

**Thank you very much for purchasing
an Overlock sewing machine.**

You have just purchased an overlock sewing machine for sewing all kinds of fabrics—cotton, wool, rayon, tricot, jersey, knitted goods—thick or thin. You cannot be other than satisfied with its perfect and beautiful stitches and its long operating life.

But, however excellent this sewing machine may be, it cannot operate to its fullest capacity unless it is handled correctly.

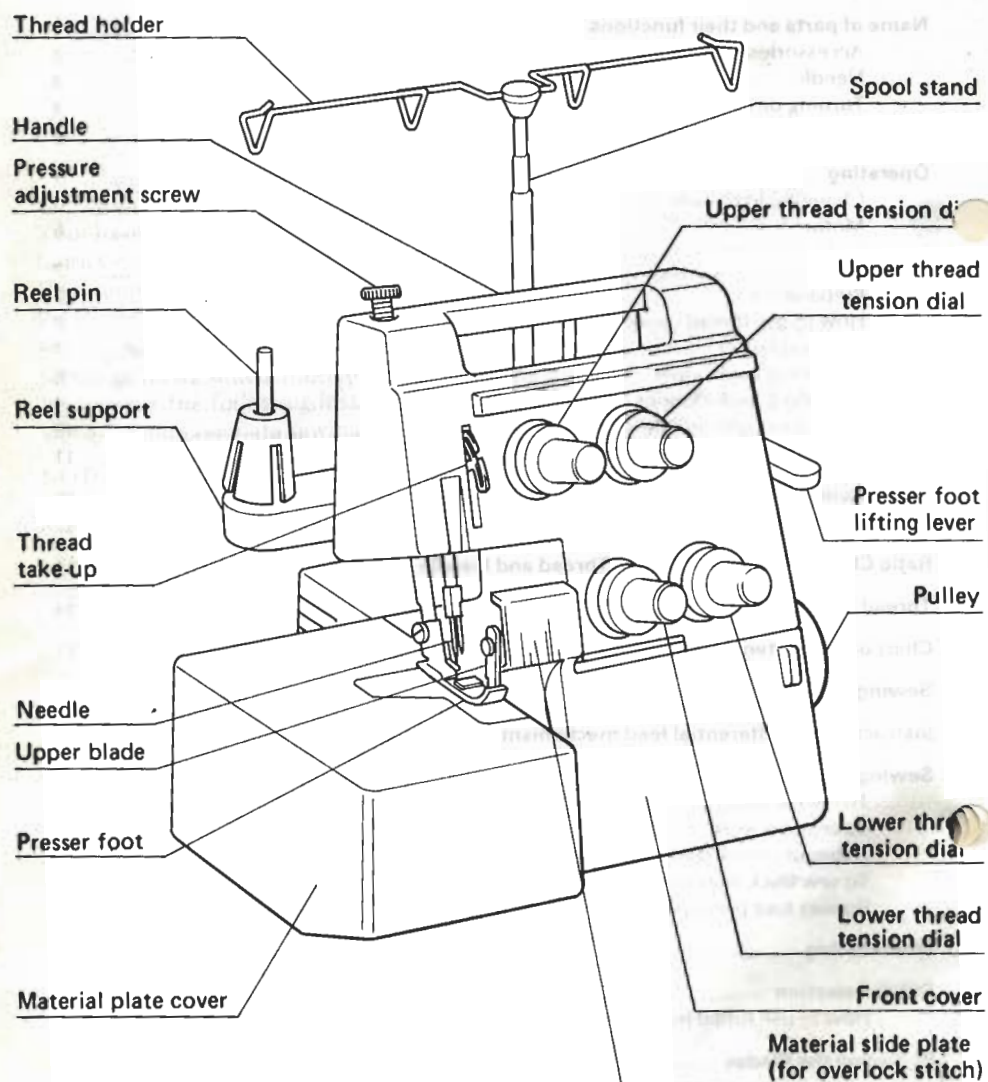
Please read the following instructions carefully so that your new sewing machine will give you complete sewing enjoyment for years to come.

NOTE: The adjustment of mm and cm into inches is an appropriate measurement.

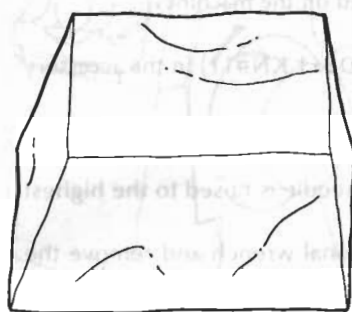
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Names of parts and their functions

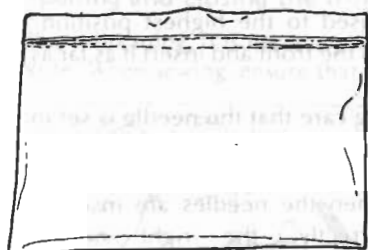
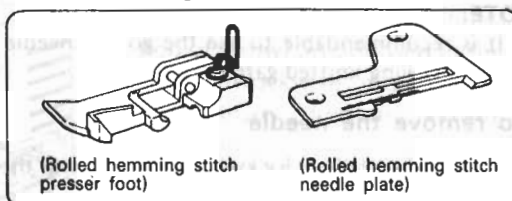


Accessories

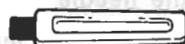


Soft cover

Rolled Hemming Stitch Attachment



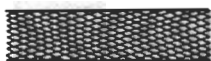
Accessory bag



Cleaning brush



Tweezers



Net 4 pcs



Thread spool cap 4 pcs



Screw driver



Needle set:

#14 Standard needle: 2 pcs.

#11 Ball point needle: 2 pcs.



Hexagonal wrench

Needle

*TE x 1 (#11 & #14), DB x 1 (#9, 11, 14), DB x 1KN #11, 1738 or 16 x 231 can be used on these machines. TE x 1 (#14) is mounted on the machines.

NOTE:

It is recommendable to use the golden needle (DBx1 KN#11) in the accessory when sewing knitted garments.

To remove the needle

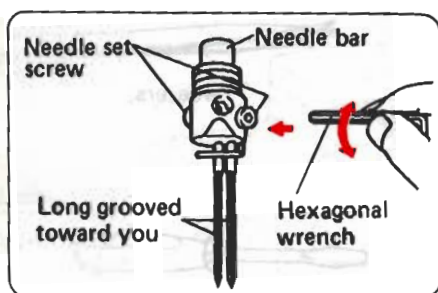
- (1) Turn the pulley clockwise by hand until the needle is raised to the highest position.
- (2) Loosen the needle set screw with the hexagonal wrench and remove the needle.

NOTE:

When removing the needle, hold the needle by hand to avoid dropping it.

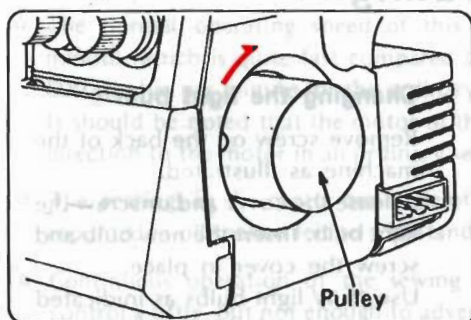
To fit the needle

- (1) Turn the pulley until the needle bar is raised to the highest position.
- (2) Hold the needle with its long grooved side to the front and insert it as far as the needle stop.
- (3) Tighten the needle set screw securely, taking care that the needle is set in the correct position.



*When the needles are inserted correctly, the right needle should be set slightly lower than the left one.

Turning direction of motor

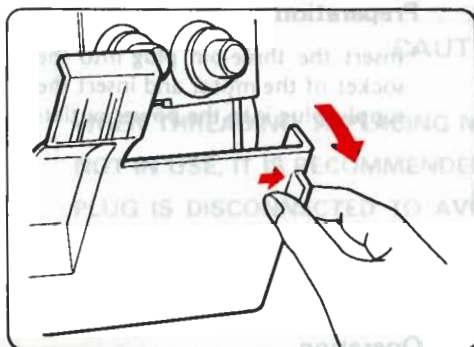


*The motor of this machine turns in a clockwise direction (direction of arrow), as opposed to the counter-clockwise direction of an ordinary domestic sewing machine.

