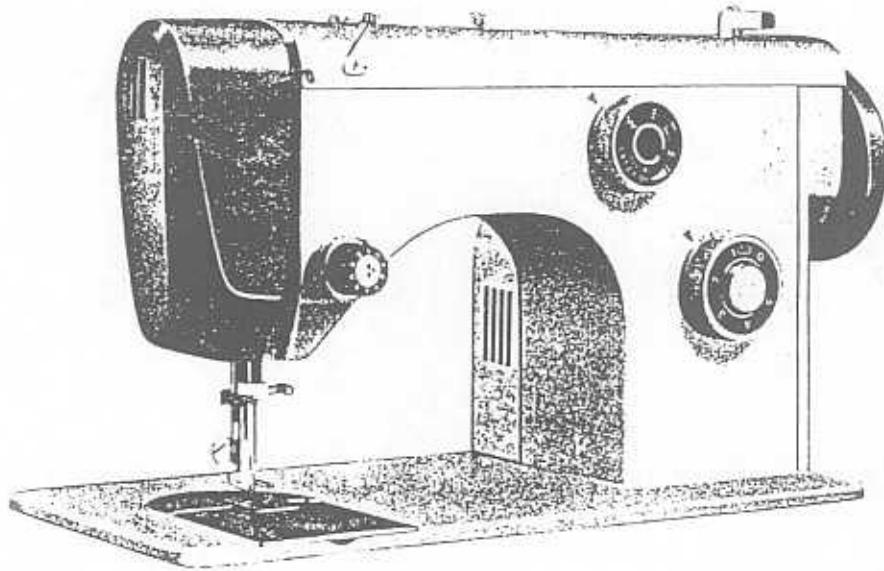


model
RZ-208B
INSTRUCTION MANUAL
ZIG ZAG



RZ-208B

FRZ 208B

CONGRATULATIONS:

You can be proud of your new Sewing Machine, an outstanding product of many years of research and development. The highest quality materials and functional design are combined in it to achieve perfect operation efficiency and years of dependable service.

If you have ever admired the beautiful and intricate sewing of professional seamstresses, you will be amazed and delighted to learn that you can now do it yourself with this remarkable sewing machine.

Before attempting to sew, however, please read this instruction book carefully. If you follow these instructions and give your machine proper care, it will operate perfectly for many years.

Should the machine fail to operate correctly, stop sewing and review each step in the manual before starting again. Time spent in learning the features, controls and adjustments of your machine will eliminate errors and will result in complete satisfaction and enjoyment of your new sewing skills.

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BASIC INFORMATION

1. NAME OF PARTS

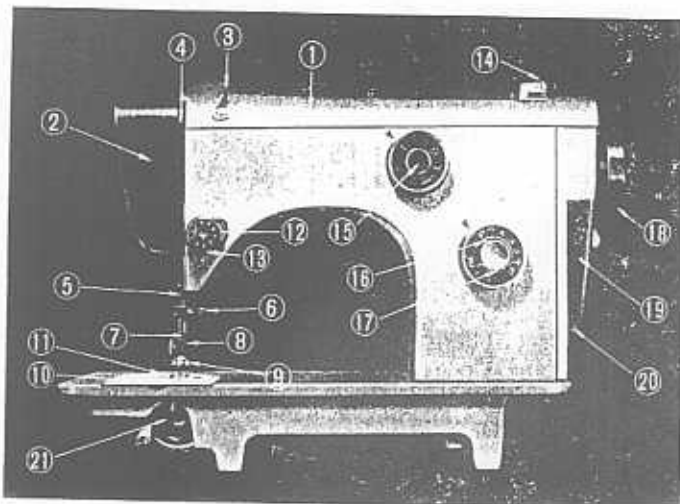


Photo. 1

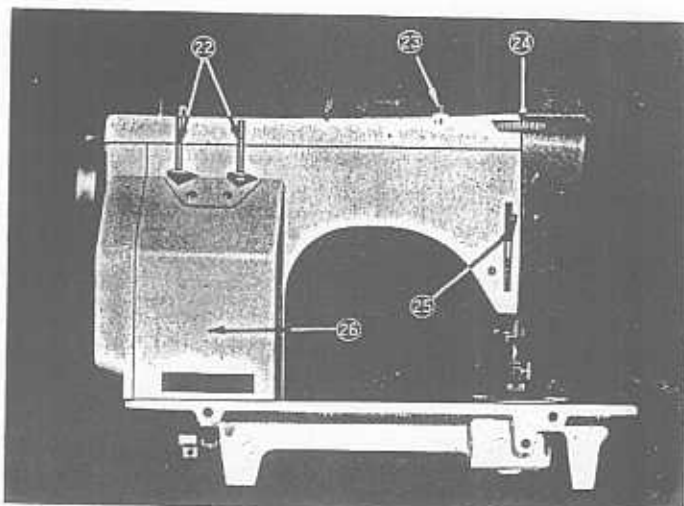


Photo. 2

- | | |
|---------------------------|--------------------------------------|
| 1. Arm Cover | 14. Bobbin Winder |
| 2. Face Plate | 15. Uni Dial |
| 3. Arm Cover Thread Guide | 16. Stitch Length Regulating Dial |
| 4. Thread Take-up Lever | 17. Reverse Sewing Push Button |
| 5. Needle Bar | 18. Hand Wheel |
| 6. Needle Clamp | 19. Motor Belt Cover |
| 7. Needle | 20. Drop Feed Button |
| 8. Presser Bar | 21. Open Shuttle Race |
| 9. Presser Foot | 22. Spool Pin |
| 10. Slide Plate | 23. Bobbin Winder Thread Guide |
| 11. Needle Plate | 24. Dial-operated Pressure Regulator |
| 12. Dial Tension | 25. Presser Bar Lifter |
| 13. Thread Take-up Spring | 26. Motor Cover |

2. TURNING ON LIGHT

Sewing light equipment is built in face plate and is turned on and off by means of toggle switch located on right side of vertical arm of machine.

