and the like. Always use the proper needle plate. The wrong plate can cause the needle to break.

11. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.

10. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.

9. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.

8. Do not operate the appliance where aerosol products are being administered.

7. Do not operate the appliance where aerosol products are being administered.

6. Do not operate outdoors.

5. Outdoors.

4. Never drop or insert any object into any opening.

3. Controller free from accumulation of lint, dust, and loose threads. Keep ventilation openings of the sewing machine and foot controller free from accumulation of lint, dust, and loose threads.

2. Do not immerse the appliance in water. Rinse the appliance to remove soap and detergent residue, then shake dry. DO NOT USE A DRYER. Do not dry in the dryer. Do not wash in detergent or hand-wash. Rinse the appliance.

1. Ensure the appliance is dry before using this sewing machine.

WARNING

DANGER

1. To reduce the risk of electric shock:

2. Do not use or store appliance where it can fall or be pulled into a tub or drop into water or other liquid.

3. Do not reach for the appliance that has fallen into water.

4. Do not place or store appliances where it can fall or be pulled into a tub or dropped into water or other liquid.

5. Do not operate the appliance where aerosol products are being administered.

6. Do not operate outdoors.

7. Never drop or insert any object into any opening.

8. Do not operate the appliance where aerosol products are being administered.

9. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.

10. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.

11. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.

12. Always use the proper needle plate. The wrong plate can cause the needle to break.

13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.

14. Switch the sewing machine off (O), when making any adjustment in the needle area, such as threading needles, adjusting the needle or changing the bobbin, or changing presser foot, adjusting needle, thread tension, or changing presser foot.
"DANGER"

"SAVE THESE INSTRUCTIONS"

"GROUNDING INSTRUCTIONS"

See the Grounding Instructions. Connect this appliance to a properly grounded outlet only.

17. Instructions: Operate sewing machine only when mounted in sewing machine table, case, and the like. See the Installation manual.

16. Instruction manual: Always unplug the sewing machine from the electrical outlet when removing covers, lubricating, or when making adjustments or repairs.

15. Always unplug the sewing machine from the electrical outlet when not in use.
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14 Troubleshooting
Instructions
Installation

1. Lay the machine backwards with bottom towards you and set screw.
2. After loosening set screws, position and set machine onto hinges.
3. Tighten set screws and swing down machine into place.

Grounding Means

1. Fig. 1
2. Fig. 2
3. Fig. 3

Grounding Pin

Whenever the adapter is used, it must be held in place by the metal screw. This prevents the outlet box cover from being removed. The outlet must be connected to a permanent ground such as a property ground. The outlet is an ordinary 2-pole, 15 amp, 120 volt outlet. It is a temporary adapter which looks like the plug as illustrated in Fig. 1. This sewing machine is for use on a nominal 120 V circuit.
3. Do not place anything on the foot control except for your foot.

Supply:

1. When making any adjustment in the needle area, such as threading needle, threading bobbin, or lowering bobbin case, always turn off the machine, and unplug from the power source.

2. Always turn off the machine, and unplug from the power source before touching any moving parts such as the take-up lever.

3. Always keep your eyes on the needle, and do not touch any moving parts, such as the take-up lever.

For your safety:

Fundamentals of Operation:

- Handle the machine with care to avoid dropping or bumping.
- Do not store the machine in an area of high humidity.
- Do not store near a radiator.
- Do not expose the machine to the sun for long periods of time.

For longer life of the Machine:

- Special sewing: a small piece of the fabric with the threads that will be used for sewing. Test the stitches on a piece of fabric. When setting the machine for sewing, test the stitches on a piece of fabric, and adjust the pressure foot. To replace the presser foot or needle, follow the guidelines in the instruction book.

Before Using the Machine:

• When cleaning the machine:
• When attaching or removing parts:
• When leaving the machine for any period of time:
• After using the machine:
• and the like:

Therefore, attach the holder of spool pin in place with a screw to prevent damage in transit. Spool pin and two set screws are separately packed to prevent.
CAUTION

Handle it
Protect your fingers when you
Under the sewing light may be HOT.
Before removing the face plate.

To replace... Turn it clockwise.
To remove... Turn it counterclockwise.
The face plate.

Replacing Sewing Light

The sewing light is located behind
The latch of the machine runs.
The harder you press on the control.

Sewing speed can be varied by the
Foot Control.

