This household sewing machine is designed to comply with IEC/EN 60335-2-28 and UL1594

IMPORTANT SAFETY INSTRUCTIONS
When using an electrical appliance, basic safety precautions should always be followed, including the following:

Read all instructions before using this household sewing machine.

DANGER - To reduce the risk of electric shock:
• A sewing machine should never be left unattended when plugged in. Always unplug this sewing machine from the electric outlet immediately after using and before cleaning.
• Always unplug before relamping. Replace bulb with same type rated 15 Watt.

WARNING - To reduce the risk of burns, fire, electric shock, or injury to persons:
• This sewing machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the sewing machine by a person responsible for their safety.
• Children should be supervised to ensure that they do not play with the sewing machine.
• Use this sewing machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as contained in this manual.
• Never operate this sewing machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the sewing machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.
• Never operate the sewing machine with any air openings blocked. Keep ventilation openings of the sewing machine and foot controller free from the accumulation of lint, dust, and loose cloth.
• Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
• Always use the proper needle plate. The wrong plate can cause the needle to break.
• Do not use bent needles.
• Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
• Switch the sewing machine off (“0”) when making any adjustment in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot, etc.
• Always unplug sewing machine from the electrical outlet when removing covers, lubricating, or when making any other user servicing adjustments mentioned in the instruction manual.
• Never drop or insert any object into any opening.
• Do not use outdoors.
• Do not operate where aerosol (spray) products are being used or where oxygen is being administrated.
• To disconnect, turn all controls to the off (“0”) position, then remove plug from outlet.
• Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.

SAVE THESE INSTRUCTIONS

For the USA and Canada
This sewing machine has a polarized plug (one blade wider than the other). To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.
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Name of parts (Model 224)

01. Bobbin winder stopper
02. Bobbin winder spindle
03. Extra spool pin mounting hole
04. Spool holder
05. Spool pin
06. Thread tension dial
07. Thread take-up lever
08. Pressure adjusting dial
09. Face plate
10. Thread cutter
11. Needle threader
12. Needle plate
13. Extension table
14. Hook cover plate
15. Hook cover plate release button
16. Up/down needle position button
17. Reverse stitch button
18. Speed setting lever
19. Pattern selector dial
20. Stitch length dial
21. Pattern indicating window
22. Zigzag width control lever
23. Presser foot
24. Needle
25. Needle clamp screw
26. Foot holder
27. Thumb screw
28. Carrying handle
29. Handwheel
30. Feed balance dial
31. Power switch
32. Machine sockets
33. Drop feed lever
34. Free arm
35. Buttonhole lever
36. Presser foot lifter
Name of parts (Model 219)

01. Bobbin winder stopper
02. Bobbin winder spindle
03. Extra spool pin mounting hole
04. Spool holder
05. Spool pin
06. Thread tension dial
07. Thread take-up lever
08. Pressure adjusting dial
09. Face plate
10. Thread cutter
11. Needle plate
12. Extension table
13. Hook cover plate
14. Hook cover plate release button
15. Reverse stitch button
16. Pattern selector dial
17. Stitch length dial
18. Pattern indicating window
19. Zigzag width control lever
20. Presser foot
21. Needle
22. Needle clamp screw
23. Foot holder
24. Thumb screw
25. Carrying handle
26. Handwheel
27. Feed balance dial
28. Power switch
29. Machine socket
30. Drop feed lever
31. Free arm
32. Buttonhole lever
33. Presser foot lifter
**Extension Table**

The extension table provides added sewing surface and can be easily removed for free arm sewing.

**For free arm sewing**

Remove the extension table by pulling it away from the machine, as illustrated.

(1) Pin
(2) Hole

**To Store Foot Control**

1. Insert the foot control in the extension table.  
2. Plug the cord into the holes on the table.  
   (1) Plug  
   (2) Holes  
3. Fold the cord as illustrated and store in the table.  
   (3) Cord
Standard Accessories

01. C: Overcast foot
02. E: Zipper foot
03. G: Blind hem foot
04. B: Transparent buttonsewing/button hole foot
05. R: Automatic buttonhole foot
06. Set of needles
07. Bobbins
08. Screwdriver
09. Lint brush
10. Seam ripper
11. Quilter´s guide
12. Large spool holder
13. Small spool holder
14. Additional spool pin
15. Spool pin felt

16. Storage place
(Open the extension table and store the standard accessories.)
GETTING READY TO SEW

Connecting the Machine to the Power Supply (for Model 224)

⚠️ After switching off the power, connect the plugs in the order of 2, 4 and 6.