(See Photos 3 and 4.)

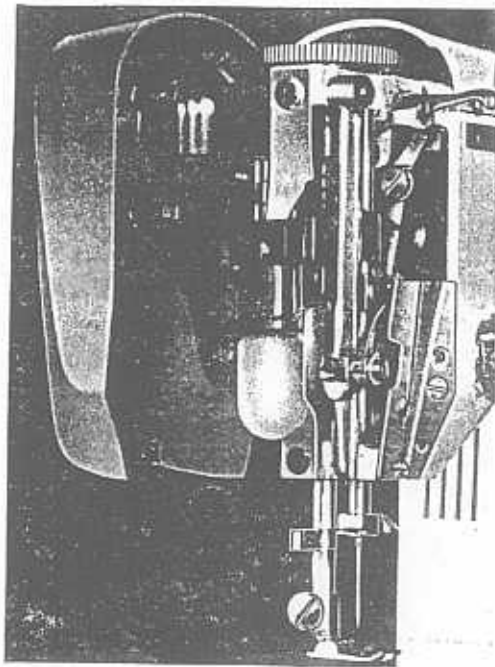
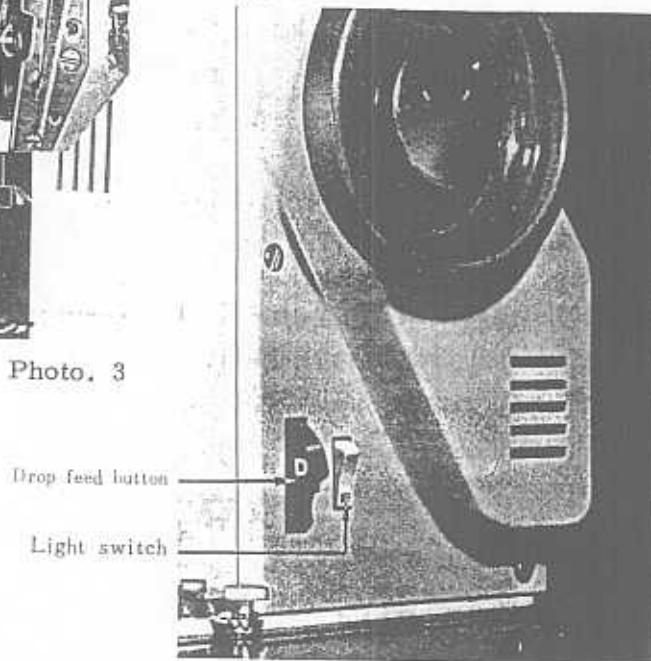


Photo. 3

Photo. 4



When to replace bulb, first be sure to unplug your sewing machine. Swing out face plate. Then bulb is easily accessible and can be removed just as an ordinary light bulb.

In fitting a new bulb, always be sure that it is screwed in tightly, because it has a tendency to get loosened and fall out while machine is running.

3. WINDING THE BOBBIN

When you wind bobbin, disengage the sewing mechanism from hand wheel by holding it and loosen stop motion screw turning it counter-clockwise. (See Photo. 5)

- (1) Place a spool of thread on spool pin.
- (2) Pull thread from spool and lead it counter-clockwise around bobbin winder thread guide. (See Photo. 6)
- (3) Wind thread around bobbin several times and place it on bobbin winder spindle with pin of spindle engaging with slot of bobbin.
- (4) Press bobbin presser until it engages into bobbin and start winding.



Photo. 5

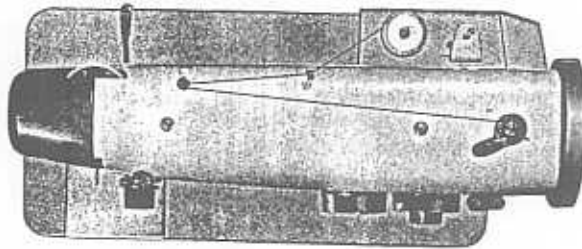
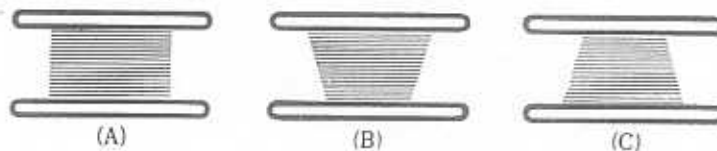


Photo. 6

Bobbin winder will automatically be released if bobbin is filled. Wind thread evenly as in Sketch (A), and avoid winding as sketched in (B) or (C), adjust bobbin winder thread guide by the following method to get correct winding.

