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Knowing Your Sewing Machine

Fundamentals of Operation

For Your Safety

1. While in operation, always keep your eye on the needle, and do not touch any moving parts such as the take-up lever, balance wheel, needle, looper or knife.

2. Always turn off the machine, and unplug from the power supply:
   * After using the machine.
   * When leaving the machine for any period of time.
   * When attaching or removing parts.
   * When cleaning or oiling the machine.

3. Do not place any objects on the speed controller.

Before Using the Machine

- Wipe the machine with a clean cloth to remove any dust or oil.
- To replace presser feet or needles follow the guides in the instruction book.
- After setting the machine for sewing, test the stitches on a remnant of the garment.

For Longer Life of the Machine

- Do not expose the machine to the sun for long periods of time.
- Do not store the machine in an area of high humidity nor near a radiator.
- Carry the machine with care to avoid dropping or bumping.
Names of Parts

Spool pin
Bobbin winder spindle
Bobbin winder stopper
Pattern selector dial
Stitch length dial
Carrying handle
Presser bar lifter
Drop feed lever
Thread guide (upper)
Thread guide (lower)
Needle bar thread guide
Foot holder
Thumb screw
Needle plate
Slide plate
Base
Reverse lever
Lift lever
Extension table
Thread tension dial
Face plate
Top cover
Take-up lever
Bobbin winder thread guide
Standard Accessories

Sewing accessories are conveniently located under the extension table.

For Free Arm Sewing

Lift out the extension table as illustrated.

For Attaching the Table

Position the two pins of the extension table on the base slit and push down gently.

For Straight/Zigzag

- Zipper foot (E)
- Blind stitch foot (G)
- Hemming foot (D)
- Buttonhole foot
- Bobbin
- Felt
- Screwdrivers

For Overlock

- Rolled hemming foot
- Thread stripping disc
- Flatlock guide plate
- Rolled hemming needle plate
- Oil
- Lint brush
- Set of needles
- Seam ripper
- Tweezers
- Net
Connecting the Machine to the Power Supply

1. Turn off the power switch, and connect the machine plug to the machine socket.
2. Connect the power supply plug to your power supply.
3. Turn on the power switch.

Controlling Sewing Speed

Sewing speed can be varied by the speed controller. The harder you press on the controller, the faster the machine runs.

* By releasing the controller, the machine stops running.
* Before using the machine, practice controlling the speed without threading.
To Prepare for Straight/Zigzag Sewing

How to Select Straight/Zigzag or Overlock

To select straight/zigzag stitch or overlock, turn the pattern selector dial while pushing the balance wheel in. The sewing light is switched over automatically.

How to Turn the Machine

1. Turn off the power switch, and pull the machine plug out of the machine socket.

2. Turn the lift lever toward the arrow mark and keep it in the position.

3. Turn the machine by hand to face another side for overlock sewing.

4. Return the lift lever to the original position as shown above, and connect the machine plug to the machine socket.
Removing or Attaching the Presser Foot

1) Raise the needle and presser foot.

2) Press the red button on the back of the foot holder. The presser foot will drop off.

3) Place the presser foot so that the pin on the foot lies just under the groove of the foot holder. Lower the foot holder to lock the foot in place.

Additional Clearance

The presser foot can be raised higher for additional clearance.

Presser foot lifter

Dropping the Feed Dog

To raise the feed dog, push the lever to the right. To drop the feed dog, push the lever to the left.

Feed dog is raised.

Feed dog is dropped.

Feed dog must always be up for normal sewing.
### Thread and Needle Chart

<table>
<thead>
<tr>
<th>Fabrics</th>
<th>Threads</th>
<th>Needle Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light weight</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crepe de Chine, Voile, Lawn, Organdy, Georgette, Tricot</td>
<td>Fine Silk, Fine Cotton, Fine Synthetic, Fine Cotton Covered Polyester</td>
<td>9 or 11</td>
</tr>
<tr>
<td><strong>Medium weight</strong></td>
<td>50 Silk, 50 to 80 Cotton, 50 to 60 Cotton, Synthetic, Cotton Covered Polyester</td>
<td>11 or 14</td>
</tr>
<tr>
<td>Linens, Cotton, Pique, Serge, Double Knits, Percale</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heavy weight</strong></td>
<td>50 Silk, 40 to 50 Cotton, 40 to 50 Synthetic, Cotton Covered Polyester</td>
<td>14 or 16</td>
</tr>
<tr>
<td>Denim, Tweed, Gabardine, Coating, Drapery and Upholstery Fabric</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- In general, fine thread and needles are used for sewing thin fabrics, and thicker threads and needles are used for sewing heavy fabrics. Always test thread and needle size on a small piece of fabric which will be used for actual sewing.
- Use the same thread for needle and bobbin.
- When sewing very fine fabrics, sew over a piece of paper to prevent yarn distortion.
- When sewing stretch, very fine fabrics and synthetics, use a BLUE TIPPED needle. The BLUE TIPPED needle effectively prevents skipped stitches.

