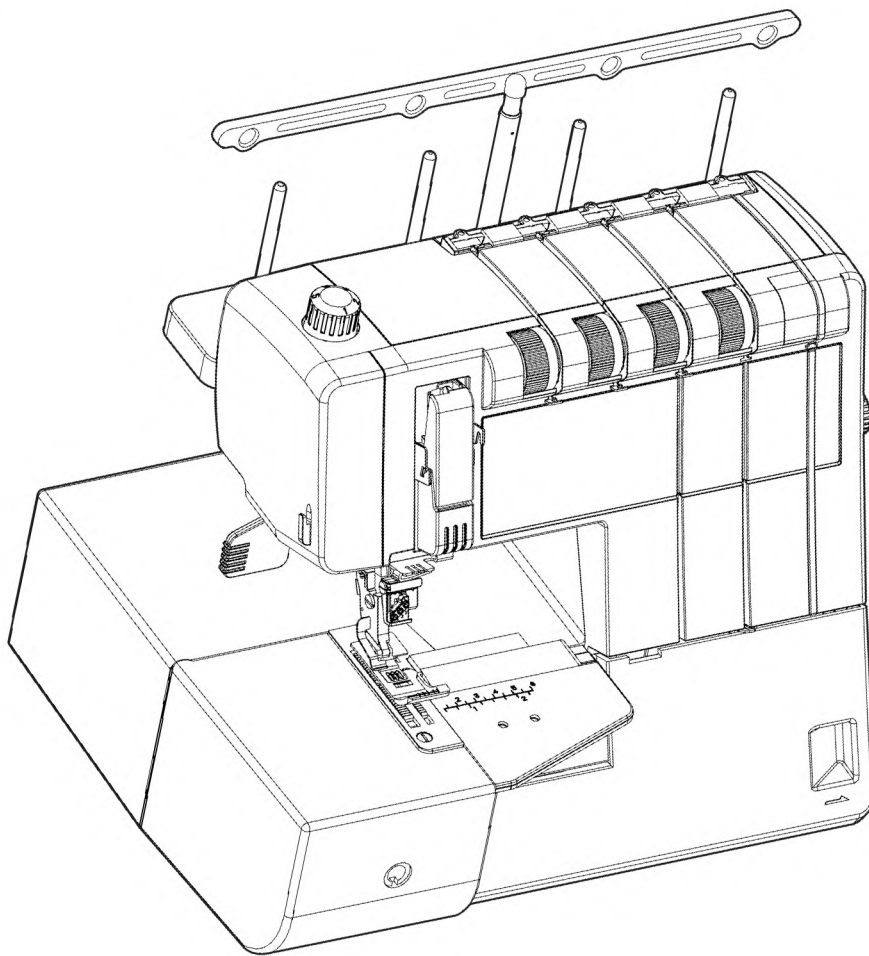


Instruction Manual



Model CS-900

IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic safety precautions should always be followed, including the followings:

Read all instructions before using this sewing machine.

DANGER-To reduce the risk of electric shock:

1. An appliance should never be left unattended when plugged in. Always unplug this sewing machine from the electric outlet immediately after using and before cleaning.
2. Always unplug before replacing a sewing machine bulb. Replace bulb with same type rated 15 Watts.
3. The sewing machine is equipped with a LED lamp. If the LED lamp is broken, it must be replaced by the manufacturer or its service agent in order to avoid a hazard.

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

1. Do not allow to be used as a toy. Close attention is necessary when this sewing machine is used by or near children.
2. Use this appliance only for its intended use described in this owner's manual.
Use only attachments recommended by the manufacturer as contained in this owner's manual.
3. Never operate this sewing machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water.
Return this sewing machine to nearest authorized dealers or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the appliance with any air opening blocked. Keep ventilation openings of this sewing machine and foot controller free from accumulation of lint, dust and loose cloth.
5. Never drop or insert any object into any opening.
6. Do not use outdoor.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. To disconnect, turn all controls to the off ("0") position, then remove plug from outlet.
9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
10. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
11. Always use the proper needle plate. The wrong plate can cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
14. Switch this sewing machine off ("0") when making any adjustment in the needle area, such as threading the needle, changing the needle, threading the bobbin or changing the presser foot, and the like.
15. Always unplug this sewing machine from the electrical outlet when removing covers, lubricating, or when making any other adjustments mentioned in this owner's manual.

SAVE THESE INSTRUCTIONS

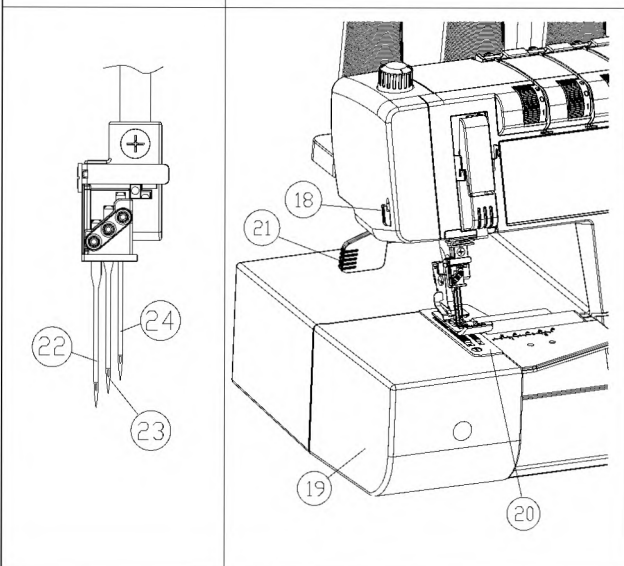
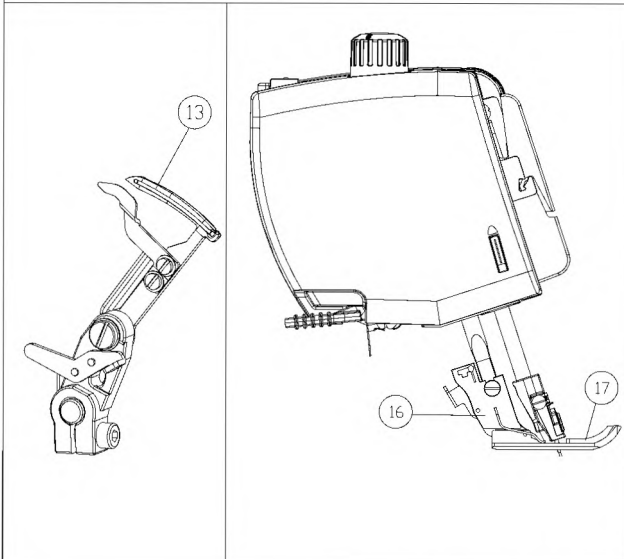
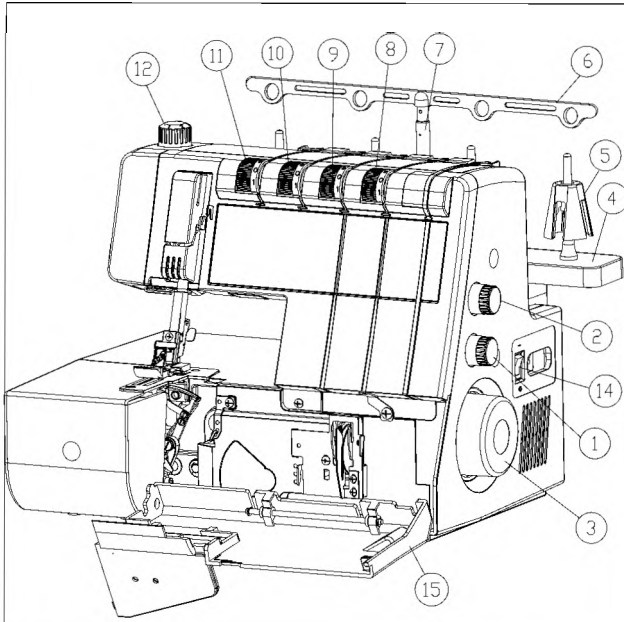
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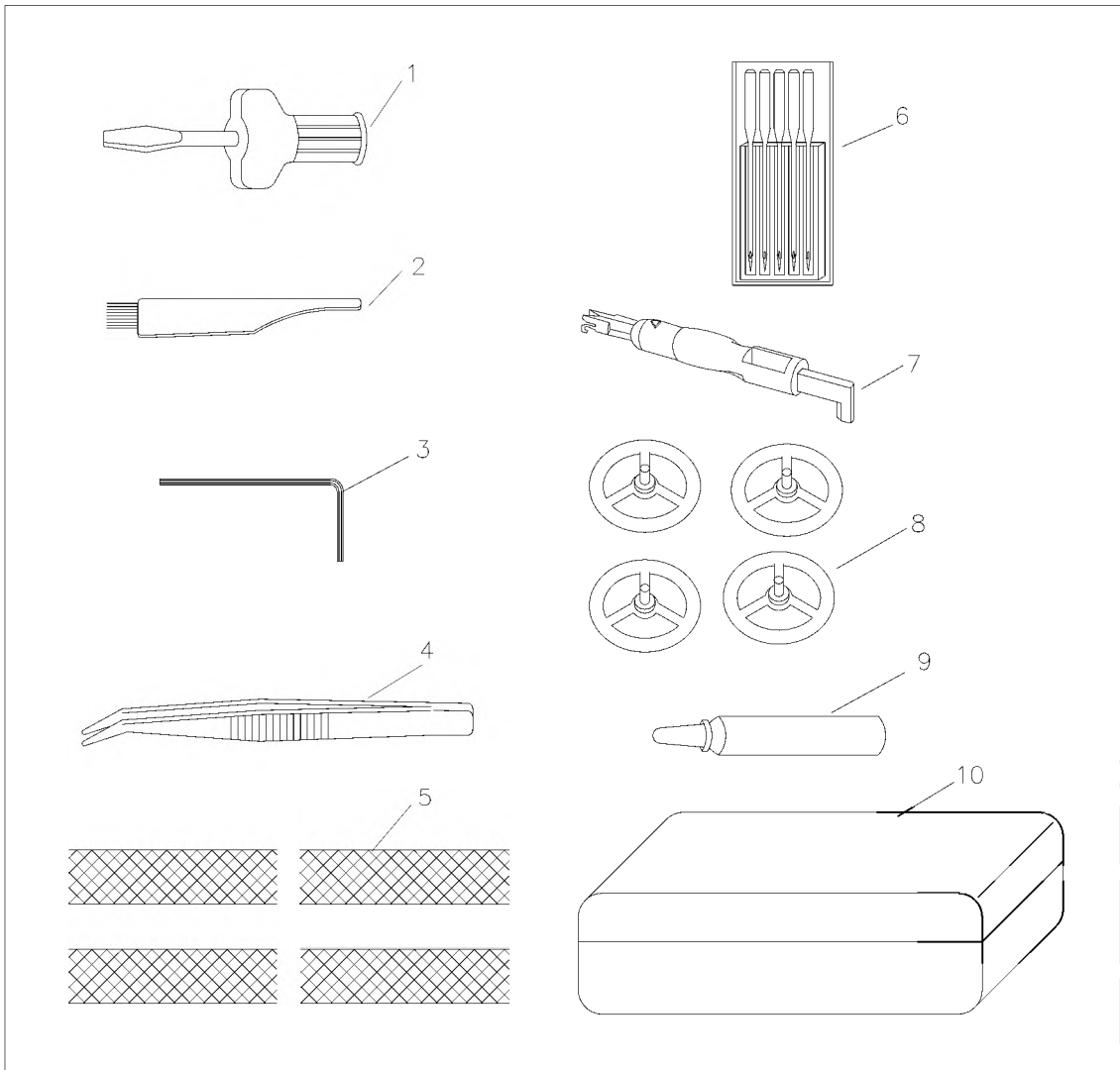
KNOW YOUR MACHINE