Connecting the Machine to the Power Supply

Before connecting the power, make sure the electrical rating
Voltage and frequency of the machine connected to your electrical

Connect the power supply plug to your power supply.

Turn off the power switch, and connect the machine plug to
the machine socket.

Turn on the power switch.
To Select a Suitable Needle

A number indicating the size of needle is marked on the stem. A number indicating the size is bent or blunt.

Do not use any needle supplied with the machine.

A blue tipped needle is thicker than the needle. The higher the number, the thicker the stem.

Blue tipped needle

<table>
<thead>
<tr>
<th>Threads</th>
<th>Fabrics</th>
<th>Needle Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 or 1</td>
<td>Light</td>
<td>Fine Silk</td>
</tr>
<tr>
<td>14 or 1</td>
<td>Medium</td>
<td>Fine Silk or Satin</td>
</tr>
<tr>
<td>16 or 1</td>
<td>Heavy</td>
<td>Denim, Twill, Oxford, Georgette, Crepe de Chine, Voile</td>
</tr>
</tbody>
</table>

Use the same thread for sewing.

When sewing very heavy fabrics, the blue tipped needle is used. When sewing stretchy fabrics, use a blue tipped needle. Always test the thread and needle tension before using them. The blue tipped needle is used for sewing thin materials. In general, the thread and needle weight are chosen based on the weight of the fabric.
Insert the new needle into the needle clamp with the flats to the side of the back.

Remove the needle from the clamp.

Loosen the needle clamp screw by turning it toward you.

Lower the presser foot.

Raise the needle by turning the balance wheel toward you and...
To Snap the Presser Foot On and Off:

1. Press the red button on the back of the foot holder.
2. Place the presser foot lever to lock the foot in place.

Note: Always place the foot correctly under the groove of the foot holder.

To Attach:
- Align the threaded hole in the presser bar with the hole in the finger holder.
- Tighten the screw by turning it clockwise.
- Match the hole in the finger guard with the screw counter-clockwise.
- Remove the thumb screw by turning it counter-clockwise.

To Detach:
- Remove the thumb screw by turning it clockwise.
- Match the hole in the finger guard with the screw.
- Tighten the screw by turning it clockwise.

The presser foot lever raises or lowers your presser foot.
• Removing the Bobbin

1. Gently push slide plate down and slide it towards you.

2. Lift out the bobbin, as shown.

• Setting Spool

1. Set the spool pin from the bottom end of the spool pin as illustrated.

2. Turn the spool pin.

3. Return the spool pin to its original position.
1. Clutch knob is pushed in.

2. The machine will not sew until the clutch.

3. Push in the clutch knob to engage the thread.

4. Move the bobbin winder spindles to the left position.

5. Wind the thread until the bobbin stops.

6. Depress the foot control again and the foot control.

7. While holding the free end of the thread, hold the spindles and push it to the right.

8. Pull the bobbin on the bobbin winder.

9. Shown: The bobbin from inside to outside and the thread through the hole in the bobbin.

10. Guiding the thread around the bobbin winder thread guide.

11. Draw the thread from the spool.

12. While winding the bobbin.
Inserting the Bobbin

1. Place the Bobbin in the

2. Continue to draw the thread.

3. Pull out about 15 cm (6") of
   thread.

4. Check the threading by
   threading the thread.

   - Draw the thread to the left
   - Closing the slide plate.
   - Slighting the thread between the ten.

5. Guide the thread into the
   Bobbin holder.

   - Notch A on the front side of
   - Notch B.
Thread the needle.

**NOTE:** You may want to cut the end of thread with sharp scissors for easier threading.

1. Thread needle eye from front to back.
2. Draw thread down and slip it into needle bar thread guide.
3. Firmly draw thread up and through take-up lever from right to left.
4. While holding thread near spool draw thread down into the tension area and then around the check spring holder.
5. Draw thread into thread guide using both hands.
6. Raise the presser foot with the presser foot lifter and pass the thread in the balance wheel towards you.
7. Raise the thread take-up lever to its highest position by lifting the lever.
To a higher number: 
Tighten the needle thread tension by moving the dial.

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

**Manual Needle Thread Tension**

Show slightly on the bottom side.
Show on the top side of fabric and the top threads will show in the correct zigzag stitch. The bobbin threads will not.

*For Zigzag Stitch* 

The two layers of fabric.
The ideal straight stitch will have threads locked between the setting mark.

