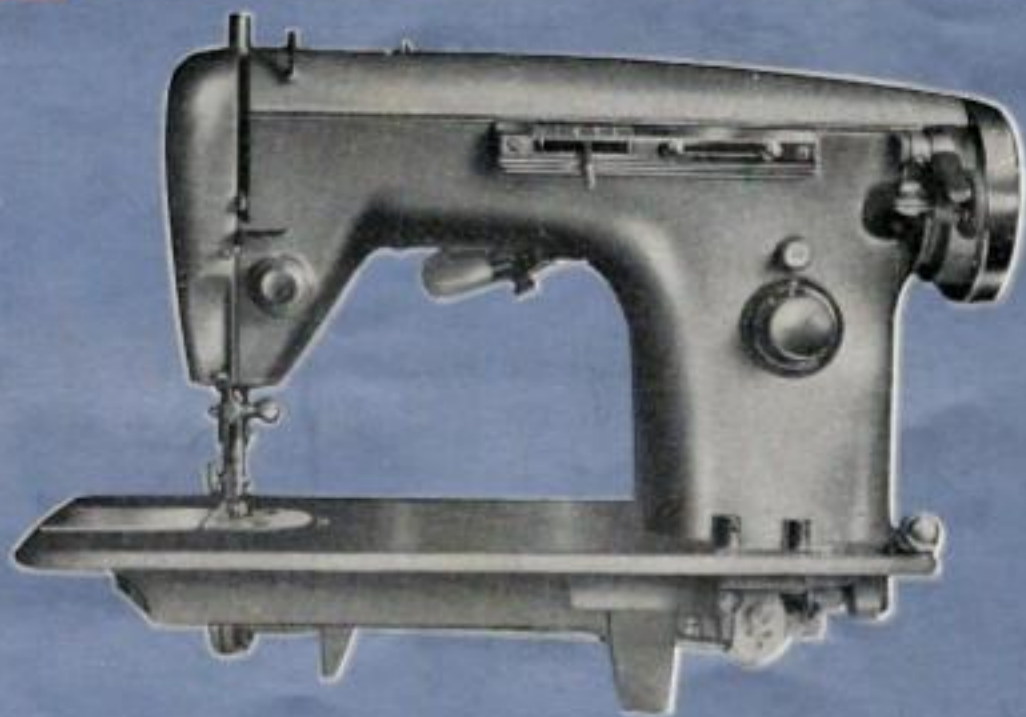


DE LUXE
ZigZag

SEWING MACHINE

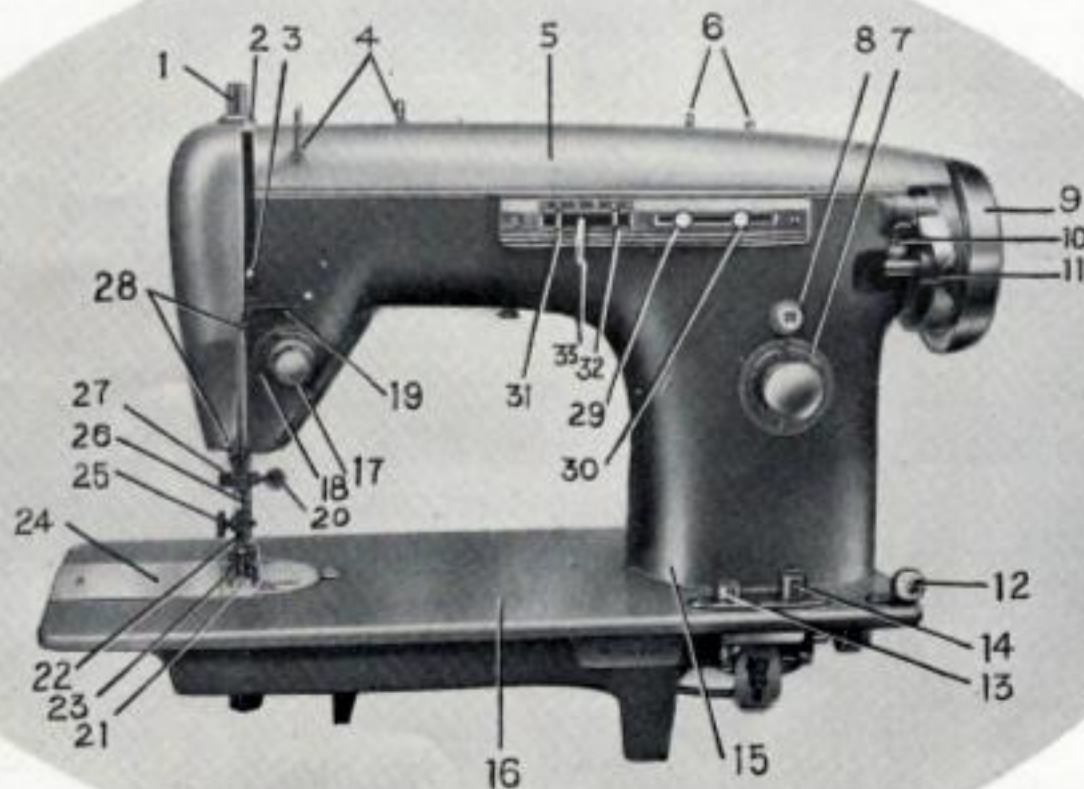


INSTRUCTION BOOK

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Name of Each Part



1. Automatic darning (pressure regulator)
2. Pressure release lever
3. Take-up lever
4. Upper arm thread guide
5. Horizontal arm
6. Spool pins
7. Stitch length regulating knob
8. Reverse stitch button
9. Balance wheel
10. Bobbin winder release
11. Bobbin winder
12. Bobbin winder thread guide
13. Drop feed push button
14. Drop feed push button release knob
15. Vertical arm
16. Bed-plate
17. Thread tension indicator
18. Check spring
19. Thread guide arm
20. Needle clamp
21. Feed dog
22. Hinged pressure foot
23. Needle
24. Slide plate
25. Pressure foot thumb screw
26. Needle bar
27. Thread cutter
28. Face plate thread guides
29. Lock screw for indicator #31
30. Lock screw for indicator #33
31. Indicator for stopping lever #33
32. Zig-zag width adjusting lever
33. Indicator for stopping lever #33

Special Features

AUTOMATIC DARNER (PRESSURE REGULATOR) - enables you to select the exact pressure according to the kind of material you are sewing.

