Never operate the sewing machine with any open filters blocked. Keep ventilation openings of the sewing machine and foot control free from the accumulation of lint, dust, and loose cloth.

Never operate the sewing machine with any open filters blocked. Keep ventilation openings of the sewing machine and foot control free from the accumulation of lint, dust, and loose cloth.

3. Never operate this sewing machine if it has a damaged cord or plug. If it is not working properly, take it to an authorized dealer for inspection or repair.

2. 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.

1. Do not allow to be used as a toy. Close attention is necessary when this sewing machine is used by or near children.

Warning - To reduce the risk of burns, fire, electric shock or injury to persons:

DANGER - To reduce risk of electric shock:

This sewing machine is designed for household use.

Read all instructions before using this sewing machine.

When using an electric sewing machine, basic safety precautions should always be followed, including the following:

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

16. Always unplug before refilling. Replace bulb with the same rated 15 watt.

15. Always unplug sewing machine from the electrical outlet when removing covers, lubricating, or when making needle, changing needle, threading bobbin, or changing presser foot and the like.

14. Switch the sewing machine off. [,,0,,] when making any adjustments in the needle area, such as threading.

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

12. Do not use bent needle.

11. Always use the proper needle. The wrong pitch can cause the needle to break.

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

9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.

8. To disconnect, turn all controls to the off [,0,,] position, then remove plug from outlet.

7. Do not operate where aerosol [spray] products are being used or where oxygen is being administered.

6. Do not use outdoors.

5. Never drop or insert any object into any opening.
the machine without thread for a few minutes. Wipe away any oil which may have appeared.

5. When using your sewing machine for the first time, place a piece of waste fabric under the presser foot and run

4. The maximum permissible power for the sewing lamp bulb is 15 watts.

or motor may burn out.

3. Do not place anything on the speed controller, otherwise the machine will start inadvertently, or the controller

pulling the plug out of the wall socket.

2. When changing the needle, the presser foot, the bobbin or any other parts, always disconnect the machine by

machine while it is running.

1. Always be aware of the up-and-down movement of the needle and do not turn your attention from the

DO'S AND DON'TS
Trouble shooting:

37 Free-arm sewing
36 Cleaning the shuttle race
35 Removing extension table
34 Cleaning the feed dog
33 How to oil the machine

MACHINE CARE AND TROUBLE SHOOTING

32 Embroidery
31 Sewing blind hems
30 Hemming
29 Sewing zippers
28 Sewing buttonholes
15. Thread tension dial
14. Switch
13. Drop feed
12. Reversing shift
11. Stitch length dial
10. Balance wheel
 9. Bobbin winder spindle
 8. Bobbin winder stopper
 7. Spool pins
 6. Pattern selector dial
 5. Presser foot lifter
 4. Bobbin winder thread guide
 3. Throat plate lift lever
 2. Thread guide
 1. Pressure regulator

28. Extension table
27. Clutch knob
26. Handle
25. Face plate
24. Presser bar
23. Presser foot thumb screw
22. Presser foot
21. Feed dog
20. Shuttle cover
19. Needle plate
18. Needle
17. Needle clamp and screw
16. Needle bar
Caution

WARNING:

- UBs are available from sewing machine retailers. (Use 3.15 W.)
- Power supply.

Note:

- Before replacing a bulb, disconnect the machine from the power supply.
- To replace ... push and twist clockwise.
- To remove ... push and twist counter-clockwise.
- Screw.
- To remove ... unscrew.

The sewing lamp is located behind the face plate.

SEWING LAMP

With our threading.

Before using the machine, practice controlling the speed.

Note:

- By releasing the controller, the machine stops running auto.
- Press on the controller, the faster the machine runs.

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

HOW TO USE THE SPEED CONTROLLER

Power supply.

Note:

- Before plugging in the machine, ensure that the voltage and number of cycles indicated is conformed to your electrical supply.