Name of parts

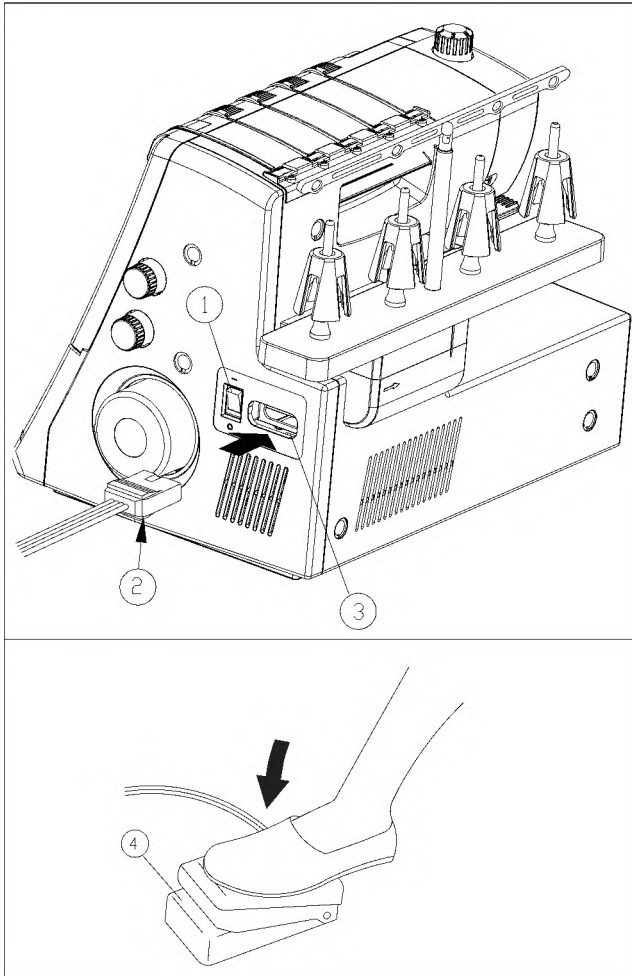
1. Differential dial
2. Length dial
3. Balance wheel
4. Thread reel stand
5. Spool cushion
6. Thread reel bar hook
7. Three-extension rod
8. Looper thread tension dial
9. Right needle thread tension dial
10. Center needle thread tension dial
11. Left needle thread tension dial
12. Pressure adjusting dial
13. CS looper
14. Power switch
15. Looper cover
16. Presser holder
17. Presser foot
18. Blade
19. Cloth cover
20. Needle plate
21. Presser bar connection rod
22. Left needle#14
23. Center needle#14
24. Right needle#14



Standard Accessories



1. Screw driver
2. Cleaning brush
3. Hexagonal wrench
4. Tweezers
5. Nets x 4
6. Set of needles
7. Needle threader
8. Spool holder caps x4
9. Machine oil
10. Accessory box



Getting Ready To Sew

Connect 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 the power switch.

- ① Power switch
- ② Machine plug
- ③ Machine socket
- ④ Foot controller

Controlling Sewing Speed

Sewing speed can be varied by the foot control.

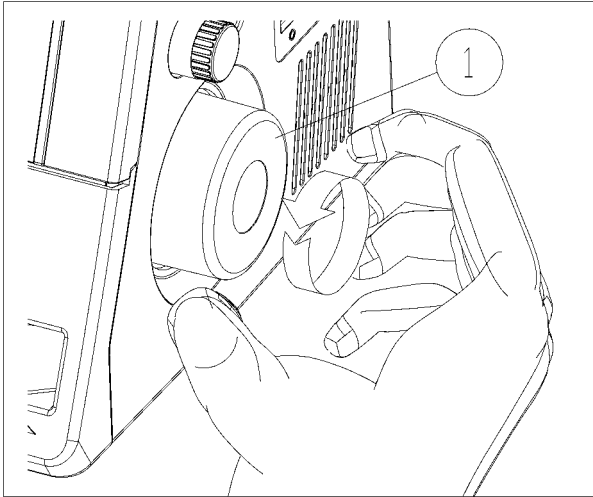
The harder you press on the control, the faster the machine runs. Step on the foot control with the presser foot lifter up, and practice controlling the speed.

For Your Safety:

- ✧ While the machine is in operation, always keep your eyes on the sewing area, and do not touch any moving parts such as the loopers, balance wheel or needles.
- ✧ Always disconnect the machine from the power supply:—when leaving the machine unattended.—when attaching or removing parts.—when threading or cleaning the machine.
- ✧ Do not place anything on the foot control, except when the machine is in use.

Operating instruction:

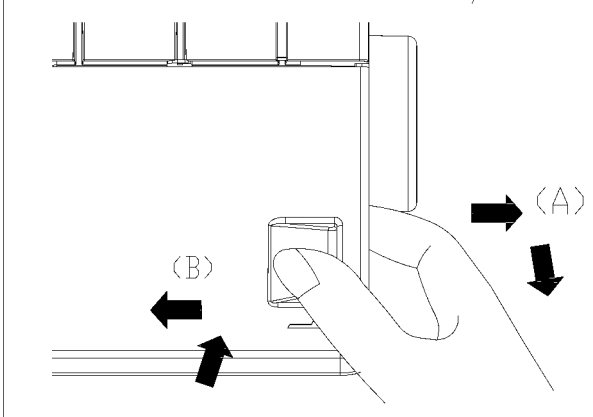
- The symbol “O” of a switch indicates the “off” position of a switch.
- For appliances with a polarized plug (one blade wider than the other). To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If it does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.
- Foot controller Model YC-483-5 is for use with sewing machine model CS-900



How to Turn the Balance Wheel

Always turn the balance wheel toward you .

- ① Balance wheel



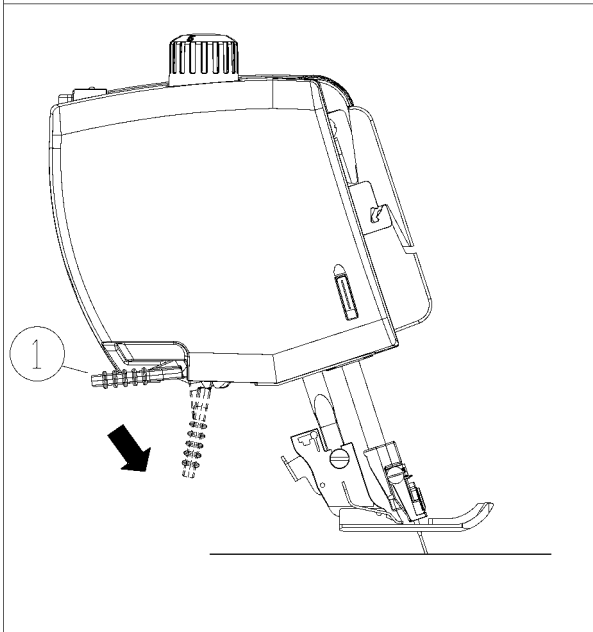
Opening and Closing looper cover

To open: (A) While pushing with the thumb to the right as far as it will go, pull the looper cover toward you.

NOTE: When the looper cover is opened, the motor will switched off immediately although the power switch is at position "1".

To close: (B) Lift the looper cover and push it against the machine. The looper cover snaps into its position automatically.

- ① Looper cover



Raising or Lowering the Presser Foot

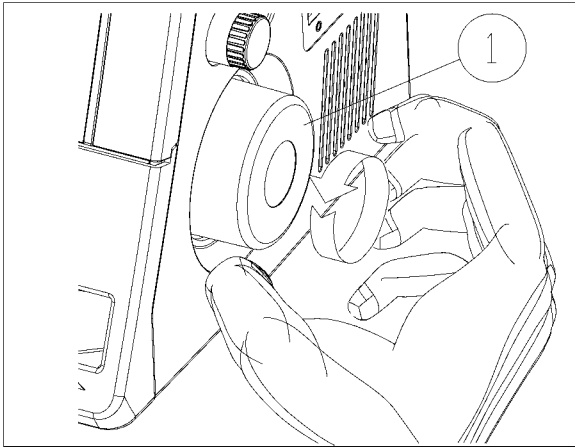
By raising or lowering the presser foot lifter, the presser foot goes down or up.

While in operation, keeps the presser foot up upward side except threading the machine or test running without threads.

NOTE: Thread tension will be released when the presser foot lifter is lowered.

When the presser foot lifter is lowered, the motor will switched off immediately although the power switch is at position "1".

- ① presser bar connection rod
- ② Presser foot



Removing the Presser Foot

1. Turn off the power switch and unplug the machine.
2. Turn the balance wheel toward you to raise the needle.

Raise the presser foot.

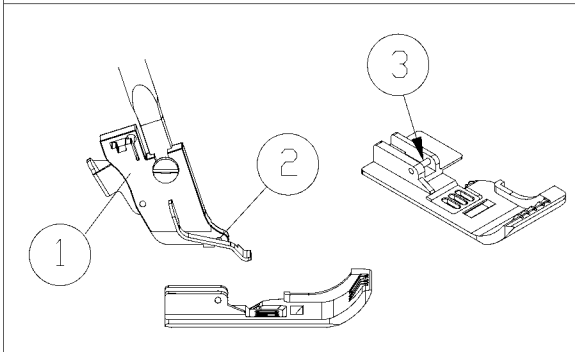
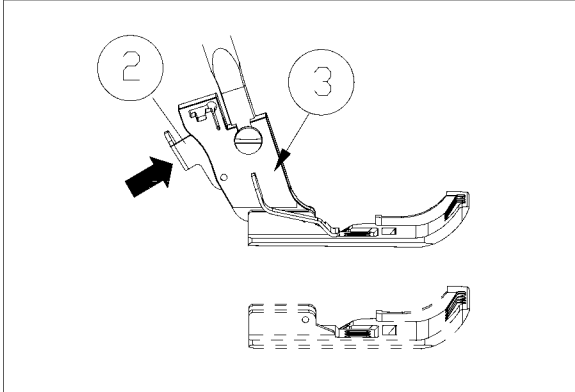
3. Press the lever located on the back of the foot holder. The presser foot will drop off.

① Balance wheel ② Lever ③ Presser holder

Attaching the Presser Foot

1. Turn off the power switch and unplug the machine.
2. Place the presser foot so that the pin on the foot lies just under the groove of the presser holder.
3. Lower the presser holder to lock the foot into place.
4. Raise the presser bar connection rod to check that the presser foot is secure.

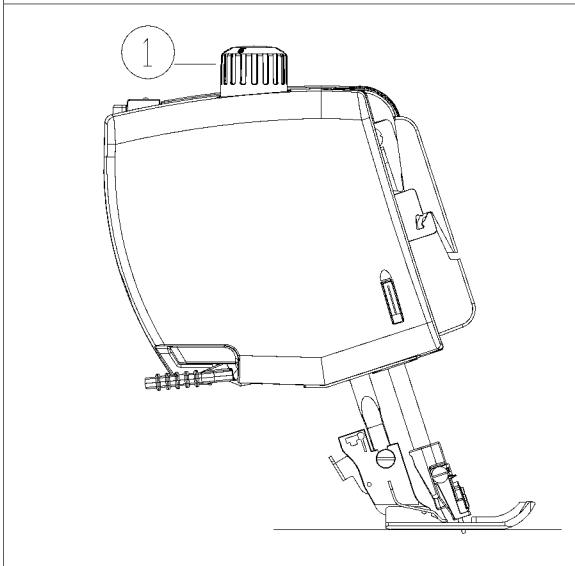
① Presser holder ② Groove ③ Pin

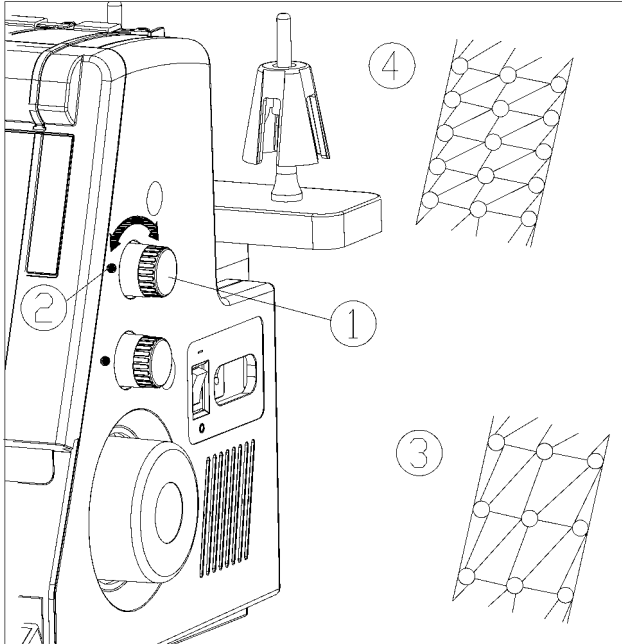


Adjustment of Pressure Foot

The preset presser foot pressure on the machine is suitable for medium fabrics. For most fabrics, the presser foot pressure does not need to be altered. If you intend to work with lighter or heavier fabrics, however, it may be necessary to reset the pressure. In this case, you can choose from six position; make your selection with the presser foot pressure adjustment knob. The standard setting is "N".

