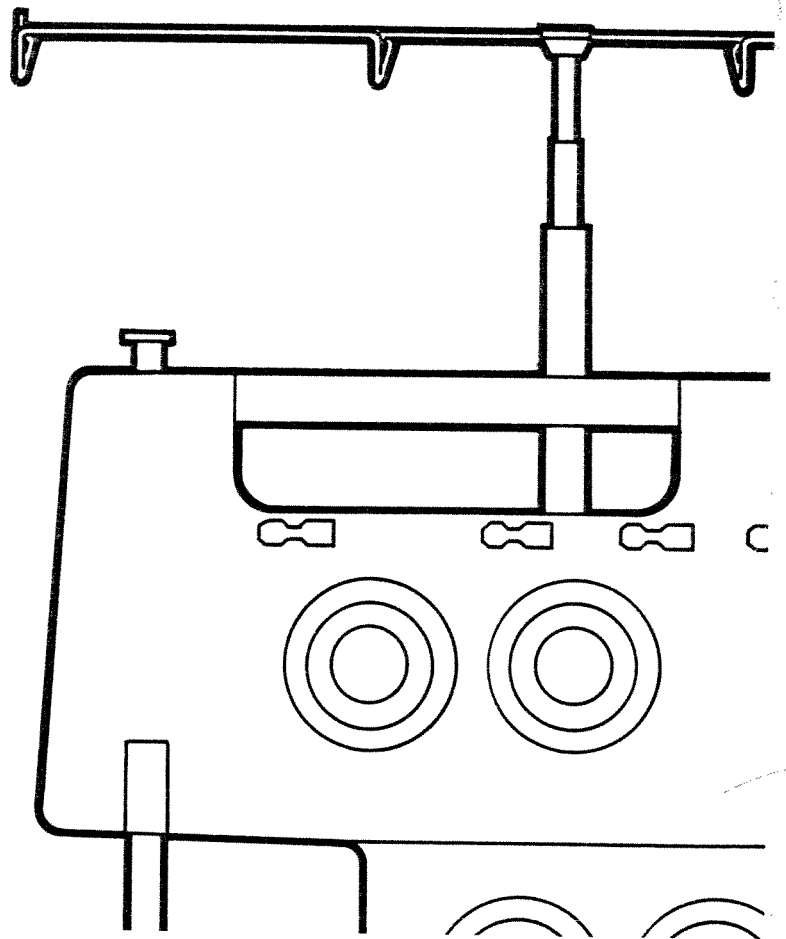


# HANDBOOK FOR OVERLOCK SEWING MACHINE

MODELS 530/530D  
and 546/546D



**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.

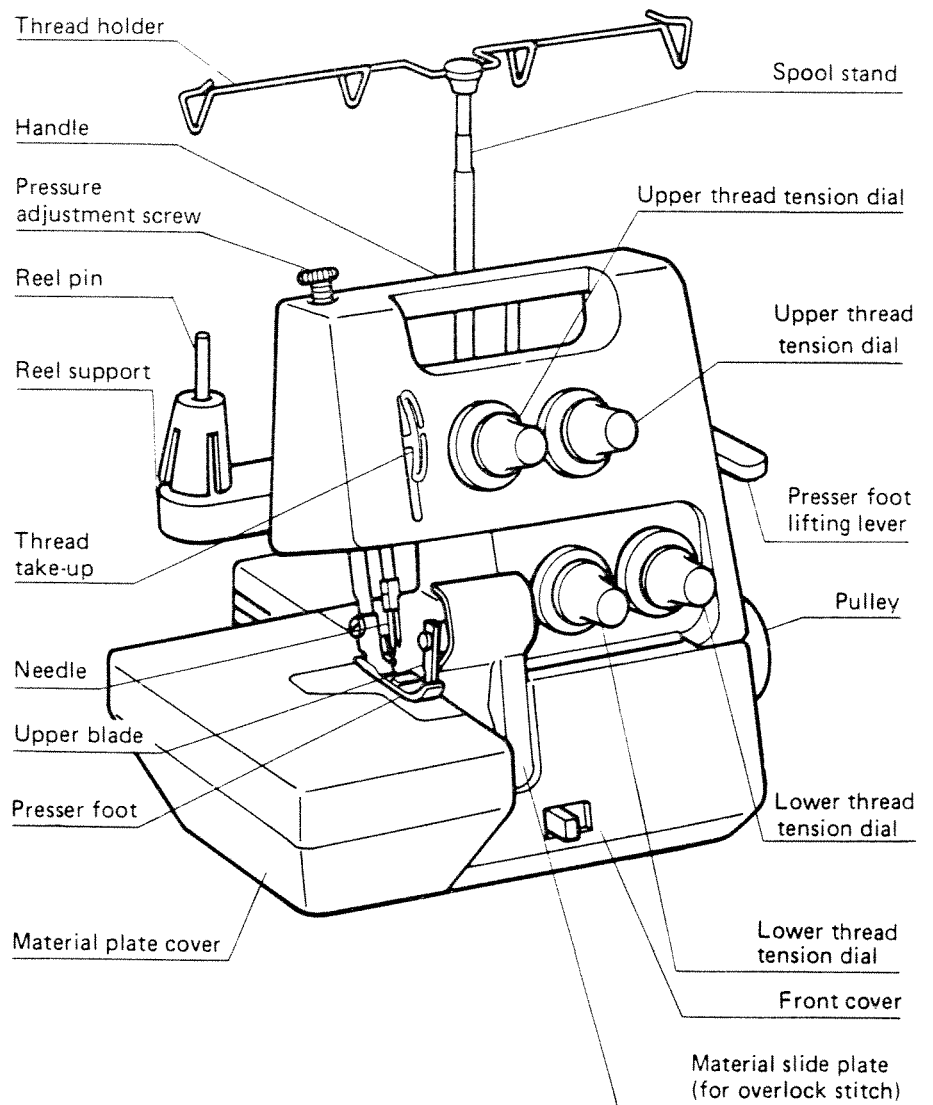
But, however excellent this sewing machine may be, it cannot operate to its fullest capacity unless it is handled correctly.

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

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## Names of parts and their functions

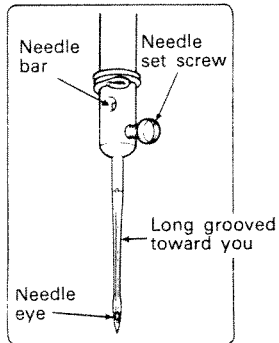


## Needle

\*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 (DB x 1 KN#11) in the accessory when sewing knitted garments.



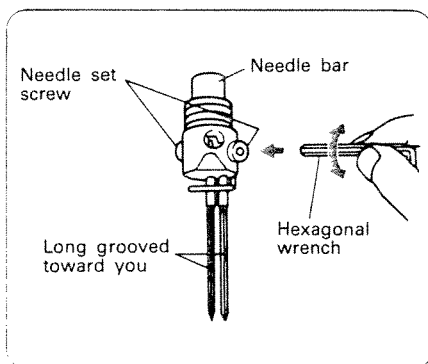
**Model 530/530D**

### To remove the needle

- (1) Turn the hand wheel clockwise by hand until the needle is in its highest position.
- (2) Loosen the needle set screw with the screwdriver (M530/M530D) or hexagonal wrench (M546/M546D) and remove the needle.

### NOTE:

When removing the needle, hold the needle with the tweezers to avoid dropping it.

