How To Use and Care For Your

WHITE

Sewing Machine

MODEL 7-93
You are now the owner of a new White zigzag sewing machine which is acclaimed for its advanced design and sewing performance. Its exclusive built-in features include such things as declutching bobbin winder, buttonholes produced by just turning a dial, three needle positions, twin needle sewing, stretch stitch, blind stitch and other stitch designs to inspire you to do creative work.

To aid you in obtaining the greatest performance from your new White this book on its care and use has been written for you. Read the instructions carefully as a thorough understanding of your machine will reward you with many hours of trouble-free creative sewing.

Time saving attachments such as rufflers, binders, edgestitchers, cording feet and others to complement the accessories furnished with your White are available from the store where you purchased your machine.

White Sewing Machine Company
11750 Berea Road
Cleveland, Ohio 44111

White Consolidated Industries, Ltd.
1470 Birchmount Road
Scarborough 733, Ontario, Canada
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7. Hand Wheel
8. Stitch Length Control
9. Bobbin Winder
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11. Push Button Reverse
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29 Cam Cover Door
NEEDLE-THREAD-FABRIC -STITCHING GUIDE

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Needle No</th>
<th>Machine Stitches Per Inch</th>
<th>Cotton Thread</th>
<th>Mercerized Thread</th>
<th>Silk or Nylon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely heavy tarpaulin, sacking, canvas, duck, etc.</td>
<td>4</td>
<td>6 to 8</td>
<td>10 to 30</td>
<td>Heavy Duty</td>
<td></td>
</tr>
<tr>
<td>Heavy upholstery fabric, ticking, denim, leatherette</td>
<td>3</td>
<td>8 to 10</td>
<td>30 to 40</td>
<td>Heavy Duty</td>
<td></td>
</tr>
<tr>
<td>Medium heavy drapery fabric, velveteen, suiting, felt, terry, etc.</td>
<td>2</td>
<td>10 to 12</td>
<td>40 to 60</td>
<td>Heavy Duty</td>
<td></td>
</tr>
<tr>
<td>Medium broadcloth, percale, gingham, linen, chintz, taffeta, sheer wool, shantung, etc.</td>
<td>1</td>
<td>12 to 14</td>
<td>60 to 80</td>
<td>50</td>
<td>A</td>
</tr>
<tr>
<td>Sheer voile, lawn, dimity, crepe, handkerchief linen, plastic film, etc.</td>
<td>0</td>
<td>14 to 16 (Plastic film)</td>
<td>80 to 100</td>
<td>50</td>
<td>A</td>
</tr>
<tr>
<td>Very sheer chiffon, batiste, lace, organdy, ninon, net, marquisette, etc.</td>
<td>00</td>
<td>16 to 20</td>
<td>100 to 150</td>
<td>50</td>
<td>A</td>
</tr>
</tbody>
</table>
WINDING THE BOBBIN

Place a spool of thread on one of the spool pins. Lead thread through arm thread guides, (A, Fig. 3) and down between tension disc, 10, at the base of the machine.

Put end of thread through a hole in bobbin flange (Fig. 5) from inside to outside and place bobbin, (B, Fig. 3) on spindle of bobbin winder (9, Fig. 4) fitting the notch in bobbin over small pin on spindle. Push bobbin winder pulley against hand wheel which will declutch the sewing mechanism. Hold thread end loosely and start machine slowly.

Bobbin will stop winding when it is filled. By moving the bobbin winder from the hand wheel, it will engage the sewing mechanism. Approximately one turn of the hand wheel may be required to completely engage the sewing mechanism. Break off loose thread end used to start the winding.
UPPER THREADING (Fig. 6)

1. Place spool of thread on left hand spool pin.
2. Lead thread through upper thread guides (A),
3. down and around tension discs (B) from right to left,
4. into check spring (C),
5. continue to pull on thread until it hooks over hook (D),
6. up into take up from right to left,
7. down into thread guide (F),
8. through the needle bar thread guide (G); and,
9. into needle from FRONT to BACK. Pull three or four inches of thread through needle.

Hold the end of upper thread loosely and turn wheel toward you until the needle goes all the way down and comes back up. A loop (Fig. 7) will be formed over the upper thread which then can be pulled out straight. Place both thread ends under the presser foot and draw toward the back of the machine, leaving both threads three or four inches long.
SETTING THE NEEDLE

See Fig. 8. Raise the needle bar (A) to its highest point, turning hand wheel toward you by hand. Then loosen the needle clamp screw (B) and the needle can be inserted into clamp.

Place needle (Flat Side to BACK) in the needle clamp and push it upward as far as it will go into the needle clamp hole, tightening the needle clamp screw securely with a screw driver.

After changing the needle, make one complete revolution of the hand wheel by hand to be sure the needle is in the correct position.
THREADING THE BOBBIN CASE

Step 1 (illustrated in Fig. 9). Hold bobbin case between thumb and forefinger of left hand, so that the slot in the edge of the bobbin case is on top, take the bobbin between thumb and forefinger of right hand so that the thread on top leads from left to right.

