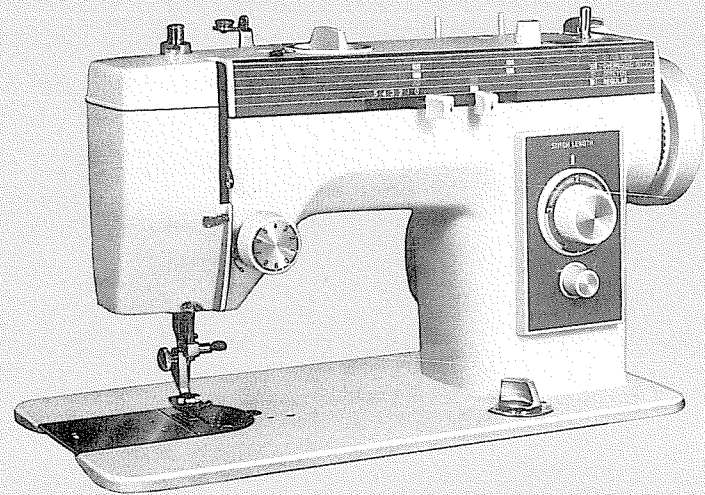


# INSTRUCTION BOOK



## MAIN FEATURES

1. Easy to operate. Color code system gives trouble-free setting. Consult the control panel, and set your knobs and dials at the same color indications. Quick buttonholer and other useful built-in stitches are ready to be sewn as easy as regular straight and zigzag stitching.

2. Built-in stitches are as follows:



**BUTTONHOLE:** Quick and perfect 5-stage buttonhole. First set knobs and stitch length dial at the same coded color symbol, then turn the buttonhole dial in the order of "1 → 2 → 3 → 4 → 5". (See Page 20)



**BLIND HEM:** Using blind stitch hem guide with zigzag foot, blind hem stitch will be sewn quickly and neatly.



**OVEREDGE STRETCH:** Overedge stretch stitch is good for sewing edge of fabric or seaming where a great elasticity is required.



**STRETCH STITCH:** Triple lock stretch stitch is good for seaming knit, jersey and other stretch fabrics. Reinforced seams also provide good elasticity and are useful for stitching crotch seaming, bulky fabric and etc.



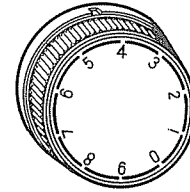
**REGULAR:** Offers basic straight, zigzag stitches and satin stitches. (See Pages 14, 16, 23, 24 and 26)

## CONTENTS

Principal Parts . . . . .	4	To turn Corner . . . . .	15
Foot Control . . . . .	6	To Finish Seam . . . . .	15
Sewlight . . . . .	6	Zigzag Stitching . . . . .	16
Changing the Bulb . . . . .	6	Manual Zigzag Patterns . . . . .	17
Practical Guide to Needle and Thread for Selected Cloth . . . . .	7	Stretch Stitch . . . . .	18
Changing the Needle . . . . .	8	Over Edge Stretch Stitch . . . . .	19
Removing and Replacing the Bobbin . . . . .	9	Buttonhole . . . . .	20
Winding the Bobbin Thread . . . . .	9	Button Sewing . . . . .	23
Threading the Bobbin Case . . . . .	11	Sewing in a Zipper . . . . .	24
Threading the Needle . . . . .	12	Blind Hem Stitch . . . . .	25
Drawing up the Bobbin Thread . . . . .	13	Hemming . . . . .	26
Straight Stitching . . . . .	14	To Clean Feed Dog . . . . .	27
To Start Sewing . . . . .	15	To Clean Shuttle Race . . . . .	28
		To Oil Machine . . . . .	29

To Regulate Belt Tension	
on Motor . . . . .	30
Unsatisfactory Condisions:	
Causes and Remedies . . . . .	31

# PRINCIPAL PARTS

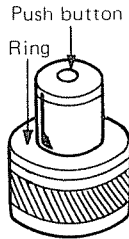


## Thread tension regulator dial

To strengthen tension: Turn dial to a higher number.

To weaken tension: Turn dial to a lower number.

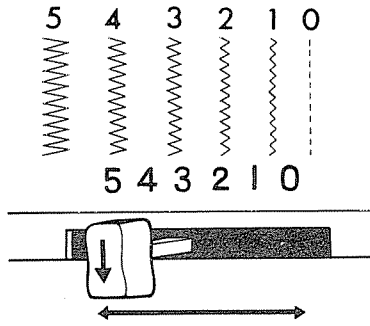
## Pressure regulator



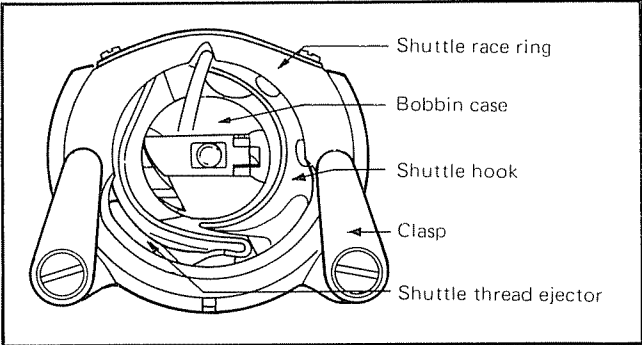
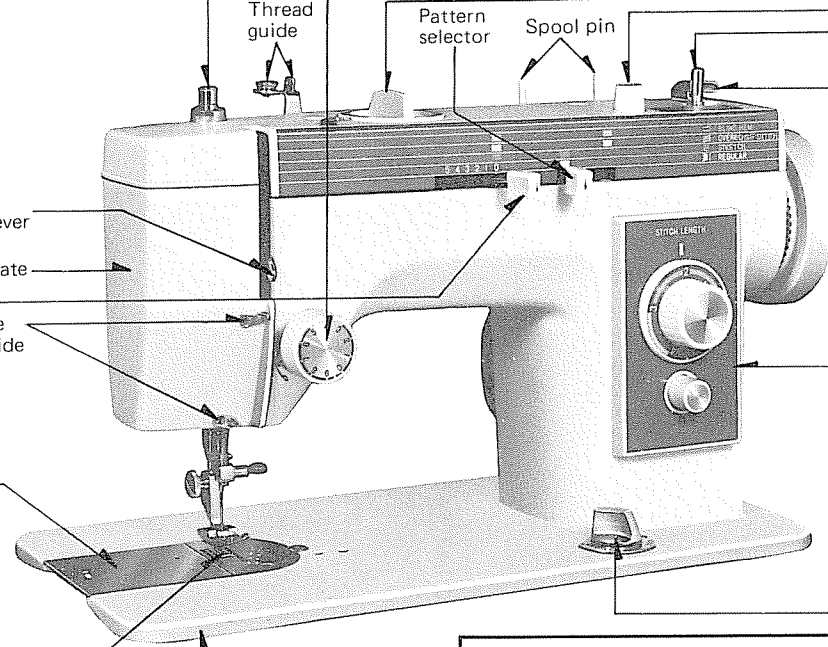
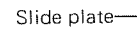
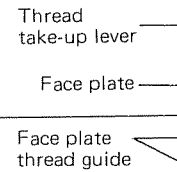
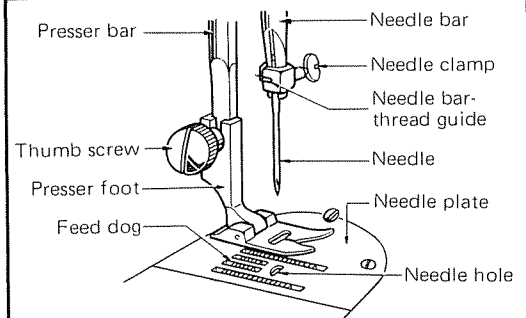
To set: Press down push button.

To release: Push ring down.

## Stitch width knob



\* When moving the knob from "0" to "1 ~ 5", press down and move to the desired direction.





## FOOT CONTROL

By pressing lightly your machine is set in motion.

The lighter pressure will give the slower speed to the machine and the harder pressure the faster speed.

## SEWLIGHT

### \* Switch

The switch is found on the back of face plate.

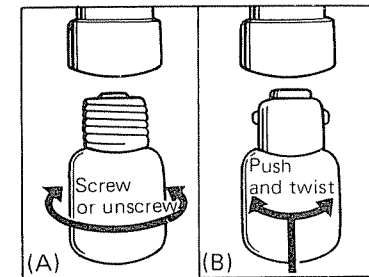
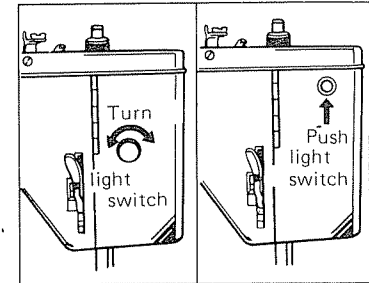
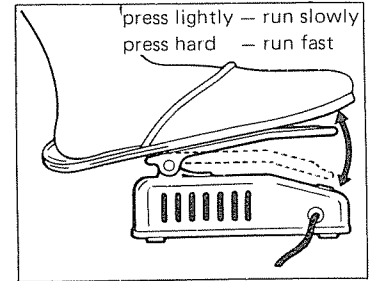
### \* Changing the Light Bulb

Disconnect power supply plug from your machine. Make sure your bulb base:

- (A) Screw or unscrew.
- (B) Push and twist.

### \* CAUTION \*

1. Disconnect power supply plug from your machine before you leaving the machine unattached and when changing, adjusting or caring parts.
2. Do not place anything on foot controller, otherwise, either the machine may start inadvertently or foot controller may be overheated.