### To Select a Suitable Needle

* A number indicating the size of needle is marked on the stem. The higher the number, the thicker the needle.

### Changing Needles

1. Turn the balance wheel towards you until the needle is at its highest position.
2. Loosen the needle clamp screw by turning its top edge toward you. Remove the needle from the clamp.
3. Insert the new needle into the needle clamp with its flat side to the back.
4. When inserting the needle into the clamp, push it up as far as it will go and tighten the clamp screw firmly.

* Do not use any needle which is bent or blunted.
Lifting Out the Bobbin

1 Gently pull the slide plate while pushing it down.

2 Lift out the bobbin.

If the thread would slip down from the spool, thread through the hole of spool pin as shown.

Winding the Bobbin

1 Draw thread from spool, and guide the thread around the bobbin winder thread guide.

2 Insert the thread through the hole in the bobbin, threading from the inside to the outside. Then put the bobbin on the bobbin winder spindle.

* Place the felt and the spool on spool pin.

3 Push the bobbin to the right, and press the speed controller with the free end of the thread held in your hand. Stop the machine when it has made a few turns, and cut the thread close to the hole in the bobbin.

4 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.

* Stop the machine before moving the bobbin winder spindle.
Inserting the Bobbin

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

2. Guide the thread into the notch A on the front side of the bobbin holder.

3. Draw the thread to the left sliding it between the tension spring blades.

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

5. Pull out about 15 cm (6") of thread and attach the slide plate.
Threading the Machine

If the thread would slip down from the spool, thread through the hole of spool pin as shown.

Raise the presser foot and turn the balance wheel toward you until the thread take-up lever comes to its highest position. Hold the spool of thread with your right hand and thread the machine as follows.

1. Place the felt and the spool on spool pin, then draw the thread around the thread guide and down into the tension.
2. Then down around the check spring holder.
3. Firmly draw the thread from left to right over the thread take-up lever and down into the thread take-up lever eye.
4. Then down through the thread guides.
5. Slide the thread behind the needle bar thread guide on the left.
6. Thread the needle from the front to the back.
Drawing Up Bobbin Thread

1. Hold the needle thread lightly with your left hand.

2. Turn the balance wheel slowly towards you with your right hand until the needle goes down and continue turning the balance wheel until the thread take-up lever comes to its highest position. Lightly draw up the needle thread forming a loop of the bobbin thread.

3. Pull 15 cm (6”) of both threads to the back and under the presser foot.
Balancing Needle Thread Tension

Correct 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 upper tension should be slightly weaker than in the case of straight sewing.

The upper thread should appear slightly on the reverse side of the fabric.

Correct Tension

There are many reasons for having to reset the tension. The best tension for one fabric may not be correct for another. The required tension depends upon the stiffness, thickness and number of layers of fabric being sewn, as well as the type of stitch you are making.

The Needle Thread is too Tight

Loosen

The bobbin thread loops on the right side of fabric.

The Needle Thread is too Loose

Tighten

The needle thread loops on the wrong side of fabric.

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

Tighten the needle thread tension by moving the dial to a higher number.
Selecting the Stitches

Turn the balance wheel with your hand until the tip of needle comes out of fabric. Select the stitch by turning the pattern selector dial. Refer to page 33 for overlock.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Stitch length dial</th>
<th>Stitch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.5 ~ 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.3 ~ 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5 ~ 1.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ~ 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5 ~ 1.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.3 ~ 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S.S.</td>
<td></td>
</tr>
</tbody>
</table>

Adjusting the Stitch Length

Set the stitch length by turning the stitch length dial. Refer to the chart below left for the stitch length.
Selecting the Stretch Stitch

Set here.

Stitch length dial

Using the Reverse Lever

Fabric is fed in reverse when the reverse lever is pressed. When it is released, fabric is fed forward.

Using the Line Gauge

The number indicates the distance between the center needle position and the line.

When sewing stretch stitch, set the stitch length dial at S.S. normally. However, the stitch becomes unbalanced depending upon fabrics. When it occurs, correct the balance as shown.
### Straight Stitching

#### Machine Setting

- **Thread Tension**: 2 to 6
- **Stitch Length**: 1.5 to 4
- **Zigzag Foot (A)**

#### Starting Sewing

1. While holding the threads with your left hand, turn the balance wheel toward you to bring the needle into the fabric where you wish to start sewing.
2. Lower the presser foot, and press the speed controller gently, then start sewing slowly.

### Changing Sewing Direction

1. Bring the needle down into the fabric, and raise the presser foot. Then pivot the fabric to the direction desired. Lower the foot to start sewing.