Step 2 Insert bobbin into bobbin case, pull the thread into the slot of the bobbin case as shown in Fig. 10, and draw it under the tension spring and into the fork-shaped opening of the spring as shown in Fig. 11.
PLACING BOBBIN CASE

Raise needle bar to highest position, and lift hinged cover plate. (See 18 Fig. 1) Hold the bobbin case latch (D, Fig. 12), between the thumb and forefinger of the left hand, with at least three inches of thread running from the top of the bobbin case to the right. Insert and center the bobbin case on the stud of the shuttle body, (C). Be sure the bobbin case finger is opposite the shuttle race notch, (A).
Press the bobbin case (B) into the shuttle as far as possible until latch catches on the center post of the shuttle. Then release the bobbin case latch, (D). Press bobbin case again after latch has been released to make sure the bobbin case is locked securely.

Close the cover plate.
SETTING THE STITCH LENGTH

The length of the stitch is regulated by the dial shown in Fig. 13-A. Near 0 is the shortest stitch and 8 is the longest, but the dial may be set at any spot between marking for a variety of lengths. Turn the dial to the right to lengthen and to the left to shorten the stitch. The number stitch length you choose appears under the indicator.

The A and B settings are for the reverse stitch designs. (Sewing stretch fabrics, etc.)

<table>
<thead>
<tr>
<th>Figures on indicator</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of stitches per inch</td>
<td>No Feeding</td>
<td>50</td>
<td>30</td>
<td>20</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>
**SEWING IN REVERSE**

When you wish to sew backward to tie the threads at the beginning or end of a seam, press in the button R, 11, Fig. 1, as far down as it will go. The machine will sew backward as long as the button is held down.

**ADJUSTING THE TENSIONS**

Always adjust the upper tension with the presser foot down, as the tension is released when it is raised. To increase the tension on the upper thread, turn dial (Fig. 13) to the right. To decrease, turn to the left.

Before adjusting lower tension be sure that the machine is threaded properly. When necessary to change the bobbin tension, turn small screw (Fig. 14) on side of the bobbin case clockwise to tighten, counterclockwise to loosen.

When the upper tensions are properly balanced, a perfect stitch will be formed with both threads interlocking in fabric (Fig. 15).

When the upper tension is too tight, the lower thread is pulled up over the upper thread which is lying flat on the fabric (Fig. 16). When the upper tension is too loose, the upper thread forms loops over the lower thread lying flat on the fabric (Fig. 17).
ADJUSTING PRESSURE AND FEEDING OF FABRIC

General Sewing. Usually for normal sewing the pressure bar cap or darnar release, 2, Fig. 18, is at its lowest position and the drop feed knob is turned to "HI" position, Fig. 19.

Sewing Thin or Light Weight Fabrics. When lighter pressure is required to sew satisfactorily on thin silk or flimsy material, the pressure cap should be about halfway down. Release all the way by pressing the snap lock, (A, Fig. 20), and then press cap (B) down again to halfway spot. Lower the feed slightly by turning the black dot on the knob to "LO" position.
Darning and Mending. In order to move the fabric freely in any direction for darning, and mending, release the pressure cap B completely by pressing down on the snap lock, (A, Fig. 20).

Turn the knob to "DN" position, which drops the feed well below the needle plate. To return feed to normal, return knob to "HI".

**PREPARING TO SEW**

Have take-up lever at highest point before starting to sew.

Do not try to help the feeding by pulling the material as this may deflect the needle and cause it to break.

**NEVER** run machine without material under the presser foot.

Place material and threads in position under the presser foot and lower the presser foot.

Turn the hand wheel toward you until the needle is at its highest point. You are now ready to begin sewing. By having the needle at its highest point, it is not necessary to touch the hand wheel to start the machine. You merely press the control. The speed of the machine is regulated by increasing or decreasing the amount of pressure exerted on the control.
REMOVING THE WORK

Be sure to stop the machine when the thread take-up lever and needle bar are at the highest position. Now raise the presser foot and draw the fabric back and to the left, Figs. 21-A and B, and pass the threads over the thread cutter. Pull down slightly, holding thread in both hands, so as not to bend the needle. Leave the ends of thread under the presser foot.
STRAIGHT STITCHING

For straight sewing on fine fabric or very soft material, it is advisable to use the straight stitch presser foot and the straight stitch needle plate which are included in your accessory box. Both have narrow needle slots.

CHANGE AS FOLLOWS

To change presser foot (20 Fig. 1) loosen thumb screw and remove zigzag foot. Replace with hinged straight foot and tighten screw securely (Fig. 23).
To change needle plate (17 Fig. 1) remove screw and lift off with cover plate attached. Hold needle plate with right hand and cover plate with the left (Fig. 22).
Press upper corner of cover plate (right side up) down slightly and slip pin from groove in needle plate. Avoid using too much pressure. When the pin is released the two plates will separate.
Attach cover plate to straight stitch plate by reversing the above procedure. Slip pin on lower side of cover plate into groove on needle plate. Insert tongue into square opening and slide upper pin into position. Put plates on machine and fasten securely with needle plate screw.
When using the straight stitch needle plate and foot, be sure to make the following setting before starting to sew or the needle will break in striking the foot or needle plate. (See Fig. 24)

1. Set needle position control (5) at "C" position.

2. Set buttonhole control (6) at "M" position.

3. Turn zigzag width lock (4) to the left as far as possible.
   This will put the zigzag control (15) in the OFF position.