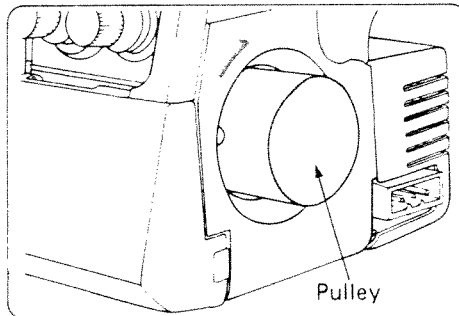


**Model 546/546D**

### To insert the needle

- (1) Turn the hand wheel until the needle bar is in its 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.

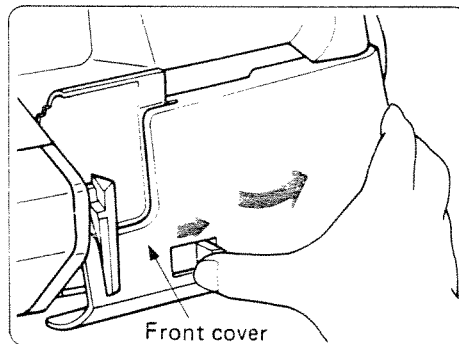
### Turning direction of motor



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

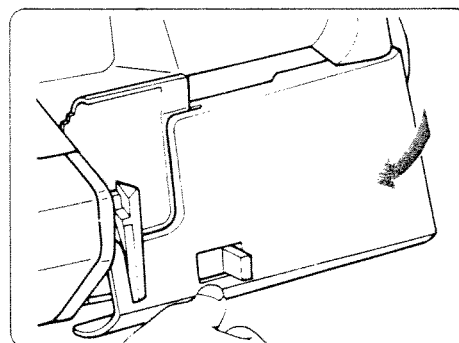
### Opening and closing the front cover

When threading, it is necessary to open the front cover.  
Note: When sewing, ensure that the front cover is closed.



#### To open the front cover

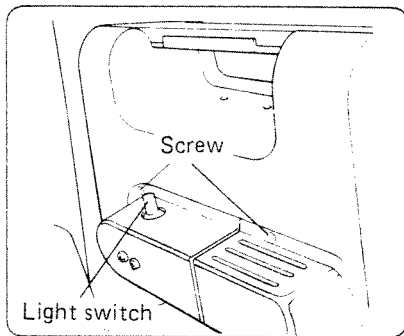
Move the knob on the front cover in the direction of the arrow and pull it open.



#### To close the front cover

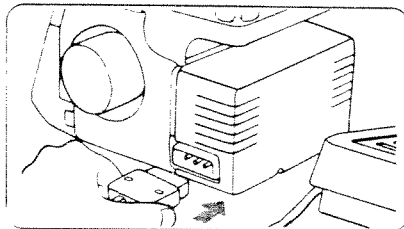
Push the front cover on by hand as illustrated here.

## Operating



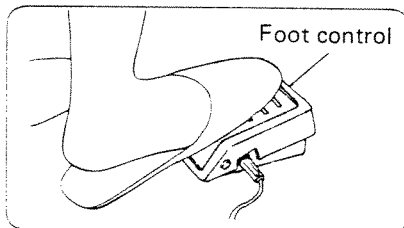
### Changing the light bulb

Undo the two upper screws on the back of the machine as illustrated, remove the cover and screw the light bulb out. Insert the new bulb and screw the cover in place. Use 15 W light bulbs as indicated on the lamp holder.



### 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

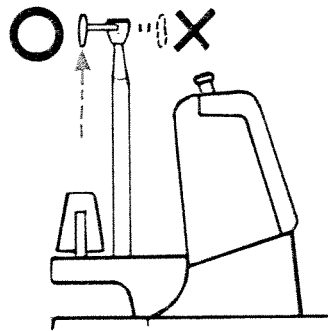
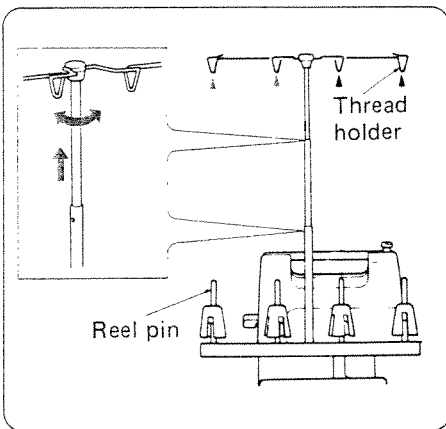
**WHEN THREADING, REPLACING NEEDLE, OR WHEN MACHINE IS NOT IN USE, IT IS RECOMMENDED THAT THE ELECTRIC SUPPLY PLUG IS DISCONNECTED TO AVOID ANY POSSIBLE HAZARDS.**



## Threading

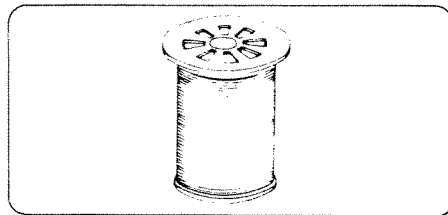
### Preparation

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.



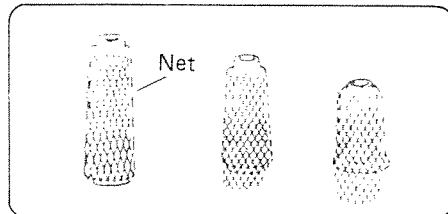
### How to use thread spool cap

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



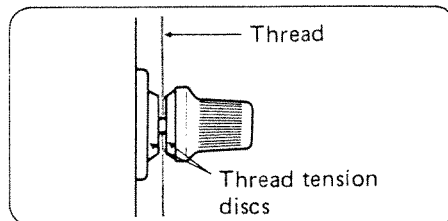
### How to use net

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:

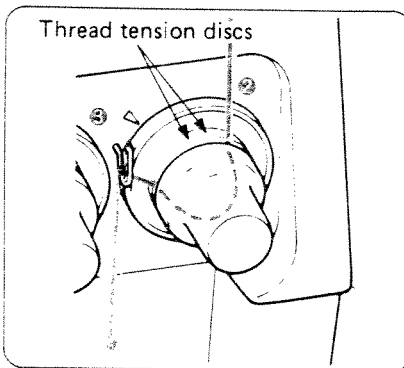
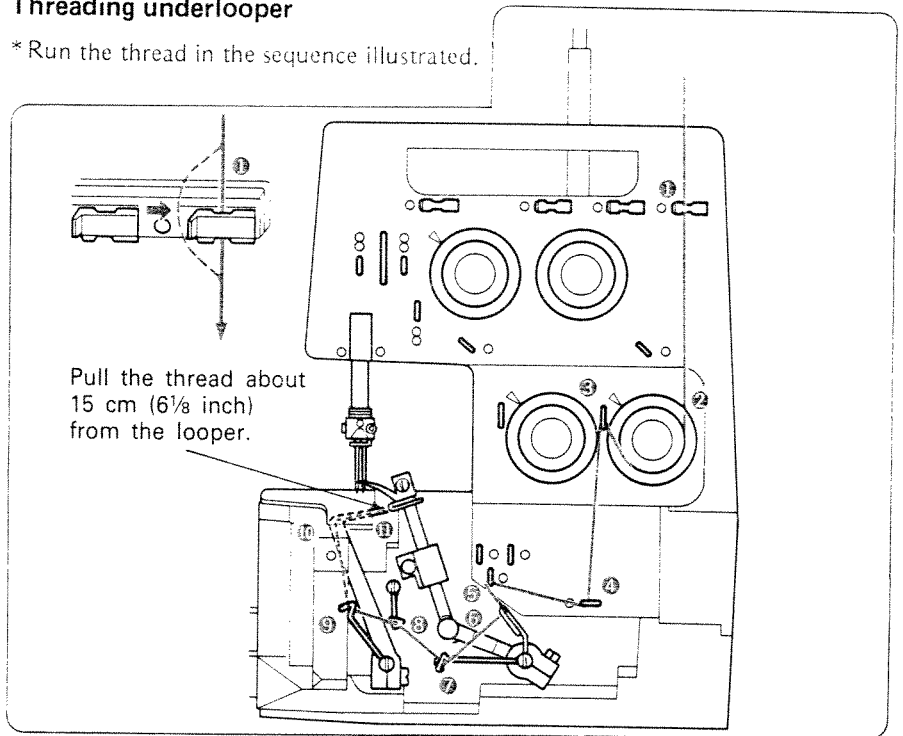
Ensure that each thread runs between the two thread tension discs.