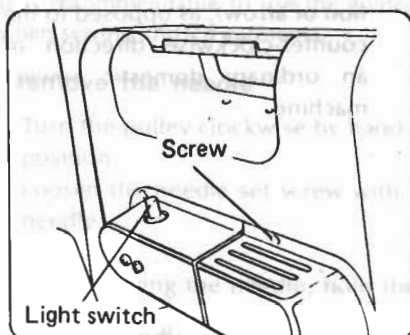
Opening and closing the front cover

When threading, it is necessary to open the front cover.

Note: When sewing, ensure that the front cover is closed.



Operating



Changing the light bulb

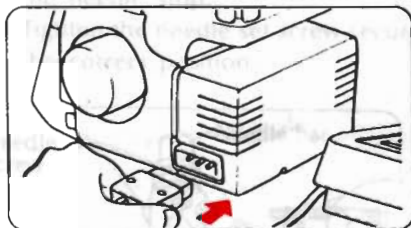
Remove screw on the back of the machine as illustrated.

Release the cover and unscrew the light bulb. Insert the new bulb and screw the cover in place.

Use 15 W light bulbs as indicated on the lamp holder.

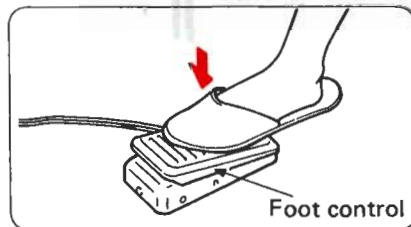
NOTE:

Make certain light bulb is not hot before removing.



Preparation

*Insert the three-pin plug into the socket of the motor and insert the supply plug into the power outlet.



Operation

When the pedal is lightly depressed, the machine runs at low speed and as it is depressed further, the machine will increase speed. When the pedal is released, the machine will stop.

NOTES ON THE MOTOR

- ☆ The normal operating speed of this sewing machine is 1,500 stitches per minute, which is quite fast compared to the normal operating speed of 300 to 800 stitches per minute for the ordinary foot-operated sewing machine. It should be noted that the motor of this sewing machine turns in the opposite direction to the motor in an ordinary sewing machine.
- ☆ The bearings in the motor are made of a special, sintered oil-impregnated alloy mounted in oil-soaked felt to withstand long hours of continuous operation.
- ☆ Continuous operation of the sewing machine will heat the motor and foot control a little, but not enough to adversely affect its performance. The motor and foot control are equipped with ventilating holes, which must not be covered with cloth or paper during use.
- ☆ When the motor is running, sparks can be seen through the ventilating hole in the motor bracket on the side opposite the pulley. These sparks are produced by the carbon brushes and the commutator, and are of no significance.

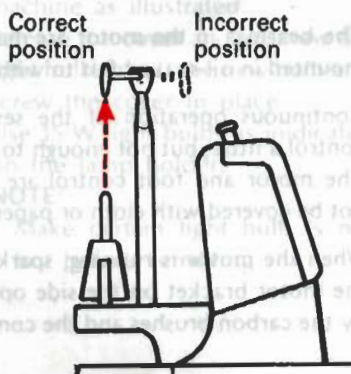
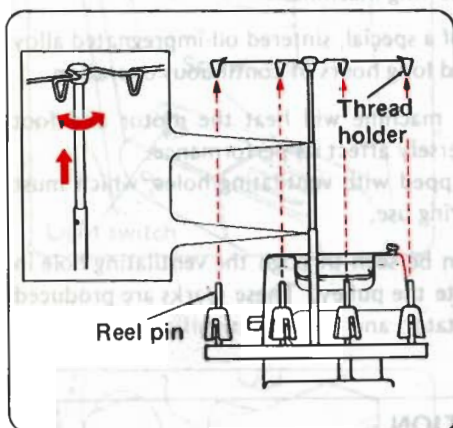
CAUTION

WHEN THREADING, REPLACING NEEDLE, OR WHEN MACHINE IS NOT IN USE, IT IS RECOMMENDED THAT THE ELECTRIC SUPPLY PLUG IS DISCONNECTED TO AVOID ANY POSSIBLE HAZARDS.

Threading

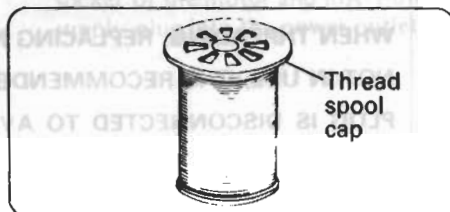
Preparation

Raise the spool pin right up and set it by the positioning stopper at the joint of the upper and lower sections of the pin. Make sure that the thread holders are right above the reel support.



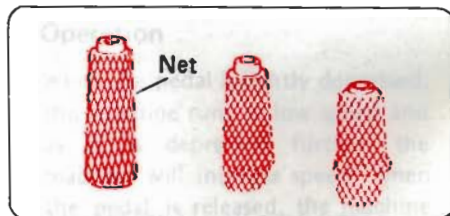
How to use thread spool cap

When you use a wooden thread reel, use the thread spool cap as illustrated to the right.



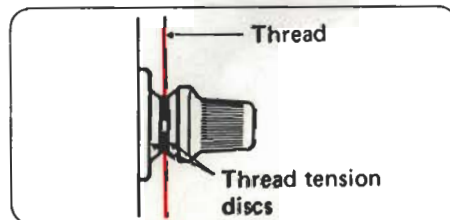
How to use net

If you are sewing with loosely-spun nylon thread we recommend that you cover the spool with the net supplied to prevent the thread from slipping off the spool. Adapt the net to the shape of the spool, see illustration.



NOTE:

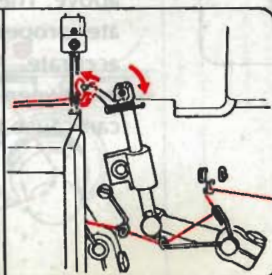
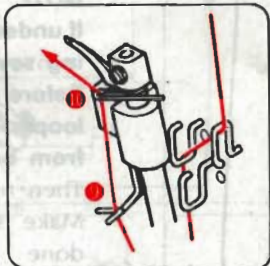
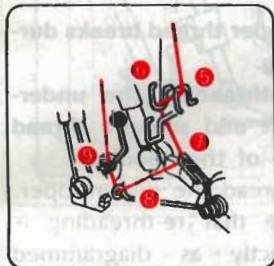
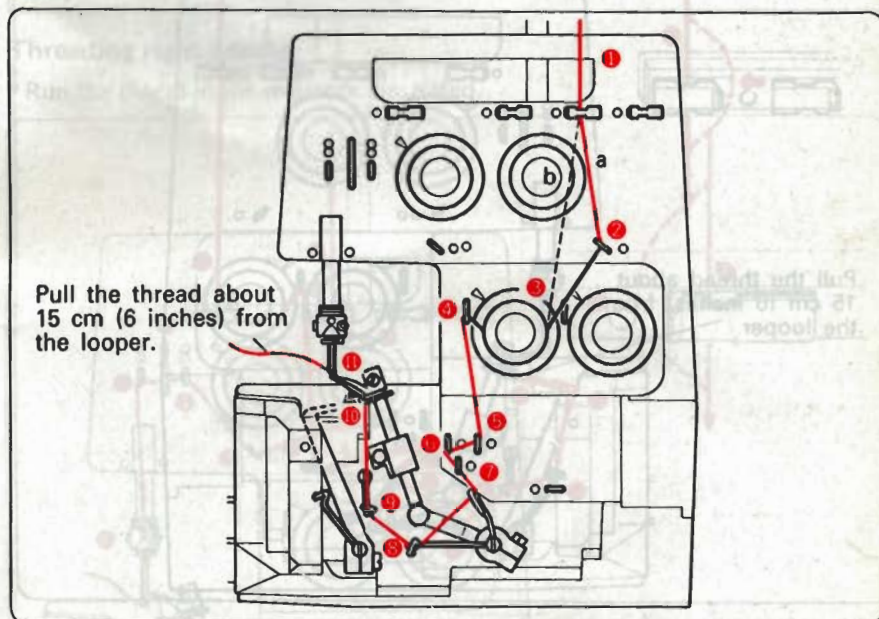
Ensure that each thread runs between the two thread tension discs.



