot (C) |



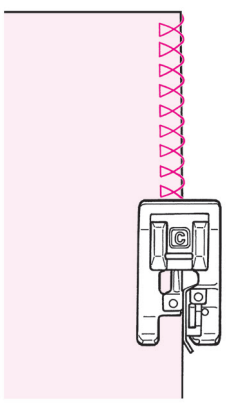
- This stitch is used for overcasting medium- to heavy-weight materials.
  Guide the fabric along the guide and sew.

* Before sewing, make sure to check that the needle will not hit the presser foot.

## ■ Overcasting stitch 3



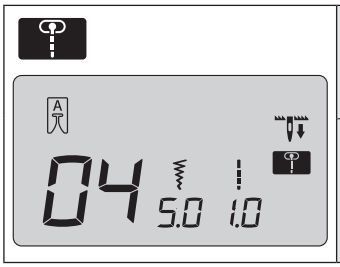

| Pattern No. | Practical 15 (Light-weight material) |
|---|---|
| Presser foot | Overcasting presser foot (C) |



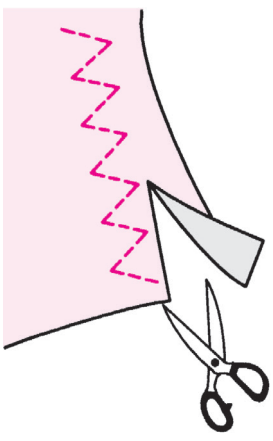
- This overcasting stitch is used for overcasting light-weight materials.
  Guide the fabric along the guide and sew.

* Before sewing, make sure to check that the needle will not hit the presser foot.

## ■ Overcasting by 3-point zigzag



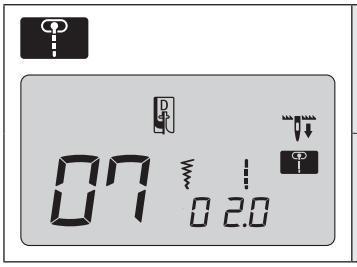

| Pattern No. | Practical 04 |
|---|---|
| Presser foot | Standard presser foot (A) |



*** Do not use overcasting presser foot (C).**

- This stitch is used to prevent the cut edge of fabric from fraying.
  Keep some seam allowance and cut the sewn fabric carefully so that stitches are not cut by the scissors.

# Blind stitch

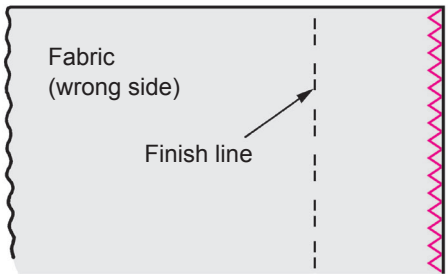



| | |
|---|---|
| **Pattern No.** | **Practical 07, 18 (Light-weight material)** |
| **Presser foot** | **Blind stitch presser foot (D)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

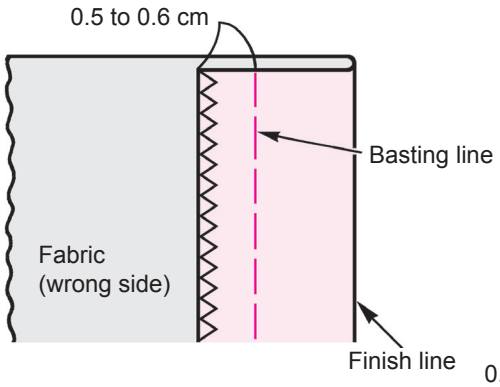
## ■ Folding fabrics

**1**



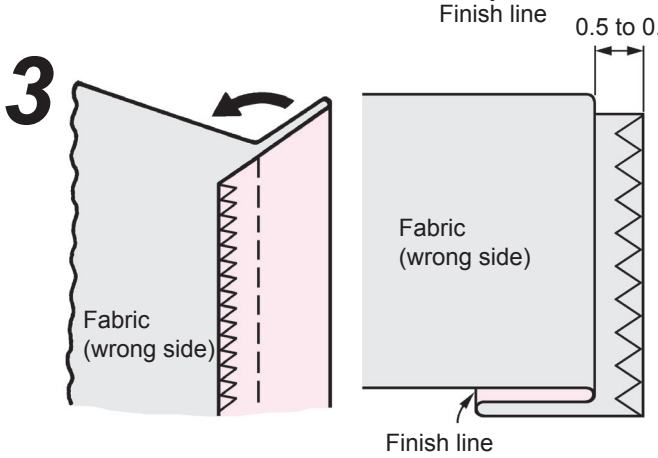

● **Sewing overcasting stitches on the edge of fabric.**
● Refer to page 27 for overcasting stitches.

**2**



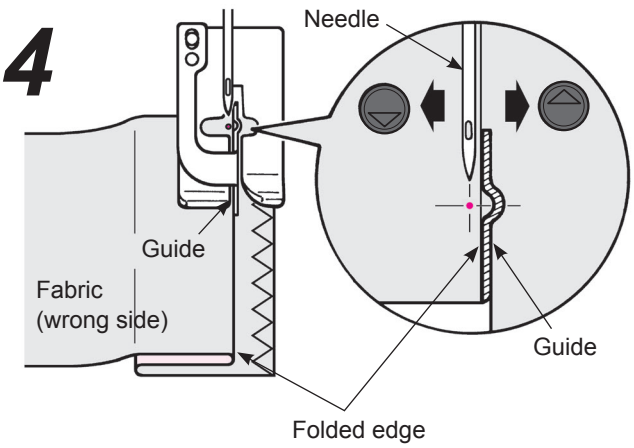

● **Basting.**

**3**




● **Fold from basting line.**
Leave 0.5 to 0.6 cm.

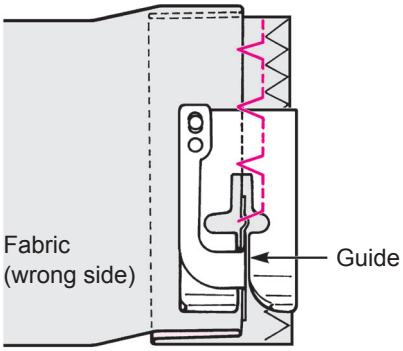
**4**




● **Align the guide of the presser foot with the folded edge.**
**Turn the hand wheel and adjust with the zigzag width adjusting dial so that stitches reach the folded edge.**

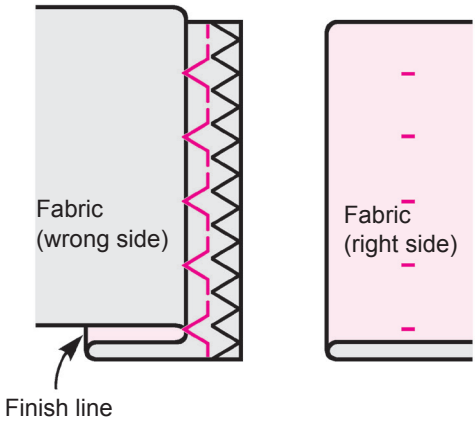
* **Pay attention so that needle will not hit the presser foot.**

**5**




● **Position the folded edge against the guide and sew.**

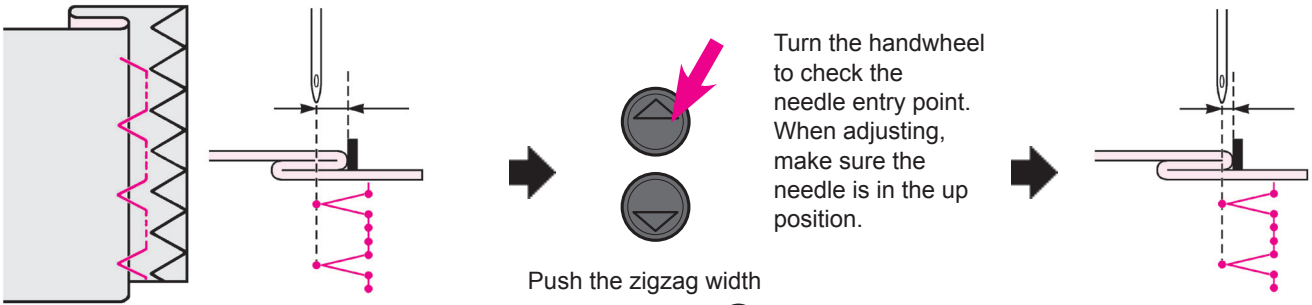
**6**



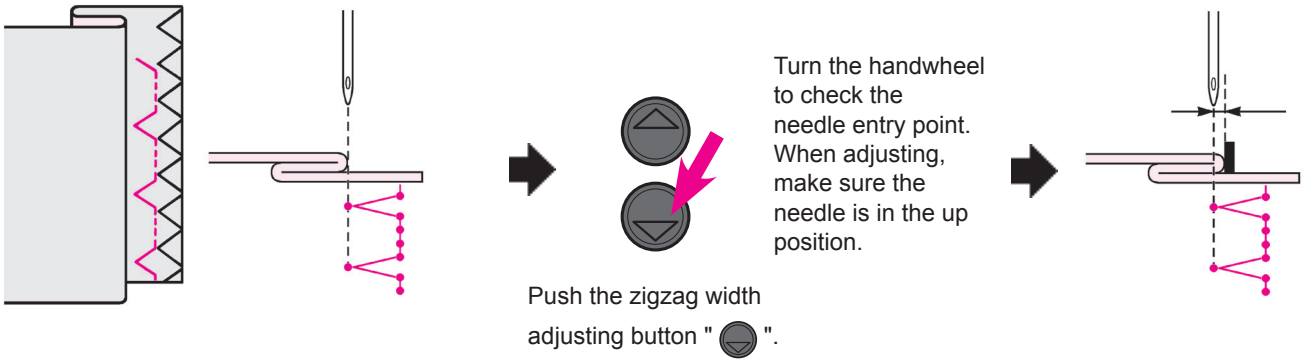

● **Turn over the fabric after sewing.**

## ■ When changing the needle entry point

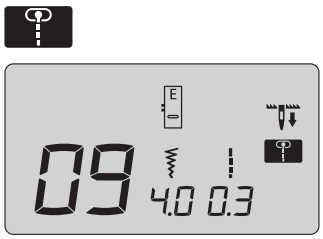
### 1. If the stitches reach too far beyond the folded edge




### 2. If the stitches fail to reach the folded edge



# Buttonhole stitches




| | |
|---|---|
| **Pattern No.** | **Practical 09, 23~29** |
| **Presser foot** | **Buttonhole presser foot (E)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

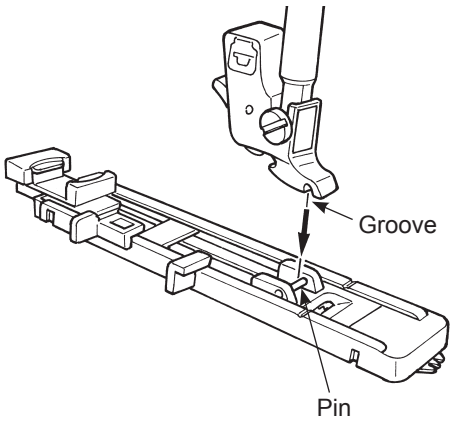
* The buttonhole length is automatically determined only by placing a button on the buttonhole presser foot.
* The machine can sew buttonholes for buttons with diameters of 0.7 - 2.6 cm.
* In case of stretchy fabrics, use non-elastic interlining on the wrong side of the fabric.
* Make sure to perform test sewing to see that the machine sews buttonholes correctly.
* Practical pattern No. 26, 27 are for knit fabrics and should be used with a knit needle.