## THREADING—MODEL 546/546D AND 530/530D

### Threading underlooper

\*Run the thread in the sequence illustrated.



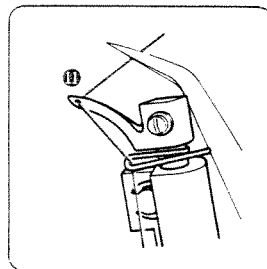
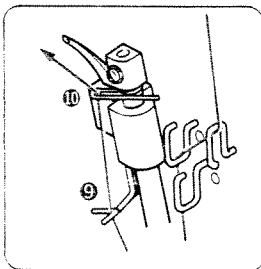
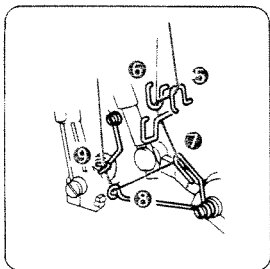
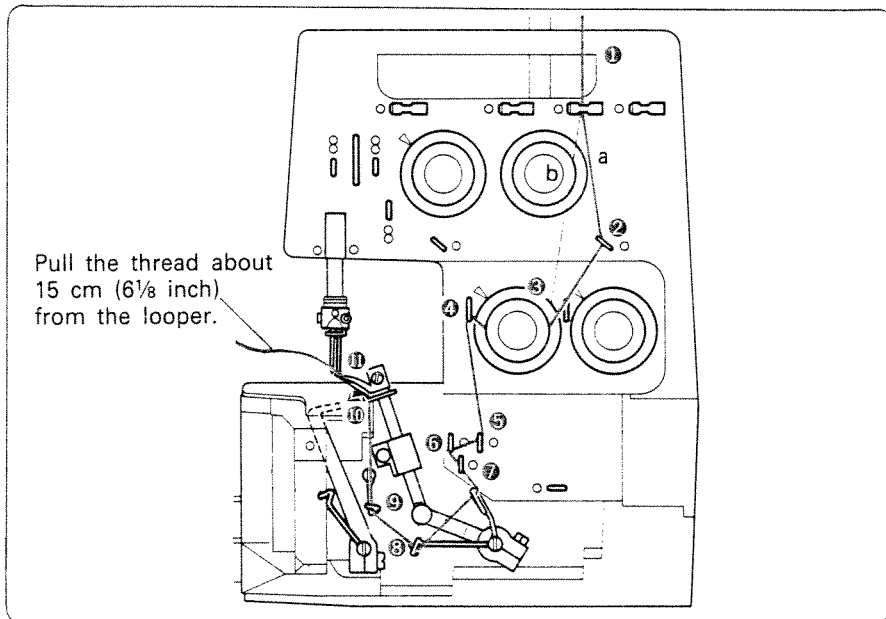
### NOTE

**If underlooper 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.

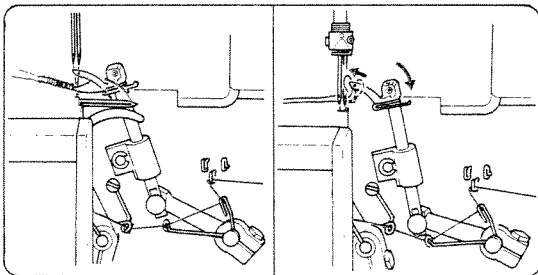
## Threading overlooper

\*Run the thread in the sequence illustrated.



### NOTE:

When threading M546/546D, thread through a).  
When threading M530/530D, thread through b).



### NOTE

**If overlooper thread breaks during sewing.**

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

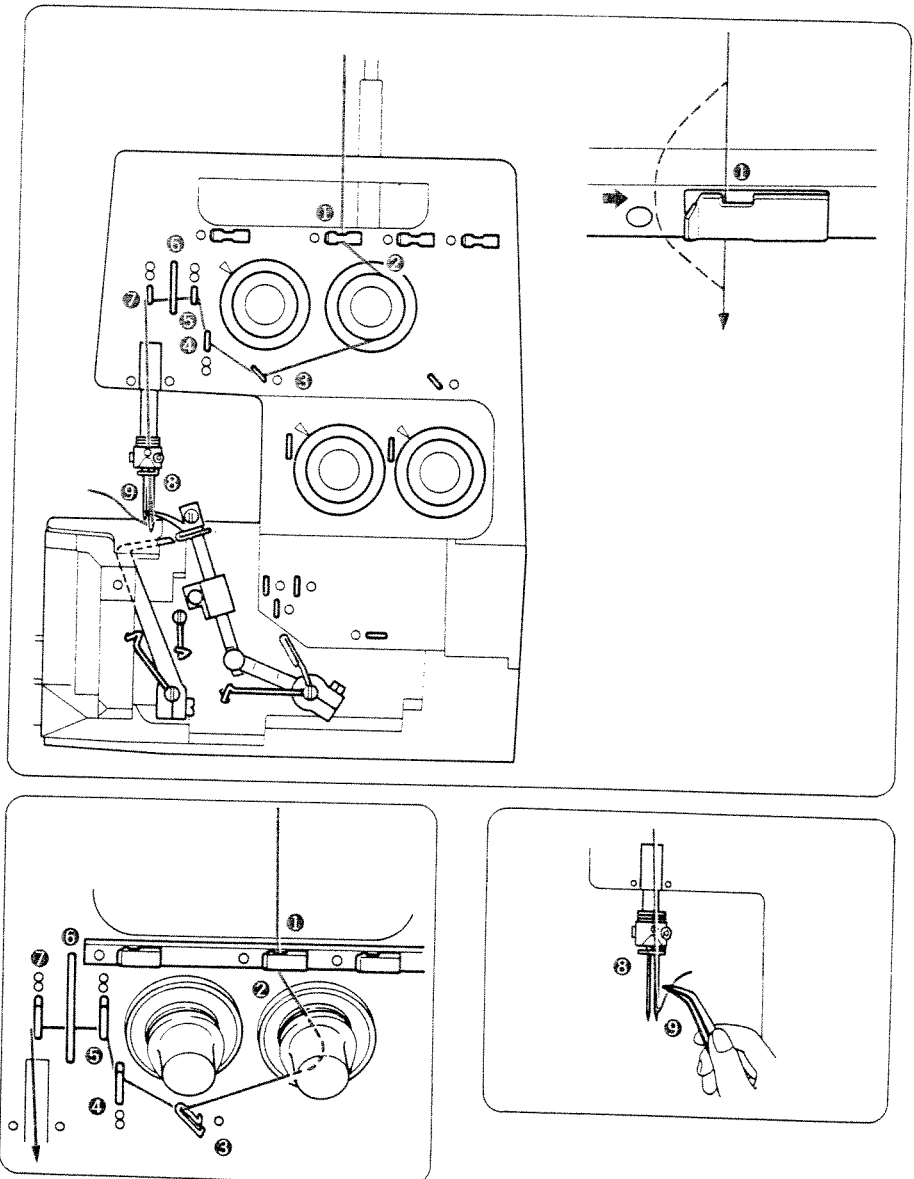
Then re-thread the underlooper. Make sure that re-threading is done exactly as diagrammed above. The machine will not operate properly if threading is not accurate. Also, be sure thread is in between the tension disc. This can cause the breakage of thread.

