SEWING MACHINE

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

The model number of your Sewing Machine will be shown on your nomenclature plate on the back of your Sewing Machine. See page 3 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 prompt handling.

SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A.

MODELS 14502 or 14401
Sears, Roebuck and Co.

Dear Homemaker,

CONGRATULATIONS!

You have just invested in a very fine zigzag sewing machine. Here are just some of its special features:

* Full rotary shuttle with slanted bobbin — quiet and smooth running, easy access to bobbin, best stitching performance and easy maintenance with one-touch retainer system.
* Ultra-stitch — helps make uniform stretch stitches and buttonholes every time. The machine automatically adjusts the stitch thickness on forward and reverse stitches so you have fewer adjustments to make when sewing.
* Sew-by-color — recommended ranges of stitch length and width indicated and color-coded with stitch patterns.
* Simple and easy threading system.

To make best use of these wonderful features, please read the instructions in this booklet before you start sewing.

It contains information on operating and caring for your machine. You will get specific instructions on threading, tension adjustments, cleaning, using the attachments, etc. By following these instructions you will get the best sewing results and avoid unnecessary service expense for conditions beyond our control.

If you need additional advice on the operation and care of your Kenmore machine, contact your nearest Sears retail store. Please remember to give the model number and serial number whenever you inquire about your Kenmore machine.

HAPPY SEWING!

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Kenmore Sewing Machine

Record in the space provided below the model number and serial number of this appliance.

The model number and serial number are located on the nomenclature plate, as identified on page 3 of this booklet.

Model No. ___________________ Serial No. ___________________

Retain these numbers for future reference.

THIS MODEL IS A CENTER NEEDLE, LOW BAR SEWING MACHINE.
1. KNOW YOUR MACHINE

Locate and identify the parts on your machine

After you have unpacked your new machine, set it on a flat, sturdy surface. Study the following diagrams so that you will know the working parts of your machine.

You may need to refer to these diagrams often while reading the instructions in this manual.

NOTE: A detailed drawing which shows the parts of the shuttle and bobbin is on page 11.
Locate and identify the accessories

You should find the following items in the accessory box.

- Needle set
- Bobbins
- Spool pin caps
  - large — No. 65663
  - small — No. 65662
- Extra spool pin
  - No. 64083
- Seam ripper/buttonhole opener
  - No. 6830
- Feed cover plate
  - No. 60934
- Screw drivers
  - large — No. 65811
  - small — No. 65812
- Lint brush
  - No. 65650
- Straight stitch foot
  - No. 56483
- Satin stitch foot
  - No. 57998
- Zipper foot
  - No. 56484
- Built-in buttonhole guide foot
  - No. 57984

Buttonhole Attachment Parts

- Buttonhole guide plate
  - No. 65665
- Buttonhole templates
  - 1 — No. 65660
  - 2 — No. 65661
  - 3 — No. 65662
- Buttonhole adapter
  - No. 64061
- Buttonhole foot
  - No. 57979

Parts and accessories fitted on the machine

- Standard zigzag foot
  - No. 57985
- Presser foot
  - holder No. 56475
- Presser foot thumb screw
  - No. 135
- Needle clamp screw
  - No. 8058
- Needle plate
  - No. 64156
- Bobbin case
  - No. 63963
- Bobbin case holder
  - No. 50474
- Light bulb
  - No. 6797
- Foot control
  - No. 6811

All parts listed herein may be ordered from any Sears store or service center.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

1. PART NUMBER
2. PART DESCRIPTION
3. MODEL NUMBER shown on the nomenclature plate. (See page 3 for location.)
4. NAME OF ITEM

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

Optional accessories help simplify the detailing that give your sewn garments a "professional" look.

Q FOOT (No. 65820)

Q NEEDLE (No. 6746)

Q SET (No. 6986)
- Helps avoid skipped stitches, especially with synthetic, stretch and knit fabrics.

Blind hem foot (No. 6885)

Even-feeding foot (No. 6887)
- Feeds both fabric layers simultaneously to help prevent bunching of Ultra Suede fabric, satin, tricot or other slick fabrics; eases pattern matching.

Zipper foot (No. 6757)
- For invisible zippers.

Roller foot (No. 6763)
- Hinged zigzag type foot that has one roller in front of needle and another roller behind it. Recommended for imitation leather or vinyl.

Ruffler/pleater (No. 6891)
- Gathers fabric to ease making curtains, flounces etc.

Machine needles: (See page 14 for how to choose needle)
- 5 pcs. Regular color-coded needles
  - Size 9-Brown (No. 6550)
  - Size 11-Orange (No. 6551)
  - Size 14-Red (No. 6552)
  - Size 16-Purple (No. 6553)
  - Size 18-Green (No. 6554)

- 10 pcs. Ball point color-coded needles (No. 6747)
  - Size 9-Silver/Brown x 4 pcs.
  - Size 11-Silver/Orange x 4 pcs.
  - Size 14-Silver/Red x 2 pcs.
  - 2 pcs. Double needles (No. 6749)
  - 5 pcs. Q-Needles - Blue (No. 6746)

Needle threader (No. 43780)

Accessory set (No. 68401)
- Expands your machine's uses from simple mending to detailed gathering, quilting, shirring and more. Includes hammers and guides. Presser feet let you attach braid, insert zippers and cording.

A portable case or cabinet is available

Sewing machine cabinets are available at your nearest Sears retail store or in Sears catalogs. Whenever you're ready to sew, so is your sewing place. Another option... buy a Carrying Case... then your Kenmore goes anywhere, can be stored anywhere.
2. PREPARE YOUR MACHINE FOR SEWING

Set up the machine

1. Be sure your machine is resting securely on a sturdy, flat surface.
2. Be sure to wipe off the needle plate, bed plate and bobbin case carefully before sewing a garment. Practice sewing on a scrap of fabric to absorb any dirt or grease.

Plug in the machine and switch on the power

1. a. Plug the foot control into the machine.
   b. Plug the cord into 110-120 volt A.C. wall outlet.
2. a. Turn on the power/light switch.
   b. Be sure to turn off the power/light switch if you are interrupted or stop sewing.
   NOTE: Your machine will not operate with the power/light switch off.