**PRACTICAL GUIDE TO NEEDLE AND THREAD FOR SELECTED CLOTH**

FABRIC		THREAD	NEEDLE
WEIGHT	TYPE		
FINE or LIGHT	fine lace, organdie, chiffon, silk, lawn, crepe, tulle, voile, fine linen, georgette	Silk thread 50 Fine polyester thread Fine cotton thread	#9 or #11
LIGHT or MEDIUM	SYNTHETIC FABRICS: jersey, fine knit, bonded knits, nylon tricot	Silk thread 50 Polyester thread 50 Mercerized cotton thread 50 ~ 60	#11 SS
LIGHT or MEDIUM	cotton, poplin, taffera, linen, satin	Silk thread 50 Polyester thread 50 Mercerized cotton thread 50 ~ 60	#11 or #14
MEDIUM	dress wool, shirtings, crimplene, gingham, suitings, glass fibre, percale	Mercerized cotton thread 50 ~ 60 Polyester thread 50	#14
MEDIUM HEAVY or HEAVY	denim, tweed, flannel, corduroy, terry cloth, bonded fabrics, coatings, over-coatings, gabardine	Polyester thread 40 ~ 50 Heavy-duty Mercerized cotton 40 ~ 50	#14, #16 or #18

(NOTE:) Use a good quality mercerized cotton thread, if available, to avoid shrinking when laundered.

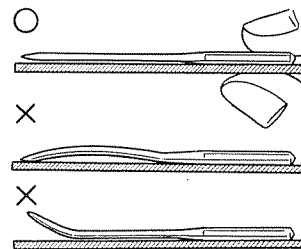
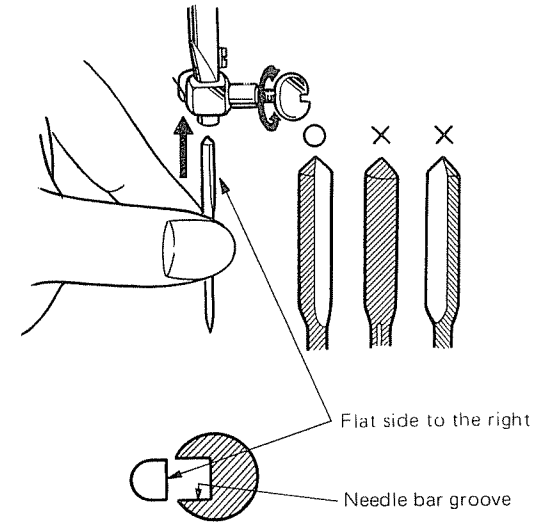


## CHANGING THE NEEDLE

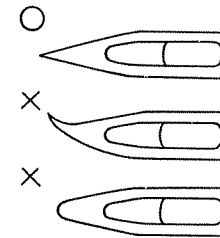
1. Raise needle to its highest point by turning balance wheel toward you.
2. Loosen needle clamp screw and remove the needle.
3. Insert new needle, with the flat side of needle to the right, and push it up all the way until it hits pin.
4. Tighten needle clamp screw firmly.

### \* TO CHOOSE CORRECT NEEDLE

The needle should be straight and the point of needle should not be bent or blunt. Select a needle of correct size to permit the thread smooth passing.



Select straight needle



Point should not be bent or blunt

## REMOVING AND REPLACING THE BOBBIN

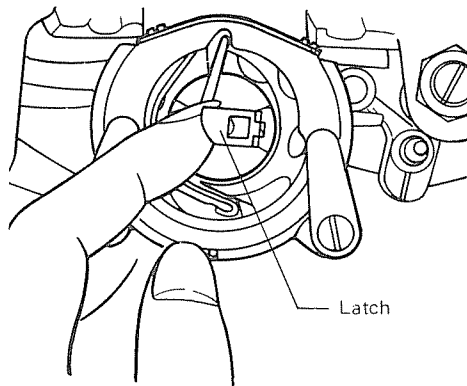
Raise thread take-up lever to its highest position and open the slide plate:

### \* REMOVING THE BOBBIN

Remove bobbin case by holding the latch open. Then release latch and turn bobbin case downward. The bobbin will not drop out while holding the latch open.

### \* REPLACING THE BOBBIN

Hold the bobbin case by the latch and place it into the shuttle.



## WINDING THE BOBBIN THREAD

1. Hold the balance wheel with your left hand, and turn stop motion screw toward you. (Fig. 1)

(continued)



Fig. 1

(continued)

2. Place a spool of thread on the spool pin.
3. Lead thread into thread guide bracket eyelet then between the discs. (Fig. 2)
4. Pass the end of thread through hole in bobbin from inside to outside and slip the bobbin on to bobbin winder spindle.
5. Hold the end of thread and run the machine. (Fig. 3) Cut the free end of thread after winding thread around bobbin several times. Then again, run the machine until thread is wound 70 to 80% and stop machine.
6. Take out bobbin from spindle, cut thread and tighten the stop motion screw without fail.

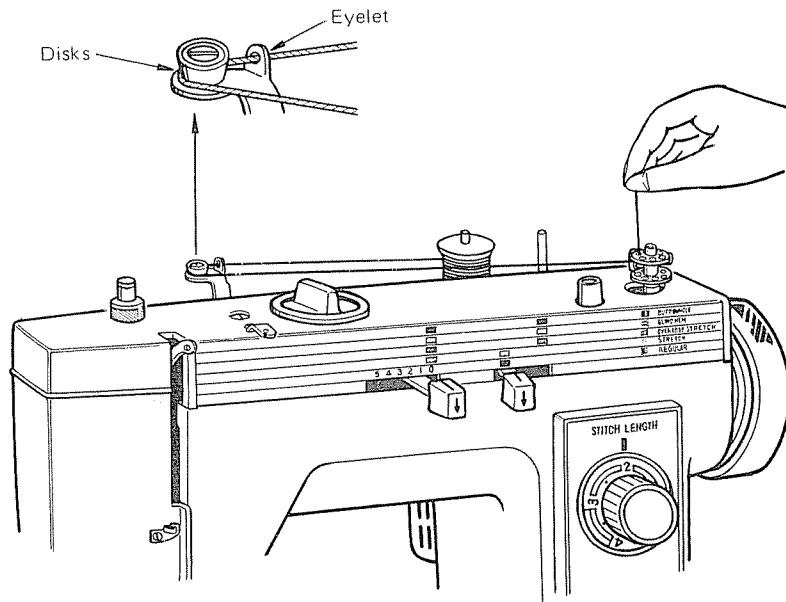


Fig. 2

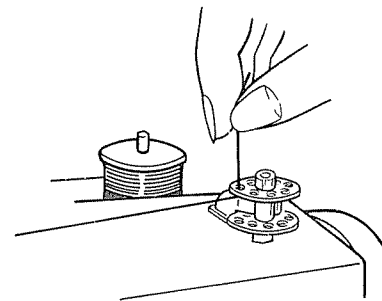


Fig. 3

## THREADING THE BOBBIN CASE

1. Hold bobbin case in your left hand and place the threaded bobbin into it (Fig. 1)
2. Guide thread into the slot on the edge of bobbin case (Fig. 2)
3. Pull it through under tension spring and then into delivery eye (Fig. 3).
4. Draw about five inches or 10 cm of thread.

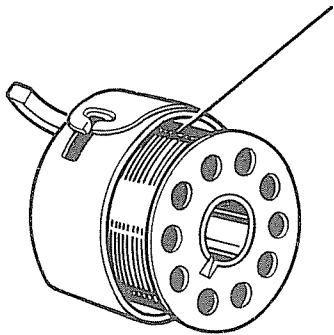


Fig. 1

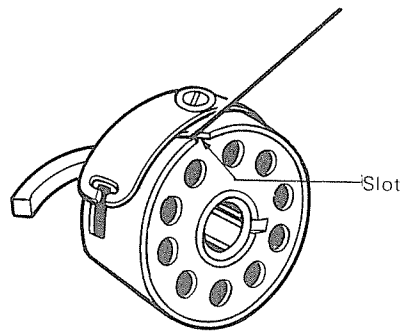


Fig. 2

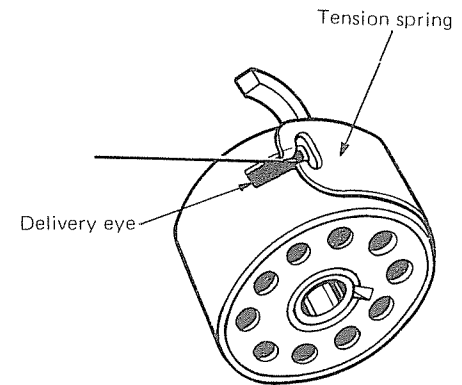
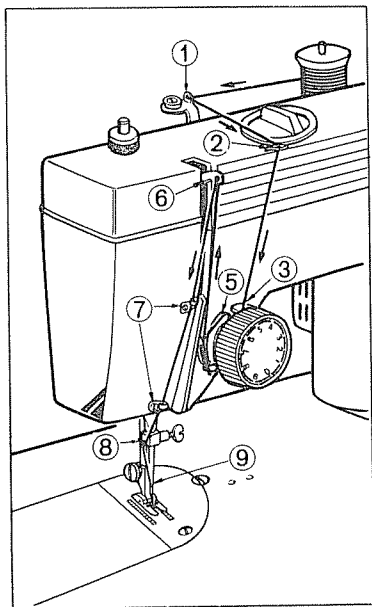


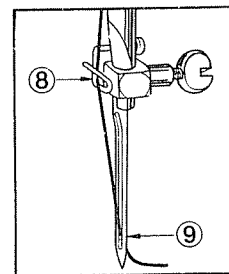
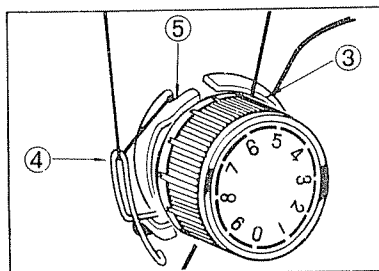
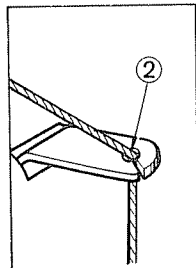
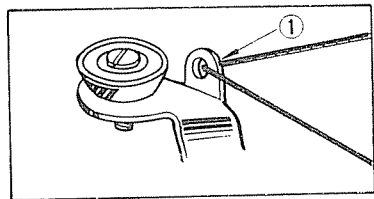
Fig. 3

## THREADING THE NEEDLE



Raise thread take-up lever to its highest point by turning balance wheel toward you. Then raise presser bar lifter and lead the thread through all points from ① to ⑨ as follows:

1. Place a spool of thread on the spool pin.
2. Pass thread through top cover thread guides (① & ②).
3. Lead thread between tension discs (③) from right to left while restraining thread from drawing out freely from spool. Then pull it up through check spring (④) and over tension thread guard (⑤) from behind.
4. Guide thread into the hole on thread take-up lever (⑥), then down into face plate thread guides (⑦) and needle bar thread guide (⑧).
5. Thread the needle (⑨) from left to right and draw about 15 cm or 6 inches of thread through the eye of needle.