## Buttonhole type

| | | | |
|---|---|---|---|
| **09** |  | Standard buttonhole | Buttonhole for medium to heavy weight materials<br>Standard buttonhole |
| **23** |  | Rounded end | Buttonholes for women's blouses and children's clothes.<br>Also for light weight materials |
| **25** |  | | |
| **24** |  | Keyhole | Keyhole buttonhole for heavy weight materials such as suits, jackets, coats, etc. |

| | | | |
|---|---|---|---|
| **26** |  | For knit | Buttonhole for light weight knit (also used as decorative buttonhole) |
| **27** |  | | Buttonhole for medium weight knit (also used as decorative buttonhole) |
| **28** |  | Decorative | Decorative buttonholes<br>Decorative buttonhole which look like hand-sewn |
| **29** |  | | |

**1**

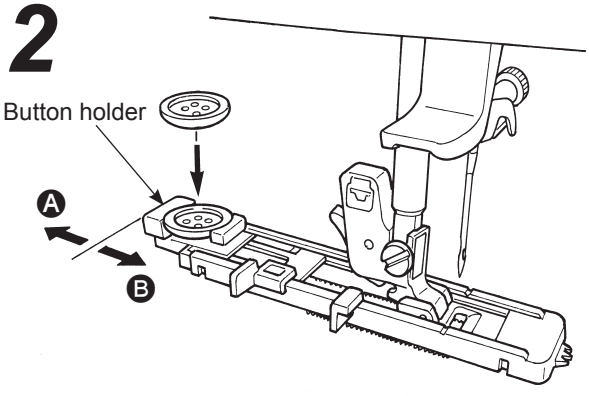



● **Set the presser foot.**

Push the needle up/down button to raise the needle and lift the presser foot.

Align the groove of the presser foot holder with the pin of the presser foot and lower the presser foot holder to set.

**2**

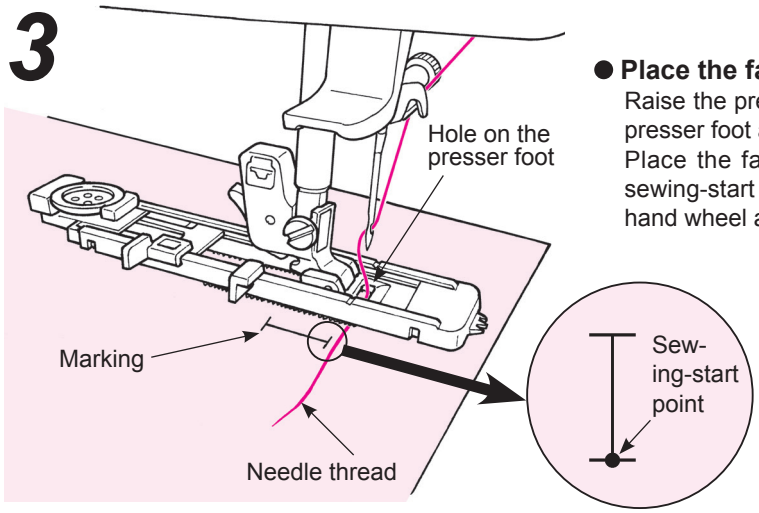



● **Set the button.**

Pull the button holder toward Ⓐ, place the button on the button holder, and then push the holder toward Ⓑ to set the buttonhole length.

*** It is impossible to set a button thicker than 4mm.**

## 3

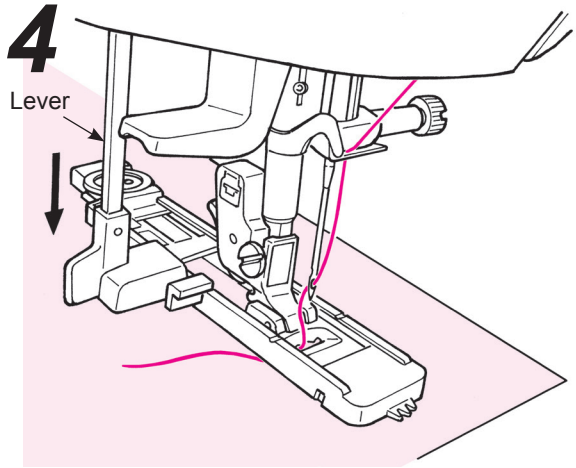



● **Place the fabric under the presser foot.**

Raise the presser foot, pass the needle thread through the hole on the presser foot and pull it out sideways.

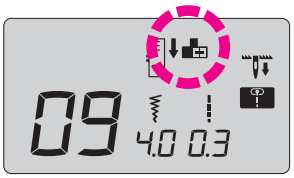
Place the fabric under the presser foot, align the marking with the sewing-start point. Penetrate the needle into the fabric by turning the hand wheel and lower the presser foot.

## 4



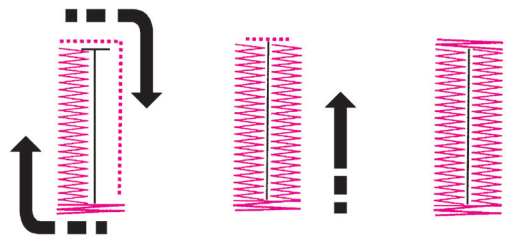

● **Lower the lever until it will go no further.**

**Lever should be backside of the projection of the presser foot.**




*** The icon on the screen will disappear when the lever is correctly set.**

## 5



Start from here

● **Start sewing.**

The machine will stop automatically after sewing the buttonhole.

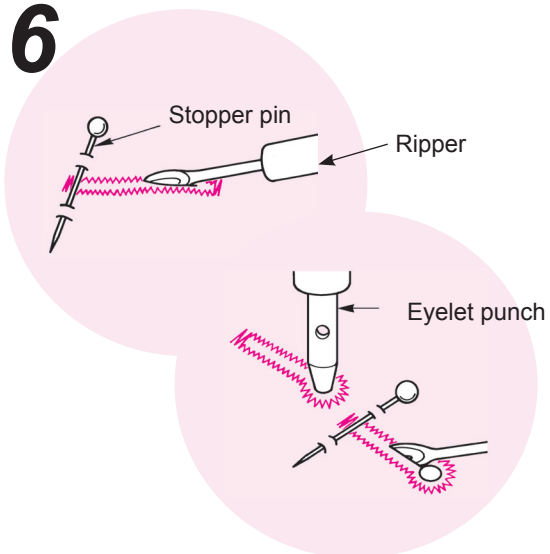
*** If a buttonhole of the same size will be sewn again, push the thread trimming button to trim the threads and raise the presser foot.**
**Under this condition move to another point, lower the presser foot and then start sewing.**

*** Do not change stitch length and/or zigzag width during buttonholing.**
**Otherwise this will cause imbalanced stitches.**

*** If thread trimming button is pushed while sewing buttonhole, the machine will stop and will not complete the buttonhole. It will start to sew from the beginning.**

* Depending on material to be sewn and weaving direction of the material, there might be a slight difference in zigzag widths between right and left lines of buttonholes. Test sewing is recommended.

## 6




● **Opening the buttonhole using a ripper.**

**[double bartack]**

Pierce a stopper pin at the bartack and open the buttonhole with a ripper.

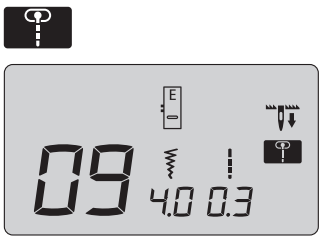
Be careful not to cut the stitches.

**[Keyhole buttonhole]**

Place a cardboard under the buttonhole and make a hole with the eyelet punch.

Then pierce a stopper pin at the bartack and open the buttonhole with a ripper.

## ■ Buttonhole with gimp

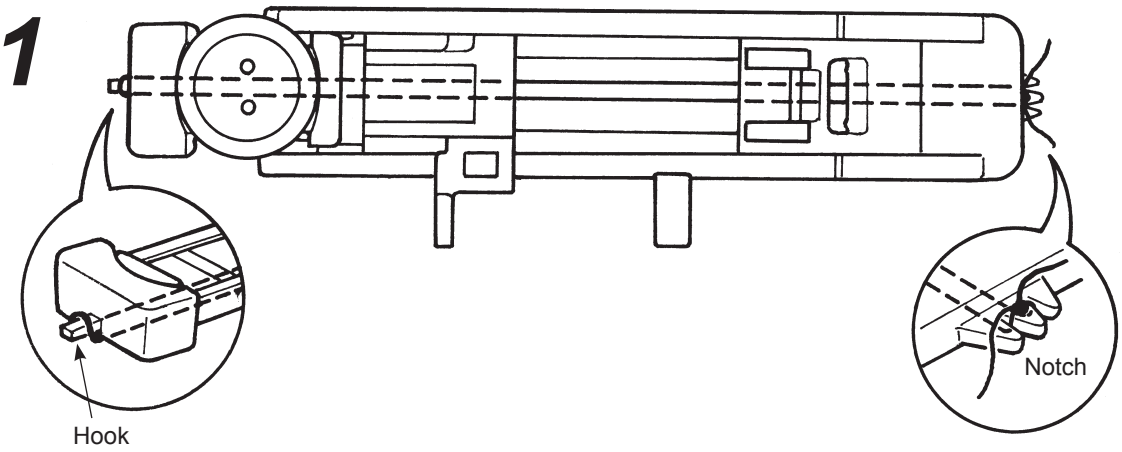



| | |
|---|---|
| **Pattern No.** | **Practical 09** |
| **Presser foot** | **Buttonhole presser foot (E)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

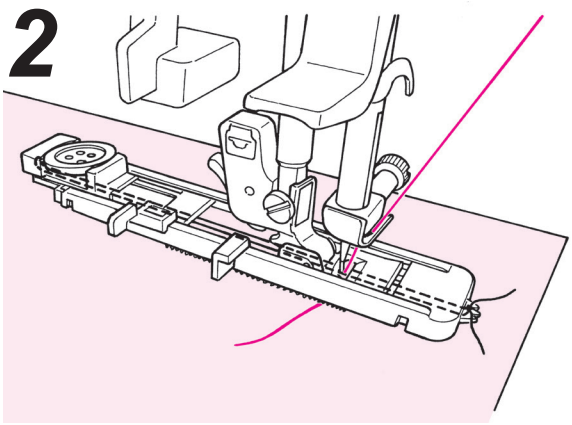
Buttonholes with gimp thread prevent the buttonholes from stretching and can make them more secure. Use thread such as hand-sewn buttonholes and similar for gimp thread.

**1**



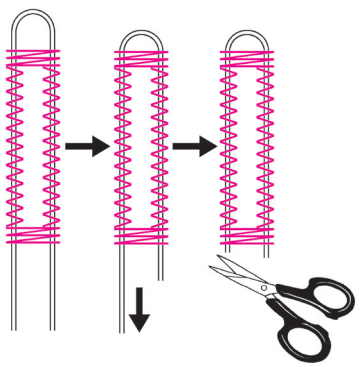

- Pass the needle thread through under the presser foot and then draw the thread to the side of the presser foot.
- Put one end of gimp thread into the notch at the front right side of buttonhole presser foot, pull the gimp thread under the presser foot and thread it at the hook of the presser foot.
- After threading at the hook, pull the gimp thread back under the presser foot and put it into the notch at the front left side of the presser foot firmly.

**2**



- Bring down the needle to the sewing start point and lower the presser foot.
- Sew the buttonhole.

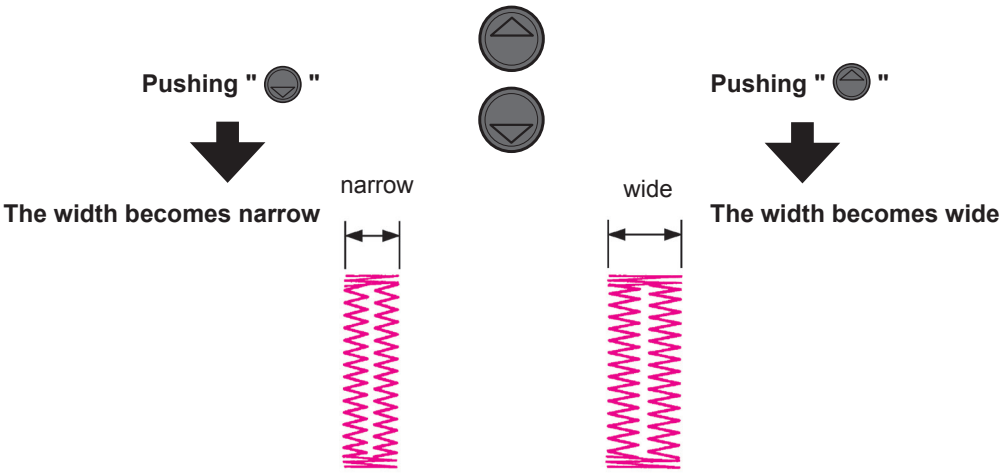
**3**



- Pull the left gimp thread to take off slack and cut excess gimp thread.