1. Plug the machine into the power supply.
2. Plug the machine to the power supply.

HOW TO CONNECT THE MACHINE TO THE POWER SUPPLY
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.*

*Use the same thread for needle and bobbin.*

*be used for actual sewing.*

Note: In general, fine threads 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

<table>
<thead>
<tr>
<th>Fabric Size</th>
<th>Threads</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 or 16</td>
<td>Cotton Covered Polyester, Cotton Covered Polyester, Coating, Drapery and Upholstery Fabrics</td>
<td>HEAVY WIGHT</td>
</tr>
<tr>
<td>11 or 14</td>
<td>Cotton Covered Polyester, 50 to 60 Cotton, 50 to 60 Polyester, Linen, Cutaway Knits, Percale</td>
<td>MEDIUM WEIGHT</td>
</tr>
<tr>
<td>9 or 11</td>
<td>Fine Cotton Covered Polyester, Fine Cotton, Fine Synthetic, Lawn, Organdy, Georgette, Tissue, Crepe de Chine, Voile</td>
<td>LIGHT WEIGHT</td>
</tr>
</tbody>
</table>

NEEDLE SIZE | THREADS | FABRICS
To Select A Suitable Needle

1. Turn the balance wheel towards you until the needle is at its highest position.
2. Loosen the needle clamp screw by turning it's top edge towards you.
3. Place the new needle into the needle clamp with it's flat side facing away from you. Push the needle up into needle towards you. Remove the needle from the clamp.
4. Tighten the needle clamp screw firmly.

A number indicating the size of the thickest needle.

Do not use any needle which is bent or blunted.
REGULATING THE PRESSER FOOT PRESSURE

1. By raising or lowering the presser foot lever, the presser foot goes up and down respectively.
2. For additional clearance, the foot lifter can be raised higher to sew on heavy fabrics.

RAISING OR LOWERING THE PRESSER FOOT

---

Increase the pressure on the material to the left, and allow the shifting to lay into position "c" so as to provide the light pressure required. For sewing thick or heavy materials, push the shift down and a bit to the left, and allow the shifting to lay into position "b" so as to provide the lift lever from any pressure of the presser foot. The material is now free from any pressure of the presser foot. Keep the shifting at position "a". This --
To Attach:

1. Place the presser foot so that the pin on the foot lies just under the groove of the foot holder.
2. Place the presser foot on the pin of the foot holder.

To Remove:

1. Turn the balance wheel towards you until the needle is at its highest position.
2. Raise the presser foot. By lifting the presser foot lifter,
   the presser foot will drop off.

Note: Do not force the presser foot to remove it.

When the presser foot lifter is raised you'll find the presser foot is locked in place.

REM.92.5 ATTACHING THE PRESSER FOOT
Tighten the screw firmly with a screwdriver.

When attaching the foot holder to the presser bar, push it up as far as it will go and lift the presser foot lever.

Raise the needle to its highest position by turning the balance wheel towards you, and raise the needle to its highest position by turning the balance wheel towards you, and

TO ATTACH:

1. Remove the foot from the foot holder and loosen the foot holder screw with a screwdriver.
2. Lift the presser foot.
3. Raise the needle to its highest position by turning the balance wheel towards you, and

TO REMOVE:

1. To allow clearance when you clean the feed dog, it is not necessary to remove the foot holder unless you use blind stitch hem guide or

REMOVING OR ATTACHING THE FOOT HOLDER
It is better to test the stitching on a scrap of the fabric you are using before starting to make a garment. Fabric being sewn, as well as the type of stitch you are making, another. The required tension depends upon the stiffness of fabric, thickness of the fabric, numbers of layers of fabric, and so on. The tension for one fabric may not be correct for another. There are many reasons for having to reset your tension. The best tension for one fabric may not be correct for another.

To decrease tension, turn screw clockwise. To increase tension, turn screw clockwise.

Loosen the needle thread by moving the dial to the lower number. This reduces the thread tension. Tighten the needle thread by moving the dial to the higher number. This increases the thread tension.