Set the foot control

The foot control regulates the speed of the sewing machine.
Position the foot control with your heel on the floor. The more pressure you apply to the foot control, the faster the machine will run.

Control the presser foot lever

The presser foot lever raises and lowers your presser foot.
1. Lower the presser foot lever to sew.
2. Raise the presser foot lever and the pressure of the presser foot will be released to insert or remove thin or thick fabrics.
3. Extra height of the presser foot can be obtained by lifting the presser foot thumb screw by finger to allow insertion of thicker material.
   NOTE: Presser foot pressure is set at the factory. No adjustment is required.

Load thread on the spool pin

1. a. Swing the spool pin away from you and fully to the back of the machine.
   b. Place a spool of thread on the spool pin. Secure it with a suitable size spool cap which is similar to the size of the spool, to ensure smooth flow of thread.
   NOTE: Remember to return the spool pin under the arm for storage.
2. Attach the extra spool pin on the right end of the carrying handle, when sewing with a double needle (see page 6).

Convert to free-arm sewing

Your machine has a free arm for sewing sleeves, pant legs, etc. For free-arm sewing, remove the extension table as follows:
1. Remove the extension table by pulling it to the left.
   NOTE: Here are some of the uses of this free-arm feature:
   * mend elbows and knees of garments
   * sew in sleeves, especially on small garments
   * applique, embroider, hem around edges of cuffs or pant legs
   * sew in elastic casings in skirts or pants at the waistline
2. For all other sewing, slide the table along the free arm until the pins (A and B) fit into the holes on the machine.
Insert the Bobbin into the Bobbin Case

1. Insert the bobbin into the bobbin case with the thread running counter clockwise.
2. Pull the thread through the slit in the bobbin case.
3. a. Pull the thread underneath the flat tension spring. It will click when it is in place.
   b. Pull 3 to 4 inches of the thread from the bobbin case.

Insert the Bobbin Case into the Shuttle

1. Hold the bobbin case by the latch, with the locating groove downward.
2. Place the bobbin case onto the shuttle, keeping the thread pulled toward you.
   NOTE: Be sure the notch in the shuttle fits into the groove of the bobbin case. It will click when it is in place.
3. Fold the latch to the right to lock the bobbin case in place.

Prepare the Needle

Use the correct Kenmore needles. The size of your needle should match the size of the thread and both should match the fabric. Kenmore needles are color-coded by size for your convenience. See the Needle, Thread, Fabric and Stitch Length Chart on the following page.

NOTE: 1. Never use a bent or dull needle.
2. If you do not have a Kenmore needle, use this illustration to be sure your needle is right size. Distance from the top to the eye of the needle should be this exact length.

A SPECIAL FEATURE: A "O NEEDLE"™ with a blue shank is included in your accessory box. This needle is designed especially for knits and synthetic fabrics. If your machine skips stitches when sewing these fabrics, you may want to use a "O FOOT"™ in addition to your "O NEEDLE"™. See the optional accessories on page 6.

Change the needle

1. Raise the needle bar to its highest position by turning the hand wheel toward you.
2. Loosen the needle clamp screw by turning it toward you.
3. Remove the needle by pulling it downward.
4. Insert the new needle into the needle clamp with the flat side away from you.
5. Push the needle up as far as it can go.
6. Tighten the needle clamp screw firmly with the large screw driver in your accessory box.
Needle, Thread, Fabric and Stitch Length Chart

Study this chart to help select the correct size needle to match your fabric and thread type.

<table>
<thead>
<tr>
<th>FABRIC</th>
<th>NEEDLE SIZE AND COLOR</th>
<th>THREAD TYPE</th>
<th>RECOMMENDED STITCH LENGTH SETTING</th>
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<tr>
<td>LIGHTWEIGHT: Batiste, Dimity, Chiffon, Silks, Synthetic Jerseys, Fine Lace, Organza, Crepe, Taffeta, Voile, Organdy</td>
<td>9 BROWN or 11 ORANGE</td>
<td>Polyester Core/Cotton Wrap Fine Mercerized Cotton Silk A</td>
<td>1.5</td>
</tr>
<tr>
<td>MEDIUMWEIGHT: Cotton, Cotton Blends, Percale, Gingham, Shantung, Pique, Seersucker, Satin, Knits, Vinyl, Satings, Linen, Wool Crepe, Leather</td>
<td>14 RED</td>
<td>Polyester Core/Cotton Wrap 50 Mercerized Cotton Silk A</td>
<td>2 to 1.5</td>
</tr>
<tr>
<td>MEDIUM HEAVYWEIGHT: Corduroy, Denim, Wool, Sailcloth, Wool Flannel, Gabardine, Velvets, Leather</td>
<td>14 RED or 16 PURPLE</td>
<td>Polyester Core/Cotton Wrap 50 Mercerized Cotton Mercerized Heavy Duty Silk A</td>
<td>3 to 2</td>
</tr>
<tr>
<td>HEAVYWEIGHT: Coatings, Upholstery, Cotton Duck, Heavy Twills, Canvas</td>
<td>18 GREEN</td>
<td>Polyester Core/Cotton Wrap Heavy-Duty Mercerized Cotton Polyester Synthetic Silk A</td>
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<td>Decorative top-stitching on all types of fabric</td>
<td>16 PURPLE 18 GREEN or Q BLUE</td>
<td>Buttonhole Twist</td>
<td>4</td>
</tr>
<tr>
<td>Synthetic Knits and Stretch: Polyester Double Knits, Nylon Tricot, Jersey, Stretch Terry, Spandex, Cire Tricot</td>
<td>BALL POINT 9-BROWN 11-ORANGE</td>
<td>Polyester Core/Cotton Wrap Mercerized Cotton</td>
<td>2 for Regular or 4 to 2 for Stretch Stitches</td>
</tr>
<tr>
<td>Extra Thin Synthetic Knits and Stretch</td>
<td>Q BLUE with &quot;Q FOOT&quot;</td>
<td>Polyester Core/Cotton Wrap 50 Mercerized Cotton</td>
<td>2 for Regular or 4 to 2 for Stretch Stitches</td>
</tr>
</tbody>
</table>