### Fastening Seams

1. For fastening the end of seams, press the reverse lever and sew several reverse stitches.
2. Bring the thread take-up lever at its highest position, and raise the presser foot. Then draw the fabric out to the rear.
3. Use the thread cutter. The threads are cut the proper length for starting the next seam.
Zigzag Stitching

Machine Setting

- Thread Tension: 2 to 5
- Stitch Length: 0.3 to 4
- Zigzag Foot (A)

Zigzag width can be regulated in the range of the symbol as illustrated above.
Triple Strength Stitching

Individual Straight/Zigzag Sewing

Machine Setting

Thread Tension

Stitch Length

Zigzag Foot (A)

2 to 6

S.S.

This strong, durable stitch is recommended where both elasticity and strength are needed to ensure comfort and durability.
Buttonhole Stitching

Machine Setting

Thread Tension

Stitch Length

Buttonhole Foot

Always make a practice buttonhole on a scrap of fabric you plan to use. Try the buttonhole with the button you will use.

1. Set the pattern selector dial at “□□□□□”.
2. Lead both threads to the left.
3. Lower the needle into the fabric where the buttonhole is to start, and lower the foot.
4. Sew down the left side of the buttonhole to the bottom end. Raise the needle.
5. Set the pattern selector dial at “□□□□□”, and sew 5 stitches of bartack, then raise the needle from the fabric.

6. Set the pattern selector dial at “□□□”. Sew up the right side of the buttonhole. Stop the machine when you are directly opposite the first stitch on the left hand side, and raise the needle.

7. Set the pattern selector dial at “□□□□”. Sew five stitches of bartack, and raise the needle from the fabric. Then set the pattern selector dial at “□” and sew a few stitches to secure the seam.

8. Remove the fabric from the machine, and cut the sewing threads. Insert a pin inside the bartack. Then cut the opening with a seam ripper. Be careful not to cut the stitches.
Blind Stitch Hemming

Machine Setting
1 to 4
Thread Tension

1 to 3
Stitch Length

Blind Stitch Foot (G)

1. Position the fabric on the machine so that the needle just pierces the folded edge of the fabric when the needle comes over to the extreme left side. Lower the presser foot.

2. Turn the guide screw and move the sliding guide next to the folded edge. Sew the folded edge guiding along the sliding guide.

How to Fold the Fabric

Wrong side of fabric

Light weight fabric

Wrong side of fabric

Heavy weight fabric

0.4 to 0.7 cm (5/32 to 35/128"")

0.4 to 0.7 cm (5/32 to 35/128"")

On heavy weight fabrics that ravel, the raw edge should be overcast first.
On light weight fabrics the raw edge can be turned under and pressed.
Fold up the hem the desired amount and pin in place.
Fold the hem under the fabric as illustrated.
Zipper Application

Machine Setting

3 to 6
Thread Tension

1.5 to 4
Stitch Length

2
Zipper Foot (E)

Attaching Zipper Foot

1. Put the rear pin of the foot on the groove of the foot holder.

2. Lower the presser bar lifter while holding the foot with your left hand.

Fabric Preparation

Place right sides of fabric together and sew to the end of the zipper opening. Reverse stitch to knot the stitches. Sew the zipper opening with a basting stitches.

2 cm (6/8")
To Sew

1) Fold back the left seam allowance.
2) Turn under the right seam allowance to form a 0.2 to 0.3 cm (1/8") fold.
3) Place the zipper teeth next to the fold and pin in place.
4) Lower the needle into the fabric at the point where sewing is to begin, then lower the foot.
5) Sew through fold and zipper tape. Stop just before the zipper foot reaches the slider on the zipper tape.
6) Turn the balance wheel by hand and lower the needle into the fabric. Raise the zipper foot and open the zipper. Lower the foot and stitch the remainder of the seam.
7) Close the zipper and spread the fabric flat with the right side facing up.
8 Move the zipper foot to the left pin, guide the edge of the foot along the zipper teeth and stitch through fabric and zipper tape.

9 Stop about 5 cm (2") from the top of the zipper.

10 With the needle down in the fabric, raise the foot and remove the basting stitches.

11 With the needle down in the fabric, open the zipper. Then lower the foot and stitch the remainder of the seam making sure the fold is even.
Rolled Hemming

Machine Setting

Thread Tension
3 to 6

Stitch Length
1.5 to 4

Rolled Hemming Foot (D)

1) Make a double 0.25 cm (1/8"") fold approximately 8 cm (3"") in length.

2) Lower the needle into the fabric at the point where sewing is to begin, then lower the rolled hemming foot.

3) Sew 1 to 2 cm while holding the needle and bobbin threads.

4) Lower the needle into the fabric and lift the rolled hemming foot. Insert the folded portion of the fabric into the curl of the foot.

5) Lower the rolled hemming foot, then sew by lifting up the edge of the fabric to keep it feeding smoothly and evenly.

