

INSTRUCTION BOOK

MODEL S650

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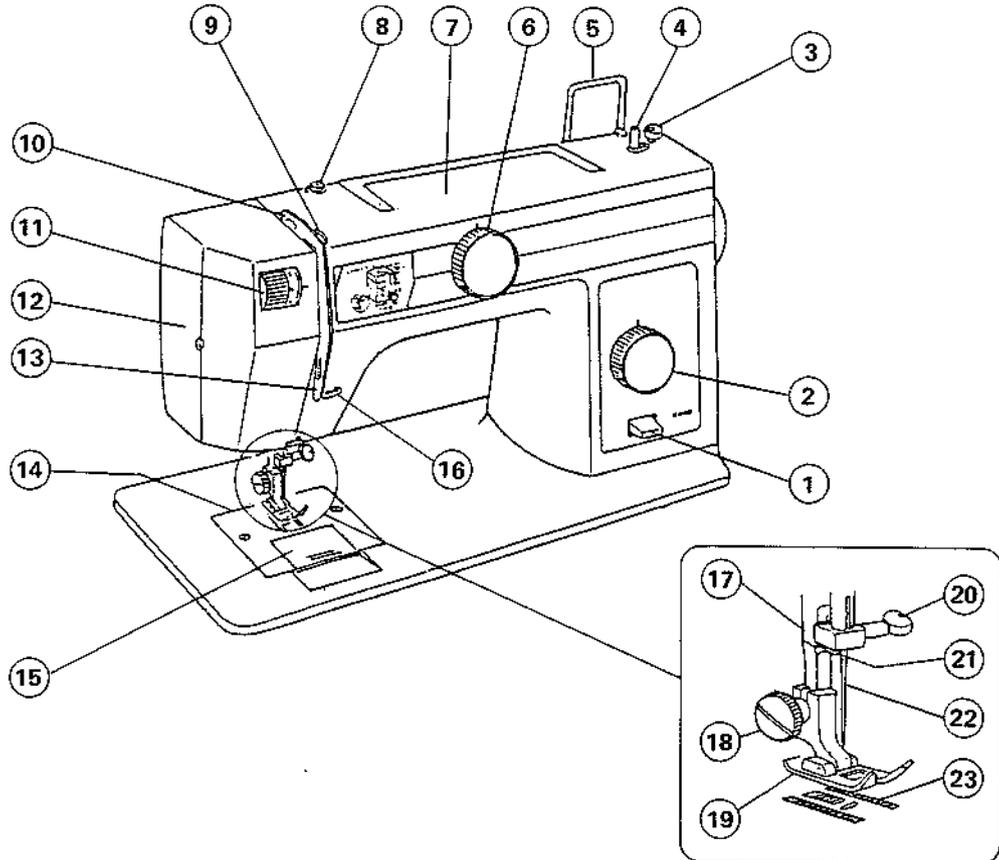
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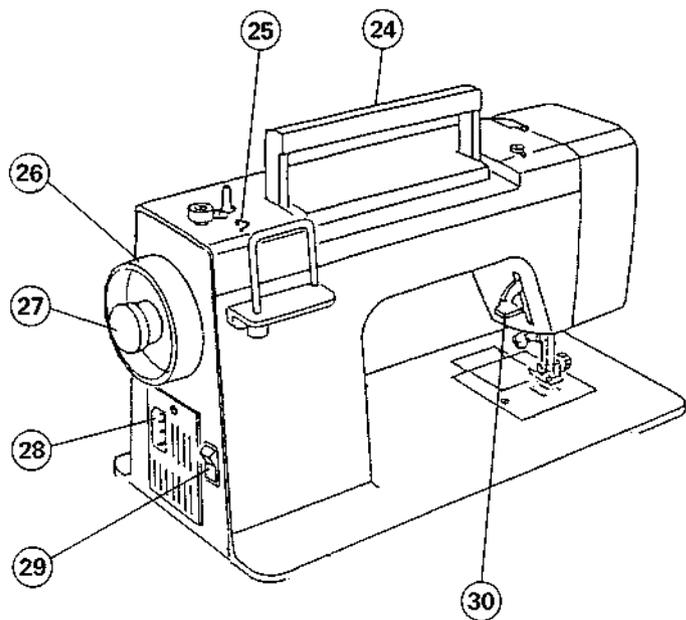
SECTION I ESSENTIAL PARTS

• Names of Parts

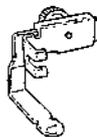
1. Reverse stitch lever
2. Stitch length dial
3. Bobbin winder dial
4. Bobbin winder spindle
5. Spool pin
6. Pattern selector dial
7. Top cover
8. Bobbin winder thread guide
9. Thread take-up lever
10. Upper thread guide
11. Thread tension dial
12. Face plate
13. Check spring holder
14. Needle plate
15. Slide plate
16. Lower thread guide
17. Presser bar
18. Presser foot thumb screw
19. Presser foot
20. Needle clamp
21. Needle bar thread guide
22. Needle
23. Feed dog



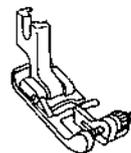
- 24. Carrying handle
- 25. Top cover thread guide
- 26. Balance wheel
- 27. Bobbin winder clutch knob
- 28. Machine socket
- 29. Power switch
- 30. Presser foot lifter



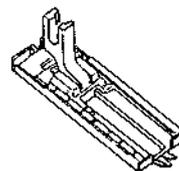
● Standard Accessories



Zipper foot



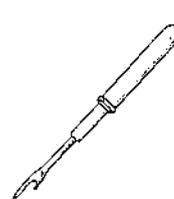
Blind stitch foot



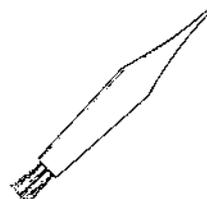
Buttonhole foot



Screw driver



Seam ripper



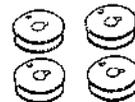
Lint brush



Set of needles

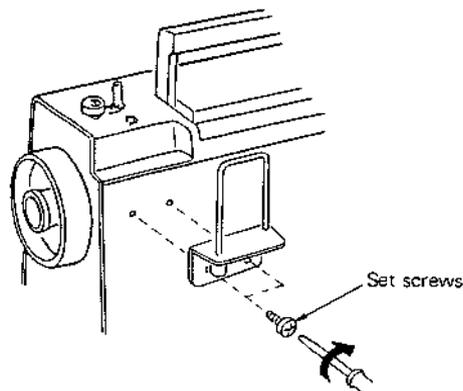


Oil



Bobbins

● How to Install the Spool Pin



Spool pin and two set screws are separately packed to prevent damage in transit.

Therefore, attach the holder of spool pin in place with a screw driver, as shown in the figure.

● Fundamentals of Operation

For Your Safety

1. While in operation, always keep your eyes on the needle, and do not touch any moving parts such as the take-up lever, balance wheel or needle.
2. Always turn off the machine, and unplug from the power supply:
 - * After using the machine.
 - * When leaving the machine for any period of time.
 - * When attaching or removing parts.
 - * When cleaning the machine.
3. Do not place anything on the foot control, except for your foot.

Before Using the Machine

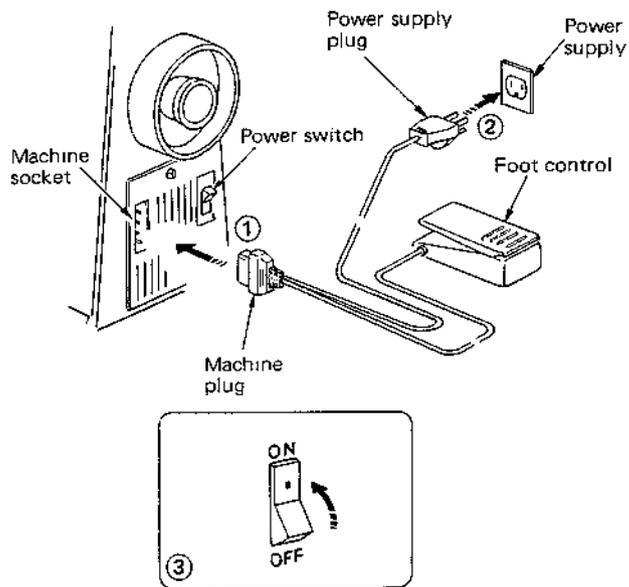
- Wipe the machine with a clean cloth to remove any dust or oil.
- To replace presser foot or needle follow the guides in the instruction book.
- When setting the machine for sewing, test the stitches on a small piece of the fabric with the threads that will be used for actual sewing.

