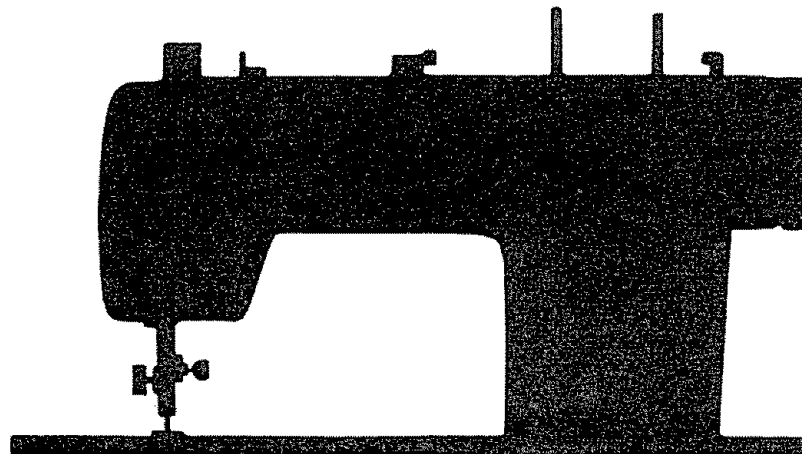


Kenmore

I N S T R U C T I O N S MODEL 20/21/23/1206/1300

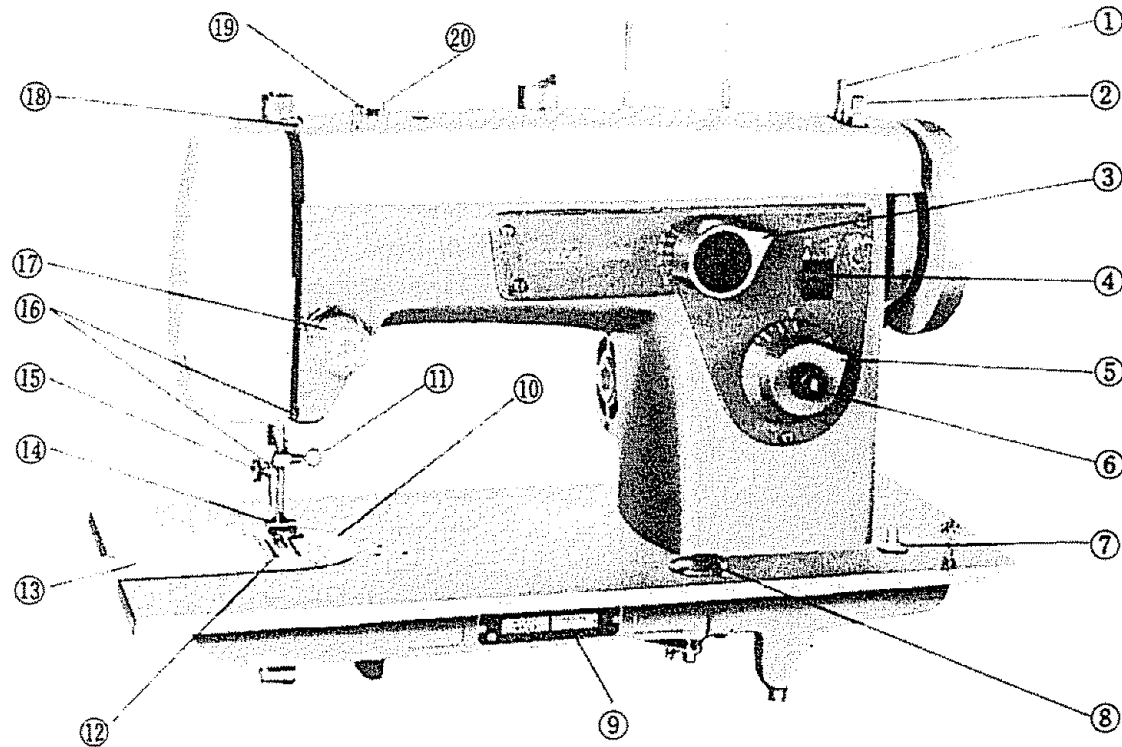


ZIG-ZAG SEWING MACHINE

INDEX

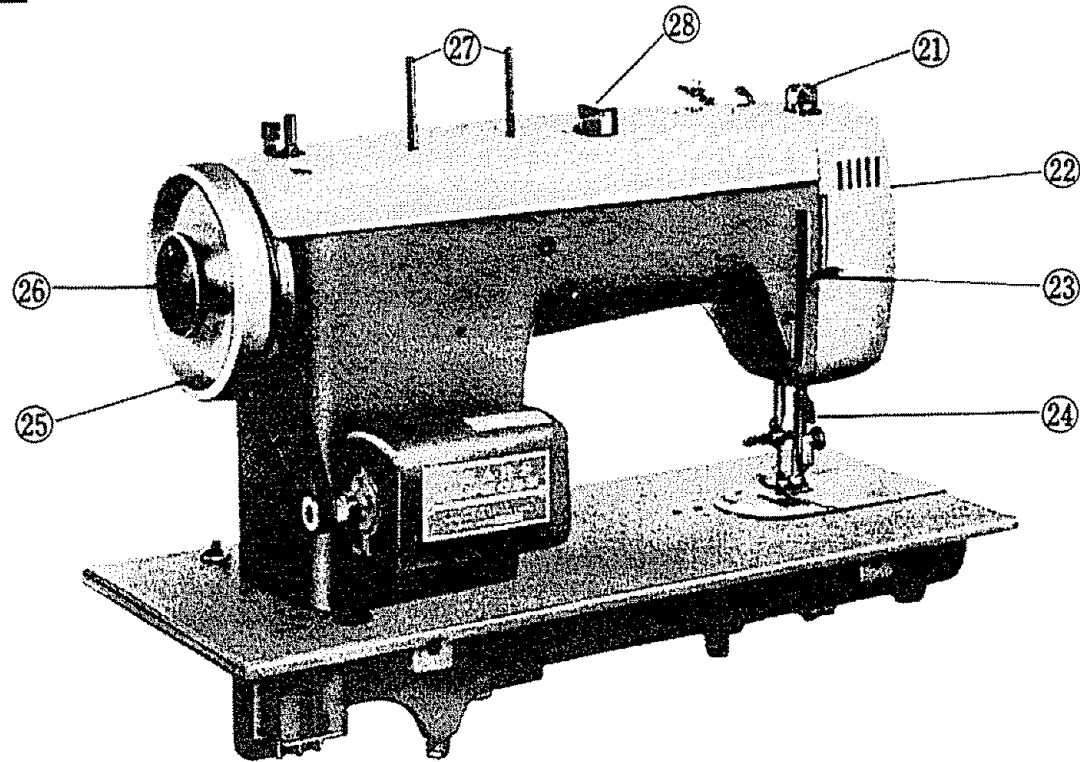
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FRONT VIEW



- | | | |
|-------------------------------|---------------------------|----------------------------------|
| 1. Bobbin Winder Spindle | 8. Feed Dog Control | 15. Presser Foot Screw |
| 2. Bobbin Winder Latch | 9. Nomenclature Plate | 16. Thread Guides |
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| 4. Stitch Width Limiter | 11. Needle Clamp Screw | 18. Thread Take-up Lever |
| 5. Stitch Length Control | 12. Feed Dog | 19. Upper Thread Guide |
| 6. Reverse Stitch Push Button | 13. Hand Hole Cover Plate | 20. Bobbin Winder Thread Guide |
| 7. Light Switch | 14. Presser Foot | |