1. Power switch
2. Foot control plug
3. Foot control socket
4. Machine power plug
5. Machine power socket
6. Power supply plug
7. Wall outlet

Connecting the Machine to the Power Supply (for Model 219)

Before connecting the power, make sure the voltage and frequency of the machine conform to your electrical power supply. Switch off the power, fit the nonreversible plug into the machine socket and connect the power supply plug. Switch on the power.

1. Power switch
2. Machine power plug
3. Machine power socket
4. Power supply plug
5. Wall outlet
Controlling Sewing Speed

**Speed Setting Lever (for Model 224)**
The maximum sewing speed can be controlled by the speed setting lever.

**Foot Controller (Model 224)**
Sewing speed can be varied by the foot control.
Foot controller type C-21365 for use with sewing machine Model 224

**Foot Controller (Model 219)**
Sewing speed can be varied by the foot control.
Foot controller type YC-482J (for USA and Canada only) or YC-190 for use with sewing machine Model 219

**Note:** Some fabrics have a lot of excess dye which can cause discoloration on other fabric but also on your sewing machine. This discoloring may be very difficult or impossible to remove.

Fleece and denim fabric in especially red and blue often contain a lot of excess dye.

If you suspect that your fabric/ready-to-wear garment contains a lot of excess dye, always pre-wash it before sewing/embroidering to avoid the discoloring.
**Needle Up/Down Position Button (for Model 224)**

When you press this button, the needle will go up or down. If the needle is up and you press this button, the needle will go down to its lowest position. If the needle is down and you press this button, the needle will go up to its highest position.

**Reverse Stitch Button**

As long as you keep the reverse stitch button depressed, the machine sews backwards.

**Presser foot Pressure Adjusting Dial**

The presser foot pressure adjusting dial should be set at 3 for regular sewing. Reduce the pressure to 2 for applique, cutwork, drawnwork, basting and embroidery for better maneuverability of fabric.

Velours and knits with a lot of stretch may require a 1 setting.
Dropping the Feed Teeth
* For button sewing and free motion sewing, drop the feed teeth.
* When finished sewing, raise the feed teeth.

Drop feed lever is located to the back and underneath the free arm bed.

1. To raise the feed teeth.
2. To drop the feed teeth.

Note: *The feed teeth must always be up for normal sewing.*

Sewing Light
The sewing light is located behind the face plate. To change the bulb, take the face plate off the sewing machine by removing the set screw.

⚠️ Caution: *Unplug the power supply before changing the bulb and wait until the bulb has cooled down before touching it.*

(1) **Model 224 (12V, 5W)**
To remove ........ Draw out slowly
To replace ........ Push in

(2) **Model 219 (15W)**
To remove ........ Push and twist to the left.
To replace ........ Push and twist to the right.
Presser Foot Lifter

The presser foot lifter raises and lowers your presser foot.

You can raise it about 0.6 cm (1/4”) higher than the normal raised position for easy removal of the presser foot or to help you place heavy fabric under it.

- Presser foot lifter
- Normal raised position
- Extra lift position

To Remove and Attach the Presser Foot

⚠️ Unplug the power supply before changing the presser foot.

1. Press the red button on the back of the presser foot ankle.
The presser foot will drop off.
2. Place the selected presser foot so the pin on the foot lies just under the groove of the foot ankle.
Lower the ankle to lock the foot in place.

- Red button
- Groove
- Pin

To Remove and Attach the Presser Foot Ankle

1. To Remove
   Remove the thumb screw by turning the screw counterclockwise with the screwdriver.

   - Thumb screw

2. To Attach
   Match the hole in foot ankle with the threaded hole in the presser bar. Fit the thumb screw into the hole. Tighten the screw by turning it clockwise.
Changing the Needle

1. Raise the needle by pressing the up/down needle position button and lower the presser foot.

⚠️ Turn off the power switch.

Loosen the needle clamp screw by turning it counterclockwise. Remove the needle from the clamp.

2. Insert the new needle into the needle clamp with the flat side to the rear. When inserting the needle into the clamp push it up as far as it will go and tighten the clamp screw firmly.