## ■ When changing the width of the buttonhole

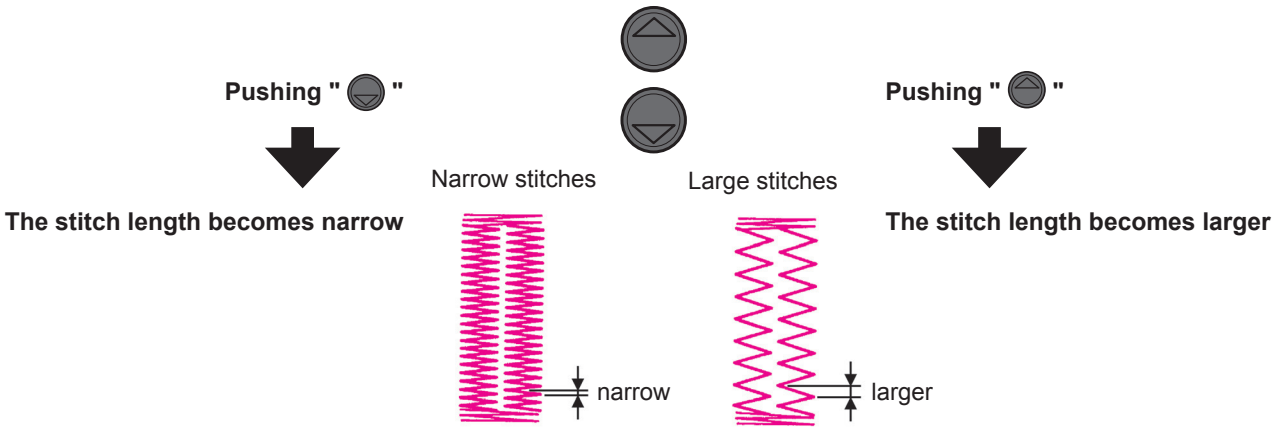
**Push the zigzag width adjusting button.**



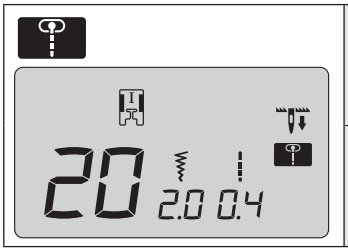

* The setting of the buttonhole width and stitch length will be cancelled when the power is shut down or another pattern is selected.

## ■ When changing the density of the seam

**Push the stitch length adjusting button.**



# Bartacking




| | |
|---|---|
| **Pattern No.** | **Practical 20** |
| **Presser foot** | **Manual buttonhole presser foot (I)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

Bartacking is used to reinforce the part of the seam that is likely to ravel.

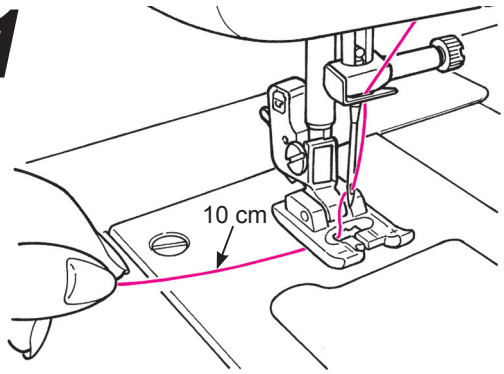
* The length of the bartack is determined by pushing the reverse stitch button, but it will automatically make a u-turn when it reaches the maximum of 20 stitches.
* If the presser foot cannot be parallel to throat plate, use filler fabric or cardboard.

**■ Example of use**



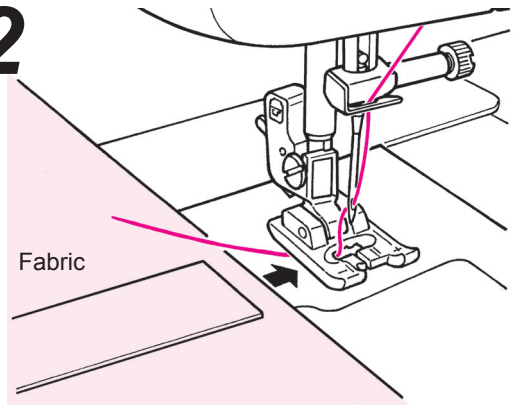
Trousers and skirt　Bag　Pocket

**1**



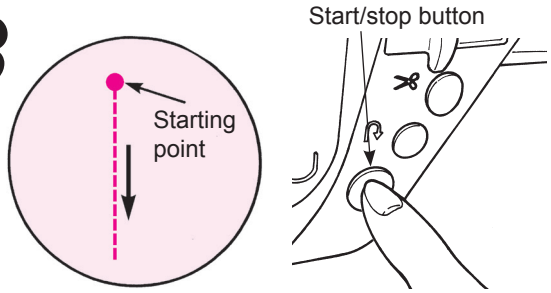

● **Pass the needle thread through the presser foot.**

**2**



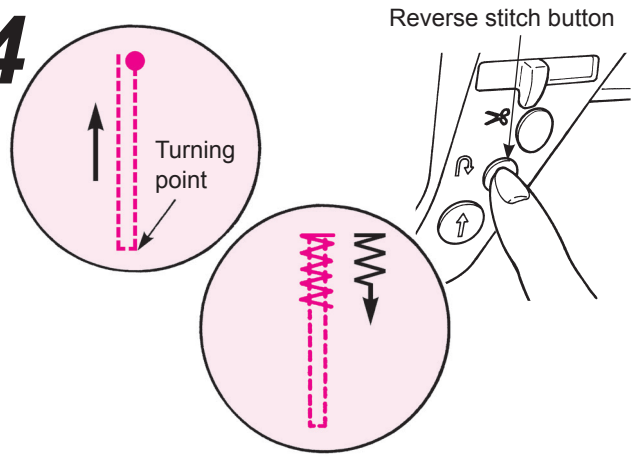

● **Place the fabric under the presser foot.**

**3**



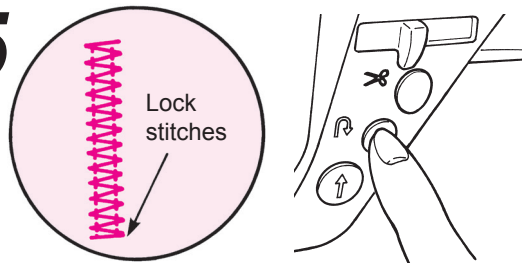

● **Start sewing.**
Push the start/stop button and the machine starts to sew straight stitches.

**4**




● **When it comes to the turning point push the reverse stitch button.**
The machine goes back to the starting point by sewing straight stitches and then it sews zigzag stitches to the point where the reverse stitch button is pushed.

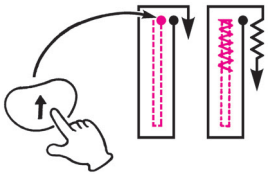
**5**




● **When the machine comes to the sewing end point, push the reverse stitch button.**
The machine sews lock stitches and stops.

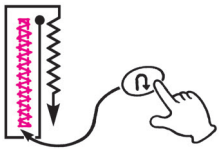
**To sew a bartack of the same length again… when the length of the first bartack has been memorized,**

● When the start/stop button is pushed, the machine starts to sew and makes a u-turn automatically at the same point as the first bartack.

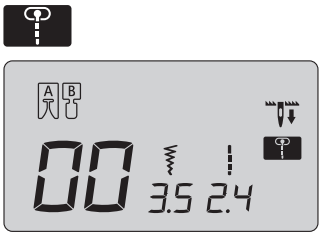


* If you want to change the memorized length of the bar tack, please select stitch pattern again.

● When it comes to the sewing end point, push the reverse stitch button.



# Inserting zippers



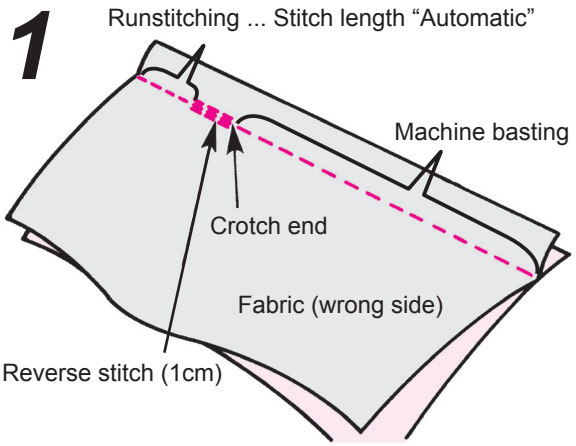

| | |
|---|---|
| **Pattern No.** | **Practical 00** |
| **Presser foot** | **Zipper presser foot (B)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

Zippers are set in two different ways: by inserting into the side seam of the garment and by centering in position.
*** Make sure to use center needle position (Stitch pattern No. Practical 00).**

## ■ Preparation before attaching zipper

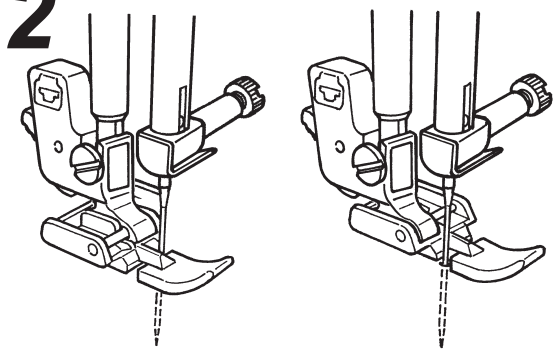
**1**




● **Use the standard presser foot (A) to sew.**
Place the fabrics face-to-face. Check the runstitching length and the length of the zipper to be inserted. Machine baste the zipper onto the fabrics.

**Machine basting = zipper opening length + 1 cm**

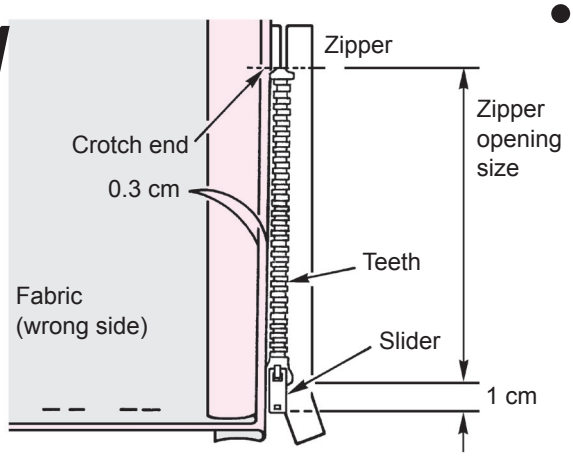
**2**




● **Attach the zipper presser foot (B) to the machine.**
When sewing the left side of the zipper, place the zipper under the right portion of the zipper presser foot. When sewing the right side of the zipper, place the zipper under the left portion of the foot.

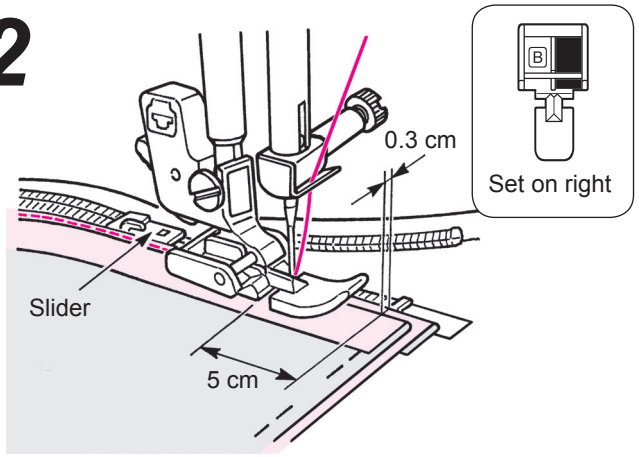
## ■ Lapped insertion

**1**



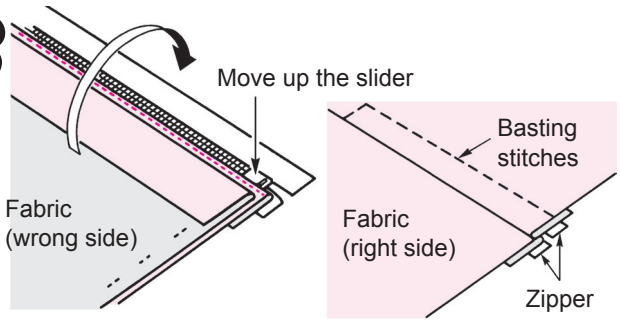

● **Open the seam allowance.**
Neatly open the seam allowance. Adjust the back seam allowance so that it projects 3 mm from the seam. Press with an iron to make a crease. Fit the crease along the edge of the teeth.

