ZIG-ZAG

Sewing Machine

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Manual of Instruction

READ'S

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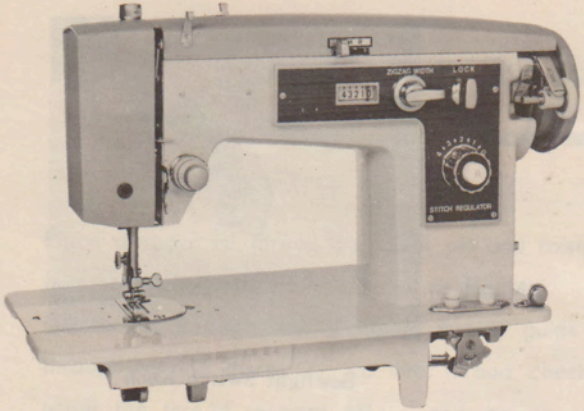
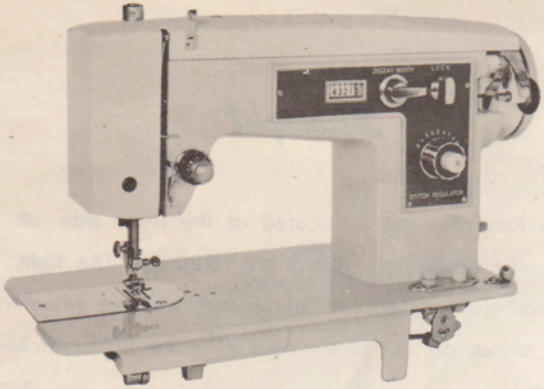
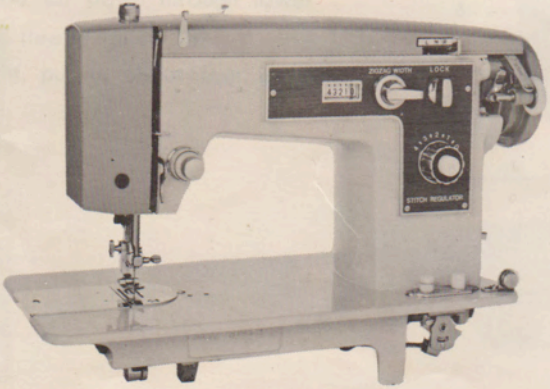


Full Zigzag

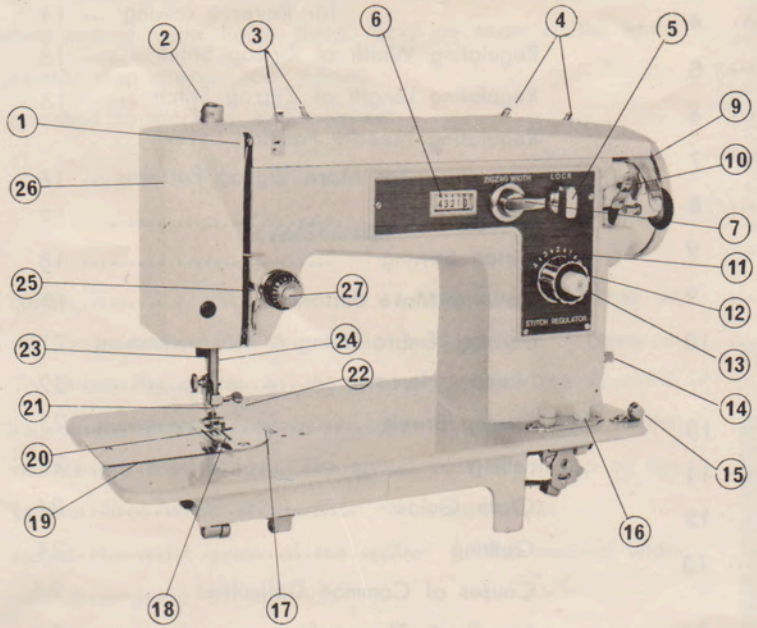


Automatic Zigzag



Simple Automatic Zigzag

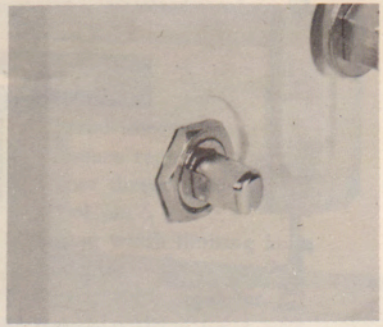
Description of Machine



1 Thread take up lever
2 Pressure regulator
3 Upper thread guide
4 Spool pin
5 Zigzag width limiting knob
6 Indicator
7 Zigzag width regulator
8 Needle position lever
9 Balance wheel
10 Bobbin winder complete
11 Stitch length indicator
12 Stitch length regulator
13 Reverse feed push button
14 Sewlight switch
15 Bobbin winder tension bracket
16 Drop feed regulator (push button type)
17 Needle plate
18 Presser foot
19 Slide plate
20 Needle
21 Needle bar thread guide
22 Needle clamp screw
23 Thread cutter
24 Needle bar
25 Middle thread guide
26 Face cover
27 Upper thread tension dial

Sewlight

The lamp housing is located at the front side of the arm under the face plate (Fig. 2). The light switch knob is located underneath balance wheel. To switch on or off the light push the light-switch knob.