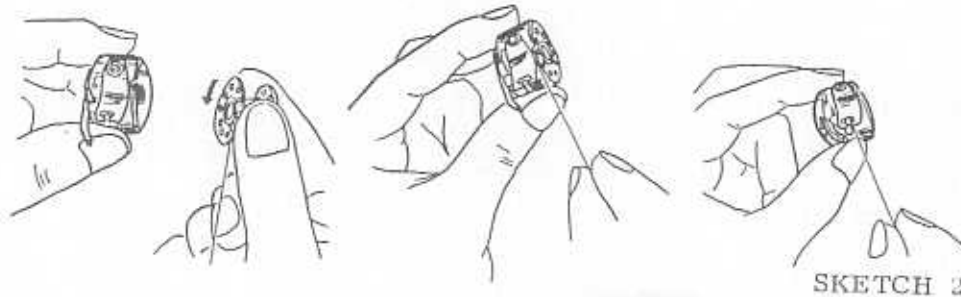


SKETCH 1

- (1) If bobbin winds high on upper part like a shape (B), turn thread guide clockwise with a screwdriver.
- (2) If bobbin winds high on lower part like a shape (C), turn it counter-clockwise.

4. THREADING AND REPLACING BOBBIN CASE

- (1) Put bobbin into bobbin case with thread wound in the direction indicated by arrow in the sketch. (See Sketch 2)
- (2) Guide thread into slot under spring. Then pull thread under tension spring until it goes into opening at the end of spring.



SKETCH 2

- (3) To place bobbin case on spindle raise needle bar to its highest point by turning hand wheel toward you. Pull some 3 inches of thread out of bobbin case and holding bobbin case latch with thread hanging over thumb nail, put bobbin case on the spindle.

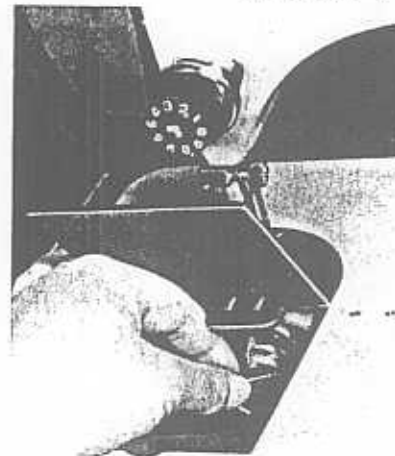


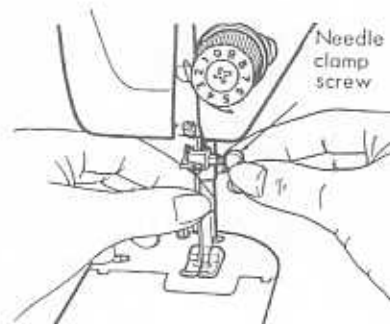
Photo. 7

5. INSERTION OF NEEDLE

It is essential to use a correct needle according to the kind of fabrics to be sewn. Select a proper one referring the chart on Page 8 .

- (1) Bring needle bar to its highest point and lower presser foot.
- (2) Loosen needle clamp and pull off old needle down.
- (3) Insert a new needle into the opening of needle clamp and push it up as far as it will go.
(Make sure that the flat side of shank faces toward back and long groove toward you.)
- (4) Tighten needle clamp.

NOTE: A bent needle will not produce fine work. Check a needle by placing its flat side against a flat plane.



SKETCH 3

6. UPPER THREADING

Raise needle bar to its highest point by turning hand wheel over toward you. Guide thread from point (1) through (10) as shown in Photo. 8.

- (1) Spool
- (2), (3) Arm cover
thread guide
- (4) Dial tension
- (5) Dial tension
thread guide
- (6) Thread take-up spring
- (7) Thread take-up lever
- (8) Arm thread guide
- (9) Needle bar thread guide
- (10) Needle eye

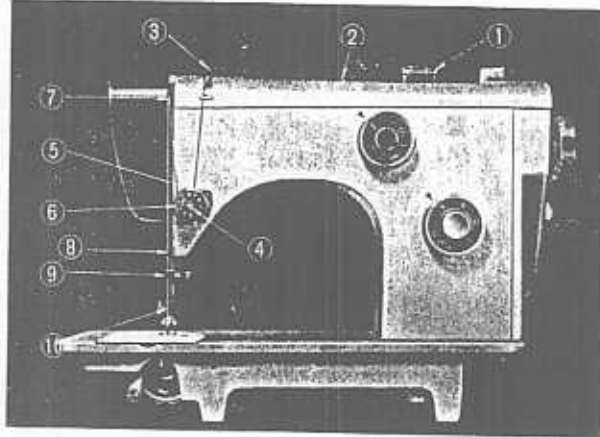


Photo. 8

7. PRESSURE ADJUSTMENT

To increase pressure on the fabric to be sewn, turn pressure regulating dial to higher number.

To decrease pressure, turn it to lower number.

The dial allows for a wide range of pressure adjustments for all types of fabrics, from the finest to the heaviest.

Pressure should be regulated according to thickness of fabric to be sewn.

Generally, heavy fabrics require heavy pressure; fine fabrics require light pressure. (See Photo. 9.)