The bobbin thread should be in the center of the bobbin. The bobbin thread should be wound evenly. The tension for sewing is set between 3 and 7 on the tension dial. It will be necessary to adjust the needle thread tension if necessary. Set the tension to the highest position when sewing thin fabrics. Turn the balance wheel by hand. The thread tension is set to the correct position by turning the balance wheel until the thread is drawn through the needle eye easily with a little resistance without slipping. If the thread tension is set too high, the thread may break. The correct position is when the thread is drawn through the needle eye easily with a little resistance.

Generally, thread tension should be controlled by the thread tension dial. Bobbin thread tension has been adjusted at the factory and readjustment is necessary only in emergencies. The thread tension should be set between 3 and 7 on the tension dial. Turn the balance wheel by hand. The thread tension is set to the correct position by turning the balance wheel until the thread is drawn through the needle eye easily with a little resistance without slipping. If the thread tension is set too high, the thread may break. The correct position is when the thread is drawn through the needle eye easily with a little resistance.

REGULATING THE THREAD TENSION
Dropping the Feed Dog:

Strengthening the seams and darts without tying the threads, and is also useful for sewing seams.

By depressing the shield, the machine will resume normal forward stitch, zoom immediately start feeding backwards.
—Press the reversing shift downwards and hold it while reverse.

Reverse Stitch:

The shorter the stitch, approximately stitch lengths in mm. The lower the number, length is at setting mark. The numbers indicate the mm.

To change the length of the stitches proceed as follows:

Embroidering and sewing buttons can be best performed with feed mechanism being disengaged.

Mail function:

In diagram (b) the feed dog will get up back and reseat itself.

Once you push the clutch inside and lift it upwards (as shown in diagram A), the material can be moved freely under the needle.

Thus, to drop down the feed dog (as shown in diagram A), this is done by pushing the clutch inside and lining downwards feed mechanism being disengaged.
22. Elastic embroidery stitch
21. Elastic embroidery stitch
20. Elastic embroidery stitch
19. Double overlock stitch
18. Overcast stitch
14-17. ( ) Triple zigzag stretch stitch or racetrack stitch
13. ( ) Triple straight stitch, left needle position
12. ( ) Triple straight stitch, middle needle position
Patterns as desired.

Turning the pattern selector dial to find the stretch stitch

When sewing stretch stitch, set the stitch length dial at

Stretching Stretch Stitch: 0
Automatic buttonhole sewing:

11. ( ) Block stitch
10. ( ) Scallop stitch
9. ( ) Bevel stitch
8. ( ) Double action stitch
7. ( ) Mini stitch
3-6. ( ) Zigzag stitch with variable width
2. ( ) Straight stitch, left needle position
1. ( ) Straight stitch, middle needle position

Pattern indication as follows:

The pattern can be selected by turning the pattern selector dial.

THE PATTERN SELECTOR
1. Raise the presser foot and turn the balance wheel towards you until the thread take-up lever is at its highest position.

2. Open the shuttle cover.

3. Open hinged latch of bobbin case and pull bobbin case out of machine.

Hold the bobbin case latch open, the bobbin cannot drop out.

Release the latch and the bobbin will fall out. As long as you keep the latch open, the bobbin will not be able to drop out.
1. Release clutch by turning clutch knob.

2. Draw thread from spool through bobbin winder tension disc as shown.

3. Pull end of thread through hole in bobbin winder disc as shown.

4. Place bobbin onto bobbin winder.

5. Wind thread until winder stops.

6. Tighten clutch knob.

Remove bobbin. Clip thread.

Fill bobbin is slightly machine. When bobbin is slightly full, clip off end of thread.

Push bobbin to the top of the bobbin. Hold bobbin on end of thread, start winder until it clicks.

Wind thread onto the right onto bobbin winder.

Wind thread until winder stops.

Tighten clutch knob.
1. Hold the bobbin case in your left hand as shown and place the threaded bobbin inside.

2. Pull the thread into the slot in the edge of the bobbin case.

3. Now pull the thread under the tension spring and into the slot.

To insert the bobbin case and bobbin:

1. Slip the bobbin case over the center pin of the bobbin. Open the latch of bobbin and hold the bobbin case so that it long enough to pass bobbin case and press down.