4. Set decorative stitch selector lever (13) in straight stitch position.
   This is done by pulling the lever out as far as it will go and placing it in its lowest position.

5. Set stitch length control (8) to any desired stitch sizes.
   See Page 13 for stitches per inch.
SETTING NEEDLE POSITION

The needle bar should be at its highest point when adjusting needle position to avoid tearing the fabric or bending the needle.

Select needle position by turning control A, Fig. 25.

"R" indicates the right hand position - "C" center and "L" left.

The "C" position is where most of your work will be done.

Straight stitching.
Stretch stitching.
Buttonholes.
Designs.
Twin needle sewing.
Hundreds of other uses.

The left and right hand position can be used for:
Straight stitch (cording and so forth)
Decorative designs.
Hundreds of other uses.

The left hand position is best for sewing on buttons.
TWIN NEEDLES-UPPER THREADING AND SEWING

1. Be sure zigzag needle plate and presser foot are in place.

2. Use center needle position only.

3. Follow threading instructions for single needle with these exceptions:
   a. Place two spools of thread, matching or contrasting in color, one on each spool pin.
   b. Lead both threads through arm thread guides.
   c. Bring threads down and around tension discs with one thread passing between the back discs and the other between the front discs.
      Now treat both threads as one until you reach the needle eye.
   d. Pass one thread through each needle eye (Fig. 26).

4. The maximum zigzag stitch width that can be sewn with twin needles is indicated by the black lines on the zigzag width control (15, Fig. 24) The twin needles will break if the zigzag width control is set beyond the last black line.

5. Straight stitching and decorative stitch designs can be produced in the same manner as for single needle sewing except for the maximum zigzag width.
CREATIVE EMBROIDERY (MANUAL)

Be sure zigzag presser foot and zigzag needle plate are in place.

1. Set buttonhole control (6, Fig. 24) at "M" position.
   (Bar Tack position)

2. Set pattern selector lever (13, Fig. 24) at Manual
   Zigzag ( ) position.

3. Set needle position control (5, Fig. 24) at "L" position.

4. With the zigzag width control (15, Fig. 24) set at the Number 5 and stitch length
   control (8, Fig. 24) as near 0 as possible without stopping the feeding action, a
   satin stitch is produced (Fig. 27).

5. With the machine set for a short stitch length, different designs can be made by
   turning the zigzag width control back and forth between 0 and 5 or any other
   combinations of widths. Try setting the zigzag width control (15, Fig. 24) at the first
   line and the various other lines.

Set a rhythm for yourself and then proceed. After a while you will become quite skillful, vary-

Fig. 27-A

ing your designs by the speed of the machine, stitch length and manipulation of the zigzag
width control.
SAMPLES OF CREATIVE EMBROIDERY (MANUAL)
(See Fig. 27-A)

"A" Sew a few stitches at 5 width then allow knob to spring back to 0 for a short period. Count, if necessary, to establish a rhythm.

"B" Set zigzag width control at the second line then move the control slowly back and forth between the Stop and Number 5.

"C" Set zigzag width at the first line. Gradually move the control from the Stop to 5 allowing it to snap back quickly.

"D" Set zigzag width at 5, stitch length at 2. Sew a few zigzag stitches. Drop feed (12,Fig.24) for 3 or 4 stitches then raise it again. By operating the drop feed knob rhythmically it is not necessary to count stitches.

By changing the needle position and varying the movement of the controls, hundreds of designs can be produced.

"E" Set drop feed knob at Down position and lock zigzag width control at the number 5 position. Take 3 or 4 stitches, leave needle in fabric and pivot fabric on needle to make next daisy petal. Continue until flower design is completed. Lock threads by setting stitch width at 0 and sewing 3 or 4 stitches in center of design.
DECORATIVE STITCH DESIGNS

(See Fig. 28)

To sew the decorative stitch designs, set the machine as follows:

1. Needle position control (5) at "C".
2. Buttonhole control (6) at "M".
3. Zigzag width control (15) at number 5 for designs with the greatest width.
   At the 0 position, the machine will sew a straight stitch regardless of the position of selector lever (13).
4. Pull out pattern selector Lever (13) and raise or lower it to desired stitch design setting.
5. When selecting forward-and-reverse stitch designs (marked "A" or "B" on decorative pattern plate (14, or Fig. 29) it will be necessary to position the stitch length control (8) at its "A" or "B" position.
   This is done by pressing down the reverse stitch button (11) and turning control knob (8) to desired position.
Various combinations of stitch designs can be made by leaving the stitch length control (8) at the "A" or "B" position and placing lever (13) in a position other than the "A" or "B" setting.

