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

- Thread holder
- Spool stand
- Handle
- Pressure adjustment screw
- Upper thread tension dial
- Reel pin
- Upper thread tension dial
- Reel support
- Presser foot lifting lever
- Thread take-up
- Pulley
- Needle
- Lower thread tension dial
- Upper blade
- Lower thread tension dial
- Presser foot
- Front cover
- Material plate cover
- Material slide plate (for overlock stitch)
Needle

*TE x 1 (#11 & #14), DB x 1 (#9, 11, 14), DB x 1 KN #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 used the golden needle (DB x 1 KN #11) in the accessory when sewing knitted garments.

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.

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 underlooper

* Run the thread in the sequence illustrated.

Pull the thread about 15 cm (6½ inch) from the looper.

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 under-looper, 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 inbetween the tension disc. This can cause the breakage of thread.

Pull the thread about 15 cm (6½ inch), from the looper.
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.
<table>
<thead>
<tr>
<th>Materials</th>
<th>Stitch</th>
<th>Sewing pitch (mm)</th>
<th>Thread</th>
<th>Needle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light material</td>
<td>Crepe de Chine</td>
<td>Overlock stitch</td>
<td>2.0-3.0</td>
<td>Spun : #80</td>
</tr>
<tr>
<td></td>
<td>Georgette</td>
<td>(M530/M530D/M546/M546D)</td>
<td></td>
<td>Cotton : #80-100</td>
</tr>
<tr>
<td></td>
<td>Lawn</td>
<td></td>
<td></td>
<td>Silk : #80-100</td>
</tr>
<tr>
<td></td>
<td>Organdie</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tricot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light material</td>
<td>Crepe de Chine</td>
<td>Narrow/Rolled</td>
<td>Smaller than 2.0</td>
<td>Needle thread</td>
</tr>
<tr>
<td></td>
<td>Georgette</td>
<td>hemming stitch</td>
<td></td>
<td>Tetron : #80</td>
</tr>
<tr>
<td></td>
<td>Lawn</td>
<td>(M530/M530D/M546/M546D)</td>
<td></td>
<td>Nylon : #80</td>
</tr>
<tr>
<td></td>
<td>Organdie</td>
<td></td>
<td></td>
<td>Looper thread</td>
</tr>
<tr>
<td>Medium material</td>
<td>Poplin</td>
<td>Overlock stitch</td>
<td>2.5-3.5</td>
<td>Tetron : #80</td>
</tr>
<tr>
<td></td>
<td>Gingham</td>
<td>(M530/M530D/M546/M546D)</td>
<td></td>
<td>Nylon : #80</td>
</tr>
<tr>
<td></td>
<td>Seersucker</td>
<td></td>
<td></td>
<td>Wooly nylon thread</td>
</tr>
<tr>
<td></td>
<td>Gabardine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knitted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy material</td>
<td>Cashmere</td>
<td>Overlock stitch</td>
<td>3.0-4.0</td>
<td>Cotton : #40-60</td>
</tr>
<tr>
<td></td>
<td>Tweed</td>
<td>(M530/M530D/M546/M546D)</td>
<td></td>
<td>Silk : #40-60</td>
</tr>
<tr>
<td></td>
<td>Denim</td>
<td></td>
<td></td>
<td>Tetron : #30-60</td>
</tr>
<tr>
<td></td>
<td>Jersey</td>
<td></td>
<td></td>
<td>Nylon : #30-60</td>
</tr>
</tbody>
</table>
Thread Tension—Model 546/546D

Thread tension dial

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: 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 “CHAI THREAD TENSION ADJUSTMENT” on following pages.
Thread Tension—Model 530/530D

Thread tension dial

Upper thread tension dial (orange) 1

Lower thread tension dial for overlooper 2 (green)

Lower thread tension dial for underlooper 3 (blue)

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

A: • for heavy use  B: • for medium use  C: • 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 (½ inch) to maximum 5 mm (¼ 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

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.
<table>
<thead>
<tr>
<th>Part</th>
<th>Thread Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left needle</td>
<td>Orange</td>
</tr>
<tr>
<td>Right needle</td>
<td>Red</td>
</tr>
<tr>
<td>Overlooper</td>
<td>Green</td>
</tr>
<tr>
<td>Underlooper</td>
<td>Blue</td>
</tr>
</tbody>
</table>

**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...

Needle thread
Reverse
Surface

Needle thread is slack.