**CAUTION**

Thread the needles after threading of underlooper and overlooper.

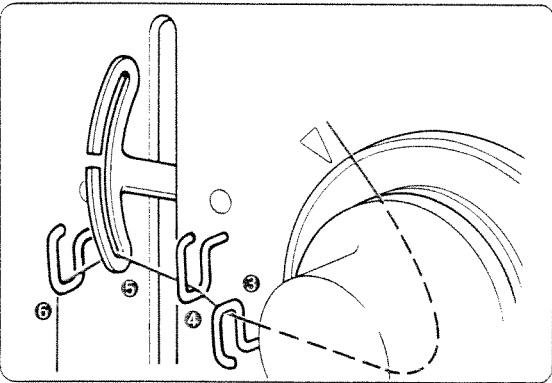
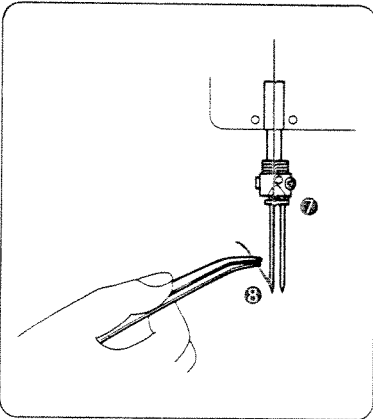
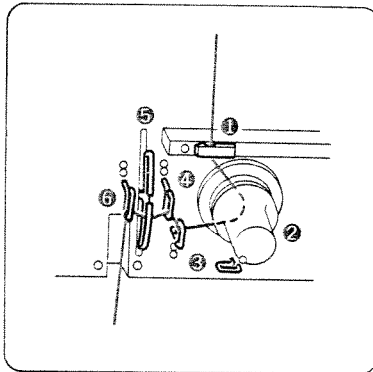
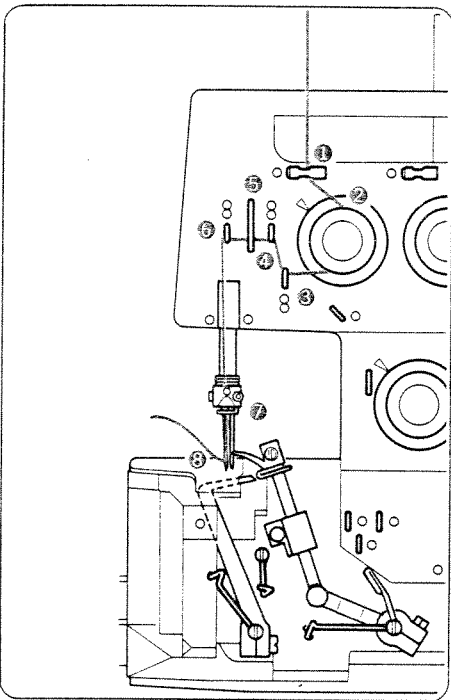
**Threading right needle M546/M546D**

\*Run the thread in the sequence illustrated.



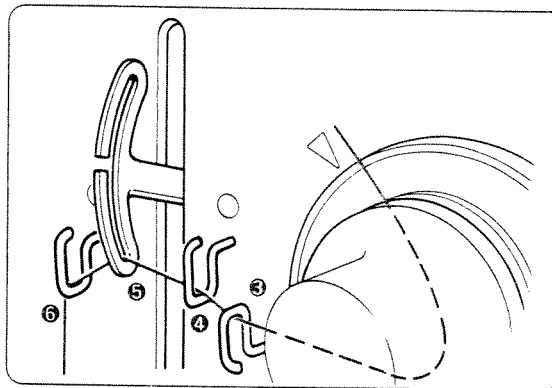
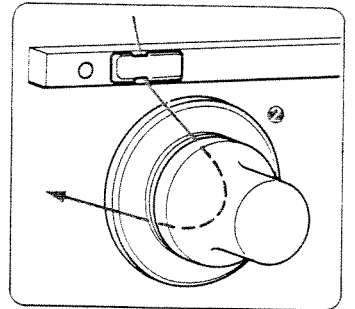
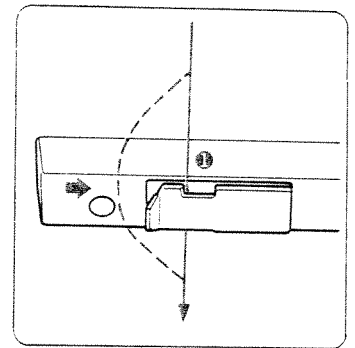
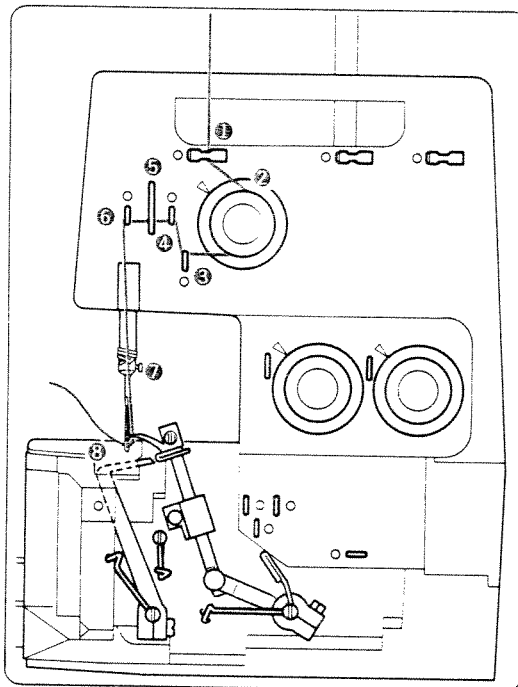
### Threading left needle M546/M546D

\*Run the thread in the sequence illustrated.



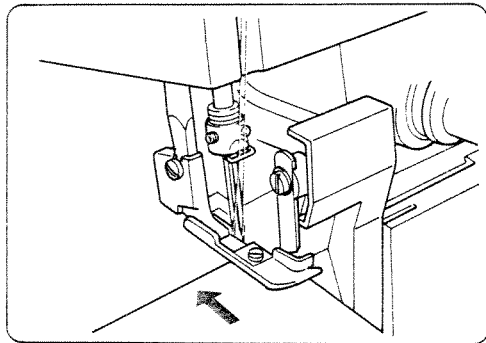
### Threading needle M530/M530D

\*Run the thread in the sequence illustrated.

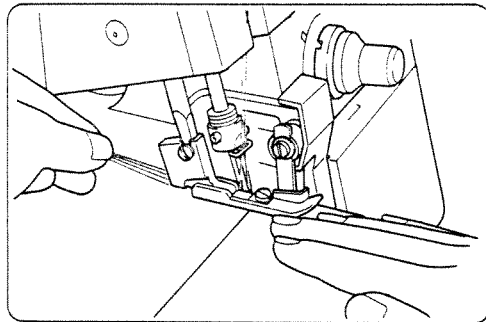


## Test-sewing—Models 546/546D and 530/530D

\*Test-sew after threading.