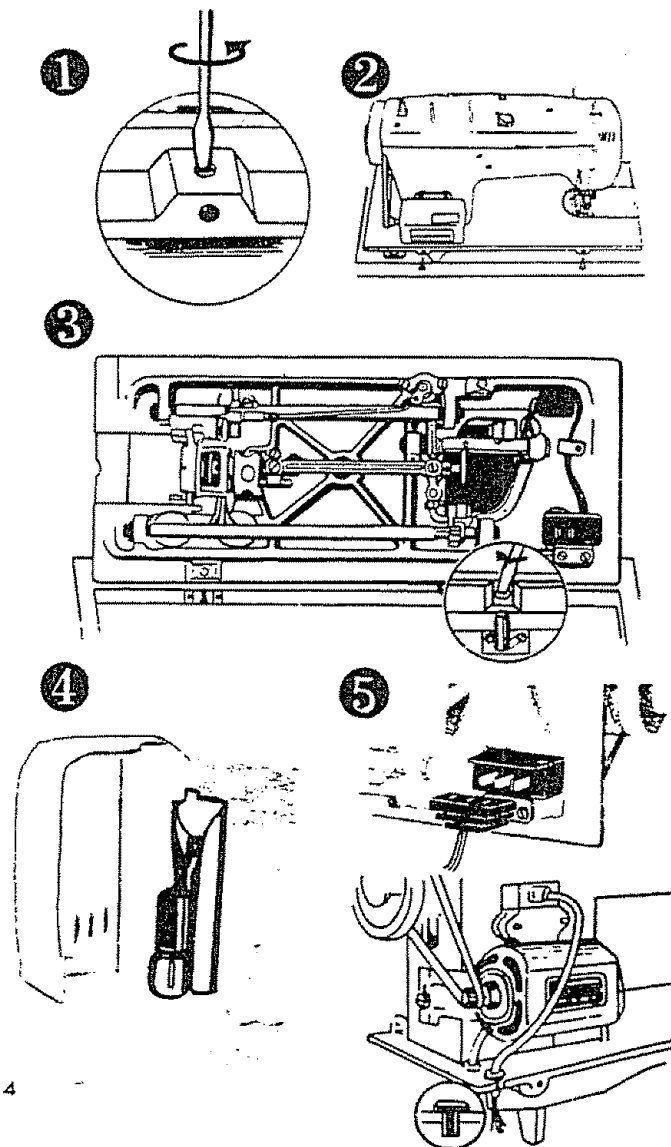
BACK VIEW



21. Presser Foot Pressure
Regulator
22. Face Plate

23. Presser Foot Lever
24. Thread Cutter
25. Hand Wheel

26. Clutch Release
27. Thread Spool Pins
28. Blind Stitch Knob
(Models 21, 1300 only)



INSTALLING MACHINE HEAD IN PORTABLE AND CABINET

Loosen the two hinge screws under holes in the rear edge of the machine bed (1).

Raise hinge pins in the cabinet cutout (2).

Slip machine head onto the pins and tighten hinge screws securely (3).

Lower machine head to front flap.

Screw spool pins in place. Lay the plastic discs over the spool pins. Discs and pins are packed in the accessory box.

SEWING LIGHT (Models 21, 1300 only)

The sewing light is located inside the face plate as shown.

It may be turned on or off by pushing the light switch.

To remove the bulb, disconnect the sewing machine and swing open the face plate. Push bulb in slightly, turn it counterclockwise and remove. To replace, push new bulb in and turn clockwise. See illustration 4.

CONNECTING MACHINE

Push foot or knee control connector onto connector under the machine bedplate, or over the motor. See illustration 5. Push the two prong plug of the control into any 110-120 V. wall outlet. When installing in cabinet, insert grommet with cord in bedplate.

NEEDLE AND THREAD TABLE

| THREAD SIZE | NEEDLE SIZE | FABRIC |
|--|-------------|--|
| Cotton 60-100 Synthetic Silk A | 11 | Sheer cottons, silks, and synthetics Fine Laces |
| Cotton 60-80 Mercerized 50 Synthetic Silk A | 14 | Medium weight cottons Medium weight silks Medium weight synthetics Light weight woolens |
| Cotton 40-60 Mercerized 50 Mercerized heavy duty | 16 | Heavy weight cottons Medium to heavy weight woolens Heavy drapery fabrics |
| Cotton 30-50 Mercerized heavy duty | 18 | Heaviest cottons as for men's work clothes Heaviest woolen coating |

NEEDLE SIZE

Use KENMORE needles. The size of the needle should conform to the size of the thread and both should be suitable to the material.

The same size thread should be used in the bobbin as on the upper part of the machine for ordinary sewing.

Never use a bent needle nor one with a blunt point.



This is the exact length of the needle to be used in your machine. Comparison with this illustration will determine whether the needle you have is the correct one for your machine.

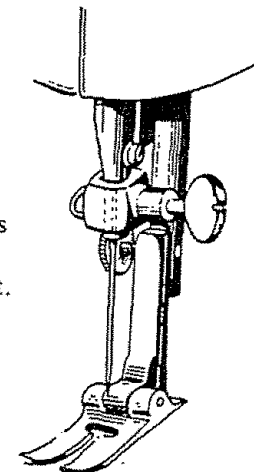
PLACEMENT OF NEEDLE

Raise take-up lever to its highest position by turning hand wheel toward you. Loosen needle clamp screw.

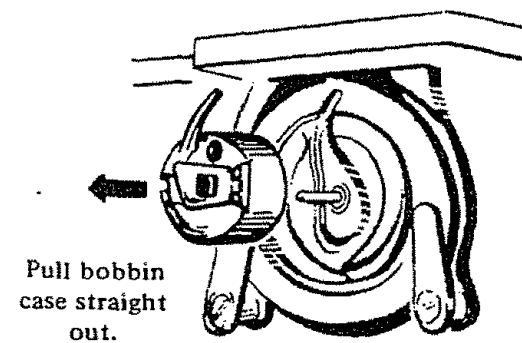
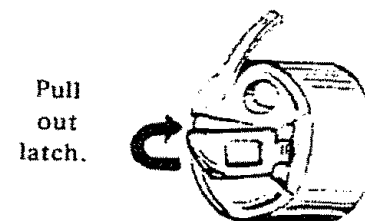
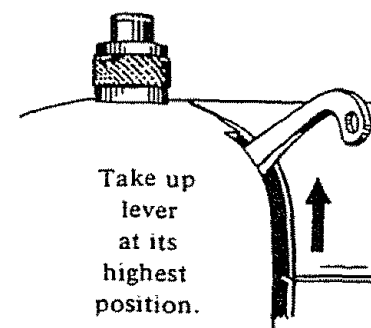
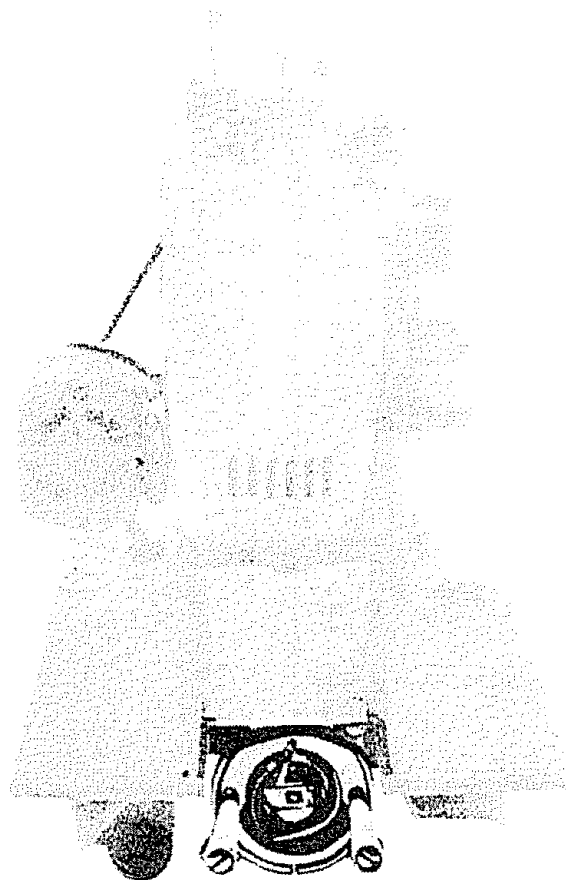
Hold needle so that the flat side is to your right, slip blunt end of needle as far as it will go into needle clamp.