Trimming Corners

0.7 cm (1/4"")

0.7 cm (1/4"")

Trim about 0.7 cm (1/4"") from corners as illustrated, to reduce bulk.
**Pin Tucking**

1. **Machine Setting**
   - Thread Tension: 2 to 6
   - Stitch Length: 1.5 to 3
   - Blind Stitch Foot (G)

2. **Fabric Preparation**
   - 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'') inside of folded part and lower the presser foot.
   - Turn the guide screw and move the sliding guide next to the folded edge.
   - Sew the folded edge guiding along the sliding guide.

3. **Pressing**
   - Press the pin tucks to one side.
Applique

**Machine Setting**

- 1 to 4
- Thread Tension
- Stitch Length
- 0.5 to 1
- Zigzag Foot (A)

Baste (or fuse with iron-on fabric joiner) 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.

Patch Work

**Machine Setting**

- 1 to 4
- Thread Tension
- Stitch Length
- Zigzag Foot (A)

Sew seam and press seam allowance open. Sew pattern stitch on right side of fabric centering stitches over the seam line.
**Blanket Stitch**

1. Place the fabric right side up, and sew 1 cm (3/8”) from the edge.
2. Trim close to stitching. The stitch will prevent raveling.

**Fringing**

1. Draw out 2 or 3 yarns where fringing is to begin.
2. Sew along the upper edge where the yarns are drawn out.
3. Draw out remaining yarns.
Fringing with Threads

**Machine Setting (A)**

- **Thread Tension**: 0 to 1
- **Stitch Length**: 0.5 to 1
- **Zigzag Foot (A)**

1. Loosen the needle thread tension and set the machine as illustrated (A). Then sew a row of zigzag stitches.

2. Set the machine as illustrated (B), and sew over the right edge of the zigzag stitching.

3. Pull out the bobbin thread on the zigzag stitching.

4. Lift up the needle threads.
Gathering

1) Sew two rows 0.5 to 0.7 cm (3/16 to 1/4”) apart.

2) Draw up the bobbin thread working from each end of the fabric until the desired amount is gathered. Knot the threads at each end and distribute the gathers evenly.
Drawn Work

Machine Setting

3 to 6
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)

1. Mark the width for the drawn work. Pull out one or two fabric yarns at each edge of the drawn work.

2. Sew along the right edges.

3. Turn the fabric and sew along the right edges.

4. Pull out all the yarns where the drawn work is required.

Fagoting

Machine Setting

1 to 4
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)

Fold under 1.5 cm (1/2'') on each fabric edge and press.
Place a sheet of paper under the fabrics.
Pin the two edges to paper 0.3 cm (1/8'') apart.
Sew slowly guiding the fabric so that the needle catches the folded edge on each side.
Remove the paper.
To Prepare for Overlock Sewing

How to Select Straight/Zigzag or Overlock

To select straight/zigzag stitch or overlock, turn the pattern selector dial while pushing the balance wheel in. The sewing light is switched over automatically.

How to Open or Close the Chip Guard

To Open
Move the chip guard (dust cover plate) lightly to the right and then toward you.

To Close
Close the chip guard (dust cover plate) by returning to its original position.

* The chip guard should be closed while sewing.
* As the machine sews, the edges of fabrics are cut by the knife and the waste chips are fed toward you.

How to Turn the Balance Wheel

Always turn the balance wheel away from you when the overlock stitch is selected, otherwise the threads will be tangled.
### Thread and Needle Chart

<table>
<thead>
<tr>
<th>Type of Fabrics</th>
<th>Application</th>
<th>Type of Thread</th>
<th>Needle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light weight</td>
<td>Overlocking</td>
<td>Cotton, Silk, Synthetic</td>
<td>No. 80 ~ 100</td>
</tr>
<tr>
<td>Organdy, Georgette, Lawn, Crepe de chine, Lining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rolled hemming</td>
<td>Synthetic, Silk, Wooly nylon (for looper only)</td>
<td>No. 80 ~ 100</td>
</tr>
<tr>
<td>Medium weight</td>
<td>Overlocking</td>
<td>Cotton, Silk, Synthetic</td>
<td>No. 60 ~ 100</td>
</tr>
<tr>
<td>Cotton, Tricot, Linen, Satin, Ordinarily fabrics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy weight</td>
<td>Overlocking</td>
<td>Cotton, Silk, Synthetic</td>
<td>No. 40 ~ 60</td>
</tr>
<tr>
<td>Tweed, Coating, Denim, Thick fabrics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knits</td>
<td>Overlocking</td>
<td>Cotton, Synthetic</td>
<td>No. 60 ~ 80</td>
</tr>
<tr>
<td>Knitted fabrics</td>
<td></td>
<td></td>
<td>No. 60 ~ 90</td>
</tr>
</tbody>
</table>
**Changing Needles**

1. Raise the needle above the presser foot, and loosen the needle clamp screw, then remove the needle.

2. Insert the new needle into the needle clamp with its flat side to the back until the top of needle touches the needle stopper pin, then tighten the needle clamp screw.

* Do not use any needle which is bent or blunted.