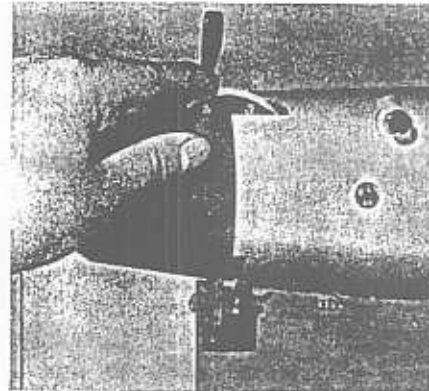


Photo. 9

8. ADJUSTMENT OF HEIGHT OF FEED DOG

For ordinary sewing, put feed dog positioner up.

In embroidery or button sewing, height of feed dog must be lower than that of needle plate to allow free movement of material, therefore feed dog must be lowered.

When to make buttonhole, set feed dog positioner to "Up".

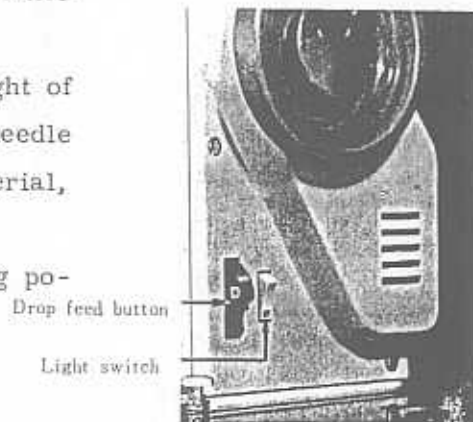
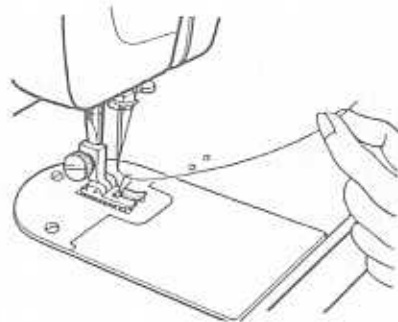


Photo. 10

9. TO PREPARE AND TO START SEWING

- (1) Hold upper thread lightly with left hand.
- (2) Turn hand wheel over toward you with right hand until needle goes down and comes up again to its highest point to catch lower thread and bring it up through needle hole. (See Sketch 4.)
- (3) Pick up ends of both threads together and draw them to back of machine and under presser foot. (See Photo. 11)
- (4) Place material under presser foot and position needle in material.
- (5) Lower presser foot and start to sew.



SKETCH 4

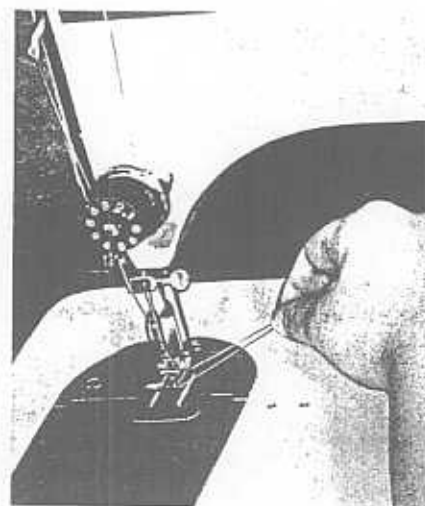


Photo. 11

10. ADJUSTMENT OF STITCH LENGTH

Numerals on stitch length regulating dial shows length of seam. Turn dial to the right for lengthening seams and to the left for shortening seams by aligning numerals to pointer.

The higher the numeral the longer the seam will be, and the lower the numeral the shorter the seam. When dial is at or near "0" position, seams will overlap and material will not move.

For reverse sewing, push button all the way in. To resume forward sewing release button to its normal position.

11. ADJUSTMENT OF THREAD TENSIONS

Tensions of upper and lower threads are correctly balanced if both threads interlock in the center of fabric, as illustrated in Sketch (A).



If tension of upper thread is too strong in relation to that of lower thread, lower thread will be pulled up to the top surface of fabric and appear there in the form of small knots, as illustrated in Sketch (B).



If tension of lower thread is too strong in relation to that of upper thread, upper thread will be pulled down to bottom surface of fabric and appear there in the form of small knots or loops, as illustrated in Sketch (C).



Upper thread tension can be corrected by setting dial to lower number in case of (B) and to higher number in case of (C).

The higher the numeral on the tension dial, the more upper tension is tightened.

For usual sewing, it is sufficient to adjust upper thread tension only. When it is necessary to adjust lower thread tension, do so by turning bobbin case screw with a screwdriver. Tension increases when screw is turned to the right.

12. CORRECT NEEDLE AND THREAD FOR FABRICS

Size of Needle	Fabric	Size of Thread
15 × 1 No. 9	Thin calico, silk, serge and muslin.	No. 80-100 cotton thread or fine silk thread.
15 × 1 No. 11	Thin calico, cotton cloth, crepé de chine, hosiery and silk.	No. 60-100 cotton thread or ordinary silk thread.
15 × 1 No. 14	Ordinary cotton cloth, thick silk, thin woolen goods, towels and shirting.	No. 40-60 cotton thread or ordinary silk thread.
15 × 1 No. 16	Thick cotton cloth, serge and thin woolen goods.	No. 30-60 cotton thread or ordinary silk thread.
15 × 1 No. 18	Ordinary woolen goods, trousers, over-coats, thick calico and children's clothes.	No. 30-60 cotton thread or ordinary silk thread.