Prepare the Top Thread

Thread the Needle

1. Raise the presser foot lever to allow the thread to pass between the tension discs in the threading channel.
2. Raise the thread take-up lever to its highest position by rotating the hand wheel toward you.
3. Place a spool of thread on the spool pin.
4. Place the spool cap over the spool.
5. Lead the thread through the thread guide (A) and pull it toward you with your right hand until it clicks to ensure it is threaded correctly.
6. Pull the thread down into the threading channel (B) and up into the channel (C), while holding the thread with your right hand.
7. Slip the thread through the back of the take-up lever (D).
8. Pull the thread down through the channel (C) and up into the channel (D).
9. Slip the thread through either of the thread guides (E) at the base of the needle (below the needle clamp screw) and pull the thread toward you.
10. a. Thread the needle from front to back.
   b. Draw 3 to 4 inches of thread through the eye of the needle toward the back of the machine.

NOTE: Be sure the thread is running from right to left and pulled all the way forward into the rounded opening.
Pick up the Bobbin Thread

1. Raise the presser foot lever.
2. a. Hold the top thread loosely in your left hand.
   b. With your right hand, rotate the hand wheel toward you until the take-up lever has come to the top again.
3. a. Pull the top thread with your left hand to bring up the bobbin thread.
   b. Pull the bobbin thread until the end comes through the opening of the needle plate.
4. Pull both threads under the presser foot toward the back of the machine.

If you did not pick up the bobbin thread with the above steps, check your method with the questions below:

1. Is the thread through the eye of the needle (front to back) ?
2. Is the thread tangled around the needle ?
3. Is the bobbin inserted in its case with the thread running counter clockwise ?
4. Is the thread pulled underneath the bobbin case tension spring ?
5. Is the thread in the bobbin tangled ?
6. Are there 3 to 4 inches of thread coming out of the bobbin case ?

After checking all of the questions above, repeat steps 1 to 4.

Check the Thread Tension

Adjust the top thread tension

Straight stitching

The good looking appearance of your stitching is largely determined by the balanced tension of both top and bobbin threads. The tension is well balanced when these two threads ‘lock’ in the middle of layers of fabric you are sewing.

The best tension setting may vary according to the stiffness and thickness of the fabric, the number of fabric layers and the thread type and size. (For the specific setting, see the machine setting chart for straight stitch.)

If, when you start to sew, you find that the stitching is irregular, adjust the tension control.

1. Lower the presser foot lever.
2. a. If the threads are locking on the top surface with the top thread lying flat, the top thread is too tight. Slide the tension control to the left (lower numbers).
   b. If the reverse is happening with the threads on the underside of the fabric, the top thread is too loose. Slide the tension control to the right (higher numbers).

Zigzag stitching

The top thread may appear on the underside depending upon the thread, fabric, type of stitch and sewing speed, but the bobbin thread must NEVER appear on the top of the fabric. (For the specific setting for each stitch, see the machine setting charts.)

Adjust the bobbin thread tension

NOTE: You will rarely need to adjust the bobbin thread tension. Most adjustments should be made on the top thread.

1. If the tension is well balanced, but the seam puckers badly, loosen the bobbin and top thread tension.
2. a. Insert the small screw driver into the screw on the side of the bobbin case.
   b. Make only a small adjustment each time, i.e. quarter to half a turn to the right to increase tension, or to the left to decrease tension.

NOTE: Remember the original position of the screw slot to put it back for normal sewing.
Choose the Right Presser Foot

You will need to change your presser foot to match the stitch you have chosen.

Know what the presser feet will do

**Standard zigzag foot** (Fitted on the machine)
Use this foot for the general sewing with both straight and zigzag stitching.

**Straight stitch foot**
Use this foot for straight stitch or straight stretch stitch. The straight stitch foot will give greater control of the fabric and more even straight stitches.

**Satin stitch foot**
This foot is grooved to permit dense stitching to pass under it easily. Use it for appliqueing, bar tacking, embroidery and monogramming.

**Zipper foot**
This foot allows you to sew to the right or left of the zipper or close to the cord.

**Buttonhole foot**
Use with the snap-in automatic buttonhole attachment.

**Buttonhole guide foot**
Use this special foot when making built-in buttonholes. Reproducing identical size buttonholes is made easier with the aid of the graduations on the guide.

Change the presser foot

**Snap-on presser feet**
1. Bring the needle to the up position.
2. Raise the presser foot lever.
3. Push the foot release lever and the presser foot will drop off.

4. Place the new foot on the needle plate aligning needle holes.
5. Lower the presser foot lever so that the presser foot holder snaps onto the foot.
6. Push down the presser foot thumb screw to engage the foot holder and the foot securely.

**Screw-type presser feet**
To use some accessory feet (see page 6), you may need to remove the presser foot holder.
1. Bring the needle to the up position.
2. Raise the presser foot lever.
3. Turn the presser foot thumb screw toward the back of the machine using the large screwdriver.
4. Remove the presser foot holder.
5. Insert the new foot.
6. a. Lower the presser foot lever.
   b. Tighten the thumb screw using the screwdriver to fit the foot securely.
3. LEARN TO USE THE CONTROLS

Use the Feed Cover Plate

The feed dogs automatically feed the fabric. If you want to prevent the feed dogs from feeding the fabric, use the Feed Cover Plate which covers the feed dogs so that they do not touch the fabric.

**NOTE:** Use the feed cover plate when sewing on buttons, making buttonholes with the snap-in automatic buttonholer and darning.

1. Insert the two knobs on the feed cover plate into the two holes on the fabric feed area. The curved corners will be toward you when it is in place.

Use the Double Needle*

Place the second spool of thread on the extra spool pin, and thread the machine as you would for a single needle except the double thread guides provided below the needle clamp screw. Draw one thread through each of these and through each side of the needle from front to back. Make certain threads are not crossed.

The stitch width control must never be set beyond 3 (See page 22).

* See the optional accessories on page 6.