(1) Needle clamp screw
(2) Pin
(3) Flat side of the needle

---

**Needle and Thread Chart**

<table>
<thead>
<tr>
<th>Needle size</th>
<th>Fabric</th>
<th>Cotton thread size</th>
<th>Silk thread size</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 60 (#7)</td>
<td>Fine silk</td>
<td>70 - 80</td>
<td>100 - 140</td>
</tr>
<tr>
<td>No. 70 (#10)</td>
<td>Crepe de chine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 75 (#11)</td>
<td>Poplin</td>
<td>50 - 60</td>
<td>80 - 100</td>
</tr>
<tr>
<td>No. 80 (#12)</td>
<td>Pure Silk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 80 (#12)</td>
<td>Broad cloth</td>
<td>40 - 50</td>
<td>60 - 70</td>
</tr>
<tr>
<td>No. 80 (#12)</td>
<td>Cotton</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 90 (#14)</td>
<td>Wool</td>
<td>30 - 40</td>
<td>50 - 60</td>
</tr>
<tr>
<td>No. 100 (#16)</td>
<td>Denim</td>
<td>30</td>
<td>45 - 50</td>
</tr>
<tr>
<td>Stretch needle</td>
<td>Tricot</td>
<td>70 - 80</td>
<td>100 - 140</td>
</tr>
<tr>
<td>No. 70 (#10)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Winding the Bobbin**

**Setting the Spool**

Lift up the spool pin and place the spool of thread on it with the thread coming off the spool as shown.

Press the large spool holder firmly against the spool of thread with the flat side of the spool holder against the spool of the thread.

(1) Large spool holder  
(2) Small spool holder

**Removing the Bobbin**

Gently slide the bobbin cover plate release button to the right and remove the cover plate.

Lift out the bobbin.

(1) Bobbin cover plate release button  
(2) Bobbin cover plate
Winding the Bobbin

1. Guide the thread around the thread guide.
2. Thread through the hole in the bobbin from the inside to the outside. Put the bobbin on the bobbin winder spindle. Slide it to the right.

**Caution:** *Never move the bobbin winder spindle when the machine is running.*

3. With the free end of the thread held in your hand, depress the foot control. Stop the machine when it has made a few turns, and cut the thread close to the hole in the bobbin.
4. Depress the foot control again. When the bobbin is fully wound, it will stop automatically. Return the bobbin winder to its original position by moving the spindle to the left, and cut the thread as shown.

To use the additional spool pin, set the felt and the spool as shown above.

(1) Additional spool pin
(2) Felt
(3) Additional spool pin hole
**Inserting the Bobbin**

1. Place the bobbin in the bobbin holder with the thread running counterclockwise.

2. Guide the thread into the notch A on the front side of the bobbin holder. Draw the thread to the left, sliding it between the tension spring blades.

3. Continue to draw the thread lightly until the thread slips into notch B.

*Note: Check the threading by referring to the chart shown on the bobbin cover plate.*

4. Pull out about 15 cm (6 inches) of thread and attach the bobbin cover plate.
Threading the Machine

Raise the thread take-up lever to its highest position by turning the handwheel toward you.

Raise the presser foot with the presser foot lifter and pass the thread in the order from 1 to 5.

1. Bring the thread from the spool and pass it through the thread guide. Then draw it down along the right slot.

2. Guide the thread around the bottom of the thread guide plate from right to left, then draw it upward.

3. Firmly draw the thread from right to left over the take-up lever and down into the take-up lever eye. Then guide it down along the left slot.

4. Slide the thread from the left behind the needle bar thread guide.

5. Thread the needle from front to back.
To Use Needle Threader
(for Model 224)

1. Raise the needle to its highest position. Lower the needle threader as far as it will go.

2. Push the knob in the direction of the arrow in the illustration, and insert the hook into the needle eye. Bring the thread around the guide and under the hook.

   (1) Guide
   (2) Hook

3. Push the knob in the direction of the arrow in the illustration, and draw the thread loop to the back of the needle.

4. Raise the needle threader knob slowly to draw the thread loop up. Pass the end of the thread through the needle eye by pulling the thread loop to the back.
Drawing Up Bobbin Thread

1. Raise the presser foot and hold the needle thread lightly with your left hand.

2. Press the up/down needle position button twice to pick up the bobbin thread.
   Draw up the needle thread forming a loop of bobbin thread.

   (1) Needle thread
   (2) Bobbin thread

3. Pull 15 cm (6 inches) of both threads back and under the presser foot.
Pattern Selector Dial

A. Recommended stitch length
B. Set any stitch length
C. Reset indication for buttonhole

Turn the pattern selector dial to indicate a selected pattern on the pattern indicating window.