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

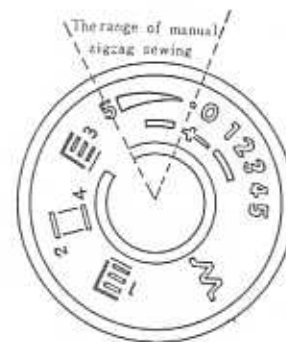
PRACTICAL SEWING

13. ZIGZAG PATTERN SEWING






When you sew zigzag patterns, turn "Uni Dial" by hand between the range from 0 to 5 indicated by the mark of curved wedge. (See Sketch 5.)

Various kinds of patterns will be sewn by changing the way of operating the dial.

The chart below shows sewing examples.

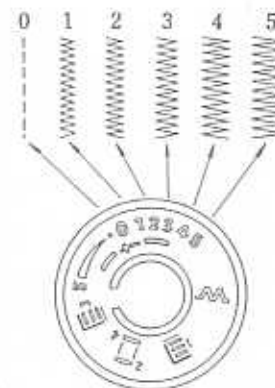


SKETCH 5

Patterns	Stitch length regulator	Uni Dial (operation)
	0.5-3	Turn dial 0 to 5 and return it from 5 to 0 drawing same curved lines.
	0.5-3	Turn dial slowly and at the same speed from 0 to 5 and return it quickly from 5 to 0.
	0.5-3	Turn dial from 0 to 5 and return it from 5 to 0 at the same speed.
	0.5-3	Turn dial from 0 to 2 and from 2 to 5, and return it from 5 to 2 and from 2 to 0, pausing at each position, and start quickly.
	0.5-3	Set dial so that the number is not lower than 2 and turn dial from 2 to 5 and from 5 to 2 pausing at each position and start quickly.

SIMPLE ZIGZAG SEWING

When you set dial at each numeral between 0 and 5, you can obtain simple zigzag stitches as illustrated by Sketch 6.



SKETCH 6

14. TWIN-NEEDLE SEWING

Twin-needle sewing is more enjoyable and enables you to produce more varied patterns than you could when using a single needle, since two different colored threads pass through needle holes simultaneously.

Be careful not to set or turn dial higher than 3.

(There is a click stop between the range indicated by curved wedge. This click stop shows the width of 3.)

Any figure higher than 3 will result in possible needle-breakage because of needle hitting against needle plate or both seams will overlap.

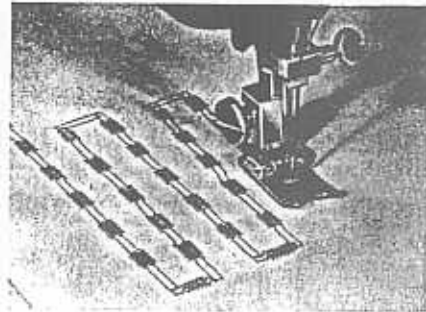
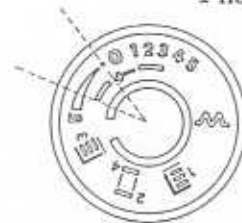


Photo. 12



SKETCH 7

15. SEWING ON BUTTONS

- (1) Use button sewing foot.
- (2) Set drop feed knob to "Down".
- (3) Place button under button sewing foot.
- (4) Adjust zigzag width so that needle will descend just in the center of each button-hole.
- (5) Run machine at medium speed and sew about 6 to 8 stitches.

When sewing on four-hole buttons, move button after having sewn first two holes and sew second pair of holes in exactly the same manner.

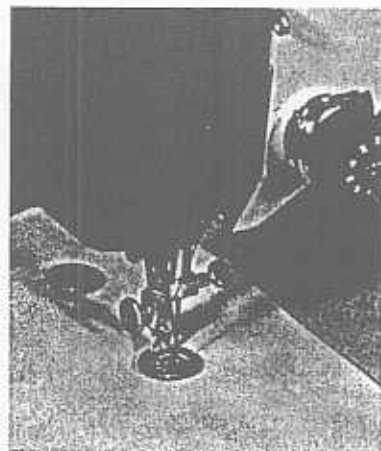


Photo. 13

16. BUTTONHOLE SEWING

It is suggested that you make test samples on a piece of same fabric, before you stitch buttonholes on the garment you are making. Trace length of buttonhole with chalk on fabric and sew slowly following markings, so you can stitch buttonhole exactly as you desire.

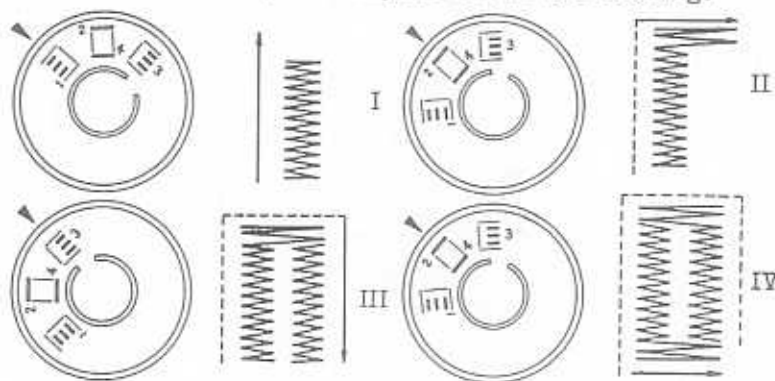
Preparation

- (1) Use buttonholer foot provided as an accessory.
- (2) Align the figure of buttonhole on stitch length regulating dial to the arrow mark.
- (3) Make a marking line of buttonhole on fabric with a chalk or something. (It is recommended that you first make test samples on a piece of same fabric.)