① Presser foot Pressure





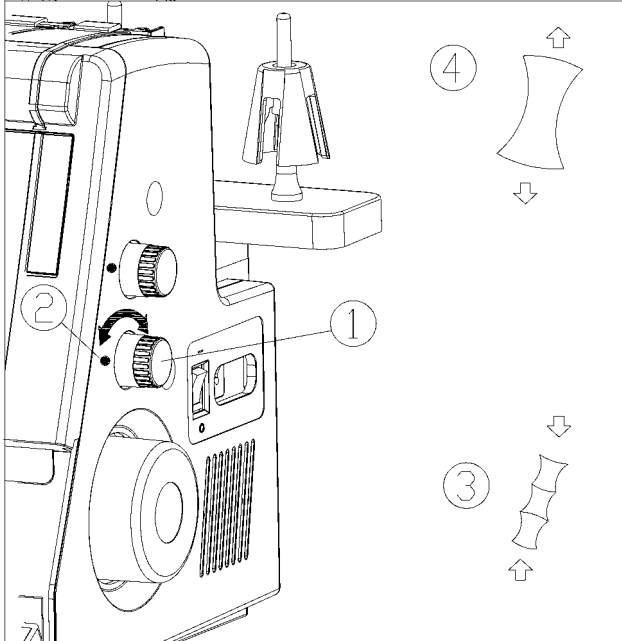
Adjustment of Stitch Length

To adjust the stitch length, turn the dial.

The larger the number, the longer the stitch

For regular sewing, set the stitch length at 3 - 3.5.

- ① Stitch length dial
- ② Setting mark
- ③ To lengthen
- ④ To shorten



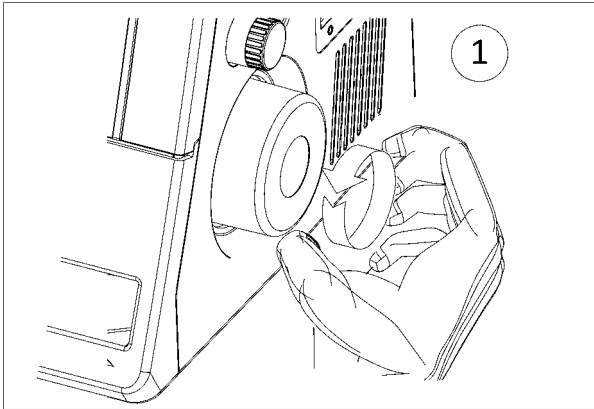
Adjustment of Differential Dial

The differential dial can be altered by turning the dial.

The number on the dial indicates the ratio between the main and the sub feed motion.

- Set the dial at 1.0 for regular sewing.
- Set the dial at a lower number when sewing fine fabrics that tend to pucker.
- Set the dial at a higher number when sewing stretch fabrics such as knits, jersey and tricot.

- ① Differential dial
- ② Setting mark
- ③ To shrink
- ④ To stretch



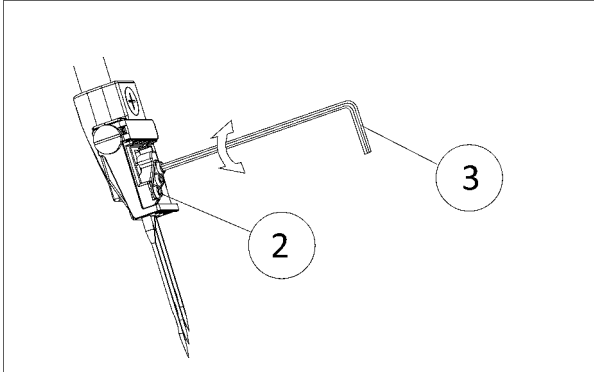
Changing Needle

WARNING :

Turn the power switch off and unplug the machine before changing needles.

Turn the Balance wheel toward you to raise the needle to its highest position.

① Balance wheel

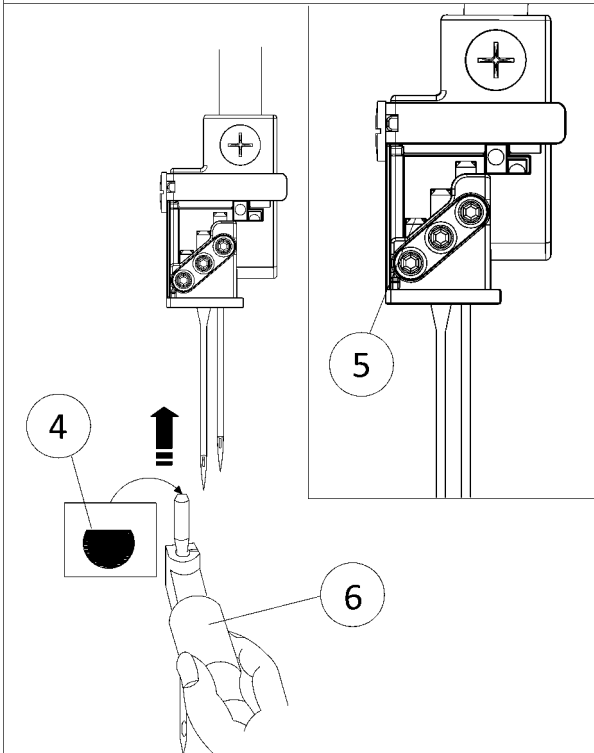


Then loosen the needle clamp screw for the needle you are going to remove.

② Needle clamp screw ③ Hexagonal wrench

Insert a new needle into the needle clamp with the flat side to the back and push it up against the stopper, then tighten the needle clamp screw.

④ Flat side ⑤ Stopper



How to use the needle threader / holder

To attach the needle easily, use the end of the needle threader to hold the needle.

Insert a needle into the needle threader/holder with the flat side facing back as shown.

Hold the stem and insert the needle into the needle clamp and push it up as far as it will go.

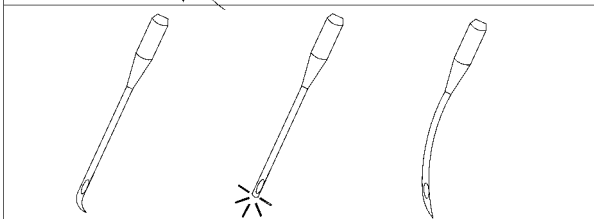
Tighten the needle clamp screw firmly while supporting the holder in place.

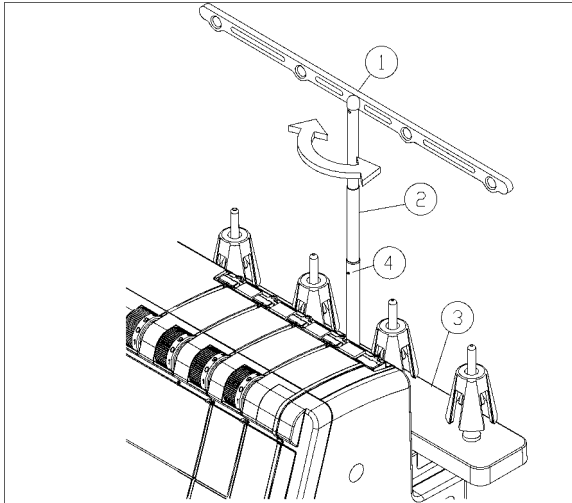
Pull the holder down to remove it.

⑥ Needle threader / holder

NOTES:

Use needles EL X 705 CF Do not use any needle which is bent or blunt.



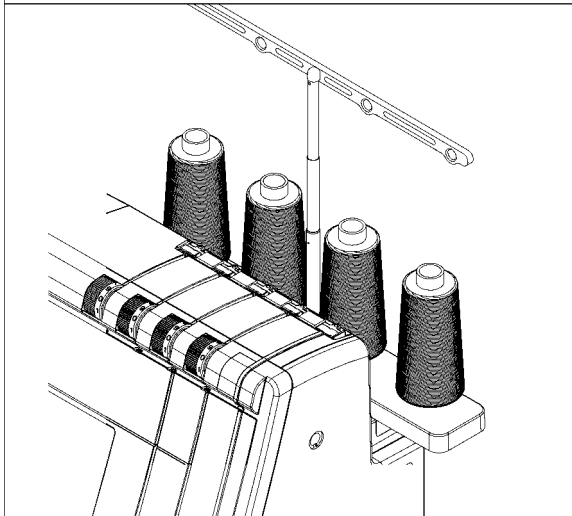


Setting the Thread reel bar hook

Pull the thread reel bar hook up as far as it will go.
Turn the thread reel bar hook so that the thread guides are right above the spool pins.

- ① Thread reel bar hook
- ② Three-extension rod
- ③ Spool stand base
- ④ Stoppers

NOTE: Make sure the two stoppers on the thread guide post, as shown, are set in at the correct position.



Setting the Spool Cones

Place the spool cones on the spool cushion. Thread the machine in the following order: If the thread slips down from a spool cone during threading and/or sewing, put a net over the spool cone as illustrated to prevent jamming.

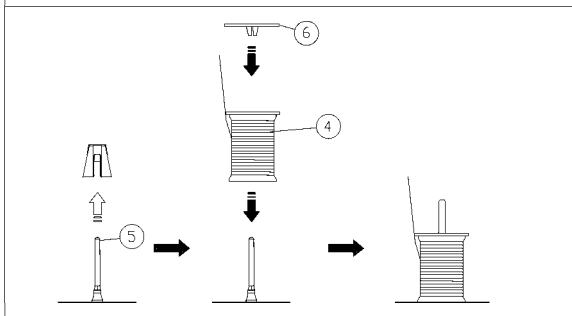
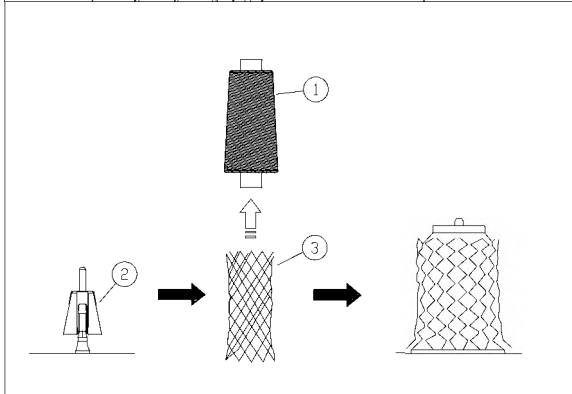
- ① Spool Cone
- ② Spool cushion
- ③ Net

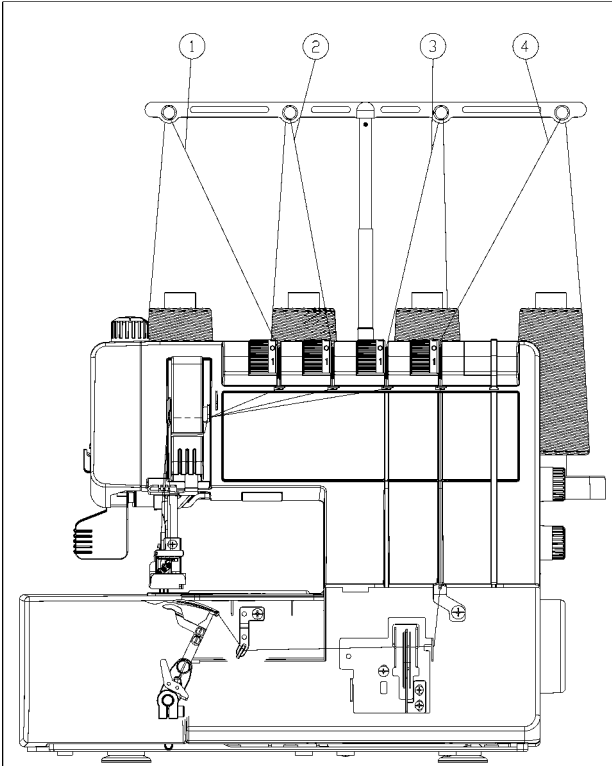
When using small spools, remove the spool holders from the spool pins.