Your machine has many special features to make your sewing both easy and accurate. Take a minute to look at the three controls that regulate your stitches.

Stitch Selector

Your sewing machine can make a variety of stitches. They are pictured on the Stitch Selector Dial. In addition, there are three buttonhole steps pictured on the dial also.

**NOTE:** Beginning on page 24, you will find detailed instructions on the use of each stitch.

Stitch Length Control

To lengthen a stitch, turn the dial toward you. To shorten a stitch, turn the dial away from you. In the indicator window you will see numbers 0 - 4. THE HIGHER THE NUMBER - THE LONGER THE STITCH. The numbers in the indicator window and the approximate numbers of stitches per inch they produce are indicated below. These conversions do not apply to stitches except straight and zigzag stitches.

**NOTE:** Study the orange, green, yellow and blue sections on this control. These are recommend ranges of stitch length and color-coded to the stitches pictured on the Stitch Selector. The orange bold line between 1 and 0 is the setting used for the shortest stitches such as in satin stitch.
4. PRACTICE GOOD HABITS

Stitch Width Control
The width of all stitches produced on this machine (except the straight stitch) can be made narrower or wider by adjusting the stitch width control.
To decrease or increase the width of a stitch, slide the stitch width control from 1 - 5. The higher the number the wider the stitch.
When straight stitching, set this control at “1” to achieve uniform straight stitches.
NOTE: Study the colored sections on this control. These are recommended ranges of stitch width and color-coded to the stitches pictured on the Stitch Selector.
When sewing with the double needle,* the stitch width control must never be set beyond 3. Or the double needle will hit the needle plate and break.
* See the optional accessories on page 6.

Reverse Stitch Lever
Push down and hold the lever to reverse the direction of your stitches. The machine will go forward again when you release the lever.

BACKTACKING
Secure your seams by taking the first few stitches in reverse. Then allow the machine to go forward. This is called backtacking. Reverse the machine at the end of your seams as well.

Seam Guide Lines
The needle plate is marked with seam guide lines to help you stitch straight seams.
The standard 5/8” lines are bolder for your convenience.
The dimensions indicate the distance from the straight stitch needle position.
The cross lines are cornering guides to help you make square corners. See page 26 for detailed cornering instructions.

Before you begin to sew
1. Check the needle:
a. Is it inserted properly? (See page 13)
b. Is it the correct size for your fabric? (See the chart on page 14)
c. Is it threaded properly? (See page 15)
d. Is it straight and sharp?
NOTE: Many synthetic fabrics dull your needle quickly. Be sure to replace needles often.
2. Check the threads:
a. Are they both on top of the needle plate surface?

When you begin to sew
1. Test the machine on a scrap of material.
a. Always begin your first stitches by turning the hand wheel toward you to lower the needle into the fabric.
b. Run the machine at a slow, even speed. The more pressure you apply to the foot control, the faster the machine will stitch.
c. Adjust the tension control if necessary. (See page 17)
d. Backtack at the beginning and end of each seam. (See page 22)
e. Finish sewing with the needle at its highest position except cornering.
f. Guide the fabric gently. Do not pull. The machine will feed the material at its own speed.
g. Always turn the hand wheel toward you, never away from you.

NOW YOU'RE READY TO LEARN THE STITCHES. PLEASE TURN TO THE NEXT PAGE.
5. LEARN TO USE THE STITCHES

Machine Setting Chart

The following pages will show you how to:
1. Set the Stitch Selector.
2. Set the Stitch Length Control.
3. Set the Stitch Width Control.
4. Set the top thread tension control.

NOTE: Machine settings are graphically shown for your quick reference.

Simply following the illustrated charts, select and sew a variety of stitches shown below.

5. Use the stitch correctly.

NOTE: You may want to use fabric scraps to experiment with these stitches. This manual will show you the best uses of these stitches.

Straight Stitches

- Top thread tension control
- Stitch width control
- Stitch selector
- Presser foot
- Stitch length control

*NOTE: For most straight stitching, the straight foot will give you best control. You may use the zigzag foot if you prefer.

NOTE: Always begin your first stitches by turning the hand wheel toward you to lower the needle into the fabric.

Use this stitch to perform the following tasks:

Sewing a Straight Seam

NOTE: Use the instructions that follow as general rules for handling your machine, regardless of the particular stitch you are using.

1. Backtack (see page 22) by beginning 1/2 inch from the beginning of the seam.
2. For 5/8 inch seam, line up the edge of the fabric where the seam guide is marked.
3. Backtack at the end of each seam.
4. a. Turn the hand wheel to raise the needle to its highest position.
   b. Raise the presser foot by pushing the presser foot lever up.
   c. Pull the material toward the back or side of the machine.
   d. Use the thread cutter on the presser foot release lever to cut off excess threads.
Square the Corner 5/8" from the fabric edge

1. a. Stop stitching your 5/8 inch seam when the fabric is even with the cornering guide (cross marks).
   b. Leave the needle in the fabric.
2. a. Lift the presser foot.
   b. Turn the fabric so that the unstitched side is lined up with the seam guide.
   c. Lower the presser foot and stitch in the new direction.

Top-stitching

Top-stitching improves the appearance of a tailored garment and at the same time holds facings in place.

You may want to stitch with a thread of contrasting color to your fabric.
1. Set the stitch length at 3 - 4.
2. Stitch 3/8 inch from the edge on top of the fabric.

Darning

1. a. Attach the feed cover plate (see page 20).
   b. Remove the presser foot holder (see page 19).
   c. Stretch the fabric with the hole in the center between embroidery hoops as shown.
2. Lower the presser foot lever and sew at a slow speed.
3. Move the fabric back and forth with a steady rhythm until you have covered the darning area.
4. When the area is covered, turn the fabric so that you can repeat the procedure across the first stitches.

NOTE: If the garment is badly damaged, you may want to put a separate piece of fabric under the hole to reinforce it.

Basting

1. Set the stitch length control at 4.
2. Set the top thread tension control at 1 - 2 to facilitate pulling out bobbin thread.
3. Insert pins at right angles to the seam line, with the tip of pins just touching the seam line.