NOTE: The buttonholer device of this machine is designed to start in reverse sewing for left side seam of buttonhole.

Sewing procedure

- (1) Set buttonholer knob as shown in Sketch I and sew left side seam of buttonhole at desired length.
(Be careful not to run motor power too rapidly.)
- (2) After sewing left-side seam, turn "Uni Dial" as shown in Sketch II and sew about six stitches for upper bar tacking while turning hand wheel slowly.
- (3) Turn dial as shown in Sketch III and proceed to sew the right side of buttonhole.
- (4) Repeat above Procedure 2) to complete lower bar tacking.



17. USING CLOTH GUIDE

Use cloth guide when you want to execute seams parallel to edge of fabric.

- (1) Attach cloth guide to bed of machine with thumb screw by screwing it into either one of two holes on machine bed.
- (2) Place fabric under presser foot and adjust position of guide to required distance from needle.
- (3) Tighten thumb screw and start to sew.

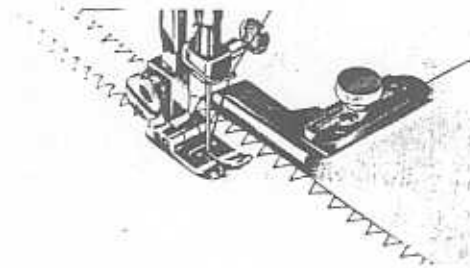


Photo. 14

18. ZIPPER SEWING

By using adjustable zipper foot, you can obtain seams near outer edge of fabric to which zipper is to be attached.

- (1) Attach zipper foot to presser bar.
- (2) Loosen thumb screw located on back of foot and move foot to the right of needle.
- (3) Check position by lowering needle into side notch, making sure that it clears foot.
- (4) Place folded edge of fabric on zipper edge and lower foot.
- (5) Sew first seam.
- (6) Raise foot and loosen thumb screw.
- (7) Move foot to the left of needle and check position in the same manner as described above.
- (8) Place the other edge of fabric on zipper and lower foot.
- (9) Then execute second seam.

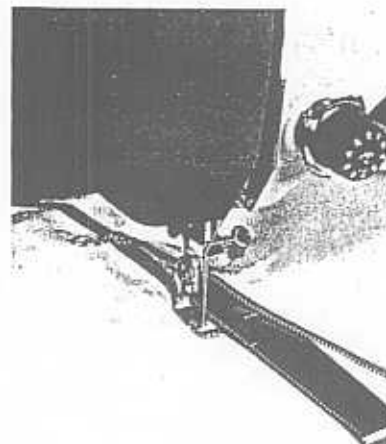


Photo. 15

19. USING THE HEMMER

- (1) Fit hemmer foot to presser bar.
- (2) Cut a corner off the edge of fabric in order that fabric may be rolled smoothly into scroll of hemmer.
- (3) Fold the edge of fabric over approximately $1/8$ inch, then fold it over again in the same way for a length of about 2 inches.
- (4) Insert the end fold into spiral formed opening of hemmer foot.
- (5) Move fabric slightly back and forth until fold forms scrolled shape.
- (6) Draw fabric toward you until the end of edge is just below needle.
- (7) Lower hemmer foot and start to sew.
- (8) Guide fabric carefully into hemmer foot while sewing.
- (9) Set machine for straight stitching with stitch length regulating dial on or about 2.

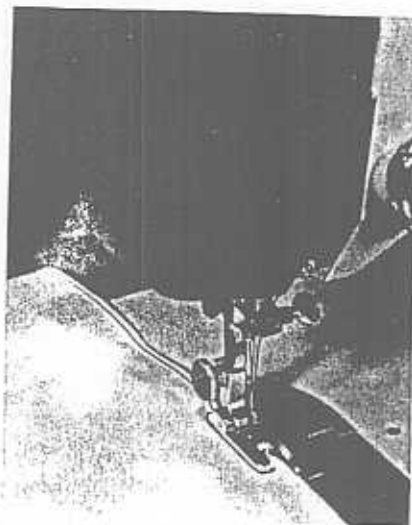


Photo. 16

NOTE: Don't push or pull fabric while sewing.

20. BLIND STITCH

When you wish to stitch hems without stitches showing on the right side of fabric (overcoats, trousers, skirts, etc.), use blind stitching foot.

Blind stitched hems are also appropriate for curtains, draperies, table linens and fabric furnishings.

Don't forget to use threads of same color of fabric to be sewn for the purpose of this sewing.

- (1) Fold fabric as illustrated in the sketch below and press it in order to perform better stitching.

(The distance between upper and lower edge must be about 1/8 inch.)

- (2) Align figure of blind stitch drawn on dial to pointer.

- (3) Place fabric under presser foot and make lateral side of guide touch upper edge as seen in Photo. 17.

- (4) Start to sew on lower fold at medium speed. Machine will sew upper fold automatically once every 6 stitches as shown in the Photo.

- (5) Remove fabric from machine and fold back upper fold as shown.

