

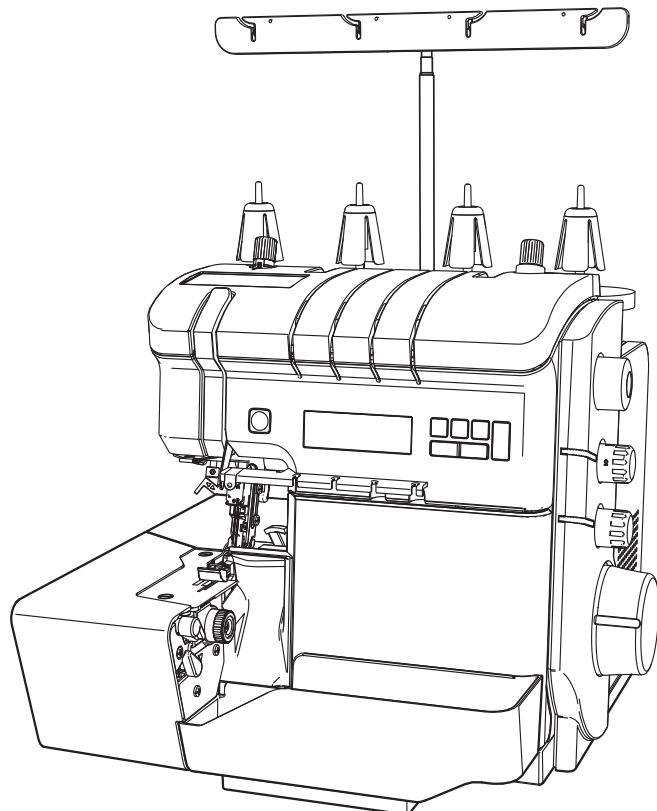
2-Needle, 2/3/4-Thread Overlock Sewing Machine

# MO-3500

## INSTRUCTION MANUAL

**IMPORTANT:**

Read all safety regulations carefully and understand them before using your sewing machine. Retain this instruction manual for future reference.

**EN**

# “IMPORTANT SAFETY INSTRUCTIONS”

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When using an electrical appliance, basic safety precautions should always be followed, including the following: Read all instructions before using this sewing machine.

## “DANGER \_\_\_ To reduce the risk of electric shock:”


1. The appliance should never be left unattended when plugged in.
2. Always unplug this appliance from the electric outlet immediately after using and before cleaning.

## “WARNING \_\_\_ To reduce the risk of burns, fire, electric shock, or injury to persons:”

1. Do not use the appliance as a toy. Caution is advised when the appliance is used by children, or near children. This sewing machine can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the sewing machine in a safe way and understand the hazards involved. Children shall not play with the sewing machine. Cleaning and user maintenance shall not be made by children without supervision.
2. Use this appliance only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as contained in this manual.  
The power cord and foot controller supplied in the accessory bag are for this model only. Do not use the power cord and foot controller other than those supplied.
3. Never operate this appliance if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the appliance to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the appliance with any air openings blocked. Keep ventilation openings of the sewing machine and foot control free from the accumulation of lint, dust, and loose cloth.
5. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
6. Always use the proper stitch plate. The wrong plate can cause the needle to break.
7. Do not use bent needles.
8. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
9. Do not carry out sewing with a marking pin stuck in the material since doing so can cause knife/needle breakage. In addition, do not attempt to cut anything other than fabric and thread with the upper/lower knives.
10. Switch the sewing machine off “O” when making any adjustments in the needle area, such as threading needle, changing needle, threading looper, or changing presser foot and the like.
11. Always unplug the machine from the electrical outlet when removing covers, when covers are opened to thread the loopers, when lubricating or when making any other user servicing adjustments mentioned in the instruction manual.
12. Never drop or insert any object into any opening.
13. Do not use outdoors.
14. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
15. To disconnect, turn all controls to the off “O” position, then remove plug from outlet.
16. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
17. Basically, the machine should be disconnected from the electricity supply when not in use.
18. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
19. (Except USA/Canada) This machine is provided with double insulation.  
Use only identical replacement parts. See instructions for servicing Double-Insulated machine.

## “SERVICING DOUBLE-INSULATED PRODUCTS (Except USA / Canada)”

In a double-insulated product, two systems of insulation are provided instead of grounding. No grounding means is provided on a double-insulated product nor should a means for grounding be added to the product. Servicing a double-insulated product requires extreme care and knowledge of the system and should only be done by qualified service personnel. Replacement parts for a double-insulated product must be identical to those parts in the product. A double-insulated product is marked with the words DOUBLE INSULATION or DOUBLE INSULATED.