STITCH REGULATOR - regulates the stitch length and it helps you to select the stitch size with ease and accuracy.

AUTOMATIC REVERSE STITCH BUTTON - enables you to sew reverse stitch automatically.

AUTOMATIC BOBBIN WINDER - winds your bobbin and stops automatically when your bobbin is filled.

CALIBRATED UPPER THREAD TENSION REGULATOR - allows the tension of the upper thread to be easily and accurately adjusted according to thread and material weight differences.

DROP FEED PUSH BUTTON - regulates the height of your feed dog for embroidering or darning and for different weights of fabrics.

BUILT-IN LIGHT - illuminates your work for better and efficient sewing without glare. Light bulb is easily changed.

SNAP-OUT RACE - is so constructed that cleaning eliminating tangled thread is very simple and quick.

FLOATING PRESSURE FOOT - glides over pins and basting.

1. To Wind the Bobbin

1. To wind the bobbin balance wheel must be disconnected from the stitching mechanism. Hold the balance wheel with your left hand and turn the stop motion knob (Fig. 1) toward you with your right hand. This will permit the hand wheel to turn freely while the needle bar remains motionless. The balance wheel is now disconnected for the bobbin winding operation.
2. Place a spool of thread on the spool pin (Fig. 2). Draw thread from spool over guide then downward across machine from left to right.
3. Pass the thread through the tension device at the right corner of the base of the machine.
4. Now wind the end of the thread around an empty bobbin seven or eight times and place the threaded bobbin on the spindle of the bobbin winder.
5. By pressing on the bobbin winder lever, the small rubber wheel is brought in contact with the balance wheel. To lock into position, press bobbin winder lever until a click is heard. The bobbin winder release latch is now touching the shaft of the bobbin. It holds the bobbin in place.



Fig. 1

6. Now manipulate your foot control or knee control in the same manner as for sewing and when the bobbin is completely full it will stop turning automatically. Slip bobbin from spindle. Hold balance wheel firmly with left hand and with the right hand, turn stop motion knob away from you until it can not be moved any further and the needle bar moves with the turning of the balance wheel.

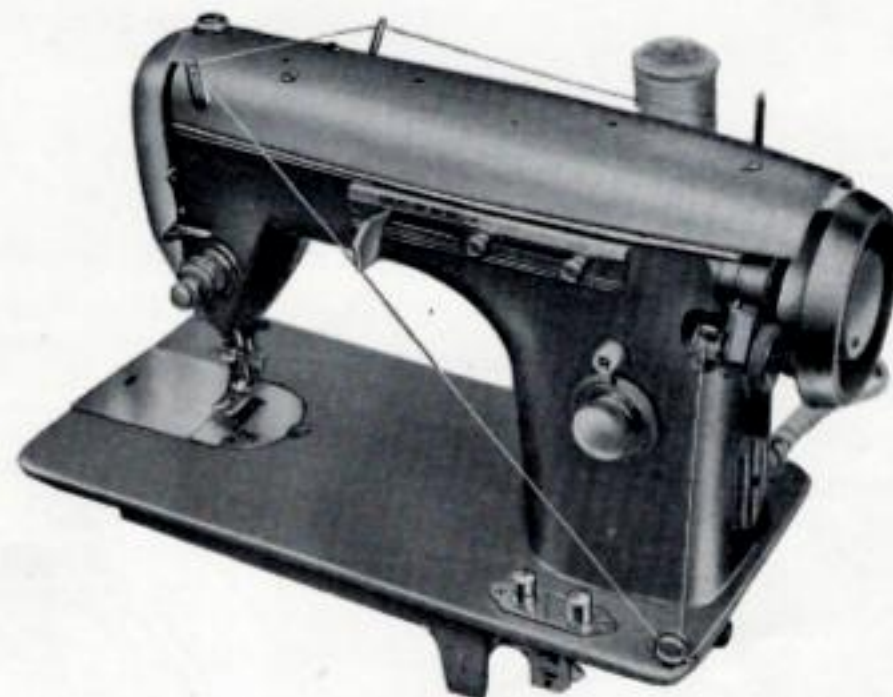


Fig. 2

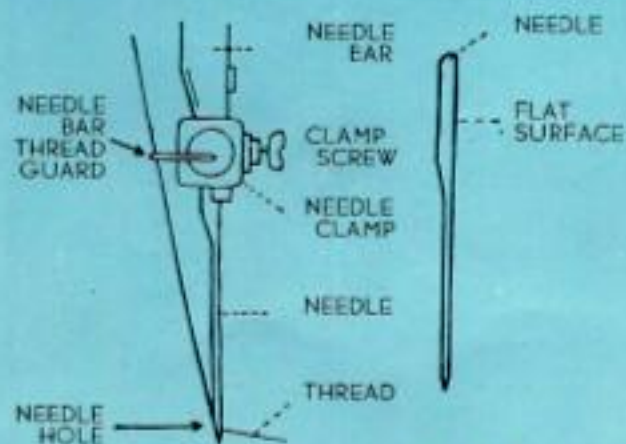


Fig. 3

2. To Set the Needle

1. Turn the balance wheel toward you, raising needle bar to its highest point, and loosen the needle clamp screw.
2. Hold the needle in the left hand with the point down, and insert the needle up into the needle clamp as far as it will go, with its flat surface to the right; then retighten the clamp screw (Fig. 3.)

3. To Thread the Bobbin Case

Before threading the bobbin case, study Fig. 4, 5, 6, to get a general idea as to how it is done.

1. Hold the bobbin case with your left hand and put the bobbin into the bobbin case with your right hand, leaving about two inches of the thread end unwound (Fig. 4.) As the bobbin is being inserted in the bobbin case, the thread flow, is clockwise.



Fig. 4



Fig. 5



Fig. 6

2. While holding the bobbin case as before, grasp the thread end with your right hand, and guide it into the cross slot (Fig. 5).

3. Then pull it through under the tension spring of the bobbin case (Fig. 5) until it enters the delivery eye (Fig. 6).

4. To Replace and Remove the Bobbin Case

1. Raise the presser bar by lifting the presser bar lifter.
2. Raise the needle bar to its highest point by turning the balance wheel toward you.
3. Pull out slide plate (Fig. 7).
4. After threading the bobbin case, hold its latch between the thumb and forefinger of left hand, with its position finger opposite the notch at the top of the shuttle race, replace it

on the center stud of the shuttle (Fig. 8).