## DRAWING UP THE BOBBIN THREAD

1. Hold needle thread with your left hand and turn balance wheel toward you until needle moves down and up again, then stop balance wheel.
2. Pull needle thread to bring up bobbin thread in a loop.
3. Draw the threads under the presser foot away from you.

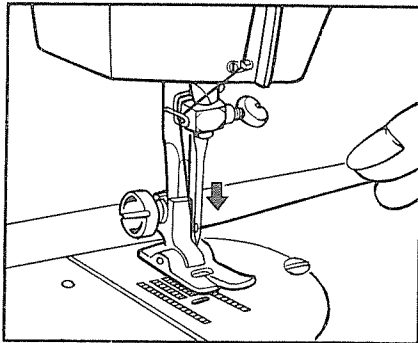


Fig. 1

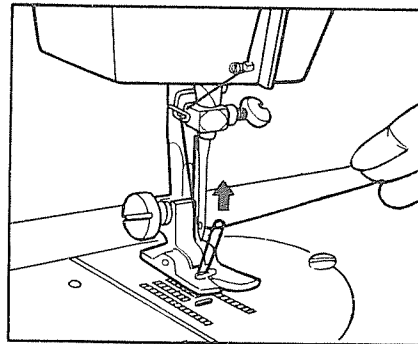


Fig. 2

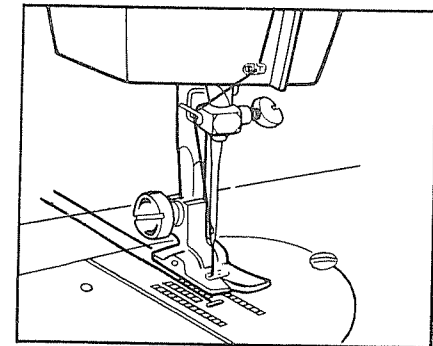
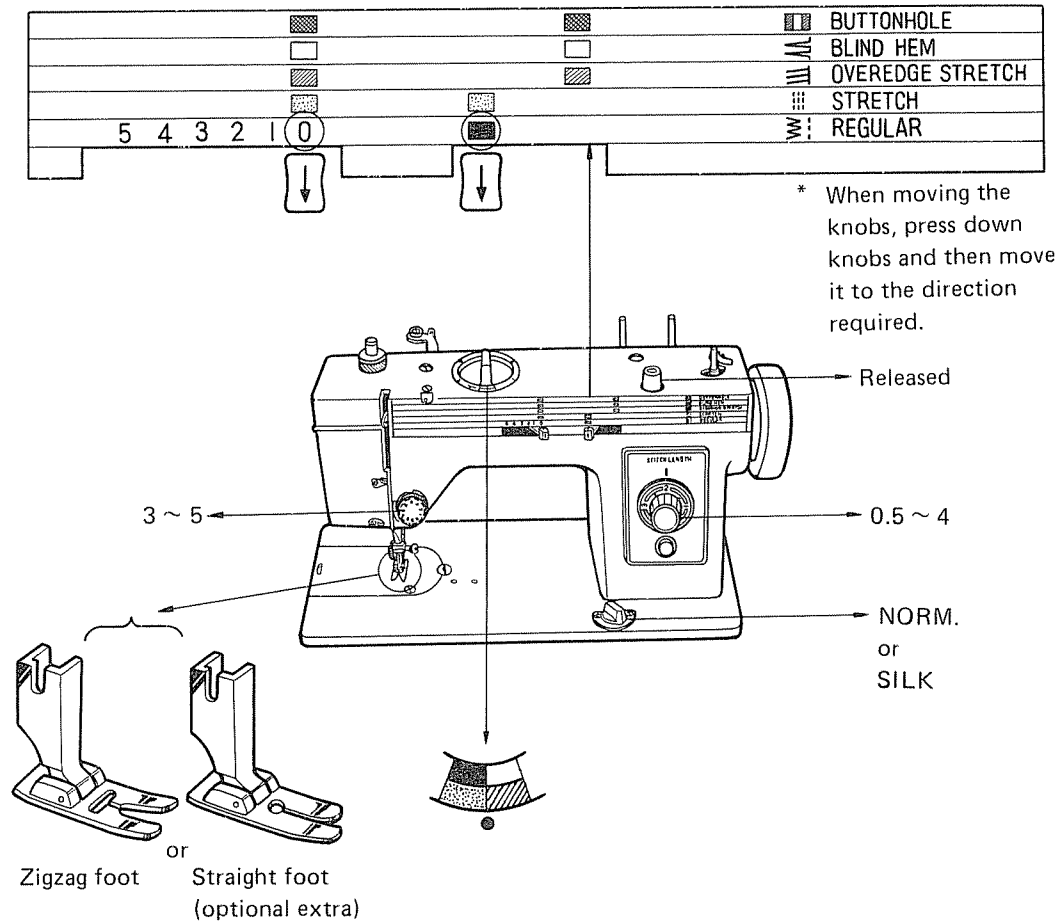


Fig. 3

## STRAIGHT STITCHING

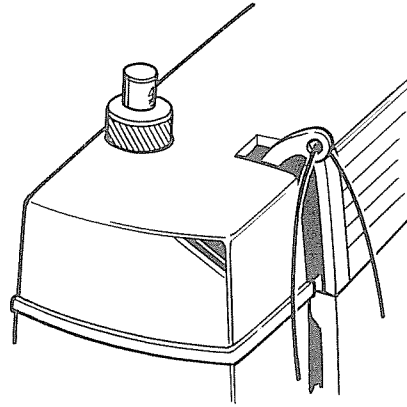
Even in straight stitching, it does not matter at all to use the zigzag presser foot, but in case more successful fine stitch is required, recommended to use straight foot (optional extra).

NOTE: It is recommended to try test piece stitching before sewing your garment.  
Gently guide your material with hands but be careful not to pull it.



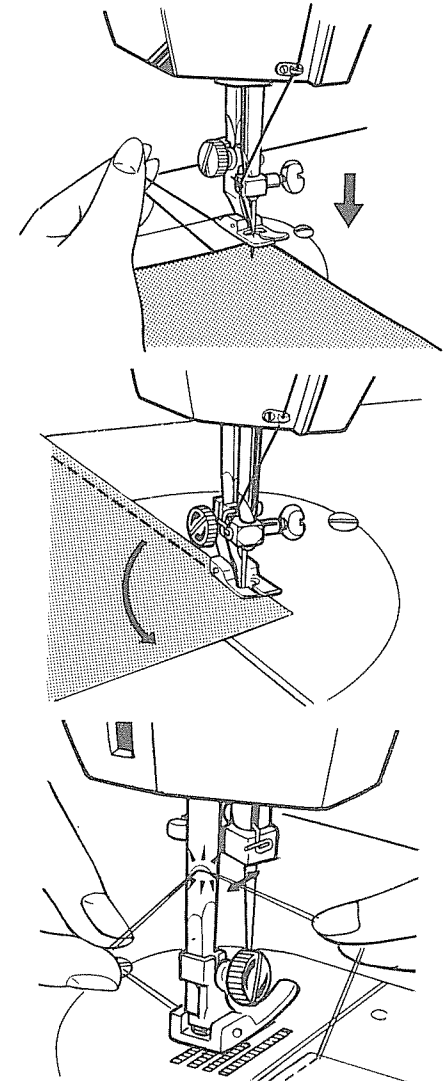
## TO START SEWING

1. Make sure your knobs and dials are in the correct position as shown in the previous page.
2. Raise the thread take-up lever to its highest position by turning balance wheel toward you.
3. Raise presser foot and position needle in your material while holding the thread ends.



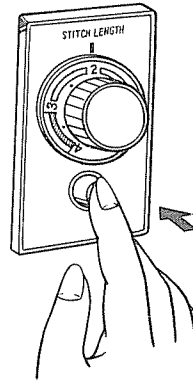
## TO TURN CORNER

1. Stop sewing with needle in the fabric and raise presser foot.
2. Pivot the fabric on needle.



## TO FINISH SEAM

1. At the end of a seam, press reverse push button all the way down and sew a few stitches for reinforcement.
2. Raise thread take-up lever to its highest position.
3. Thread cutter can be found on the rear side of presser bar.