6. Set control (8) at the "A" position and place lever (13) for multiple stitch zigzag design for square stitch design.

7. With control (8) at the "B" position, move lever (13) to zigzag position for rickrack design.

8. 20 other designs are available by just placing the controls in different positions.

9. The density of the stitch patterns illustrated on decorative pattern plate (Fig. 29) except designs "A" and "B" are controlled by the stitch length control (8, Fig. 28). Set stitch length control as close to 0 as possible without stopping the feeding action for a very compact design. By increasing the feed, the design will increase in length but the stitches will not be so compact.

10. The versatility of your machine will become apparent as you practice with the different design patterns and the adjustment available with the zigzag width control and stitch length.

PLEASE NOTE:

1. When changing the position of the pattern selector lever, be sure to stop the machine, with the needle at its highest point.
2. Before sewing, make sure that the selector lever is fixed firmly in the position you desire.
FEATHER STITCH
This stitch design can be used for decorative work and when sewing stretch fabrics. With the zigzag stitch width control (15, Fig. 28) set at number 5 the greatest width is obtained. Do not set stitch width above number 3 when using twin needles. When sewing stretch fabrics set the zigzag width control at 0. (See pages 24 and 25).

MULTIPLE ZIGZAG STITCHES
Use when replacing worn blanket bindings for both a decorative and durable finish, when overcasting an edge to prevent fraying, also when applying elastic waist bands to skirts and dresses. Be sure to stretch the elastic as it is applied to insure fullness required in the garment. There are hundreds of other uses for these stitch designs which will become apparent as you use the machine.
BLIND STITCH HEM

Use standard zigzag foot. (Fig. 35)
Set stitch length control at number 3 or 4.
Needle position control at "Center" position.
Zigzag stitch width to suit material being sewn.
The lower the number, the smaller the sidewise stitch.

Blind stitch hems provide a durable hem finish that is almost invisible and comparable to hand sewing.
Prepare the garment in the same manner as for hand hemming.

**STEP 1** (Fig. 36) If hem with folded edge is used make first fold 3/8" deep.

**STEP 2** Turn hem to the depth desired and bast 1/4" from upper edge. Press in place.

**STEP 3** Fold hem back toward right side of garment leaving 1/4" extended.

**STEP 4** Place material under presser foot, sew with stitch length set to suit material being sewn and make a side wise stitch about every 3/4" of an inch of sewing.

![Fig. 35](image-url)

![Fig. 36](image-url)
BASTING STITCH

1. Use the zigzag foot and needle plate.
2. Set machine for blind stitch. ( \_/\_ )
3. Set stitch length control at the number 3 position.
   The higher the number, the longer the stitch.
4. Set zigzag width control at the number 5 position.
5. Set needle position control (5, Fig. 28) at “L”.
6. Set the knob on the race cover to the basting position
   (Red mark), Fig. 37.
7. Thread the needle as illustrated. (Fig. 38).
8. Cotton thread is the best for basting and a tension adjustment may be required for light weight fabrics.
9. Pick up lower thread. It may be necessary to turn the hand wheel three or four times before you pick up the thread.
10. For best results sew at a slow speed approximately 600 to 700 stitches per minute.
11. Don’t forget to push back the basting knob to the normal sewing position (Black mark) when you finish basting.
BUTTONHOLES

Various widths and lengths can be made automatically by turning the dial (15, Fig. 28).
To establish the correct length buttonhole required add ⅛ inch to the cutting space for bar tacks.
To obtain the length of the cutting space, the opening through which the button passes, is measured by adding the width (A) and thickness (B) of the button (Fig. 41).
The width of the buttonhole sides are governed by the material used. Set zigzag stitch width control on number 5 for thick material and a lower number for thin material.
Mark the beginning and end of the buttonhole on fabric with a basting line or tailor’s chalk. Make one on scrap fabric following directions below to be sure machine adjustments are correct.

1. Replace presser foot with special purpose buttonhole foot. This provides maximum visibility and allows closely spaced stitches to feed evenly (Fig. 40).
2. Set needle in center position (5, Fig. 28).
3. Set zigzag stitch width control (15, Fig. 28) to suit material being sewn or width of buttonhole desired (number 5 for the widest buttonhole).
4. Set stitch length control (8, Fig. 28) as close to 0 as possible without stopping the feeding action.
5. Set buttonhole control dial (Fig. 43) to sew the left side (Step 1). Lower needle carefully into mark on fabric indicating the end of the buttonhole. Lower presser foot and sew entire length of buttonhole (Forward feeding).

6. With needle out of the cloth, set buttonhole control dial for bar tack (Step 2). Sew 4 or 5 stitches.

7. With needle out of cloth, set buttonhole control dial to sew right side of the buttonhole (Step 3). This will reverse the feeding motion.

8. With needle out of the cloth, set buttonhole control dial for bar tack (Step 4). Sew 4 or 5 stitches.

PLEASE NOTE:
1. If you plan to make buttonhole on sheer or soft material, place tafatian or paper under cloth. This can be torn away after stitching.
2. Before turning buttonhole control knob, always make sure that the decorative stitch control lever is set in the manual zigzag position.
3. Should you prefer to sew the right hand side (reverse stitch) of the buttonhole first start with step 7 and continue as follows with steps 6, 5 and 8.