- ④ Small spool of thread
- ⑤ Spool pin

Place the spool with its slit side up, and put the spool holder cap on top of it.

- ⑥ Spool holder cap





Threading the Machine



WARNING:

Turn the power switch off and unplug the machine before threading the machine.

- ① Left needle thread
- ② Center needle thread
- ③ Right needle thread
- ④ Looper thread

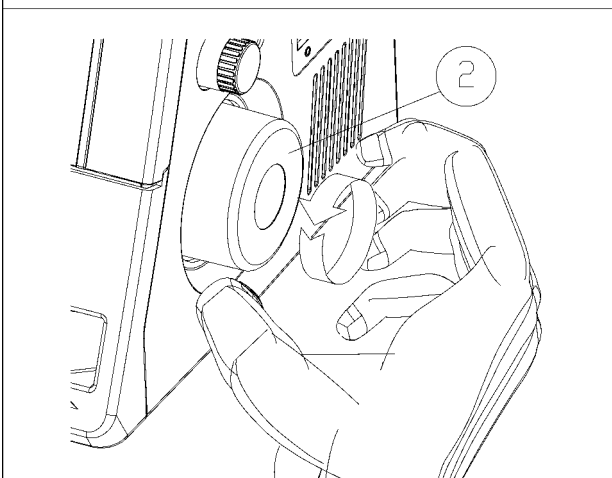
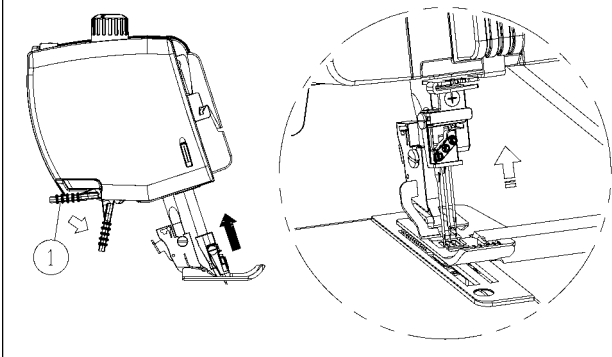
Raise the presser foot lifter

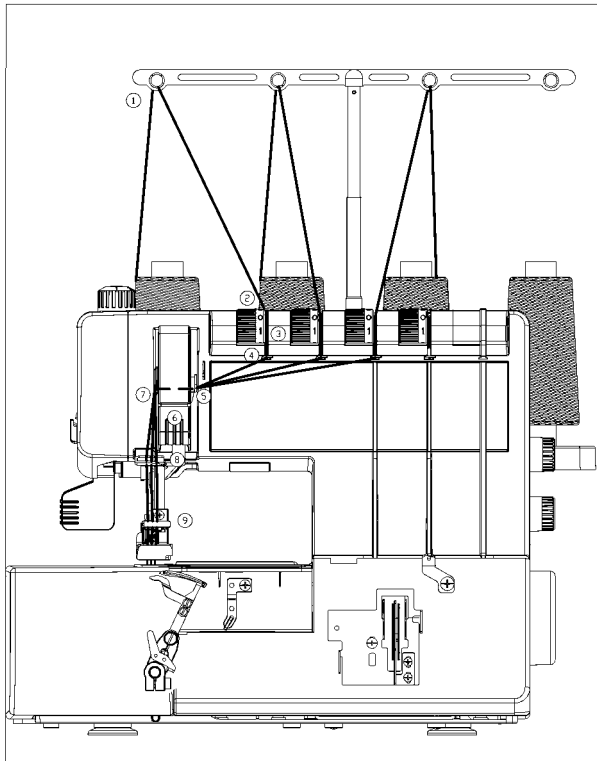
- ① Presser foot lifter

NOTE: When threading the machine always raise the presser foot.

Turn the balance wheel toward you to bring the needles to their highest position.

- ② Balance wheel

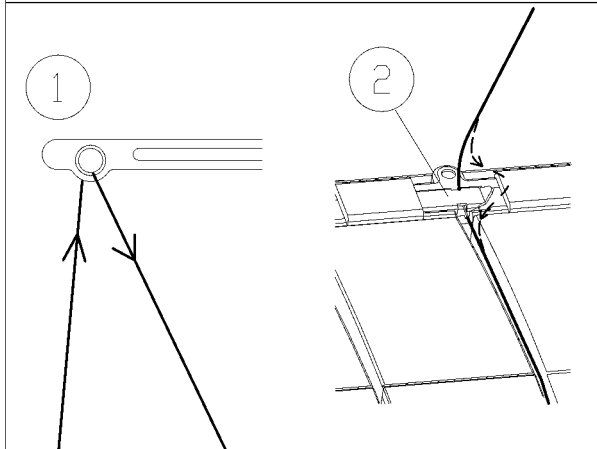
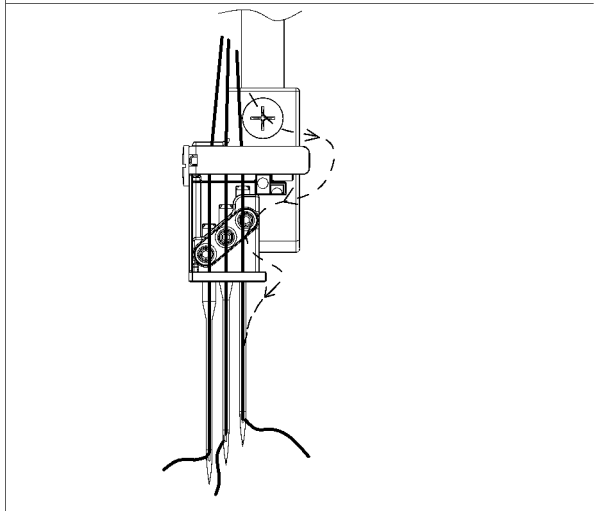


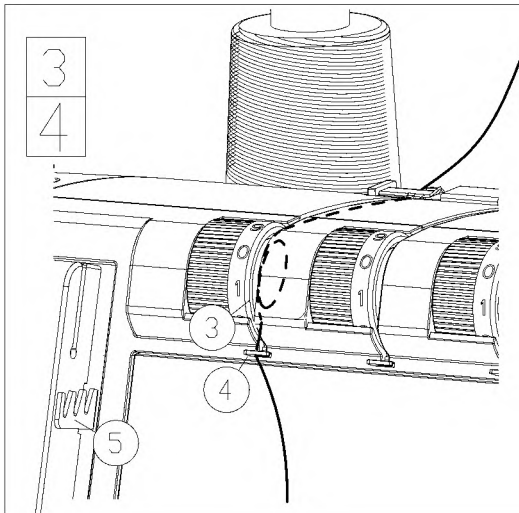


Threading the needles

Thread each needle in the following steps:

- 1 . Pull out the thread from the thread spool .Thread The guide hole of the thread tree from back to front.
 - 2 . Correctly thread the thread guide as illustrated ②.
- ② Thread guide





3. Correctly inserted between the tension disks.
(if the presser foot lifter rod is lowered, the thread easily inserts between the tension discs)

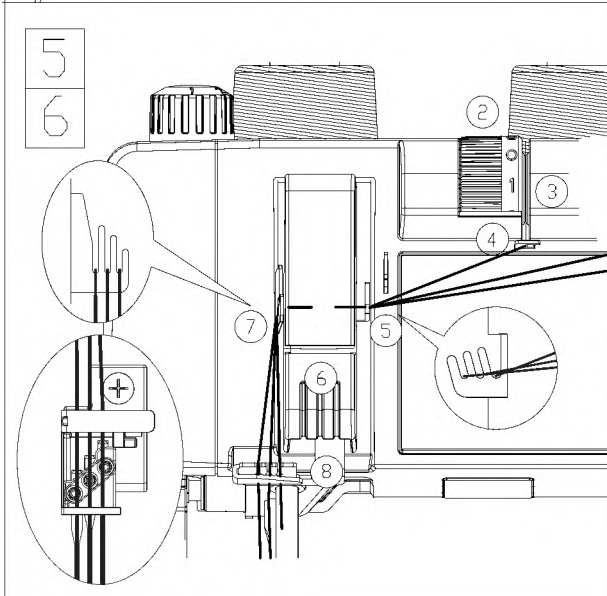
③ Tension disks

4. Pass the thread through the thread guide plate A from the right.

④ Thread guide plate A

5. Draw the thread to the left and pass it through the thread guide plate B. Draw the thread down and slip it behind the upper take-up holder.

⑤ Thread guide plate B ⑥ Upper take-up holder



6. Pull the thread down and slip it the thread guide plate C .

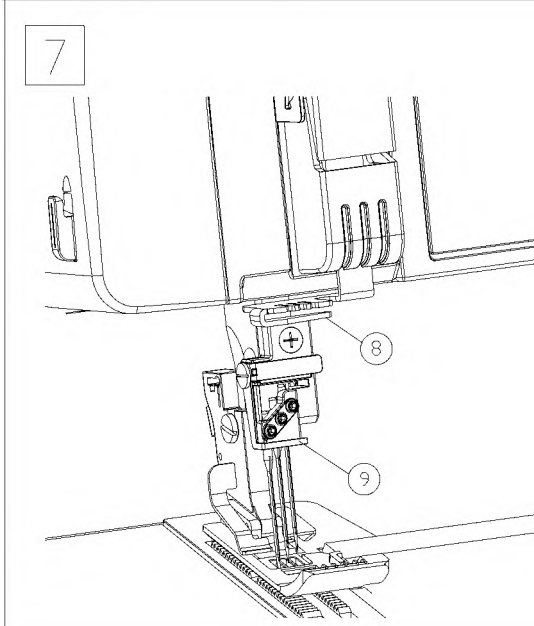
⑦ Thread guide plate C .

7. Thread each needle as follows:

Left Needle: Pass the thread behind the upper take-up lever plate from the right .Pass the thread between the needle clamp guide plate A and needle clamp guide plate B from the right.

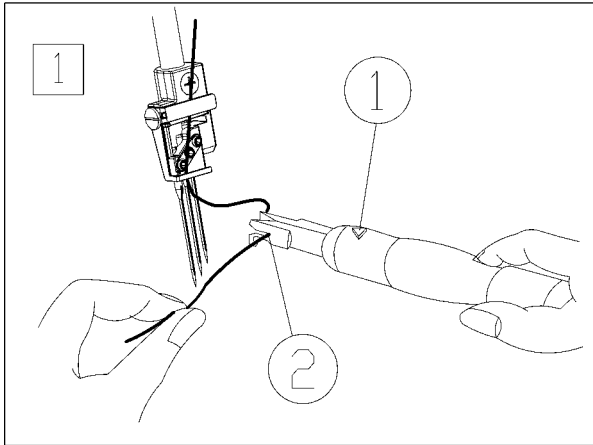
Center needle: Pass the thread behind the upper take-up lever plate from the right .Pass the thread between the needle clamp guide plate A and needle clamp guide plate B from the right.