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



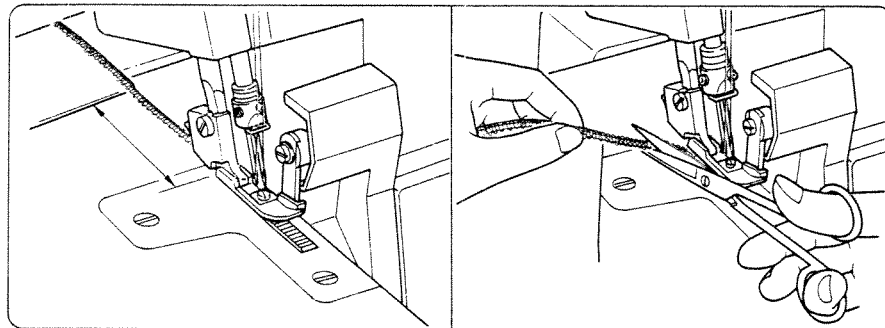
- (2) Hold the needle threads with your left hand, turn the pulley slowly a few times in a clockwise direction with your right hand, and observe how the threads entwine themselves before starting sewing.

### 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.



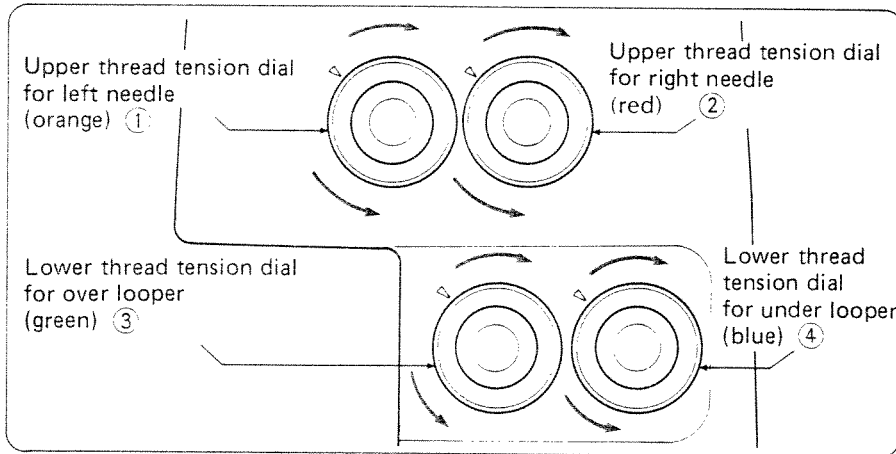
## Ratio Chart of Sewing Material, Thread and Needle

Materials	Stitch	Sewing pitch (mm)	Thread	Needle
Light material Crepe de Chine Georgette Lawn Organdie Tricot	Overlock stitch (M530/M530D/ M546/M546D)	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 Georgette Lawn Organdie	Narrow/Rolled hemming stitch (M530/M530D/ M546/M546D)	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 (M530/M530D/ M546/M546D)	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 (M530/M530D/ M546/M546D)	3.0-4.0	Cotton : #40-60 Silk : #40-60 Tetron : #30-60 Nylon : #30-60	TE x 1 (#14) DB x 1 (#14)



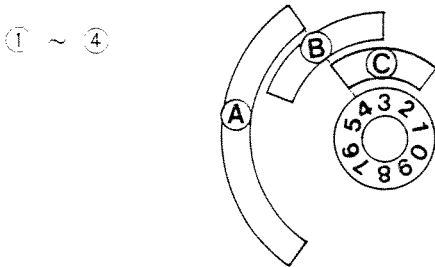
## Thread Tension—Model 546/546D

### 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.



Ⓐ . . . for heavy use      Ⓑ . . . for medium use      Ⓒ . . . for light use

(Standard: Nylon spun No.60)

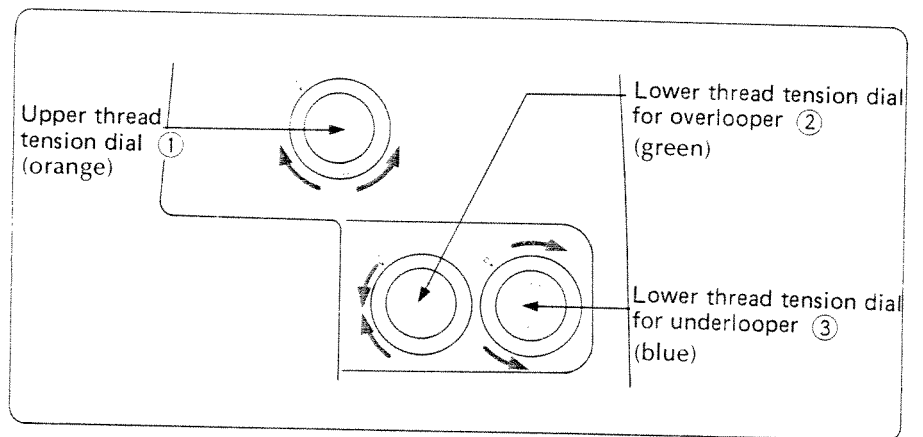
\*The thread tension of this machine can be adjusted by four thread tension adjustment dials of the two needle threads, overlooper thread and underlooper thread. The correct thread tension varies with the type of fabric, the thickness of thread etc. Adjust the thread tension as required for each particular 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 "CHAIN THREAD TENSION ADJUSTMENT" on following pages.

## Thread Tension—Model 530/530D

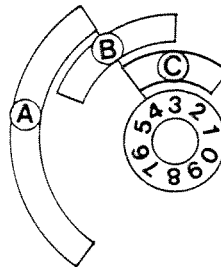
### Thread tension dial



### Tension control

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

① ~ ③



Ⓐ . . . for heavy use

Ⓑ . . . for medium use

Ⓒ . . . for light use

(Standard: Nylon spun No.60)

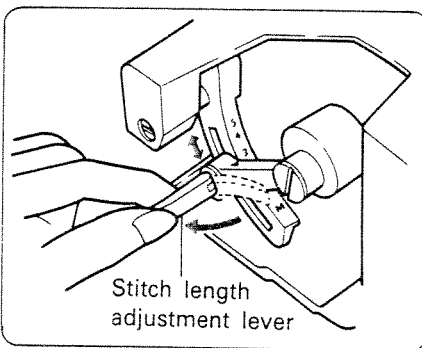
\*The thread tension of this machine can be adjusted by three thread tension adjustment dials of the needle thread, overlooper thread and underlooper thread. The correct thread tension varies with the type of fabric, the thickness of thread, etc. Adjust the thread tension as required for each particular 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 "CHART OF THREAD TENSION ADJUSTMENT" on following pages.

## Stitch Length and Stitch Width

### Stitch length M546/M546D, M530/M530D

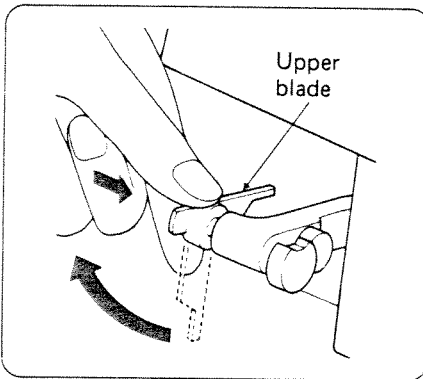


\*When you change the stitch length, open the material plate cover. Lower the adjustment lever and set the lever to the proper position, then raise the adjustment lever up.