For Longer Life of the Machine

- Do not expose the machine to the sun for long periods of time nor store near a radiator.
- Do not store the machine in an area of high humidity.
- Handle the machine with care to avoid dropping or bumping.

SECTION II GETTING READY TO SEW

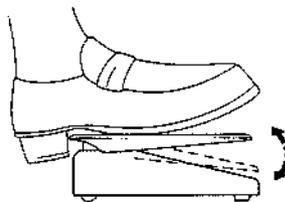
● Connecting the Machine to the Power Supply



Before connecting the power, make sure the electrical rating (voltage and frequency) of the machine conform to your electrical power.

- ① Turn off the power switch, and connect the machine plug to the machine socket.
- ② Connect the power supply plug to your power supply.
- ③ Turn on the power switch.

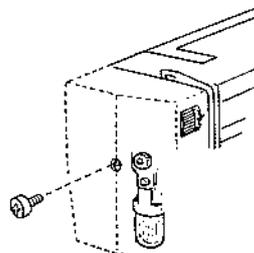
● Foot Control



Sewing speed can be varied by the foot control.

The harder you press on the control, the faster the machine runs.

● Replacing Sewing Light



The sewing light is located behind the face plate.

Unscrew the set screw and remove the face plate.

- To remove . . . Turn it counter-clockwise.
- To replace . . . Turn it clockwise.

CAUTION

- * Before removing the face plate, unplug your machine.
- * The sewing light may be HOT. Protect your fingers when you handle it.

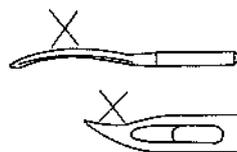


• Thread and Needle Chart

	Fabrics	Threads	Needle Size
Light weight	Crepe de Chine, Voile	Fine Silk	9
	Lawn, Organdy, Georgette, Tricot	Fine Cotton Fine Synthetic Fine Cotton Covered Polyester	or 11
Medium weight	Linens, Cotton, Pique,	50 silk	11
	Serge, Double Knits, Percale	50 to 80 Cotton 50 to 60 Synthetic Cotton Covered Polyester	or 14
Heavy weight	Denim, Tweed, Gabardine,	50 silk	14
	Coating, Drapery and Upholstery Fabric	40 to 50 Cotton 40 to 50 Synthetic Cotton Covered Polyester	or 16

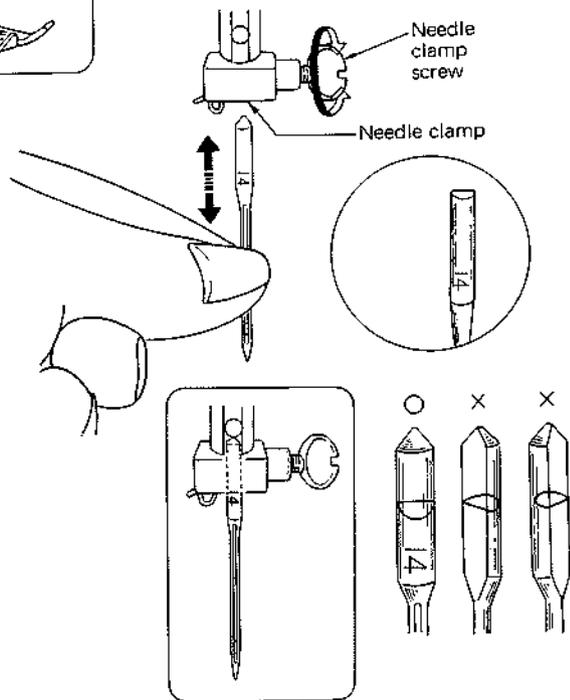
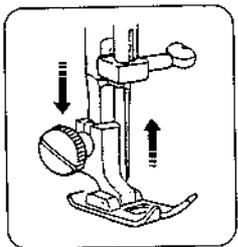
- In general, fine thread and needles are used for sewing thin fabrics, and thicker threads and needles are used for sewing heavy fabrics. Always test thread and needle size on a small piece of fabric which will be used for actual sewing.
- Use the same thread for needle and bobbin.
- When sewing stretch, very fine fabric or synthetics, use a **BLUE TIPPED** needle. The blue tipped needle effectively prevents skipped stitches.
- When sewing very fine fabrics, sew over a piece of paper to prevent yarn distortion.

(To Select a Suitable Needle)



- * A number indicating the size of needle is marked on the stem. The higher the number, the thicker the needle.
- * A **BLUE TIPPED** needle is supplied with the machine.
- * Do not use any needle which is bent or blunt.

● Changing Needles



Raise the needle by turning the balance wheel toward you and lower the presser foot.

Loosen the needle clamp screw by turning it toward you.

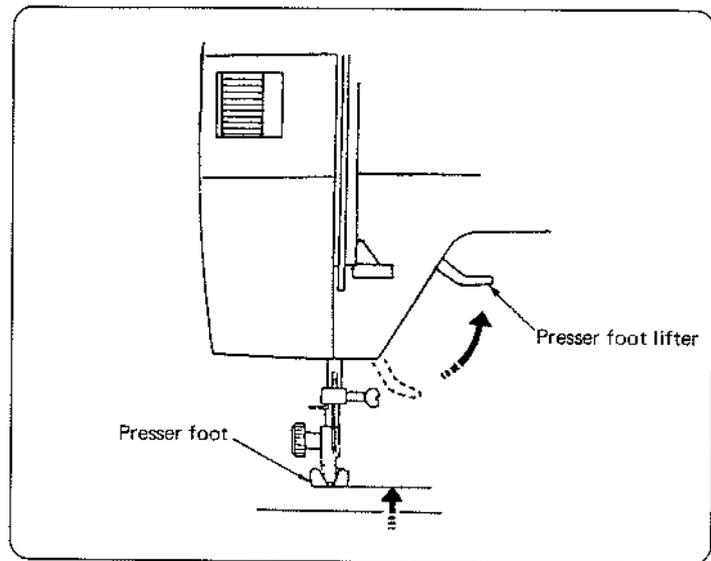
Remove the needle from the clamp.

Insert the new needle into the needle clamp with facing the flat side to the back.

When inserting the needle into the clamp, push it up as far as it will go and tighten the clamp screw firmly with the screwdriver.

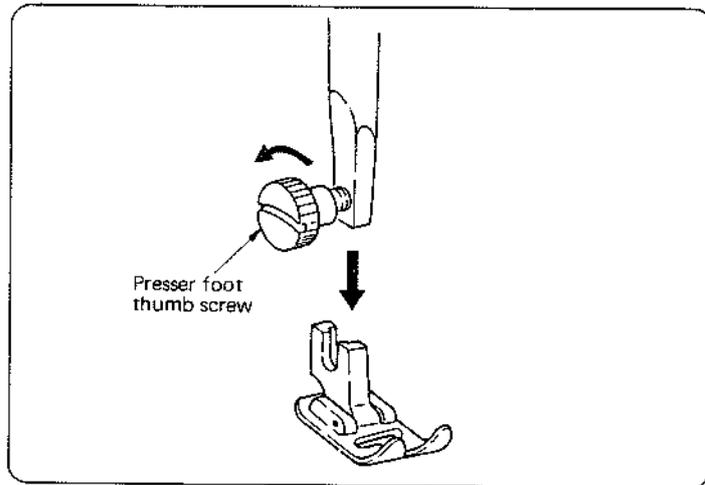
● Raising or Lowering the Presser Foot

The presser foot lifter raises or lowers your presser foot.



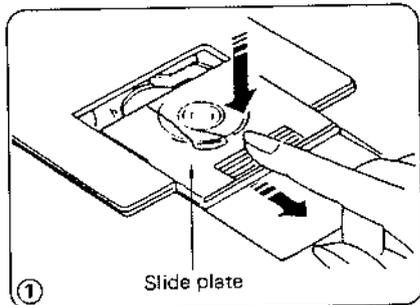
● Changing the Presser Foot

Use the correct presser foot for the stitch you wish to sew. Consult the detailed directions for sewing with the various presser feet.