Right needle: Pass the thread behind the upper take-up lever plate from the right .Pass the thread between the needle clamp guide plate A and needle clamp guide plate B from the right.



⑧ Upper take-up lever plate

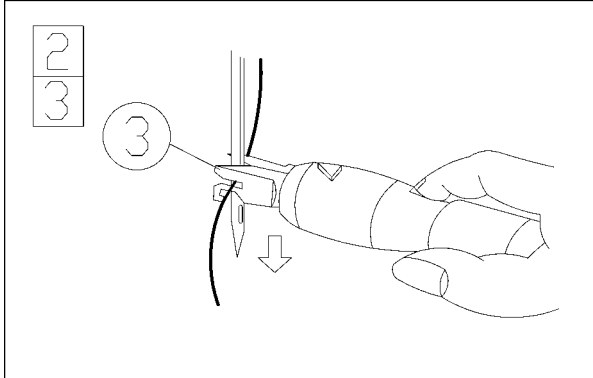
⑨ Needle clamp guide plate B



How to use the threader

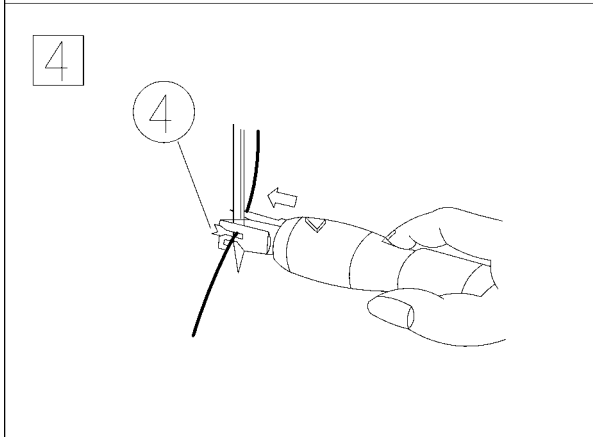
- 1 Hold the grip of the threader with the triangle mark up. Insert the thread into the slit of the Y shaped notch.

① Triangle mark ② Y-shaped notch

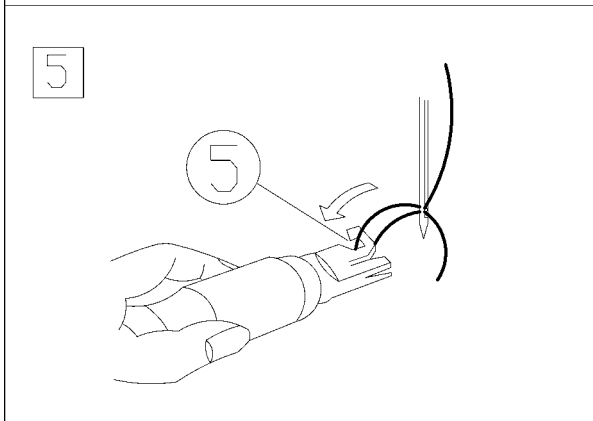


- 2 Place the V-shaped notch over the needle just above the needle eye.
- 3 Slide the threader down along the needle while pushing it against the needle, until the threader pin enters into the needle eye.

③ V-shaped notch. ④ Threader pin

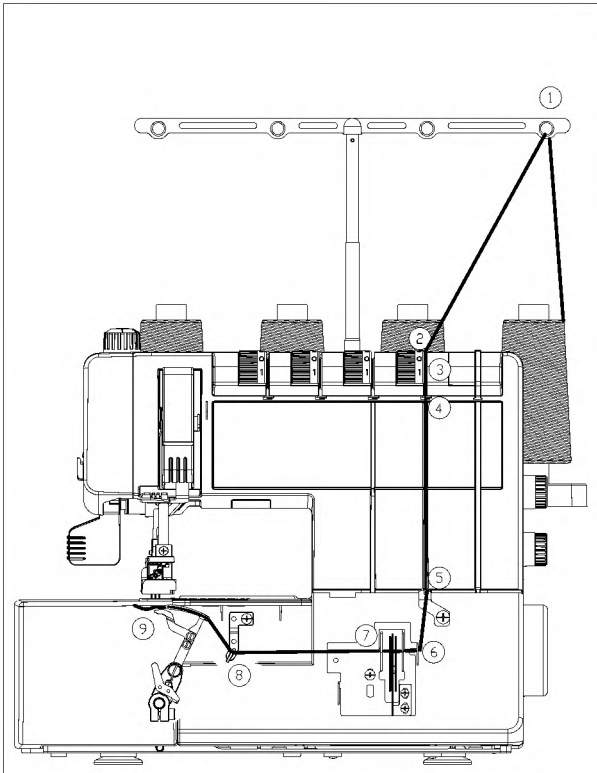


- 4 Push the threader and the thread will go through the needle eye



- 5 Remove the threader from the needle. Then pick up the loop of the thread with the hook. Pull the thread end out to the back.

⑤ Hook



Threading the looper

Thread the looper in the following steps:

1. Draw the thread through the right side thread guide bar from back to front as shown.

① Thread reel bar hook

2. Pass the thread through thread guide on the right and let the thread pass the tension disc of the tension adjustment dial

② Thread guide

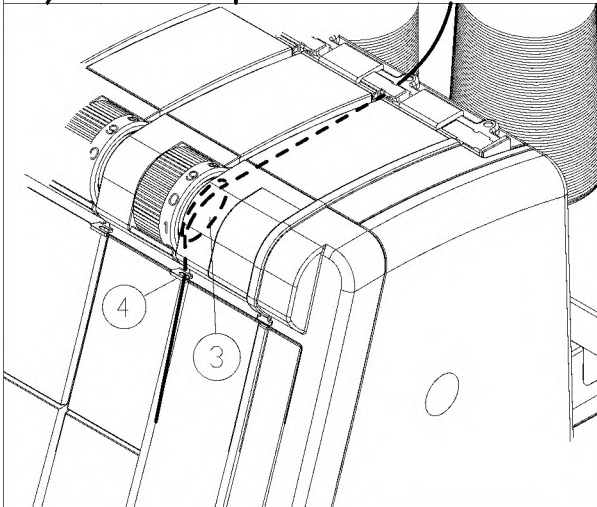
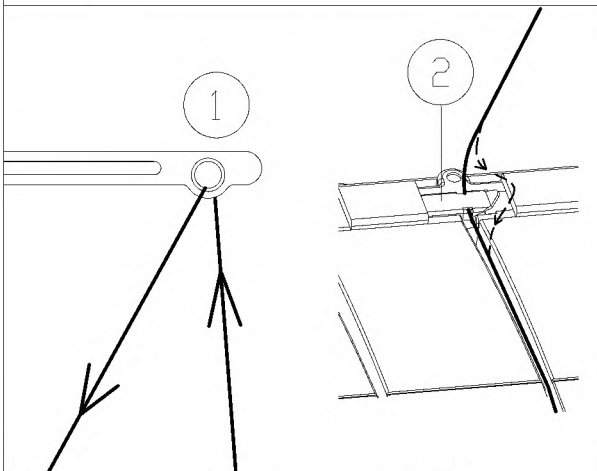
3. Correctly inserted between the tension disks.

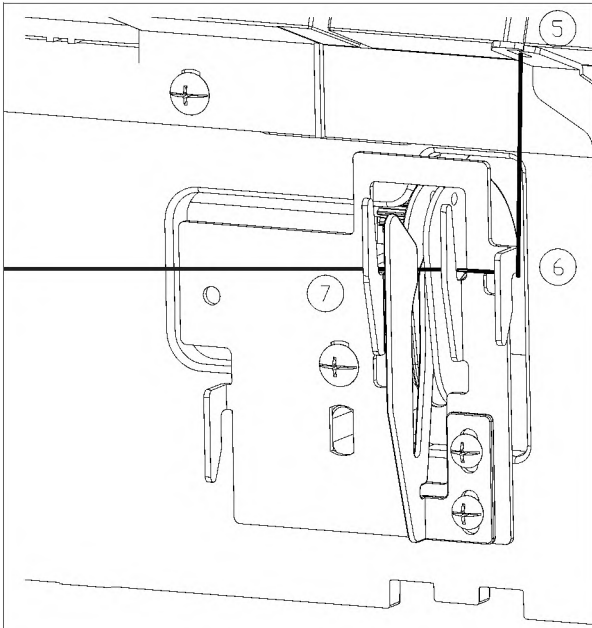
If the presser foot lift is lowered, the thread easily inserts between the tension disks.

③ Tension disk

4. Pass the thread through the thread guide "A" from the right.

④ Thread guide plate A





5. Continue to thread point ⑤~⑨

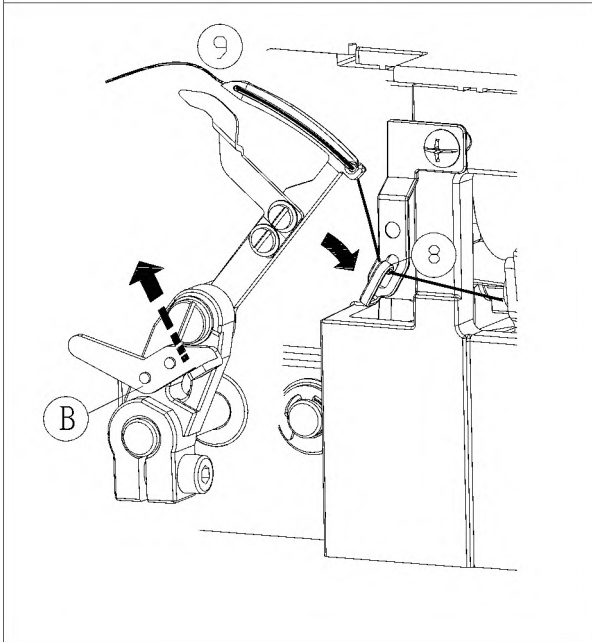
6. Push the CS plate complete upward and the CS-looper will slant to the right for easy access.

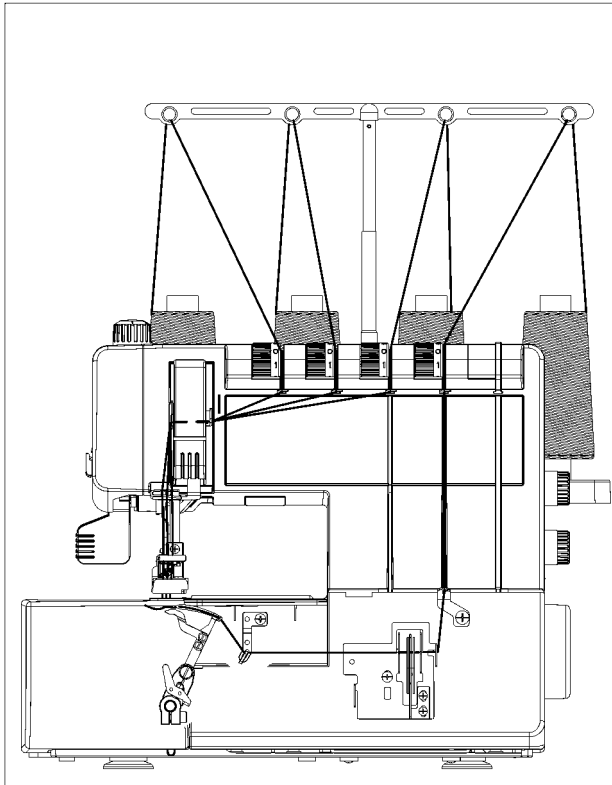
(B) : CS plate complete

7. Pass the thread through the right hole of the CS looper from back then go leftward through the eye of CS looper.

Draw the thread end 4 inch (10 cm) to the back CS looper

NOTE: You may use a pair of tweezers.





STITCH TYPES

Triple Cover Stitch

The triple cover stitch is sewn with all three needles. This stitch forms three parallel rows of the straight stitch on the right side, ideal for hemming, attaching elastics, decorative stitches etc.