Tighten needle into place with clamp screw.

Flat side faces to right.



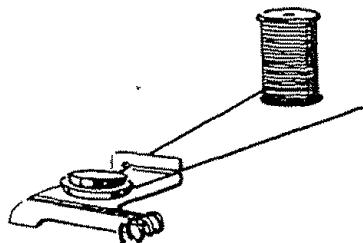
REMOVING BOBBIN CASE FROM SHUTTLE



WINDING THE BOBBIN

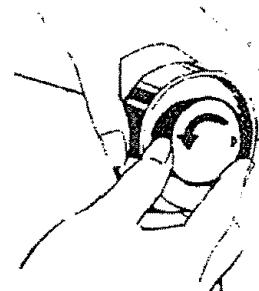
①

Place thread on spool post. Draw thread as shown.



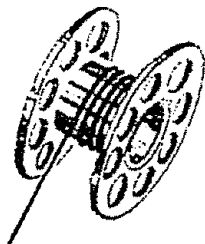
④

Release clutch by turning clutch knob toward you. Start machine.



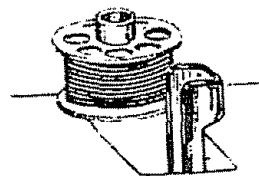
②

Wind thread around bobbin a few times, front to back.



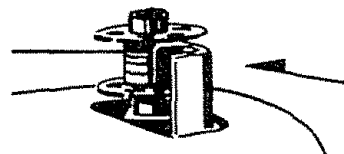
⑤

When bobbin is full, winding mechanism stops.



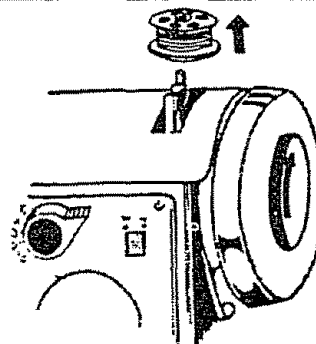
③

Place bobbin onto bobbin winder shaft. Push bobbin winder latch until it clicks.



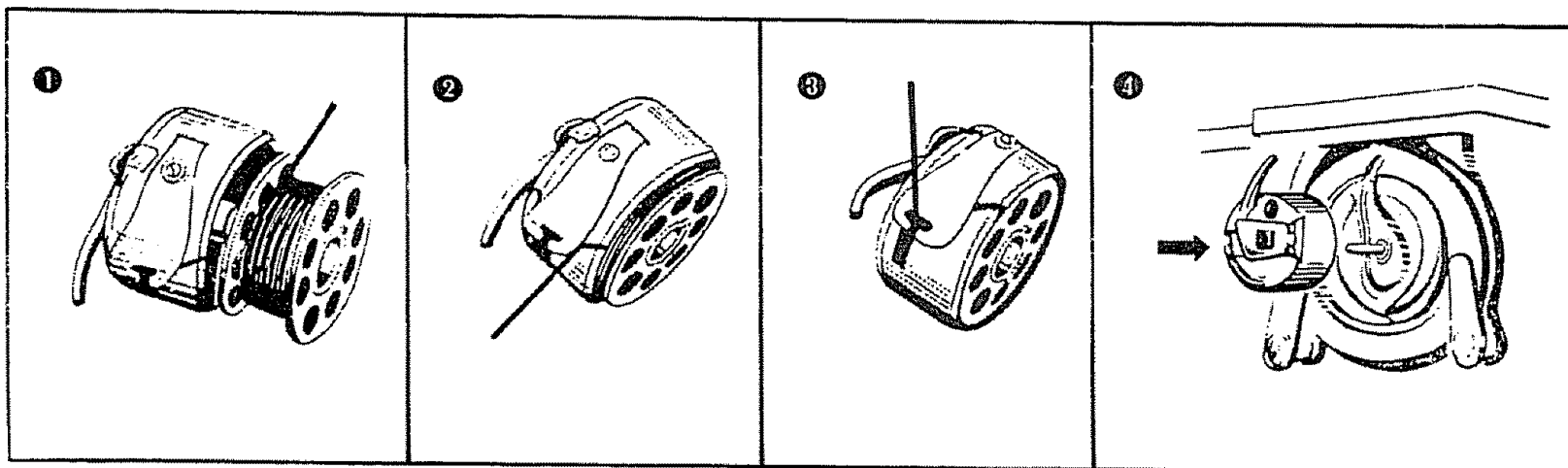
⑥

Tighten clutch knob and remove bobbin.

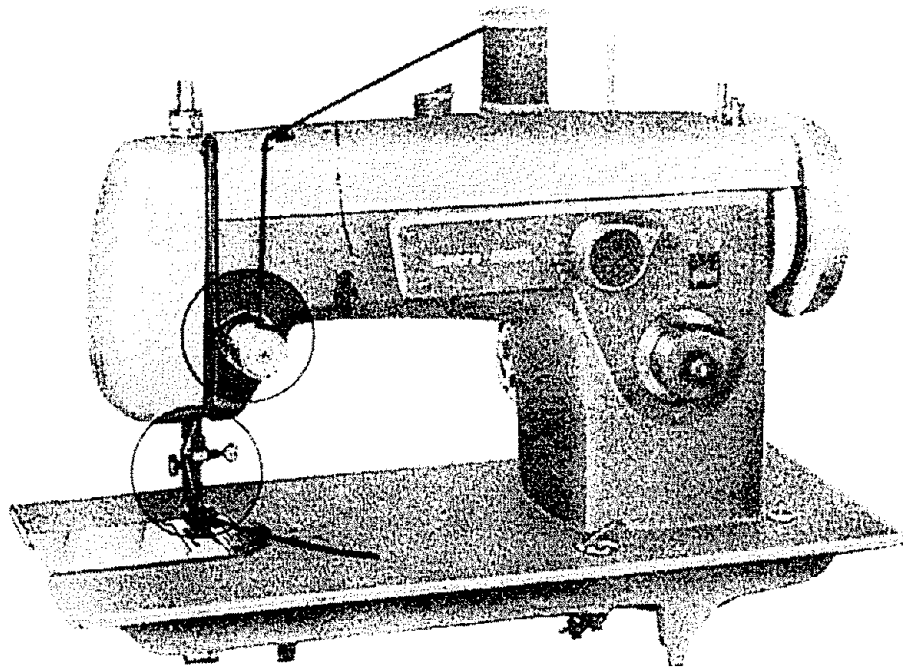


INSERTING BOBBIN INTO BOBBIN CASE...CASE INTO SHUTTLE

- ① Guide bobbin onto center pin of bobbin case.
- ② Pull thread through slot.
- ③ Pull thread under tension spring.
- ④ Holding latch, position case into shuttle, then release latch.