**2**



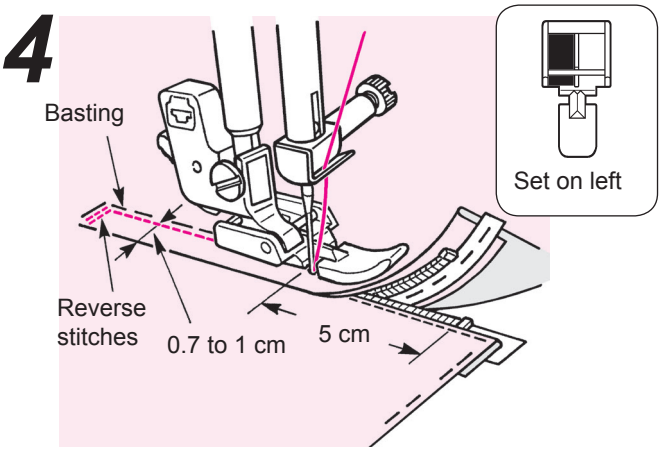

● **Sew the zipper tape on the seam allowance from bottom to top.**
Fitting the edge of the zipper presser foot along the edge of the zipper teeth, sew the zipper tape on the seam allowance. At the slider part of the zipper, stop the machine at 5 cm (2 inches) before the slider. Move the slider to the far side of the presser foot and sew the zipper until its top end is reached.

**3**




● **Put the fabric over the zipper.**
**Baste the zipper and set it on the fabric.**
* Baste the zipper tape with the fabric with hand basting stitches. Move the slider to the top of the zipper. Put the fabric over the zipper and perform basting.

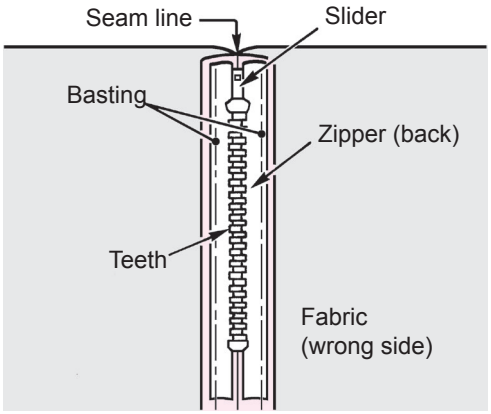
**4**




● **Sew reverse stitches and sew the right-hand side.**
After sewing reverse stitches, set the left hand side of the zipper presser foot to the zipper teeth. Sew until 5 cm (2 inches) of the zipper end. Undo the basting stitches and move the slider to the far end of the presser foot.
Then sew the rest of the way.

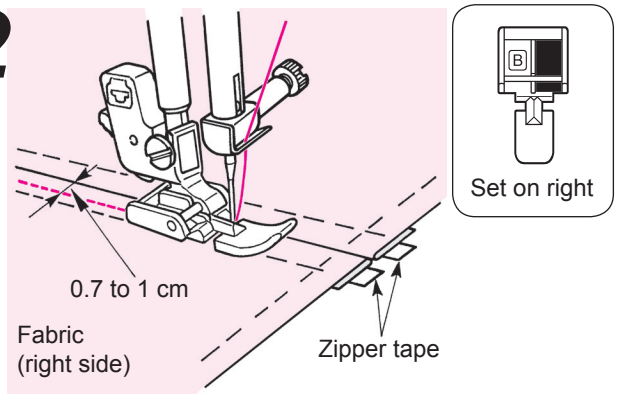
## ■ Centered insertion

**1**



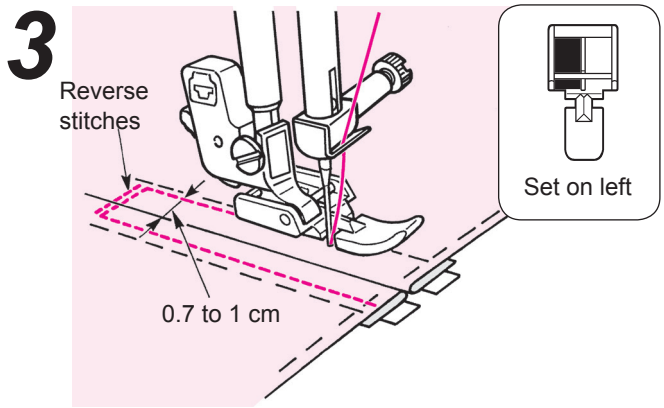

● **Baste zipper and garment body.**
Open the seam allowance. Fit the teeth of the zipper at the end of the seam line and perform basting by hand. Pull the slider tab to the up side.

**2**



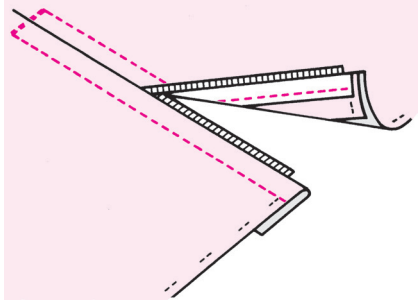

● **Sew the left part of the zipper on the seam allowance from the bottom of the opening to the top.**
Sew 0.7 to 1 cm from the seam line.

**3**



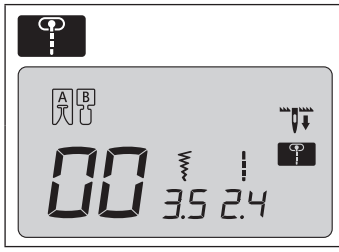

● **Sew the right part of the zipper.**
Sew reverse stitches a few times.
Sew the other side 0.7 to 1 cm from the seam line.

**4**



● **Undo only the basting stitches.**

## Shirring and gathering

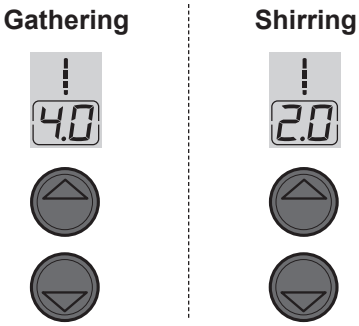



| | |
|---|---|
| Pattern No. | Practical 00 |
| Presser foot | Standard presser foot (A) |

| | |
|---|---|
| ⚠ Attention | Turn OFF the power switch before replacing the presser foot. |

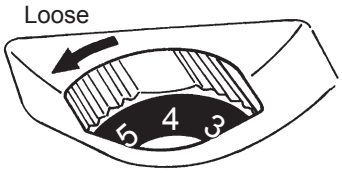
★ Shirring: such as the shoulder line and waist of the skirt, on which shirring is not seen.
★ Gathering: such as shoulder joining and the frills of a skirt.

**1**



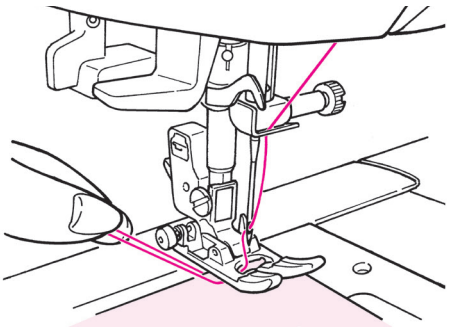

● **Change the stitch length.**
Set 3.0 - 4.0 for gathering and 1.5 - 2.0 for shirring.

**2**



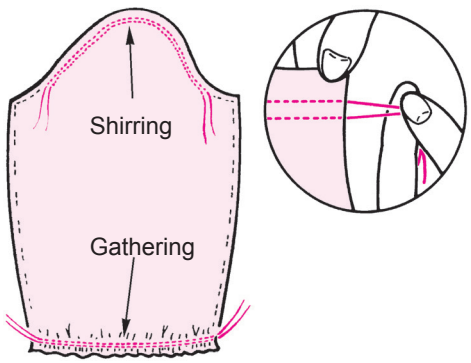

● **Loosen the needle thread tension.**

**3**



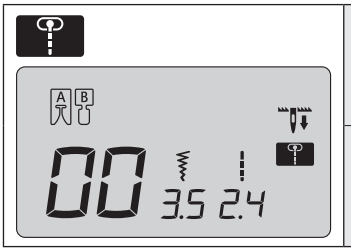
● **Start sewing.**
**Leave about 5 cm of needle and bobbin threads both at the sewing start and at the sewing end and sew a parallel line.**

**4**




● **Pull the lower thread by hand to shrink the fabrics.**

## Pintucking

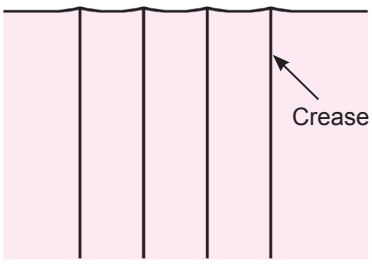



| | |
|---|---|
| Pattern No. | Practical 00 |
| Presser foot | Standard presser foot (A) |

| | |
|---|---|
| ⚠ Attention | Turn OFF the power switch before replacing the presser foot. |

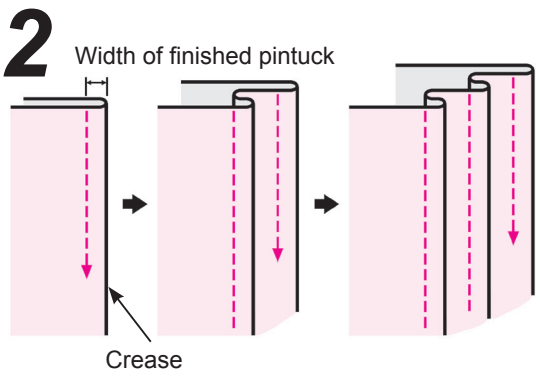
This stitch is used to sew decorations on the front of blouses and/or aprons, etc.

**1**



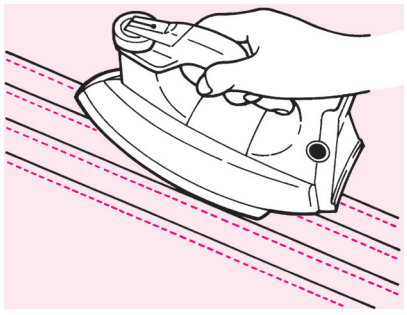

● **Iron the creases of the pintuck.**

**2**




● **Sew the creases one by one and avoid it stretching.**

**3**



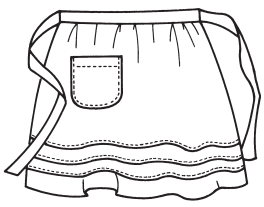
● **After sewing, turn over pintucks and iron them.**

● **Example of use**

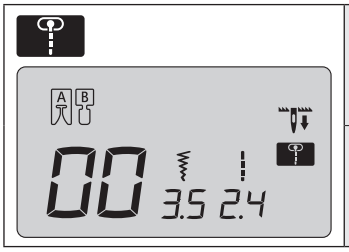
● **Blouse**



● **Apron**



## Welt seam

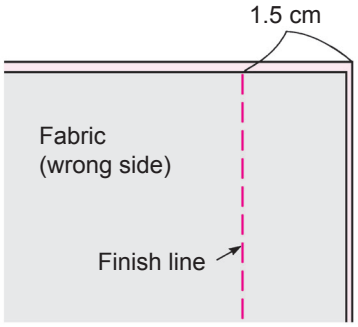



| | |
|---|---|
| Pattern No. | Practical 00 |
| Presser foot | Standard presser foot (A) |

| | |
|---|---|
| Attention | Turn OFF the power switch before replacing the presser foot. |

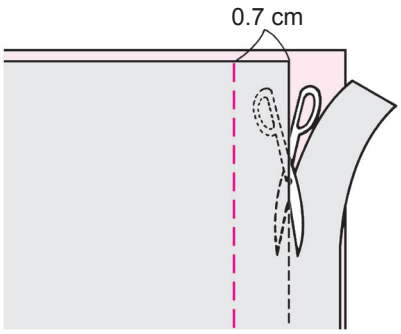
This stitch is used for securing an edge.