① Left needle ② Center needle ③ Right needle

| Type of Fabric | | Needle Size | Type of Thread |
|------------------------|---------------------------|----------------------|----------------|
| Light to medium weight | Fine knits Fine Jersey | 80/12 or 90/14 | #60-90 Spun |
| Heavy weight | Jersey Fleece | 90/14 | #60 Spun |

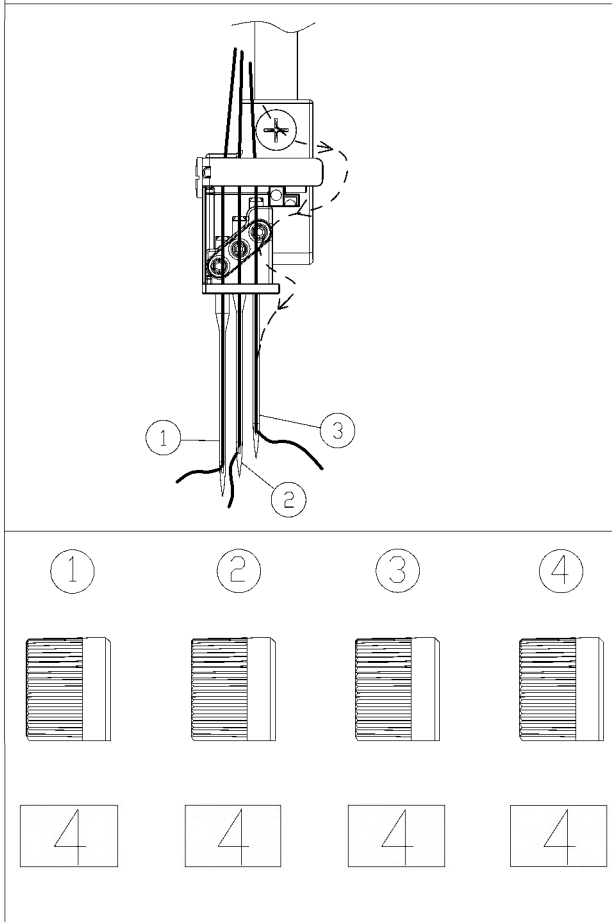
NOTE: The machine is installed with the EL X 705 CF needles.

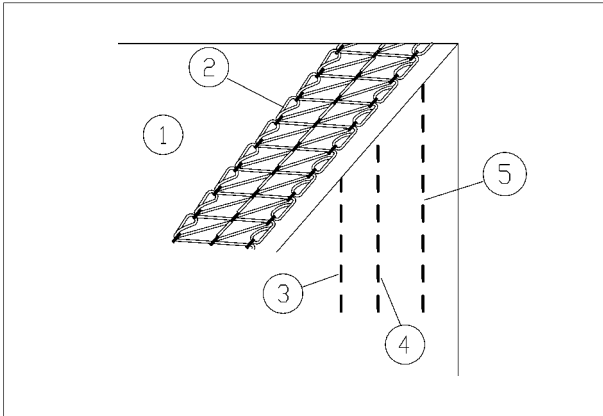
Balancing the thread tension

1. Set the tension dials as follows:

- ① Left needle thread tension dial: 4
- ② Center needle thread tension dial: 4
- ③ Right needle thread tension dial: 4
- ④ Looper thread tension dial: 4

2. Check the tension balance by test stitching on the same fabric and threads as actual garment. Fine-tune the tension as necessary.

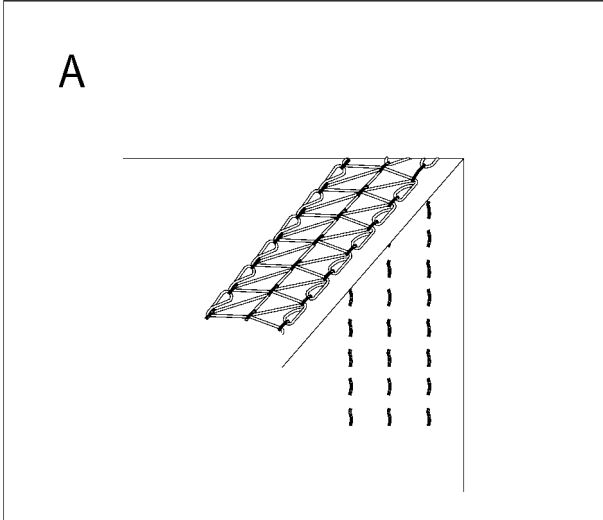




Balanced tension:

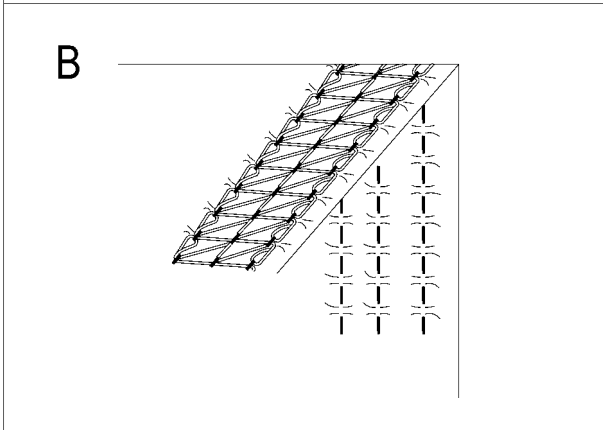
The rows of stitches on the right side of the fabric are straight and even. The looper thread forms the dual rows of squares with diagonals.

- ① Wrong side of the fabric
- ② Looper thread
- ③ Left needle thread
- ④ Center needle thread
- ⑤ Right needle thread



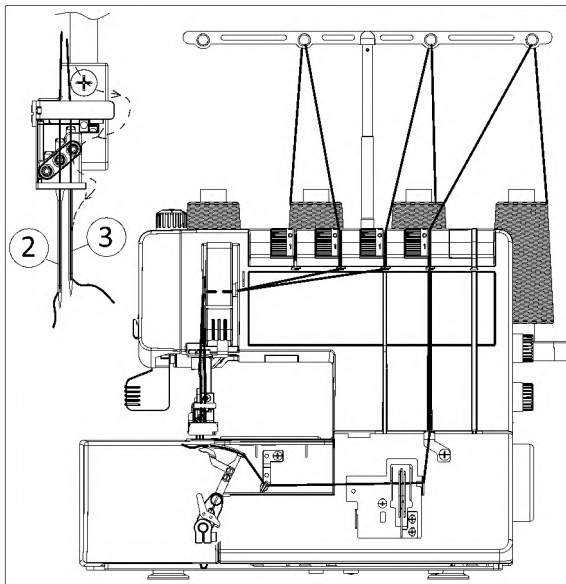
(A) If the needle thread tension is too loose:

- *The stitches on the right side are irregular and loose.
 - *There is a gap between head and tail of the looper thread crossing points.
- Tighten the needle thread tension, and/or loosen the looper thread tension to correct it.



(B) If the needle thread tension is too tight:

- *The fabric puckers.
- Loosen the needle thread tension, and / or tighten the looper thread tension to correct it



Cover Stitch

This stitch is sewn with two needles and forms two parallel rows of the straight stitch on the right side, widely used on cuffs and stretch welts of T-shirts etc. There are three types of cover stitch:

- Narrow-right (3 mm wide)
- Narrow-left (3 mm wide)
- Wide (6 mm wide).

1. Narrow-right (3 mm wide)

Remove the left needle. Thread the looper, right and center needles.

NOTE:

Tighten the needle clamp screw on the side that is Not being used to prevent losing the screw.

- ② Center needle ③ Right needle

2. Narrow-left (3 mm wide)

Remove the left needle. Thread the looper, left and center needles.

NOTE:

Tighten the needle clamp screw on the side that is not being used to prevent losing the screw.

- ① Left needle ② Center needle

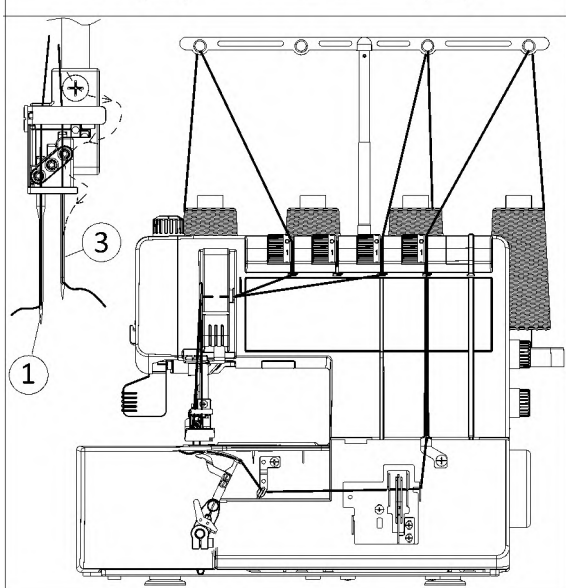
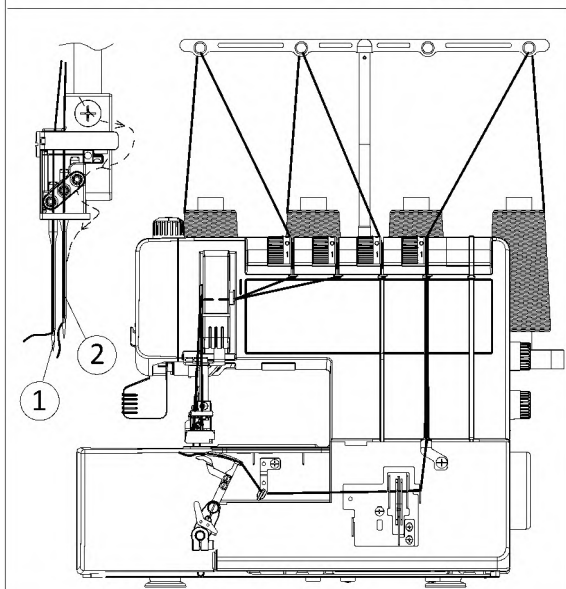
3. Wide (6 mm wide)

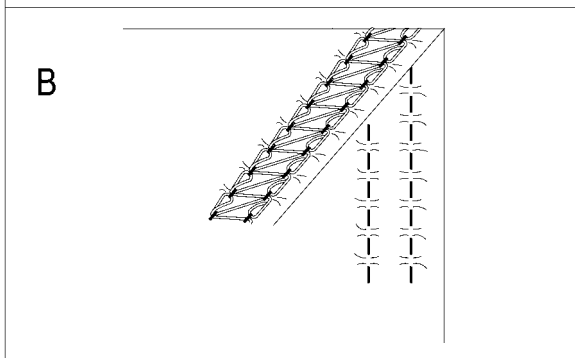
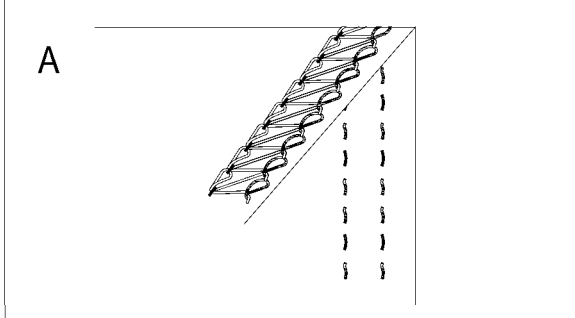
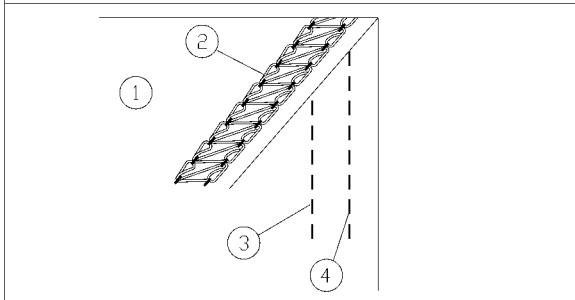
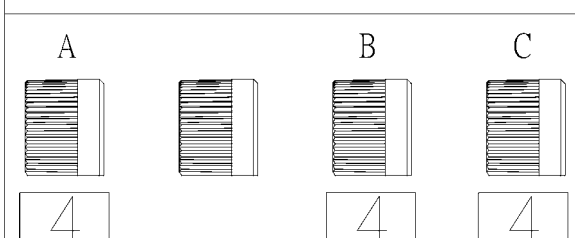
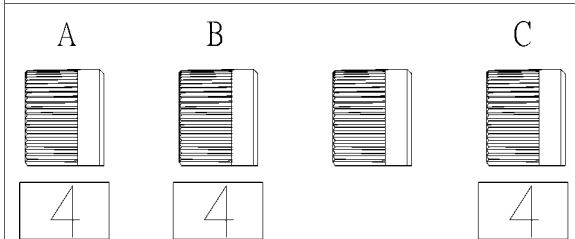
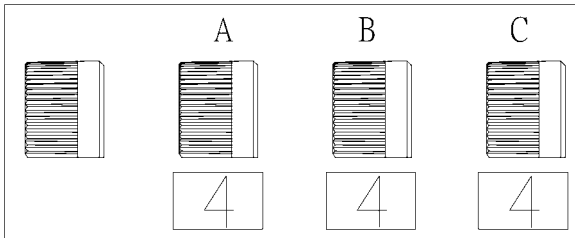
Remove the center needle. Thread the looper, right and left needles.