THREADING

Threading overlooper

*Run the thread in the sequence illustrated.



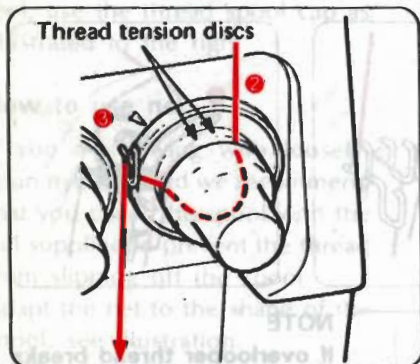
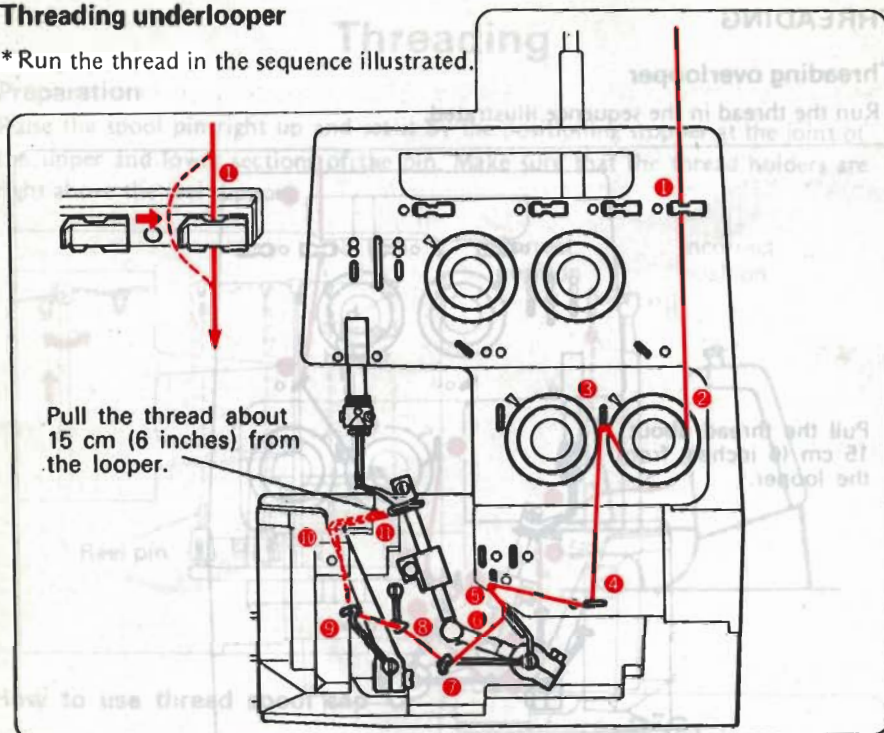
NOTE

If overlooper thread breaks during sewing.

This may be caused by the underlooper thread getting caught on the overlooper. If this happens, lower the overlooper by turning the pulley, remove the underlooper thread from overlooper and re-thread the overlooper.

Threading underlooper

* Run the thread in the sequence illustrated.



NOTE

If underlooper thread breaks during sewing.

Before re-threading the underlooper, cut and remove thread from both of the needles.

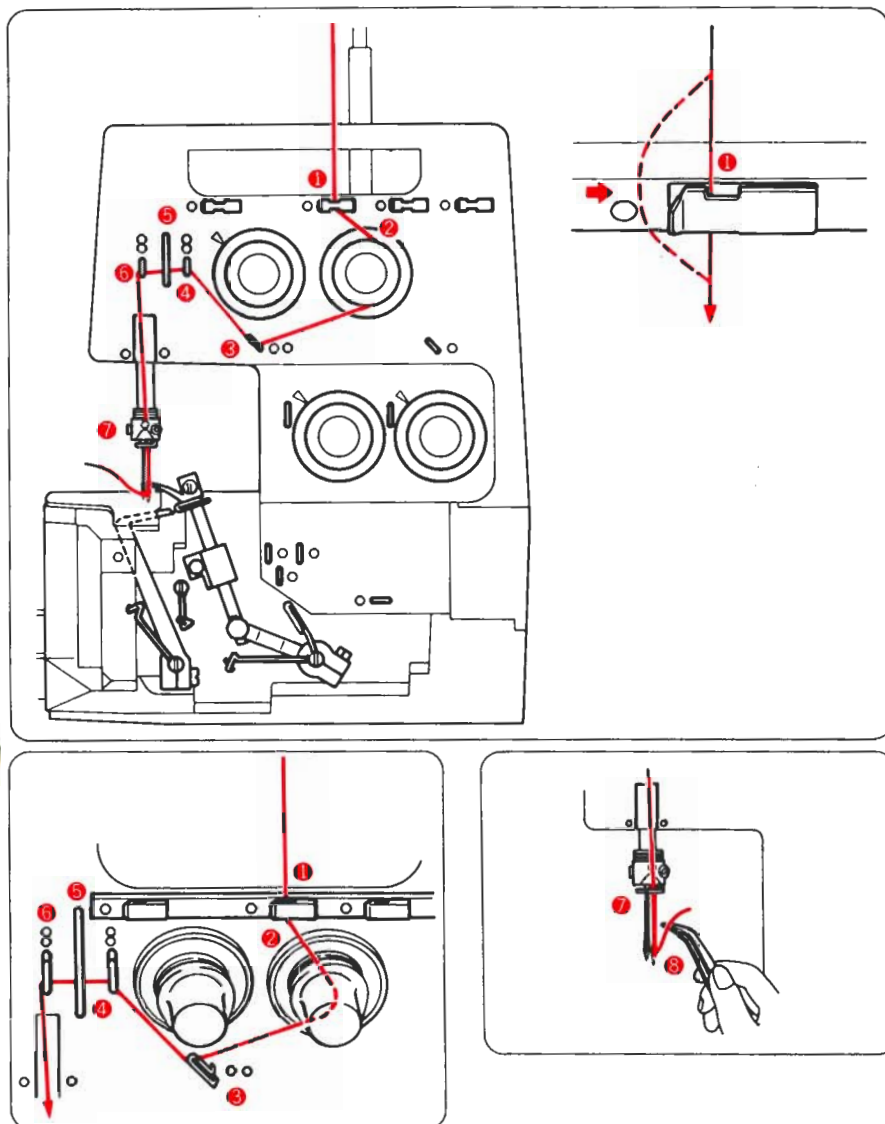
Then re-thread the underlooper. Make sure that re-threading is done exactly as diagrammed above. The machine will not operate properly if threading is not accurate. Also, be sure thread is in between the tension disc. This can cause the breakage of thread.

CAUTION

Thread the needles after threading of underlooper and overlooper.