**1**



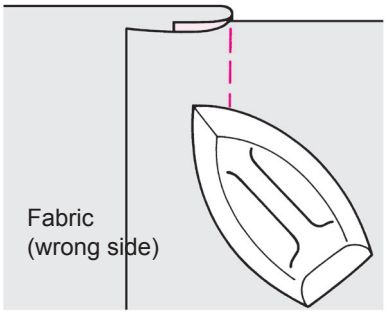

● **Put the fabrics together and sew.**

**2**



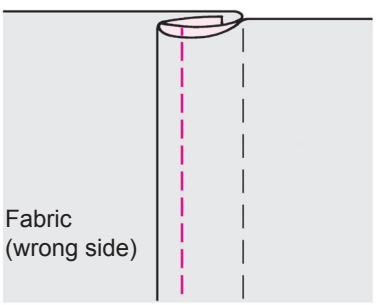

● **Cut half of the seam allowance.**

**3**



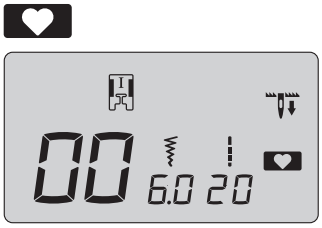

● **Open the fabrics from the finish line and fold the seam allowance together and iron.**

**4**




● **Wrap up the shorter seam allowance with the longer one and sew the edge of the crease.**

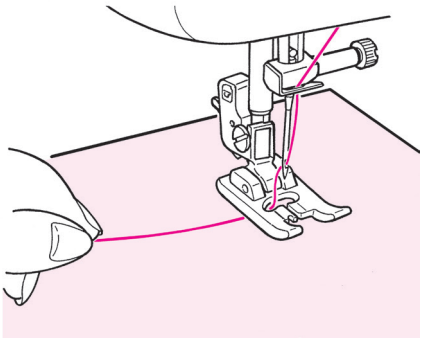
## Decorative stitches and one point pattern




| | |
|---|---|
| Pattern No. | One point 00~39 |
| Presser foot | Manual buttonhole presser foot (I) |

| | |
|---|---|
| Attention | Turn OFF the power switch before replacing the presser foot. |

● After selecting a pattern, push memory button MEM so that one point pattern can be sewn.
If memory button will not be pushed, machine sews the pattern continuously.

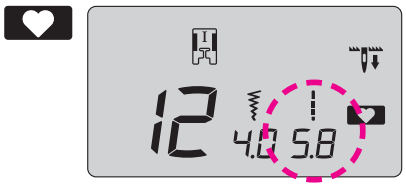


● **Place the fabric under the presser foot and start.**

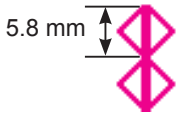
### ■ Display of the length of one cycle

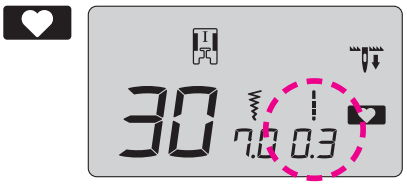
Although the length of one cycle of the decorative pattern is displayed, treat it only as a reference, as this will be changeable based on fabric and thread.

**Example)**

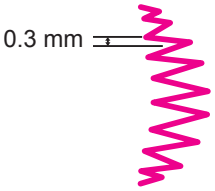



The length of one cycle is displayed.

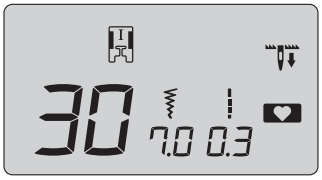



Stitch length of the pattern is displayed.



## Scallop stitches

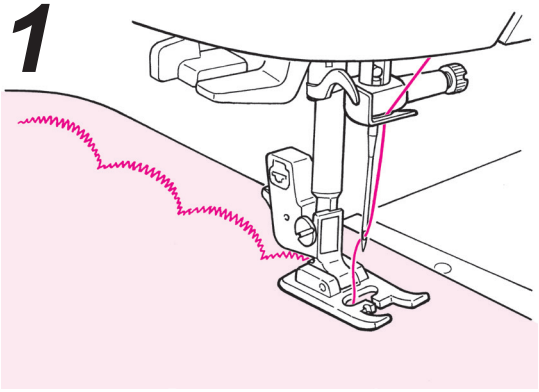



| | |
|---|---|
| **Pattern No.** | **One point 30** |
| **Presser foot** | **Manual buttonhole presser foot (I)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

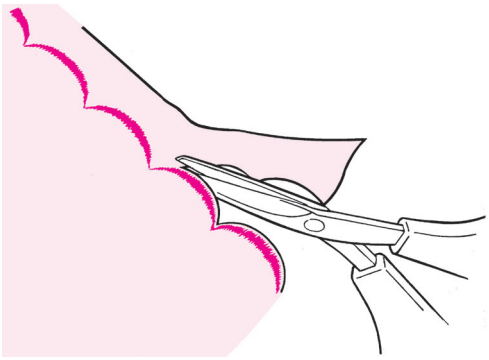
This stitch is used for decorating edging on items such as table cloths, collars on blouse, etc.

**1**



- **To keep the pattern intact, leave some margin and sew on the edge of the cloth.**

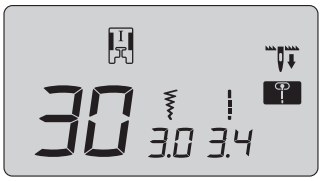
**2**



- **Cut the sewn fabric carefully so that stitches are not cut by the scissors.**

*** Adjust stitch length of the decorative stitches according to the fabric to be sewn.**
**Sewing on fabric too thick may cause jamming.**

## Quilt

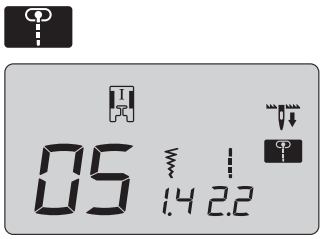



| | |
|---|---|
| **Pattern No.** | **Practical 30~39** |
| **Presser foot** | **Manual buttonhole presser foot (I)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

Using a decorative stitch, this gives a decorative look to the joining of patchworks.
It is recommended to use decorative thread such as embroidery thread.

# Applique

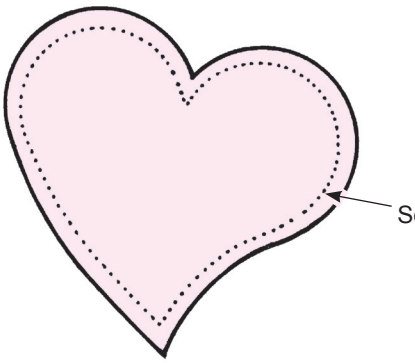



| | |
|---|---|
| **Pattern No.** | **Practical 05** |
| **Presser foot** | **Manual buttonhole presser foot (I)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

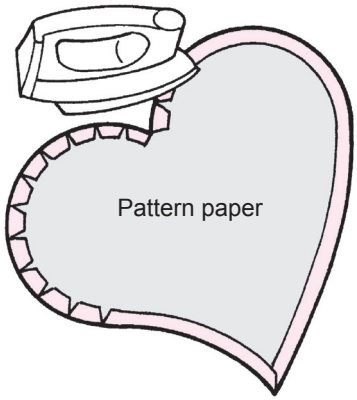
To make the stitch unconspicuous, an applique can be sewn.

**1**



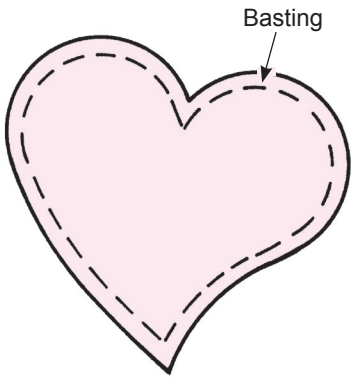

- **Cut the applique fabric with seam allowance of 3 to 5mm.**

**2**



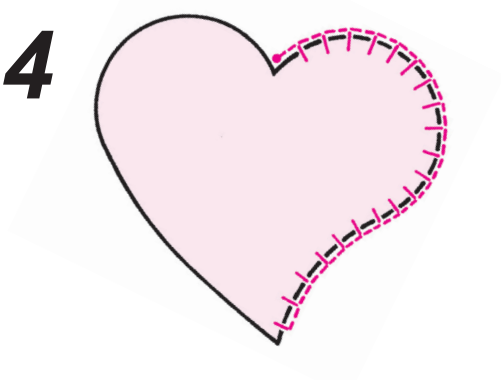

- **Put the pattern paper onto the wrong side of the fabric and fold the seam allowance at the finish line.**
- **Put the applique fabric on the base fabric. Temporarily fix it with basting stitches or glue.**

**3**



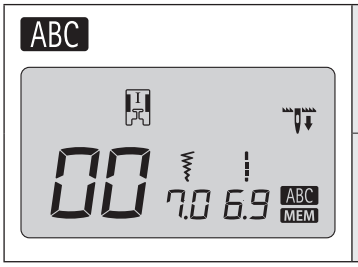

- **Turn the hand wheel towards you and start sewing along with the outer side of the applique fabric.**
  When you start sewing, the machine will automatically sew 3 lock stitches.
  * When sewing steep angles, keep the needle inside the fabric, raise the presser foot, change sewing direction and sew slowly.

**4**



- **Lock stitch at the end of sewing.**
  Push the reverse stitch button and the machine will automatically sew 3 lock stitches. It is better to lock stitch at the outer side of the applique fabric.
  *** Usually center needle position is used for appliqué stitches but right or left needle position can be used.**
  **Changing needle position: Refer to page 24**

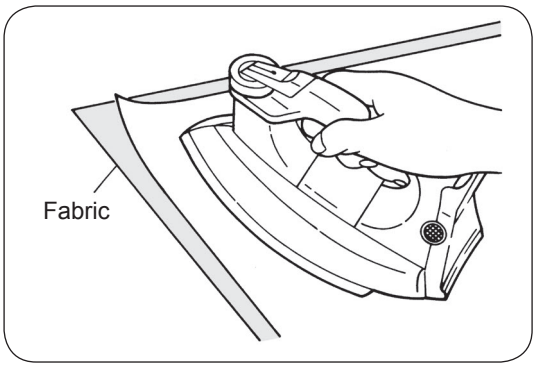
# Sewing letters and one point pattern

| | | |
|---|---|---|
|  | **Pattern No.** | **One point 00~39**<br>**Letters 00~99** |
| | **Presser foot** | **Manual buttonhole presser foot (I)** |

| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

## ■ Preparation before sewing

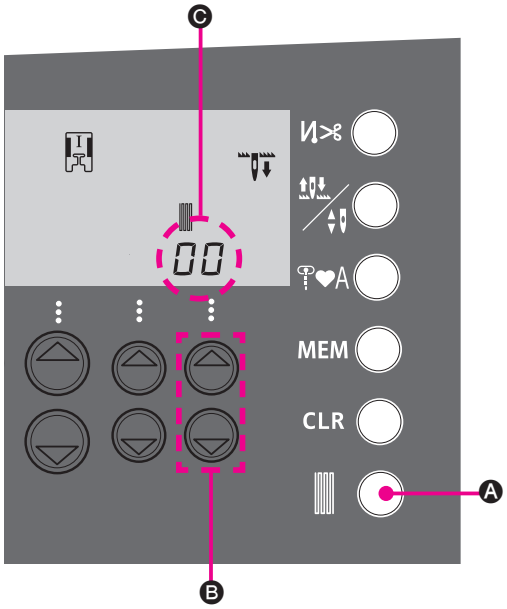
**(in order to sew a pattern neatly, apply interlining and conduct a test sewing first.)**




Use an iron to attach a fusible interlining to the wrong side of fabric.

* When stitch length becomes too small, the bobbin thread will come out to the front side of fabric and/or stitches might get stuck. Therefore make sure to conduct a test sewing beforehand.

## ■ Test sewing




Since the pattern might be deformed according to the type and thickness of fabric and fusible interlining to be used, make sure to conduct test sewing on the same fabric and interlining.