(1) Pattern selector dial
(2) Pattern indication window

Note: Always raise the needle above the fabric and presser foot before you turn the pattern selector dial.

Stitch Length Dial

The higher the number, the longer the stitch length. You can select the suitable stitch length for fabrics that you plan to sew.

(1) Stitch length dial
(2) Setting mark

Note: Always raise the needle above the fabric and presser foot before you turn the stitch length dial.
**Zigzag Width Control**

The higher the number, the wider the stitch width becomes.

*Note: Always raise the needle above the fabric and presser foot before you turn the zigzag width control.*

**Infinite Needle Position**

When pattern number 14 is selected and the stitch width control is activated, you can move the needle between center and left needle positions.
Balancing Needle Thread Tension

The needle thread and the bobbin thread should interlock in the center of two layers of fabric in straight seams.

To obtain better zigzag stitches, the needle thread tension should be slightly weaker than in the case of straight sewing. The needle thread should appear slightly on the reverse side of the fabric.

(1) Needle thread
(2) Bobbin thread
(3) Right side
(4) Wrong side

To loosen needle thread tension
Loosen the needle thread tension by moving the dial to a lower number.

To tighten needle thread tension
Tighten the needle thread tension by moving the dial to a higher number.
**Straight Stitching**

1. Stitch selector: 14
2. Stitch width: 0 or 6
3. Stitch length: 1.5 - 4
4. Top thread tension: 2 - 6
5. Presser foot: A: Zigzag foot

**Starting to Sew**

Raise the presser foot and position the fabric next to a seam guide line on the needle plate (see page 23). Lower the needle to the point where you want to start. Lower the presser foot and pull the threads toward the back. Depress the foot control. Gently guide the fabric along the seam guide line letting the fabric feed naturally.

**Changing Sewing Direction**

Stop the machine and bring the needle down into the fabric by pressing the up/down needle position button (or by turning the handwheel for Model 219). Raise the presser foot. Pivot the fabric around the needle to change sewing direction as desired. Lower the presser foot.
Finishing Sewing

1. To fasten the ends of seams, press the reverse button and sew several reverse stitches.

2. Raise the presser foot. Remove the fabric, and draw the threads to the back.

3. Cut the thread using the thread cutter.

The threads are cut the proper length for starting the next seam.
Straight Stitching on Heavy Fabrics

1. Lower the needle into the fabric at the point where you wish to start sewing. Press the small black button on the zigzag foot with your left hand to lock the presser foot to the fabric.

2. Lower the presser foot with your right hand, keeping pressure on the black button with your left hand.

3. Release the black button and start sewing.

(1) Black button

Seam Allowance Lines

The seam guides on the needle plate and bobbin cover plate help you measure the seam width.

(1) Seam allowance lines

<table>
<thead>
<tr>
<th>Number</th>
<th>15</th>
<th>20</th>
<th>1/2</th>
<th>5/8</th>
<th>3/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance (cm)</td>
<td>1.5</td>
<td>2.0</td>
<td>1.3</td>
<td>1.6</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Note: The numbers indicate the distance between the middle needle position and the seam allowance lines.

Turning a Square Corner

Stop stitching and lower the needle when the fabric edge facing you lines up with the cornering guides as shown. Raise the presser foot and turn the fabric to line up to the edge with the 1.6 cm (5/8 inch) seam guide. Lower the presser foot and begin stitching in the new direction.

(2) Cornering guides
UTILITY STITCHING

Zigzag Stitching

(1) Stitch selector: 13
(2) Stitch width: 0 - 6
(3) Stitch length: 0.5 - 3
(4) Top thread tension: 3 - 5
(5) Presser foot: A: Zigzag foot

Simple zigzag stitching is widely used for overcasting, applique and sewing on buttons.

Overcasting

(1) Stitch selector: 13
(2) Stitch width: 5 or 6
(3) Stitch length: 1 - 2
(4) Top thread tension: 4 - 7
(5) Presser foot: C: Overcast foot

This type of stitch is used on the seam allowance to prevent fabrics from fraying at raw edges.

It can be used to finish a hem edge.

Place the edge of the fabric next to the black guide of foot C.