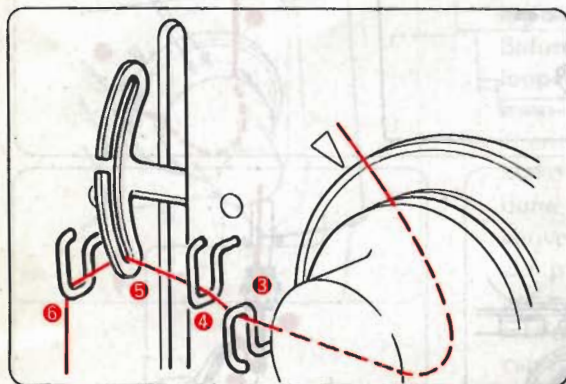
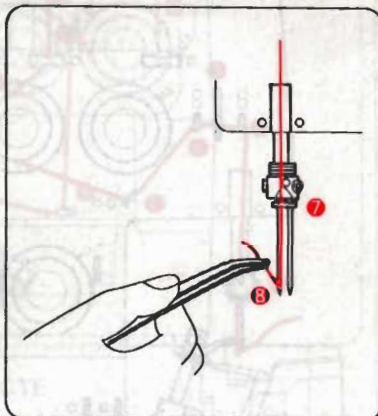
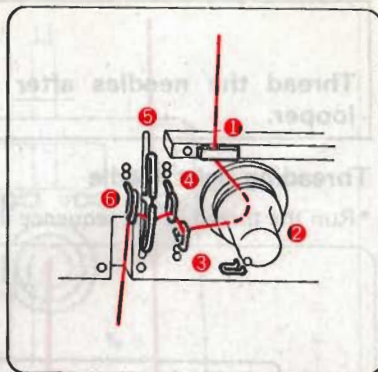
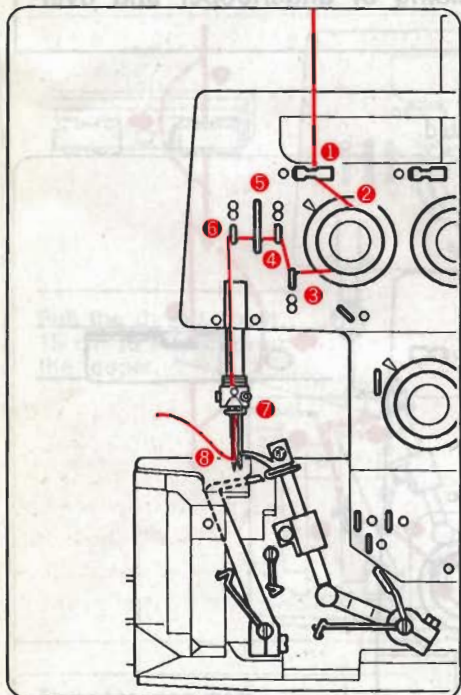
Threading right needle

*Run the thread in the sequence illustrated.



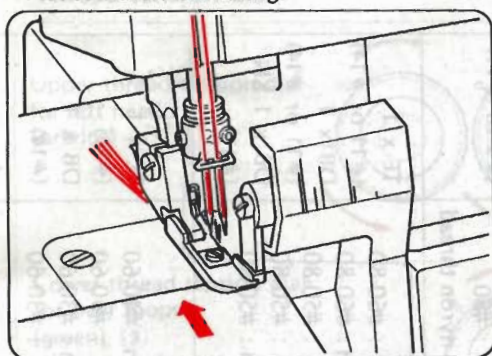
Threading left needle M546/M546D

*Run the thread in the sequence illustrated.

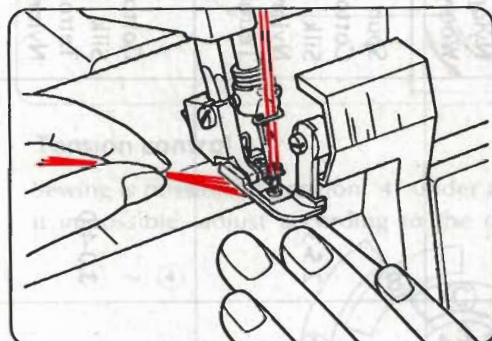


Test-sewing

*Test-sew after threading.



- (1) Place material for test-sewing under the presser foot.



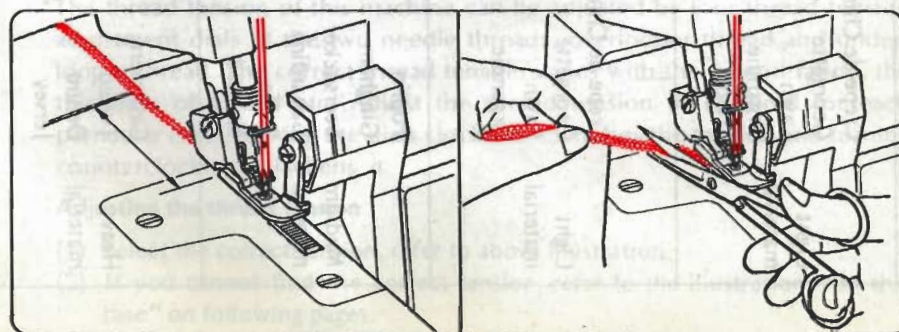
- (2) Hold the needle threads with your left hand, turn the pulley slowly a few times in a clockwise direction with your right hand, and observe how the threads entwine themselves before starting sewing.

Chaining-off

*After test-sewing, hold the foot control depressed slightly and chain off 4 inches. The threads will entwine themselves into a chain automatically.

NOTE:

If the thread tension is not correctly balanced, uneven chaining-off will result. In this case, pull the threads slightly.

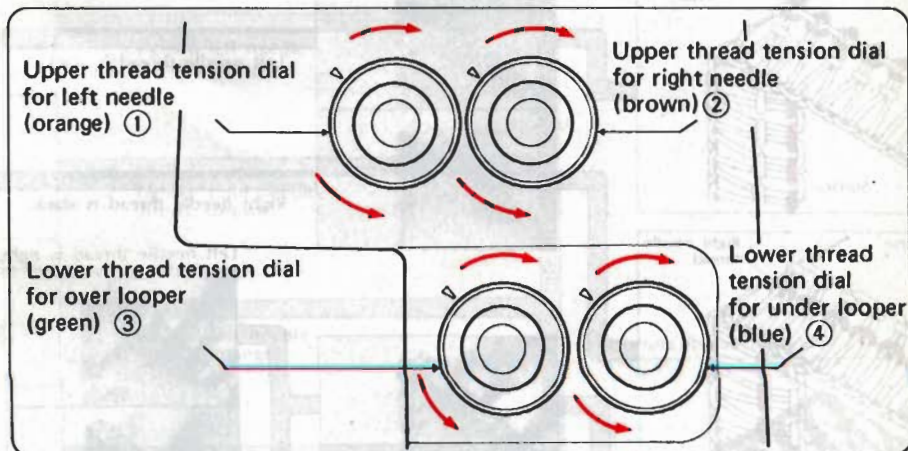


Ratio Chart of Sewing Material, Thread and Needle

Materials	Stitch	Sewing pitch (mm)	Thread	Needle
Light material Crepe de Chine orgette Lawn Organdie Tricot	Overlock stitch	2.0-3.0	Spun : #80 Cotton : #80-100 Silk : #80-100	TE x 1 (#11) DB x 1 (#9 or #11)
Light material Crepe de Chine orgette Lawn Organdie	Narrow/Rolled hemming stitch	Smaller than 2.0	Needle thread Tetron : #80 Nylon : #80 Looper thread Tetron : #80 Nylon : #80 Wooly nylon thread	TE x 1 (#11) DB x 1 (#9 or #11)
Medium material Poplin Gingham Seersucker Gabardine Serge Knitted	Overlock stitch	2.5-3.5	Spun : #60-80 Cotton : #60-80 Silk : #50-80 Nylon : #50-80 Tetron : #50-80	TE x 1 (#11 or #14) DB x 1 (#11 or #14) DB x 1 KN (#11)
Heavy material Cashmere Tweed Denim Jersey	Overlock stitch	3.0-4.0	Cotton : #40-60 Silk : #40-60 Tetron : #30-60 Nylon : #30-60	TE x 1 (#14) DB x 1 (#14)

Thread Tension

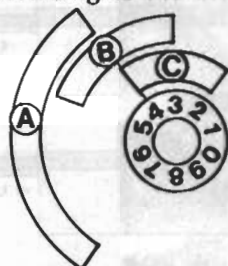
Thread tension dial



Tension control

Sewing is possible at position "4" under almost any circumstances. If you find it impossible, adjust according to the drawing below.