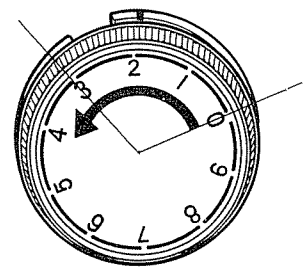




# ZIGZAG STITCHING

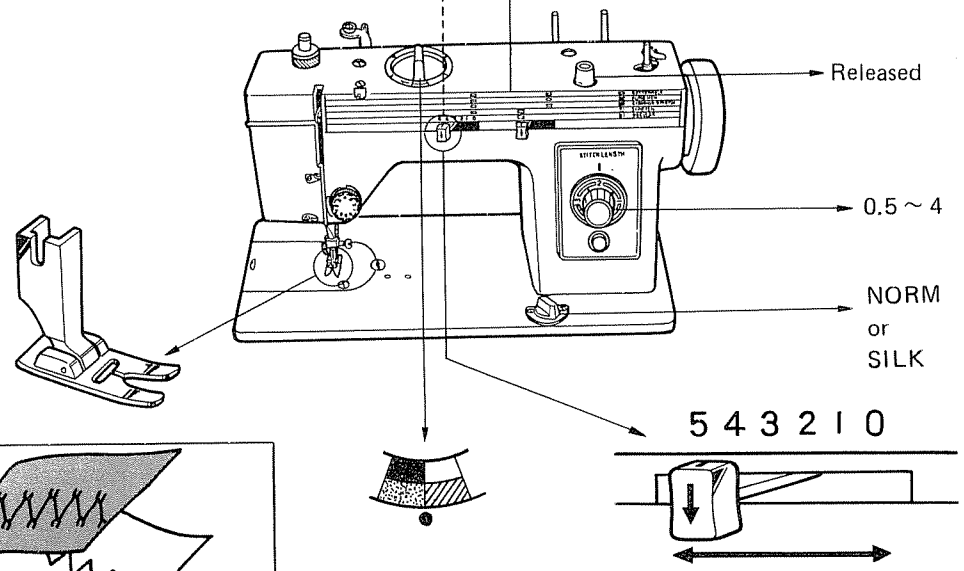
## THREAD TENSION FOR ZIGZAG STITCHING

To obtain better zigzag stitches, the needle thread tension should be slightly weaker than in the case of straight sewing.



Turn the thread tension dial in the direction of arrow.

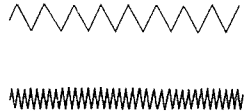

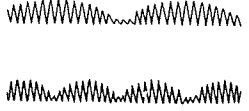

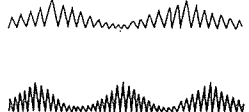
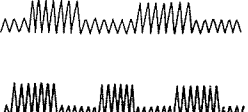
	5	4	3	2	1	0				BUTTONHOLE
										BLIND HEM
										OVEREDGE STRETCH
										STRETCH
										REGULAR



The needle thread should slightly appear on the reverse side of the material.

## MANUAL ZIGZAG PATTERNS

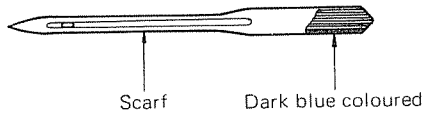
By manually adjusting the stitch length and zigzag width while running the machine, some beautiful ornamental stitches can be made as follows:

Pattern	Stitch Length	Zigzag Width	Patterns	Stitch Length	Zigzag Width
	long short	Set to any point from 1 to 5.		long and short (repeat)	Set to any point from 1 to 5.
	long short	Gradually move the knob from 0 to 5 and return to 0. (repeat)		long short	Set to 0. Quickly move the knob to 5 and back to 0. (repeat)
	long short	Very slowly move the dial from 0 to 5 and return to 0. Gradually move the dial from 0 to 5 and return to 0. (repeat)		long short	Move the knob quickly and alternatively from 2 to 5 and from 5 to 2. (repeat)

## STRETCH STITCH

Triple lock stretch stitch gives elasticity to the seam and also it is durable. Good for seaming stretchy fabrics and seams that receive an unusual amount of strain.

1. Make a test sample to test the machine settings.
2. Lower foot and start machine, holding the thread end and fabric close to the foot as the first few stitches are made.
3. Guide fabric carefully because the machine stitches back and forth.

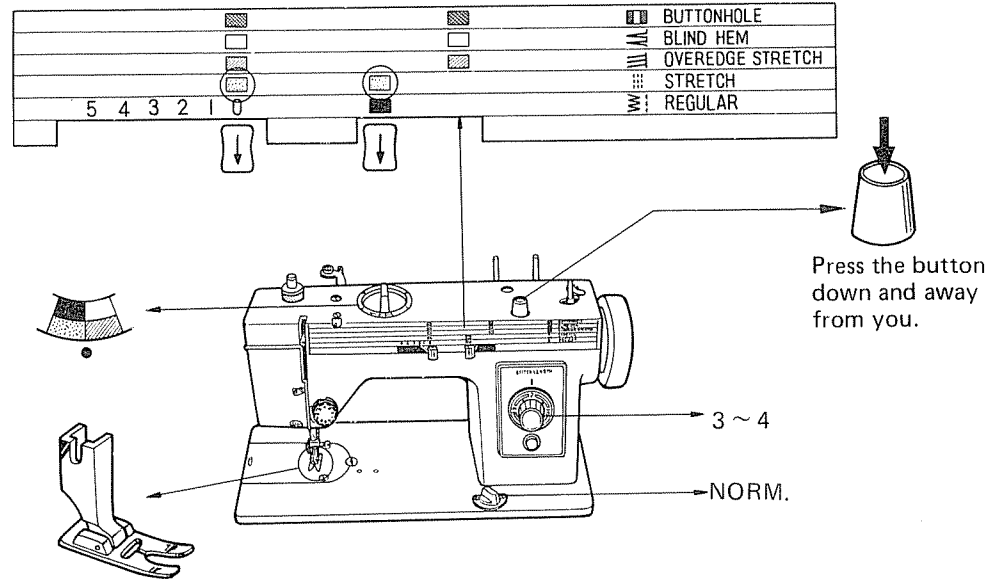


More successful stretch stitching:

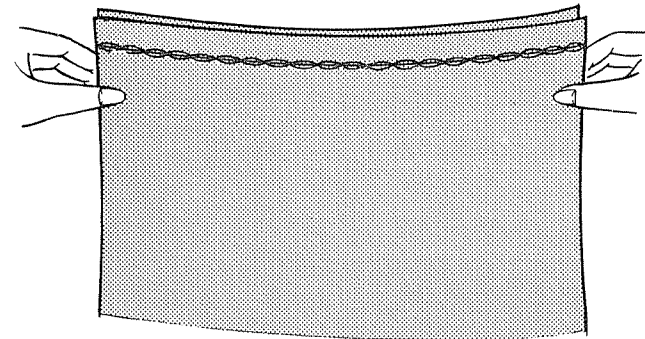
- \* Use of blue tip scarf needle will prevent skipped stitch.
- \* Use of lining will maintain the shape of light weight material.

## SETTING GUIDE

### (1) STRETCH STITCH



### REINFORCEMENT ON STRETCH FABRIC



## OVEREDGE STRETCH

You can make neat, durable finish for raw-edge seams, especially in bulky fabrics or ones that fray easily.

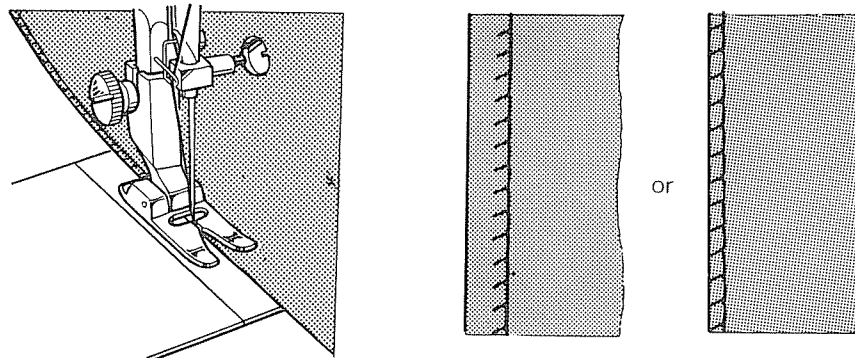
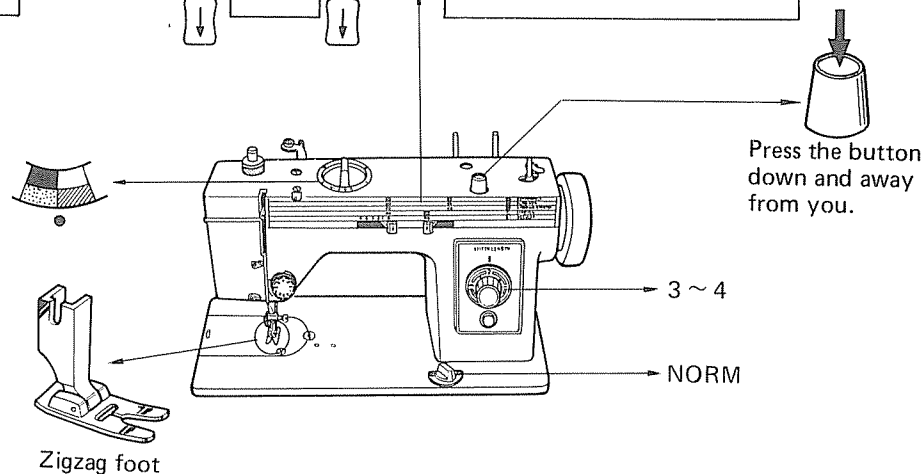
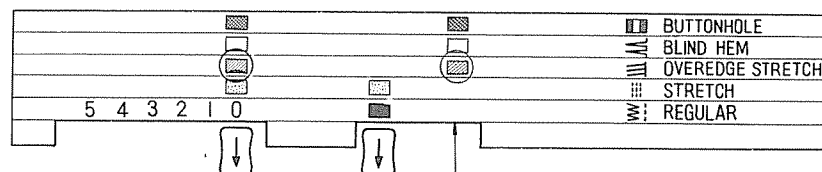
1. Place stitching about 5/8 inch (1.5 cm) from hem or fabric edge.
2. Trim away excess to produce a narrow seam close to the stitching line.