**Raising or Lowering the Presser Foot**

By raising or lowering the presser foot lifter, the presser foot goes up and down respectively.

* While in operation, keep the presser foot lowered except for testing stitches, threading the machine or sewing heavy weight fabrics.
**Attaching the Thread Stripping Disc and Net**

1. When you use a small thread spool, place it with its slit side up and put the thread stripping disc on top.

2. If the thread would slip down from the spool during threading and/or sewing, put a net on the spool as illustrated for preventing jamming. The net is supplied with the machine.
Threading the Looper

* Threading chart is located on the back of chip guard.

**RE-THREADING**

When you change the threads, re-thread as follows:

1. Cut the threads near the spools.
2. Replace the spools with new threads.
3. Tie the new threads to old threads individually using a square knot.
4. Raise the needle and foot, and loosen the both tensions.
5. Pull the looper thread through the machine.
   Then pull the needle thread until the knot gets to the eye of the needle.
6. Cut the knot away and re-thread the needle.
3 Pass the thread between the tension discs from the right, then pull the both sides of the thread. When you do so, the thread passes the guide and check spring in the tension dial.

4 Pass the thread through the thread guide as illustrated.

5 Open the chip guard, then pass the thread through the thread guide.

6 By using a pair of tweezers, lead the thread through the looper eye from the front to the back.

7 Close the chip guard, then lead the thread under the presser foot about 10 cm (4") to the back of machine.

* Make sure that the thread is between the tension discs.
Threading the Needle

1. Lead the thread from spool and pass it through the two holes in the left side of thread guide plate as illustrated.

2. Pass the thread through the thread guide as illustrated.
3 Pass the thread between tension discs from the right. Then pull the both sides of the thread. When you do so, the thread passes the guide and check spring in the tension dial.

4 Pass the thread through the thread guide as illustrated.

5 Pass the thread through the arm thread guide.

6 Pass the thread through the needle thread guide.

7 By using a pair of tweezers, thread the needle, then lead the thread under the presser foot about 10 cm (4”) to the back of machine.

* Make sure that the thread is between the tension discs.
Selecting the Stitch Length

To select the stitch length, move the knob up or down while pushing it in.

"3" for normal sewing

"1" for small stitch

Normally the stitch length selector knob is set at "1" or "3". However, the stitch length between "1" and "3" may require for certain project. It can be obtained by setting the knob at the middle hole.
Adjusting Thread Tension

**Thread Tension Dial**

1. For needle thread tension
2. For looper thread tension

**Range of Tension**

- Tighten
- Loosen

For needle thread:
- Overlocking
- Rolled hemming

For looper thread:
- Overlocking & Rolled hemming

* Adjust the thread tension by using the both tension dials.
* The thread tension varies depending on the types of fabric and thread.

The range of tension is shown on the dial.

-............. For overlocking
-............... For rolled hemming
How to Correct the Tension

Correct Tension

The needle thread is too loose or the looper thread is too tight.

The needle thread is too tight or the looper thread is too loose.

Turn the dial ① to clockwise or the dial ② to counter-clockwise.

Turn the dial ① to counter-clockwise or the dial ② to clockwise.
Application of Overlock Stitching

Range of the Tension Dial

- Thick fabric
- Medium fabric
- Thin fabric

For needle thread

For looper thread

Stitch Length Selector Knob

* Set the stitch length selector knob at 3.
**Test Stitching**

**Starting Sewing**

1. Draw the both needle and looper threads away from you under the foot. (Raising the foot is not necessary.)
   Turn the balance wheel slowly away from you about two turns to check the interlocking of threads. While holding slightly the end of threads to the back, press the speed controller gently to make a thread chain about 5 cm (2’’) or more.

2. Insert the fabric under the toe of the foot.
   Press the speed controller gently, then start sewing slowly.
   The fabric will be automatically fed, so guide the fabric in the direction desired.

**Finishing Sewing**

3. When stitching is completed, continue to run the machine to produce a thread chain for about 5 cm (2’’) or more.

4. Cut the threads with the thread cutter as illustrated.

**Sewing Continuously**

* If you find it difficult to produce thread chain neatly, hold the threads and pull to the back slightly while running the machine.

* Insert the fabric under the foot without raising the foot, then start to sew slowly.
Rolled Hemming, Picot Edging & Narrow Hemming

**Preparation**

1. Change it to the rolled hemming foot.
2. Change it to the rolled hemming needle plate.
3. Move the knob down while pushing it in.