5. Then release the latch and press the bobbin case in until the latch catches the groove near the end of the stud with a click that can be heard.

6. Allow the end of the thread to hang free about 2 to 3 inches.
7. Pull back slide plate.

To remove the bobbin case do all the above in reverse order.



Fig. 8

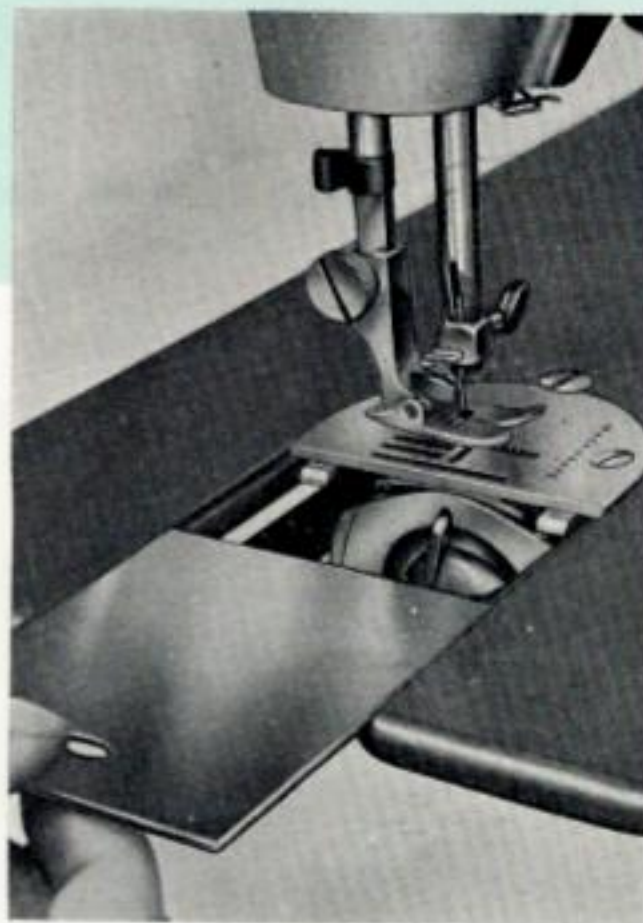


Fig. 7

5. To Clean Snap-Open Race

When the thread is tangled in the race or dust gets into the space between the shuttle and shuttle-race, follow this procedure :-

1. Raise the needle bar to its highest position and take bobbin case out.

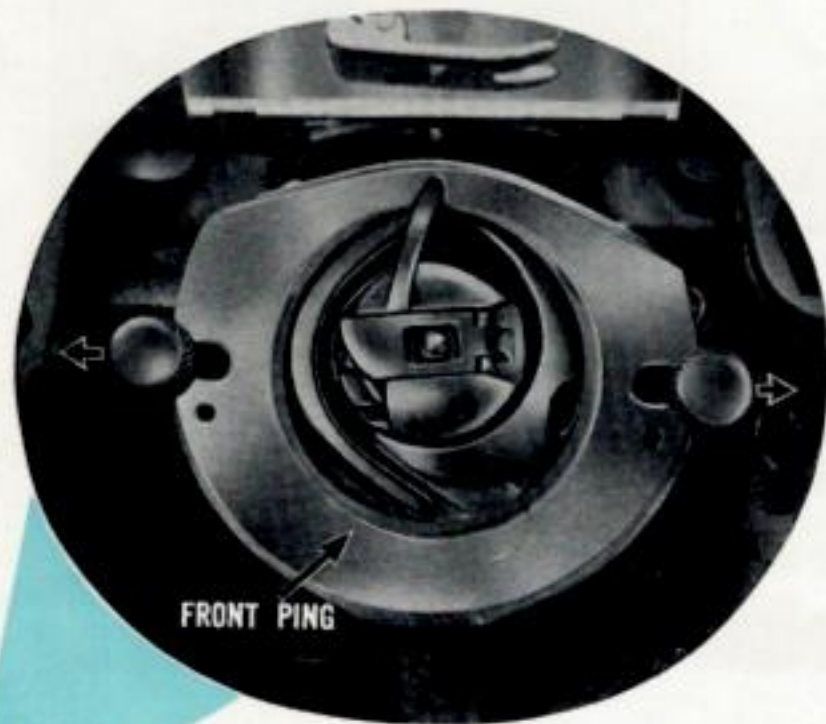


Fig. 10



Fig. 9

2. Release the KNOBS (A) on both sides of shuttle race by pulling them sidewise, then take out the front ring and the shuttle body with your fingers. (Fig. 9, 10)
3. After shuttle-race and bobbin case have been cleaned, put all of them back in reverse order.
4. Snap knobs into place as seen in Fig. 9.

6. To Thread the Machine & Needle

1. Turn the balance wheel toward you to raise the needle bar to its highest position.
2. Place a spool of thread on the spool pin.
3. Lead the thread through the arm thread-guide (Fig. 11).
4. Run the thread down through the thread-guide to the tension discs and around them from right to left and up. Draw the thread up through the check spring and thread guide arm.
5. Then, pass the thread through the eye of the thread take up lever from right to left.
6. Now run the thread down through the face plate guides and then through the loop of the needle bar from the back.
7. Finally, run the end of the thread through the eye of the needle FROM LEFT TO RIGHT, drawing it through about 3 or 4 inches. You are now ready to sew.