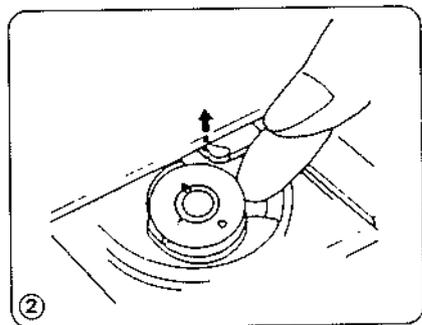


To change the various presser feet, raise the presser bar by lifting the presser foot lifter. Loosen the presser foot thumb screw, choose the proper foot and insert from the bottom. Tighten the screw using the screw driver to make certain the foot is secure.

● Removing the Bobbin

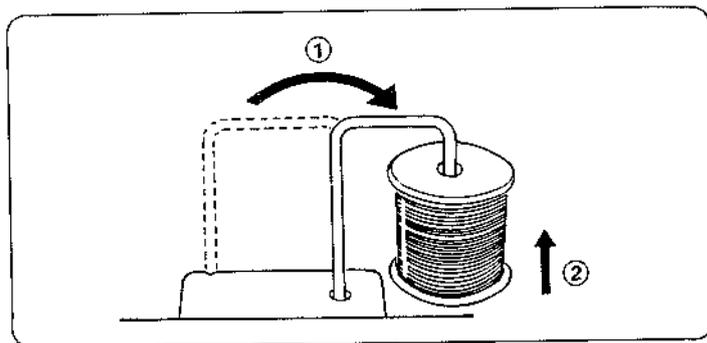


- ① Gently push slide plate down and slide it towards you.



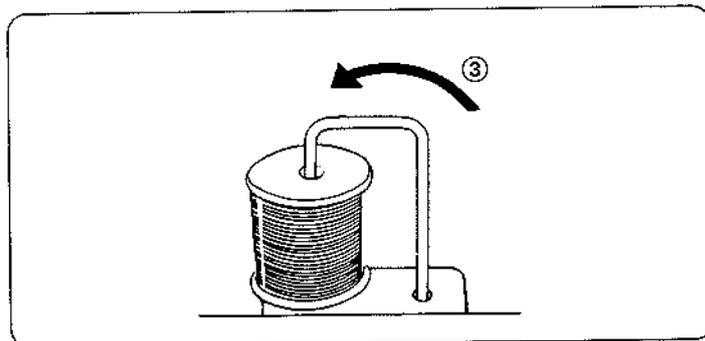
- ② Lift out the bobbin, as shown.

● Setting Spool



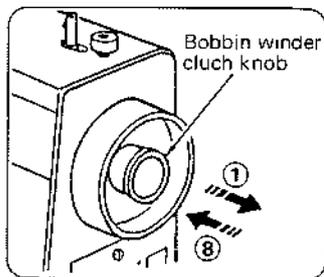
- ① Turn the spool pin.

- ② Set the spool from the bottom end of the spool-pin as illustrated.

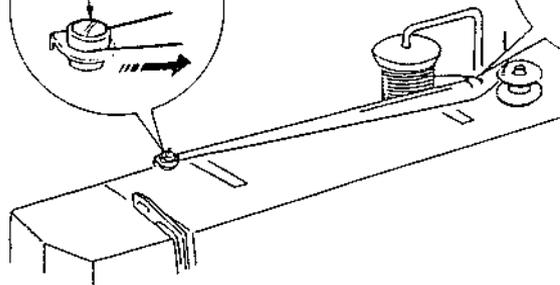
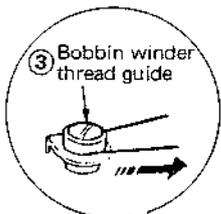


- ③ Return the spool pin to its original position.

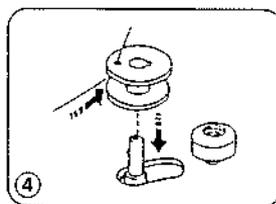
● Winding the Bobbin



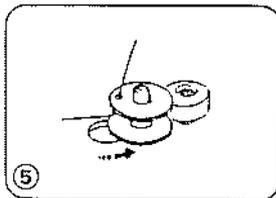
- ① Pull the clutch knob away from the machine to disengage clutch.



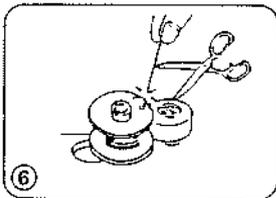
- ② Draw the thread from the spool.
Pass the thread through the top cover thread guide.
- ③ Guide the thread around the bobbin winder thread guide.



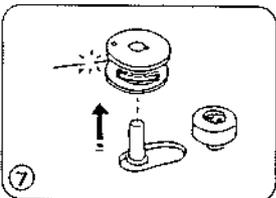
- ④ Insert the thread through the hole in the bobbin from inside to outside as shown.



- ⑤ Put the bobbin on the bobbin winder spindle, and push it to the right.



- ⑥ While holding the free end of the thread with your hand, depress the foot control. Stop the machine when it has made a few turns, and cut the thread close to the hole in the bobbin.

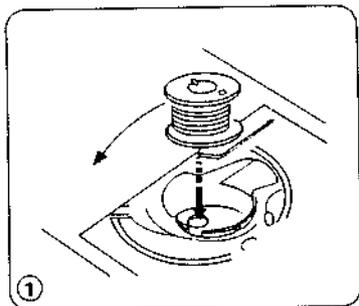


- ⑦ Depress the foot control again and wind the thread until the bobbin stops. Move the bobbin winder spindle to its original position (left), and cut the thread.

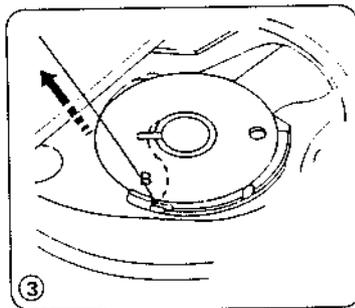
- ⑧ Push in the clutch knob to engage clutch.

* The machine will not sew until the clutch knob is pushed in.

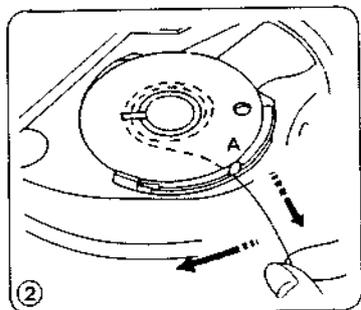
● Inserting the Bobbin



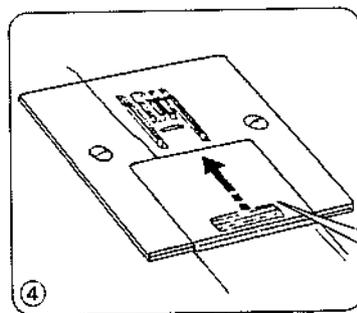
- ① Place the bobbin in the bobbin holder as the thread end unwinds clockwise.



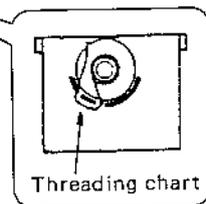
- ③ Continue to draw the thread lightly until the thread slips into notch B.
Pull out about 15 cm (6") of thread.



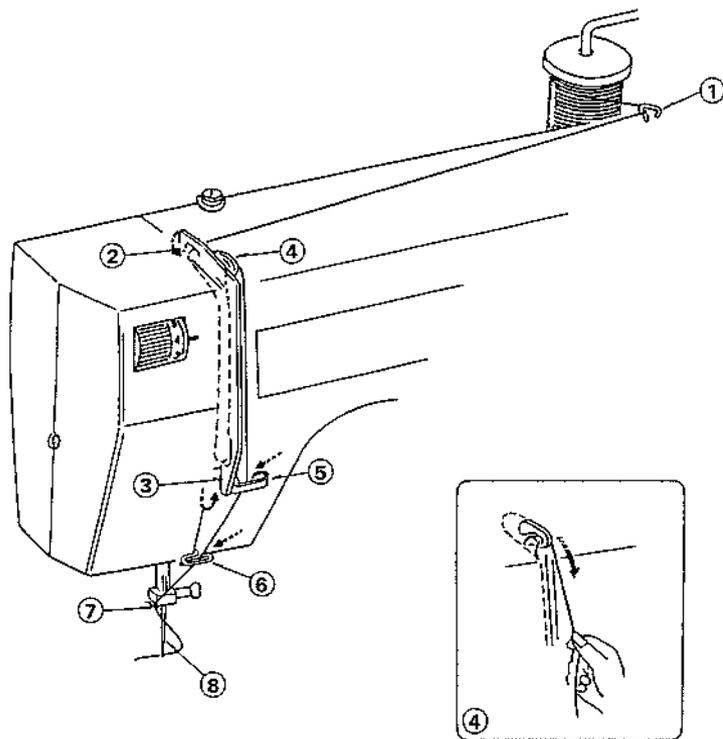
- ② Guide the thread into the notch A on the front side of the bobbin holder.
Draw the thread to the left sliding it between the tension spring blades.