Needle thread
Bobbin thread

Set **AUTO** for ordinary sewing to get well-balanced tension.

**Balancing Needle Thread Tension**

Drawing up Bobbin Thread

Raise the presser foot and hold.

Raise the needle thread slightly with your left hand.

Turn the balance wheel slowly.

Lightly draw up the needle thread forming a loop of the bobbin thread.

Pull back and under the presser foot 15 cm (6") of both threads.

Lever is at its highest position.

Lever continues down and continues to turn the balance wheel until the take-up lever is towards you with your right hand. 

Lever is at its highest position.

You have approximately 15 cm (6") of thread to move. 

You have approximately 15 cm (6") of thread to move.
Selecting Stretch Stitch Patterns

For most fabrics, select the suitable stitch length longer than the stitch length you can see.

The higher the number, the longer the stitch length.

Patterns

Stitch Length

1 ~ 4

0.3 ~ 0.6

1 ~ 3

When sewing stretch stitches, set the stitch length dial at "S.S.".

When patterns are coarse, correct it by turning the dial toward the "+."
When patterns are dense, correct it by turning the dial toward the "-.

Upon the type of fabric, correct the balance as follows:

When forward and reverse feeds become unbalanced depending on the sewing speed, set the balance wheel dial at "S.S.".

Turn the balance wheel until the tip of needle comes through the fabric.
Fabric is fed in reverse while the lever is pressed. When it is released, fabric is fed forward.

Reverse Stitch Lever

For dropping the feed dogs, turn the stitch length dial to the "mark" mark. *Dropping the Feed Dogs*
To start sewing, pivot the fabric to the desired direction. Then lower the presser foot and press the start button slowly.

While holding the threads with your left hand, turn the balance wheel toward you to bring the needle into the fabric. Then raise the presser foot and bring the needle down into the fabric. This is changing sewing direction.

**Section III Sewing**
3. Cut the threads with leaving proper length of their ends for starting the next seam.

2. Bring the thread take-up lever at its highest position, and raise the presser foot. Then draw the fabric out to the rear.

For fastening the end of seams, press the reverse stitch lever and sew several reverse stitches.

Zigzag Stitch

Zigzag width can be regulated in the range of the symbol as illustrated left.

Machine Setting

Stitch Length

- 0.3 - 4

A. Zigzag Foot
Seamming

3. This seam is formed with two skipped stitches.

4. Effectively prevents fabric needle which fabric, use a blue stretch fabric, over the edge.

5. When using stretch knit fabric, edge of fabric over the edge.

6. Place the fabric under the presser foot so that the stitches are made.

7. Here's how.

A: Zigzag Foot

S: S.

S: S.

Machine Setting

Stitch Length

Triplet Strengthen Stitch

C: Overedge Foot

Stitch Length

Machine Setting

Overcasting
Fold the hem under the fabric as illustrated. Fold up the hem the desired amount and pin in place.

1. On heavy weight fabrics that reveal the raw edge should be overcast first. On light weight fabrics the raw edge can be trimmed.

2. Position the fabric on the needle. Lower the presser foot, and sew the folded edge against the folded edge. Move the sliding guide along the sliding guide, sew the folded edge.

How to Fold the Fabric

How to Set the Guide

How to Sew
Set the pattern selector dial at "0." and sew 5 stitches of the pattern. Then raise the needle and turn the machine toward the 0° direction. If you want the coarse stitches of the pattern, turn the buttonhole on the dial toward the "+" direction. If you want the dense stitches of the pattern, turn the buttonhole on the dial toward the "-" direction. The symbol (red zone) on the stitch length dial indicates the range of adjustments you can make. Always make a practice buttonhole on a scrap of fabric you plan to use. Try the buttonhole with the button you will use. To start and lower the foot, lead both threads to the left. Set the pattern selector dial at "2." Raise the needle. Sew down the left side of the fabric. Stop the machine when you are directly opposite the first stitch on the buttonhole. Then raise the needle, backstitch, and lower the foot. Repeat as many times as desired. Raise the needle.
Well and mending tears in fabric as well. The stitch is excellent for discerning puckers and other fabrics that tend to seam allowance on synthetics. The foot stitch is used to finish the seam.

- **Stitches:** Be careful not to cut the opening with a seam ripper. Pierce a pin inside the threads. Remove the fabric from the machine, and cut the sewing thread. Remove the threads.