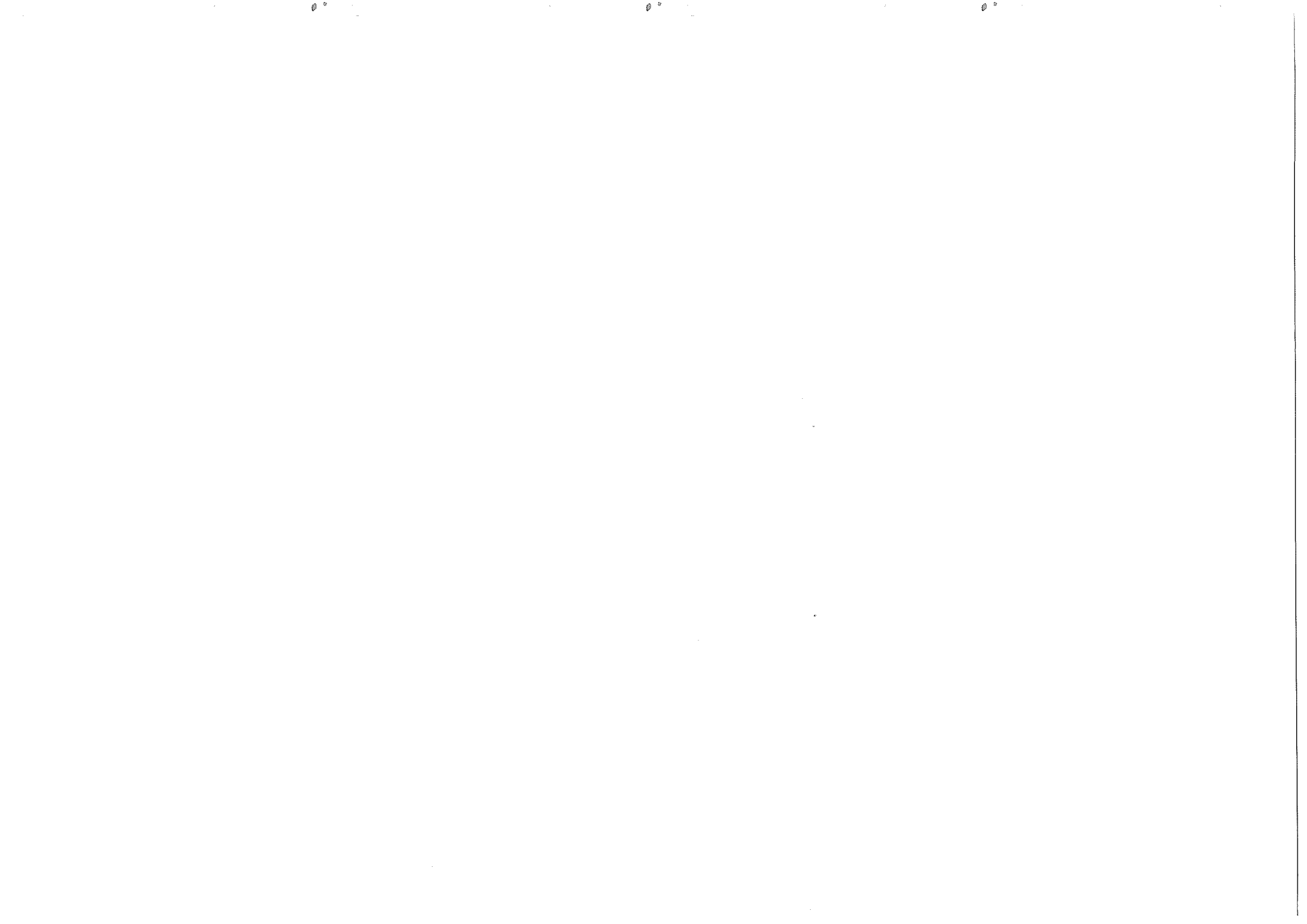
NOTE: When you join bulky knit or heavy weight stretch fabrics, sew on a little inner seam line from the fabric edge.

NOTE: Seams will be done most successfully when the left side stitches of zigzag fall just on the edge of stretch or ordinary cloth.

NOTE: Bring thread take-up lever to its highest position before pressing down the stretch stitch button.

## SETTING GUIDE





## OVEREDGE STRETCH

You can make neat, durable finish for raw-edge seams, especially in bulky fabrics or ones that fray easily.

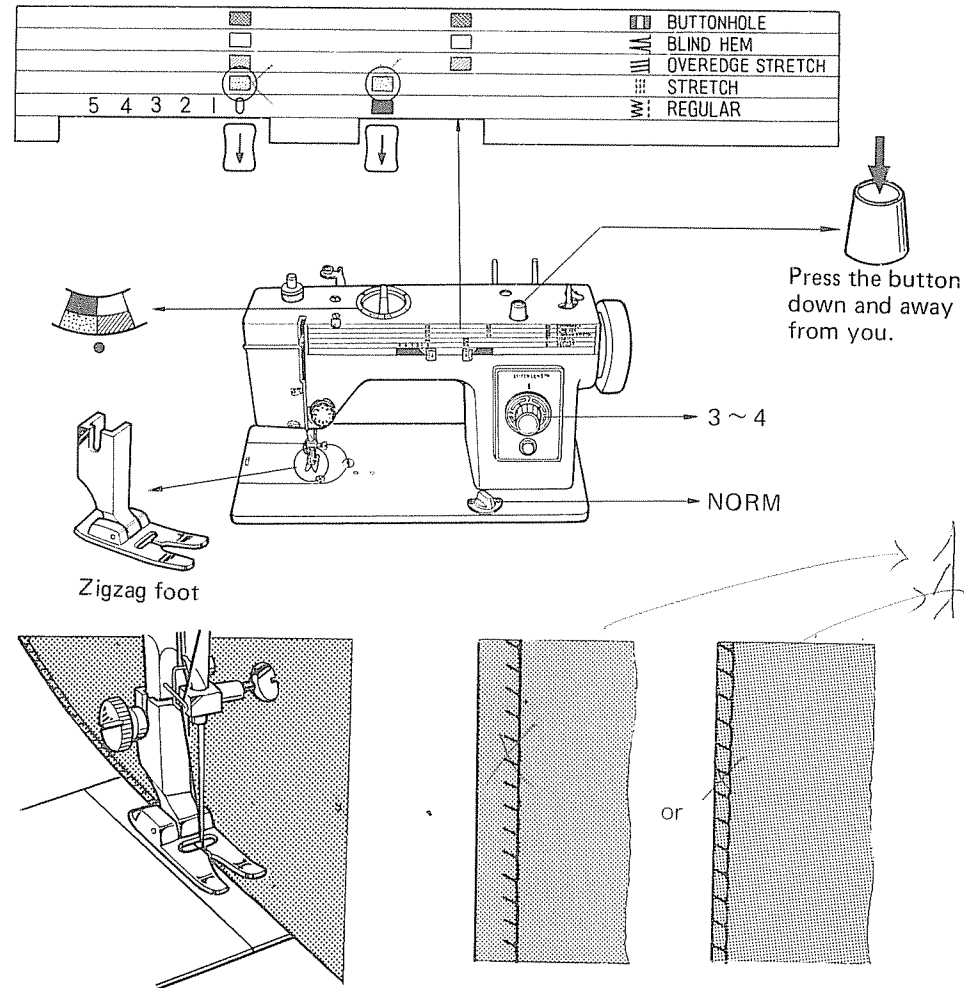
1. Place stitching about 5/8 inch (1.5 cm) from hem or fabric edge.
2. Trim away excess to produce a narrow seam close to the stitching line.

**NOTE:** When you join bulky knit or heavy weight stretch fabrics, sew on a little inner seam line from the fabric edge.

**NOTE:** Seams will be done most successfully when the left side stitches of zigzag fall just on the edge of stretch or ordinary cloth.

**NOTE:** Bring thread take-up lever to its highest position before pressing down the stretch stitch button.

## SETTING GUIDE



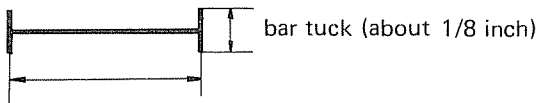
## BUTTONHOLE

The built-in buttonhole system enables you to sew buttonholes in a short time without turning fabric.

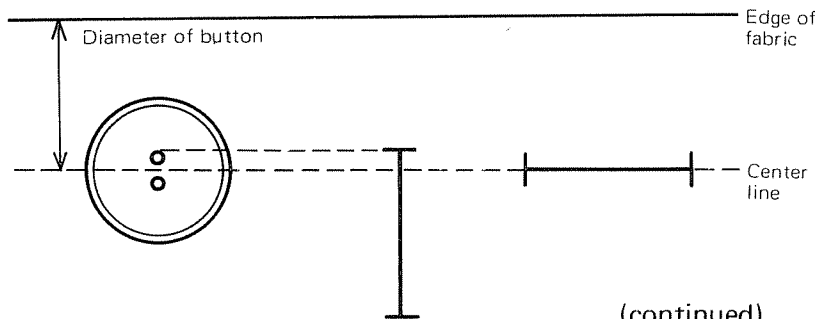
## PREPARATION

1. When you mark buttonhole guidelines, determine your buttonhole opening just long enough to allow the button to slip through it easily.