- ④ Close the slide plate.
Check the threading by referring to the chart shown on the slide plate.



• Threading the Machine

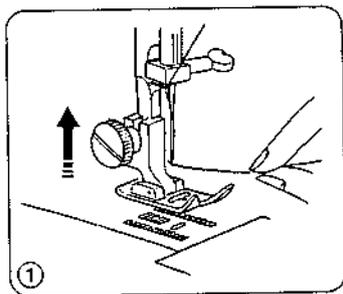


Raise the thread take-up lever to its highest position by turning the balance wheel towards you.

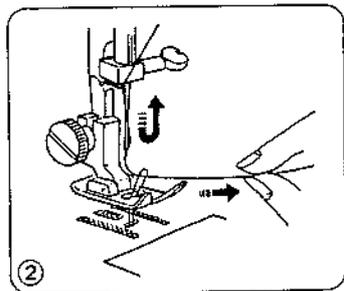
Raise the presser foot with the presser foot lifter and pass the thread in the order from ① to ⑧.

- ① Pass the thread through the top cover thread guide.
- ② Draw the thread around the thread guide and down into the tension area.
- ③ Then down around the check spring holder and draw up along the check spring holder.
- ④ Firmly draw the thread from left to right over the take-up lever and down into the take-up lever eye.
- ⑤ ⑥ Then down through the lower thread guides.
- ⑦ Slide the thread into the needle bar thread guide on the left from its behind.
- ⑧ Thread the needle from front to back.

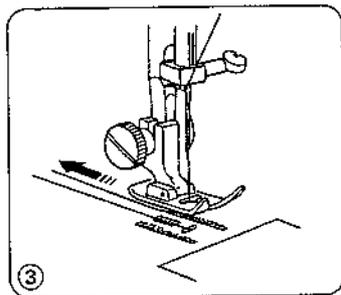
● Drawing Up Bobbin Thread



- ① Raise the presser foot and hold the needle thread lightly with your left hand.

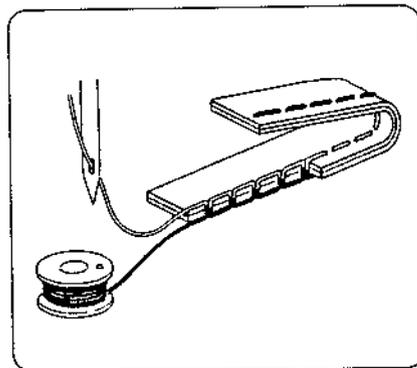


- ② Turn the balance wheel slowly towards you with your right hand until the needle goes down and continuously turn the balance wheel until the take-up lever is at its highest position. Lightly draw up the needle thread forming a loop of the bobbin thread.

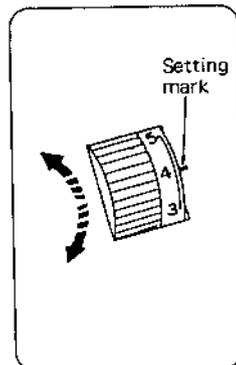


- ③ Pull 15 cm (6") of both threads back and under the presser foot.

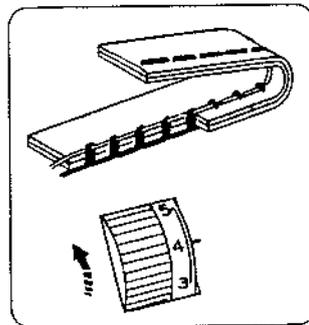
● Balancing Needle Thread Tension



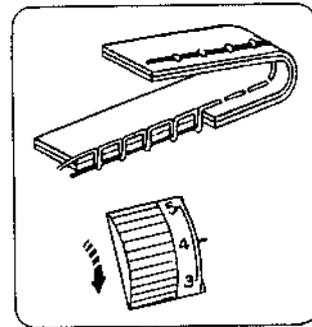
The needle thread and the bobbin thread should interlock in the center of two layers of fabric in straight seams.



Set the desired number of the thread tension dial at setting mark.

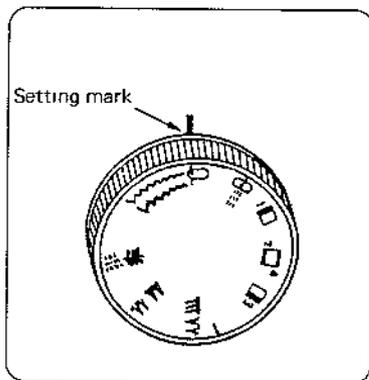


Loosen the needle thread tension by moving the dial to a lower number.



Tighten the needle thread tension by moving the dial to a higher number.

● Pattern Selector Dial

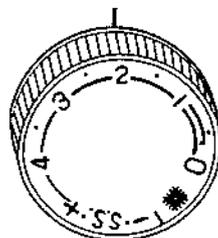
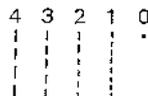


Turn the balance wheel with your hand until the tip of needle comes out of fabric. Select the stitch by turning the pattern selector dial.

Patterns	2 4 3						
Stitch length dial	0.3 ~ 1	1.5 ~ 4		0.3 ~ 4	0.5 ~ 1.5	1 ~ 3	2 ~ 3
Stretch stitch patterns	/						
Stitch length dial			S.S.				

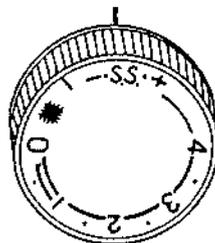
● Stitch Length Dial

★ Selecting Stitch Length



The higher the number, the longer the stitch length. You can select the suitable stitch length for most fabrics.

★ Selecting Stretch Stitch Patterns

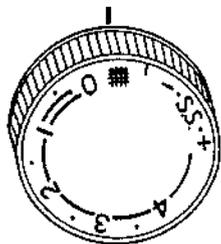


When sewing stretch stitch, set the stitch length dial at "S.S.". When forward and reverse feeds become unbalanced depending upon the type of fabric, correct the balance as follows:

When patterns are dense, correct it by turning the dial toward "+".

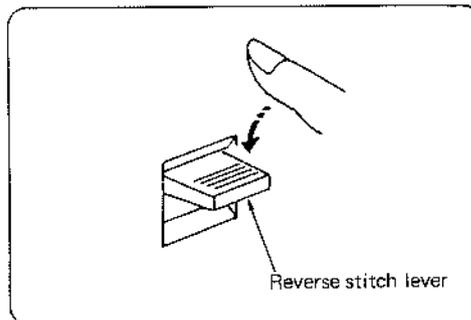
When patterns are coarse, correct it by turning the dial toward "-".

★ Dropping the Feed Dogs



For dropping the feed dogs, turn the stitch length dial to the "■" mark.

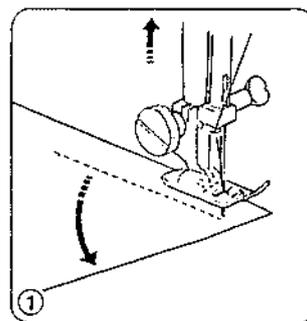
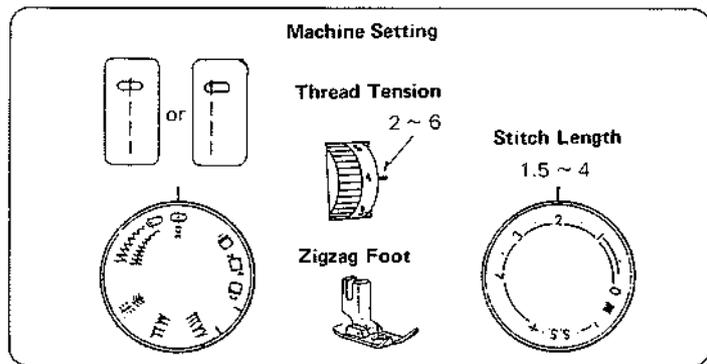
● Reverse Stitch Lever



Fabric is fed in reverse while the lever is pressed. When it is released, fabric is fed forward.