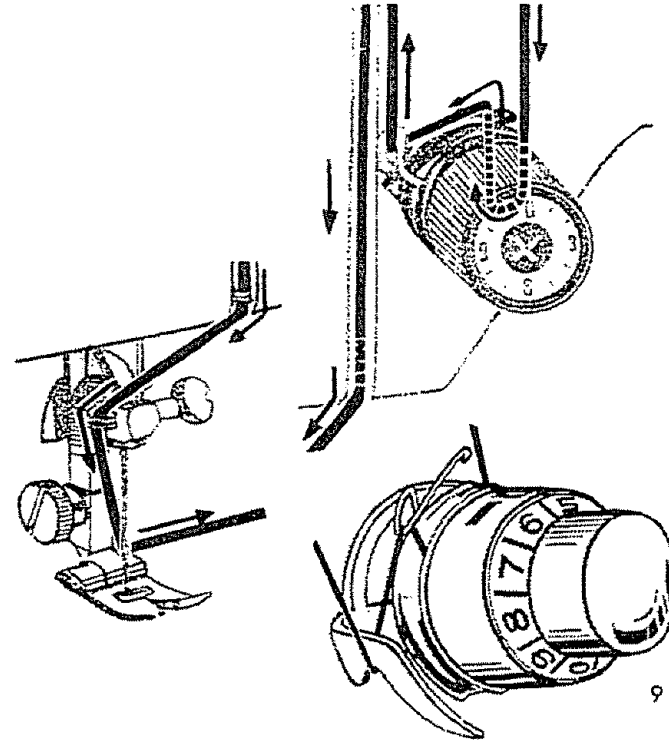
THREADING UPPER MACHINE



Place thread as illustrated between discs of the Thread Tension Control.

Prevent the spool of thread from turning and by holding the end of the thread pull spring wire loop up and past the top hook until the thread can be slipped into the hook. When thread tension is released, the spring wire loop will return to position as shown with the thread in proper place.

Release spool of thread and continue to thread machine as illustrated.



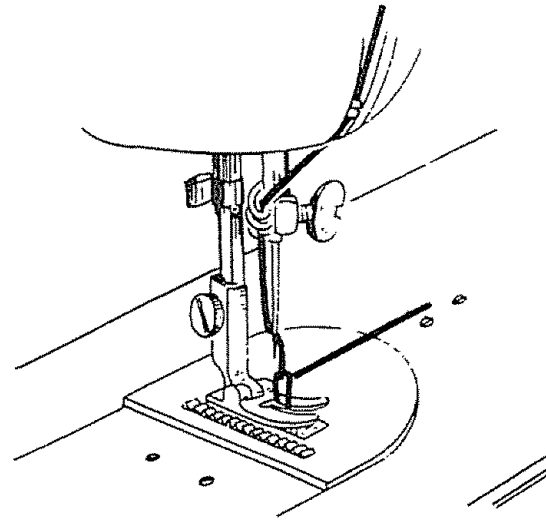
PICKING UP BOBBIN THREAD

Raise presser foot lever.

Hold needle thread loosely in left hand and rotate hand wheel toward you one complete turn.

Bring bobbin thread up by pulling upper thread (See illustration).

Place threads back under presser foot.

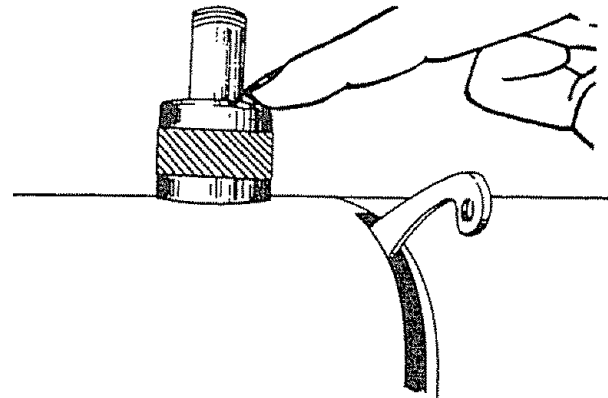


ADJUSTING THE PRESSURE OF THE PRESSER FOOT

Push down outer ring of presser foot pressure regulator (See illustration). This will release pressure of presser foot. To increase pressure, push down inner pin until suitable pressure is obtained.

For ordinary sewing, the inner pin should be about half way down. When sewing multiple thickness or heavy material, reduce the pressure. Increase it when sewing sheer fabrics.

Insufficient pressure may cause skipped stitches or difficulty in guiding the fabric. If feed dog or presser foot marks appear on the fabric, reduce the pressure.



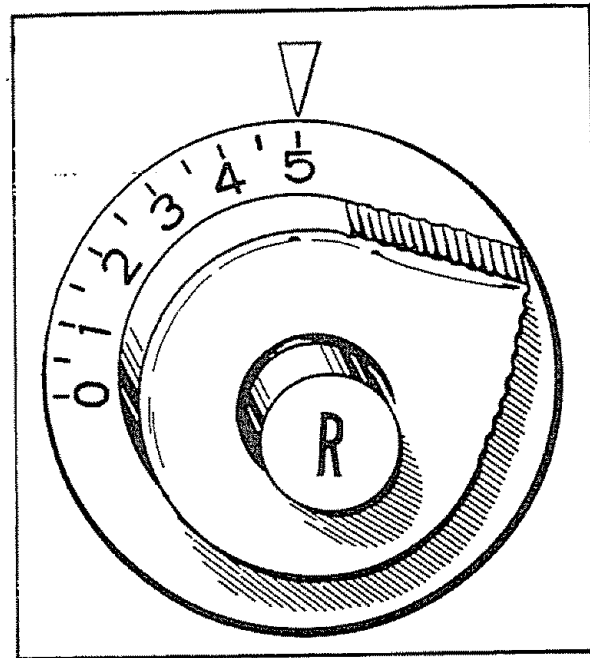
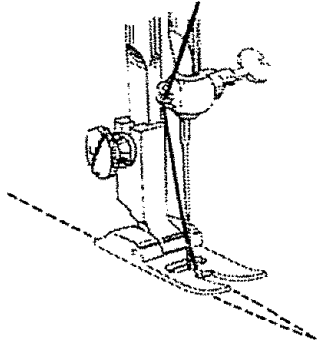
SETTING STITCH LENGTH

Turn knob to any desired stitch length position between 0 and 5. At No. 5, the longest stitch is obtained. The size of stitch you select will depend on the fabric you are sewing.

The blind stitch knob must be on the "OFF" position for all operations except blind stitching. (Models 21, 1300 only) For straight stitching the stitch width control must be set at 0.

REVERSE STITCHING

To sew in reverse, push the reverse stitch button as far in as possible. Keep the button pushed as long as you need reverse stitching. When you cease pushing, the button returns and the machine stitches forward.



FASTENING A SEAM

Be sure both threads are drawn back about 4 inches under the presser foot. Lower needle into fabric about $\frac{1}{2}$ inch from beginning of seam. Lower presser foot, push reverse button for reverse stitching. Stitch backwards until needle reaches beginning of seam. Release button for forward stitching and complete seam. When you reach the end of the seam, push reverse button and sew back over $\frac{1}{2}$ inch of completed seam. This is called back tacking.

1

ADJUSTING TENSIONS



Fig. 1

A perfect stitch will have threads locked between the two layers of fabric with no loops on top or bottom.