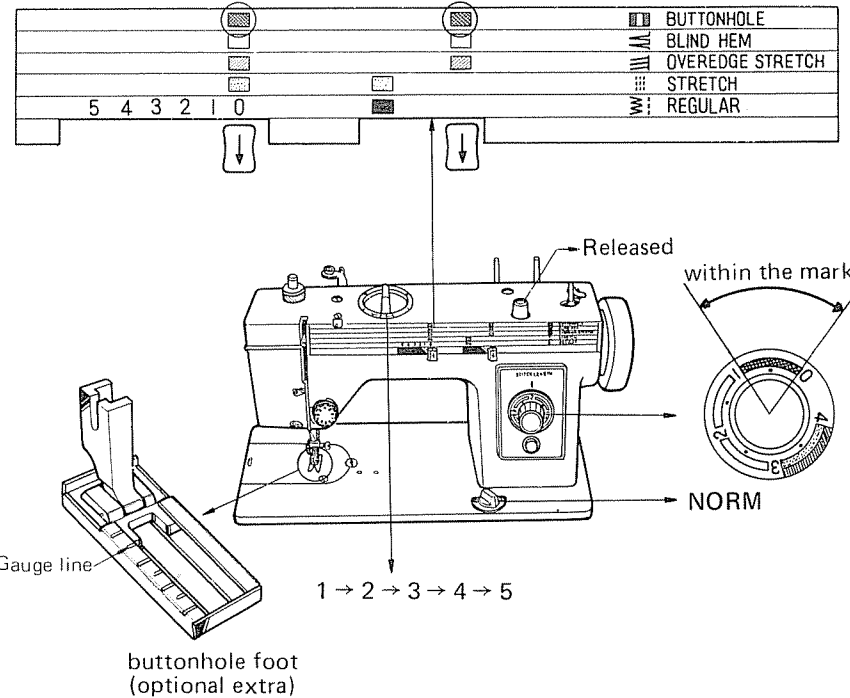
### To mark buttonhole guidelines



width of button opening  
(diameter of button + thickness of button)



(continued)



(continued)

2. Attach the buttonhole foot and set buttonhole dial at "1". Then move the other knobs and dials to the direction show in the previous page.

3. Place the fabric under foot and pull the frame of buttonhole foot all the way toward you.

4. Position the buttonhole opening guideline on about the center of foot (Fig. 1)

5. Turn the balance wheel toward you slowly to penetrate the point of needle on the bar tack line.

6. Lower the foot. Then draw up the bobbin thread as shown in the page 13 (Fig. 2).

7. Sew a few stitches while holding the threads at the front side (Fig. 3).

8. Cut the threads with a pair of scissors and commence sewing (Fig. 4).

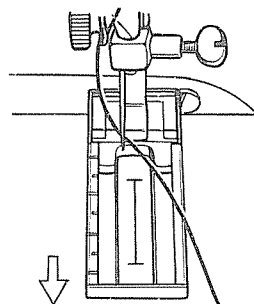


Fig. 1

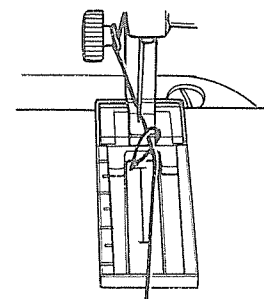


Fig. 2

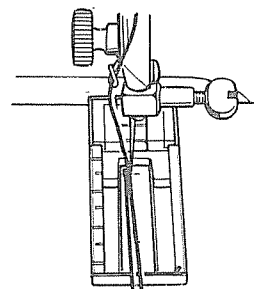


Fig. 3

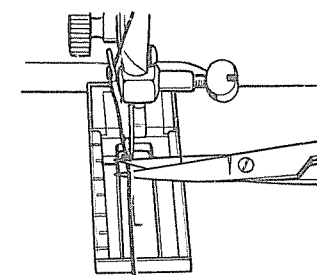
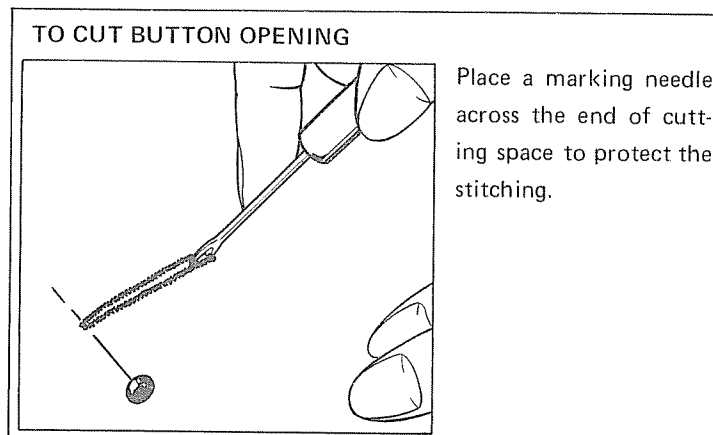


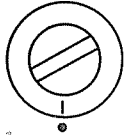
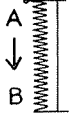
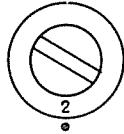
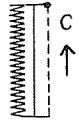
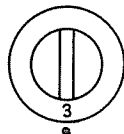
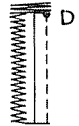
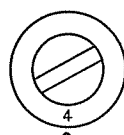
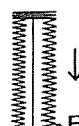
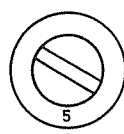
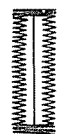
Fig. 4



(continued)



## Procedure

		<p>Sew slowly from point (A) to (B) with buttonhole dial at "1".</p>
		<p>Raise needle and set buttonhole dial at "2". Then move the needle to the right end of its travel by turning balance wheel toward you and sew to point (C).</p>
		<p>Turn the dial to "3" and sew a several stitches of bar tack.</p>
		<p>Set the dial at "4" and sew stitches from (D) to (E).</p>
		<p>Raise needle and turn the dial to "5". Sew a several stitches of bar tack. Recommended to sew a few stitches locking the threads with the pattern selector knob set at its left side or "REGULAR", while no need to turn the stitch length dial.</p>

## BUTTON SEWING

1. Replace presser foot with button foot.
2. Make sure knobs and dials are in the correct position.
3. Place button under button foot and lower the needle into center of left hole.
4. Lower the foot. The space between the holes in the button determines zigzag width and the needle should not hit the button.

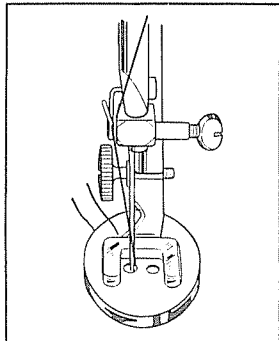
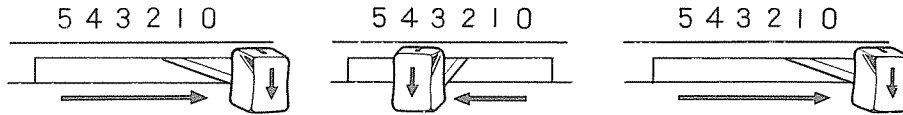
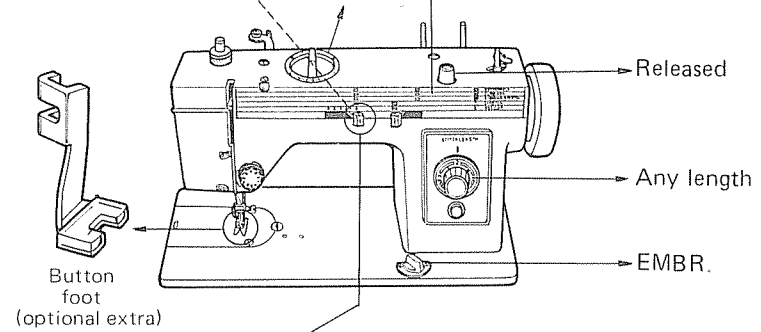
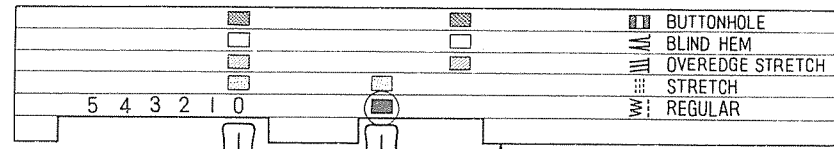


Fig. 1

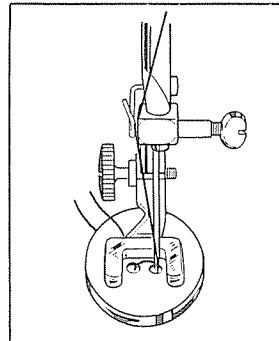


Fig. 2

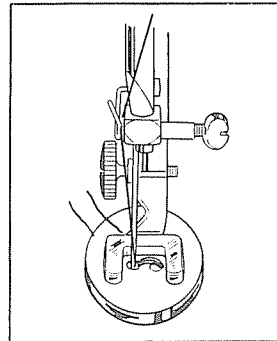


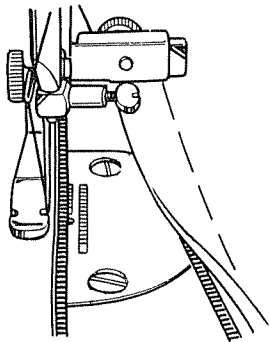
Fig. 3

## SEWING IN A ZIPPER

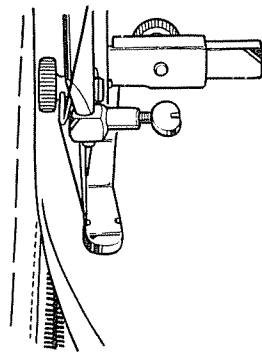
Zipper foot is designed to sew close to a raised edge. Also it is useful for making corded seams and has many applications in sewing hems.