(6) Black guide
Seam/Overcast Stitch

(1) Stitch selector:  19
(2) Stitch width:   5 or 6
(3) Top thread tension:  4 - 7
(4) Presser foot:   C: Overcast foot
* Stitch length:    Set any length

Place the edge of the fabric next to the black guide on the foot and brush guide.

The wires on this foot prevent light weight fabric from rolling and creating a ridge. As you sew the needle falls off the fabric wrapping the threads around the raw edge to prevent raveling.

(5) Black guide

Multiple ZigZag

(1) Stitch selector:  12
(2) Stitch width:   3 - 6
(3) Stitch length:  0.5 - 1.5
(4) Top thread tension:  4 - 6
(5) Presser foot:   A: Zigzag foot

This stitch is used to finish the seam allowance on synthetics and other fabrics that tend to pucker. Place your fabric to allow a 1.6 cm (5/8 inch) seam.

Trim the extra seam allowance edge after sewing as illustrated.

Note: Be careful not to cut the stitches.
**Reinforced Straight Stitch**

(1) Stitch selector: 16  
(2) Stitch width: 0 or 6  
(3) Top thread tension: 3 - 6  
(4) Presser foot: A: Zigzag foot  
* Stitch length: Set any length

This strong, durable stitch is recommended where both elasticity and strength are needed to ensure comfort and durability. Use it to reinforce areas such as crotch and armhole seams. Also use it when constructing items such as backpacks for extra reinforcement. The stitch is sewn with two stitches forward and one stitch backward, forming a seam that does not rip easily. Garments should be basted for fitting before seaming.

**Lightening Stitch**

(1) Stitch selector: 15  
(2) Stitch width: 4 - 5  
(3) Top thread tension: 3 - 6  
(4) Presser foot: A: Zigzag foot  
* Stitch length: Set any length

This stitch is used for seaming tricot and light weight knit fabrics, it permits the seam to be pressed completely flat and prevent thread breaking with stretch fabric seams. For a 1.5 cm (5/8 inch) seam, use the 2 cm (6/8 inch) marking on the needle plate. When sewing light weight knit fabrics, set the pressure dial at 1 or 2.
Tape the button over the placement mark. A pin can be placed on top the foot to form a shank. Before lowering the foot, test the needle swing, making sure the needle drops in each hole.

Adjust the stitch width if necessary and lower the foot.

Align both holes of the button with the needle swing, lower the foot and depress the foot control.

Sew about 10 stitches, then pull out approximately 20 cm (8 inches) of both the needle and bobbin thread and cut.

Pull the needle thread down through the hole in the button (so it is between the hole and fabric). Now, pull the needle thread firmly to draw the bobbin thread up through the fabric. Wind one thread clockwise around the shank, the other counterclockwise. Finally, tie the 2 threads together.

**Note:** When sewing on the button is completed, raise the feed teeth.
Automatic Buttonhole

(1) Stitch selector: 1
(2) Stitch width: 4 - 6
(3) Stitch length: 0.5 - 1
(4) Top thread tension: 2 - 5
(5) Presser foot: R: Automatic buttonhole foot

* The size of buttonhole is automatically set by placing the button in the automatic buttonhole foot R.
* The button holder of the foot takes a button size up to 2.5 cm (1 inch) in diameter.
* Make a test buttonhole on a fabric sample duplicating the interfacing and seams of the actual garment.
* Place the button on the fabric sample and mark the top and bottom to determine the position of the buttonhole.
* Use interfacing on stretch fabrics.
* Use stabilizer under all fabrics

1. Attach the automatic buttonhole foot R. Make sure the groove on the holder catches the pin on the foot when lowering the presser foot.
   (1) Groove
   (2) Pin

2. Pull the button holder to the back, and place the button in it. Push it together tightly on the button.
   (3) Button holder

If the button is extremely thick, make a test buttonhole. If it is difficult to fit the button through the test buttonhole, lengthen the size by pulling back the button holder which will increase the buttonhole length.
(4) Gap
3. Pull the buttonhole lever downward as far as it will go.

(5) Buttonhole lever

4. Draw both threads to the left under the foot. Insert the garment under the foot, and lower the needle at the starting point.

Then lower the automatic buttonhole foot.

(6) Needle thread
(7) Bobbin thread
(8) Hole
(9) Starting point

**Note:** Make sure there is no gap between the slider and the spring holder.

If there is a gap, the length of the rows will be different, as shown.

(10) Slider
(11) Spring holder
(12) Difference
(13) There should be no gap.
5. Sew slowly and stop the machine at the starting point when the buttonhole is completed.