PROBLEM

REMEDY

2

Upper thread too tight

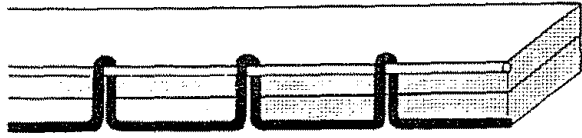
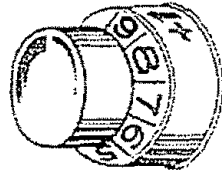
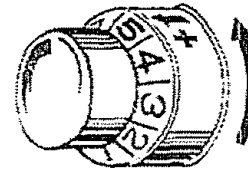


Fig. 2



Decrease Tension



3

Upper thread too loose

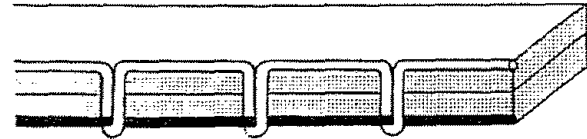
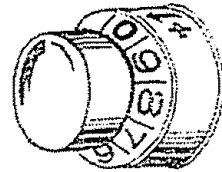
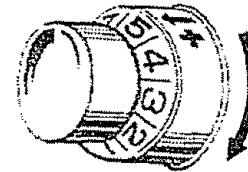


Fig. 3



Increase Tension



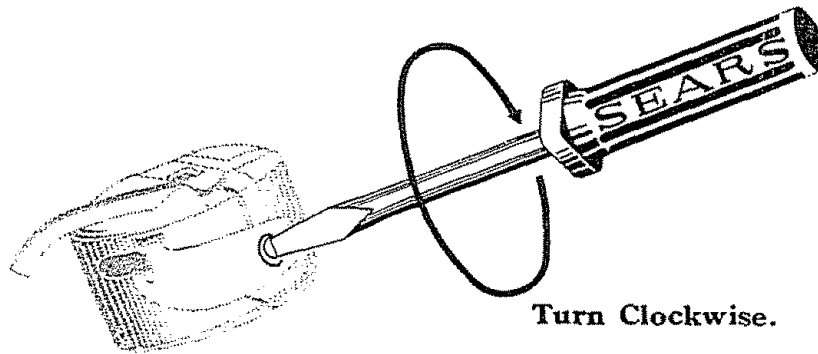
NOTE: Never adjust more than one number at a time.

When stitching is unsatisfactory as in figures 2 and 3, adjust the upper thread tension. Lower thread tension requires adjustment less frequently than the upper thread tension.

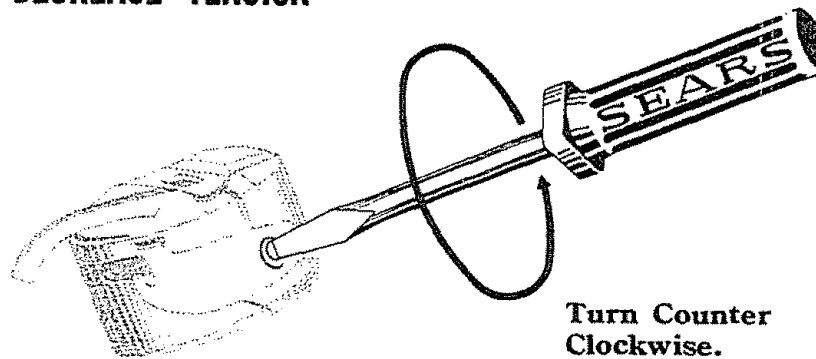
When stitch is satisfactory, as in figure 1 and seam is badly puckered, the cause may be tight tensions and both upper and lower may be adjusted. (See page 26)

When adjusting the tension on the bobbin case, make slight adjustments with a screwdriver. (See page 26)

INCREASE TENSION



DECREASE TENSION



INSERTING AND REMOVING THE MATERIAL

For all kinds of sewing, consult chart page 5.

Before placing the material on the machine see that:

- The presser foot and needle clamp screws are both tight.
- The sizes of needle and thread suit the kind of work to be done.
- The needle and the thread take-up lever are at their highest position.
- The ends of threads have been drawn about 4 inches to the rear of the machine.
- The feed dogs are up.
- Stitch length and width controls are set at desired settings.

Experiment by sewing on the fabric to be used to determine tension adjustments and correct stitch settings.

Place material under the presser foot, insert the needle into the material by turning the hand wheel toward you, lower presser foot and start sewing.

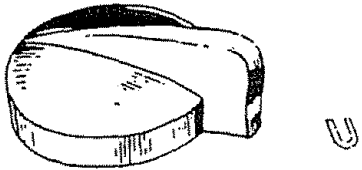
To facilitate placement of heavy fabrics under the presser foot, the presser foot lever can be raised beyond the normal "up" position.

To remove the work, first turn the hand wheel toward you until the needle and the thread take-up lever are at their highest position, then raise the presser foot, draw material to the rear and cut off excess thread with the thread cutter located on the presser bar.

IMPORTANT: Always turn the hand wheel toward you! When the machine is not being used, place a piece of material over the feed dog and lower the presser foot. Always have fabric under the presser foot when operating the machine. Operating threaded machine without fabric will cause it to jam by forcing lint into the shuttle. See Pages 22 & 23.

TURNING A CORNER

Stop your sewing machine and make sure needle is in fabric. Raise presser foot. Turn fabric to desired direction. Lower presser foot and go on with your stitching.



FEED DOG CONTROL

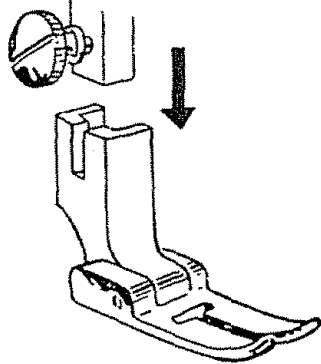
This knob is situated on right front of machine bed. When knob is turned to the left, feed dog does not move material. This allows the operator freedom of movement of material. For regular sewing, turn knob to the right. "U" (Feed dog up).

CHANGING THE PRESSER FEET

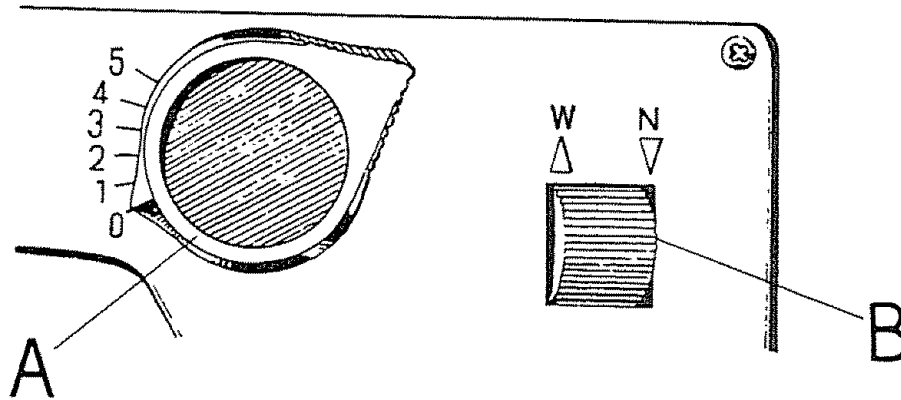
The various presser feet available for certain kinds of work are to be fastened to the presser bar.

To attach the foot, raise the presser bar to its highest position by raising the presser foot lever.

Loosen the presser foot thumb screw, choose the proper foot, insert from the front. Tighten the screw using the large screwdriver and make sure that the foot is secure.