CAUTION:
DO NOT TURN BUTTONHOLE CONTROL KNOB TO THE RIGHT UNLESS THE MACHINE IS SET FOR ZIGZAG STITCHING AS IT WILL PUSH THE DECORATIVE CAM STACK OUT OF POSITION.
TO CORRECT, TURN BUTTONHOLE CONTROL KNOB BACK TO BAR TACK AND PUSH CAM STACK BACK INTO POSITION.
ANY TIME PATTERNS ARE NOT PRODUCED AS ILLUSTRATED ON DECORATIVE STITCH PANEL, CHECK CAM STACK TO SEE IF IT IS IN AS FAR IT WILL GO.
SEWING ON BUTTONS

1. Remove presser foot and replace with special purpose button sewing foot (Fig. 45).
2. Turn drop feed knob to "DN" position (Fig. 44).
3. Set zigzag width control at "O".
4. Set needle position control at "L" and pattern selector lever at Manual (WWWW).
   Place the button so that its left hole comes directly under the presser foot (Fig. 46).
5. Set the zigzag width control to produce a zigzag stitch until the needle enters the right hand hole of the button. Turn the balance wheel slowly by hand to be sure the needle clears both holes in the button. Correct width if necessary.
6. When needle goes into the center of each hole, run the machine at a medium speed, making five or six stitches, stopping with the needle in the left hole.
   7. To lock the zigzag stitch and prevent ravelling, set the zigzag stitch width control to 0 (remembering its original setting), and take a few stitches in the same hole. If you wish, you may place a rounded toothpick over the button between the two holes, and sew button to fabric in the regular way. Remove the toothpick and wind thread under button forming a shank to fasten.
Apply the above method to sew on buttons with four holes, hooks, snaps and so on. If a four-hole button is to be sewn, follow the same procedure above for the two hole button. Now lift presser foot slightly and move fabric to permit stitching the remaining two holes. Fig. 48

EMBROIDERING WITH A HOOP

It is easy to follow a stamped design or to work free hand when embroidering or monogramming. (See Fig. 49). Release the pressure from the foot by pressing down the snap lock on the darter. Turn the drop feed knob to "DN" position (See Fig. 44). Stretch the fabric in an embroidery hoop, and place under the needle after removing the presser foot. Set the stitch width at the size you prefer and lower the presser bar lifter. Then operate the machine at a rather high speed while moving the hoop slowly with both hands. Work carefully and be sure to keep fingers out of the path of the needle. Should you encounter skip stitches the fabric is not stretched tight enough or a darning spring is needed (see attachments available from your dealer illustrated in the back of this book).
CIRCULAR AND SCALLOP DESIGNS

With the use of a straight pin and the holes in the machine at the left of the needle (Fig. 50) you can sew an unlimited number of circular and scallop designs. The first hole will produce a two inch circle with the following holes increasing the diameter by one inch. The last hole will make a five inch circle.

Perfect scallops are produced by sewing only a portion of a circle. The depth of the scallop is governed by how much of the circle is used.

Circular and scallop designs can be used for almost anything, scallop designs for trimming the hem of a dress, drapes, edge of table cloths and hundreds of other items.

Make scallops as follows:
1. Line fabric on wrong side of depth of scallop and center line of circle.
2. Sew scallop on wrong side of material.
3. Cut around scallop about 1/8 inch from stitching. Some fabrics may require notching for a smooth even turned edge.
4. Turn gently, roll out scallop between fingers and press.
MANUAL OPERATION

Be sure standard zigzag presser foot and zigzag needle plate are in place and machine is set for manual operation. Use for:

OVERCASTING WORN EDGES
Zigzag stitch along the worn edges, catching the fabric as the needle swings to the left, and allowing the needle to just pass over the edge of the fabric on the right (Fig. 52).

PATCHING
Machine bastes patch into place by placing fabric under hole or worn area which has been cut away. Then zigzag stitch the patch into place by overcasting around edge of hole.

APPLIQUE
Fig. 51-Baste design to fabric and zigzag stitch following the shape of the design outlining it entirely and remove excess material on the outer edge by trimming it away after stitching
Fig. 53-Baste design to fabric and overcast a zigzag stitch around the design outlining it entirely. Hundreds of other uses will become apparent as you continue to use the machine
Try the multiple zigzag stitch for these operations. Also, for best results set speed control slower when sewing around contours and faster for straight lines.

Fig. 51  Fig. 52  Fig. 53
HOW TO USE ACCESSORIES

NARROW HEMMER

With needle at its highest position replace regular presser foot with narrow hemmer (Fig. 54) being sure to tighten it securely in place. Set pattern selector lever at manual position, needle positioning control center, zigzag stitch width control at off for straight stitched hem or at number 3 for zigzag stitched hem. Set stitch length control to suit.