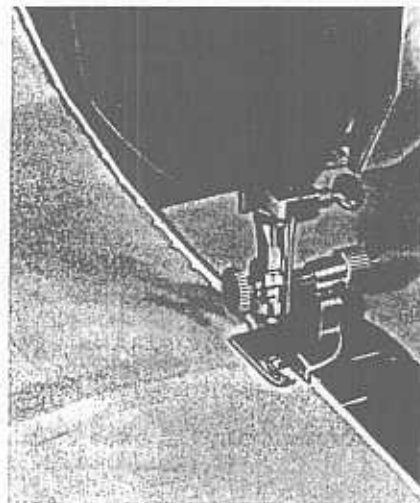
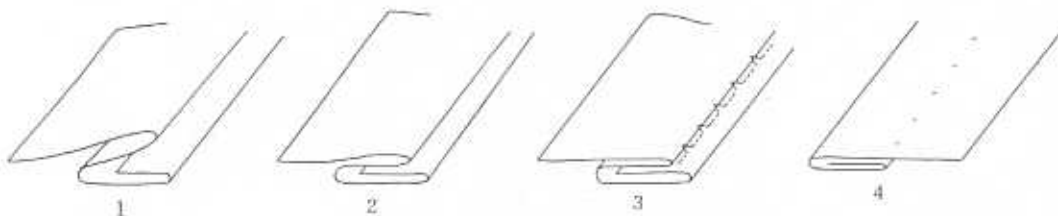


Photo. 17



SKETCH 9

21. OVERCASTING SEAM

Use this stitch when you wish to finish off edges of fabric and to give durable finish where fabrics have a tendency to ravel.

Before starting to sew, trim excess fabric.

- (1) Use zigzag presser foot.
- (2) Set on desired zigzag width.
- (3) Set stitch length regulating dial on or about 2-3.
- (4) Start sewing taking care that stitches appear one of outside edge and the other on inside of fabric.

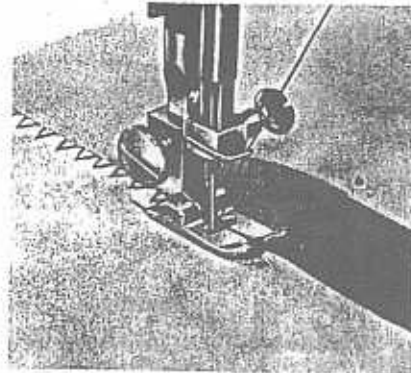


Photo. 18

22. APPLIQUE

Applique is one of the most interesting and fancy applications of your zigzag sewing machine.

You will find its effectiveness either by contrasting two fabrics or even adding self-fabric.

- (1) Set zigzag width for desired width of stitch.
- (2) Set stitch length for a satin stitch or a very close zigzag stitch.
- (3) After the stitching has been completed, trim the excess fabric.

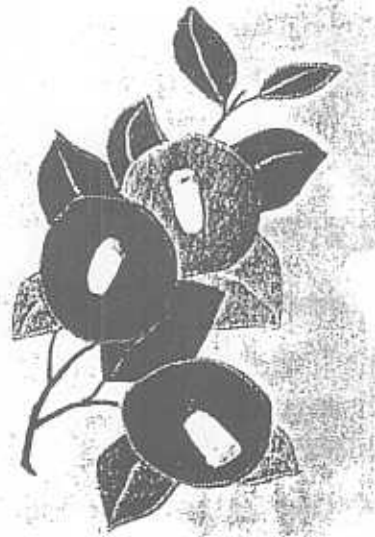


Photo. 19

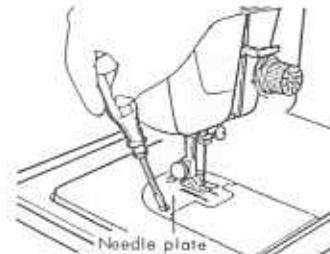
OILING AND CLEANING

23. OILING AND CLEANING

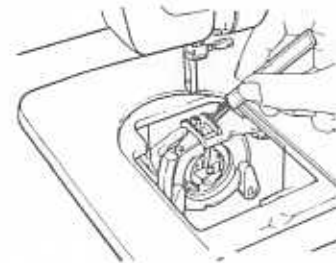
Pieces of thread and or dust accumulating between the needle plate and feed dog will cause trouble.

Always keep the machine clean. Remove the needle, zigzag sewing foot and needle plate with a screw driver for cleaning.

After removing the parts, clean all necessary parts with a brush while turning the hand wheel toward you. Be sure that cleaning is thorough. When finished, reassemble the machine, reversing the above procedure.

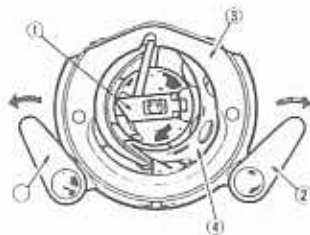


SKETCH 10



SKETCH 11

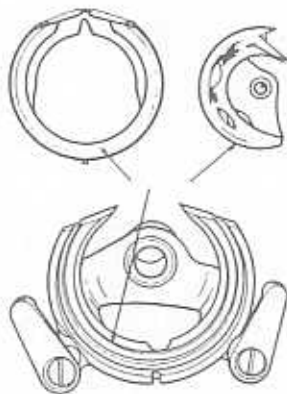
24. CLEANING OF RACE AND HOOK



SKETCH 12

Raise the needle bar to its highest point by turning the hand wheel toward you.