NOTE:

Tighten the needle clamp screw on the side that is not being used to prevent losing the screw.

- ① Left needle ③ Right needle





Balancing the thread tension

1. Set the tension dials as follows:

For narrow-right (3 mm wide):

A. Center needle thread tension dial: 4

B. Right needle thread tension dial: 4

C. Looper thread tension dial: 4

For narrow-left (3 mm wide):

A. Left needle thread tension dial: 4

B. Centre needle thread tension dial: 4

C. Looper thread tension dial: 4

For Wide (6 mm wide):

A. Left needle thread tension dial: 4

B. Right needle thread tension dial: 4

C. Looper thread tension dial: 4

2. Check the tension balance by test stitching on the same fabric and threads as actual garment

Fine-tune the tension as necessary.

Balanced tension:

The rows of stitches on the right side of the fabric are straight and even. The looper thread forms a row of square with diagonals.

- ① Reverse side of the fabric
- ② Looper thread
- ③ Left needle thread
- ④ Right needle thread

(A) If the needle thread tension is too loose:

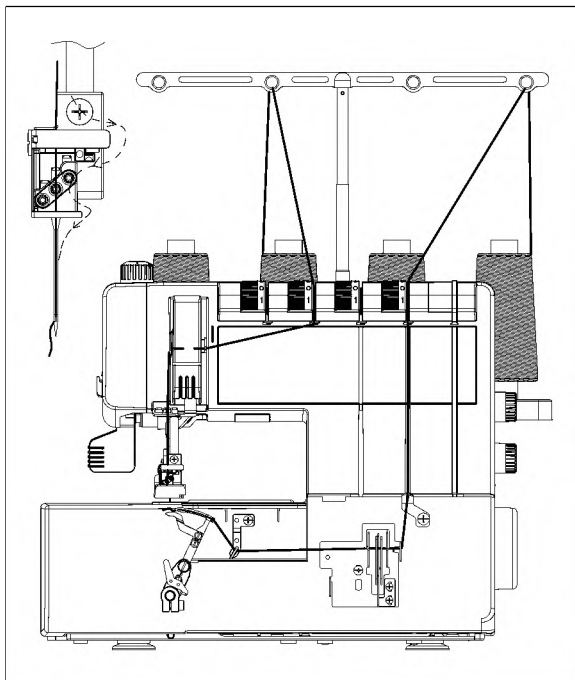
*The stitches on the right side are irregular and loose.

*There is a gap between head and tail of the looper thread crossing points.

Tighten the needle thread tension, and/or loosen the looper thread tension to correct it.

(B) If the needle thread tension is too tight:

*The fabric puckers. Loosen the needle thread tension, and/or tighten the looper thread tension to correct it.



Chain Stitch

This stitch is sewn with a single needle and forms a chain of looper thread on the wrong side of the fabric. This is a durable and flexible stitch used for seaming knit fabrics, attaching elastics, attaching bias tapes etc. Thread one of the three needles and looper. Remove the needles not to be used.

NOTE:

Tighten the needle clamp screws on the sides that are not being used to prevent losing the screws.

Balancing the thread tension

1 . Set the tension dials as follows:

- ① Needle thread tension dial: 4
- ② Looper thread tension dial: 4

NOTE:

Adjust the tension dial for the needle being used

2 . Check the tension balance by test stitching on the same fabric and threads as actual garment.

Fine-tune the tension as necessary.

Balanced tension:

The straight stitch on the right side of the fabric is straight and even. The looper thread forms a chain.

- ① Reverse side of the fabric
- ② Looper thread
- ③ Needle thread

A : If the needle thread tension is too loose:

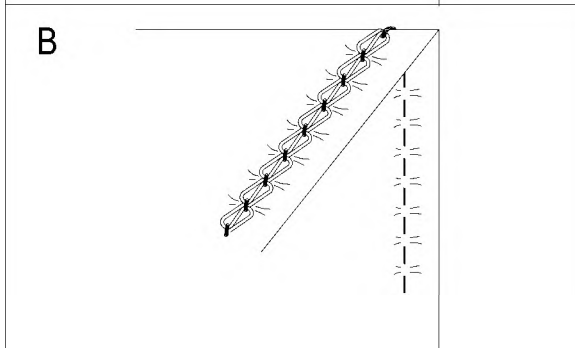
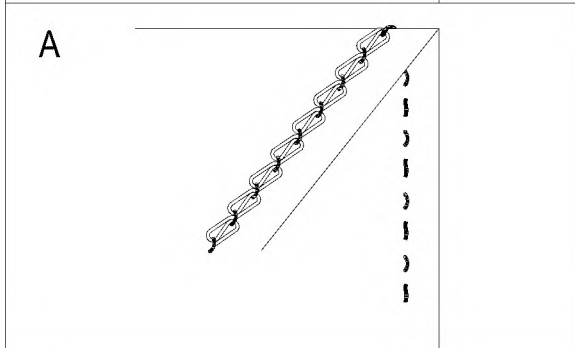
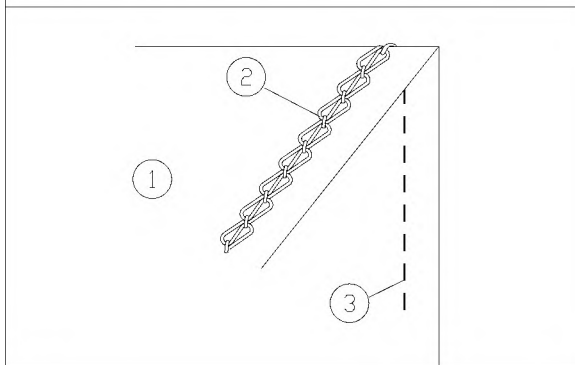
- a. The stitch on the right side is irregular and loose.
- b. The needle thread forms loops on the wrong side of the fabric.

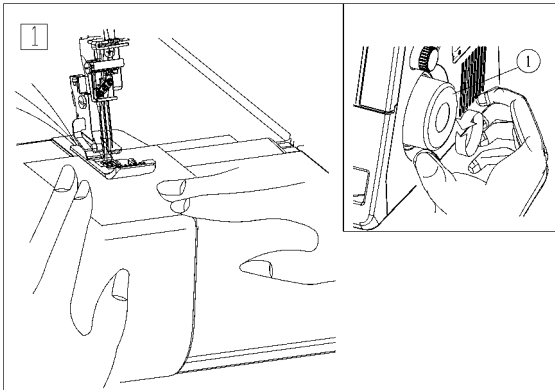
Tighten the needle thread tension, and/or loosen the looper thread tension to correct it.

B: If the needle thread tension is too tight:

- a: The fabric puckers.

Loosen the needle thread tension, and/or tighten the looper thread tension to correct it.





Finishing the Seam

To achieve the best results, use a piece of scrap fabric at the beginning and end of the seam.

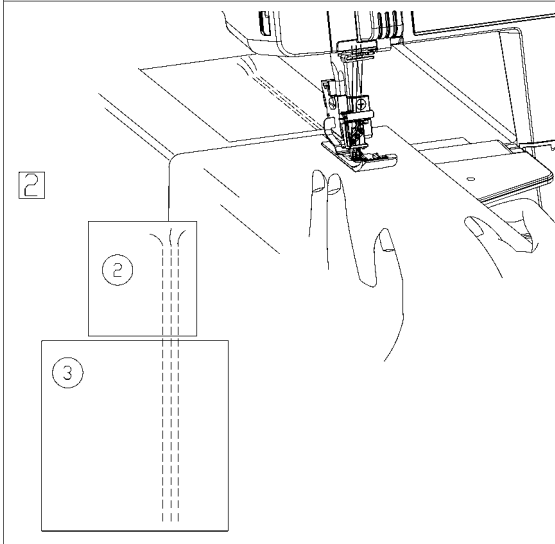
Beginning of the seam

- A. Raise the presser foot and insert a piece of scrap fabric under the foot. Lower the foot and turn the Balance wheel several times toward you. Depress the foot control to start sewing slowly.

① Balance wheel

- B. Stop sewing at the end of the scrap fabric. Insert the work fabric after the scrap as shown, then start sewing on the work fabric.

② Scrap fabric ③ Work fabric



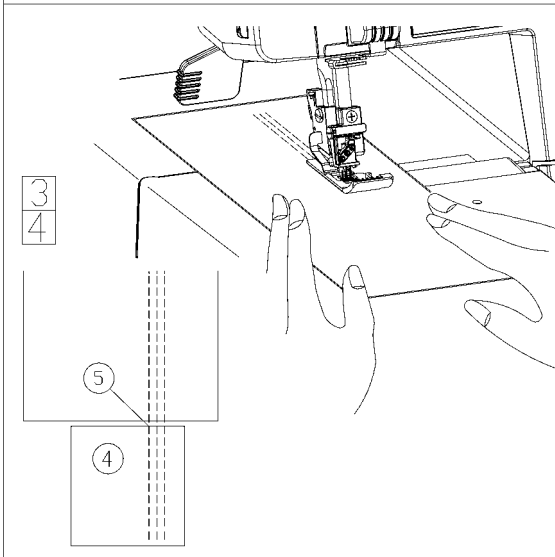
End of the seam

- C. Stop sewing at the end of the work fabric. Insert another piece of scrap fabric after the work fabric as shown, then sew through the scrap.

④ Another scrap fabric

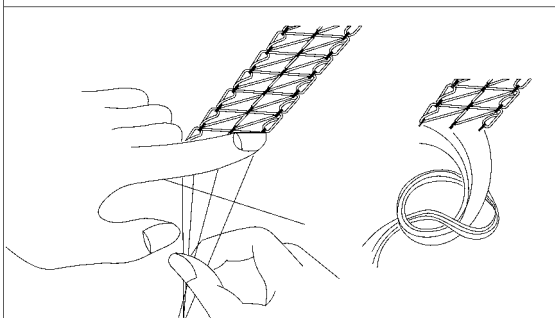
- D. Cut the connecting threads between the work fabric and scrap fabric.

⑤ Connecting threads

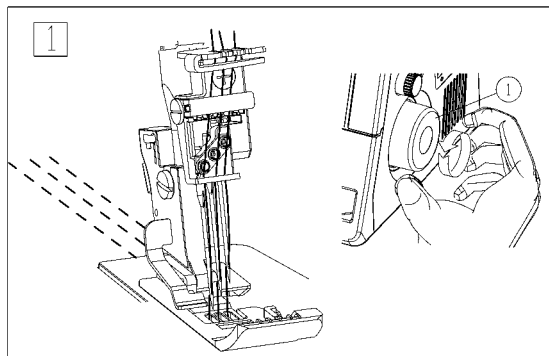


Knotting the threads

Draw the needle threads to the wrong side of the fabric by using a pair of tweezers and knot them together.