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

### Stitch width M530 and M530D

The size of bight can be adjusted as follows:



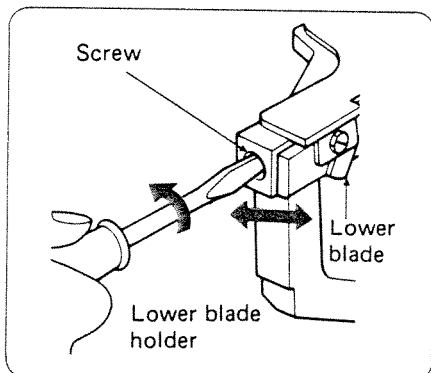
#### To adjust cutting line:

- (1) Open the front cover.
- (2) Move the upper blade on the right and turn in arrow direction until it is locked keeping it pushed.
- (3) Loosen the set screw for the lower blade holder.
- (4) Move the lower blade holder to the left or to the right.

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

If the lower blade holder is moved to the right, the distance will increase.

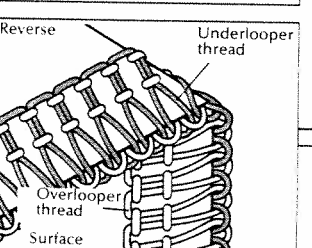
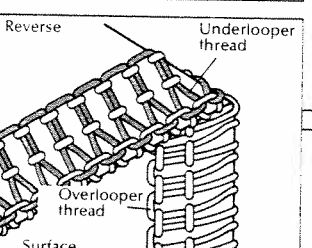
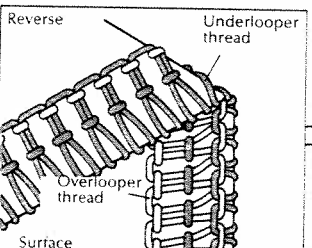
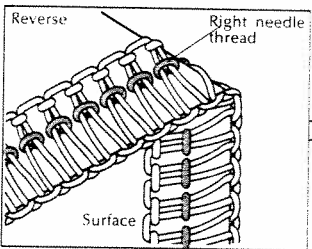
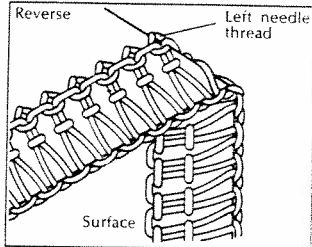
- (5) Tighten the set screw.



# Chart of Thread Tension Adjustment

**546/546D**

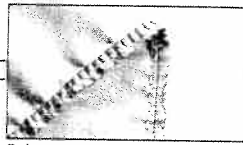
In this case...



Left needle thread is slack.



Right needle thread is slack.

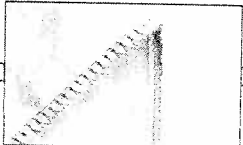


Fabric puckers

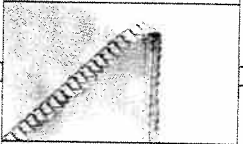
Left needle thread is tight.



Right needle thread is tight.



Overlooper thread is tight.



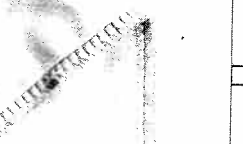
Underlooper thread is slack.



Overlooper thread is slack.

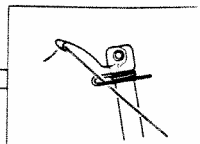


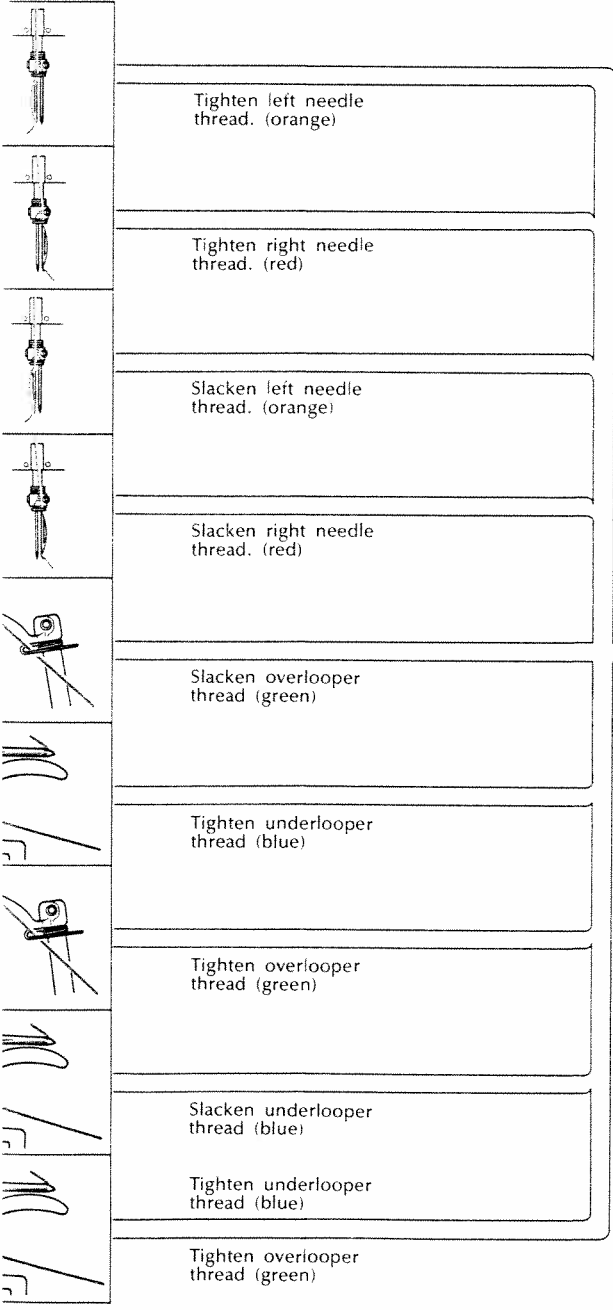
Underlooper thread is tight.



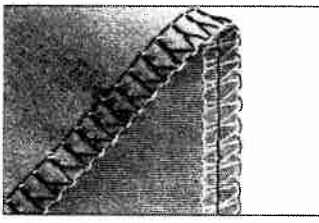
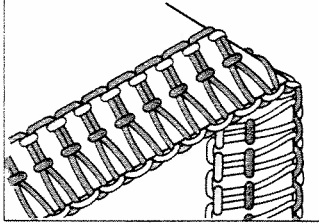
Overlooper thread is slack.