### STEPS:

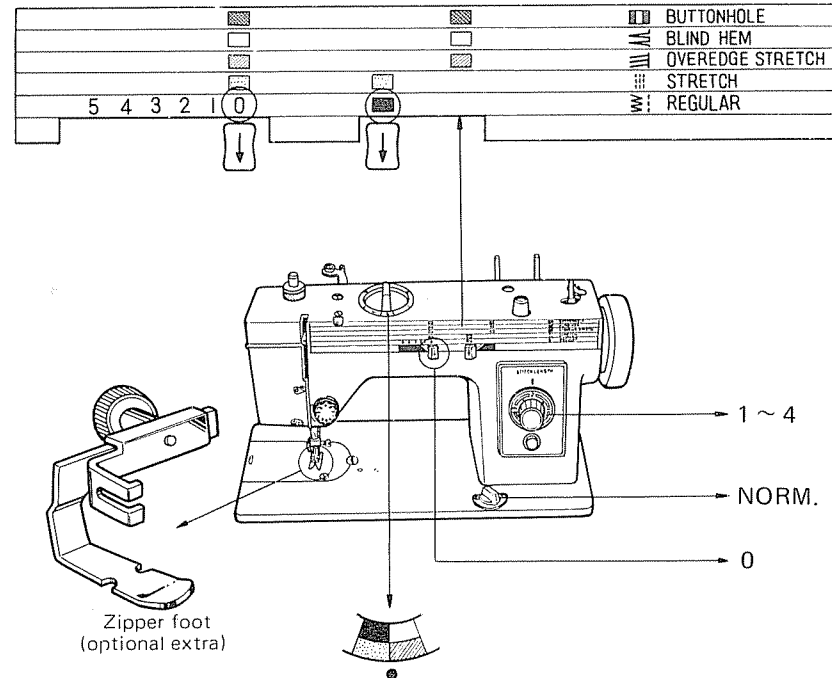
1. Replace presser foot with zipper foot.
2. Set the other controls as shown.
3. Place the zipper and fabric under needle as shown below.
  - (A) To sew the left side of the zipper, set the zipper foot on the left side of the needle.
  - (B) To sew the right side of the zipper, bring the foot to the right side of the needle.



(A) To sew left-side zipper



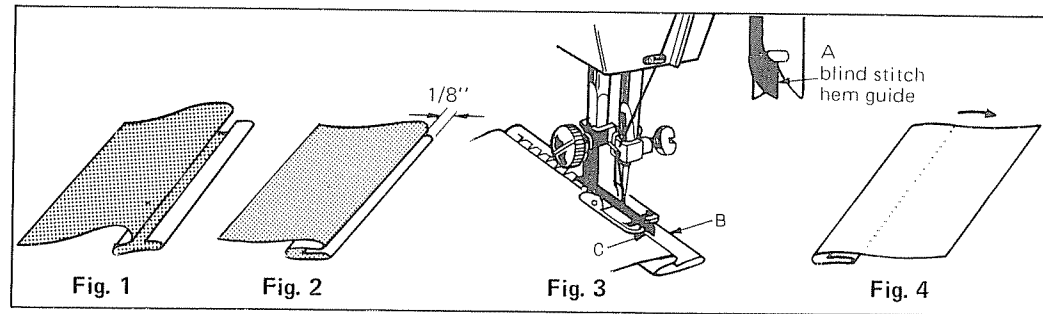
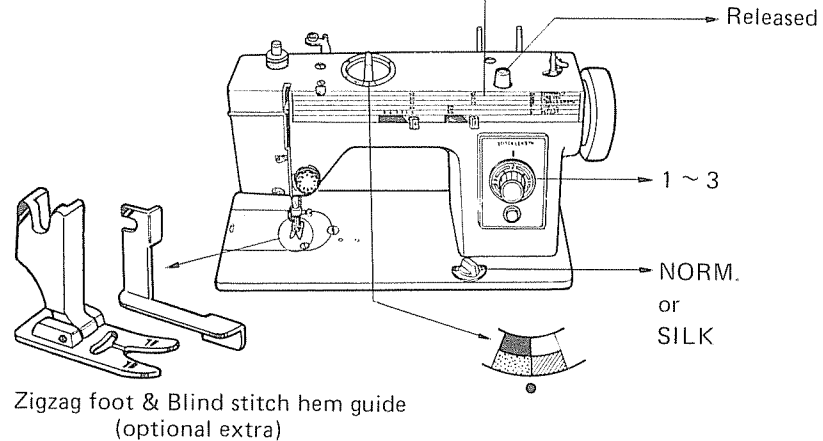
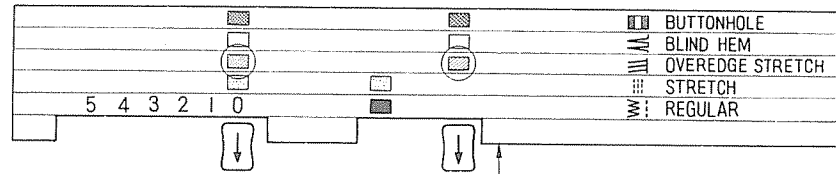
(B) To sew right-side zipper



## BLIND HEM STITCH

Blind hem stitching can be quickly done by setting the color coded controls to the stitch pattern " BLIND HEM" and using blind stitch hem guide.

1. Make a test sample to test the machine settings.
2. Turn balance wheel toward you until feed dog goes down below needle plate.
3. Lower presser foot, then loosen thumb screw to insert the blind stitch hem guide (A) between the screw and presser foot.
4. Make sure that the guide is placed in the middle of the toes of presser foot and tighten thumb screw.
5. Fold the fabric as illustrated Fig. 1 and Fig. 2.
6. Place the fabric under the presser foot with the double fold line (C) against the left side of the blind stitch hem guide.
7. Lower the presser foot and sew as you feed the double fold (C) along the guide (Fig. 3).
8. Unfold the fabric and you will have a blind stitch hem (Fig. 4).



## HEMMING

You can turn and stitch a narrow hem in a single operation by using hemmer foot.

### STEPS:

1. Replace presser foot with hemmer foot.
2. Set the other controls as shown.
3. Crease a double 2.5 mm (1/8") fold for about 2 inches along the edge of material to be hemmed. (Fig. 1)
4. Place folded edge under foot at an angle and position needle. Then lower the hemmer foot and pull both thread ends backward until a few stitches are made.
5. Raise the foot and insert the folded edge into the mouth of the foot with the needle in the fabric.
6. Lower the foot and feed the fabric evenly.

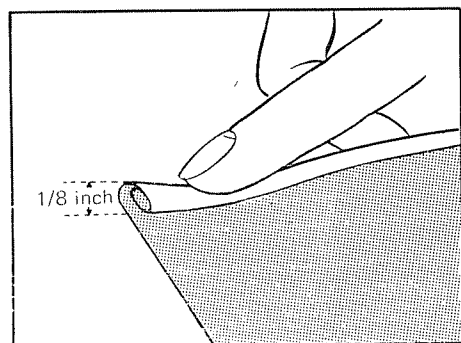


Fig. 1

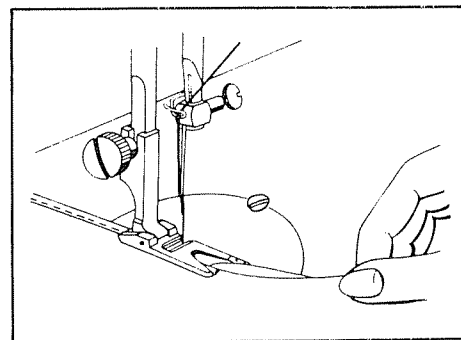
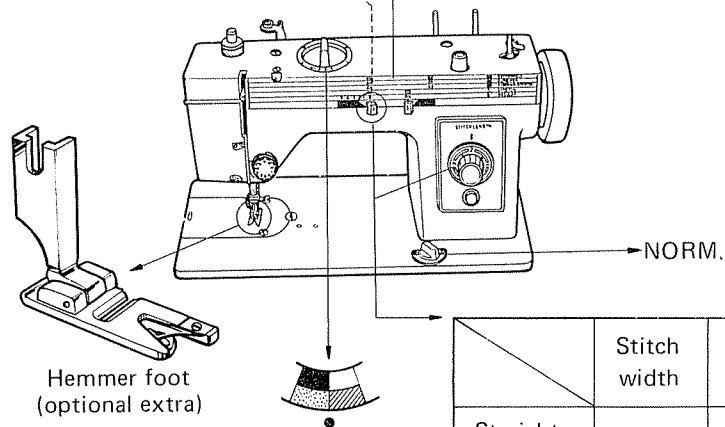
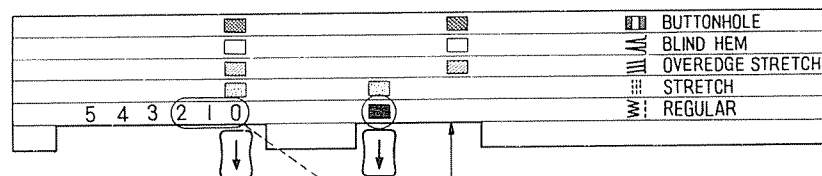


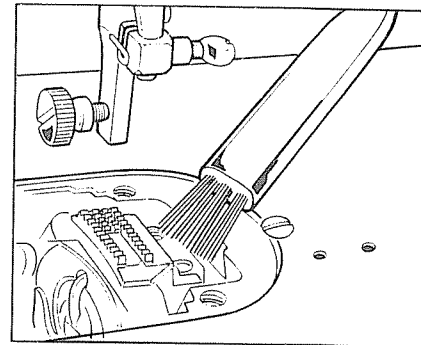
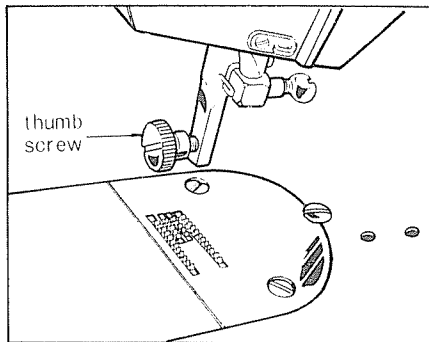
Fig. 2

	Stitch width	Stitch length
Straight hemming	0	1 ~ 4
Zigzag hemming	2	0.5 ~ 1

## TO CLEAN FEED DOG

Lint and loose thread are liable to collect on the feed dog. Therefore, it is necessary that the feed dog be cleaned from time to time.