- **Foot:** A zigzag foot.

- **Stitch Length:** 0.5 - 2

- **Machine Setting:**

- Set the pattern selector dial.

- Raise the needle from the seam 5 stitches or backstitch and set the pattern selector dial.

- Dial as shown.
Thread tension at 4. 3.

Place the zipper opening with stitch length at 4. 4. and top
zipper opening. Use the reverse to lock the stitches.
Pull the top sides of the fabric together and sew to the end of the

To sew:

1. Reset stitch length at 2 and top

2. Fold the fabric to form a 0.2 cm to 0.3 cm

3. Turn under the right seam allowance.

4. Place the zipper teeth next to 1.

5. Fold.

6. Place the fabric on the zipper foot.

7. To sew on the right side of the

8. To sew on the left side of the

9. To attach the zipper foot:

- Pin on the zipper foot.
- Attach the presser bar to the
- Attach the presser bar to the
- Attach the presser bar to the
- Attach the presser bar to the
1. Make sure the seam is even. Repeat for the rest of the seam.
2. Remove the bobbin case. Open the zipper tape. Stitch through the fabric and leave the zipper intact. Stitch along the seam line to guide the foot along.
3. Turn the corner and continue stitching across and below the zipper. Stitch away from the zipper foot. Attach the zipper to the foot.
4. Stitch the seam. Lower the presser foot and attach the zipper on the other side of the seam.
5. Repeat for the rest of the seam. Lower the presser foot and remove the bobbin case. Open the zipper tape. Close the zipper.
When patterns are drawn out, correct it by turning the dial forward.

When patterns are compressed, correct it by turning the dial forward.

Length dial as follows:

Upon the type of fabric, correct the balance by turning the stitch lever forward and reverse. Leads become unbalanced depending on the type of fabric.

A: Zigzag Foot

S: Stitch Length

Machine Setting

Stretch Stitch Patterns

Feather Stitch

Butt two folded edges together and use this stitch to join them.
Trim about 0.7 cm (1/4 in) from
the point where sewing is to begin.

Keep the feeding smooth and evenly.

Sew 2 or 4 stitches while holding the
needle and bobbin threads.

Lower the needle into the fabric at
the hemmer foot.

Approximately 8 cm (3 in) in length.

Make a double 0.25 cm (1/8 in) fold.

Cut off the hemmer foot.

Lift the needle foot, insert the
folded portion of the fabric into the
fabric and then sew by hand.

Machine Setting

Rolled Hem
Cleaning the Bobbin Holder:

1. Remove the needle and feed dog.
2. Take out the bobbin.
3. Lift up the front end of bobbin holder.
4. Close the slide plate.
5. Insert the bobbin.
6. Take out the bobbin, and:
   - Remove lint with lint brush.
   - You may use vacuum cleaner.
7. Press tool.

Cleaning the Hook Race:

Before cleaning, unplug your machine and raise the needle.

SECTION IV CAREING FOR YOUR MACHINE
Resetting the Bobbin Holder and Needle Plate

1. Line up the triangle marks and stopper in the hook race. Insert the needle first next to the position of the bobbin holder so that the notch fits into the line of marks and attach with set screw.

2. Put the bobbin in.

3. Attach the needle plate with screw.

4. Brush off the lint on the feed dog.

5. Soil dry cloth.

6. Clean the bobbin holder with a lint brush and a soft dry cloth.
Apply a few drops of fine quality sewing machine oil to the points indicated by the arrows in the figures.

Remove the two screws and take off the top cover. Apply a few drops of fine quality sewing machine oil to the points indicated by the arrows in the figures. Wipe off the oiling points.

Before oiling, wipe off the oiling points.

For a minute.

Apply a few drops of kerosene or carbon tetrachloride to the oiling points, and run the machine rapidly.

In case the machine does not work smoothly due to standing idle for some time, apply a few drops of fine quality sewing machine oil to the points indicated by the arrows in the figures.

For a machine in constant use, oil two or three times a year.