① ~ ④



(A) ... for heavy use

(B) ... for medium use

(C) ... for light use

(Standard: Cotton thread No.50)

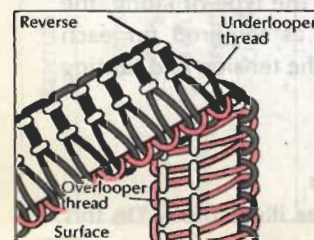
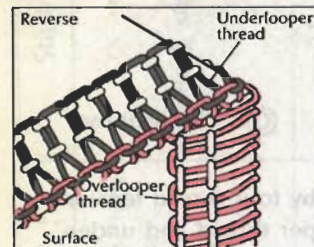
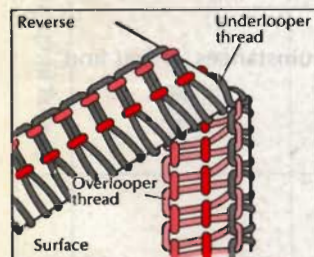
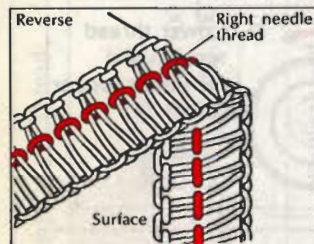
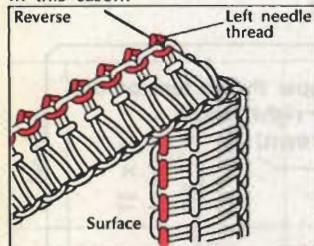
*The thread tension of this machine can be adjusted by four thread tension adjustment dials of the two needle threads, overlooper thread and underlooper thread. The correct thread tension varies with the type of fabric, the thickness of thread etc. Adjust the thread tension as required for each particular case. Turning the dials clockwise increases the tension and turning counterclockwise slackens it.

Adjusting the thread tension

- (1) Select the correct tension, refer to above illustration.
- (2) If you cannot find the correct tension, refer to the illustrations "In this case" on following pages.

Chart of Thread Tension Adjustment

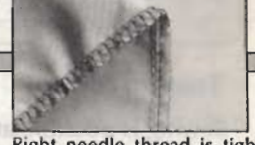
In this case...



Left needle thread is slack.

Right needle thread is slack.

Left needle thread is tight.



Right needle thread is tight.

Overlooper thread is tight.

Underlooper thread is slack.

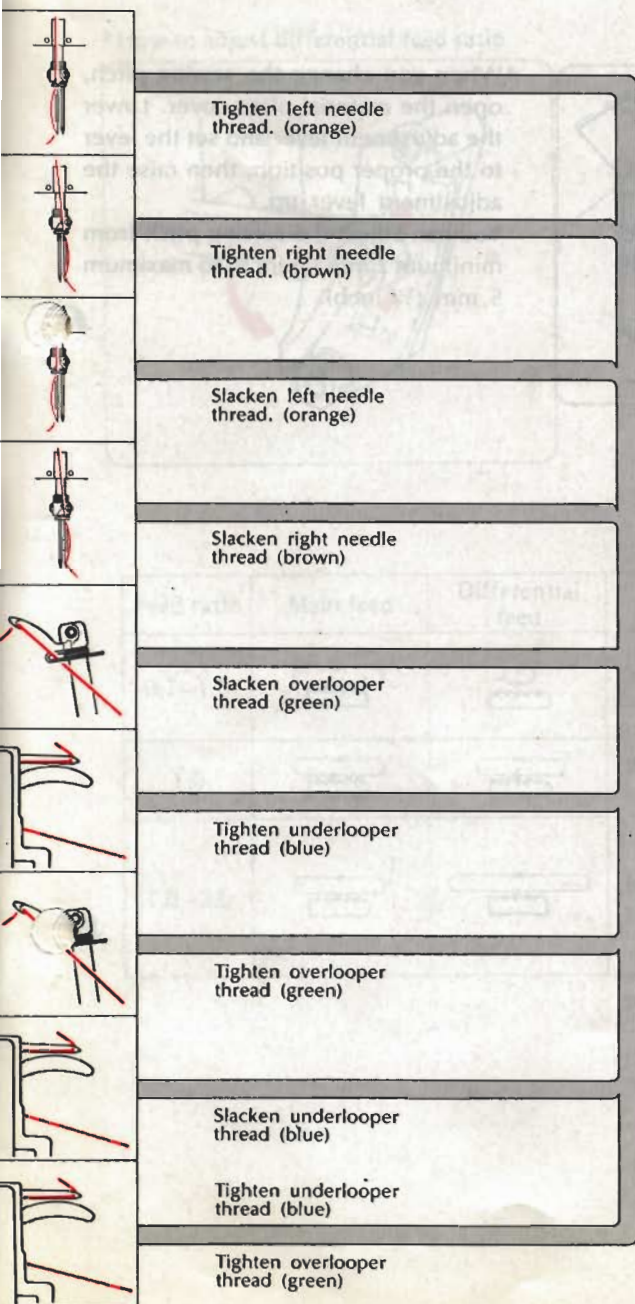
Overlooper thread is slack.

Underlooper thread is tight.

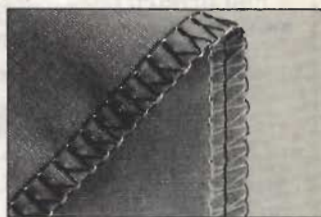
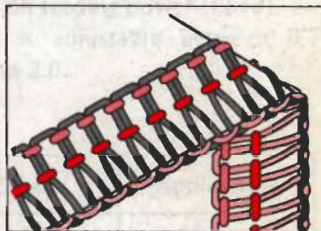
Overlooper thread is slack.

Underlooper thread is slack.





Correct thread tension



NOTE

Order of thread tension adjustment

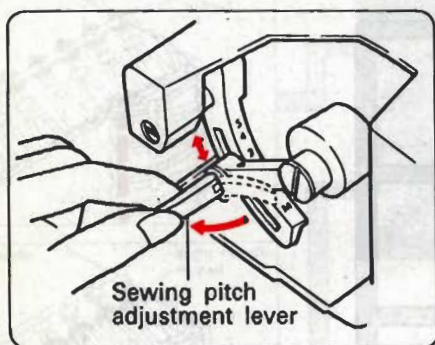
When you adjust the thread tension, do it in the following order;

- 1) Left needle thread
- 2) Right needle thread
- 3) Overlooper thread
- 4) Underlooper thread

This is the easiest way to obtain correct thread tension.

Sewing Pitch

Sewing Pitch (Stitch length)

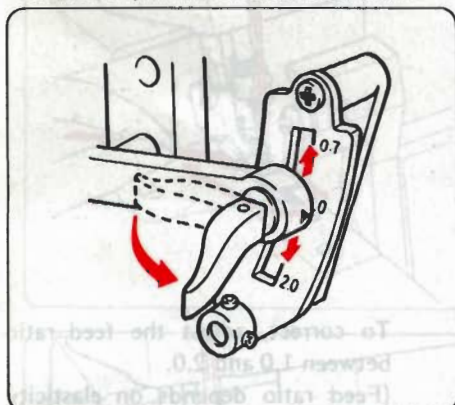


*When you change the sewing pitch, open the material plate cover. Lower the adjustment lever and set the lever to the proper position, then raise the adjustment lever up.

You can adjust the sewing pitch from minimum 2 mm ($\frac{1}{8}$ inch) to maximum 5 mm ($\frac{1}{4}$ inch).

Instruction for differential feed mechanism

* How to adjust differential feed ratio.



- (1) Open cloth plate cover.
- (2) Loosen feed ratio adjusting lever.
- (3) Adjust feed ratio as required.
- (4) Fasten adjusting lever.
- (5) Close cloth plate cover.

NOTE:

What is "differential feed ratio" ... ?

It is ratio of differential feeding power (adjustable) to main feeding power (fixed).

It is adjustable between 0.7 and 2.0.

Feed ratio	Main feed	Differential feed	Effect	Application
0.7-1.0			Materials to be pulled.	Prevent thin materials from puckering.
1.0			Without differential feed.	Normal sewing.
1.0-2.0			Materials to be gathered.	Prevent elastic materials from stretching or Puckering.

It threads break during sewing



* Remove the material and rethread correctly. Replate the material under the presser foot and sew 1-5 cm (1/4-2 inches) over the previous stitches.