ZIGZAG CONTROL



To produce a zigzag stitch, turn the stitch width limiter B upward. As the knob is moved up, the stitch becomes wider. The indicator on the stitch width control knob A points to the numerical setting. The width knob can be manually turned to a higher number, but the limiter must be rolled downward to produce a narrower zigzag stitch. Zig-zag stitch width increases from No. 1 setting to the No. 5 setting. Straight stitching is possible only when the knob is at the 0 position.

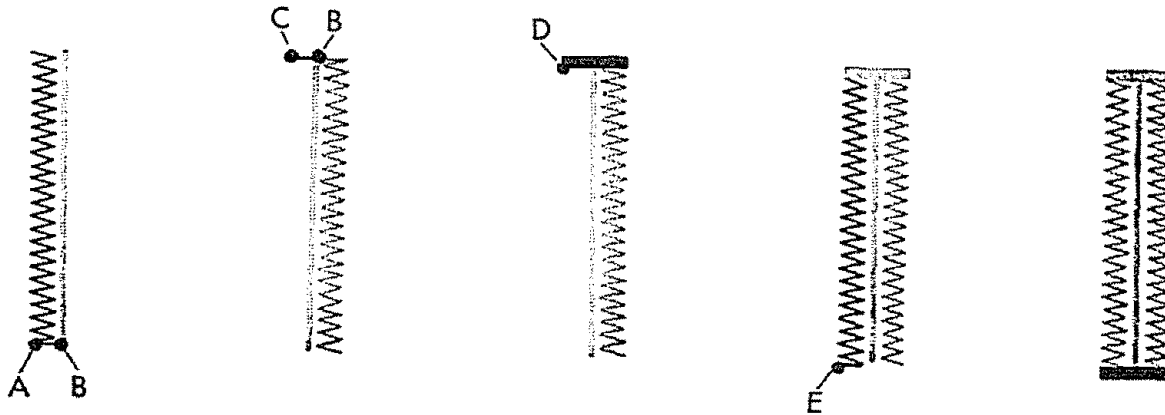
Zig-zag stitching will be practical for repairing elastic garments, seaming knitted garments, overcasting seams, tacking points of strain, binding blankets, and stitching darts in interfacings.

BUTTONHOLES

Stitch length about $\frac{1}{2}$
Stitch width about 2
Feed dog control to right

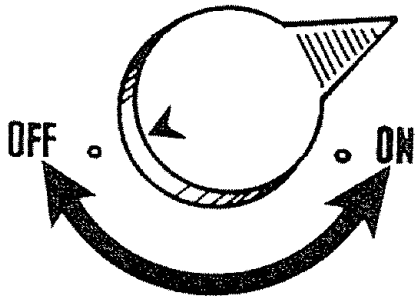
1. Stitch forward until desired length for buttonhole is obtained. Stop with needle on the left side of stitching (A). Drop feed dog, set stitch width control on $2\frac{1}{2}$ and take one stitch to the right (B).
2. Raise presser foot and turn material with needle in material. Lower presser foot and take one stitch to the left (C).
3. Turn stitch width control to 5 and sew 4 stitches. This method of fastening the ends of buttonholes is called bartacking. Bartacking should be completed with needle on the left side (D).
4. Set stitch width back to 2. Raise feed dogs and sew back to other end of buttonhole. Stop with needle on the left (E).
5. Turn stitch width control to 5. Drop feed dog and bartack. Raise feed dog.

It is recommended that tailor's chalk be used to determine length of buttonhole before sewing. For a firm buttonhole, the stitching can be repeated over the same area, then cut buttonhole opening. For a professional look to your buttonhole use an interfacing between the layers of fabric.



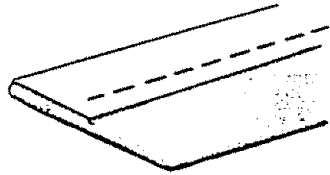
HEMS

BLIND STITCH HEM (Models 21, 1300 only)

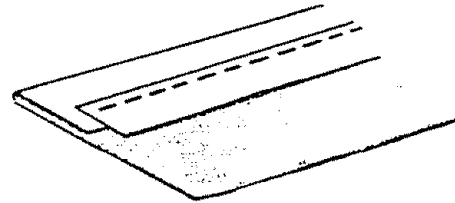


The Blind Stitch Knob must be on the "OFF" position for all operations except blind stitching.

1



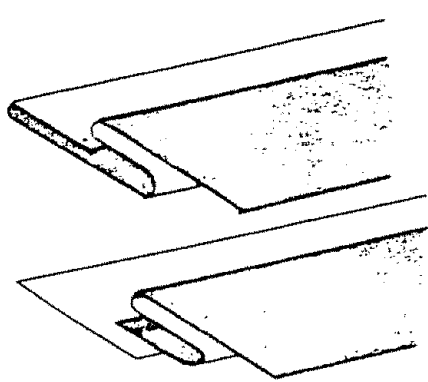
2



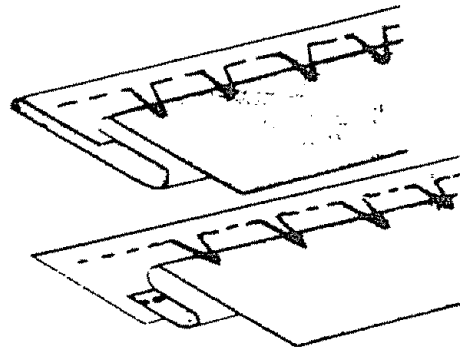
1. Prepare the hem with a turned and edgestitched finish, or

2. Apply seam tape along the raw edge with either straight or zig zag stitching, then fold hem as shown.

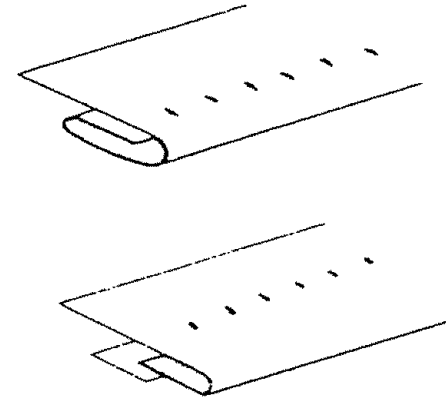
3



4



5



3. Make second fold as shown.

4. Turn blind stitch knob (black arrow) to the "ON" position. Set stitch width at 0 and stitch length 2-3 (as desired). Then, blind stitch along fold until hem is completed.

5. Unfold, exposing right side of material with completed blind stitching. Press hem.

DARNING

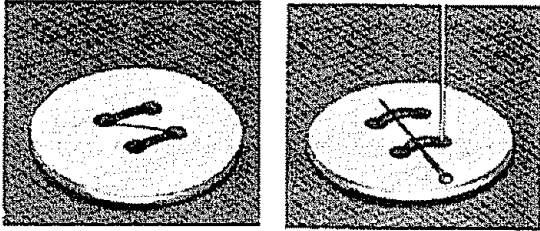
WITH PRESSER FOOT :

1. Turn feed dog control to left.
2. Press down outer ring of presser foot pressure regulator, see page 10. With regulator in this position mending, monogram work, etc. may be done.
3. Stretch fabric tightly between two spring embroidery hoops and place under needle.
The presser bar can be raised to accommodate the embroidery hoop by pulling up on the presser foot lever.
4. Lower presser bar so thread will have some tension. When you start to darn, move fabric back and forth to cover darning area. Then turn fabric and continue sewing at right-angles to the previous stitching. Always use medium machine speed. You can make any length stitches desired. Slow movement of fabric will make short darning stitches. Fast movement will make long stitches.
5. When you finish darning, raise presser foot and remove fabric. Increase pressure for general sewing by pressing center pin of presser foot pressure regulator.
Turn feed dog control to right.