For a plain narrow hem make a 1/8 inch double fold for about two inches along edge of fabric. Hold each end of the two inch fold and slip underneath hemmer. Bring fold up into the scroll of HEMMER draw fabric forward to end and fasten with needle point. Lower presser bar lifter. Gently pull end of thread as you start stitching (Fig. 55 for straight stitched hem Fig. 56 for zigzag stitched hem).

Guide material slightly to left and it will take a double turn through scroll. The narrow hem provides an excellent finish for edges of ruffles or any other dainty work.

LACE TRIMMED HEM

To sew a narrow hem and attach lace in one stitching, insert lace in the slot next to needle (Fig. 58). Sew hem as above, guiding lace under needle and hem into scroll. Rick-rack may be used in the same way.
LACE EDGE WITH INVISIBLE STITCHING
Hold lace 1/8 inch from raw edge on right hand side of fabric, insert both in scroll as for plain narrow hem (Fig. 59); let hem roll over and sew in lace. When the stitching is completed, the hem is pressed to the wrong side.

FRENCH SEAM
Place material with right sides facing each other and the top piece of material 1/8 inch from right hand edge of lower piece. Insert in hemmer scroll allowing hem to roll over and sew in top fabric making French seam. For cording effect, use zigzag stitch wide enough to catch both edges of the narrow rolled hem and sew with satin stitch. This can be used for covering chairs and so forth. (Fig. 60).

HEMMING ACROSS A SEAM
To hem across a seam, cut the seam folds at an angle so they will lead into the hemmer gradually. Press seam open. Stitch across the seam at the extreme edge to hold it together and for added firmness. It may be necessary to pull the material slightly when hemming over the seam. (Fig. 57).
QUILTING GUIDE (Fig. 61)
Use this guide for making parallel rows of straight or decorative stitching. Attach standard presser foot. Slip U-shaped holder on guide under presser foot thumb screw from the back and tighten screw (Fig. 65). Adjust the curved bar for the distance desired between rows of stitches and set so it presses slightly on the fabric. By letting the guide ride on the previous stitching line, successive rows will be an equal distance apart (Fig. 65).

SEAM GAUGE OR CLOTH GUIDE (Fig. 62)
Use the seam gauge as a guide for straight seams and even rows of top stitching along edge of fabric. (Fig. 64). Fasten Gauge (Fig. 62) with accompanying screw (Fig. 63) in threaded hole in bed of machine. Adjust to desired width.
THE ADJUSTABLE CORDING AND ZIPPER FOOT

This attachment is used to make and insert covered cording, and to sew in zippers. Loosen thumb screw to slide foot to either right or left of needle. (Fig. 66).

CORDING. Fold bias strip of fabric over cord. Loosen thumb screw and set foot so needle is centered in needle hole. Machine bastes cord in place (Fig. 67). To sew covered cord to material, reset adjustable foot so needle stitches closer to cord, and on edge of base fabric.

SEWING IN A ZIPPER

Loosen thumb screw and slide foot so needle enters center of needle hole. Guide metal of zipper along edge of foot (Fig. 68). Stitching should be close to zipper to allow easy opening and closing. Adjust to sew from either right or left side, whichever is more convenient.
ADJUSTABLE CORDING AND ZIPPER FOOT

Fig. 69

Fig. 70

Fig. 71
CLEANING AND OILING THE SHUTTLE (See Figs. 72-A and B)

The stitch forming mechanism occasionally becomes clogged with loose threads and lint. This will interfere with the efficient operation of the machine. Cleaning and removal of the lint will safeguard the performance. To remove the shuttle assembly, proceed as follows:

1. Turn the balance wheel until the needle reaches its highest position. Tilt head back on its hinges.
2. Remove bobbin case (A).
3. Turn the two shuttle race cover clamps (B) outward and remove the shuttle race cover (C) and shuttle body (D).
4. Clean the shuttle race, the shuttle and shuttle race cover by removing all threads, lint, etc.
5. Apply a drop of oil with finger tip to outer edge of shuttle.

Fig. 72-A

Fig. 72-B
When the cleaning has been completed, proceed as follows to replace the shuttle assembly:

1. Turn the balance wheel until the needle reaches its highest position.
2. Place shuttle body, (D), against shuttle driver and adjust into position.
3. Replace shuttle race cover, (C), fitting pin at lower edge into notch, and lock into position with shuttle race cover clamps, (B), making certain the clamps have been snapped securely into position.
4. Put bobbin into bobbin case.
5. Put the bobbin case into the shuttle fitting tongue into notch E of race cover.

**CARE AND MAINTENANCE OF YOUR MACHINE**

**HOW TO OIL YOUR MACHINE**

Your machine should be oiled occasionally to keep it operating smoothly. How often depends on the amount of sewing you do.

Before oiling the upper part of the sewing unit at points indicated by arrows (Fig. 73) turn hand wheel toward you until the take-up lever is at its lowest point.
To oil mechanism under bed of machine, tip the head back on its hinges and oil all moving parts indicated by arrows. (Fig. 75).