No. 1 is for rolled hemming & narrow hemming.
No. 3 is for picot edging.
<table>
<thead>
<tr>
<th>Fabric</th>
<th>Rolled Hemming</th>
<th>Picot Edging</th>
<th>Narrow Hemming</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thread</td>
<td>Tension Dial</td>
<td>Thread</td>
</tr>
<tr>
<td>Thin fabric</td>
<td>Synthetic</td>
<td></td>
<td>Synthetic</td>
</tr>
<tr>
<td></td>
<td>No. 80 ~ 100</td>
<td></td>
<td>No. 80 ~ 100</td>
</tr>
<tr>
<td></td>
<td>Silk</td>
<td></td>
<td>Silk</td>
</tr>
<tr>
<td></td>
<td>No. 50 ~ 100</td>
<td></td>
<td>No. 50 ~ 100</td>
</tr>
<tr>
<td>Looper thread</td>
<td>Wooly nylon</td>
<td></td>
<td>Wooly nylon</td>
</tr>
<tr>
<td>Stitch length</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>selector knob</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Correct tension</td>
<td>Looper thread</td>
<td>Needle thread</td>
<td>Looper thread</td>
</tr>
</tbody>
</table>
### Decorative Overedging

**Application**

- Overedging

---

#### Type of thread and range of the tension dial

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Thread</th>
<th>Tension Dial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium to heavy fabric</td>
<td>Needle thread</td>
<td>Cotton No. 60 ~ 80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silk No. 50 ~ 80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Synthetic No. 60 ~ 80</td>
</tr>
<tr>
<td>Looper thread</td>
<td>Buttonhole twist</td>
<td></td>
</tr>
<tr>
<td>Stitch length selector knob</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

* Use the regular foot and regular needle plate.
### Decorative Flatlock

**Application**
- Decorative flatlock

**Preparation**
- Attach the flatlock guide plate with the needle plate set screw.

**Type of thread and range of the tension dial**

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Thread</th>
<th>Tension Dial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needle thread</td>
<td>Cotton No. 60 ~ 80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silk No. 50 ~ 80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Synthetic No. 60 ~ 80</td>
<td></td>
</tr>
<tr>
<td>Medium to heavy fabric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Looper thread</td>
<td>Buttonhole twist</td>
<td></td>
</tr>
<tr>
<td>Stitch length selector knob</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

* Use the regular foot and regular needle plate.

**Sewing**
- Fold the fabric with wrong side together.
- Raise the presser foot, and insert the fabric under the foot, then lower the foot. Sew along the edge without cutting it.
- Open the seam, and iron the wrong side of fabric.
### Type of Thread and Range of the Tension Dial

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Thread</th>
<th>Tension Dial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium thread</td>
<td>Cotton No. 60 ~ 80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silk No. 50 ~ 80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Synthetic No. 60 ~ 80</td>
<td></td>
</tr>
<tr>
<td>Looper thread</td>
<td>Buttonhole twist</td>
<td></td>
</tr>
<tr>
<td>Stitch length</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>selector knob</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Use the regular foot and regular needle plate.

### Preparation

Attach the flatlock guide plate with the needle plate set screw.
1. A Fold the both fabrics near the edge, and tape them together as illustrated.

1. B Put both fabrics with right sides together. Sew a straight seam along the edge as shown above 1. B. (Use straight/zigzag side of the machine.)

2. Fold the fabric along the edge with wrong sides together. Raise the presser foot, and insert the fabric, then lower the foot. Sew along the edge without cutting the fabric.

3. 4. 5. Open the seam, and iron the wrong side of fabric.
**Pin Tucking**

**Application**
- Pin tucking

**Changing the Foot**
- Change it to the rolled hemming foot.

**Changing the Needle Plate**
- Change it to the rolled hemming needle plate.

**Setting the Flatlock Guide Plate**
- Attach the flatlock guide plate with the needle plate set screw.

**Sewing**

1. Fold the fabric with wrong sides together on the foldline. Sew guiding the folded edge along the flatlock guide plate.

2. Press the pin tucks to one side.
### Type of Thread and Range of the Tension Dial

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Thread</th>
<th>Tension Dial</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thin fabric</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organdy, Crepe de Chine, Lawn, Georgette</td>
<td>Needle thread</td>
<td>No. 80 ~ 100</td>
</tr>
<tr>
<td></td>
<td>Silk</td>
<td>No. 50 ~ 100</td>
</tr>
<tr>
<td>Looper thread</td>
<td>Wooly nylon</td>
<td>No. 80 ~ 100</td>
</tr>
<tr>
<td></td>
<td>Synthetic</td>
<td>No. 50 ~ 100</td>
</tr>
<tr>
<td>Stitch length selector knob</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Correct tension</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Refer to Page 42 for adjusting the thread tension.
Seamlock

Type of Thread and Range of the Tension Dial

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Thread</th>
<th>Tension Dial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stretch fabric</td>
<td>Needle thread</td>
<td>No. 40 ~ 80</td>
</tr>
<tr>
<td></td>
<td>Synthetic thread</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wooly nylon Synthetic thread</td>
<td>No. 40 ~ 80</td>
</tr>
<tr>
<td>Stitch length selector knob</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

* Use the regular foot and regular needle plate.
Sewing Technique for Better Result

To Thread Woolly Nylon Thread

1. Looper
2. Ordinary thread
3. Woolly nylon thread

Threading is easier by doing the way shown as above.