**Step 1:** First the front bartack and left row is sewn.

**Step 2:** Next the back bartack, a locking stitch and the right row is sewn.

6. Cut both needle and bobbin threads leaving about 10 cm (4 inches) of thread ends loose. Draw the needle thread to the wrong side of the fabric by pulling the bobbin thread. Then, knot the threads. Place a pin on the rear side of the bartack position so that you do not need to worry about cutting the end of the buttonhole stitch. Then cut the opening with a seam ripper.

(To sew a series of same-size buttonholes)

To reset the buttonhole sewing function, select a different stitch pattern with the pattern selector dial 2, then return it to the buttonhole.
7. When finished, push the buttonhole lever up as far as it will go.

To adjust buttonhole stitch density.

Set the stitch length dial between 0.5 and 1.0 to adjust the buttonhole stitch density.
Corded Buttonhole

(1) Stitch selector: 1
(2) Stitch width: 4 - 6
(3) Stitch length: 0.5 - 1
(4) Top thread tension: 2 - 5
(5) Presser foot: R: Automatic buttonhole foot

1. Use the same procedure as described in automatic buttonhole sewing steps.

**Note:** *Set the stitch width to match the thickness of the cord used.*

(1) With the buttonhole foot raised, hook the filler cord on the spur at the back of the buttonhole foot.

Bring the ends toward you under the buttonhole foot, clearing the front end. Hook the filler cord into the forks on the front of automatic buttonhole foot R to hold them tight. Lower the needle into the garment where the buttonhole will start and lower the foot.

2. Depress the foot control gently and sew the buttonhole. Each side of the buttonhole and the bartacks will be sewn over the cord. Remove the fabric from the machine and cut the sewing threads only.

(2) Needle thread
(3) Bobbin thread
(4) Starting point

3. Pull the left end of the filler cord to tighten it. Thread the end of the cord through a darning needle, draw to the wrong side of the fabric and cut.

**Note:** *To cut the buttonhole opening, refer to the instructions on page 30.*
**Manual Buttonhole**

1. Stitch selector: 1
2. Stitch width: 4 - 6
3. Stitch length: 0.5 - 1
4. Top thread tension: 2 - 5
5. Presser foot: B: Transparent buttonhole foot

**Note:** *If the diameter of the button is more than 2.5 cm (1 inch), a buttonhole must be made manually as follows.*

1. Attach the buttonhole foot B.
2. Pull the buttonhole lever downward as far as it will go.
3. Lower the needle into the garment where the buttonhole is to start, and lower the foot.

   (1) Needle thread
   (2) Bobbin thread
   (3) Starting point
4. Sew the front bartack and left row, then stop the machine after sewing the desired total length of buttonhole.

5. Pull the buttonhole lever toward you.

6. Sew the back bartack and right row, then stop the machine at the starting point.

7. When finished, push the buttonhole lever up as far as it will go.
Zipper Sewing

(1) Stitch selector: 14
(2) Stitch width: 0
(3) Stitch length: 1.5 - 4
(4) Top thread tension: 3 - 6
(5) Presser foot: E: Zipper foot

To Snap On the Zipper Foot

Fit the pin on the zipper foot into the groove on the ankle.

To sew the left side of the zipper
Attach the zipper foot on the right-hand side.

To sew the right side of the zipper
Attach the zipper foot on the left-hand side.

(1) Groove
(2) Pin
(3) When the left side is sewn
(4) When the right side is sewn

Fabric Preparation

1. Add 1 cm (3/8 inch) to the zipper size. This is the overall opening size.

(1) Right side of fabric
(2) 1 cm (3/8 inch)
(3) Opening size
(4) Zipper size
(5) Slider
(6) Zipper teeth
(7) Zipper tape
(8) Wrong side
(9) End of opening
2. Place right sides of fabric together and sew to the end of the zipper opening. Reverse stitch to lock the stitches. Manually increase the stitch length to 4 and sew the zipper opening.

10) 2 cm (3/4 inch)
11) 11.3 cm (Stitch length)
12) Reverse stitch
13) End of opening
14) Straight stitch

To Sew

1. Fold back the left seam allowance. Turn under the right seam allowance to form a 0.2 to 0.3 cm (1/8 inch) fold. Place the zipper teeth next to this fold and pin in place.