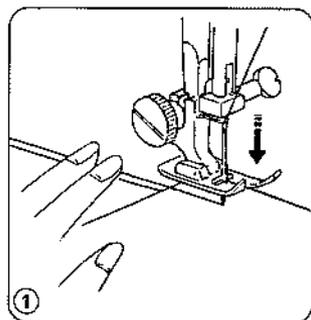
SECTION III SEWING

• Straight Stitch



◀ Changing Sewing Direction ▶

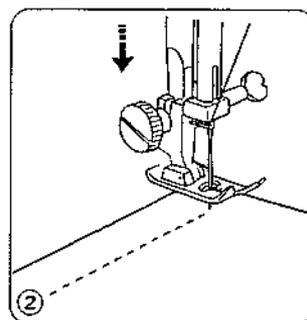
- ① Bring the needle down into the fabric, and raise the presser foot.



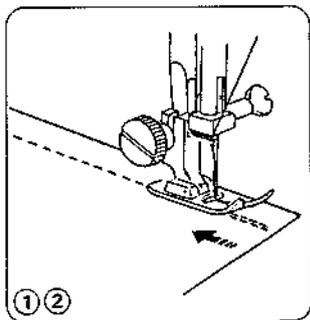
◀ Starting Sewing ▶

While holding the threads with your left hand, turn the balance wheel toward you to bring the needle into the fabric where you wish to start sewing.

Lower the presser foot, and press the foot control gently, then start sewing slowly.

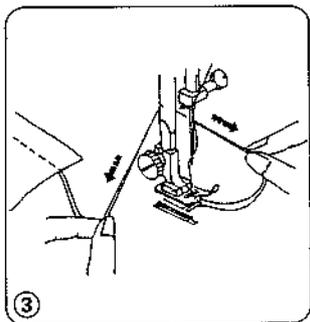


- ② Then pivot the fabric to the direction desired. Lower the foot to start sewing.



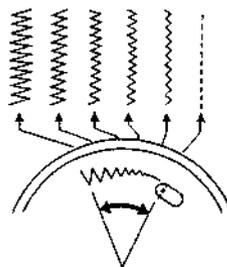
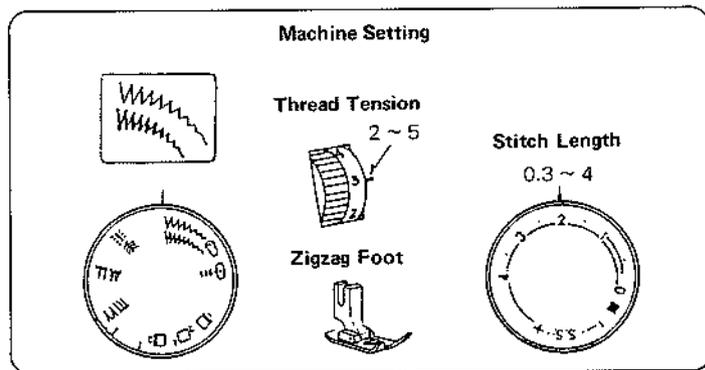
« Fastening Seams »

- ① For fastening the end of seams, press the reverse stitch lever and sew several reverse stitches.
- ② Bring the thread take-up lever at its highest position, and raise the presser foot. Then draw the fabric out to the rear.



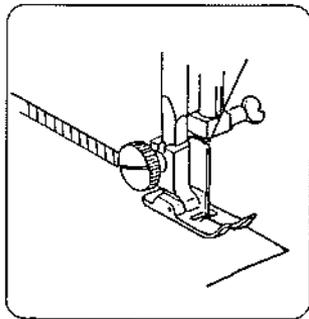
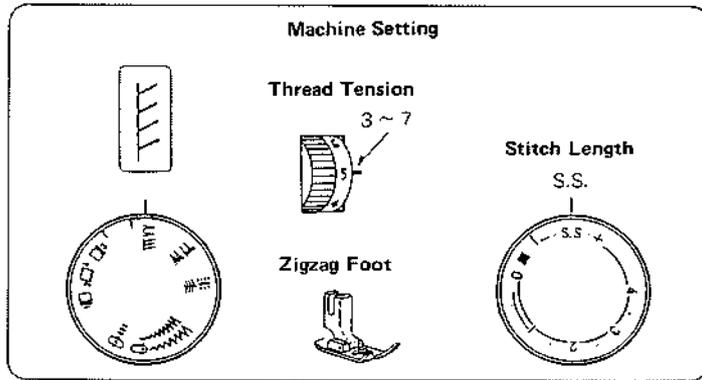
- ③ Cut the threads with leaving proper length of their ends for starting the next seam.

• Zigzag Stitch



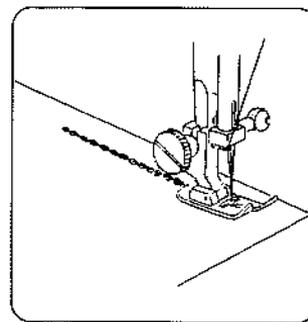
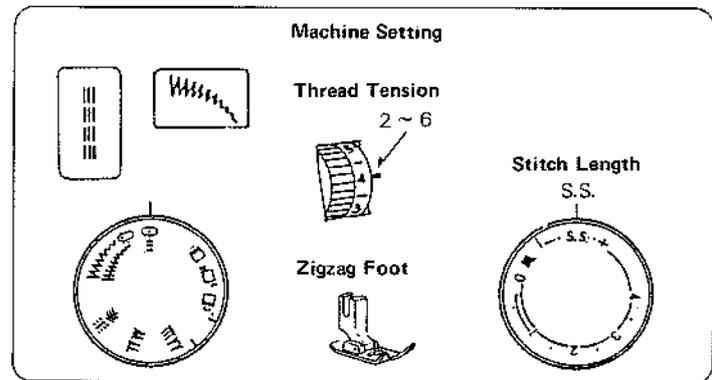
Zigzag width can be regulated in the range of the symbol as illustrated left.

● Overcasting



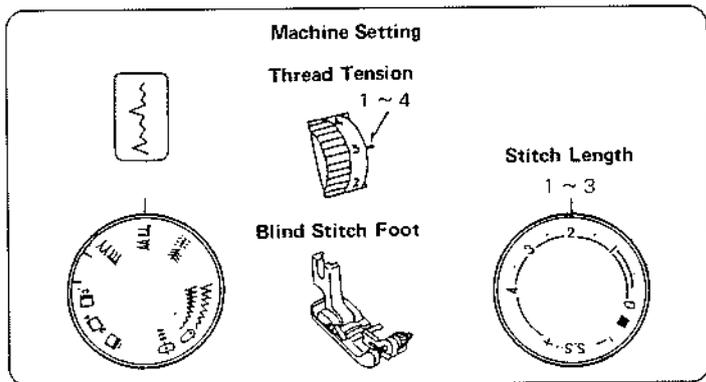
This type of stitch is used on the seam allowance to prevent fabrics from fraying at raw edges. It can be used to finish a hem edge.

● Triple Strength Stitch

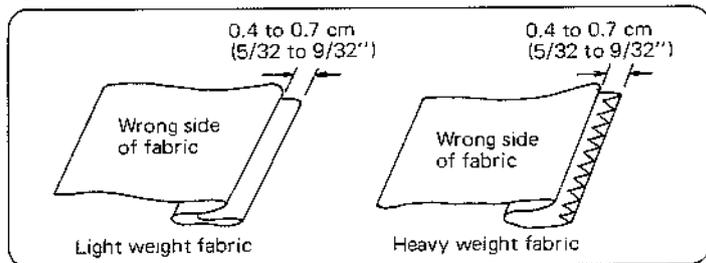


This seam is formed with two stitches forward and one stitch backward. Since the seam can not be ripped off easily, the garments should be basted for fitting before seaming.