Sewlight Switch Knob

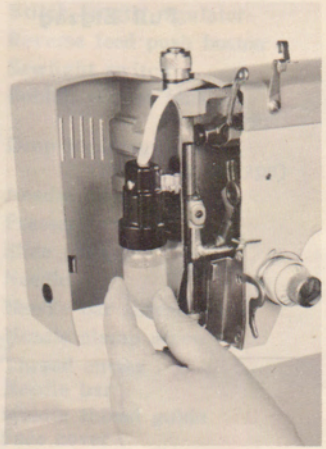


Fig. 2

Threading the Machine

Place a spool of thread on spool pin and raise the take-up lever to its highest point. Refer to Fig. 4.

Pull thread through slot of upper thread guide (1) down through tension discs (2) up into thread check spring (3) under the thread retainer (4) and on up into the eye of the take-up lever (5) from right to left.

Return thread through lower grid (6) down through lower guide (7) and into needle bar thread guide (8).

Thread needle from left to right, pulling about four inches of thread through needle.

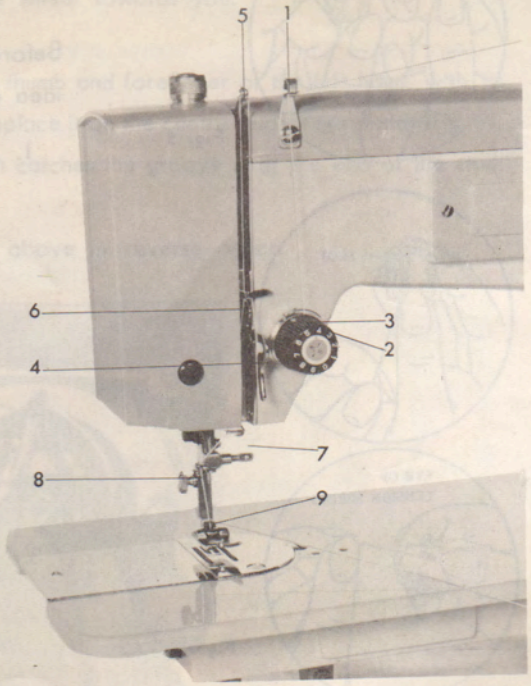


Fig. 4

Threading the Bobbin Case

Fig. 5

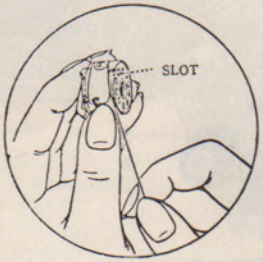


Fig. 6

Fig. 7

Before threading the bobbin case, study Fig. 5, 6 and 7 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. 5). As the bobbin is being inserted in the bobbin case, the thread flow, you will note, is clockwise (Fig. 5).

2. While holding the bobbin case as before, grasp the thread end with your right hand and guide it into the cross slot (Fig. 6).

3. Then pull it through under the tension spring of the bobbin case (Fig. 6) until it enters the delivery eye (Fig. 7).

Inserting and Removing the Bobbin Case

1. Raise the presser bar by lifting the presser bar lifter.
2. Raise the needle bar to its highest position by turning the balance wheel towards you.
3. Pull out slide plate (Fig. 8).
4. After threading the bobbin case, hold its latch (Fig. 9) between the thumb and forefinger of the left hand, with its position finger opposite the notch at the top of the shuttle race and replace it on the centre stud of the shuttle (Fig. 9).
5. Then release the latch and press the bobbin case back until the latch catches the groove near the end of the stud.
6. Allow the end ot the thread to hang free.
7. Push back slide plate. To remove the bobbin case do all the above in reverse order.