2. Release latch and press hook and press into place until long finger of the case. Slip the bobbin case over the center pin of the case.

3. Ensure that about 15 cm (6 inches) of thread extends from the bobbin.
THREADING THE NEEDLE THREAD

1. Raise presser foot using the foot lift lever position. Place the take-up lever @ in the highest position coming from the back of the spool.

2. Draw the thread through thread guides as shown. Position spool on spool pin as shown. Without leaving the thread about 6 inches (6 inches) and thread the needle from front to rear.

3. Hold the spool still with right hand, pull the thread through the tension disk and of the thread between the tension disk.

4. Draw the thread through check spring from as shown in ⑥.

5. Release the tool of spool thread and pass the draw the thread through guides ⑥ and ⑦. Release as in ⑥.

6. Draw the thread through guides ⑥.

7. Long underneath the presser tool: leave the thread about 140cm (6 inches)

8. Position when threading the needle thread.
1. Hold the end of the needle thread with your left hand.

2. Turn the balance wheel slowly towards you with your right hand.

3. Pull about 15 cm (6 inches) of both threads away from you under the presser foot.

Lightly draw up the needle thread forming a loop with the bobbin thread. Gently pull the thread through the eye of the needle, then pull the reverse lever to start the sewing machine. When the reverse lever is at its highest position, pull the balance wheel until the needle goes down and comes up, then stop hand. Then turn the balance wheel slowly towards you with your right hand.
3. Lower the presser foot, and press the speed controller gently, you wish to start sewing.

2. While holding the threads with your left hand, turn the balance wheel toward you to bring the needle into the fabric where starting sewing.

1. Be sure both the threads are drawn back under the presser foot.

Pattern selector dial and stitch width dial.

Raise the needle to its highest position before turning the

Sew a few reverse stitches by pushing reverse button for rein-
tering the end of seams.

1 zigzag foot

Stitch Length Dial

3.6/6 (for zigzag stitch)

1 or 2 (For straight stitch)

Presser Foot
1. Stop the machine, and turn the balance wheel toward you to change the sewing direction.
2. Pivot the fabric around the needle to change direction as desired.
3. Lower the presser foot and continue the sewing.

For fastening the ends of seams, press down the reverse lever and draw the thread away from you.

To remove the fabric, raise the presser foot and draw the thread away from you.

Sew several reverse stitches.

Leave about 15 cm (6 inches) of thread hanging from the needle eye.

With a pair of scissors, sever threads on the rear of the presser bar or thread cutter.
Bend the needles out of the fabric, otherwise the twin needle will break or the spool pins. To turn a corner with a twin needle, you have to take the spool pins. Place two round felt provided in the accessories over needle eyes.

1. Insert the twin needle in the same way as a single otherwise a needle may hit the needle plate.
2. Set the pattern selector in the range of 0–2.
3. Pass both threads up to face plate thread guides as one (that side away from you).
4. Separate the threads on needle bar thread guides and for single needle stitching.

Pretty colored patterns can be made by sewing with a twin needle and different-colored threads.
Skipped stitches.

The blue tipped needle effectively prevents

Note: Use a blue tipped needle.

<table>
<thead>
<tr>
<th>Stitch Length Dial</th>
<th>Pattern Selector</th>
<th>Zigzag Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.S.</td>
<td>14-17</td>
<td>Presser Foot</td>
</tr>
</tbody>
</table>

TRIPLE STRAIGHT STRETCH STITCH

For seams that need greater strength, e.g. crotch seams or pocket seams.

If you wish to sew stretch fabrics, this is the right stitch to avoid thread breaking. This is also very suitable

TRIPLE STRETCH STITCH
The blue tipped needle effectively prevents skipped stitches.

Note: Use a BLUE TIPPED needle.

Sew on a piece of waste fabric to check the machine setting.

Guide the material lightly as shown.

Lower the presser foot and start sewing.