Rolled Hemming

At the beginning of rolled hemming it is recommended to pull the end of threads to the back lightly.

Picot Edging

It is recommended to pull the fabric to the back lightly to help the machine to feed.
Care of Your Machine

* The bobbin area and hook race should be cleaned after completion of every garment.
* Do not store the machine in an area of high humidity, near a radiator or in direct sunlight.
* Clean the outside of the machine with a soft cloth and neutral soap.

### Cleaning the Bobbin Holder

1. Turn off the power or unplug the machine. Remove the slide plate from the machine.
2. Take out the bobbin. Brush out dust and lint or you may use a vacuum cleaner.
3. Put the bobbin back to the holder.
4. Insert the slide plate by pushing it into the grooves on both sides.

### Taking Out the Bobbin and Bobbin Holder

1. Unplug the machine and remove the presser foot and needle.
2. Remove the needle plate set screw, and take out the needle plate.
3. Take out the bobbin.
4. Lift up the bobbin holder and remove it.
Cleaning the Hook Race and Feed Dog

1. Turn off the power or unplug the machine, and clean the feed dog and hook race with a lint brush.

2. Wipe the hook race with a soft dry cloth.

3. Clean the bobbin holder with a lint brush and a soft dry cloth.

Resetting the Bobbin Holder and Needle Plate

1. Line up the triangle marks and position the bobbin holder so that the notch fits next to the stopper in the hook race.

2. Put the bobbin in.

3. Line up the two needle plate guide pins with the needle plate, and tighten the needle plate set screw.
Cleaning the Feed Dog (Overlock)

1. Turn off the power or unplug the machine.
   Remove the needle and presser foot.

2. Remove the two needle plate set screws, then take out the needle plate.

3. Push the lint around the feed dog to the front by using a lint brush.

Cleaning Waste Chips

1. Open the chip guard.

2. Remove the waste chips to the front with a lint brush.
Recovering the Bulb

**Straight/Zigzag**

1. Turn off the power or unplug the machine, then remove the face plate.

2. **Screw-on type**
   - To remove: Turn to the left.
   - To put on: Turn to the right.

   **Bayonet type**
   - To remove: Push and twist to the left.
   - To put on: Push and twist to the right.

3. Attach the face plate.

**Overlock**

1. Turn off the power or unplug the machine, then remove the side cover.

2. **Screw-on type**
   - To remove: Turn to the left.
   - To put on: Turn to the right.

   **Bayonet type**
   - To remove: Push and twist to the left.
   - To put on: Push and twist to the right.

3. Attach the side cover.
Cleaning Outside of Your Machine

Wipe off dust or oil gently with a soft cloth.
Do not use thinner, petrol, benzine or cleaning compound.

Replacing the Upper Knife

To Remove

1. Disconnect the machine from the power supply.
2. Open the chip guard.
3. Remove hexagon bolt and upper knife.

To Attach

1. Line up the holes on the knife with the guide pin and threaded hole. Put the bolt on and tighten slightly.
2. Turn the balance wheel away from you until the upper knife comes to its lowest position. Position the upper knife so that the edge of the upper knife overlaps the edge of the lower knife between 0.5 mm and 1 mm (1/32") as shown, then tighten the bolt firmly.
3. Close the chip guard.
Oiling the Machine

Disconnect the machine from the power supply before oiling.

The oiling points are marked with arrows in the illustration below. Apply a few drops of fine quality sewing machine oil in a certain period depending on how often you use the machine. It is recommended to apply oil once a week in normal use.