● Blind Hemming



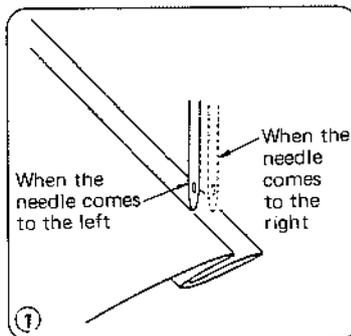
◀ How to Fold the Fabric ▶



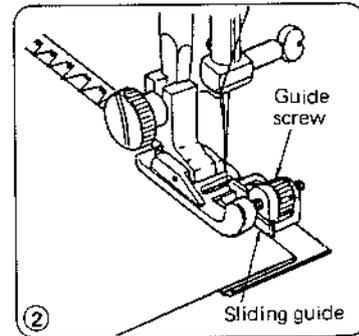
On heavy weight fabrics that ravel, the raw edge should be overcast first. On light weight fabrics the raw edge can be turned under and pressed.

Fold up the hem the desired amount and pin in place. Fold the hem under the fabric as illustrated.

◀ How to Sew ▶

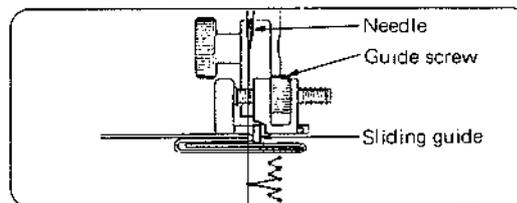


① Position the fabric on the machine so that the needle just pierces the folded edge of the fabric when the needle comes over to the extreme left side. Lower the presser foot.

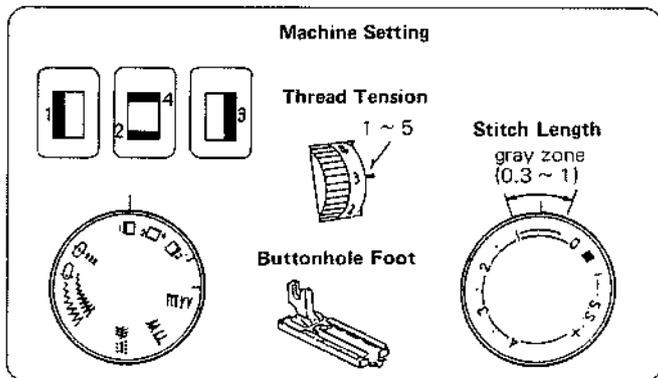


② Turn the guide screw and move the sliding guide against the folded edge. Sew the folded edge guiding along the sliding guide.

◀ How to Set the Guide ▶



● Buttonhole



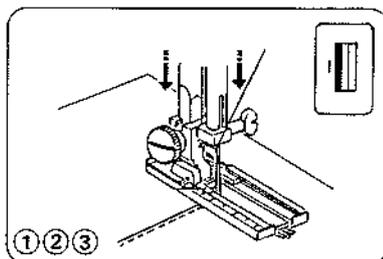
Always make a practice buttonhole on a scrap of fabric you plan to use. Try the buttonhole with the button you will use.



The symbol  (gray zone) on the stitch length dial indicates the range of adjustment for buttonhole.



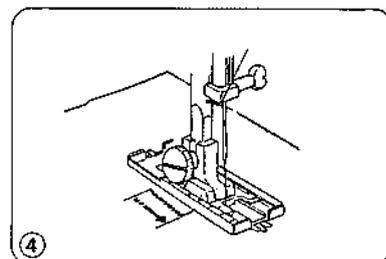
If you want the coarse stitches of the buttonhole, turn the dial toward "1" direction. If you want the dense stitches of the buttonhole, turn the dial toward "0" direction.



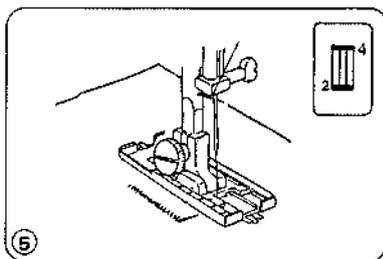
① Set the pattern selector dial at "1".

② Lead both threads to the left.

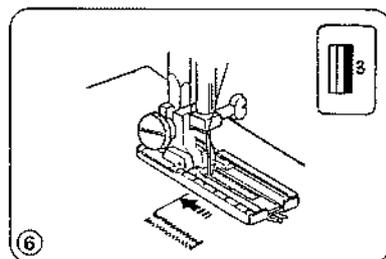
③ Lower the needle into the fabric where the buttonhole is to start, and lower the foot.



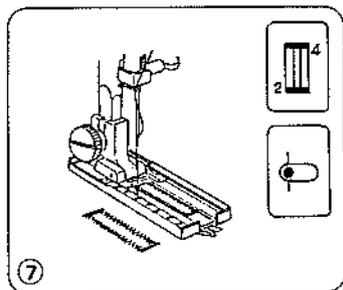
④ Sew down the left side of the buttonhole to the bottom end. Raise the needle.



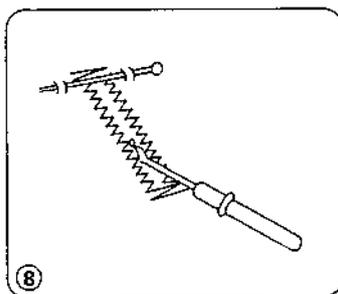
⑤ Set the pattern selector dial at "2", and sew 5 stitches of bartack, then raise the needle from the fabric.



⑥ Set the pattern selector dial at "3". Sew up the right side of the buttonhole. Stop the machine when you are directly opposite the first stitch on the left hand side, and raise the needle.

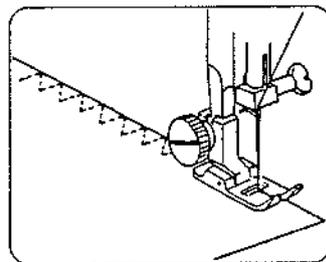
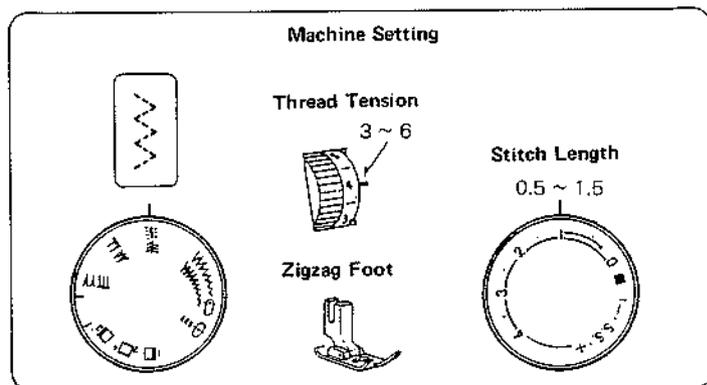


- ⑦ Set the pattern selector dial at "  ". Sew 5 stitches of bartack, and raise the needle from the fabric. Then set the pattern selector dial at "  " and sew a few stitches to secure the seam.



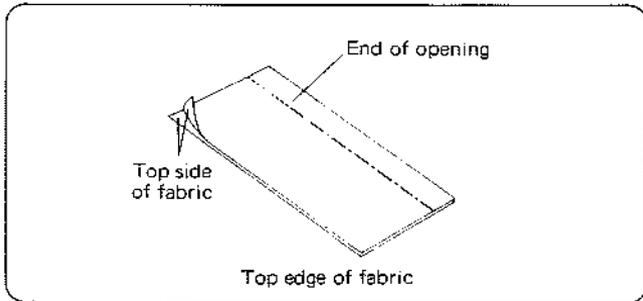
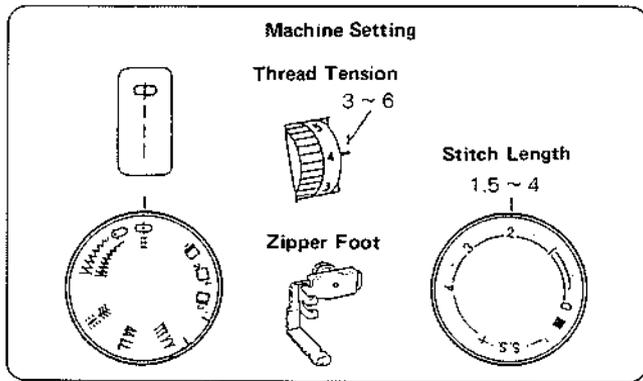
- ⑧ Remove the fabric from the machine, and cut the sewing threads. Pierce a pin inside the bartack. Then cut the opening with a seam ripper. Be careful not to cut the stitches.