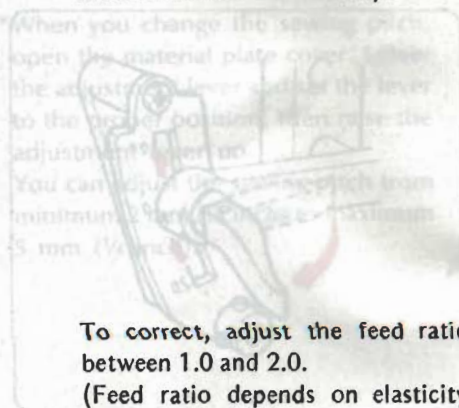
CAUTION:

Do not use straight pins in fabric when sewing. They will destroy the needles and blades.

* An example requiring adjustment.



With normal feed, the edge of the elastic materials will be wavy.



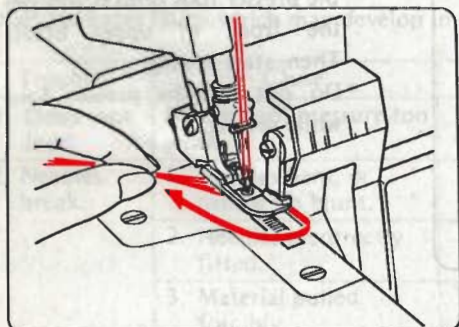
To correct, adjust the feed ratio between 1.0 and 2.0.
(Feed ratio depends on elasticity of materials.)

Caution In case you sew with thick materials which is not elastic such as denim, do not work differential feed so as not to damage materials.

Feed ratio	Main feed	Differential feed
0.7-1.0		
1.0-2.0		

Sewing

To start sewing



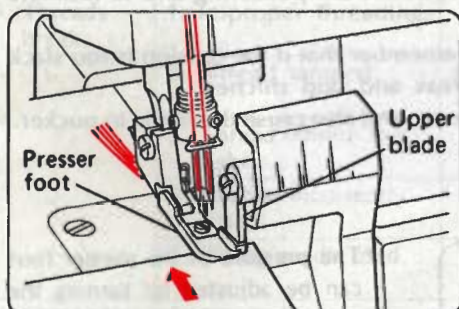
*Thread the machine and pull the threads about 15 cm (6 inches) behind the presser foot.

*Place the material well underneath the presser foot before starting to sew. Slowly sew a few stitches by turning the pulley by hand.

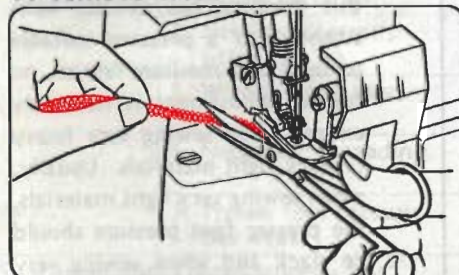
*The fabric will be fed automatically. You need only guide it in the required direction.

*Check the stitch formation produced to see if it is uniform. If stitch is not uniform, re-check that the threading has been done properly.

*Follow the Seam Allowance Guide ($\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, 1") for consistent cutting of fabric seams.

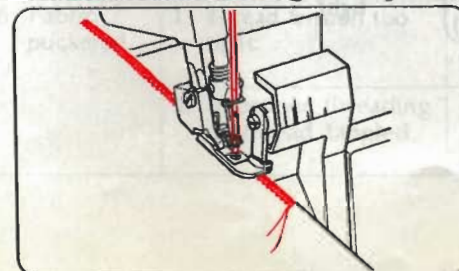


To remove work



*When the seam is finished, keep the machine running at low speed to obtain chaining-off. Then cut the stitches 5 cm (2 inches) from the work. If feeding for chaining-off is not enough, pull the thread gently.

If threads break during sewing



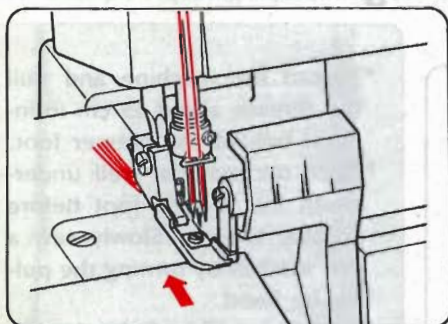
*Remove the material and rethread correctly. Replace the material under the presser foot and sew 3-5 cm ($1\frac{1}{8}$ -2 inches) over the previous stitches.

CAUTION:

Do not use straight pins in fabric when sewing.

They will destroy the needles and blades.

To sew heavy material



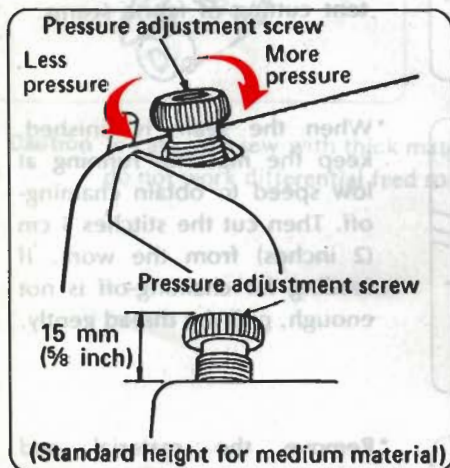
* Place the material underneath the presser foot until it touches the front of upper blade. Then, start sewing.

* Do not lift the presser foot while sewing.

To sew fine material

- (1) Adjust the pressure to prevent material from puckering and to facilitate sewing curves.
- (2) Slacken the thread tension, but remember that if the tension is too slack this may cause the thread to break and skip stitches.
- (3) Blunt blades will not cut a clean seam, and also cause the fabric to pucker.

Presser foot pressure



* The pressure of the presser foot can be adjusted by turning the pressure adjustment screw. Since this machine has already been adjusted to a pressure suitable to light and medium-fabrics, no further adjustment is necessary except when sewing very heavy or very light materials. Usually, when sewing very light materials, the presser foot pressure should be slack and when sewing very heavy materials, it should be tight.

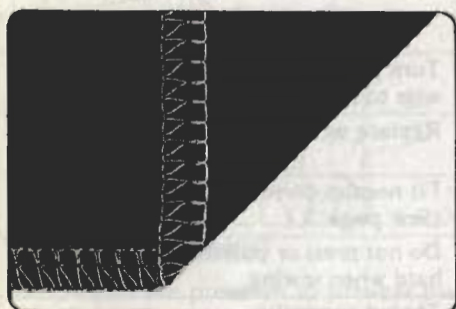
Fault-finding

This sewing machine is designed for trouble-free operation. However the following chart indicates faults which may develop in the absence of basic adjustments.

Trouble	Cause	Remedy
1. Does not feed.	Presser foot pressure too weak.	Turn pressure adjustment screw clockwise to increase presser foot pressure.
2. Needles break.	1. Needles bent, or needle tip blunt.	Replace with new needle.
	2. Needles incorrectly fitted.	Fit needles correctly. (See page 3.)
	3. Material pulled forcibly.	Do not press or pull material too hard when sewing.
3. Threads break.	1. Improper threading.	Thread correctly. (See pages 7~11.)
	2. Thread tangled.	Check spool pin, thread holders, etc. and remove tangled thread.
	3. Thread tension too tight.	See pages 14~16 "Thread tension".
	4. Needles incorrectly fitted.	Fit needles correctly. (See page 3.)
	5. Wrong needle used.	Use correct needle Schmetz 130/705H
4. Skipped stitches.	1. Needle bent, or needle tip blunt.	Replace with new needle.
	2. Needle incorrectly fitted.	Fit needle correctly. (See page 3.)
	3. Wrong needle used.	Use correct needle Schmetz 130/705H
	4. Improper threading.	Thread correctly. (See pages 7~11.)
	5. Presser foot pressure too weak.	Turn pressure adjustment screw clockwise to increase presser foot pressure.
5. Stitches not uniform.	Thread tensions not adjusted properly.	See pages 14~16 "Thread tension".
6. Fabric puckered.	1. Thread tension too tight.	Decrease thread tension when sewing lightweight or fine material. (See pages 14~16.)
	2. Improper threading or thread tangled.	Thread correctly. (See pages 7~11.)