Fabric puckers

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

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)
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.

<table>
<thead>
<tr>
<th>Feed ratio</th>
<th>Main feed</th>
<th>Differential feed</th>
<th>Effect</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7—1.0</td>
<td><img src="image" alt="Main feed" /></td>
<td><img src="image" alt="Differential feed" /></td>
<td>Materials to be pulled.</td>
<td>Prevent thin materials from puckering.</td>
</tr>
<tr>
<td>1.0</td>
<td><img src="image" alt="Main feed" /></td>
<td><img src="image" alt="Differential feed" /></td>
<td>Without differential feed.</td>
<td>Normal sewing.</td>
</tr>
<tr>
<td>1.0—2.0</td>
<td><img src="image" alt="Main feed" /></td>
<td><img src="image" alt="Differential feed" /></td>
<td>Materials to be gathered.</td>
<td>Prevent elastic materials from stretching, or Puckering.</td>
</tr>
</tbody>
</table>
*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 (1½–2 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.

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does not feed.</td>
<td>Presser foot pressure too weak.</td>
<td>Turn pressure adjustment screw clockwise to increase presser foot pressure.</td>
</tr>
<tr>
<td></td>
<td>2. Needles incorrectly fitted.</td>
<td>Fit needles correctly. (See page 2.)</td>
</tr>
<tr>
<td></td>
<td>3. Material pulled forcibly.</td>
<td>Do not press or pull material too hard when sewing.</td>
</tr>
<tr>
<td>3. Threads break.</td>
<td>1. Improper threading.</td>
<td>Thread correctly. (See pages 6~11.)</td>
</tr>
<tr>
<td></td>
<td>2. Thread tangled.</td>
<td>Check spool pin, thread holders, etc. and remove tangled thread.</td>
</tr>
<tr>
<td></td>
<td>3. Thread tension too tight.</td>
<td>See pages 14~20 “Thread tension”.</td>
</tr>
<tr>
<td></td>
<td>4. Needles incorrectly fitted.</td>
<td>Fit needles correctly. (See page 2.)</td>
</tr>
<tr>
<td></td>
<td>5. Wrong needle used.</td>
<td>Use correct needle TE X 1 (DB X 1)</td>
</tr>
<tr>
<td></td>
<td>2. Needle incorrectly fitted.</td>
<td>Fit needle correctly. (See page 2.)</td>
</tr>
<tr>
<td></td>
<td>3. Wrong needle used.</td>
<td>Use correct needle TE X 1 (DB X 1)</td>
</tr>
<tr>
<td></td>
<td>4. Improper threading.</td>
<td>Thread correctly. (See pages 6~11.)</td>
</tr>
<tr>
<td></td>
<td>5. Presser foot pressure too weak.</td>
<td>Turn pressure adjustment screw clockwise to increase presser foot pressure.</td>
</tr>
<tr>
<td>5. Stitches not uniform.</td>
<td>Thread tensions not adjusted properly.</td>
<td>See pages 14~20 “Thread tension”.</td>
</tr>
<tr>
<td>6. Fabric puckered.</td>
<td>1. Thread tension too tight.</td>
<td>Decrease thread tension when sewing lightweight or fine material. (See pages 14~20.)</td>
</tr>
<tr>
<td></td>
<td>2. Improper threading or thread tangled.</td>
<td>Thread correctly. (See pages 6~11.)</td>
</tr>
</tbody>
</table>
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/¼ 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/⅛ inch)**
   
   Use three threads and right needle, producing 2.8 mm (⅛ 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.
# Machine Specification

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