• Tricot Stitch



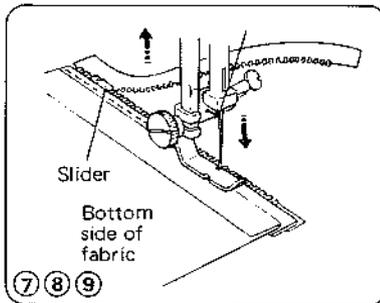
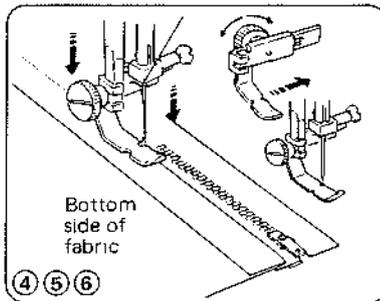
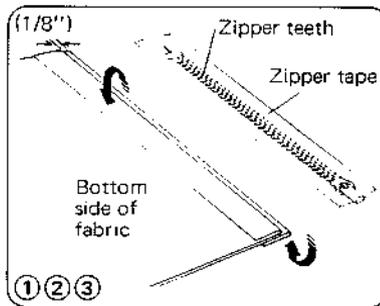
The tricot stitch is used to finish seam allowance on synthetics and other fabrics that tend to pucker. The stitch is excellent for darning and mending tears in fabric as well.

● Zipper Application



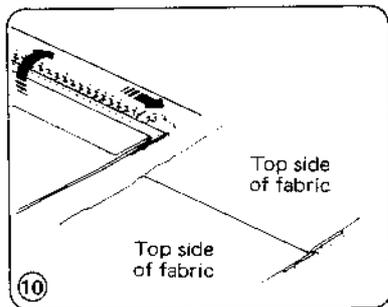
Fabric Preparation:

Put the top sides of the fabric together and sew to the end of the zipper opening. Use the reverse to lock the stitches. Baste the zipper opening with stitch length at "4" and top thread tension at "3".

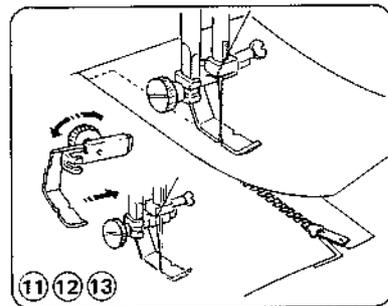


To Sew:

- ① Fold back the left seam allowance as shown.
- ② Turn under the right seam allowance to form a 1/8" fold.
- ③ Place the zipper teeth next to the 1/8" fold and pin in place.
- ④ To sew the left side of the zipper, set the zipper foot on the left side of the needle.
- ⑤ Lower the zipper foot on the top side at the bottom of the zipper so that the needle pierces the fold and the zipper tape.
- ⑥ Sew through the fold and the zipper tape to the point about 2" from the top of the zipper.
- ⑦ Lower the needle to hold the fabric and raise the presser foot.
- ⑧ Open the zipper.
- ⑨ Lower the presser foot and stitch the rest of the seam.



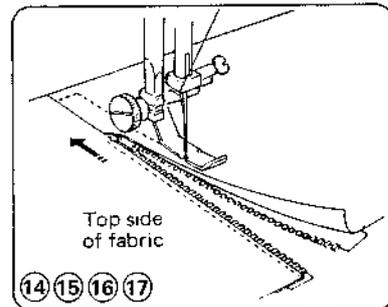
- ⑩ Close the zipper and turn the fabric top side up.



- ⑪ To sew the right side of the zipper, set the zipper foot on the right side of the needle.

- ⑫ Stitch across and below the bottom of the zipper.

- ⑬ Turn the corner and continue to guide the foot along the zipper teeth, as shown. Stitch through the fabric and zipper tape.



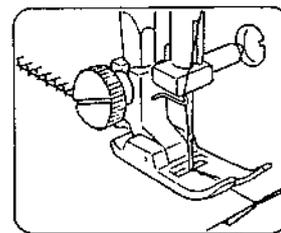
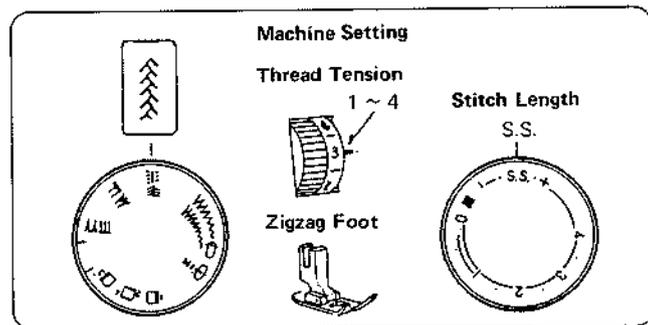
- ⑭ Stop about 2" from the top of the zipper.

- ⑮ Lower the needle into the fabric and raise the presser foot.

- ⑯ Remove the basting stitches and open the zipper.

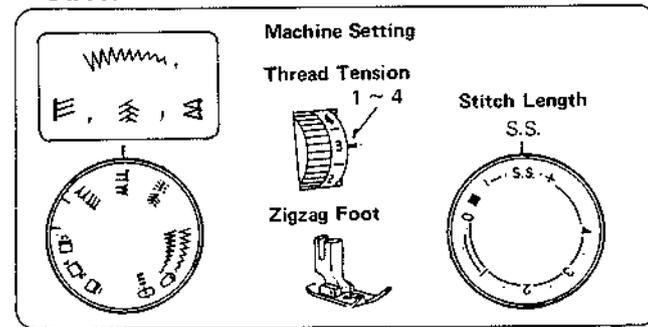
- ⑰ Lower the foot and stitch the rest of the seam. Make sure the fold is even.

● Feather Stitch

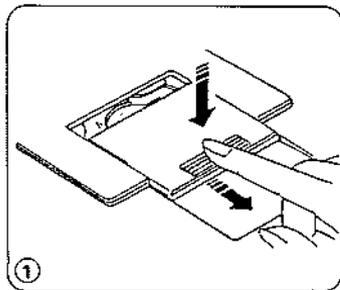


Butt two folded edges together and use this stitch to join them.

● Stretch Stitch Patterns



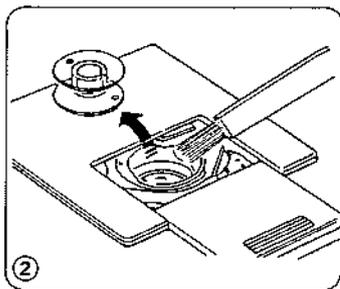
SECTION IV CARING FOR YOUR MACHINE



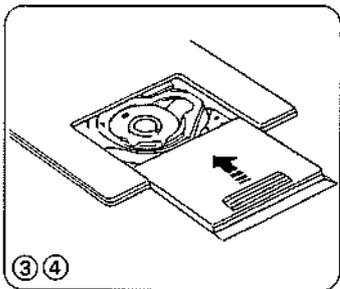
* Before cleaning, unplug your machine and raise the needle.

● Cleaning the Bobbin Holder

① While pushing the front end of slide plate, slide it toward you as far as it will go.

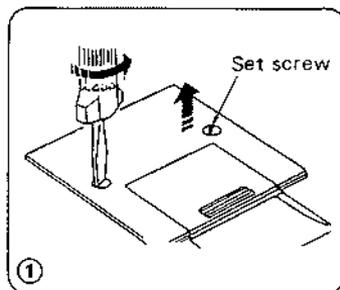


② Take out the bobbin, and remove lint with lint brush. You may use vacuum cleaner.



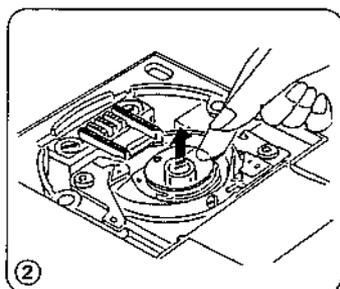
③ Insert the bobbin.

④ Close the slide plate.

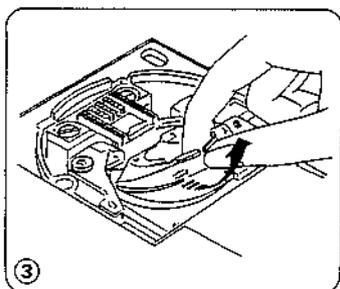


● Cleaning the Hook Race and Feed Dog

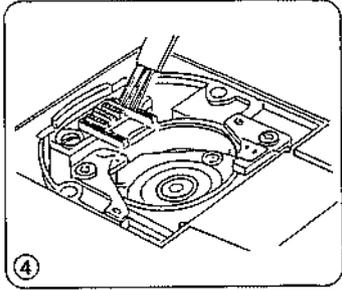
① Remove the needle and presser foot. Remove the needle plate by unscrewing its set screws with a screw driver.