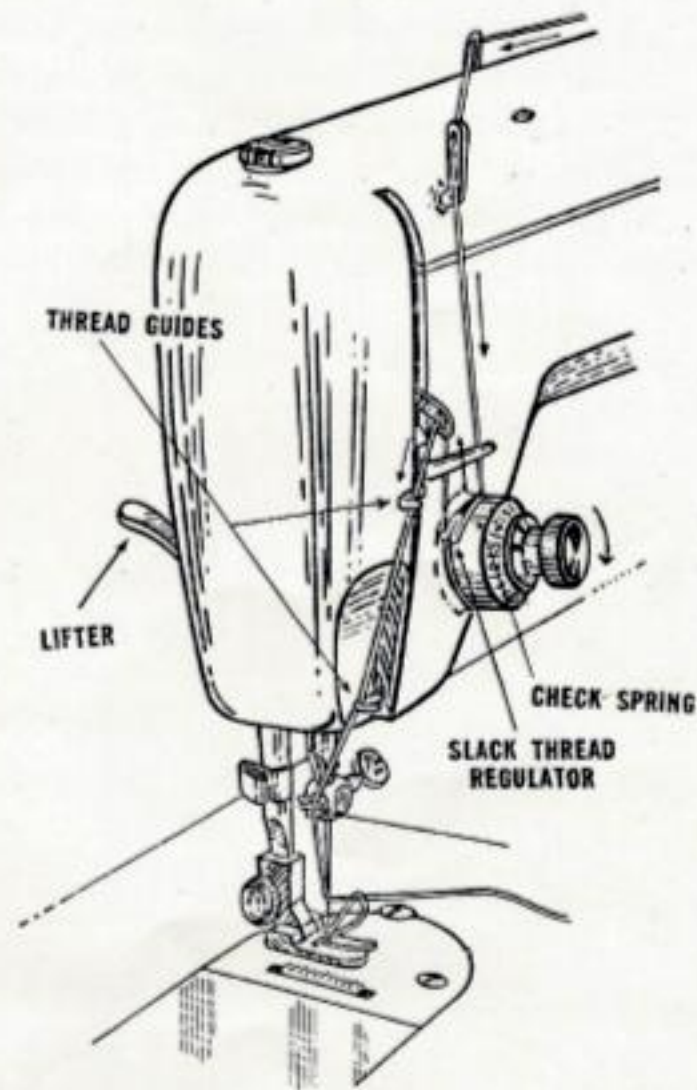


Fig. 11

7. To Prepare for Sewing

1. Hold the end of the upper-thread with the left hand, leaving it slack from the hand to the needle.
2. Turn the balance wheel toward you for the needle goes down and rises to its highest position.
3. Pull the thread you are holding, as the lower-thread will be brought up with it through the hole in the needle-plate, as shown (Fig. 12).
4. Place both ends of the upper and lower thread behind the presser foot (Fig. 13).

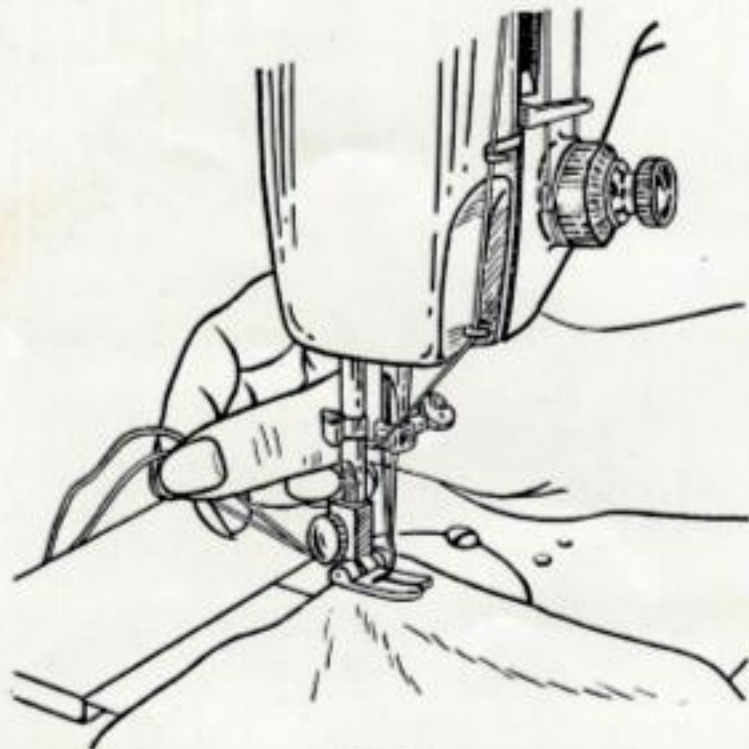


Fig. 13

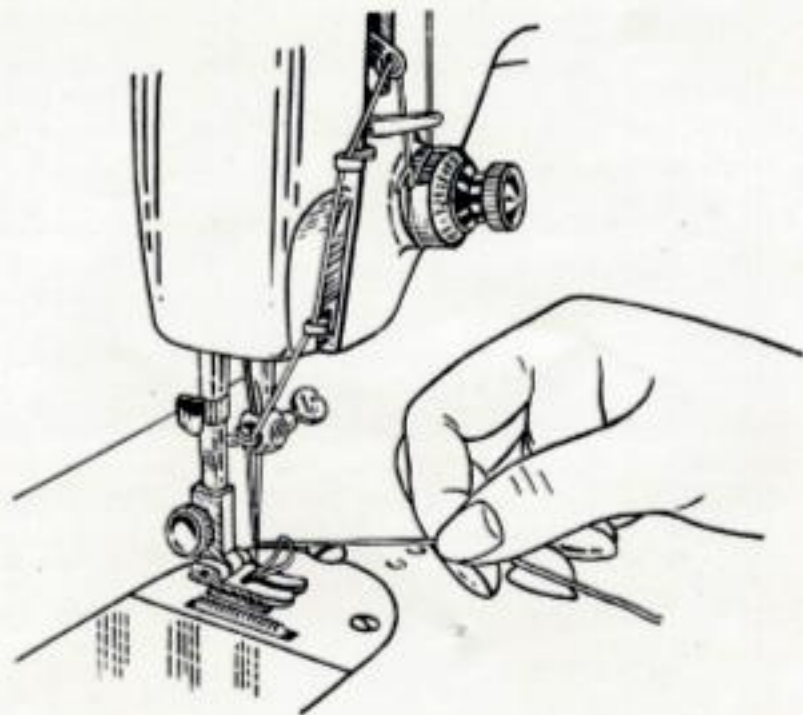


Fig. 12

8. To Commence Sewing

1. Place the fabric to be sewn beneath the presser foot.
2. Lower the presser foot, by lowering the presser bar lifter (Fig. 11).
3. Commence sewing by slowly turning the balance wheel in direction toward you while gradually pressing the lever of the foot or knee control.

Always turn balance wheel toward you and not away from you.

9. To Remove the Work

1. Raise the needle bar to its highest position, by turning the balance wheel over toward you.
2. Lift the pressure foot by lifting the presser bar lifter.
3. Move the fabric back to the left and cut off the thread by passing it over the thread-cutter above the presser foot.
4. Leave both ends of the thread a few inches long, under and to the back of the presser foot.