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

<table>
<thead>
<tr>
<th>Stitch Length Dial:</th>
<th>5.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern Selector:</td>
<td>16K</td>
</tr>
</tbody>
</table>

* Zigzag foot

With this seam it is possible to provide raw edges, especially on easily fraying fabrics, with a good-looking and

OVERCAST STITCH
Carefully trim away the excess as close as possible to the sewing line when sewing the "edges" of work, sew near the edge of the fabric and even bed line. It will also add a professional touch to the edges of tablecloths, napkins, etc.

This is one of the most useful and attractive decorative stitches and can be used with very pleasing effect on the edges of collars, cuffs, handkerchiefs, etc.

SCALLOP STITCH

Design on Garment.

It is best to practice a sample design on a fabric scrap before sewing.

If you are stitching on a very soft fabric, it is wise to use a backing and a particularly suitable for woven fabrics. These stitches have a wide range of decorative and utility applications. Closely spaced zigzag stitches are called automatic embroidery stitches.

**AUTOMATIC EMBROIDERY STITCHES**

- Stitch Length Dial: 0.3 to 1
- Pattern Selector: 10 (9), 11 (11)
- Zigzag Foot:
DECORATIVE EDGING

The stitch is decorative as well as useful.
Elastic fabrics and stretch lace, lingerie stretch knit.
This is a good stitch to use in attaching or binding.

DOUBLE OVERLOCK STITCH

Stitch Length Dial: S
Pattern Selector: 19 (1)
Presser Foot: Zigzag foot

DOUBLE ACTION STITCH

Stitch Length Dial: 1 to 2.5
Pattern Selector: 8 (1)
Presser Foot: Zigzag foot
Sewing Buttonholes

1. Insert the buttonhole foot and thread the needle with the buttonhole thread.
2. Set the stitch length dial to 0.3 to 1.
3. Set the pattern selector to the buttonhole pattern.
4. Raise the presser foot and place the buttonhole foot.
5. Sew the buttonholes in a straight line without turning the material.

The buttonhole mechanism built into the machine makes it possible to sew buttonholes without using a template.
Sewing Buttonholes (continued)

1. Set the pattern selector at "C". Then pass the needle thread through the opening in the buttonhole foot and draw both of the needle and bobbin threads to the left side. Turn the balance wheel towards you until the needle comes to the point (I).

2. Lower the foot and sew slowly until a desired length is sewn.

3. Raise the needle and set the selector at "C". Then sew several stitches of bar tack until the needle is at point (3).

4. Raise the needle and set the selector at "C". Then sew the right side of buttonhole just as the same length as the left side of buttonhole. Stop the machine at (4).

5. Raise needle and set the selector at "C". Then sew several stitches of final bar tack. Stop the machine with the needle at point (5). To lock threads, set the pattern selector at "B".

6. Cut the buttonhole open carefully using a seam ripper, taking care not to damage the bar tacks.

Note: To make a heavier buttonhole, sew twice by repeating the same procedure.
3. To sew the uncut side zipper change position of foot for bring zipper by keeping the needle in the fabric.

2. Sew on the right side of zipper by guiding zipper Reach should be put away under the foot.

1. Pin or place the zipper tape to the fabric and place the work. Attach snap on zipper foot so that the needle passes on its position under the foot.

To the balance wheel towards you. Replace the foot with the zipper. Raise the foot and the needle to its highest position by turning 1 to 4 Stitch Length Dial. Refer to the table below.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Presser foot. Zipper foot</td>
</tr>
<tr>
<td>2</td>
<td>Pattern selector.</td>
</tr>
<tr>
<td>3</td>
<td>Zipper foot.</td>
</tr>
<tr>
<td>4</td>
<td>Zipper foot.</td>
</tr>
</tbody>
</table>
Hemming

Groove under the foot.

Ensure that the workpiece edge runs freely through the tool. The fabric must be fed into the scroll of the hemmer tool.

Run into the hemmer tool.

During sewing, fold the fabric to the left a little and allow it to pull into the threads.