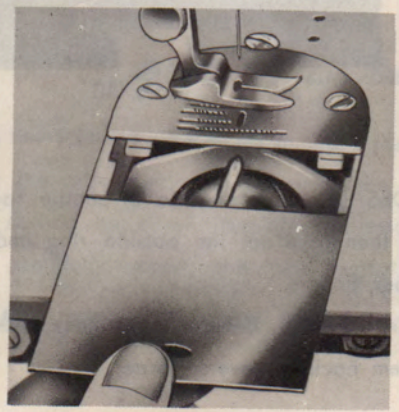


Fig. 8

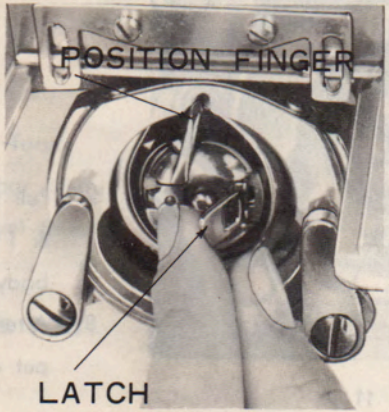


Fig. 9

Cleaning the Shuttle Race

When the thread is tangled in the race or lint gets into the space between the shuttle and shuttle-race, this will cause abrupt heavy running or complete stoppage of the machine. When this occurs :

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

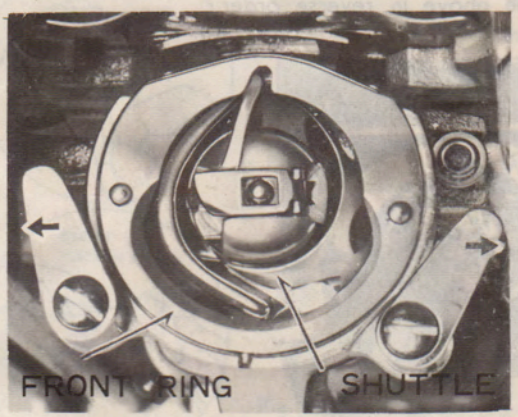


Fig. 11

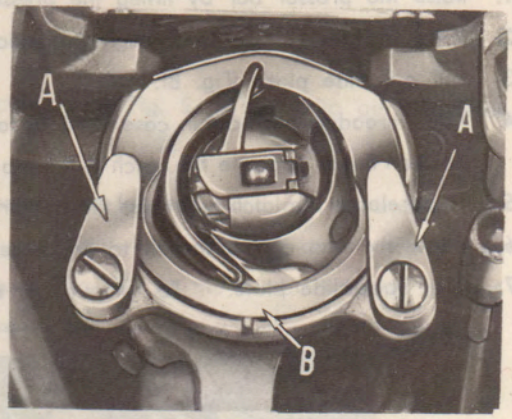


Fig. 10

2. Pull the KNOBS (A) on both side of shuttle race (Fig. 10 & 11) aside, then take out the outside ring and the shuttle body with your fingers.
3. After shuttle race and bobbin case have been cleaned, put all of them back in reverse order.

Preparing to Sew

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 towards you to raise the needle bar to its highest position.
3. Pull the thread you are holding, and 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 under and to the back of the presser foot (Fig. 13).

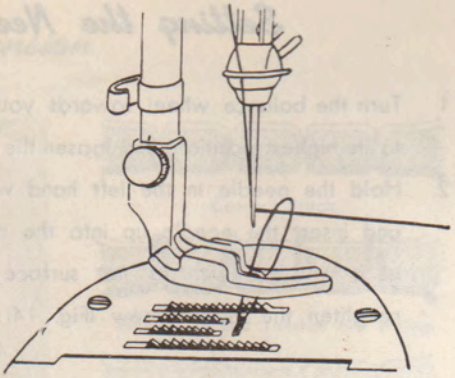


Fig. 12

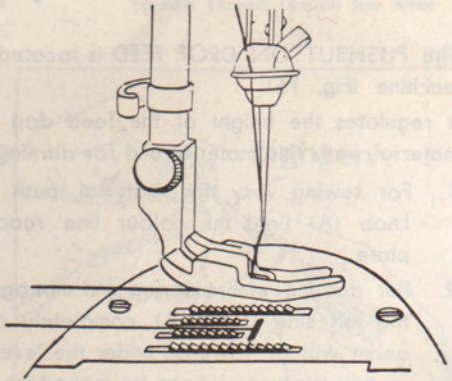


Fig. 13

Starting to Sew

1. Place the fabric to be sewn beneath the presser foot.
2. Lower the presser foot by lowering the presser bar lifter.
3. Start sewing by slowly turning the balance wheel towards you while gradually working the foot control.

ALWAYS TURN BALANCE WHEEL TOWARDS YOU!

Setting the Needle

1 Turn the balance wheel towards you, raising needle bar to its highest position, 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. 14).