**1. Press button Ⓐ.**

**2. Set a piece of fabric and a thread to be used for test sewing.**

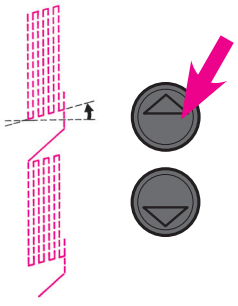
**3. Check the sewn result. If it is not right, change the figure Ⓒ by stitch length adjusting button Ⓑ. Figures "-30" to "+30" can be selected.**

**4. When button Ⓐ is pressed again, screen goes back to normal.**

**Correct shape**

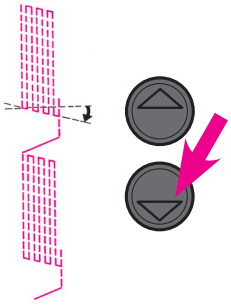


**When right side is higher than left side,**



Press " " and adjust it.

**When right side is lower than left side,**

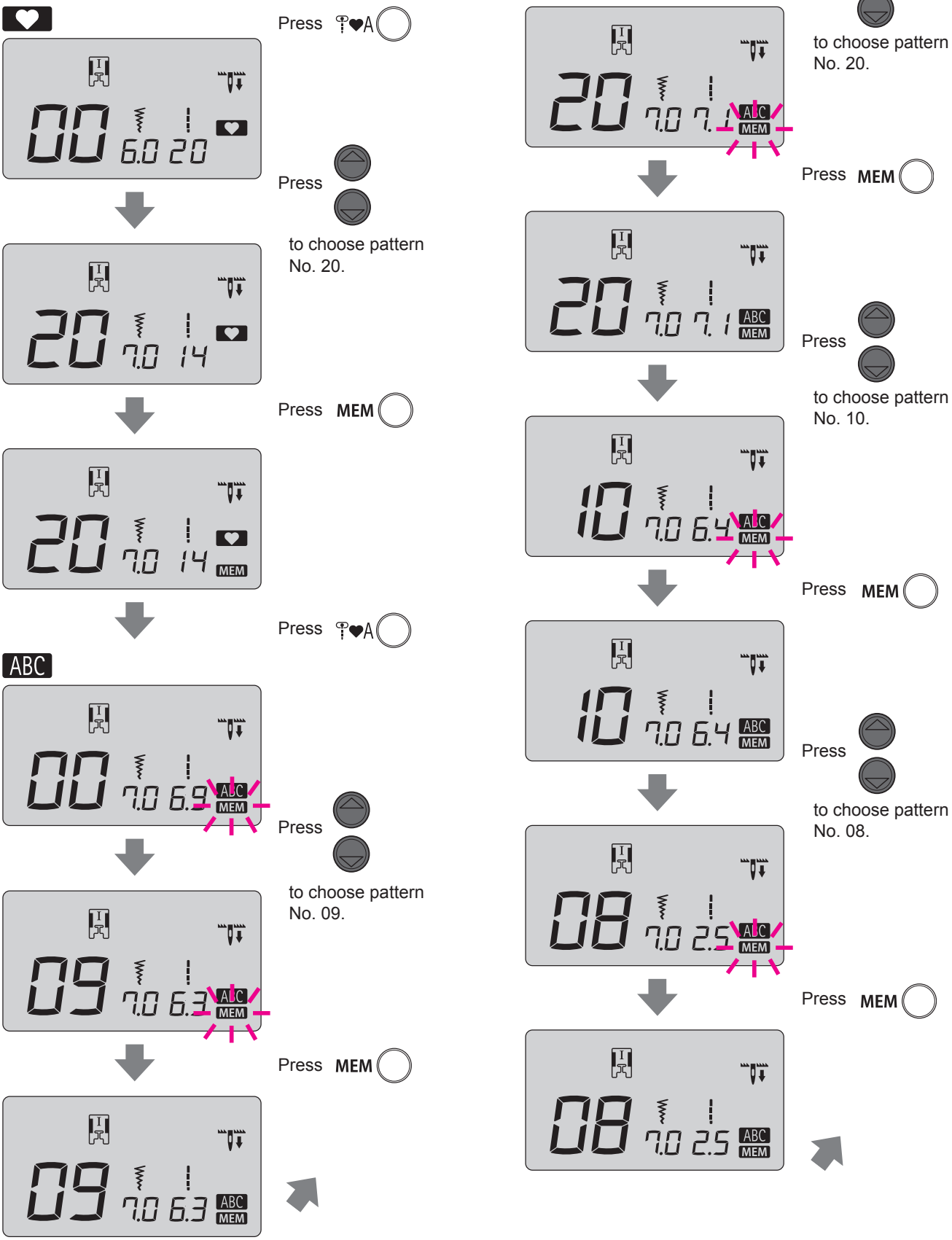


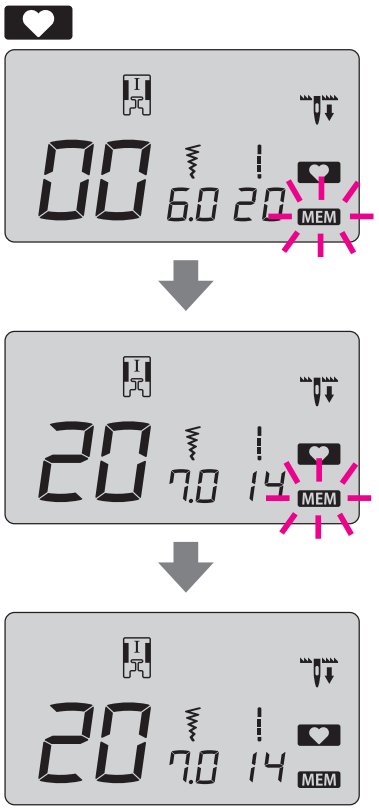
Press " " and adjust it.

## ■ How to select pattern (letters)

**Example**

☆☆ JUKI ☆☆






Press twice.

Press to choose pattern No. 20.

Press MEM

**When you want to change the size of pattern (letters) …..**

**Move the cursor to the desired pattern (letter).**
**You can change the height and width by:**

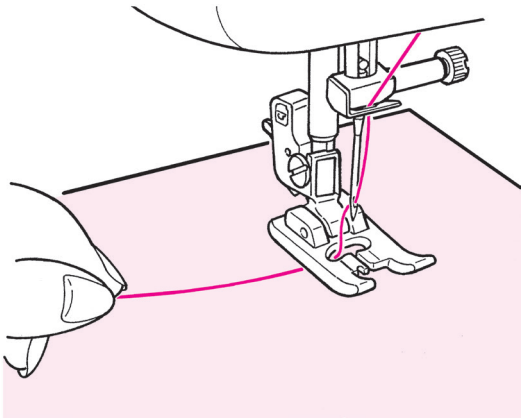
**Height:** Zigzag width adjusting button
**Width:** Stitch length adjusting button

**MEM** Up to 70 Letters and one point patterns can be stored into memory.

● Deleting Letters and patterns in the memory

**CLR** Pressing it will delete patterns in the memory from latest one to earliest one.
When the button is pressed continuously, all the patterns in the memory can be deleted.

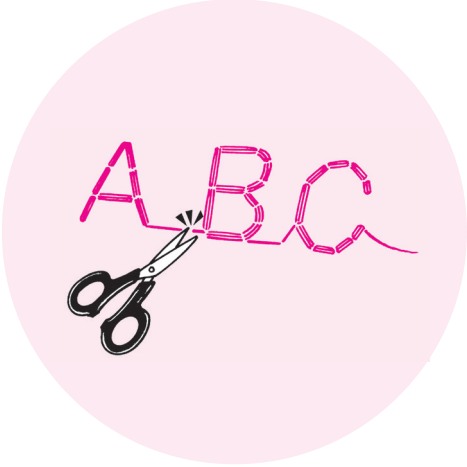
## ■ How to stitch a pattern (letters)



**Place the fabric underneath the presser foot and start.**
The machine will stop automatically when sewing is finished.
**Notes:**

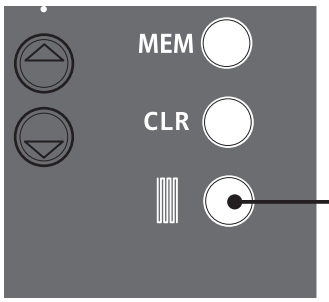
1. **Note that the sewing speed varies according to stitch patterns (letters) to be sewn.**
2. **If the automatic thread trimmer is used while sewing, the machine starts to sew from the beginning.**
3. **In case of condensed sewing, if the stitch length is too small, the stitches may get stuck.**

## ■ Disposing thread ends of jump stitches




**Get rid of unnecessary thread on the front side of fabric by scissors.**

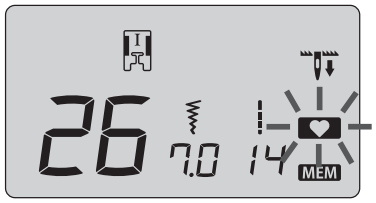
## ■ How to sew combined sewing patterns continuously




In order to sew combined sewing patterns continuously, push pattern adjustment button long. (Normally this button is for adjusting sewing patterns.)
When pushing it long once again, continuous sewing mode is released.

**Example: in case of sewing**  **5 times continuously**

**1**




**After memorizing the patterns, push pattern adjustment button long. Then is now blinking.**

**2** **Start Sewing.**

**3**



**During the sewing the combined patterns at 5th time, push pattern adjustment button long. The sewing machine will stop after sewing the last pattern of the 5th time.**

* If you start sewing without setting continuous sewing, you can sew the patterns continuously by pushing pattern adjustment button long during sewing. In this case, by pushing pattern adjustment button long once again, the machine will stop after sewing the last sewing pattern.

---

# Introduction of optional accessory parts

Make your home sewing more pleasant!
Please purchase the following items in the shop where you buy our products.

- **Rolled hemming presser foot**
  Fabric edge is hemmed while rolling it under.
  Used for bottom of shirts, blouses, frills and the edge of handkerchiefs.

- **Quilt presser foot (transparent type)**
  It is used for free-motion quilting. Zigzag stitch is also possible with this presser foot.

- **Button attaching presser foot**
  This presser foot is used to attach buttons on garments.

- **Cording and Embroidery presser foot**
  It is used in free motion quilting and a cord can be sewn together with this presser foot.

- **Pearl attaching presser foot**
  With this presser foot it is possible to attach pearls, beads and thick cord.

- **Smooth presser foot**
  This presser foot is used for non-slippery materials like vinyl and satin stitches.

- **Presser foot with guide**
  As the presser foot has markings, which show 2 mm distance, these marking will serve as a guide.

- **Eyelet punch**
  This is to open hole at round area of keyhole buttonhole.

- **Throat plate for straight stitch**
  Use with patchwork presser foot for better stitch quality.

- **Wide Table**
  For sewing large projects such as quilts, etc.

- **Binder presser foot**
  It is possible to attach tapes such as bias tape into four folds.

- **Open toe presser foot**
  This presser foot is used for appliqué and decorative stitches. (Front part of the presser foot is open for better visibility.)

- **Hemming presser foot for zigzag**
  Fabric edge is hemmed by zigzag while rolling it under. Used for bottom of shirts, blouses, frills and the edge of handkerchiefs.

- **Edge sewing presser foot**
  This presser foot is used for patchwork, sewing center line of joined materials by using the center guide of the presser foot.

- **Quilt presser foot (open type)**
  It is used in free motion sewing. As the front portion is open, it is easy to see the needle entry point.

- **Walking foot**
  This presser foot is used for "difficult-to-feed" materials such knit, jersies, vinyl, artificial leather and leather or quilting.

- **Appliqué presser foot**
  Since the front and back of the presser foot is short, it is easy to move the materials at curve points. Also fabrics can be seen easily because it is transparent.

- **Quilt presser foot**
  This presser foot is used for quilt stitches (free motion quilting).

- **Cording presser foot (for 3 cords)**
  It is possible to attach 1 - 3 cords by three-point zigzag or decorative stitch.

- **Patchwork presser foot**
  This presser foot is used for patchwork stitches.

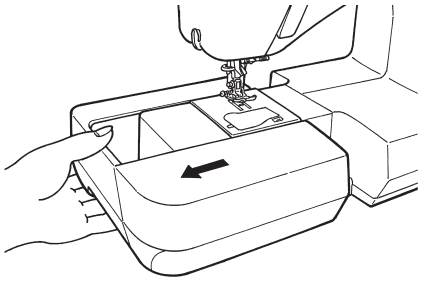
- **Invisible zipper foot**
  As a seam does not appear on the right side of the fabric, an opening can be finished with fabric edges neatly butted.

- **Quilt guide**
  This is a guide to sew lines in the same distance.