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;

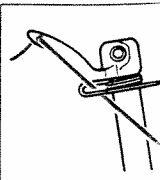
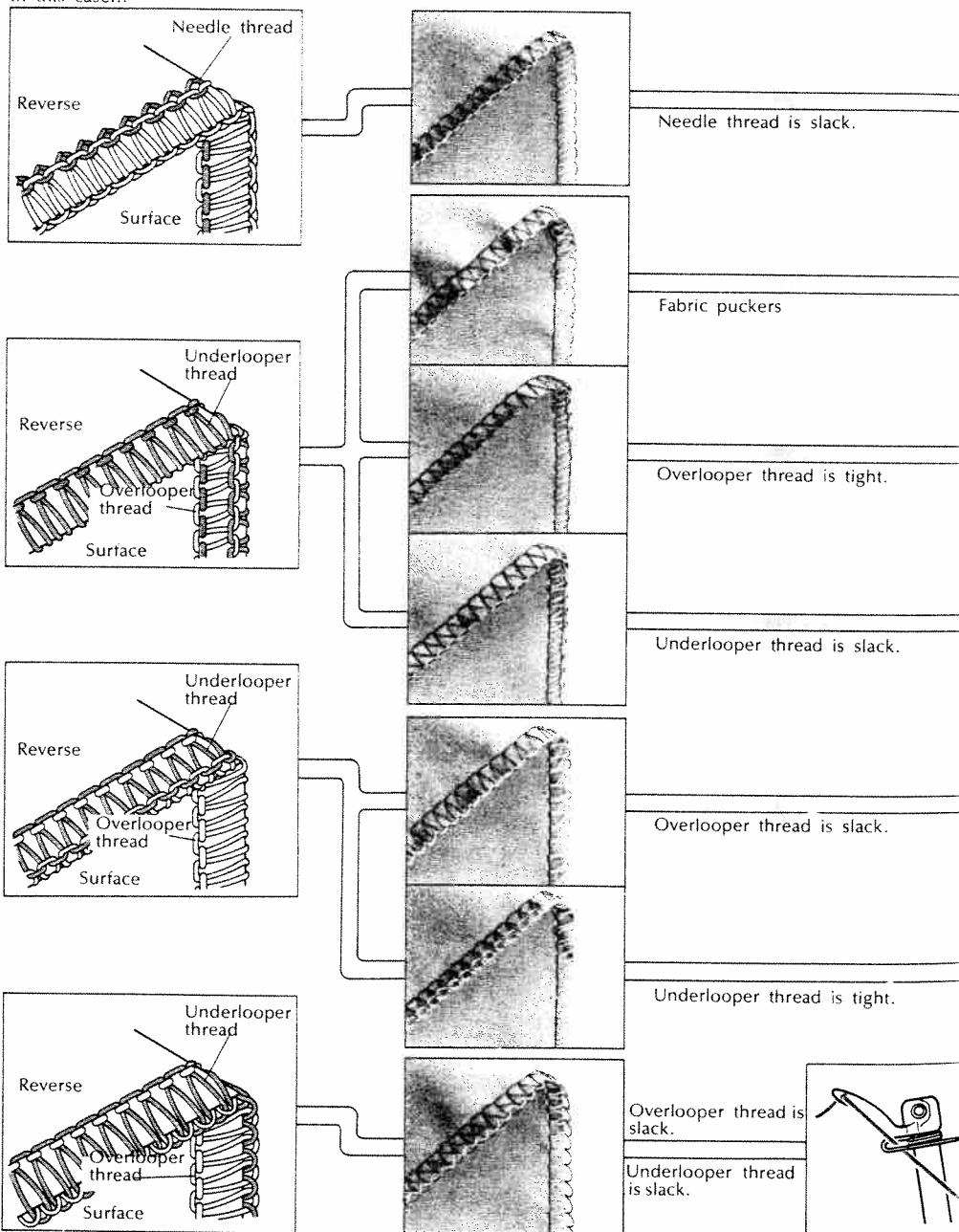
- 1) Left needle thread
- 2) Right needle thread
- 3) Overlooper thread
- 4) Underlooper thread

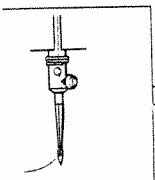
This is the easiest way to obtain correct thread tension.

# Chart of Thread Tension Adjustment

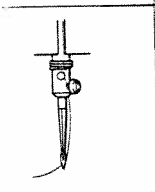
## 530/530D

In this case...

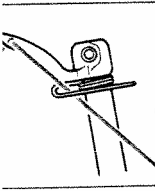




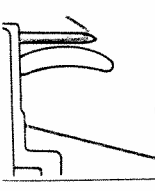
Tighten needle thread. (orange)



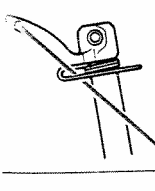
Slacken needle thread. (orange)



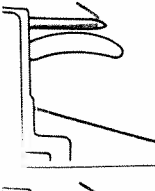
Slacken overlooper thread (green)



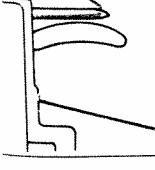
Tighten underlooper thread (blue)



Tighten overlooper thread (green)

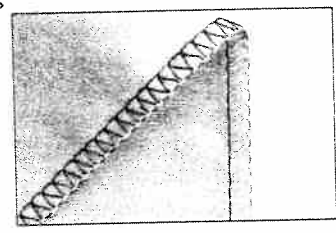
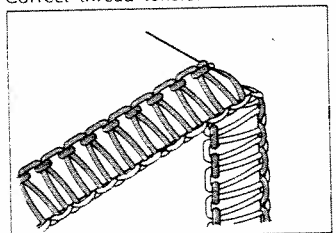


Slacken underlooper thread (blue)



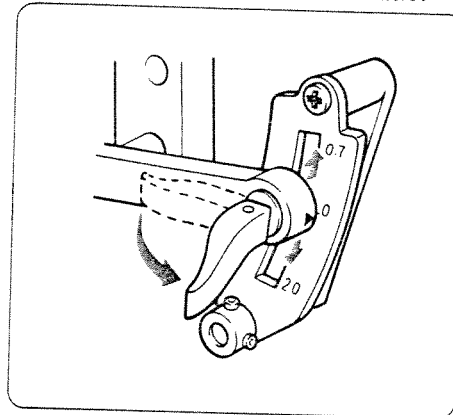
Tighten overlooper thread (green)  
Tighten underlooper thread (blue)

Correct thread tension



## Instruction for models equipped with differential feed mechanism —Models 530D & M546D

\*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.

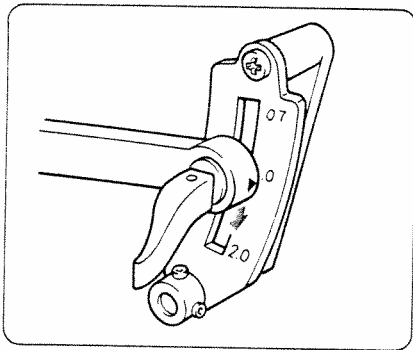
Feed ratio	Main feed	Differential feed	Effect	Application
0.7-1.0			Materials to be pulled.	Prevent thin materials from puckering.
1.0			Without differential feed.	Normal sewing.
1.0-2.0			Materials to be gathered.	Prevent elastic materials from stretching or Puckering.



\* An example requiring adjustment.



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

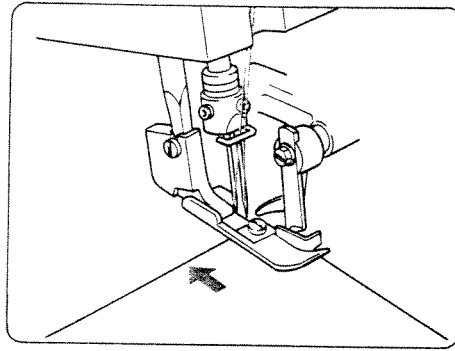


To correct, adjust the feed ratio between 1.0 and 2.0.  
(Feed ratio depends on elasticity of materials.)

**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.

## Sewing

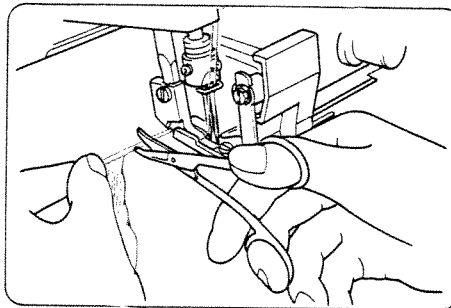
### To start sewing



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

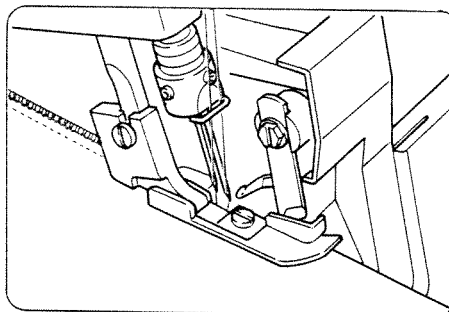
\*The material will be fed automatically. You need only guide it in the required direction.