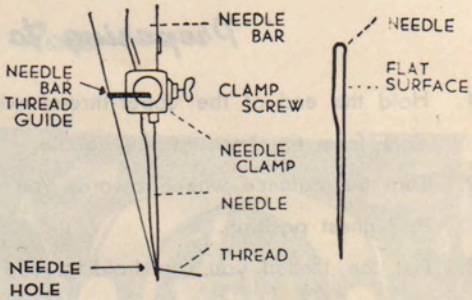


Fig 14

Pushbutton Drop Feed (Feed Dog Position Regulator)

The PUSHBUTTON DROP FEED is located on the bed of the machine (Fig, 15).

It regulates the height of the feed dog for sewing normal material, very thin material and for darning and embroidering,

1. For sewing very thin material, push down the left side knob (A) until the colour line reaches the surface of plate.
2. For darning, embroidering and monogramming, push down the left side knob (A) completely and the feed mechanism will be lowered under the level of the stitch plate, so that the material can be moved freely.
3. For normal sewing, push down the right knob (B) completely.

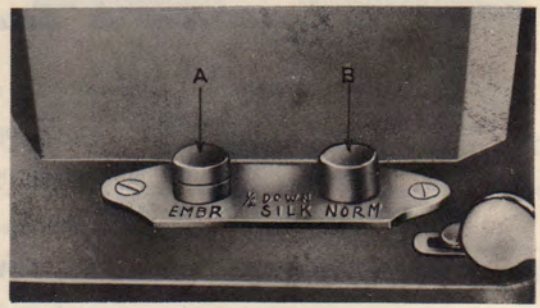


Fig. 15

Regulating 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 centre of the material (Fig. 18). 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 dial (Fig. 17) clockwise.

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

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 holding the tension spring on the outside of the bobbin case for more tension, or loosen the screw slightly for lesser tension (Fig. 16).

Fig. 17

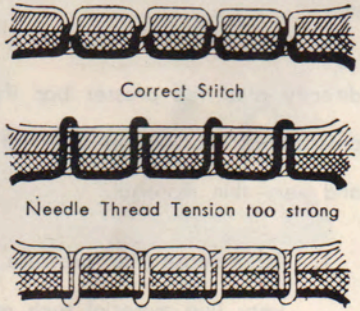


Fig. 18

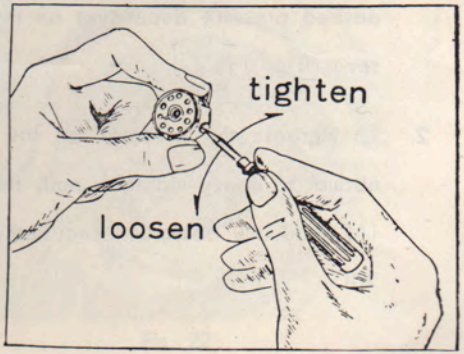


Fig. 16

Presser Foot Pressure Regulator

The PRESSURE REGULATOR is located on top of the machine directly over the presser bar (Fig. 19 & 20). It regulates the pressure of the presser foot for sewing normal to heavy material and very thin material.

1. To release the pressure on the presser foot for sewing very fine material such as silks etc., push down the OUTSIDE RING of the PRESSURE REGULATOR (B) then select desired pressure depending on the type of material being sewn (Fig. 19).

2. To increase the pressure on the presser foot for sewing normal to heavy material, push the PRESSURE REGULATOR (A) gradually down until required pressure is obtained. (Fig. 20)

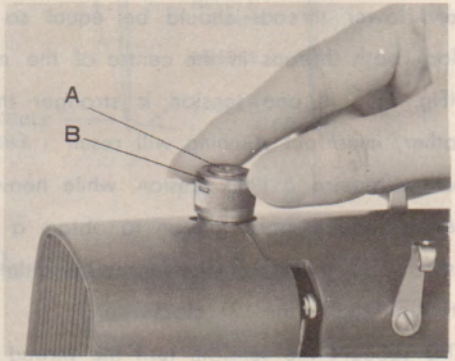


Fig. 19

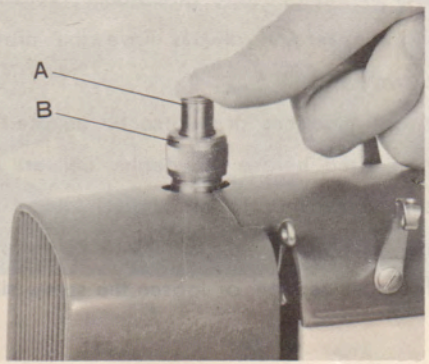


Fig. 20

Winding the Bobbin

1. To wind the bobbin, the balance wheel must be disconnected from the stitching mechanism. Hold the balance wheel with your left hand and turn the stop motion knob (Fig. 22) towards you with your right hand. This will permit the balance 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. Draw thread from the spool through upper thread guide, and downward across machine from left to right. (Fig. 21)
3. Pass the thread through the tension discs of the bobbin winder thread guide located at the right corner of the machine bed.
4. Now wind the end of the thread around 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 stop latch is now touching the shaft of the bobbin. It holds the bobbin in place.