NOTE: Pins must not come in contact with the feed dogs. Never pin on the underside of the fabric.
4. Sew over the tip of pins slowly.

NOTE: If in doubt about sewing over pins, remove each pin as you approach it.

Gathering

1. Set the stitch length control at 4.
2. Set the top thread tension control at 1 - 2.
3. Sew one or as many rows of parallel stitches as required, but do not backstitch at the beginnings and ends of the rows.
4. Remove the fabric and draw up the bobbin thread to gather the fabric to the required length or fullness.
Overcasting stitch

Use this stitch to keep seams or fabric from raveling.

NOTE: To reinforce seams with overcasting, it is recommended to use the three-step zigzag (see page 33).

1. Stitch so that the point of the zigzag clears the raw edge of the fabric.

Applique

To applique a design on a sewing project or garment:
1. Baste the applique to the top of your fabric.
2. Then use satin stitch to attach permanently. You may want to use a contrasting color thread.

NOTE: For best results, be sure your satin stitch covers the bottom fabric and the top fabric.

Satin stitch

Closely spaced zigzag stitches are called satin stitches.

Use this stitch for bar tacking, appliqueing, embroidery and monogramming.

1. Set the stitch length control at the orange line between 0 and 1.
2. Use the satin stitch foot which is grooved to permit dense stitching to pass under it easily.

NOTE: You may need to loosen the top thread tension to prevent puckering. The wider the stitch, the looser the tension should be. (See page 17.)

Use tissue paper or interfacing beneath a soft fabric to improve the appearance of this stitch.

Practice the stitch on a piece of the fabric you will use before actually stitching your sewing project.

Bar tacking

Use this stitch to reinforce points of strain such as corners of pockets and straps on lingerie.

1. Set same as satin stitch.
2. Sew 4 to 6 zigzag stitches on top of the fabric.

Embroidery and Monogramming

Satin stitch method

Satin stitch can be used to produce many different designs and patterns.

1. Set controls the same as for satin stitch.
2. Back the fabric with paper or interfacing.
3. Draw the design on to the fabric with tailor's chalk.
4. Satin stitch, adjusting the stitch width as necessary to form each pattern.
5. If using paper, carefully remove it when you have finished sewing.

Free hand method

1. a. Attach the feed cover plate (see page 20).
b. Remove the presser foot holder (see page 19).
c. Set the stitch width at 1 to 5 as desired.
2. Draw the design on to the fabric with tailor's chalk.
3. Stretch the fabric between embroidery hoops and place under the needle.
4. Lower the presser foot lever to engage the top thread tension.
5. a. Holding the top thread in your left hand, rotate the hand wheel toward you one complete turn.
b. Pull the top thread to draw the bobbin thread through to the surface of the fabric.
6. Using a medium speed, stitch along the marked outline, guiding the fabric carefully by hands.
Button sewing

1. Attach the feed cover plate (see page 20).
2. Use clear tape to fix the button on your fabric before stitching.

   NOTE: When sewing a flat button, place a pin between the holes so your button will be loose enough for easy buttoning.

3. Align the two holes of the button with the slot of the presser foot.
4. Lower the presser foot.
5. Turn the hand wheel by hand until the needle point is just above the button.
6. Adjust the stitch width control so the needle will enter one hole of the button.
7. Turn the hand wheel again so the needle will enter the second hole. Readjust the stitch width if necessary.
8. Stitch several times.
9. Leave 2 inches of thread after stitching.
10. Pull these threads under the fabric and tie securely.

Three-step Zigzag

Top thread tension control

Stitch width control

Stitch selector

Stitch length control

Presser foot

Zigzag foot

NOTE: Three-step zigzag takes three short stitches, compared to the regular zigzag which takes one.

Use this stitch to mend a tear or to overcast a raw edge.

To Mend:

1. Put a piece of fabric under the tear to be mended.
2. Stitch so that the fabric on both sides of the tear is caught by the points of the stitch.

To Overcast:

NOTE: See the instructions on page 30 for zigzag stitch overcasting. The three-step overcasting stitch is stronger than the regular zigzag overcast stitch. Use this stitch to keep fabric from puckering.
Blind Hem

Top thread tension control
3 - 6

Stitch width control
1.2.3.4.5
2 - 5 (Green range)

Stitch selector

Stitch length control
2 or green range

Presser foot

Zigzag foot

* For easier blind hemming it is recommended to use the adjustable blind hem foot, optional accessory item No. 6886 (see page 6).

3. a. With the wrong side up, place the fabric under the foot.
b. Lower the presser foot.
c. Stitch so that the needle just pierces the fold when the needle swings to the left.

4. Unfold the garment and press the hem flat.

Use this stitch on garments and especially on curtains and drapery hems so that stitches need not show on the front of the fabric.

1. Finish the raw edges, depending on what you are sewing and the nature of fabric.

   NOTE: For light weight fabrics, you may need a double fold.

   The hem should be pressed and pinned in place.

2. a. Fold the garment away from the hem.
b. Leave 1/8 inch of the hem edge exposed.
**Box Stitch**

- Top thread tension control
- Stitch width control
- Stitch selector

- Presser foot
- Zigzag foot

Use this stitch to sew flat overlapped seams or to decorate a finished edge on lingerie or nightwear.

**To Sew Overlapped Seams:**
1. a. Overlap the raw edges of two pieces of fabric.
   b. Stitch so that the stitches pierce both pieces of fabric on the left and right sides.

**To Make a Decorative edge:**
1. Stitch close to the folded edge of your garment with a matching or contrasting thread to create a bold look.

---

**Shell Stitch**

- Top thread tension control
- Stitch width control
- Stitch selector

- Presser foot
- Zigzag foot

* Use this stitch to finish the edges, hems, sleeves and neck opening of lingerie or nightwear.

Form the shell stitch by sewing over the folded fabric.

**For best results:**
1. You may need to tighten the top thread tension slightly.
2. Allow the needle to just clear the folded edge of the fabric when it zigzags.