10. To Regulate the Thread Tension

For ordinary stitching, the tension of the upper and lower threads should be equal so as to lock both threads in the center of the material (Fig. 14). If one tension is stronger than the other, imperfect stitching will result. Fine materials require a light tension, while heavy materials require more tension to obtain a perfect stitch.

TO INCREASE the tension, turn the thread tension indicator (Fig. 15) clockwise.

TO LESSEN the tension, turn the thread tension indicator to the opposite direction. (When regulating always have the presser foot down).



Fig. 14 Correct Stitch



Needle Thread Tension too strong



Needle Thread Tension too weak



Fig. 15

Tension regulating screw



Fig. 16

As all machines are correctly adjusted before leaving the factory and readjusted before the dealer delivers them to you, the lower tension seldom requires to be altered, but, if this becomes necessary, tighten the screw in the tension spring on the outside of the bobbin case for more tension, or loosen the screw slightly for lesser tension (Fig. 16).

NOTE: Do not turn screw in either direction more than about one-quarter turn at a time. Then try and check for results.

11. To Regulate the Stitch Length

The length of the stitch can be changed by turning the stitch length regulating knob "L". (Fig. 19)

When the number on the top of the knob is 0, the material is not being fed through the machine.

To change stitch turn the knob gradually clockwise to feed material forward and to lengthen stitch. Set the knob at the desired length of stitch.

To sew backward, you will find AUTOMATIC REVERSE STITCH BUTTON most convenient. Just push button "R", then material will be fed backward automatically. You take your finger off the button, then material will be fed forward.



Fig. 17

12. *To Regulate the Pressure of the Presser Foot*

To regulate the pressure for darning and embroidering, press latch down thereby releasing pressure. Place a finger of your left hand on the DARNER (to cushion the sudden rise of this cap when it is released). Allow the DARNER to rise all the way slowly.

To regulate the pressure for darning and embroidering press release latch down thereby releasing pressure (Fig. 19). Make sure presser foot is down when pressing lever. For ordinary sewing, push automatic darning down (Fig. 18).



Fig. 18



Fig. 19

13. To Use the Drop Feed Dial

By using the drop feed dial you may adjust the feed dog for sewing different types of materials and for embroidering or darning (Fig. 20).

1. For sewing very light fabrics, push the drop feed button half-way; for heavier cloths push the release button thereby fully raising up the drop feed button.
2. When the drop feed button is pushed down completely, the feed dog will be lowered below the surface of the needle plate.

This is for embroidering and darning, and you will be able to move your work freely about in any direction you choose.

3. For embroidering and darning, first remove pressure of presser foot.

(Fig. 19)



Fig. 20

14. Built-in Light

The lamp housing is enclosed in the lower side of the arm (Fig. 21). Turn switch (right knob) clockwise to light, and do the same to turn it off. Pull down left knob to replace a burned out bulb with a new one. Bulbs, may be obtained at dealers, department stores, and electrical shops.



Fig. 21

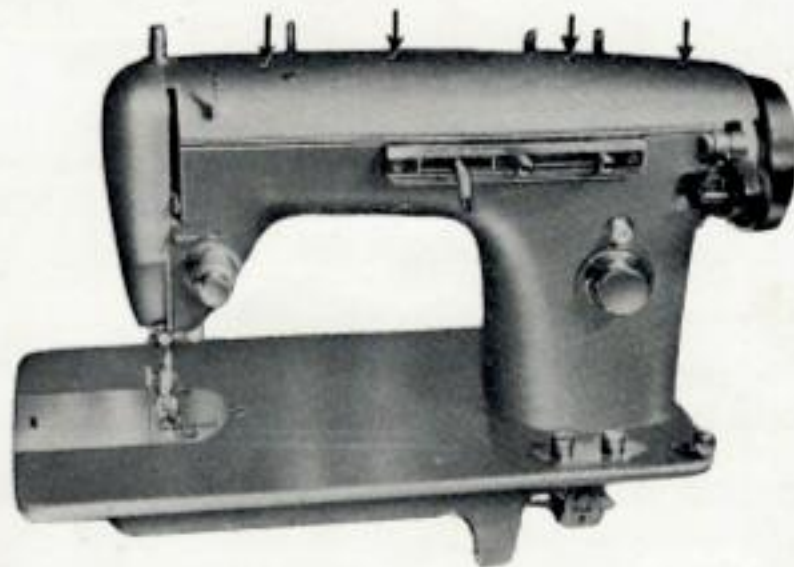


Fig. 22

15. To Oil Sewing Machine

To see that your machine is always in smooth running condition you must keep it oiled at all times. No grease is required. Just a drop of oil is sufficient at each time of oiling. Points to be oiled are illustrated in Fig. 22.

After oiling, run the machine at high speed for a few minutes to get oil to penetrate to all parts.

16. *Some Useful Sewing Hints*

TO TURN CORNERS :

1. Stop the machine while needle is still in the material.
2. Raise the presser foot and turn the fabric using the needle as a pivot.
3. Lower the presser foot and resume sewing.

TO SEW ELASTIC FABRICS :

In sewing such elastic materials as flannels, bias cut cloths, etc., it is advisable to sew them with reduced upper thread tension, otherwise the thread will break when the sewn materials are stretched.

TO SEW VERY THIN CLOTH :

When sewing very thin cloth which tends to gather as you sew, place a sheet of newspaper or any other thin paper underneath of the material and sew with the shortest stitch possible. This will keep your work from gathering.

BASTING :

1. Reduce the tension of the upper thread and employ the longest stitch possible.
2. The stitches may then be easily removed by pulling the lower thread.

TO KEEP YOUR MACHINE IN PERFECT CONDITION :

1. Keep all moving parts of the machine constantly oiled and clean.
2. Always turn balance wheel towards you, even when by hand.
3. Do not run machine without cloth.
4. When sewing, do not pull the material otherwise you will bend the needle. The machine is designed to feed the material automatically.
5. Do not operate machine when presser bar lifter is raised.

17. Causes of Troubles

BREAKING OF THE UPPER THREAD :

1. Incorrect threading.
2. Upper thread tension too tight.
3. Defective needle, or needle set in incorrectly.
4. Needle rubbing against presser foot or other attachments.
5. Needle eye too small for thread used.
6. Knots in sewing thread.
7. Stitch hole in needle plate damaged and rough.