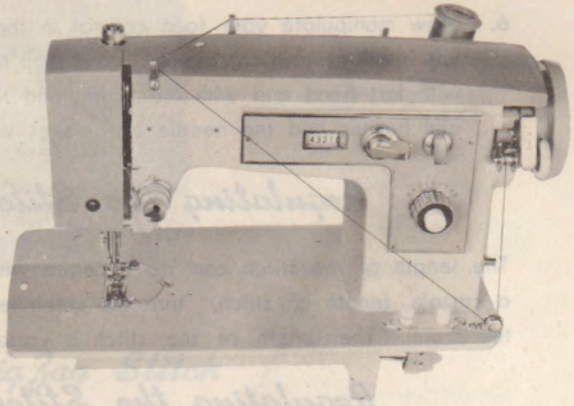


Fig. 21

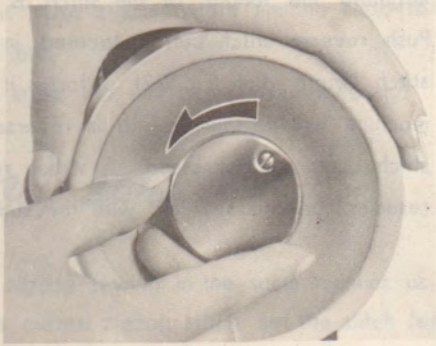


Fig. 22

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

Regulating the Stitch Length for Forward Sewing

The length of the stitch can be changed with the stitch length dial (Fig. 23). In order to set machine at a certain length of stitch, turn the stitch length dial until the indicator is facing the selected number on the scale. The length of the stitch is variable from 0~4. The normal stitch length is 2.

Regulating the Stitch Length for Reverse Sewing

a. Regulate the length of the stitch as for forward sewing.

b Push reverse stitch button located in the centre of the stitch length dial (Fig. 23) as far as it will go. The machine will remain sewing in reverse while the reverse stitch button is depressed. When released the machine resumes forward sew ing with the same stitch length.

Fig. 23

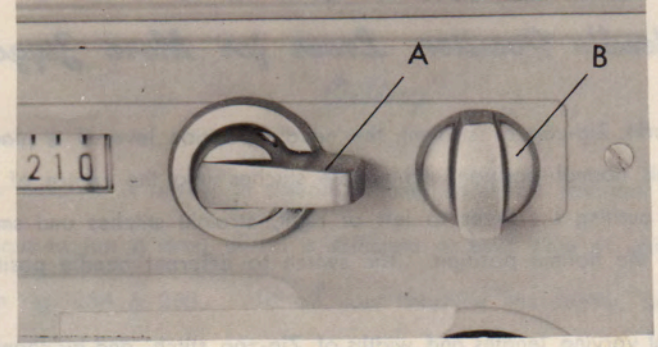


Fig. 24

Regulating Width of ZigZag Stitch

The width of zigzag stitch is regulated by the zigzag width knob (A). By turning the zigzag width knob downwards, the width of the zigzag stitch will increase accordingly. Use zigzag width limiting knob (B) to lock stitch at required width when sewing buttons, buttonholes tucking, etc.

When turning the zigzag width limiting knob (B), the zigzag width knob (A) will move simultaneously.

Regulating Length of ZigZag Stitch

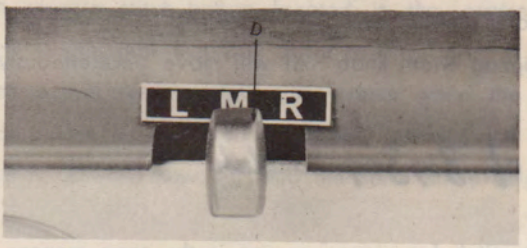
The stitch length dial regulates the length of the zigzag stitch for zigzag sewing in the same manner as for straight sewing. In order to produce the "Satin Stitch" which is the closest zigzag stitch set the stitch length dial close to 0.

Regulating Needle Position Lever for More Zigzag Patterns

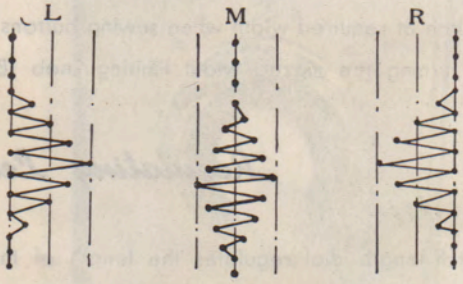
For all ordinary sewing works, Zig-zag or straight, the needle position lever D is placed in the center notch (M). With the lever in this normal position, the needle stitches into the centre of the oblong needle slot in the needle plate. By pushing the lever to left or right, straight stitches and small Zig-zag stitches can be made at either side of the normal position. The switch to different needle position can be made while the machine is running.