- (1) Take out the bobbin case.
- (2) Unlock the shuttle holder,
- (3) Open the shuttle lace cover,
- (4) Take out the shuttle.



SKETCH 13

Clean dust and gummed oil off of each part with an oiled cloth. When finished cleaning, reassemble reversing above procedure.

NOTE: Do not apply oil directly to the above mentioned parts or it will stain thread.

25. OILING THE ARM AND BED

1. About an hour's use per day may require oiling once a week.
2. Oil the machine at least once a month to keep it in good condition, even if it is not used for a long period.
3. Take off the arm cover by loosening the two screws with a screw driver. (Photo. 20)
4. While oiling, turn the hand wheel slowly toward you so that oil will cover every part.
5. When oiling to the points under the machine, tilt the machine back and apply oil to the part marked with an arrow. (Photo. 21)

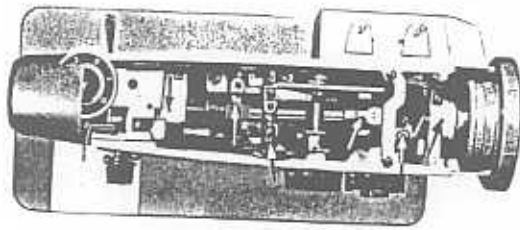


Photo. 20

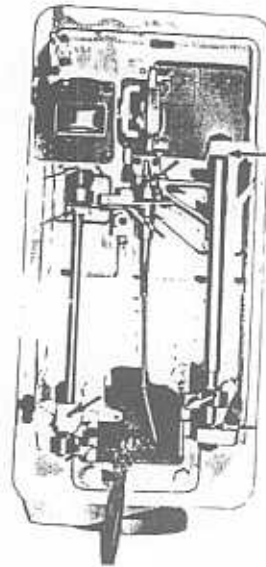


Photo. 21

UNSATISFACTORY CONDITIONS: CAUSES AND REMEDIES

Unsatisfactory Condition	Cause	Remedy
<p>The Upper Thread Breaks</p>	<ol style="list-style-type: none"> 1. The needle is not threaded correctly. 2. The tension is too tight. 3. Something is wrong with the needle. 4. The thread used is too heavy for the needle. 5. The thread take-up spring is broken. 6. The needle is not set correctly. 7. The needle plate, the hook, or the pressure foot is damaged. 	<p>Thread the needle correctly. Loosen it. Replace it. Replace it.</p> <p>Replace it. Set it correctly. Replace it.</p>
<p>The Lower Thread Breaks</p>	<ol style="list-style-type: none"> 1. When the lower thread is not wound correctly, it gets entangled. 2. The lower thread is off the tension spring of the bobbin case. 	<p>Wind it properly.</p> <p>Put it in its proper position.</p>
<p>Skipped Stitches</p>	<ol style="list-style-type: none"> 1. The needle is not attached to the needle bar correctly. 2. The needle is either bent or blunt. 3. The pressure of the presser bar is not sufficient. 4. The wrong needle is used. 	<p>Attach it properly.</p> <p>Replace it. Tighten it.</p> <p>Replace it.</p>
<p>The Needle Breaks</p>	<ol style="list-style-type: none"> 1. The needle is bent. 2. The needle is not attached properly. 3. The material is too thick or heavy. 4. The material is being pulled by operator. 5. The needle is of inferior quality. 	<p>Replace it. Attach it correctly. Use proper needle. Don't pull on the cloth.</p> <p>Replace it with proper needle.</p>
<p>Stitching Forms Loops</p>	<ol style="list-style-type: none"> 1. The thread tension is not properly adjusted. 2. The needle is not threaded correctly and/or the bobbin is not wound properly. 3. The weight or thickness of the material and the size of the needle are not in accord. 4. The thread take-up spring does not work well. 	<p>See instructions for adjustment of upper and lower thread tensions. Thread and/or rewind properly.</p> <p>See instructions covering the use of proper needles and threads with varying materials. Replace it.</p>
<p>Seams Shrink or Pucker</p>	<ol style="list-style-type: none"> 1. The thread tension is too tight. 2. The pressure of the presser foot is too strong. 3. The position of the feed dog is too high. 4. Use straight sewing foot. 	<p>See instructions for adjustment of upper and lower thread tensions. See instructions for proper pressure on cloth. See instructions covering adjustment of the feed dog.</p>
<p>Irregular Stitching</p>	<ol style="list-style-type: none"> 1. The upper and lower threads are of inferior quality. 2. The pressure on the presser foot is inadequate. 3. The thread is wound around the bobbin. 4. The position of the feed dog is too low. 	<p>Use thread of good quality.</p> <p>See instructions for proper pressure on cloth.</p> <p>Rewind it. See instructions covering adjustment of the height of the feed dog.</p>
<p>The machine does not work smoothly and is noisy.</p>	<ol style="list-style-type: none"> 1. The machine is in need of oil. 2. Dust and waste thread have collected in the hook mechanism. 3. Oil of inferior quality is used and has congealed. 4. The tension on the belt is too tight. 	<p>Apply oil as per instructions. See instructions on cleaning of the race and hook. Clean thoroughly and oil again with proper sewing machine oil of best quality. Loosen it.</p>