BREAKING OF THE LOWER THREAD :

1. Incorrect threading of the bobbin case.
2. Lower thread tension too tight.
3. Bobbin being wound too fully.

BREAKING OF THE NEEDLE :

1. Pulling the fabric while machine is sewing thus causing the needle to strike the needle plate.
2. Using bent needle.

SKIPPING STITCHES :

1. Using bent or blunt needles.
2. Needle inserted incorrectly.
3. Needle threaded improperly.
4. Using wrong size needle.
5. Pressure of presser foot insufficient, especially when sewing heavy material.

UNEVEN STITCHES :

1. Presser foot not resting evenly on material.
2. Feed dog not being high enough.
3. Too short stitches used.
4. Pulling the cloth while the machine is sewing.
5. Needle too fine for material or thread too coarse.

18. Zig-Zag Sewing

Your Zig-Zag Sewing Machine, by virtue of its design, permits you to do zig-zag sewing and numerous other kinds of work requiring a similar stitch. The controls for the zig-zag stitch are located on the arm of the machine, as may be seen on Fig. 23. Notice lever "B" which adjusts the width of the zig-zag seam. For ordinary straight sewing this lever must be set to the left of marking "O" on the dial plate. By moving this lever gradually to the right toward 5 the machine will sew a zig-zag seam of increasing width, depending on the position of the lever. For the purpose of reverting to a previously used width of zig-zag stitch after having done some straight sewing, or for special types of work such as sewing buttons or making tacks, indicator "A" will be found useful. This indicator serves as a stop for lever "B". To set indicator "A", loosen lock screw "D", turning it is to the left. You then will be able to slide same sideways which, at the same time, moves indicator "A" to the desired making. Tighten lock screw "D" by turning it to the right. The lock screw "C" also tightens indicator "E". The purpose of this indicator is to make possible a second setting of zig-zag width. Thus, when you want to alternate between

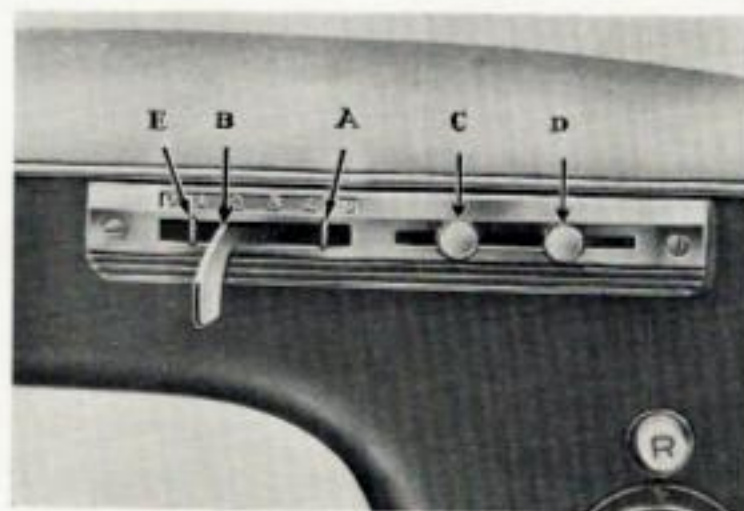
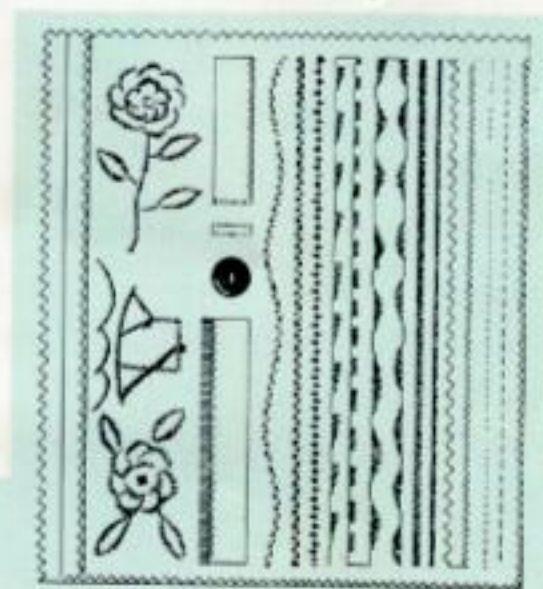


Fig. 23



a narrow and a wide zig-zag stitch, you use both indicator "A" and slide "C". For example, set indicator "A" at marking 4 and slide "C" at marking 1, tightening the lock screws. This will assure you of being able to always revert to the same narrow and wide zig-zag seams. You will find this feature especially convenient when making buttonholes. (Refer to chapter on Buttonhole Sewing)

19. *Button Sewing*

Turn balance wheel toward you to get needle to its highest position. Raise presser bar and remove regular presser foot, attach button sewing foot instead of it, shown on Fig. 24. Drop the feed dog as required for darning and embroidery. Upper and lower thread tensions remain the same as for ordinary sewing. Place material or garment with button under the presser foot, so that holes in button line up with oblong hole in presser foot.

Push zig-zag stitch lever "B" (Fig. 23) adjust width of zig-zag stitch to permit needle to pass through center of holes in button. Before sewing with power, turn balance wheel by hand (toward you) making one stitch into each hole in the button, be sure that needle will not hit same. Then sew five to six stitches to attach button. Push zig-zag stitch lever "B"

(Fig. 23) to left and let needle stitch two or three times through the same hole to lock thread. Remove garment from machine and ship threads.

When attaching four-hole buttons, first sew one set of two holes, then stitch into second set of two holes and lock thread with two or three plain stitches in last hole same as described above.