By a suitable combination of varying lengths and widths of Zig-zag stitch, and by changing the needle position, a multitude of pleasing designs can be obtained. The illustration shows but a few samples of this type of work. Coloured thread and your own ingenuity will permit you to produce an almost limitless variety of attractive patterns.

Lever should be placed at "L" position whenever taking off presser foot in order to fit attachments.



(A)



(B)

Oiling

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. 25A & 25B. To oil your machine thoroughly, open arm cover and turn the machine over to get to parts underneath the bed.

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

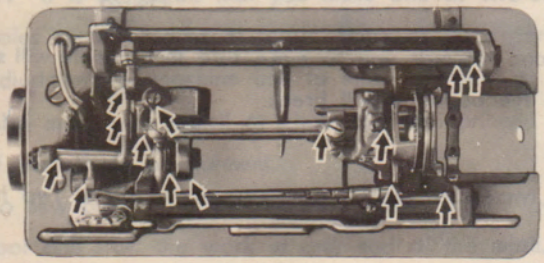


Fig. 25 A

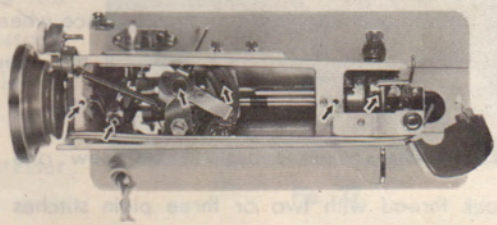


Fig. 25 B

Button Sewing

Turn balance wheel towards you to get needle to its highest position. Raise presser bar and replace regular presser foot, with button sewing foot, as shown in Fig. 26. Drop the feed dog as required for darning and embroidering. Upper and lower thread tensions emain the same as for ordinary sewing.

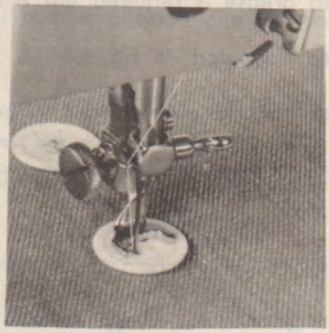


Fig. 26

Place material or garment together with button under the presser foot, so that holes in button line up with oblong hole in presser foot. Adjust width of zigzag stitch to permit needle to pass through centre of holes in button.

Before sewing with power, turn the balance wheel by hand towards you to make sure that needle will stitch in the centre of the holes in button. If the needle hits the button it will break.

Then sew five to six stitches to attach button.

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.

How to Make Buttonholes

1. Set zig-zag width between markings 1 and 2.
2. Raise the presser foot and turn the balance wheel towards you to bring needle to its highest position. Replace regular presser foot with special buttonhole foot shown on Fig. 27. Tighten thumb screw.
3. Set stitch length 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 thread tension to the right. If appearance of buttonhole 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 necessary. Also mark with pencil or chalk the position and exact length of buttonhole on garment.

To sew buttonhole, place garment under the buttonhole presser foot and start the work at one end of the mark.

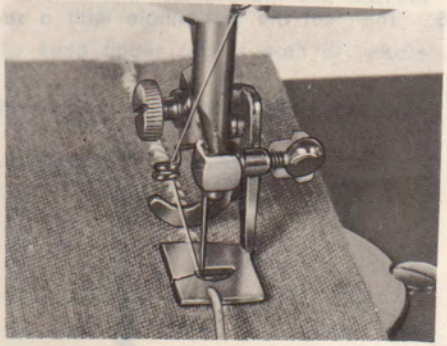
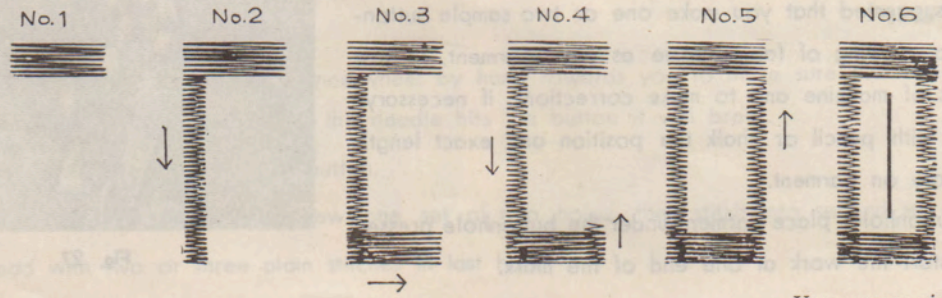


Fig. 27

How to Make Buttonholes

You can make a buttonhole easily by studying the following instructions.