**NOTE:** If you sew rows of shell stitches, space the rows 1/2 inch apart.

Two types of shell stitches are built into your machine:

- Regular shell stitch which produces a tiny shell hem on lingerie and other fine garments.
- Two-point shell stitch to be used for bigger size of shell pattern. (Model 14502 only)
Stretch Stitches

Top thread tension control
Stitch width control
Stitch selector
Stitch length control
Presser foot
Zigzag foot

These seven stitches are built into your machine to use with stretch and knit fabrics:

1. Straight stretch stitch
2. Rick-rack stretch
3. Smocking stretch
4. Overcast stretch
5. Serging or pine leaf stretch
6. Elastic stretch
7. Overlock stretch (Model 14502 only)

NOTE: For best results, use the "Q NEEDLE" and "Q FOOT" for sewing on knit and synthetic fabrics. See the optional parts list on page 6.

Ultra Stitch

Depending upon your preference in stitch patterns, Ultra Stitch enables you to make stretch stitches closer together without changing the balance of forward and reverse motion stitches by turning the stitch length control within the yellow range.

Where to Use Which Stretch Stitch: A Check-Chart

Some Stretchy Suggestions...

1. To keep loosely constructed knits from catching on the toes of the presser foot, wrap a short strip of transparent tape of the presser foot encasing both toes.
2. To avoid tangled threads, start seams carefully. Position your fabric and lower your needle before lowering the presser foot.
3. Test the thread tension and stitch on a scrap of the same fabric you will use.
4. Knits contain more yarn (and more lint) than woven fabrics. Check often and clean the bobbin case area.

SUITABLE FOR STRETCH FABRICS

<table>
<thead>
<tr>
<th>Stitch Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRAIGHT STRETCH</td>
<td>A basic multi-purpose stretch stitch with same usage as zigzag stitch, especially for lightweight stretch fabrics.</td>
</tr>
<tr>
<td>RICK-RACK STRETCH</td>
<td>A decorative stitch for use on children’s clothing, lingerie, yokes of blouses, dress bodice.</td>
</tr>
<tr>
<td>SMOKING STRETCH</td>
<td>Use to apply elastic to lingerie or to repair readymade lingerie and replace or restitch elastic.</td>
</tr>
<tr>
<td>ELASTIC STRETCH</td>
<td>Use on sportswear where 1/4” seams are required. Makes and finishes seams at same time.</td>
</tr>
<tr>
<td>OVERCAST STRETCH</td>
<td>Use to overcast loosely constructed knits or woven fabrics.</td>
</tr>
<tr>
<td>OVERLOCK STITCH</td>
<td>Use for overcasting fabrics that ravel or fray easily… and for seams that need a great deal of stretch (i.e. swimwear, other sportswear, girdles). Also good-looking!</td>
</tr>
<tr>
<td>SERGING OR PINE LEAF</td>
<td></td>
</tr>
</tbody>
</table>

BASIC STITCHES WITH STRETCH APPLICATIONS

<table>
<thead>
<tr>
<th>Stitch Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAIN ZIGZAG</td>
<td>A good finishing stitch for nylon tricot lingerie.</td>
</tr>
<tr>
<td>SHELL STITCHES</td>
<td></td>
</tr>
</tbody>
</table>
**Tips on Sewing Different Fabrics**

The chart below provides many details but you'll also want to remember...

- Soft or fine fabrics may require a backing or interfacing of paper, especially where stitches are close together.
- When sewing knits use a strong, fine thread together with "Q NEEDLE™".

<table>
<thead>
<tr>
<th>FABRICS</th>
<th>USEFUL STITCHES TO USE</th>
<th>SPECIAL NOTIONS TO USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYLON TRICOT</td>
<td>Serging stretch</td>
<td>&quot;Q NEEDLE™&quot;™ Polyester, nylon or dacron core thread &quot;Q FOOT™™*</td>
</tr>
<tr>
<td></td>
<td>Overcast stretch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overlock stretch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elastic stretch (for sewing on elastic)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blind hem</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Three-step zigzag</td>
<td></td>
</tr>
<tr>
<td>TERRY CLOTH OR REGULAR CORDUROY</td>
<td>Simple zigzag</td>
<td>Mercerized thread</td>
</tr>
<tr>
<td></td>
<td>Three-step zigzag</td>
<td>Size 14 needle</td>
</tr>
<tr>
<td>TERRY CLOTH STRETCH</td>
<td>Simple zigzag</td>
<td>Mercerized thread</td>
</tr>
<tr>
<td></td>
<td>Three-step zigzag</td>
<td>Polyester, nylon or dacron core thread &quot;Q NEEDLE™™  &quot;Q FOOT™™*</td>
</tr>
<tr>
<td></td>
<td>Overcast stretch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serging stretch</td>
<td></td>
</tr>
<tr>
<td>LEATHER</td>
<td>Straight or simple zigzag</td>
<td>Mercerized or silk thread</td>
</tr>
<tr>
<td></td>
<td>Size 14 needle</td>
<td>Even feed foot*</td>
</tr>
<tr>
<td>STRETCH KNITS FOR SWIMWEAR AND SKI WEAR OR GIRDLES</td>
<td>Serging stretch</td>
<td>Polyester, nylon or dacron core thread &quot;Q NEEDLE™™  &quot;Q FOOT™™*</td>
</tr>
<tr>
<td></td>
<td>Overcast stretch</td>
<td>Lace seam tape</td>
</tr>
<tr>
<td></td>
<td>Elastic stretch</td>
<td>Pre-shrunk zippers</td>
</tr>
<tr>
<td></td>
<td>Three-step zigzag</td>
<td></td>
</tr>
</tbody>
</table>

*See the optional accessories on page 6.

**Straight Stretch Stitch**

Use this stitch to strengthen curved seams on all fabrics or to do all straight stitching on knit or synthetic fabrics.

1. Sew as you do with the regular straight stitch.

**Rick-Rack Stretch Stitch**

Use this stitch for knits and synthetic fabrics whenever you want a zigzag stitch. Also use this stitch as a decorative top stitch.