WITHOUT PRESSER FOOT :

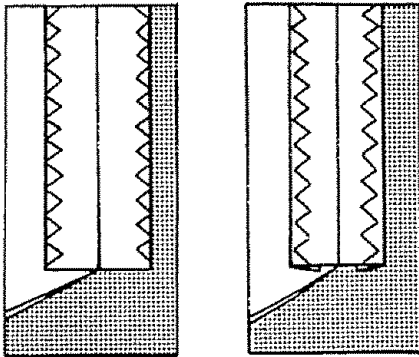
1. Turn feed dog control to left.
2. Remove presser foot.
Proceed as directed under steps 3 and 4 above.
5. When you finish darning, raise the presser bar and remove fabric. Replace presser foot.
Turn feed dog control to right.

SEWING ON BUTTONS



1. Turn feed dog control to left. Place needle into left hole of button, align holes with slot of presser foot and lower presser foot.
2. Set stitch width control at width between holes of button. Test width by turning handwheel slowly. Take several zigzag stitches to sew on button, ending with needle on left side.
3. Set stitch width control at 0. Take a few stitches in left hole of button to lock threads.
Pull threads to wrong side.

NOTE: To make a small thread shank when sewing on a flat button, place a straight pin or needle between the holes of the button.



OVERCASTING

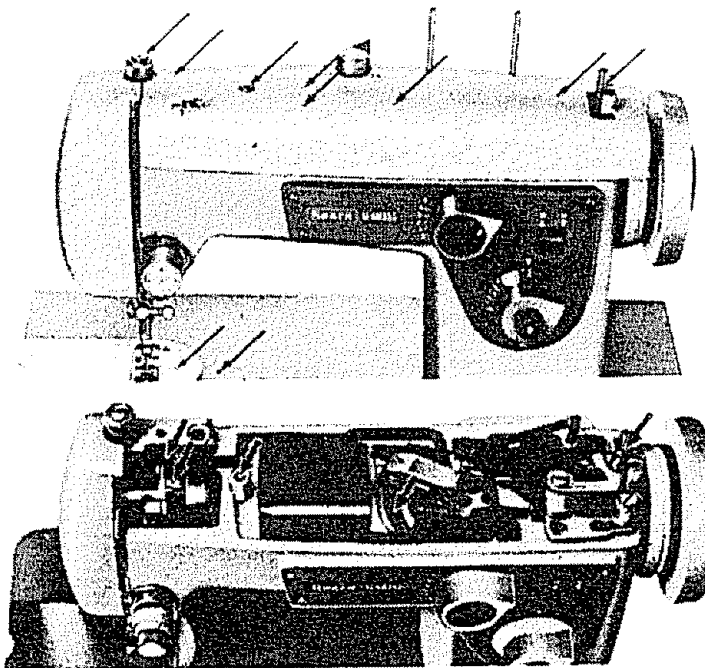
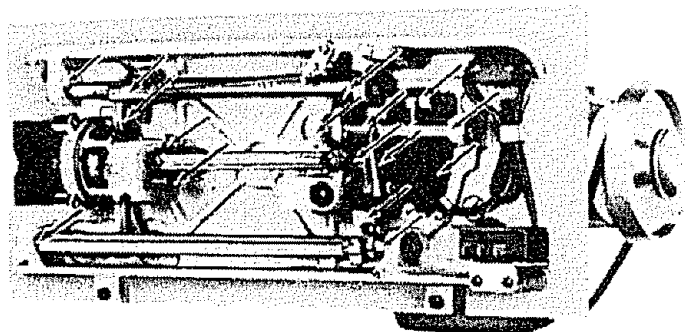
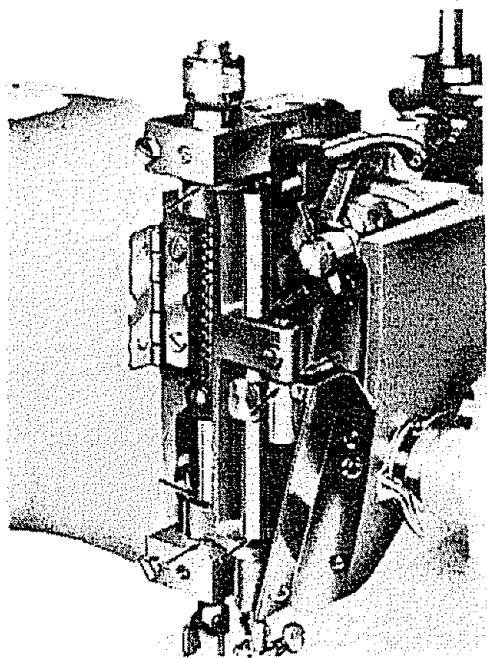
Set stitch width to 5. Set stitch length at 5. Zigzag stitch around raw edge of fabric to completely cover the edge.

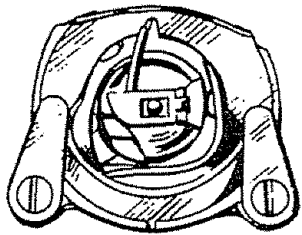
CLEANING AND OILING

Keep the moving parts free from dust and threads for quiet and efficient operation. Cleaning should be done with a small brush, never with a sharp or pointed tool. When machine runs hard or makes excessive noise, place a drop of KENMORE sewing machine oil at the points indicated by arrows.

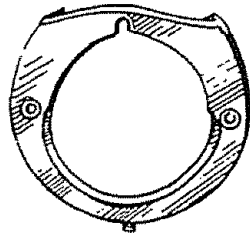
To oil top of the machine, place a few drops of oil through the holes on the top cover plate while the needle is at the lowest point, or remove top cover plate by unscrewing two screws and oil at the points indicated by arrows. (Model 1206)

Tilt machine head back to oil points indicated on underside of machine head.

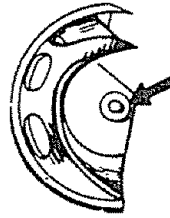




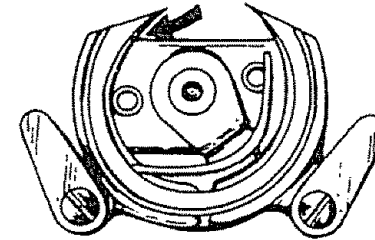
Shuttle Assembly



Shuttle Race Cover



Shuttle



Shuttle Race

It may be necessary to clean the shuttle area occasionally.

1. Raise the needle bar to its highest point and remove bobbin case.
2. Push levers sideways of the shuttle assembly and lift shuttle and shuttle race cover out by the center pin.
3. Clean the shuttle race of any lint or small particles of thread with a small brush.
4. Put a drop of oil on the center pin of the shuttle and on shuttle race (see arrows).

To reassemble, hold shuttle by center pin and fit carefully into assembly opposite the shuttle driver.

Slip shuttle race cover into place. Snap the levers into position.

Occasionally, remove the needle plate and clean feed dog with a soft brush.