1. Set zigzag lever at 4 position and make the upper bar tacking with several stitches by turning balance wheel by hand. Stop machine when needle is at the left.
2. Set stitch length indicator lever between 0 and 1 and sew the left row to the desired length.
3. Make the lower bar tacking as instructed in Step No. 1 and stop machine when needle is at the right.
4. Set stitch length indicator lever between 0 and 1, raise presser bar lifter and turn material, pivoting around the needle.
5. Make the other side of row.
6. Then cut the buttonhole with a seam ripper which you will find in Accessories Box.



Use a seam ripper

Darning Embroidering & Monogramming

Lower the feed by depressing fully drop feed button marked "EMBR" thus permitting the work to be moved by hand in any direction desired. Also remove presser foot and raise foot lifting lever and your machine is ready for embroidering and darning. Both will be done most successfully when material is stretched on an embroidery hoop.

Hold the hoop closely on the machine base with both hands and press the material with index finger in the vicinity of the needle. This will help in holding down the material and will prevent the machine from skipping 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 decrease the upper thread tension to avoid the lower thread from being pulled up.

Narrow Hemming

Turn balance wheel towards you until needle reaches its highest point. Raise presser bar and remove the regular presser foot. Attach hemmer foot (Fig. 28).

1. Fold over edge of material approximately 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) or hemmer foot. Move material back and forth until the hem forms itself in the scroll.
2. Pull material towards 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 sewing (Fig. 28).

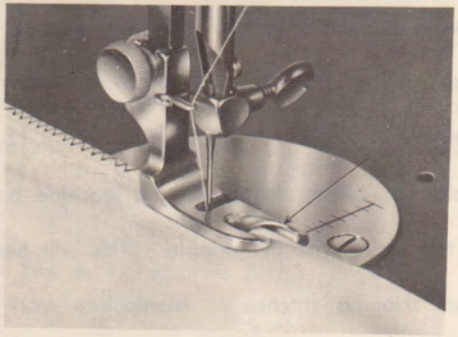


Fig. 28

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 zigzag stitch for this hemming operation. Be sure however, to adjust the width of the zigzag stitch to be as wide as the hem itself. Using a very long stitch and tight tensions will produce a shell stitch.

Sewing Braids

Remove ordinary presser foot from the machine and attach braiding foot, as shown in Fig. 29. Introduce braid through small hole at front of foot. Adjust width of zigzag stitch 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 colour will enhance the appearance of your braiding.

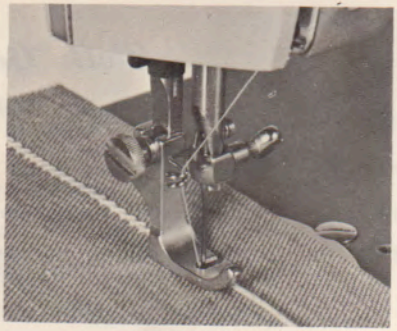


Fig. 29

Felling

Use the hemmer foot for doing felling and 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 ⅛ inch beyond the right edge of the top piece. See Fig. 30.
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. 30 shows this detail.
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. 31).

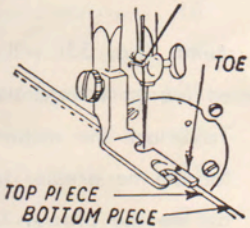


Fig. 30

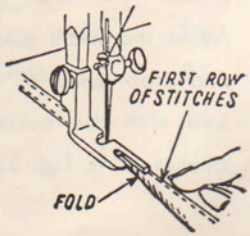


Fig. 31

Cloth Guide

The cloth guide (Fig. 32) serves as a guide for straight stitching when making wide hems, deep tucks or seam widths which are greater than presser foot allows.
It is attached to machine as illustrated.

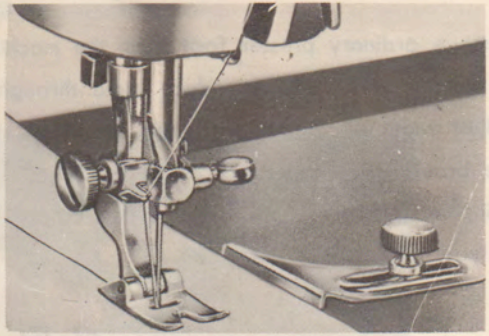


Fig. 32

Quilting

The quilter (Fig. 33) will enable you to sew equidistant lines on padded fabrics without the necessity of marking them in advance.