1. Sew as you do with the regular zigzag stitches.

**Smocking Stretch Stitch**

Use this stitch as a decorative stitch. Also choose this stitch to bind gathers with a smocking pattern.

**NOTE:** You should have the fabric gathered before using this stitch.

1. Pin a narrow strip of fabric under the line where you will bind gathers.
2. Stitch over the gathers through to the strip of fabric beneath.

**NOTE:** Complete the smocking of your fabric before sewing it to the garment.
Overcast Stretch Stitch

Use this stitch to seam and finish the raw edge at the same time or to repair raw or worn edges of older garments.

1. To seam and overcast at the same time, you must have the raw edges of your fabric to the right of your needle.

NOTE: To achieve this same effect, the serging stretch or overlock stretch stitch can be used with the raw edges on the left side of the needle.

Serging or Pine Leaf Stretch Stitch

Use this stitch to produce a narrow, supple seam, particularly suited to swimwear, sportswear, T-shirts, babywear in stretch fabrics and to seam or alter knitted clothes.

Elastic Stretch Stitch

Use this stitch to attach elastic to garments.

1. Mark the elastic into quarters and match these to the center front, center back and side seams.

2. Place the middle of the elastic under the center of the presser foot and stitch into place, making sure the elastic is evenly distributed.

Overlock Stretch Stitch

(Model 14502 only)

Use this stitch to overcast loosely constructed knits or woven fabrics, because threads lock in the middle to reinforce seams for more durability.
6. LEARNING TO SEW BUTTONHOLERS

There are two methods of making buttonholes in your Kenmore sewing machine. You may use the built-in system or you may use the snap-in automatic buttonhole attachment system.

Choose the buttonhole style

1. Built-in buttonholes (rectangular)
   Choose this style for waistband, cuffs, belt slots or where you will need only one or two buttons.

2. Round end buttonholes (Template No. 65660, 65661)
   Choose this style for series of buttonholes on dresses, blouses, vests, jackets or coats.

3. Keyhole buttonholes (Template No. 65662)
   Choose this style for tailored vests, jackets, coats or any time you need more room for button shank.

Tips on buttonholing

Always make a practice buttonhole on a scrap of fabric you plan to use. Try the buttonhole with the button you will use. Always use an interfacing in area of garment where buttonholes are placed.

Tissue paper or regular interfacing can be used. Tear paper away after stitching, if it is used.

For heavier weight fabrics, loosen your top thread tension slightly.

Built-in Method

Top thread tension control

Stitch width control

Stitch selector

Presser foot

Buttonhole guide foot

Stitch length control

Blue buttonhole range

Adjust the stitch width

You may adjust the width of the sides and the space in the center within the blue range (3.5 - 4.5) as shown, depending upon fabric and buttonhole length.

The space gets wider for wider buttonhole.

Adjust the stitch density

Depending upon your fabric or your own preference in buttonholes, you may alter the buttonhole stitch density within the blue buttonhole range on the stitch length control.

1. For more density, turn the control toward "1".
2. For less density, turn the control toward "3".
Make the Buttonhole

1. a. Carefully mark the buttonhole length on your garment.
   b. Pull the guide foot all the way forward.
   c. Insert the garment under the foot with the buttonhole marking running toward you.

NOTE: Line up the markings on both sides of the buttonhole guide foot with the length you have marked to help you stitch accurately. Markings are engraved in inches at the left side and in millimeters at the right side.

2. a. Set the stitch selector at .
   b. Sew 4 to 6 stitches.
   c. Stop sewing at the left stitch.

3. a. Set the stitch selector at .
   b. Sew forward until you reach the front marking of your buttonhole.
   c. Stop sewing at the left stitch.

4. a. Set the stitch selector at .
   b. Sew 4 to 6 stitches.
   c. Stop sewing at the right stitch.

5. a. Set the stitch selector at .
   b. Sew until you reach the back of the buttonhole.
   c. Remove the fabric and cut the hole open with the buttonhole opener in the accessory box.

Corded Buttonholes

Corded buttonholes are a stronger type of regular buttonhole.

1. Cut a length of cord (crotchet thread or buttonhole twist) about twice the length of the buttonhole guide foot.
2. Fold the cord in half.
3. Hook the cord at its midpoint on spur (A).
4. Pull both ends of the cord backward under the buttonhole guide foot and tie to spur (B).
5. Sew your buttonhole so that the stitching covers the cord.
6. When stitching is complete, release the cord from the spurs, pull the ends toward spur (B) and snip off the extra length.
Buttonhole Attachment System

For more varied and accurate buttonholes, you will enjoy using the buttonhole attachment and templates. Know the parts and read carefully how to set up your machine properly. The following parts are included in the buttonhole attachment system.

Set up the machine

1. Remove the extension table.
2. Open the bobbin access cover.
3. Raise the needle to its highest position.
4. Remove the presser foot.
5. Position the feed cover plate in place.
6. Make sure the lock lever of the buttonhole adapter is pulled forward in the release position. Push it down and pull forward if needed.
7. Pulling the density control knob toward you, insert the two hooks of the buttonhole adapter between the two pins located under the needle plate.
8. Push the lock lever away from you until the adapter snaps into place.

Stitch width control

Top thread tension control

Stitch selector

Stitch length control

Not necessary to adjust

Guides:
- Guide slots
- Template advance knob
- Buttonhole guide plate
- Hook
- Density control knob
- Gear
- Lock lever
- Buttonhole adapter
- Window

3 Templates

Buttonhole foot

Feed cover plate on needle plate

Pins

Density control knob

Lock lever

Hooks
3. a. When you have selected the template with the size and style buttonhole you need, slide the template into the guide plate under the knob, so that the stamped letters on the template face up.
   b. Turn the template knob until the size buttonhole you have chosen appears in the window of the guide plate.

4. Slip the guide plate onto the machine so that:
   a. the gear on top of the adapter fits into the template arc, which shows in the window of the guide plate, and
   b. the guide blocks fit into the guide slots.

5. a. Attach the buttonhole foot.
   b. Pull the bobbin thread up through the feed cover plate by turning the hand wheel toward you and holding the needle thread.