Optional accessory part

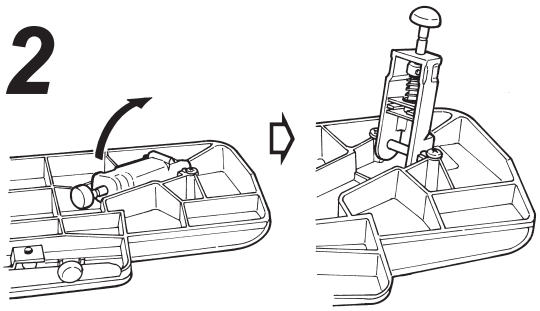
# How to install Wide Table

**1**



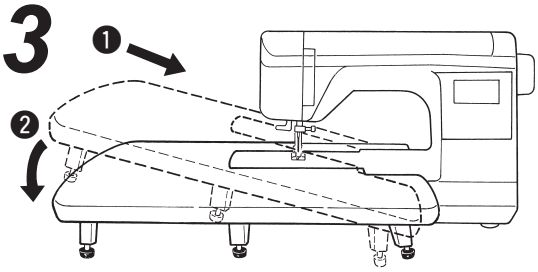
● **Remove auxiliary bed.**

**2**



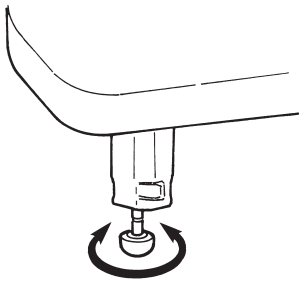
● **Open legs of Wide Table until they stop securely at the stopping position.**

**3**




● **Assemble Wide Table to sewing machine body.**
Attach it to free arm of sewing machine.

**4**

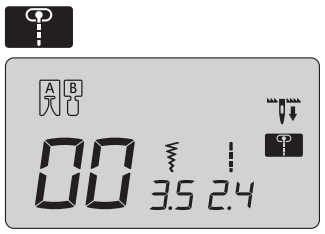


● **Adjust the height of legs so that the top surface of Wide Table is the same height of sewing machine body.**

| | |
|---|---|
| **Attention** | * Don't put any heavy materials on the Wide Table.<br>* Don't move sewing machine with Wide Table attached. |

Optional accessory part

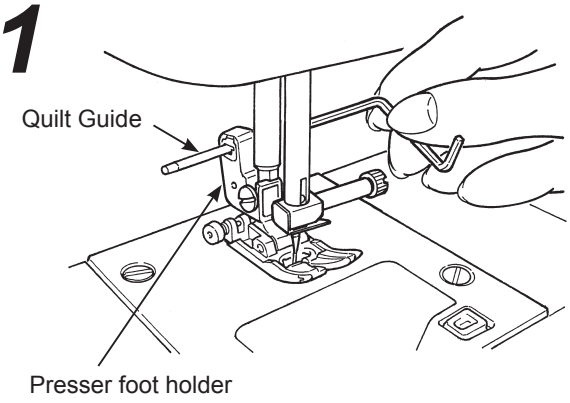
# How to use the quilt guide




| | |
|---|---|
| **Pattern No.** | **Practical 00, 03** |
| **Presser foot** | **Standard presser foot (A)** |

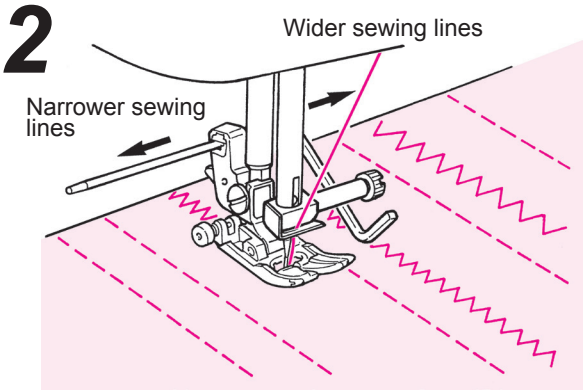
| | |
|---|---|
| **Attention** | **Turn OFF the power switch before replacing the presser foot.** |

**1**




● **Insert the quilt guide into the groove of the presser foot holder.**

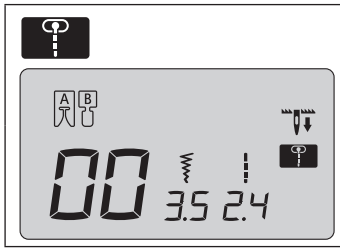
**2**




● **Sew while tracing the stitches with the tip of the quilt guide.**
Distance between sewing lines can be adjusted freely.

Optional accessory part

# Stitch in ditch quilting

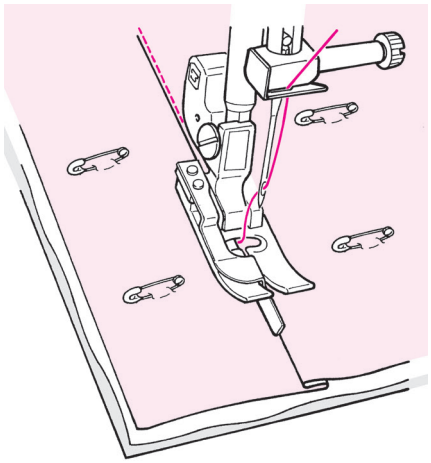



| | |
|---|---|
| Pattern No. | Practical 00 |
| Presser foot | Edge sewing presser foot (R) |

| | |
|---|---|
| Attention | Turn OFF the power switch before replacing the presser foot. |

This is for quilting the edge of patchworks and appliqués.
The machine will sew the lower (thinner) side of the fabric layers. As a result, the stitches will not be noticeable and have an effect to make the design look three dimensional or emphasized.

**1**

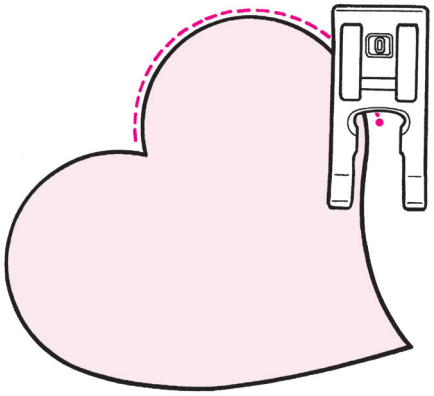


- **Put the top layer of fabric with patchwork and/or appliqués, quilting cotton and bottom layer of fabric together by pin or basting stitches.**

**2**

- **Put the guide of the presser foot along with the crease and sew.**
  The needle enters behind the guide, so that the edge of the crease can be sewn.

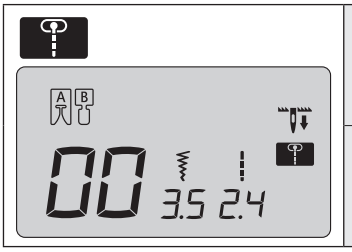
* **If the desired points can not be sewn, adjust the needle position.**
**Needle position change: refer to page 24**



★ **Curved concealed quilting**
Use manual buttonhole presser foot (I) or the open toe presser foot (O).
Sew curves by lifting the presser foot and changing the direction very often.
Also this can be done by free motion with the quilt presser foot. (Refer to page 48.)

Optional accessory part

# Quilting (straight stitch)

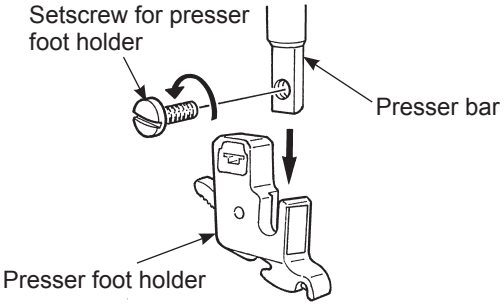



| | |
|---|---|
| Pattern No. | Practical 00 |
| Presser foot | Walking foot (N) |

| | |
|---|---|
| Attention | Turn OFF the power switch before replacing the presser foot. |

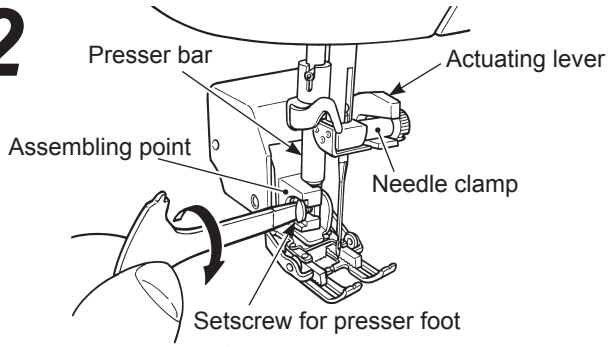
Quilting is the process of sewing the top layer of fabric, with quilting cotton in between and a bottom layer of fabric underneath. By using the walking foot, the machine feeds both top and bottom fabrics together at the same time, so fabric shifting is eliminated.

**1**



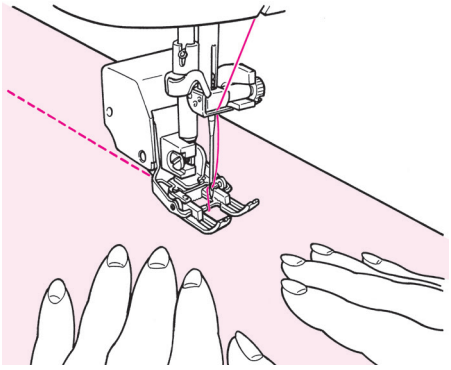

- **Put top layer of fabric with patchwork and/or appliqué, quilting cotton and bottom fabric together by using pin or basting stitches.**

**2**




- **Assemble the walking foot.**
  Raise the presser bar. Loosen the setscrew for presser foot holder and remove the presser foot holder. (Refer to page 12) Set the actuating lever on the needle clamp and insert the assembling point to the presser bar and tighten the setscrew for presser foot.

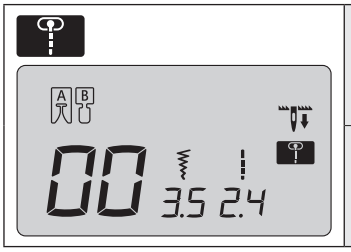
**3**



- **Place your hands to both sides of the presser foot and sew by pulling the fabrics apart.**
  *** Sew with slow to medium sewing speed.**

Optional accessory part

# Quilting (free motion)

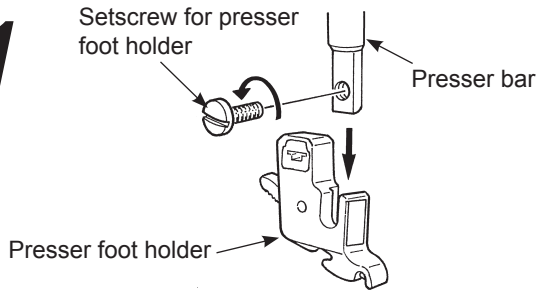



| | |
|---|---|
| Pattern No. | Practical 00 |
| Presser foot | Quilt presser foot (Q) |

| | |
|---|---|
| ⚠ Attention | Turn OFF the power switch before replacing the presser foot. |

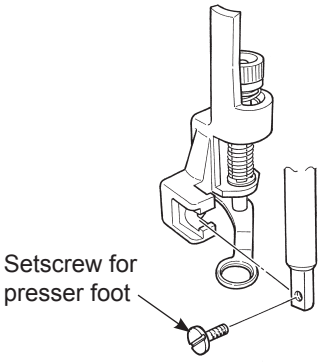
It is called free motion quilting when moving the fabrics freely towards any directions without using the feed dog of sewing machine. When the feed dog is lowered (drop feed condition), it is possible to sew various curves and/or any directions by moving the fabrics by hands.

**1**



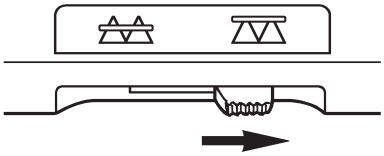

- **Put top layer of fabric with patchwork and/ or appliqué, quilting cotton and bottom fabric together by using pin or basting stitches.**

**2**



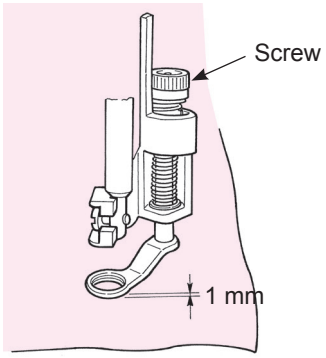

- **Assemble the quilt presser foot.**
  Raise the presser bar. Loosen the setscrew for presser foot holder and remove the presser foot holder. (Refer to page 12) Set the quilting foot and tighten the setscrew for presser foot.