2. Attach the zipper foot with the pin on the right hand side. Lower the zipper foot on the top side at the bottom of the zipper so that the needle pierces the fabric next to the fold and the zipper tape.

1) Lower fabric
2) End of opening
3) Stitch line
4) 0.3 cm (1/8 inch)
5) Wrong side of fabric
6) Opening size
7) Fold
8) Basting stitch line
3. Sew through all layers next to the fold. Stop just before the zipper foot reaches the slider on the zipper tape. Lower the needle slightly into the fabric. Raise the zipper foot and open the zipper. Lower the foot and stitch the remainder of the seam.

(9) Slider
(10) 5 cm (2 inches)

4. Close the zipper and spread the fabric flat with the right side facing up. Baste the opened fabric and zipper tape together.

(11) Basting stitch
(12) Zipper tape
5. Remove the zipper foot and reattach it on its left side. Guide the edge of the foot along the zipper teeth and stitch through the garment and zipper tape. Stop about 5 cm (2 inches) from the top of the zipper.

(13) Remove the basting stitches
(14) Reverse stitches (0.7 - 1cm)

6. Lower the needle slightly into the fabric, raise the foot, remove the basting stitches and open the zipper. Lower the foot and stitch the remainder of the seam, making sure the fold is even.
Blind Stitch Hemming

(1) Stitch selector: 9
(2) Stitch width: 3 - 4
(3) Stitch length: 2
(4) Top thread tension: 2 - 5
(5) Presser foot: G: Blind hem foot

1. How to fold the fabric
   (1) Wrong side of fabric
   (2) 0.4 - 0.7 cm (5/32 - 1/4 inch)
   (3) Heavy weight fabric
   (4) Light/Medium weight fabric

2. How to sew
   When the needle comes to the left hand side, position the fabric so that the folded edge comes to the left side of the guide. Lower the presser foot.
   3. Adjust the position of the needle swing with the stitch width button so that the needle just pierces the folded edge of the fabric when the needle comes to the left side. Sew, guiding the folded edge along the guide.
   (5) Guide dial
   (6) Guide
   (7) Folded edge

   (8) Right side of fabric

*Note: For a professional looking hem, try not to let the needle pierce more than 0.2 cm (1/8 inch) into the fold. If the folded edge is pierced too far to the left side, you can not expect a good seam on the right side of the fabric.*
Decorative Satin Stitch Patterns

(1) Stitch selector: 2 - 6
(2) Stitch width: 3 - 6
(3) Stitch length: 0.5
(4) Top thread tension: 2 - 5
(5) Presser foot: A: Zigzag foot

Satin stitches are used for decorative stitches on blankets, linens, tableclothes and napkins. It is also especially attractive in applique.

*Note: Use tear-away stabilizer under fabric.*

Sew a row of stitches and adjust the thread tension so the upper thread appears on the reverse side of the fabric. Test the stitch on a sample of the actual fabric first.

Stretch Stitch Patterns

(1) Stitch selector: 15 - 24 (Model 224)
15 - 19 (Model 219)
(2) Stitch width: 3 - 6
(3) Top thread tension: 2 - 4
(4) Presser foot: A: Zigzag foot
*Stitch length: Set any length

The stretch stitch does not actually stretch as it is being sewn, but is stitched in a forward and backward motion (sometimes called a reverse action stitch), so that it will expand when the fabric stretches instead of breaking. This stitch can also be used for topstitching on all fabrics.

*Note: We recommend a stretch needle for stretch, knit or organdy fabric to prevent skipped stitches.*
Adjusting Stretch Stitch Balance

If stretch stitch patterns are uneven when sewn on a particular fabric, adjust them with the feed balance dial.

1. Feed balance dial
2. Standard mark
3. Setting mark
4. Example: Pattern 18

To Adjust distorted patterns

(A) If patterns are compressed, correct by turning the dial in the direction of (+).

(B) If patterns are drawn out, correct by turning the dial in the direction of (-).
Smocking

(1) Stitch selector: 18 or 24

(2) Stitch width: 3 - 6

(3) Top thread tension: 3 - 5

(4) Presser foot: A: Zigzag foot

*Stitch length: Set any length

With the manual stitch length at 11.3 cm (4.5 inch), sew straight lines 1 cm (3/8 inch) apart, across the area to be smocked.

A looser needle thread tension will make gathering easier. Knot the threads along one edge.

Pull the bobbin threads and distribute the gathers evenly.

Secure the threads at the other end.