Unscrew and remove the face plate.
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<thead>
<tr>
<th>Condition</th>
<th>Cause</th>
<th>Reference</th>
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<td><strong>Thread is not threaded properly</strong></td>
<td>5. The needle thread is not threaded properly.</td>
<td>See Page 12</td>
</tr>
<tr>
<td></td>
<td>4. A blue thread is not being used for sewing stretch.</td>
<td>See Page 6</td>
</tr>
<tr>
<td></td>
<td>3. The needle thread is not suitable for the work being sewn.</td>
<td>See Page 6</td>
</tr>
<tr>
<td></td>
<td>2. The needle is bent or blunt.</td>
<td>See Page 6</td>
</tr>
<tr>
<td></td>
<td>1. The needle is incorrectly inserted.</td>
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<tr>
<td><strong>Needle breaks</strong></td>
<td>Material</td>
<td>See Page 14</td>
</tr>
<tr>
<td></td>
<td>7. The pattern selector dial has been turned while the needle was in the needle thread.</td>
<td>See Page 6</td>
</tr>
<tr>
<td></td>
<td>5. The needle is loopy or loose.</td>
<td>See Page 17</td>
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<tr>
<td></td>
<td>4. The tension of the needle thread is too light.</td>
<td>See Page 7</td>
</tr>
<tr>
<td></td>
<td>3. The needle clamp screw is loose.</td>
<td>See Page 7</td>
</tr>
<tr>
<td></td>
<td>2. The needle is bent or blunt.</td>
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</tr>
<tr>
<td></td>
<td>1. The needle is incorrectly inserted.</td>
<td>See Page 7</td>
</tr>
<tr>
<td><strong>Bobbin thread breaks</strong></td>
<td>Replace the bobbin.</td>
<td>See Pages 26-27</td>
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<tr>
<td></td>
<td>See Page 11</td>
<td></td>
</tr>
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<td></td>
<td>3. The bobbin does not rotate smoothly.</td>
<td>See Page 6</td>
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<tr>
<td></td>
<td>2. The bobbin thread is not threaded properly in the bobbin holder.</td>
<td>See Page 17</td>
</tr>
<tr>
<td></td>
<td>1. The bobbin thread is not threaded properly.</td>
<td>See Page 13</td>
</tr>
<tr>
<td><strong>Needle thread breaks</strong></td>
<td>Smoothly and is noisy</td>
<td>See Page 12</td>
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<tr>
<td></td>
<td>2. The feed dog is blocked with lint.</td>
<td>See Pages 26-27</td>
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<tr>
<td></td>
<td>1. Threads have been caught in the mechanism.</td>
<td>See Page 12</td>
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</table>

**Trouble Shooting**
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<th>Cause</th>
<th>Reference</th>
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</thead>
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<tr>
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<td>1. Dust and lint have collected in the hook mechanism.</td>
<td>See Pages 26 - 27</td>
</tr>
<tr>
<td></td>
<td>2. The machine is in need of oil.</td>
<td>See Page 28</td>
</tr>
<tr>
<td></td>
<td>3. The feed dog is not pulled or held back.</td>
<td></td>
</tr>
<tr>
<td>The buttonhole stitches are not balanced.</td>
<td>1. The stitch length is not suitable for the fabric being sewn.</td>
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<tr>
<td></td>
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<td></td>
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<td>The machine does not work.</td>
<td>1. The machine is not plugged in.</td>
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<tr>
<td></td>
<td>2. A thread is caught in the hook race.</td>
<td>See Pages 26 - 27</td>
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<tr>
<td></td>
<td>3. The feed dog is not raised after the &quot;drop feed&quot; has been used.</td>
<td>See Page 16</td>
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<tr>
<td>The cloth is not feeding.</td>
<td>1. The thread is too heavy or too fine for the thread.</td>
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<td></td>
<td>2. The needle thread tension is too loose.</td>
<td>See Page 13</td>
</tr>
<tr>
<td></td>
<td>3. The stitches are too coarse for the cloth being sewn.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. The stitches do not lay down for the cloth being sewn.</td>
<td></td>
</tr>
<tr>
<td>Seam puckering</td>
<td>1. The needle thread tension is too tight.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. The needle thread and bobbin thread are not threaded properly.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. The needle thread tension is too loose.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. The stitches are too coarse for the cloth being sewn.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>When sewing extremely lightweight materials, place a sheet of paper underneath the fabric.</td>
<td>See Page 14</td>
</tr>
<tr>
<td></td>
<td>1. The feed dog is not pulled or held back.</td>
<td>See Pages 11 - 12</td>
</tr>
<tr>
<td></td>
<td>2. The needle thread tension is too loose.</td>
<td>See Page 13</td>
</tr>
</tbody>
</table>