Stitch selection

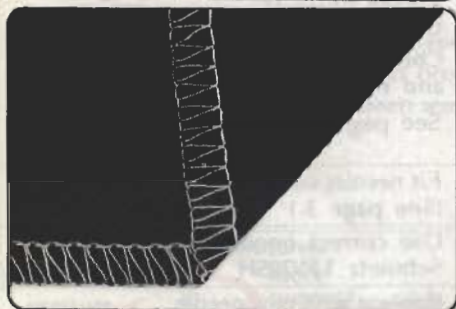
☆ These sewing machines can form five kinds of stitches in simple steps as follows;



1. Four-thread overlock stitch

Use all the four threads and two needles for producing four-thread overlock stitches, which will neatly fit all kinds of materials, especially knitted ones.

Use: Ideal for sewing knitted garments.

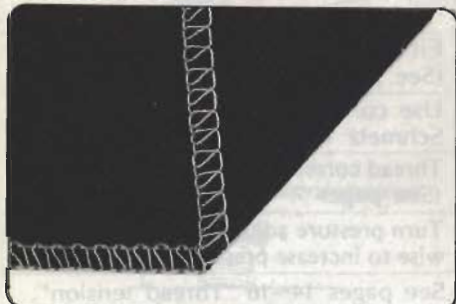


2. Three-thread overlock stitch (5 mm / 1/4 inch)

Use three threads and left needle, producing 5 mm seams, which will fit all kinds of materials.

Use: For overlock stitching and sewing suits, blouses, slacks, etc.

Note: Take off right needle when sewing this overlock stitch.

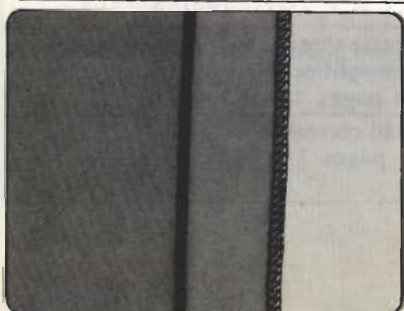


3. Three-thread overlock stitch (2.8 mm / 3/16 inch)

Use three threads and right needle, producing 2.8 mm (3/16 inch) seams.

Use: For overlock stitching and sewing suits, blouses, slacks, etc.

Note: Take off left needle when sewing this overlock stitch.



4. Narrow/Rolled hemming stitches

It is recommendable to adjust thread tensions as follows:

[A] For ROLLED HEMMING STITCH

Overlooper thread tension at #0-2

Underlooper thread tension at #6-8

Left needle thread at #4

NOTE: Depending on materials/threads, thread tension may vary slightly.

[B] For NARROW HEMMING STITCH

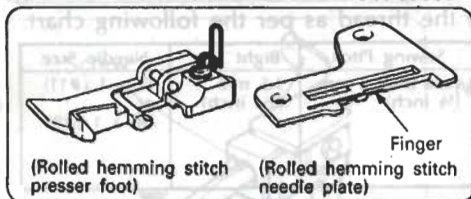
All thread tensions at 4

NOTE: Depending on materials/threads, thread tension may vary slightly.

How to use rolled hemming stitch attachment

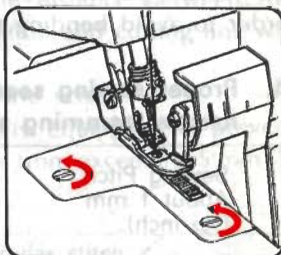
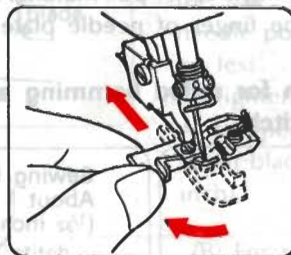
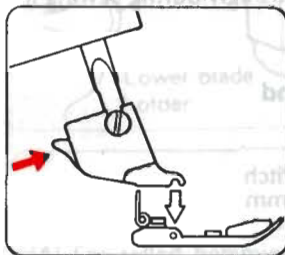
By using rolled hemming stitch attachment, you can obtain fine rolled hemming and narrow hemming stitch. Those stitches are useful to decorate on baby dress and handkerchief etc. To use the attachment, follow the instructions below.

ROLLED HEMMING STITCH ATTACHMENT



*Rolled hemming stitch attachment consists of presser foot and needle plate.

1. To fix rolled hemming attachment



(A) Exchange the overlock stitch presser foot.

- (1) Raise the presser foot lifting lever.
- (2) Set the needle to its highest position by turning the pulley.
- (3) Push the button (noted by arrow).
- (4) Remove the presser foot by turning as illustrated and remove from back.

NOTE:

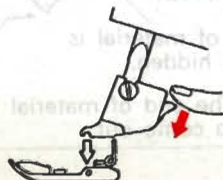
Remove the right needle and proceed.

(B) Remove present needle plate and replace with rolled hemming plate.

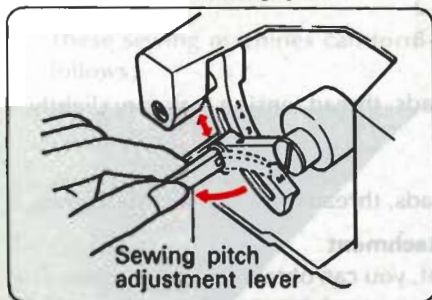
(C) When applying rolled hemming presser foot, make certain that the spring on foot is placed directly in front of the round bar of the presser foot holder.

NOTE:

In case the narrow hemming foot does not snap on the presser foot holder, just push down on the rear side of presser foot holder.



2. To adjust sewing pitch



Use the adjustment lever to adjust the sewing pitch to the extent from 1 mm ($\frac{1}{32}$ inch) to 2 mm ($\frac{1}{8}$ inch) as shown in illustration.

3. To change the thread

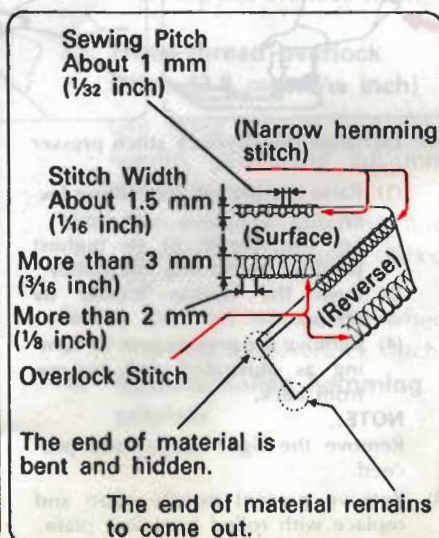
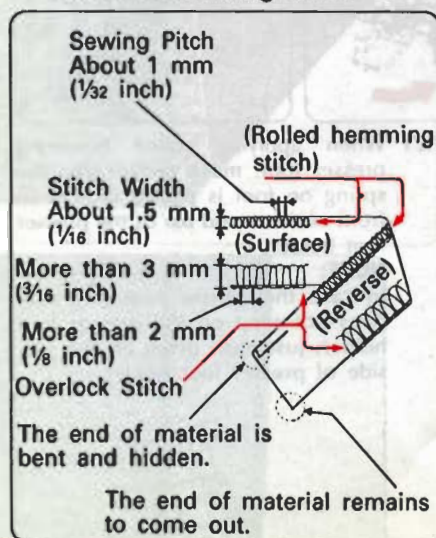
When using certain materials with the rolled hemming and narrow hemming stitch, it is recommended to change the thread as per the following chart.