Reduce the tension and pressure if necessary and sew pattern stitches between the straight seams.

Pull out the gathering stitches.

(1) 1 cm (3/8 inch)
Quilting

(1) Stitch selector: 14
(2) Stitch width: 0 or 6
(3) Stitch length: 1.5 - 4
(4) Top thread tension: 3 - 6
(5) Presser foot: A: Zigzag foot

(6) Quilter

The quilting guide will help to keep the stitching lines straight.

Loosen the quilt guide holding screw.

Slide the quilt guide in the opening to the desired width and tighten the screw.

Sew, guiding the quilt guide over the previous row of stitching.

(1) Quilt Guide holding screw
(2) Hole
(3) Quilt Guide
(4) Distance
Pin Tucking
(1) Stitch selector: 11
(2) Stitch width: 5 - 6
(3) Stitch length: 2 - 3
(4) Top thread tension: 6 - 8
(5) Presser foot: G: Blind stitch hem foot

Fold the fabric with wrong sides together on the foldline. Position the fabric so that the needle pierces 0.1 to 0.2 cm (1/16 inch) inside from the folded edge and lower the presser foot. Turn the guide screw and move the sliding guide next to the folded edge. Sew guiding the folded edge along the sliding guide. Press the pin tucks to one side.

(1) Guide screw
(2) Sliding guide

Shell Tuck
(1) Stitch selector: 11
(2) Stitch width: 5 - 6
(3) Stitch length: 2
(4) Top thread tension: 6 - 8
(5) Presser foot: B: Transparent buttonhole foot

Note: Use a lightweight fabric such as tricot. Fold and stitch on the bias.

Set the stitch width and length as you desire.
You may need to tighten the top thread slightly.
Allow the needle to just clear the folded edge of the fabric when it zigzags.
If you sew rows of shell stitches, space the rows 1.5 cm (5/8 inch) apart.
You can sew shell stitches on knits or soft silky wovens in any direction.
**Fagoting**

(1) Stitch selector: 8, 10
(2) Stitch width: 3 - 6
(3) Stitch length: 1
*Set any length for pattern 20
(4) Top thread tension: 2 - 5
(5) Presser foot: A: Zigzag foot

Fold under each fabric edge 1.5 cm (1/2 inch) and press. Pin the two edges a tear-away stabilizer backing 0.3 cm (1/8 inch) apart. Sew slowly, guiding the fabric so the needle catches the folded edge on each side. Remove the backing when finished.

**Patch Work**

(1) Stitch selector: 8, 12
(2) Stitch width: 5 - 6
(3) Stitch length: 1
(4) Top thread tension: 2 - 5
(5) Presser foot: A: Zigzag foot

Sew seam and press seam allowance open. Sew pattern stitch on right side of garment centering over the seam line.

(1) Right side of fabric
Baste (or fuse with iron-on fusible web) applique pieces on the fabric.

Stitch around the applique making sure the needle falls along the outer edge of the applique.

When sewing corners, lower the needle down into the fabric. Raise the presser foot and pivot the fabric to the right or left.

**Note:** When applique sewing is finished, return the pressure dial to 3.
Cleaning the Hook Assembly Area and Feed Teeth

1. Remove the presser foot and needle. Remove the screw on the left side of the needle plate with the screwdriver supplied with the machine.

2. Remove the needle plate and take out the bobbin. Lift up the bobbin holder and remove it.

3. Brush out dust and lint.

4. Clean the feed teeth and hook assembly area with the lint brush.

5. Wipe out gently with a soft, dry cloth.

Note: You may also use a vacuum cleaner.

Caution
Before performing any of the following, make sure that the sewing machine is unplugged from the power source. Do not dismantle the machine other than explained on this page.
Replacing the Bobbin Holder

1-2. Insert the bobbin holder so that the knob fits next to the stopper in the hook assembly area.

(1) Knob
(2) Stopper

3. Insert the bobbin.
Replace the needle plate, inserting the two needle plate guide pins into the holes in the needle plate.
Replace the screw.

(3) Guide hole
(4) Screw

After cleaning, be sure to replace the needle and presser foot.
## Troubleshooting

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We reserve the right to change the machine equipment and the assortment of accessories without prior notice, or make modifications to the performance or design. Such modifications, however, will always be to the benefit of the user and the product.

Please note that on disposal, this product must be safely recycled in accordance with relevant National legislation relating to electrical/electronic products. If in doubt please contact your retailer for guidance.