1. Loosen thumb screw and remove the presser foot.
2. Remove needle plate.
3. Clean lint and loose threads in the feed dog with a brush.  
Also clean the reverse side of the feed dog using cloth.
4. After cleaning, reset the needle, needle plate and presser foot.



## TO CLEAN SHUTTLE RACE

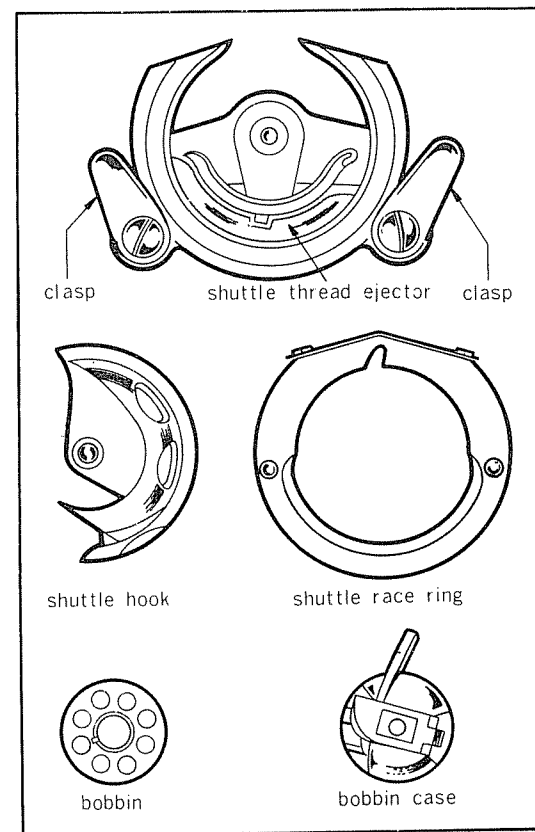
Because your machine is specially equipped with the shuttle thread ejector which prevents jamming of the shuttle, it will rarely be necessary to open and clean the shuttle-race.

However, if for some reason it should be required to open and clean the shuttle-race;

First raise the needle bar to its highest point and remove the bobbin case.

Next, twist the shuttle-race ring clasps outward and take out the shuttle-race ring.

Carefully remove shuttle hook and clean out shuttle race. Replace shuttle hook, shuttle-race ring and lock with clasps. Be careful not to drop the shuttle to avoid possible damage.



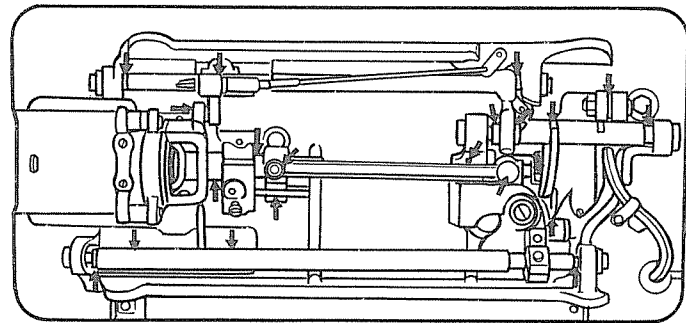
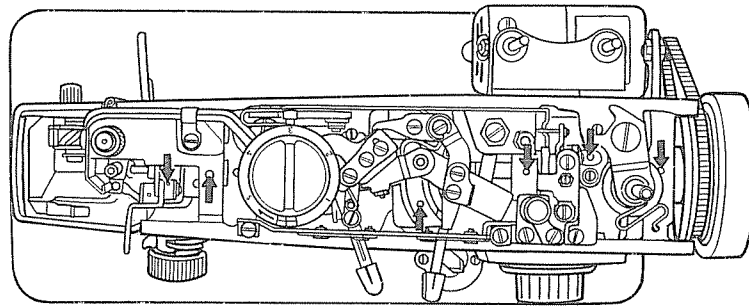
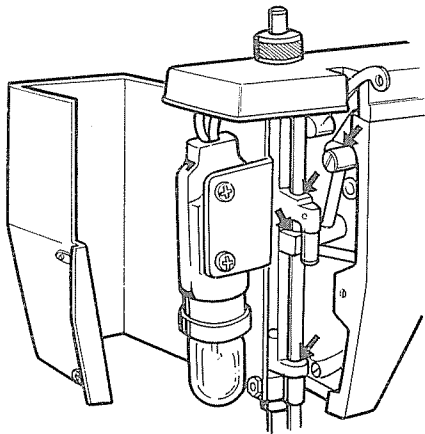
## TO OIL MACHINE

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

In constant use, oil two or three times a week.

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

Before lubricating, wipe off the oiling points.





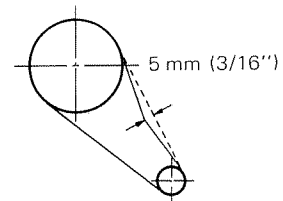
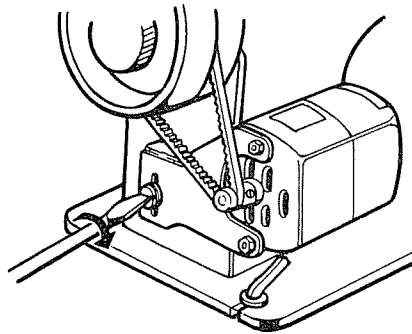
## TO REGULATE BELT TENSION ON MOTOR

To adjust the belt tension, loosen the fixing screw about one turn with a screw driver.

This will allow the motor to move downward or upward.

Then firmly tighten the screw, and the belt should have the correct tension.

**CAUTION:** Do not tighten the belt too tightly.



When replacing motor belt, please leave 5 mm (3/16'') stack.

## UNSATISFACTORY CONDITIONS: CAUSES AND REMEDIES

### THE UPPER THREAD BREAKS

CAUSE	REMEDY
<ol style="list-style-type: none"> <li>1. The needle is not threaded correctly.</li> <li>2. The tension is too tight.</li> <li>3. Something is wrong with the needle.</li> <li>4. The thread used is too heavy for the needle.</li> <li>5. Thread take-up spring is broken.</li> <li>6. The needle is not set correctly.</li> <li>7. The needle plate, the hook, or the presser foot is damaged.</li> </ol>	<p>Thread the needle correctly.</p> <p>Loosen it.</p> <p>Replace it.</p> <p>Replace it.</p> <p>Replace it.</p> <p>Set it correctly.</p> <p>Replace it.</p>

### THE LOWER THREAD BREAKS

<ol style="list-style-type: none"> <li>1. When the lower thread is not wound correctly, it gets entangled.</li> <li>2. The lower thread is off the tension spring of the bobbin case.</li> </ol>	<p>Wind it properly.</p> <p>Put it in its proper position.</p>
--	--

### SKIPPED STITCHES

<ol style="list-style-type: none"> <li>1. The needle is not attached to the needle bar correctly.</li> <li>2. The needle is either bent or blunt.</li> <li>3. A worn needle is used.</li> </ol>	<p>Attach it properly.</p> <p>Replace it.</p> <p>Replace it.</p>
---	--

### THE NEEDLE BREAKS

<ol style="list-style-type: none"> <li>1. The needle is bent.</li> <li>2. The needle is not attached properly.</li> <li>3. The material is too thick or heavy.</li> <li>4. The material is being pulled by the operator.</li> <li>5. The needle is of inferior quality.</li> </ol>	<p>Replace it.</p> <p>Attach it correctly.</p> <p>Use a needle of the correct size.</p> <p>Do not pull on the cloth.</p> <p>Replace it with better needle.</p>
--	--

(continued)

(continued)

<b>STITCHING FORMS LOOPS</b>	
<b>CAUSE</b>	<b>REMEDY</b>
<ol style="list-style-type: none"><li>1. The thread tension is not properly adjusted.</li><li>2. The needle is not threaded correctly and/or the bobbin is not wound properly.</li><li>3. The weight of the material and the size of the thread are not appropriate.</li><li>4. Thread take-up spring does not work well.</li></ol>	<p>See instructions for adjustment of upper and lower thread tensions. Thread the needle and/or rewind the bobbin properly.</p> <p>See instructions covering the use of proper needle and threads with varying materials. Replace it.</p>
<b>SEAMS SHRINK OR PUCKER</b>	
<ol style="list-style-type: none"><li>1. The thread tension is too tight.</li><li>2. The pressure of the presser foot is too strong.</li><li>3. Stitches are too small for the weight of the material.</li></ol>	<p>See instructions for adjustment of upper and lower thread tensions. See instructions for adjustment of the pressure of the presser foot. Adjust the stitch length.</p>
<b>IRREGULAR STITCHING</b>	
<ol style="list-style-type: none"><li>1. The upper and lower threads are of inferior quality.</li><li>2. The thread is wound around the bobbin unevenly.</li></ol>	<p>Use thread of best quality. Rewind it.</p>
<b>THE MACHINE DOES NOT WORK SMOOTHLY AND IS NOISY</b>	
<ol style="list-style-type: none"><li>1. The machine is in need of oil</li><li>2. Dust and waste thread have collected in the shuttle mechanism.</li><li>3. Oil of inferior quality is used and has coagulated.</li><li>4. The tension on the belt is too tight.</li></ol>	<p>Apply oil as per instructions. See instructions pertaining to cleaning the race and shuttle. Clean thoroughly and oil again with proper sewing machine oil of the best quality. Loosen the belt tension.</p>