It is easier to oil if the side cover is removed.
## Trouble Shooting

### Trouble Shooting for Straight/Zigzag Sewing

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cause</th>
<th>Reference</th>
</tr>
</thead>
</table>
| **The needle thread breaks.** | 1. The needle thread is not threaded properly.  
2. The needle thread tension is too tight.  
3. The needle is bent or blunted.  
4. The needle is incorrectly inserted.  
5. The fabric is not being drawn to the rear when sewing is finished.  
6. The thread is either too heavy or too fine for the needle.  
7. The both threads are not pulled back and under the presser foot. | See Page 13  
See Page 15  
See Page 10  
See Page 10  
See Page 18  
See Page 10  
See Page 14 |
| **The bobbin thread breaks.** | 1. The bobbin thread is not threaded properly in the bobbin holder.  
2. Lint has been collected in the bobbin holder and/or tension spring.  
3. The bobbin does not rotate smoothly. | See Page 12  
See Pages 56 & 57  
Replace the bobbin. |
| **The needle breaks.** | 1. The needle is incorrectly inserted.  
2. The needle is bent or blunted.  
3. The needle clamp screw is loose.  
4. The tension of needle thread is too tight.  
5. The fabric is not drawn to the rear when sewing is finished.  
6. The needle is too fine for the fabric being sewn.  
7. The pattern selector dial had been turned while the needle was in the fabrics. | See Page 10  
See Page 10  
See Page 10  
See Page 15  
See Page 18  
See Page 10  
Raise needle and then turn the dial. |
| **Skipped stitches** | 1. The needle is incorrectly inserted.  
2. The needle is bent or blunted.  
3. The needle and/or the thread are not suitable for the fabric being sewn.  
4. The needle thread is not threaded properly.  
5. A BLUE TIPPED needle is not being used for sewing stretch, very fine fabrics and synthetics. | See Page 10  
See Page 10  
See Page 10  
See Page 13  
See Page 10 |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Cause</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seam puckering</td>
<td>1. The needle thread tension is too tight.</td>
<td>See Page 15</td>
</tr>
<tr>
<td></td>
<td>2. The needle thread and/or bobbin thread are not threaded properly.</td>
<td>See Pages 12 &amp; 13</td>
</tr>
<tr>
<td></td>
<td>3. The needle is too heavy for the fabric being sewn.</td>
<td>See Page 10</td>
</tr>
<tr>
<td></td>
<td>4. The stitches are too coarse for the fabric being sewn.</td>
<td>See Page 16</td>
</tr>
<tr>
<td>Stitches loop behind the fabric.</td>
<td>1. The needle thread tension is too loose.</td>
<td>See Page 15</td>
</tr>
<tr>
<td></td>
<td>2. The needle is either too heavy or too fine for the thread.</td>
<td>See Page 10</td>
</tr>
<tr>
<td>The fabric is not being fed smoothly.</td>
<td>1. The feed dog is packed with lint.</td>
<td>See Page 57</td>
</tr>
<tr>
<td></td>
<td>2. The stitches are too fine.</td>
<td>See Page 16</td>
</tr>
<tr>
<td></td>
<td>3. The fabric is not fed at the beginning of sewing.</td>
<td>See Page 18</td>
</tr>
<tr>
<td></td>
<td>4. The feed dog is dropped.</td>
<td>See Page 9</td>
</tr>
<tr>
<td>The machine does not operate.</td>
<td>1. The machine has not been plugged in firmly.</td>
<td>See Page 7</td>
</tr>
<tr>
<td></td>
<td>2. Thread is jammed in hook mechanism.</td>
<td>See Pages 56 &amp; 57</td>
</tr>
<tr>
<td></td>
<td>3. The pattern selector dial has been set at “overlock sewing”.</td>
<td>See Page 8</td>
</tr>
<tr>
<td></td>
<td>4. The bobbin winder spindle has been pushed to the winding position.</td>
<td>See Page 11</td>
</tr>
<tr>
<td>The machine is noisy.</td>
<td>1. The machine is in need of oil.</td>
<td>See Page 61</td>
</tr>
<tr>
<td></td>
<td>2. Dust and lint have collected in the hook mechanism.</td>
<td>See Pages 56 &amp; 57</td>
</tr>
<tr>
<td></td>
<td>3. The feed dog is packed with lint.</td>
<td>See Page 57</td>
</tr>
</tbody>
</table>
# Trouble Shooting for Overlock Sewing

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cause</th>
<th>Reference</th>
</tr>
</thead>
</table>
| The cloth is not being fed smoothly. | 1. The feed dog is packed with lint.  
2. The presser foot has been raised.                           | See Page 58  
See Page 35 |
| The needle breaks.                 | 1. The needle is incorrectly inserted.  
2. The needle is bent or blunted.  
3. The fabric is forcedly pulled.  
4. The thread is jamming with spool pin. | See Page 35  
See Page 35  
See Page 45  
See Page 36 |
| The needle and/or looper thread break. | 1. The machine is not correctly threaded.  
2. The needle or the looper thread tension is too tight.  
3. The needle is incorrectly inserted.  
4. The needle is bent or blunted.  
5. The thread is jamming with spool pin. | See Pages 37 ~ 40  
See Page 42  
See Page 35  
See Page 35  
See Page 36 |
| Skipped Stitches                  | 1. The needle is incorrectly inserted.  
2. The needle is bent or blunted.  
3. The machine is not correctly threaded.               | See Page 35  
See Page 35  
See Pages 37 ~ 40 |
| The seam is not sewn neatly.       | 1. The needle and/or looper thread tensions are not correctly adjusted.  
2. The machine is not correctly threaded.  
3. The needle and/or the thread are not suitable for the fabric being sewn. | See Page 42  
See Pages 37 ~ 40  
See Page 34 |
| Seam Puckering                    | 1. The needle and/or the looper thread tensions are not correctly adjusted.  
2. The machine is not correctly threaded.                  | See Page 42  
See Pages 37 ~ 40 |
| The machine does not operate.      | 1. The machine has not been plugged in firmly.  
2. The stitch selector dial has been set at “Straight/Zigzag Stitch”.  
3. The bobbin winder spindle has been pressed to the winding position. | See Page 7  
See Page 33  
See Page 11 |