1. To attach the quilter to the presser bar of the machine, loosen the presser foot thumb screw and place the quilter astride the presser foot. The quilter must be on top of the presser foot when secured on the presser bar.
2. Adjust the width guide of the quilter to the desired width and drop guide on material.
3. Sew with the quilter width guide following the previous stitches as in Fig. 33.

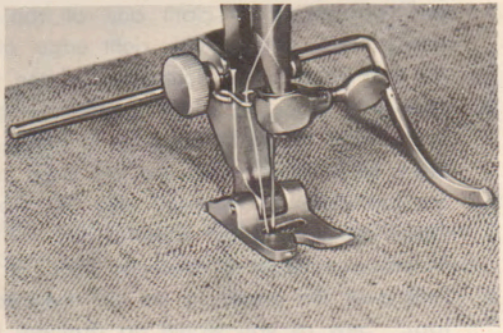


Fig. 33

Cause of Common Difficulties

BREAKING OF THE UPPER THREAD :

1. Incorrect threading
2. Upper thread tension too tight
3. Faulty needle, or needle set incorrectly
4. Needle brushing against presser foot or other attachments
5. Needle eye too small for thread used
6. Starting the machine suddenly or with a jerk
7. Starting the machine with the take up lever at its highest position

BREAKING OF THE LOWER THREAD :

1. Incorrect threading of the bobbin case
2. Lower thread tension too tight
3. Bobbin being wound too fully
4. Rough edge of hole in needle plate caused by improper needle action

BREAKING OF THE NEEDLE :

1. Pulling the fabric while machine is running, 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 incorrectly
4. Using wrong sized needle
5. Pressure on 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. Using too short a stitch
4. Pulling the cloth while the machine is running
5. Using too fine a needle with to coarse a thread

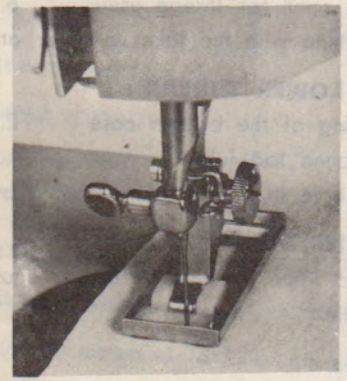
How to Make Buttonholes

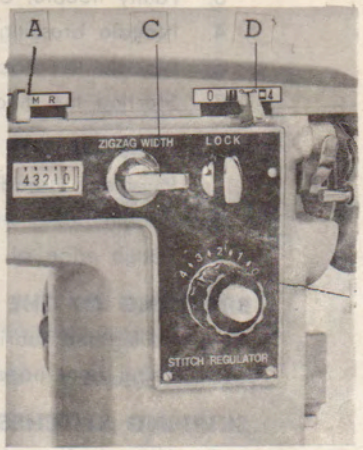
1. Set Needle Position Lever (A) at "L".
2. Turn Stitch Length Dial (B) to set it at the mark between "0" and "1" around Buttonhole mark ( ).
3. Make sure that Zigzag Dial (C) is at "0".
4. Replace presser foot with buttonhole foot.

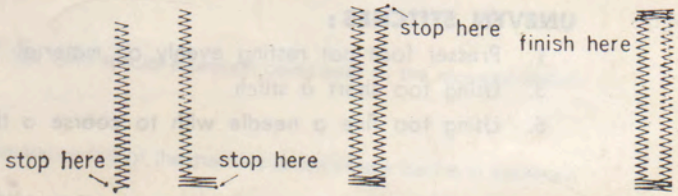
Now operate the buttonholer device in the following procedures.

1. With Buttonholer Lever (D) at "1", sew the first line. (in the length about 2-3mm longer than the diameter of the button.)
2. Move Buttonholer Lever (D) to "2" and sew a few stitches. to make the lower tacking.
3. Move Buttonholer Lever (D) to "3" and sew the same length as in No.1.
4. Move Buttonholer Lever (D) to "4" and sew a few stitches to make the upper tacking, thus finishing a buttonhole.
5. Cut the center of buttonhole with a seam ripper.

Note: If a buttonhole length adjustor (among buttonholer attachments) is used, it is convenient to sew the same size buttonholes.







(STEP 1) (STEP 2) (STEP 3) (STEP 4)

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Buttonholing

1 Zig zag to 2
2 Stitch length to 2-3 as req'd.
Needle position to L
start on R H Side of Buttonhole.

* push Zig Zag to 4 (↓ hold with needle to R) * overstitch end of Button hole * having needle DOWN.
turn material right round.
machine other side & repeat at
* - *

Use spear head needles for sailcloth of all thicknesses, canvas, leather & plastic.
use ball head (ordinary) sewing needles for dressmaking

Keep top pressure rod DOWN for sailcloth, leather, canvas etc.
Keep w/thin thread for all sailcloth