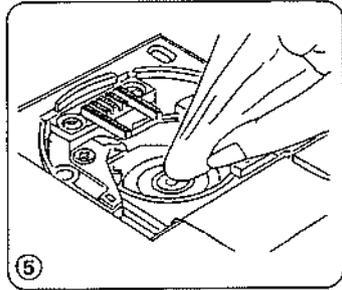
② Take out the bobbin.



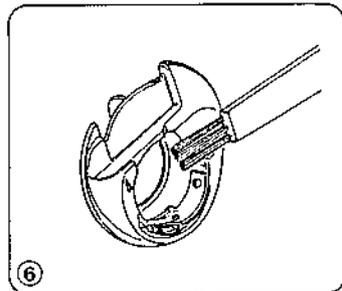
③ Lift up the front end of bobbin holder to remove it.



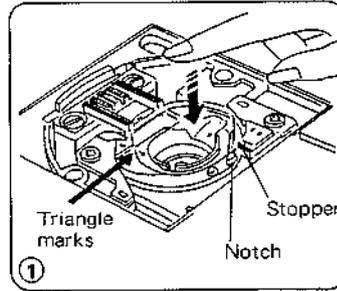
- ④ Brush off the lint on the feed dog.



- ⑤ Wipe the hook race with a soft dry cloth.

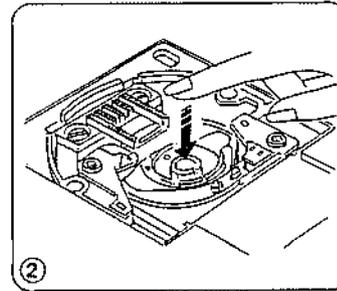


- ⑥ Clean the bobbin holder with a lint brush and a soft dry cloth.

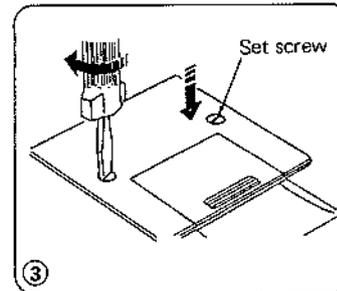


• Resetting the Bobbin Holder and Needle Plate

- ① Line up the triangle marks and position the bobbin holder so that the notch fits next to the stopper in the hook race.

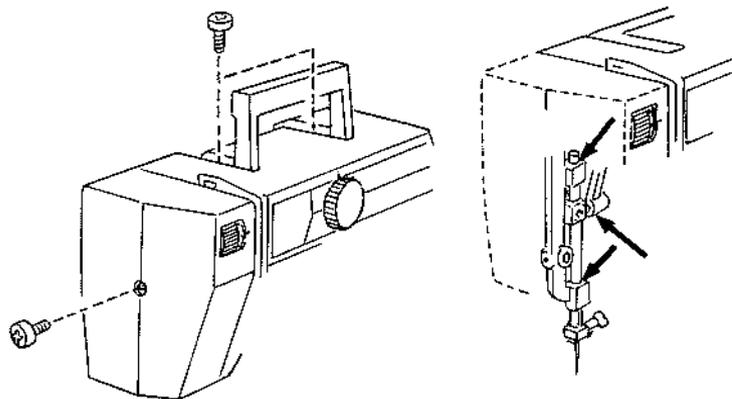


- ② Put the bobbin in.



- ③ Attach the needle plate with two set screws. Insert the needle, and attach the presser foot.

• Oiling the Machine



Unscrew and remove the face plate.

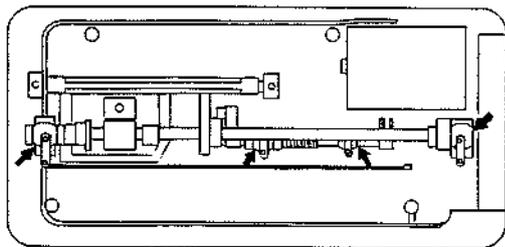
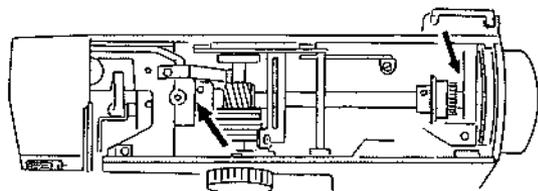
Apply a few drops of fine quality sewing machine oil to the points indicated by the arrows in the figures.

For a machine in constant use, oil two or three times a year.

In case the machine does not work smoothly due to standing idle for some time, apply a few drops of kerosene at the oiling points, and run the machine rapidly for a minute.

Before oiling, wipe off the oiling points.

Remove the two screws and take off the top cover. Apply a few drops of fine quality sewing machine oil to the points indicated by the arrows in the figures.



• Trouble Shooting

Condition	Cause	Reference
The machine does not run smoothly and is noisy.	<ol style="list-style-type: none"> 1. Threads have been caught in hook mechanism. 2. The feed dog is packed with lint. 	See Pages 24 ~ 25
The needle thread breaks.	<ol style="list-style-type: none"> 1. The needle thread is not threaded properly. 2. The needle thread tension is too tight. 3. The needle is bent or blunt. 4. The needle is incorrectly inserted. 5. The fabric is not being drawn to the back when sewing is finished. 6. The thread is either too heavy or too fine for the needle. 	See Page 12 See Page 13 See Page 6 See Page 7 See Page 17 See Page 6
The bobbin thread breaks.	<ol style="list-style-type: none"> 1. The bobbin thread is not threaded properly in the bobbin holder. 2. Lint has been collected in the bobbin holder and/or tension spring. 3. The bobbin does not rotate smoothly. 	See Page 11 See Pages 24 ~ 25 Replace the bobbin.
The needle breaks.	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The needle clamp screw is loose. 4. The tension of the needle thread is too tight. 5. The fabric is not drawn to the back when sewing is finished. 6. The needle is too fine for the fabric being sewn. 7. The pattern selector dial had been turned while the needle was in the material. 	See Page 7 See Page 7 See Page 7 See Page 13 See Page 17 See Page 6 See Page 14
Skipped stitches	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The needle and/or threads are not suitable for the work being sewn. 4. A BLUE TIPPED needle is not being used for sewing stretch, very fine fabrics and synthetics. 5. The needle thread is not threaded properly. 	See Page 7 See Page 6 See Page 6 See Page 6 See Page 12

Condition	Cause	Reference
Seam Puckering	<ol style="list-style-type: none"> 1. The needle thread tension is too tight. 2. The needle thread and/or bobbin thread are not threaded properly. 3. The needle is too heavy for the cloth being sewn. 4. The stitches are too coarse for the fabric being sewn. <p>* When sewing extremely light weight materials, place a sheet of paper underneath the fabric.</p>	<p>See Page 13 See Pages 11 ~ 12 See Page 6 See Page 14</p>
Stitches form loops below the work.	<ol style="list-style-type: none"> 1. The needle thread tension is too loose. 2. The needle is either too heavy or too fine for the thread. 	<p>See Page 13 See Page 6</p>
The cloth is not feeding smoothly.	<ol style="list-style-type: none"> 1. The feed dog is packed with lint. 2. The stitches are too fine. 3. The feed dog is not raised after "Drop feed" has been used. 	<p>See Pages 24 ~ 25 See Page 14 See Page 15</p>
The machine does not work.	<ol style="list-style-type: none"> 1. The machine is not plugged in. 2. A thread is caught in the hook race. 3. Bobbin winder clutch knob is not pushed in. 	<p>See Page 5 See Pages 24 ~ 25 See Page 10</p>
The buttonhole stitches are not balanced.	<ol style="list-style-type: none"> 1. The stitch length is not suitable for the fabric being sewn. 2. The work is being pulled or held back. 	<p>See Page 14 Do not force the fabric for guiding.</p>
The machine is noisy.	<ol style="list-style-type: none"> 1. The machine is in need of oil. 2. Dust and lint have collected in the hook mechanism. 3. The feed dog is packed with lint. 	<p>See Page 26 See Pages 24 ~ 25 See Pages 24 ~ 25</p>