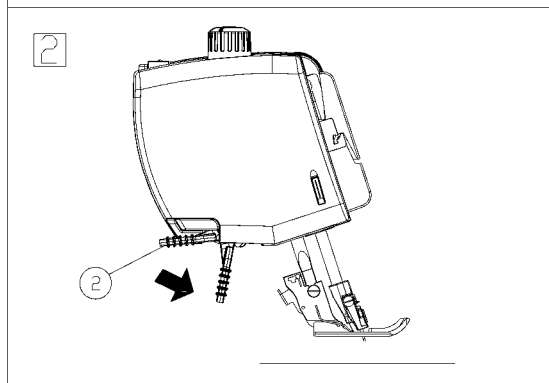


Removing the Fabric in the Middle of the Stitching



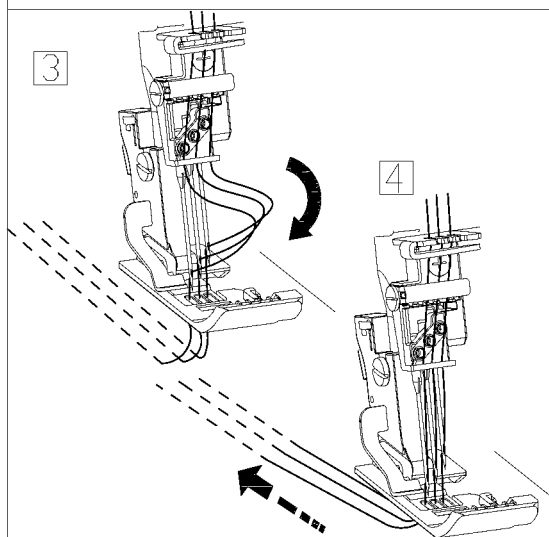
1. Raise the needles to their highest position by turning the balance wheel toward you.

① Balance wheel



2. Raise the presser foot with the presser foot lifter.

② Presser foot lifter.

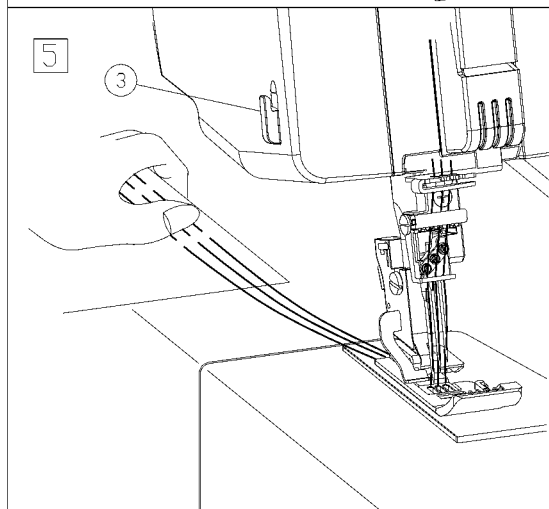


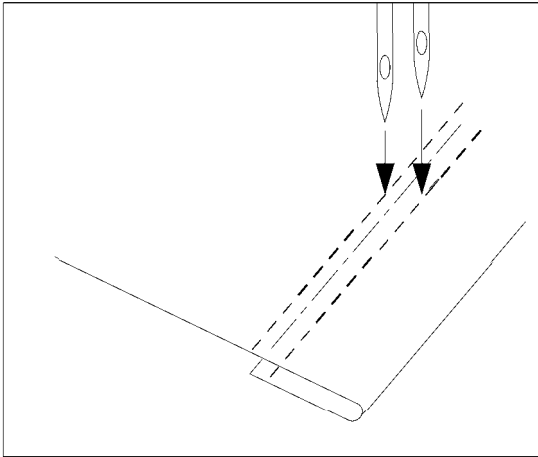
3. Pull the needle threads before the needle eyes. This prevents the threads from being caught when removing the fabric.

4. Pull the fabric to the rear.

5. Remove the fabric and cut threads with the thread cutter.

③ Thread cutter

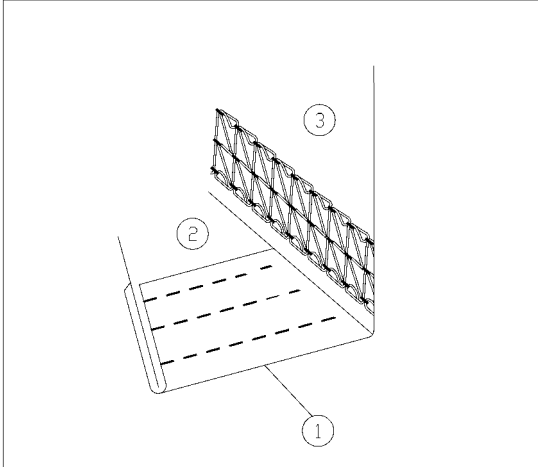




Hemming with the Cover Stitch

1. Fold up the edge of the fabric to the wrong side and press.
2. Draw a line with a tailor's chalk on the right side of the fabric to mark the fabric edge.
3. Place the fabric so the left needle drops just to the left side of the marked line. Lower the presser foot.
4. Sew carefully along the marked line.
5. After finishing sewing. Raise the presser foot and remove the fabric to the rear.
6. Draw the needle threads to the wrong side of the fabric and knot them together.

- ① Marked line ② Left needle
 ③ Right needle ④ Right side of the fabric



Triple Cover Stitch Applications

1. Hemming on waistlines

- ① Waistline

2. Attaching laces and tapes

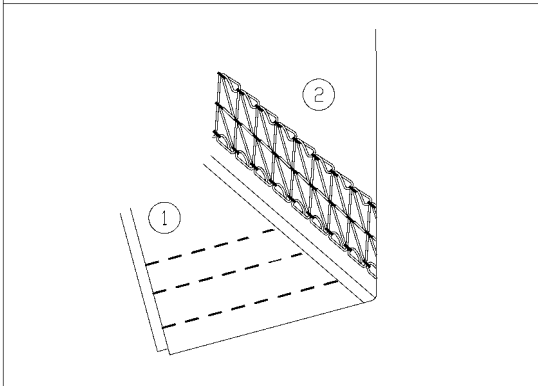
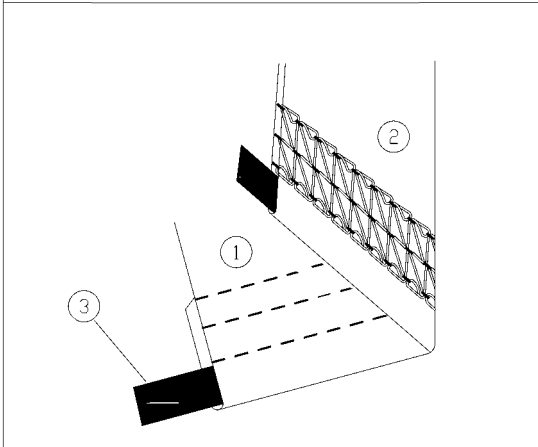
- ① Tap or lace ② Right side of the fabric
 ③ Reverse side of the fabric

3. Attaching elastics

- ① Right side of the fabric ② Elastic
 ③ Reverse side of the fabric

4. Decorative stitch

- ① Right side of the fabric
 ② Reverse side of the fabric



CARE OF YOUR MACHINE

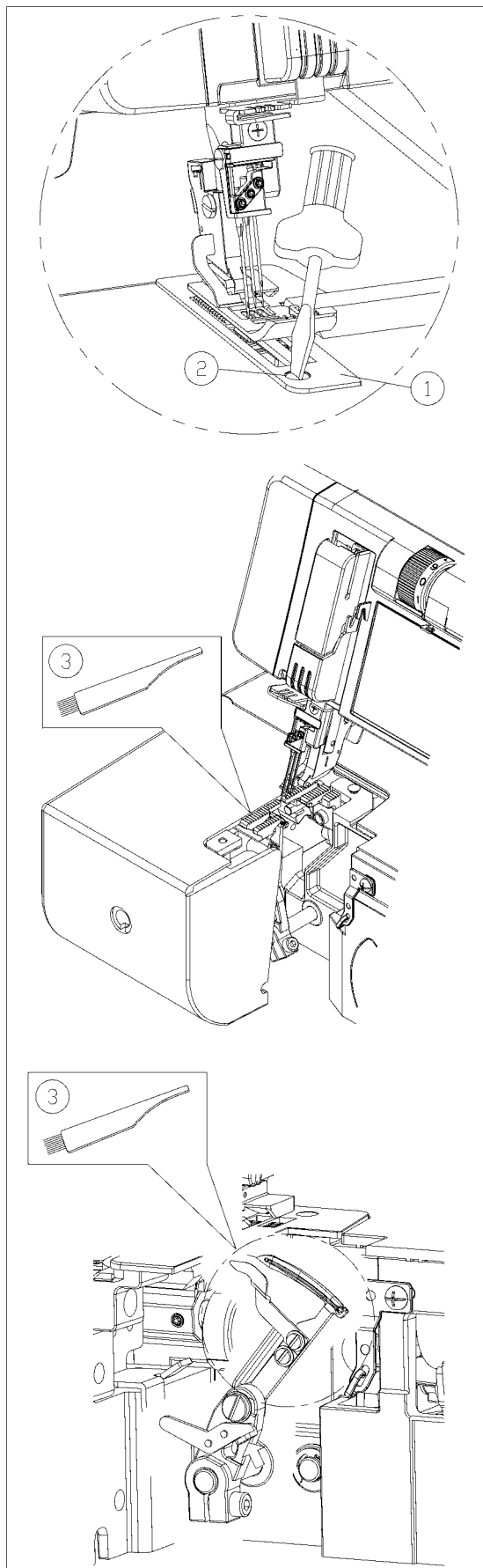
Cleaning the Feed Dogs and Looper Area

WARNING:

Turn the power switch off and unplug the machine before cleaning.

NOTE:

Do not dismantle the machine in any way other than what is explained in this section.



1. Remove the presser foot and needles.
2. Remove the set screw and needle plate.
3. Clean the feed dogs with a cleaning brush.

① Needle plate ② Set screw

③ Cleaning brush

4. Open the looper cover and clean the looper and surrounding area with the cleaning brush.
5. Replace the needle plate, needles and presser foot.
Close the looper cover.

Troubleshooting

| Problem | Cause | Reference |
|--------------------------|--|---|
| Needle thread breaks. | <ol style="list-style-type: none"> 1. The machine is not threaded correctly. 2. The thread tension is too tight. 3. The needle is bent or blunt. 4. The needle is not set correctly. 5. A wrong needle is used. | <p>See pages 10-15.</p> <p>See pages 16, 19, 20</p> <p>See page 8.</p> <p>See page 8.</p> <p>See page 8</p> |
| Needle bends or breaks. | <ol style="list-style-type: none"> 1. The needle is bent or blunt. 2. The needle is not set correctly. 3. The needle clamp screw is loose. 4. The fabric is forcedly pulled. | <p>See page 8.</p> <p>See page 8.</p> <p>See page 8.</p> <p>Do not pull the fabric.</p> |
| Skipped stitches | <ol style="list-style-type: none"> 1. The needle is not set correctly. 2. The needle is bent or blunt. 3. The tension is out of balance. 4. The machine is not threaded correctly. | <p>See page 8.</p> <p>See page 8.</p> <p>See pages 16, 19, 20.</p> <p>See pages 10 - 15.</p> |
| Seam puckering | <ol style="list-style-type: none"> 1. The tension is out of balance. | <p>See pages 16,19,20.</p> |
| Machine does not operate | <ol style="list-style-type: none"> 1. The machine is not connected to the power supply. 2. The foot control is not plugged in firmly. | <p>See page 4.</p> <p>See page 4.</p> |