Material	Thread Type	Sewing Pitch	Bight Size	Needle Size
Georgette Rayon Linen/Cotton Broad cloth	(Upper Thread) Tetron Thread or Nylon Thread #80 (Lower Thread) Tetron Thread or Nylon Thread #80	Less than 2 mm ($\frac{1}{8}$ inch)	3.5 mm ($\frac{3}{16}$ inch)	TE x 1 (#11) or DB x 1 (#9)

(REMARK)

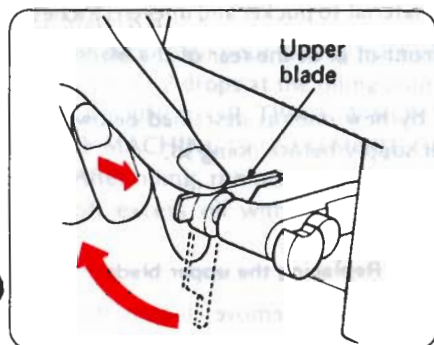
Do not raise presser foot lifting lever or pull material strongly during sewing in order to avoid bending the finger of needle plate.

4. Proper sewing seam for rolled hemming and narrow hemming stitch

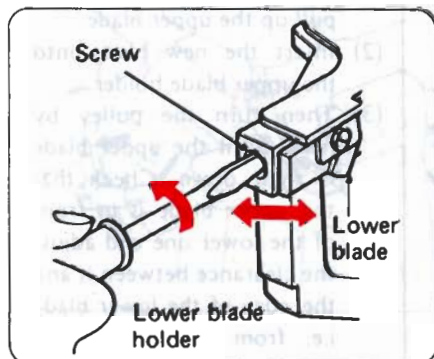


Bight Size/Stitch Width (pitch is factory set on 5 mm)

The bight size for rolled hemming stitch should be adjusted as below.



- (1) Slide open the front cover.
- (2) The next step is to disengage the blade. To do this, press in at the left of the blade and turn in the direction of the arrow illustrated, until it snaps into a locked position.
- (3) Loosen the set screw for the lower blade holder.
- (4) Move the lower blade holder to the left so that the lower blade will touch the rolled hemming needle plate as per illustration (A):



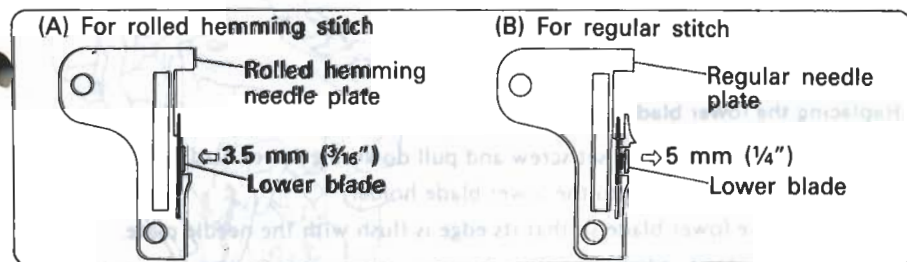
NOTE:

After completion of rolled hemming stitch, it is required to adjust the bight size as per illustration (B).

*If the lower blade holder is moved to the left, the distance between the needle position and cutting line will be less.

- (5) Tighten the screw.

*A stopper is equipped to prevent lower blade from exceeding 5 mm (1/4 inch).

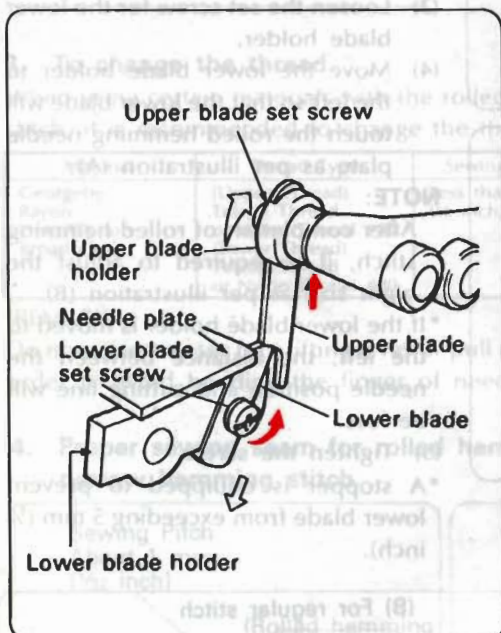


Replacing the Blades

If the blades are blunt, they will cause the material to pucker and uneven stitches.

*If one strand of thread can be cut off in front of or at the rear of the blade, the blade is sharp enough.

*When the blades are blunt, replace them by new ones as described below. Be sure to unplug the contact from the power supply before doing so.



Replacing the upper blade

- (1) To remove, loosen the upper blade set screw and pull up the upper blade.
- (2) Insert the new blade into the upper blade holder.
- (3) Then turn the pulley by hand until the upper blade is right down. Check that the upper blade is in front of the lower one and adjust the clearance between it and the edge of the lower blade i.e. from 0.5 mm to 1.0 mm.
- (4) Retighten the upper blade securely.

Replacing the lower blade

- (1) Loosen the lower blade set screw and pull down the lower blade.
- (2) Insert the new blade into the lower blade holder.
- (3) Position the lower blade so that its edge is flush with the needle plate.
- (4) Tighten the lower blade set screw.

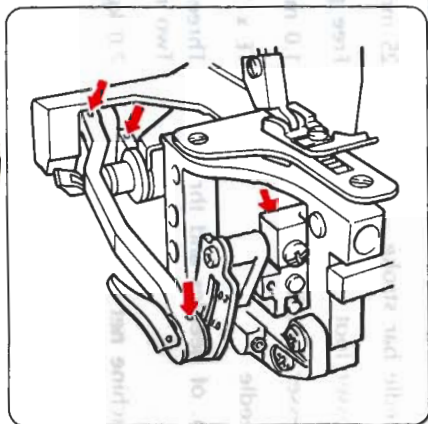
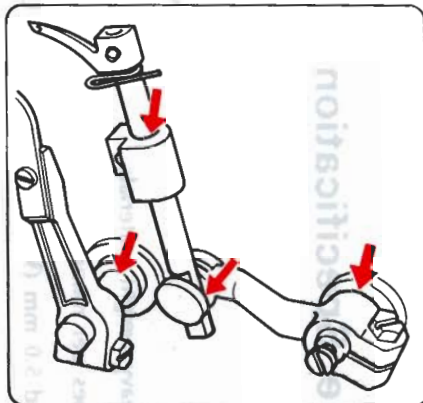
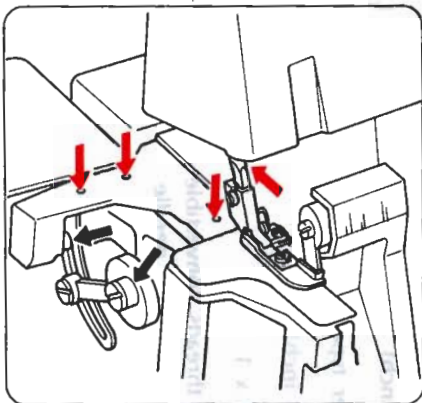
*It is important to adjust the alignment of the upper and lower blades for sharp cutting.

Oiling

For smooth and silent operation the moving parts of the machine should be oiled periodically. (See diagram below.)

REMARKS:

1. Be sure to oil your sewing machine before use.
2. Oil 1 to 2 drops at the oiling points.
3. OIL ONCE OR TWICE A MONTH IF MACHINE IS USED NORMALLY. IF MACHINE IS USED MORE OFTEN, OIL ONCE A WEEK.
4. After oiling, run the machine without thread and the presser foot up. Wipe off excess oil with a scrap piece to avoid oil stains.



Machine Specification

Model No.	634D	Needle set
Use	Light to heavy weight materials	Standard #14: 2 pcs.
Sewing speed	1,500 stitches per minute	Ball point #11: 2 pcs.
Bight size	2.8 mm and 5.0 mm ($\frac{3}{16}$ to $\frac{1}{4}$ inch)	Upper blade
Stitch length (pitch)	2 mm to 5 mm ($\frac{1}{8}$ to $\frac{1}{4}$ inch)	Lower blade
Needle bar stroke	25 mm (1 inch)	Light bulb
Presser foot	Free presser type	
Presser foot life	1.0 mm ($\frac{1}{4}$ inch)	
Needle	TE x 1, DB x 1	
No. of needles and threads	Three/Four threads convertible Two needles or single needle	
Machine net weight	7.0 kgs.	