**3**



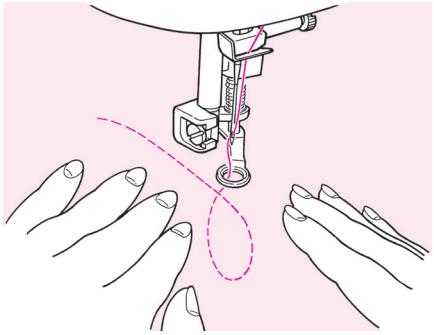
- **Move the drop feed knob to the right hand side.**
  Feed dog is now down.

**4**



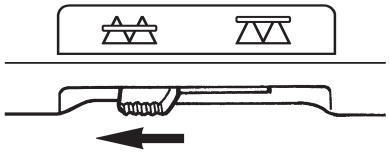

- **Place the fabric underneath the presser foot and lower the presser foot.**
- **Adjust the height of presser foot according to the thickness of the fabrics by screw. When the height is 1mm from the surface of the fabrics, it will be easier to move the fabrics without interference.**

**5**



- **Use both hands to hold the fabrics and move it without letting it loose. The target stitch length is about 1.5~2.0mm.**

**6**



- **When free motion sewing is finished, move the drop feed knob back to the left side.**
  The feed dog will be up and engaged at the same time as the machine starts to sew.

## Tips

- **How to lock stitches**
  1. At sewing start, pull up the bobbin thread on the top layer of the fabric, hold both needle and bobbin threads together and sew 3 stitches on the same point. After that move fabrics as you wish. In this way, stitches on the wrong side of the fabrics look neat.
  2. At sewing-end sew 3 stitches on the same point and stop.
- **How to sew stitches with the same stitch length**
  1. When the foot controller is used, the fabrics can be guided by both hands and you can move the fabrics freely.
  2. Set the speed controller to medium or medium low first, press the foot controller completely and move the fabrics.
     -- if stitches become too large, set the speed controller to “faster”
     -- if stitches become too small, set the speed controller to “slower”.

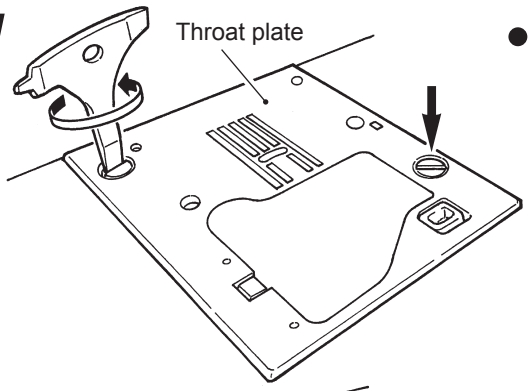
☆ **When doing the free motion with zigzag stitch, use the quilt presser foot (transparent type) which is optionally available from your dealer.**

# Machine Maintenance

When lint and/or dirt has built up, it may cause machine failures. Therefore, clean the machine frequently.

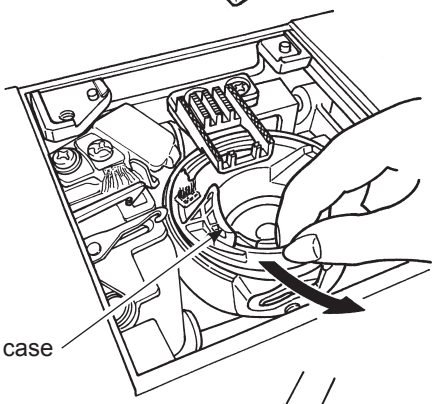
| | |
|---|---|
| ⚠ **Attention** | **Always must be disconnected plug from socket-outlet before remove throat-plate and remove bobbin-case-holder.** |

**1**



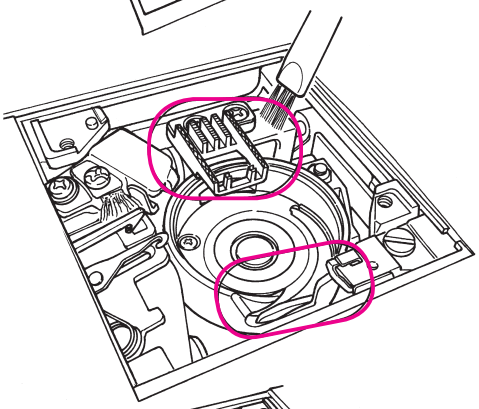

● **Remove the throat plate**
Remove needle and presser foot and remove the needle plate by using T-shape screwdriver.

**2**



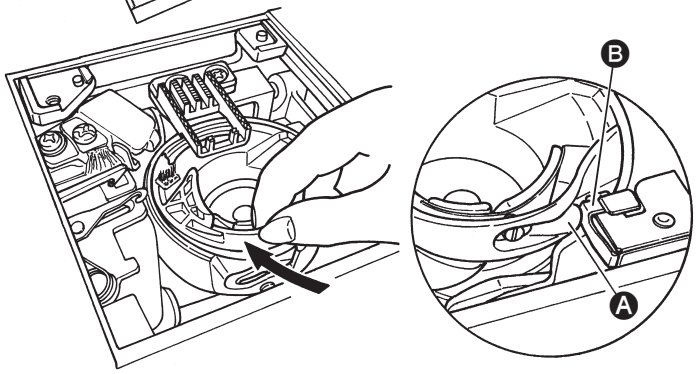

● **Remove the bobbin case holder.**

**3**

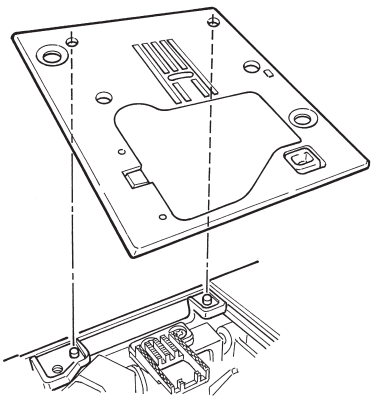


● **Remove lint and dirt.**
Remove lint and dirt around the feed dog and bobbin case holder with the cleaning brush.

**4**




● **Install the bobbin case holder.**
Install the bobbin case holder so that points Ⓐ and Ⓑ touch each other.



● **Install the throat plate.**
When attaching the throat plate, align the positioning pins with holes of throat plate.

# Performance check list

If sewing difficulties occur, make sure the instructions are correctly followed.
If a problem still exists, the reminders below may help solve it.

| Case | Cause (Reason) | Solution | Reference page |
|---|---|---|---|
| ● The machine stops sewing suddenly. (This is in case you can turn hand wheel by hand.) | ● The machine sews at slow speed continuously. (The machine has a mechanism to automatically cut off the power to prevent the motor from overheating.) | ● Turn off the power and wait for a while (about 10 minutes). The safety mechanism will be reset and the machine will return to normal. | 3 |
| ● Sewing machine stops while sewing. (Hand wheel is heavy to turn.) | ● If the thread gets tangled and/or the needle is bent, motor will lock and safety mechanism works instantly and the sewing machine will stop sewing. | ● Get rid of cause(s) of thread tangling.<br>● Check if the needle is bent or not.<br>* Turn off the power before checking the needle. | -<br>18 |
| ● Sewing machine stops after sewing some stitches. | ● In case of relatively low room temperature and/or thread tangling, or in case the motor got excess load, the safety mechanism works and the sewing machine stops so that the machine will not get hot. | ● Leave the sewing machine in the room so that the sewing machine adapts itself to the room temperature.<br>● Get rid of cause(s) of thread tangling. | 3<br>- |
| ● The machine will not work even when started. | ● Presser foot is in up position. | ● Lower the presser foot and start to sew. | 9 |
| ● The machine will not work even when start/stop button is pressed. (This is in case sewing light is still on.) | ● The needle hits presser foot due to an installation of incorrect presser foot.<br>● The needle fell into the hook area and tried to start. | ● Use the appropriate presser foot to the selected stitch pattern.<br>● Remove the needle from the hook area. | -<br>- |
| ● Needle breaks. | ● Thick material is sewn with a thin needle.<br>● The needle is not inserted fully.<br>● The needle setscrew is not securely tightened.<br>● The wrong presser foot is used for a certain pattern. | ● Check the combination of fabric, thread and needle.<br>● Check the installation of needle.<br>● Securely tighten the needle setscrew.<br>● Check the combination of stitch pattern and presser foot to be used. | 18<br>18<br>18<br>- |
| ● Loud noise and/or keen noise while sewing. | ● Lint or dust has accumulated in the feed dog.<br>● Lint or dust has accumulated in the hook. | ● Clean the feed dog area.<br>● Clean the hook area. | 49<br>49 |
| ● Machine fails to feed fabrics. | ● The stitch length is set at “0”.<br>● Soft fabrics such as towels are being sewn.<br>● The machine is set in drop feed condition. (the drop feed knob is on the right side) | ● When the stitch pattern is reselected, the machine goes back to the default setting.<br>● Set the stitch length to 3 - 5.<br>● Set the drop feed knob to left side. | 24<br>-<br>19 |

| Case | Cause (Reason) | Solution | Reference page |
|---|---|---|---|
| ● Needle can not be threaded. (This is in case needle threader will notturn.) | ● The needle is not in the up position. (When needle is not in the up position, needle threader will not turn. This is to avoid damages to the hook.) | ● Rotate the hand wheel and lift the needle upwards. | 16 |
| ● The hook of needle threader does not go through the needle eye. | ● The needle is not inserted fully. | ● Check the installation of the needle. | 18 |
| ● The needle threading lever will not return to the original position and the machine can not turn properly. (This is in case the hook of needle threader remains in the needles eye.) | ● Hand wheel is turned by mistake while the needle threading lever is in down position. (in the process of threading to the needle.) | ● Turn hand wheel slightly away from you. (to the opposite side when sewing). | - |
| ● The machine will not start even when start/stop button is pressed. | ● The foot controller is plugged in. | ● Start/stop button can function when foot controller is removed. | 8 |
| ● Thread breaks.<br>● Stitch is skipped. | ● The machine is incorrectly threaded.<br>● There is knot or knurl on the thread.<br>● The setting of manual thread tension is incorrect.<br>● The needle is bent or the tip of needle is broken.<br>● The needle is installed incorrectly.<br>● Threading of bobbin thread is not correct.<br>● The bobbin can not turn smoothly inside the hook holder.<br>● The needle size does not match the thread.<br>● Thread take-up is not threaded. | ● Rethread the machine correctly.<br>● Remove knot or knurl from thread.<br>● Adjust thread tension manually according to fabrics and thread to be used.<br>● Change needle.<br>● Install needle correctly.<br>● Check the correct way of setting bobbin thread.<br>● Check the correct way of winding bobbin thread.<br>● Check the combination of thread and needle.<br>● Rethread the machine correctly. | 16<br>-<br>19<br>18<br>18<br>15<br>-<br>18<br>16 |
| ● Thread tension is not good. | ● The needle thread is threaded incorrectly.<br>● The bobbin thread is threaded incorrectly.<br>● The direction of spool cap doesn't match the spool. | ● Rethread the machine correctly.<br>● Check the correct way of setting bobbin thread.<br>● Attach the spool cap in a correct direction. | 16<br>15<br>16 |
| ● Puckering occurs. | ● The stitch length is too large on lightweight fabrics.<br>● The needle tip is broken. | ● Make the stitch length smaller (shorter).<br>● Change needle. | 24<br>18 |

## List of stitch patterns

00 01 02 03 04 05 06 07 08 09



10 11 12 13 14 15 16 17 18 19 20 21 22



23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39



### One-point

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19



20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39



### Letters/numbers/signs

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

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

26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51

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

52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75

1 2 3 4 5 6 7 8 9 0 @ ! ? & □ □ □ □ □ - □ / : ;

76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99

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## ■ Specification list

| Item | Specification |
|---|---|
| Body size | 44.5 (W) × 29.2 (H) × 22.3 (D) cm |
| Body size with hard case | 48.0 (W) × 29.5 (H) × 24.0 (D) cm |
| Weight (Weight with hard case) | 9.4 KGS / 20.7 LBS |

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