WHAT TO DO

| PROBLEM | PROBABLE CAUSE | CORRECTION |
|--------------------|--|--|
| Irregular Stitches | <p>Incorrect size needle. Improper threading. Loose upper thread tension. Pulling fabric. Light pressure on presser foot. Loose presser foot. Unevenly wound bobbin.</p> | <p>Choose correct size needle for thread and fabric (page 5). Rethread machine (page 9). Tighten upper thread tension (page 12). Do not pull fabric; guide it gently. Increase pressure on presser foot (page 10). Reset presser foot. Rewind bobbin (page 7).</p> |
| Breaking Needles | <p>Pulling fabric. Incorrect size needle. Incorrect setting of needle. Loose presser foot.</p> | <p>Do not pull fabric; guide it gently. Choose correct size needle for thread and fabric (page 5). Reset needle (page 5). Reset presser foot.</p> |
| Bunching of Thread | <p>Upper and lower threads not drawn back under presser foot. Feed dog down.</p> | <p>Draw both threads back under presser foot (page 10). Raise feed dog.</p> |
| Puckering | <p>Incorrect thread tension(s). Light pressure on presser foot. Using two different sizes or kinds of thread. Bent or blunt needle. Loose presser foot. Fabric too sheer or too soft.</p> | <p>Reset thread tension (s) (page 12, 13). Increase pressure on presser foot (page 10). Upper thread and bobbin thread should be same size and kind. Insert new needle (page 5). Reset presser foot. Use underlay of tissue paper or tarleton when stitching.</p> |

WHAT TO DO

| PROBLEM | PROBABLE CAUSE | CORRECTION |
|----------------------------------|--|--|
| Skipping Stitches | <p>Incorrect size needle. Bent or blunt needle. Incorrect setting of needle. Tight upper thread tension. Light pressure on presser foot.</p> | <p>Choose correct size needle for thread and fabric (page 5). Insert new needle (page 5). Reset needle (page 5). Loosen upper thread tension (page 12). Increase pressure on presser foot (page 10).</p> |
| Breaking Upper Thread | <p>Starting to stitch too fast. Improper threading. Tight upper thread tension. Incorrect size needle. Sharp eye in needle.</p> | <p>Start to stitch at a medium speed. Rethread machine (page 9). Loosen upper thread tension (page 12). Choose correct size needle for thread and fabric (page 5). Insert new needle (page 5).</p> |
| Breaking Bobbin Thread | <p>Improper bobbin case threading. Tight bobbin thread tension. Lint in bobbin case or shuttle.</p> | <p>Check bobbin case threading (page 8). Loosen bobbin thread tension (page 13). Clean bobbin case and shuttle (page 22 & 23).</p> |
| Fabric not Moving | <p>Feed dog down. Light pressure on presser foot. Threads knotted under fabric.</p> | <p>Raise feed dog. Increase pressure on presser foot (page 10). Place both threads back under presser foot before beginning to stitch.</p> |
| Machine Jamming (Knocking Noise) | <p>Thread caught in shuttle.</p> | <p>Disassemble and clean shuttle (page 22 & 23).</p> |

ADJUSTING YOUR SEWING MACHINE FOR GOOD STITCHES

When your sewing machine does not sew a properly locked stitch, check the following:

1. Insert a new needle of the correct size for the thread and fabric you are using. Consult chart on page five for needle size.
2. The upper and bobbin thread should be the same thread.
3. Check threading carefully. See page 8–9.
4. Check the thread tension balance. Use mercerized thread and a correct size needle for the fabric you are using. Do not try this test with synthetic thread as it will not break. Begin with a full bobbin, properly threaded into the case. Set the stitch length at about 12 stitches per inch. Fold a six inch square of your fabric in half diagonally, forming a triangle. Make a line of stitching $\frac{1}{2}$ " from fold.
 - a. If seam is puckered—both tensions are too tight.
 - b. If the bottom thread lays on the fabric—tighten upper thread tension, and repeat test. See page 12, Figure 3.
 - c. If the top thread lays on the fabric—loosen upper thread tension and repeat test. See page 12, Figure 2.

Grasp the stitching and pull evenly and firmly until one or both threads break.

- a. If both threads break—tensions are balanced.
- b. If neither thread breaks—both tensions are too loose.
- c. If upper thread breaks—loosen upper tension.
- d. If lower thread breaks—tighten upper tension.

Both threads do not have to break at the same place, but they should break on the same snap.

Bobbin tension may be reset by the following procedure. Start with a loose bobbin thread tension. Tighten the spring screw gradually until bobbin case and full bobbin can be gently lifted from your hand by the end of the bobbin thread.

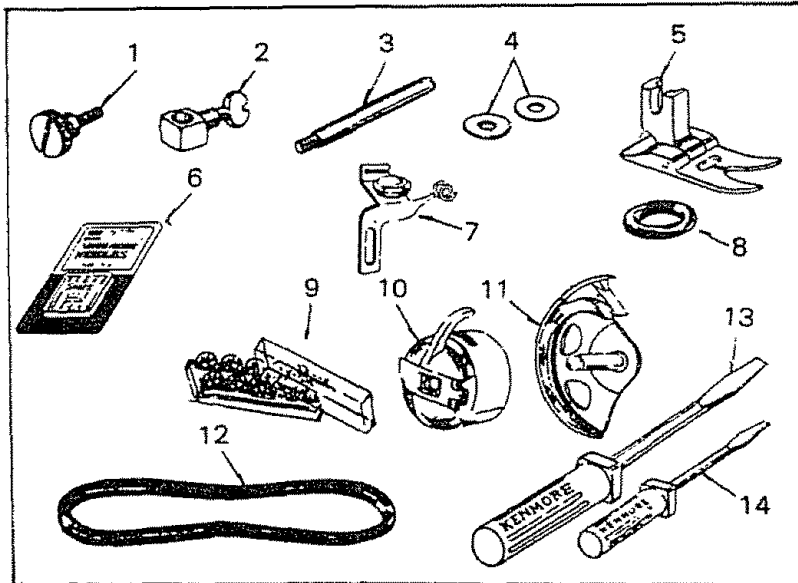
PARTS LIST

All parts listed here may be ordered through your nearest Sears or Simpsons-Sears retail store, catalog sales office or mail order house.

When ordering these parts, please be sure to mention the following references:

1. Model & serial numbers of machine shown on the nomenclature plate. See page 2.
2. Parts number(s) and description(s) here.

When ordering by mail, prices will be furnished on request, or parts will be shipped at prevailing prices and you will be billed accordingly.



| Ref. No. | Parts No. | Description |
|----------|-----------|--|
| 1 | 135 | Presser foot thumb screw |
| 2 | 201201 | Needle clamp |
| 3 | 8286 | Thread spool pin |
| 4 | 2273 | Nylon disc |
| 5 | 4607 | Presser foot |
| 6 | 6741 | Pack of #11 needles (Yellow pack) |
| | 6742 | Pack of #14 needles (Red pack) |
| | 6743 | Pack of #16 needles (Green pack) |
| | 6744 | Pack of #18 needles (Blue pack) |
| 7 | 201709 | Bobbin winder thread and top thread guide |
| 8 | 1939 | Bobbin winder rubber ring |
| 9 | 6862 | Pack of bobbin (10 pcs) |
| 10 | 6510 | Bobbin case |
| 11 | 47 | Shuttle hook |
| 12 | 6902 | Motor rubber belt |
| 13 | 3015 | Large screwdriver |
| 14 | 3016 | Small screwdriver |

SEWING MACHINE

Now that you have purchased your Sewing Machine, should a need ever exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. or Simpsons-Sears Limited Stores. Be sure to provide all pertinent facts when your call or visit.

The model number of your Sewing Machine will be shown on your nomenclature plate on the front side of bedplate of your Sewing Machine. See page 2 for location.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

*MODEL NUMBER *NAME OF ITEM *PART DESCRIPTION

If the parts you need are not stocked locally, your order will be electronically transmitted to a Sears Repair Parts Distribution Center for handling.

**SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A. and
SIMPSONS-SEARS LIMITED, Toronto, Ontario, Canada**

Part No. 55053 (81)

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