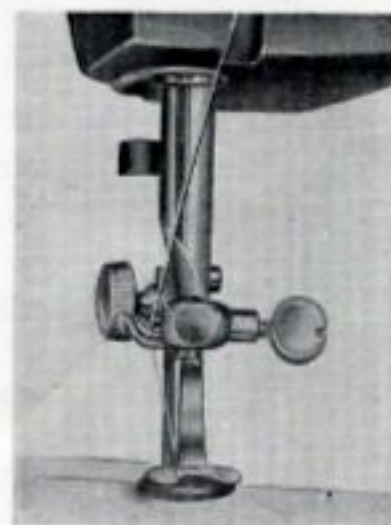


Fig. 24

20. *Making Buttonholes*

1. Set zig-zag regulating lever "B" (fig. 23) between marking 1 and 2 on dial. Loosen lock screw "C" and move indication "E" to the right until it touches the lever. Now slide lock screw "D" to the right until indicator "A" is at marking 4 on dial. Tighten lock screw securely.
2. Raise presser foot and turn balance wheel toward you to bring needle to its highest position. Remove regular presser foot from presser bar by loosening thumb screw, instead attach special button-hole foot shown on Fig. 25. Tighten thumb screw.
3. Set stitch regulator lever to obtain closely spaced forward stitches. Best length of stitch for buttonholes is when indicator is placed between markings 0 and 1 on dial. Adjust length of stitch, if necessary, to get best possible appearance of buttonhole.
4. Slightly tighten needle thread tension, turning tension regulator nut to the right. If appearance of button hole should not prove satisfactory, slightly vary tension until the desired results are obtained.

NOTE: It is suggested that you make one or two sample buttonholes on a clipping of fabric, same as your garment, to test adjustments of machine and to make corrections, if needed. Also mark with pencil or chalk the position and exact length of buttonhole on garment. To sew button hole, place garment under the buttonhole presser foot and have beginning of

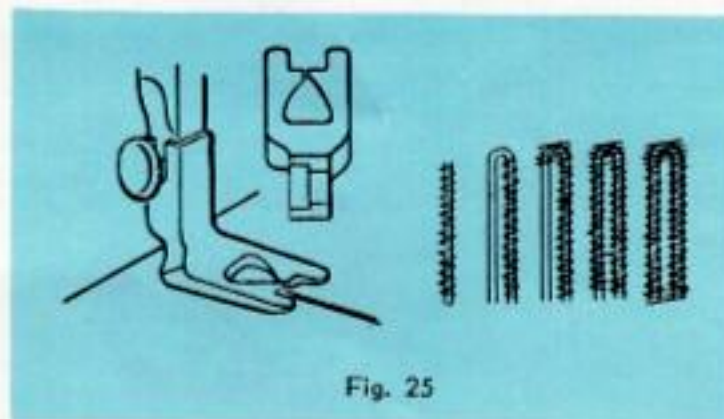


Fig. 25

pencil or chalk marking appear in center of half-moon shaped stitch hole of presser foot. End of marking must point toward you. Now commence sewing left buttonhole seam and continue sewing until it reaches the gauge of the buttonhole foot. (This gauge must be set in advance of sewing. Its distance from the needle should be equal to the desired length of your button hole.) Stop machine as needle stitches to the right. Leave needle in fabric, raise presser foot and swing garment half-way around in clockwise direction. Let presser foot down and push zig-zag stitch lever "B" (Fig. 23) to the right as far as it can be moved. Sew four or five stitches which constitute the bar at one end of the buttonhole. Return zig-zag stitch lever to the left position between markings 1 and 2 and sew other side of buttonhole. When arriving at end of buttonhole, again move zig-zag stitch lever to the right for sewing second bar with also four to five stitches. Remove garment from machine and open buttonhole with cutting blades included in attachment kit, or use buttonhole scissors. Work cutting blades only against wooden block and be careful to avoid cutting the buttonhole stitching. To make reinforced buttonholes introduce gimp of proper size into small hole right in front of the half-moon shaped stitch hole of the buttonhole presser foot. Sew over gimp as machine makes buttonhole seams. For flat buttonholes leave thread tension pretty much the same as for ordinary sewing. Pearl stitch buttonholes require a tight tension of the needle thread. For better appearance, use needle thread of the next heavier size.

21. *Darning and Embroidery*

Turn clockwise drop-feed-dial, then the feeder of the machine will drop and permit the work to be moved by hand in any direction desired. Also remove presser foot and raise foot lifting lever into horizontal line, and your machine is ready for embroidery and darning.

Embroidery will be done most successfully when material is stretched in an embroidery hoop. Hold the hoop closely on the machine base with both hands, press the material with your left index finger in the vicinity of the needle. This will help in holding down the material and will prevent the machine from making skip stitches. Manipulate work carefully and be sure to keep finger out of path of needle to avoid injury.

Adjust thread tensions for best appearance of embroidery work and slightly increase the lower thread tension (bobbin thread) to avoid the lower thread from being pulled up.

22. *Quilting*

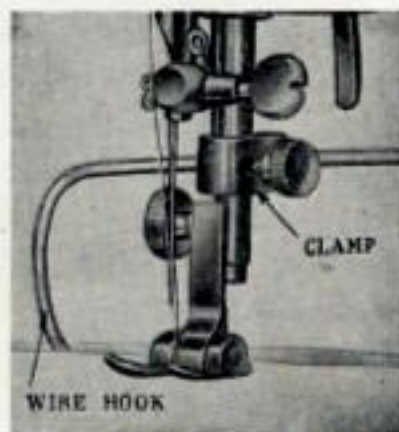


Fig. 26.

The quilting attachment (Fig. 26) will enable you to sew equi-distant lines on padded fabrics without the necessity of marking them in advance. To attach the quilter to the presser bar of the machine, first pull long wire hook out of horse-shoe shaped clamp. Stride the clamp on the presser bar from behind and above ordinary presser foot, and push the wire hook into previous place.

Adjust wire hook to desired distance from needle and bring it to press into fabric. Then tighten thumb screw extending backward from horse-shoe shaped clamp to lock quilter attachment into place. When sewing, wire hook should follow preceding line of stitching.

Zig-zag stitch quilting is done the same as straight stitch quilting with the exception of the position of the zig-zag stitch lever which should be set for any desired width of the zig-zag stitch.

23. *Sewing Braids*

Remove ordinary presser foot from the machine and attach braiding foot, as shown in fig. 27. Introduce braid through small hole at front of foot. Adjust width of zig-zag seam and length of stitch to obtain a covering of the braid which appears most desirable for the material you are sewing. Using needle thread of a contrasting color will enhance the beauty of your braiding.