Lower the foot and sew the hem.

Fold over the fabric edge by about 3 mm (1/8 inches) and place it with the hemmer foot.

Raise the foot and the needle to its highest position. Replace the presser foot.
1. Turn the hem with the desired width and press. (Fig. 1)

2. Fold hem back against the right side of the garment with top edge of hem extending about 4 mm (1/6 inches) to the right side of the garment folded. (Fig. 2)

3. Place the garment under the foot so that double-folded edge runs along the hem guide and lower the foot. Zigzag stitches will fall on the hem edge and wide zigzag stitches will just catch one thread of folded edge. (Fig. 3)

4. Unfold the fabric and you will have a blind stitch hem.

Stitch length dial: 1.1 to 3
Pattern selector: 7
Presser foot: Blind hem foot

SEWING BLIND HEMS
on the right side of the fabric with a pencil or tailor's chalk.

- It is recommended to mark the required embroidery pattern through the right side of fabric.
- Set the needle thread tension a little looser so that the bobbin thread is not pulled through to the right side of fabric.
- Slowly and do not allow your fingers to get near the needle.

While sewing the desired pattern, move the embroidery hoop slowly.

Hold the embroidery hoop firmly with your hand.

Presser foot from presser foot lever to lower the presser foot lifter.

To drop down the feed dog (as shown in page 13) and to remove the feed dog.

The fabric shall be well fixed with embroidery hoop.

Pattern selector

Remove presser foot

EMBROIDERY
any excess oil.

Do not forget to sew first on waste fabric, in order to soak up the machine again. If the oil is not running well, try applying a few drops of oil to the oiling points and run the machine for a minute or two. If the machine is not running well after bringing it out of use for a long period, apply a few drops of oil to the oiling points. The oiling points are marked with arrows in the illustrations.
Retire the needle plate.

Teeth.

With a brush, clean out dust and lint clogged on the feed dog off the needle plate from the machine.

Unscrew the needle plate set screws with a screwdriver to take Remove the needle and presser foot.

To ensure smooth sewing.

It is necessary to keep the feed dog teeth always cleaned in order.

CLEANING THE FEED DOG
By lifting it upward while pulling to the left as illustrated.
To convey your sewing machine from flat-bed extension to free-arm use, simply remove the extension table.
Cleaning the Shuttle Race

Position: Reinstall bobbin case with bobbin pin fits into notch. Lock retaining ring by turning levers back into retaining ring polished side out, making sure the bottom race, forming perfect circle with shuttle driver.

Hold shuttle by center pin and fit carefully back into shuttle as shown.

To Reassemble:

1. Use oil. Oil all parts of shuttle and wipe with a lightly lint and thread. From shuttle. Clean the reverse side of feed dog with a small brush. Remove shuttle by grasping center pin.

2. Turn levers away from shuttle and lift out retaining ring and raise needle to its highest position and remove bobbin case.

3. Unplug the machine from the power supply.
4. Sewing in elastic casings in skirts or pants at the waistline.
3. Applique, embroider or hem around edges of cuffs or pants legs.
2. Smaller garments. This is especially true when sewing sleeves more easily.
1. Hem elbows and knees of garments more easily. You will find many uses for this free arm feature such as:
   - Just slip the sleeve or pants leg on the free arm as shown above.
   - The free arm enables you to sew tubular types of pieces more easily.
   - Converts to free arm machine by removing the extension table.