### To remove the 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.

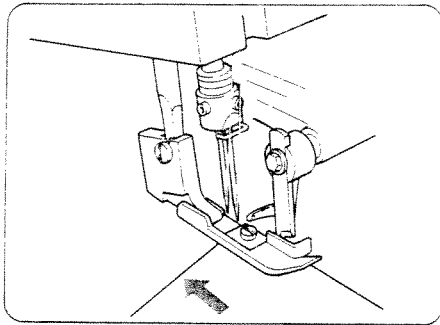
### If threads break during sewing



\*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



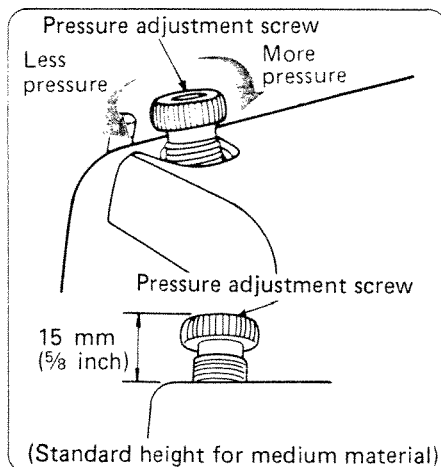
\*Place the material underneath the presser foot until it touches the front of upper blade. Then, start sewing.

\*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

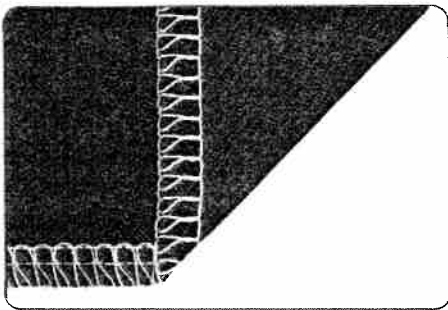
This sewing machine is designed for trouble-free operation. However the following chart indicates faults which may develop in the absence of basic adjustments.

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 2.)
	3. Material pulled forcibly.	Do not press or pull material too hard when sewing.
3. Threads break.	1. Improper threading.	Thread correctly. (See pages 6~11.)
	2. Thread tangled.	Check spool pin, thread holders, etc. and remove tangled thread.
	3. Thread tension too tight.	See pages 14~20 "Thread tension".
	4. Needles incorrectly fitted.	Fit needles correctly. (See page 2.)
	5. Wrong needle used.	Use correct needle TE X 1 (DB X 1)
4. Skipped stitches.	1. Needle bent, or needle tip blunt.	Replace with new needle.
	2. Needle incorrectly fitted.	Fit needle correctly. (See page 2.)
	3. Wrong needle used.	Use correct needle TE X 1 (DB X 1)
	4. Improper threading.	Thread correctly. (See pages 6~11.)
	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 14~20 "Thread tension".
6. Fabric puckered.	1. Thread tension too tight.	Decrease thread tension when sewing lightweight or fine material. (See pages 14~20.)
	2. Improper threading or thread tangled.	Thread correctly. (See pages 6~11.)

## Stitch selection

### MODEL 546/546D

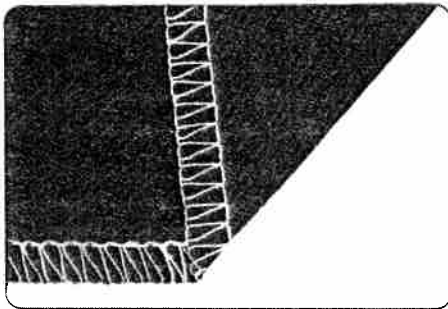
☆ These sewing machines can form three kinds of stitches in simple steps as follows;



#### 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.

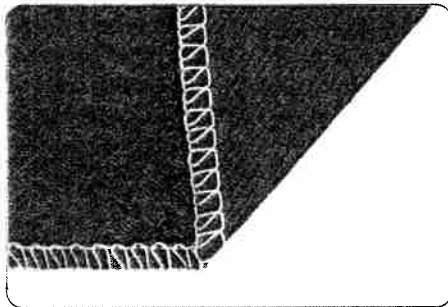


#### 2. Three-thread overlock stitch (5 mm / 1/4 inch)

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.

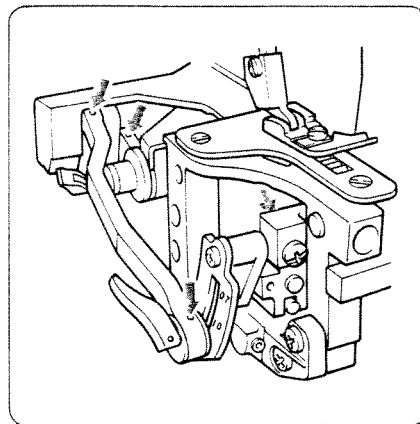
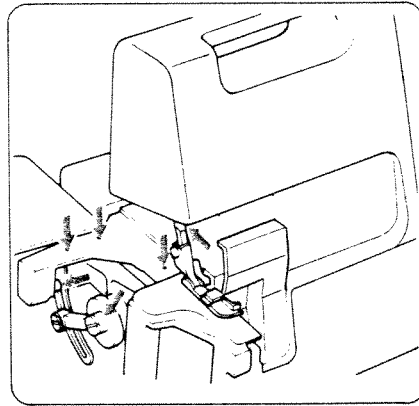
**Note:** Take off left needle when sewing this overlock stitch.

## Oiling

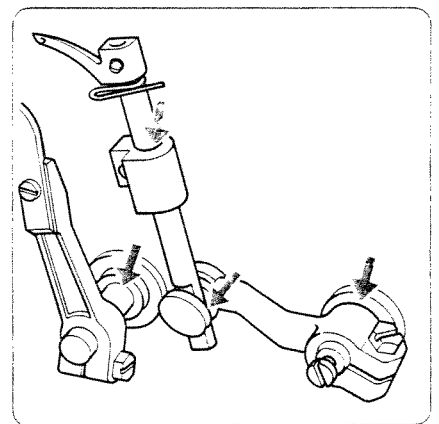
For smooth and silent operation the moving parts of the machine should be oiled periodically. (See diagram below.)

### 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.



Models 560D and 530D



Models 530/530D and  
546/546D

## Machine Specification

Model No.	546/546D	530/530D
Use	Light to heavy weight materials	Light to heavy weight materials
Sewing speed	1,500 stitches per minute	1,500 stitches per minute
Stitch width	2.8 mm and 5.0 mm	3 mm to 5 mm
Stitch length (pitch)	2 mm to 5 mm	2 mm to 5 mm
Needle bar stroke	25 mm	25 mm
Presser foot	Free presser type	Free presser type
Presser foot lift	5.0 mm/6.0 mm	5.0 mm/6.0 mm
Needle	TE x 1 DB x 1	TE x 1 DB x 1
No. of needles and threads	Three/Four threads convertible Two needles or single needle	Three threads Single needle
Machine net weight	7.0 kgs. (546) 7.5 kgs. (546D)	7.0 kgs. (530) 7.5 kgs. (530D)