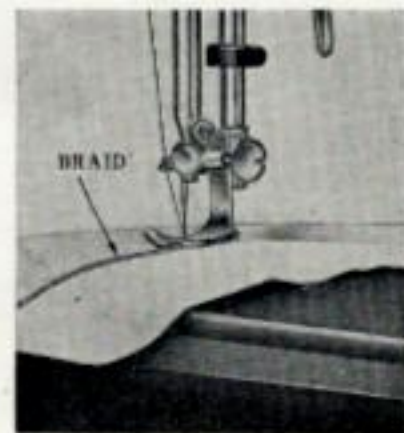


Fig. 27

24. *Narrow Hemmer*

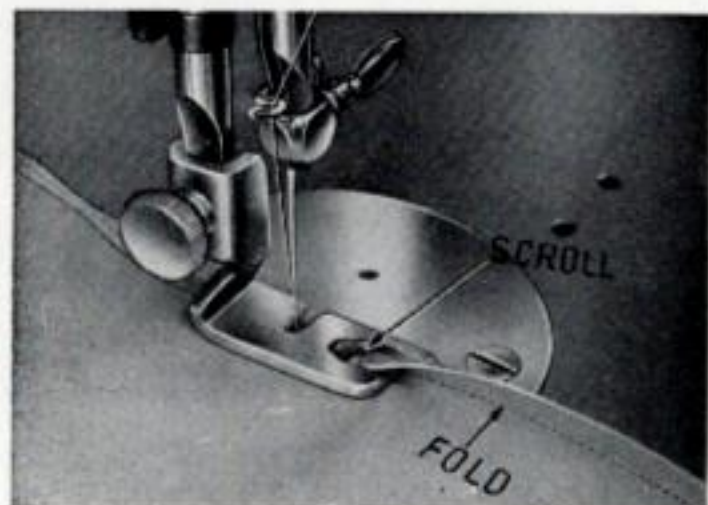


Fig. 28

Turn balance wheel toward you until needle reaches its highest point. Raise presser bar and remove regular presser foot. Attach hemmer foot (fig. 28). Set needle position indicator in center notch. Now handle material as follows:

1. Fold over edge of material approximately $\frac{1}{8}$ " wide, then fold it over again in the same way for a length of about 2". Insert this folded end from beneath into spiral formed opening (scroll) of hemmer foot. Move material back and forth until the hem forms itself in the scroll.
2. Pull material toward you until the beginning of the hem is just below the needle.

3. Lower presser foot and begin to sew. Guide material into hemmer foot while proceeding with work (fig. 28).

NOTE: Do not crowd material into scroll and do not leave scroll only partly filled by material. Feed just enough material into the hemmer foot to fill out the scroll.

Instead of a straight stitch, you can also use a zig-zag stitch for this hemming operation. Be sure, however, to adjust the width of the zig-zag stitch to be as wide as the hem itself. Using a very long stitch and tight tensions will produce a shell stitch.

25. How to do Felling

The hemmer foot can also be used for doing felling. Proceed in the following manner :

1. Lay two pieces of cloth one on top of the other with their RIGHT sides facing each other. The right edge of the bottom piece must extend about $\frac{1}{8}$ inch beyond the right edge of the top piece. See fig. 29.
2. Sew both pieces of cloth together, using the hemmer foot like a regular presser foot. Use the right edge of long toe of hemmer foot to guide the bottom piece of material, while the left edge of the same toe serves as a guide for the top piece of material. Fig. 29 shows this detail.

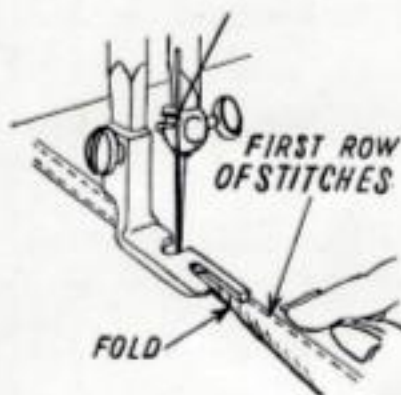


Fig. 30

3. Open and spread out material and put back on machine right sides downward. Make sewn edges of material stand up.
4. Fold over the edges to the left and insert them into the scroll of the hemmer foot. Sew as you would do ordinary hemming. Use left edge of long toe of hemmer foot as guide, having original seam run alongside of it (Fig. 30).

26. Cloth Guide & Thumb Screw

This is an attachment designed as a guide for straight stitching when making wide hems, deep tucks or seam widths which are greater than presser foot allows. (Fig. 31)

It is attached to machine as illustrated...a very simple operation.

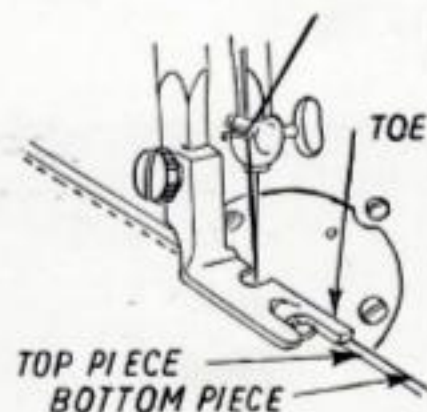


Fig. 29



Fig. 31

25. NEEDLE AND THREAD SIZES (USE 15 × 1 NEEDLE ONLY)

Sizes & Grades of Needles	Type of Fabric and Work to be Done	SIZE OF THREAD		
		Cotton	Silk	Linen
11,0 or B (Medium-Fine)	Medium light-weight and summertime fabrics. For house dresses, children's dresses, washable cotton dresses, aprons, curtains.	80 to 100	0 Twist	
½ or 14 (Medium)	Dress silks and cottons, light weight woolens, draperies, fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperies and fabric decorations.	60 to 80	A & B Twist	
1 or 16 (Light-Heavy)	Heavy cretonne, madras, muslin, brocades and quilts. For men's work shirts, sturdy smocks and aprons, heavy quilting and fabric furnishings.	40 to 60	C Twist	
2 or 18 (Medium-Heavy)	Heavy woven coating, light weight canvas, bed ticking, upholstery and awning materials, slipcover fabrics. For work or sports uniforms, suits made of strong linen or cotton fabrics, awnings, slip covers and mattresses.	30 to 40	D Twist	
3 or 19 (Heavy)	Heavy woven suiting, coating, duck, ticking, drilling, canvas and sackings. For heavy wash uniforms, bedding supplies for hospitals, hotels and camps.	10 to 30	E Twist	60 to 80
4 or 21 (Extra-Heavy)	For bags, canvas, coarse cloths and heavy goods.	Very Coarse		40 to 60