This sewing machine can be used like a flat bed machine but easily
<table>
<thead>
<tr>
<th><strong>Cause</strong></th>
<th><strong>Remedy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Needle not properly threaded</td>
<td>Insert needle properly</td>
</tr>
<tr>
<td>Needle is too heavy for needle</td>
<td>Change needle</td>
</tr>
<tr>
<td>Needle thread is broken</td>
<td>Replace needle</td>
</tr>
<tr>
<td>Something wrong with the needle</td>
<td>Thread tension too tight</td>
</tr>
<tr>
<td>Thread not properly threaded</td>
<td>Tension not properly set</td>
</tr>
<tr>
<td>Needle is bent or too hard</td>
<td>Needle worn</td>
</tr>
<tr>
<td>Fabric too heavy or too hard</td>
<td>Fabric torn on the fabric</td>
</tr>
<tr>
<td>Needle bent</td>
<td>Needle bent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>STITCHES ARE LEFT OUT</strong></th>
<th><strong>Remedy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thread bobbin incorrectly</td>
<td>Replace thread bobbin correctly</td>
</tr>
<tr>
<td>Wind bobbin correctly</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>NEEDLE BREAKS</strong></th>
<th><strong>Remedy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Needle worn</td>
<td>Replace needle</td>
</tr>
<tr>
<td>Needle bent or too hard</td>
<td>Replace needle</td>
</tr>
<tr>
<td>Needle not properly fitted on needle bar</td>
<td>Replace needle</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BOBBIN THREAD BREAKS</strong></th>
<th><strong>Remedy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Needle plate, shuttle or sewing foot damaged</td>
<td>Replace needle</td>
</tr>
<tr>
<td>Needle not properly inserted</td>
<td>Replace needle</td>
</tr>
<tr>
<td>Thread break spring is broken</td>
<td>Replace needle</td>
</tr>
<tr>
<td>Thread is too heavy for needle</td>
<td>Replace thread</td>
</tr>
<tr>
<td>Thread tension too tight</td>
<td>Replace thread</td>
</tr>
</tbody>
</table>

**Troubleshooting: Causes and Remedies**
<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine does not run freely and makes a noise</td>
<td></td>
</tr>
<tr>
<td>Drive belt tension too tight</td>
<td>Machine needs oiling</td>
</tr>
<tr>
<td>Wrong oil used, has now clogged machine</td>
<td>Dust and thread in shuttle</td>
</tr>
<tr>
<td>Read instructions on how to clean shuttle race</td>
<td></td>
</tr>
<tr>
<td>Loose tension of drive belt</td>
<td></td>
</tr>
<tr>
<td>Clean machine carefully and re-oil with top quality oil</td>
<td></td>
</tr>
<tr>
<td>Use top quality threads</td>
<td>Bobbin thread unevenly wound</td>
</tr>
<tr>
<td>Bobbin thread of poor quality</td>
<td></td>
</tr>
<tr>
<td>Irregular stitches</td>
<td></td>
</tr>
<tr>
<td>Sewing foot pressure too strong</td>
<td></td>
</tr>
<tr>
<td>Read instructions for regulating sewing foot pressure</td>
<td></td>
</tr>
<tr>
<td>Read instructions for regulating needle and bobbin thread tensions</td>
<td></td>
</tr>
<tr>
<td>Shrinkage or puckering of the seam</td>
<td></td>
</tr>
<tr>
<td>Thread check spring not working properly</td>
<td></td>
</tr>
<tr>
<td>Thread size not suited to fabric</td>
<td></td>
</tr>
<tr>
<td>Thread is not wound properly wound</td>
<td></td>
</tr>
<tr>
<td>Needle thread properly threaded and/or bobbin thread</td>
<td></td>
</tr>
<tr>
<td>Thread tension not properly regulated</td>
<td></td>
</tr>
<tr>
<td>Read instructions for regulating needle and bobbin thread tensions</td>
<td></td>
</tr>
</tbody>
</table>

Trouble shooting: causes and remedies
CONSOLIDATED SEWING MACHINE CORP.
INDUSTRIAL SEWING & CUTTING EQUIPMENT

MAIN OFFICE
131 WEST 25TH ST
NEW YORK, NY 10001
TEL: 212-741-7788
FAX: 212-741-7787

MIAMI OFFICE
4013 N.W. 79TH AVE.
MIAMI, FL 33166
TEL: 305-471-0200
FAX: 305-471-0243

L.A. OFFICE
2320 SOUTH HILL ST.
LOS ANGELES, CA 90007
TEL: 213-745-8844
FAX: 213-745-8855