Make the Buttonhole

1. a. Mark your buttonhole position carefully on the garment.
   b. Insert your garment between the guide plate and the presser foot.
   c. Pierce the fabric with the needle at the far end of the buttonhole.
   d. Line up your fabric edge with the measurement markings on the far end of the guide plate.

NOTE: If you want your buttonhole to be 1/2 inch from the garment edge, line up the fabric with the 1/2 inch markings each time you start to sew a buttonhole.

2. a. Lower the presser foot.
   b. Start sewing slowly.
   c. Allow the machine to do the work by itself. (Do not try to guide the fabric.)
   d. Stop sewing when the needle returns to the position where it begins.

3. Release the buttonhole adapter by pushing down and pulling the lock lever.

You may alter the closeness of the stitches by turning the density control knob on the buttonhole adapter.

   a. Toward you for more density.
   b. Away from you for less density.
7. CARE FOR YOUR MACHINE

Change the light bulb

1. Unplug the machine.
2. a. Using the screw driver, push down the lever located behind the presser bar and the bulb will come out.
   b. Push the lever to the right to lock.
3. a. Push up the bulb and turn slightly to the left.
   b. Pull down to remove it.
4. a. Insert the new bulb and turn it with some upward pressure until it stops.
   b. Push up the bulb and turn to the right to lock into place.
5. Push the lever back to the left and then up into the machine.

Clean the shuttle

1. Unplug the machine.
2. a. Use your forefinger and thumb to pull open the latch on the bobbin case.
   b. Pull the bobbin case out of the shuttle.
   (Fig. 1)
3. a. Turn the hand wheel until the open side of the retainer is at the top.
   b. Turn the retainer counter clockwise with your forefinger and thumb while holding the hand wheel, and it will be released.
   (Fig. 2)
   c. Remove the retainer and bobbin case holder from the shuttle. (Fig. 3)
4. Clean the shuttle area with the lint brush.
   NOTE: Put a drop of sewing machine oil on the shuttle raceway (see Fig. 3) occasionally after thorough cleaning.
   *See the optional accessories on page 6.
5. Turn the hand wheel until the open side of the shuttle is at the top.
6. Insert the bobbin case holder into the shuttle so that the locating pin fits into the locating groove.
7. a. Replace the retainer aligning the two latch springs of the shuttle with the cut-out portions of the retainer.
   b. Turn the retainer clockwise while holding the hand wheel, until it is secured by the two latch springs.
8. Replace the bobbin case.

Clean your machine

Factory lubricated parts will provide years of household sewing without routine oiling. To retain the high quality level built in your machine, clean it regularly. Watch for lint collecting around the needlebar, bobbin case holder locating pin and feed dogs. Whenever changing the bobbin or needle, observe these areas and clean as necessary. Sears service technicians will routinely check for possible lubrication needs whenever your machine requires service.

Clean the feed dogs

1. Unplug the machine and remove the presser foot.
2. Remove the needle plate by loosening the two screws with the large screw driver.
3. Use the brush to remove the lint that accumulates in and around the feed dogs and shuttle area.

ONE DROP OF SEWING MACHINE OIL
Your sewing machine is a precision instrument, designed to give you many years of troublefree sewing - with minimum maintenance. If you have any performance problem, check the list below and you'll be able to solve the problem yourself.

### GENERAL PROBLEMS
Machine does not sew.
* Hand wheel or clutch knob is not returned to stitching position. — Push in or tighten clutch (see page 10).
* Power line cord is not connected. — Check plug.
* Power/light switch turned off. — Turn on the switch.

Machine jams/knocks.
* Thread is caught in shuttle. — Clean shuttle (see page 53).
* Needle is damaged. — Replace needle (see page 13).

Fabric does not move.
* Presser foot not lowered. — Lower presser foot.
* Stitch length control is set at 0. — Set it at 1 to 4.
* Feed cover plate is attached. — Remove feed cover plate.
* Thread is knotted under fabric.

### STITCHING PROBLEMS
Machine skips stitches.
* Needle size is not correct for thread and fabric. — See page 14.
* Fabric is a certain knit or synthetic. — Use "O NEEDLE" w and "O FOOT" w.
* Needle is bent or blunt. — Replace needle (see page 13).
* Needle is not all the way up into needle clamp. — See page 13.
* Top thread tension is too tight. — Decrease top thread tension.
* Machine is not threaded correctly. — See page 12 and 15.
* Thread is caught in shuttle. — Clean shuttle (see page 53).

Stitches are irregular.
* Needle size is not correct for thread and fabric. — See page 14.
* Machine is not threaded correctly. — See page 12 and 15.
* Top thread tension is too loose. — Increase top thread tension.
* Fabric is being pulled or pushed against machine feeding action. — Guide it gently.
* Bobbin has not been wound evenly. — Rewind bobbin.
* There are nicks or burrs at needle plate opening. — Replace needle plate or smooth burrs with extra fine Emory cloth.

### Thread Problems
Thread bunches.
* Top and bobbin threads are not drawn back under presser foot before starting seam. — Draw both threads back under presser foot about 4 inches and hold until a few stitches are formed.

Needle thread breaks.
* Machine is started too fast. — Start to stitch at a slow speed.
* Machine is not threaded correctly. — See page 15.
* Top thread tension is too tight. — Decrease top thread tension.
* Needle size not correct for thread and fabric. — See page 14.
* Eye of needle has sharp edges. — Replace needle.
* There are nicks or burrs at needle plate opening. — Replace needle plate or smooth burrs with extra fine Emory cloth.

Bobbin thread breaks.
* Bobbin case is not threaded correctly. — See page 12.
* Lint accumulates in bobbin case or shuttle. — Remove lint (see page 53).

Fabric puckers.
* Top and bobbin thread tensions are too tight. — Adjust thread tensions (see page 17).
* Two different sizes or types of thread are used. — Use same size and types of thread on top and in bobbin.
* Needle is bent or blunt. — Replace needle.
* Stitch length is too long for sheer or soft fabric. — Shorten stitch length or use underlay of tissue paper.
* Presser foot holder is not fastened securely. — Retighten presser foot thumb screw.