HOW TO REPLACE THE LIGHT BULB
Open Face (Fig. 74) unscrew bulb and insert new one. For long life and correct size, be sure it is a genuine White part.
ACCESSORIES

1. Plastic Oiler (sealed and filled).
2. Package of Needles (5 Straight, 1 Twin).
3. Large Screw Driver.
4. Small Screw Driver.
5. Quilter Guide.
7. Button Sewing Foot.
8. Buttonhole Foot.
10. Narrow Hemmer.
11. Cording & Zipper Foot.
12. Thumb Screw.
13. Felt Washers (2) (for spool pins).
15. Needle Plate for Straight Sewing.
**TROUBLE CHART**

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Probable Cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Machine Binds</td>
<td>Thread or lint in race way</td>
<td>1. With take-up lever in highest position, tilt head back on hinges and remove bobbin case.</td>
</tr>
</tbody>
</table>

![Diagram of machine parts](image)

2. Turn clamps outward and remove race cover.
3. Remove hook.
4. Clean thread and lint from all parts, including race.
5. Run a drop of oil along rim of shuttle.
6. Replace shuttle, then race cover. Snap clamps into place.
7. Grasp threaded bobbin case by latch and replace, fitting tongue into notch of race cover.
<table>
<thead>
<tr>
<th>Trouble</th>
<th>Probable Cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skipping stitches</td>
<td>Bent needle</td>
<td>Discard and replace.</td>
</tr>
<tr>
<td></td>
<td>Needle placed incorrectly in clamp</td>
<td>See instruction page No. 10.</td>
</tr>
<tr>
<td></td>
<td>Too fine a needle for thread being used</td>
<td>See needle and thread chart, page No. 5.</td>
</tr>
<tr>
<td>Irregular stitches</td>
<td>Upper thread tension too loose</td>
<td>Tighten upper tension.</td>
</tr>
<tr>
<td></td>
<td>Improper threading</td>
<td>See threading instruction, page Nos. 8 and 9.</td>
</tr>
<tr>
<td></td>
<td>Bobbin not wound evenly</td>
<td>Rewind bobbin.</td>
</tr>
<tr>
<td>Uneven stitches</td>
<td>Pulling or holding material</td>
<td>Avoid pulling or holding material, just guide it.</td>
</tr>
<tr>
<td></td>
<td>Not enough tension on upper thread</td>
<td>Increase tension.</td>
</tr>
<tr>
<td></td>
<td>Poor quality thread</td>
<td>Try different thread.</td>
</tr>
<tr>
<td></td>
<td>Needle too fine for thread being used</td>
<td>See needle and thread chart, page No. 5.</td>
</tr>
<tr>
<td>Trouble</td>
<td>Probable Cause</td>
<td>Correction</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Upper thread breaking</td>
<td>Improperly threaded</td>
<td>Refer to threading instructions see page No. 8 and rethread machine.</td>
</tr>
<tr>
<td></td>
<td>Too much tension</td>
<td>Loosen tension on upper thread by turning thread tension knob to lower number.</td>
</tr>
<tr>
<td></td>
<td>Starting with take up in incorrect position</td>
<td>Always start sewing with take up lever in highest position.</td>
</tr>
<tr>
<td></td>
<td>Improper setting of needle</td>
<td>Refer to needle setting instructions see page No. 10.</td>
</tr>
<tr>
<td></td>
<td>Eye of needle too sharp</td>
<td>Try a new needle.</td>
</tr>
<tr>
<td></td>
<td>Bent or blunt needle</td>
<td>Discard all blunt or bent needles and replace with new.</td>
</tr>
<tr>
<td>Material puckering</td>
<td>Tension too tight</td>
<td>See tensions adjustment page No. 14.</td>
</tr>
<tr>
<td></td>
<td>Dull needle</td>
<td>Change needle.</td>
</tr>
<tr>
<td></td>
<td>Stitch length too long</td>
<td>Reduce stitch length.</td>
</tr>
</tbody>
</table>
Your sewing machine comes equipped with the basic set of accessories described earlier in this book. The following pages illustrate additional timesaving attachments that have been designed specifically for your machine. They are available at modest cost from your dealer. If your dealer cannot supply you with these items, ask him to order them for you by part number. Then you will be assured of receiving the genuine part designed for best performance with your machine.

If a sewing machine dealer is not available mail your inquiry directly to:

WHITE SEWING MACHINE COMPANY
11750 BERE A ROAD
CLEVELAND, OHIO 44111

In Canada:

WHITE CONSOLIDATED INDUSTRIES, LTD.
1470 BIRCHMOUNT ROAD
SCARBOROUGH 733, ONTARIO
SOME OF THE ATTACHMENTS AVAILABLE FOR YOUR MACHINE

Fig. 71

Ruffler

PART $1403

Darning Spring

PART $4990

Attachment Foot

PART $82528

Binder

PART $74159

Edgestitcher

PART $76554

Hemmers

$\frac{3}{4}$ PART $76553$

$\frac{1}{2}$ PART $76552$

$\frac{3}{4}$ PART $76551$

$\frac{1}{2}$ PART $76550$

Needle position control must be in the left position when using these attachments.
ATTACHMENT FOOT

In order to attach the binder, edgestitcher and the hammers, it is necessary to remove the presser foot and replace it with the attachment foot (Fig. 78). Mount binder, edgestitcher or hammers, sliding the attachment to the left as far as possible and tighten screw.

The mounting slot enables you to sew as close to or as far away from the edge as desired. Just move the attachment to the correct position before tightening the mounting screw.

EDGESTITCHER

The edgestitcher is used in making dainty lace insertions, edgings and pipings. The slots in the edgesticher serve as guides in sewing together various pieces of material. If you want to sew lace, lace and embroidery, or lace and tucked strips together, place the piece of material that will be on top in slot 1 (Fig. 80) and the lower fabric in slot 4. For instance, if you are sewing lace edging to a finished edge of fabric place the fabric in slot 1 and the lace in slot 4 (Fig. 79).

Be sure to draw the lace and material under the needle and back of the edgestitcher so that the feed will carry it backward as you stitch. Hold the fabric in the left hand and the lace in the right, being sure fabric overlaps the lace slightly.
Rick Rack can be sewn to the edge of the material in the same manner. To trim with wide piping, place the fabric in slot 4, and the fold of the piping to the left in slot 3, for a narrow piping place fabric in slot 2 and the folded edge of the piping to the right in slot 3. Slot 5 may be used as a guide in stitching a French seam. See Fig. 81, 82, 83 and 84 for suggestions on how to use the edgestitcher. There are hundreds of other uses.
BINDER

This attachment folds bias binding and applies it to the edge of material in one operation. Slots on scroll of the binder are for corresponding widths of commercial folded bias binding. The open mouth of binder scroll is used for unfolded bias strips cut 15/16 inch wide.

FOLDED BINDING (Fig. 87)
Cut a point on folded binding, insert in appropriate slot. Draw through slot and under binder with strong pin. Test stitching to be sure it is on the edge. Adjust sliding binder to right or left.

TWO-TONE BINDING (Fig. 87)
Two bindings can be sewn on fabric edge also in one operation. When two are used, always skip one size between widths, inserting each in correct size slot.

HAND-CUT BIAS BINDING (Fig. 88)
Cut 15/16 inch bias binding fold in half for a couple of inches. Cut binding diagonally toward end, almost to fold. Slip fold into center of binder. Draw back until cut opens and binding encircles open end of scroll. Test stitching to be sure it is on the edge. Adjust if necessary. See Figs. 85 and 86 for suggestions on how to use the binder. There are hundreds of other uses.
THE SET OF HEMMERS

Before attaching any of the hemmers, be sure bobbin thread is pulled up. Then, with hemmer in place, hold top thread loosely and turn hand wheel one full turn toward you, making a loop under hemmer. Grasp bobbin thread with both hands and slip horizontally under hemmer toward back. Bobbin thread will catch loop and carry upper thread to back of hemmer.

Fold material to suit for two inches along edge, hold at each end of fold. Slip fold into guide and up over spoon (Fig. 89). Fold hem in material back of hemmer. Draw forward to end of hem and fasten with point of needle. Pull on threads gently as you start stitching.

HEMMER SET

You can make a hem 1/4", 3/8", 5/8", or 7/8", in width, depending upon which hemmer you use. For a few of the many uses see Figs. 90, 91, 92, 93, 94 and 95.
RUFFLER

The ruffler will produce yards of delicate ruffling or precision pleating. Ruffling can also be done and sewn to another piece of fabric at the same time. This highly versatile attachment, despite its wide range of use, is simple to use. Use the ruffler for making aprons, curtains, pleating a skirt, adding fullness to the bodice of a dress, etc.
MORE ATTRACTIVE DESIGNS JUST BY CHANGING CAM

These two extra cams are available from your dealer.

Cam change is very simple.

1. Set stitch length control (9, Fig. 1) at "0" position.
2. Set pattern selector lever (15, Fig. 1) at straight stitch position.
3. Open cam cover door (30, Fig. 2).
4. Push cam release button (1, Fig. 105), and cam (2 Fig. 105) will come out for about 1/4".
5. Pull out cam, and put new cam into cam chamber, being sure notch in cam is engaged with drive pin.
6. Cam cover door should close easily. If not, the cam is in the incorrect position. Turn cam until it engages drive pin.
7. Change decorative pattern plate (16, Fig. 1).
INSTALLING SEWING HEAD IN CABINET

1. Back off both head hinge set screws until head hinge hole is clear.

2. Tilt head hinge tongues up and back as far as they will go.

3. Carefully slip head onto head hinges - making sure tongues are inserted as far as they can go into head hinge holes.

4. Allow the head to rest in its tiltedback position.

5. Tighten both set screws securely with screw driver.

6. Plug electrical leads into sockets located inside cabinet. Cord identified with "motor" tag must be plugged into socket marked "motor". Untagged card goes to "light" socket.
TO OBTAIN THE BEST PERFORMANCE FROM YOUR MACHINE BE SURE THE CABINET, CARRYING CASE OR OTHER ITEMS USED WITH YOUR MACHINE ARE GENUINE WHITE PRODUCTS.