The symbol  may also be marked on the product.

# “SAVE THESE INSTRUCTIONS”

“This overlock sewing machine is intended for household use only.”

Congratulations on your purchase of a JUKI sewing machine.

Please be sure to read safety precautions in “To use the sewing machine safely” in the Instruction Manual before use to fully understand the functions and operating procedures of the sewing machine so as to use the sewing machine for a long time.



After you have read the Instruction Manual, please be sure to keep it together with the warranty so that you can read it whenever necessary.

The warranty does not apply to any failures under conditions other than normal state use (failures that occur in the case the sewing machine is used without following the Instruction Manual or precautions given on the labels attached to the main body), and consumable parts (such as needles and knives). For warranty information, check the contents of the separate warranty.











## To use the sewing machine safely

Marks and pictographs included in the Instruction Manual and shown on the sewing machine are used so as to ensure safe operation of the sewing machine and to prevent possible risk of injury to the user and other people.

Warning marks are used for different purposes as described below.

 <b>WARNING</b>	<b>Indicates that there is a possible risk of death or serious injury if this mark is ignored and the sewing machine is used in a wrong manner.</b>
 <b>CAUTION</b>	<b>Indicates the operation, etc. which can cause a possible risk of personal injury and/or physical damage if this mark is ignored and the sewing machine is used in a wrong manner.</b>

Pictographs mean the following:

	<b>Danger warning which is not specified</b>		<b>There is a risk of electrical shock</b>		<b>There is a risk of fire</b>		<b>There is a risk of injury to hands, etc.</b>
	<b>Prohibited matter which is not specified</b>		<b>Disassembly/alteration is prohibited</b>		<b>Do not place fingers under the needle</b>		<b>Do not pour oil, etc.</b>
	<b>Generally required behavior</b>		<b>Disconnect the power plug</b>				

## **! WARNING**

For the combination of the material and the thread and needle, in particular, refer to the explanation table in “Replacement of the needle”.

If the needle or thread does not match the material used such as in the case that an extra heavy-weight material (e.g., denim) is sewn with a thin needle (#11 or higher), the needle can break resulting in an unexpected personal injury.

## **Other precautions**

- Do not put the sewing machine under the direct sunlight or in a humid place.



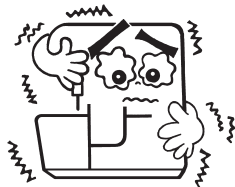
- Do not wipe the sewing machine with solvent such as thinner.

When the sewing machine is soiled, put a small quantity of neutral detergent on a piece of soft cloth and carefully wipe off the sewing machine with it.



Be aware that the following state can take place since the sewing machine incorporates semi-conductor electronic parts and precise electronic circuits.

- Be sure to use the sewing machine in the temperature range from 5°C to 40°C. If the temperature is excessively low, the machine can fail to operate normally.



\* The operating temperature of the sewing machine is between 5°C and 40°C. Do not use the sewing machine under the direct sunlight, near the burning things such as a stove and candle, or in a humid place. By so doing, the temperature in the interior portion of the sewing machine can rise or the coating of the power cord can melt, causing fire or electrical shock.



Please scan the QR code with your mobile phone/tablet to access the operation support video or visit our video site.

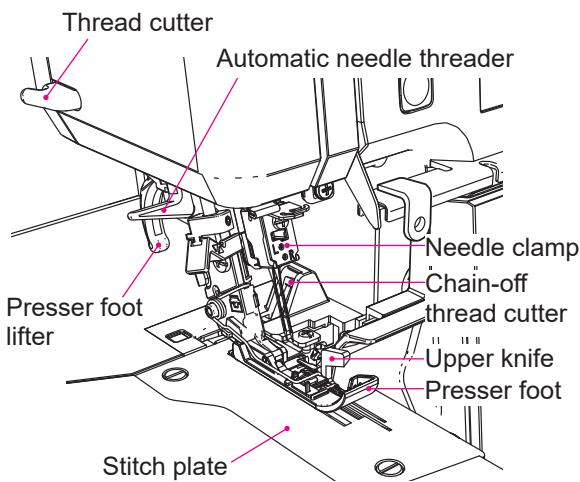
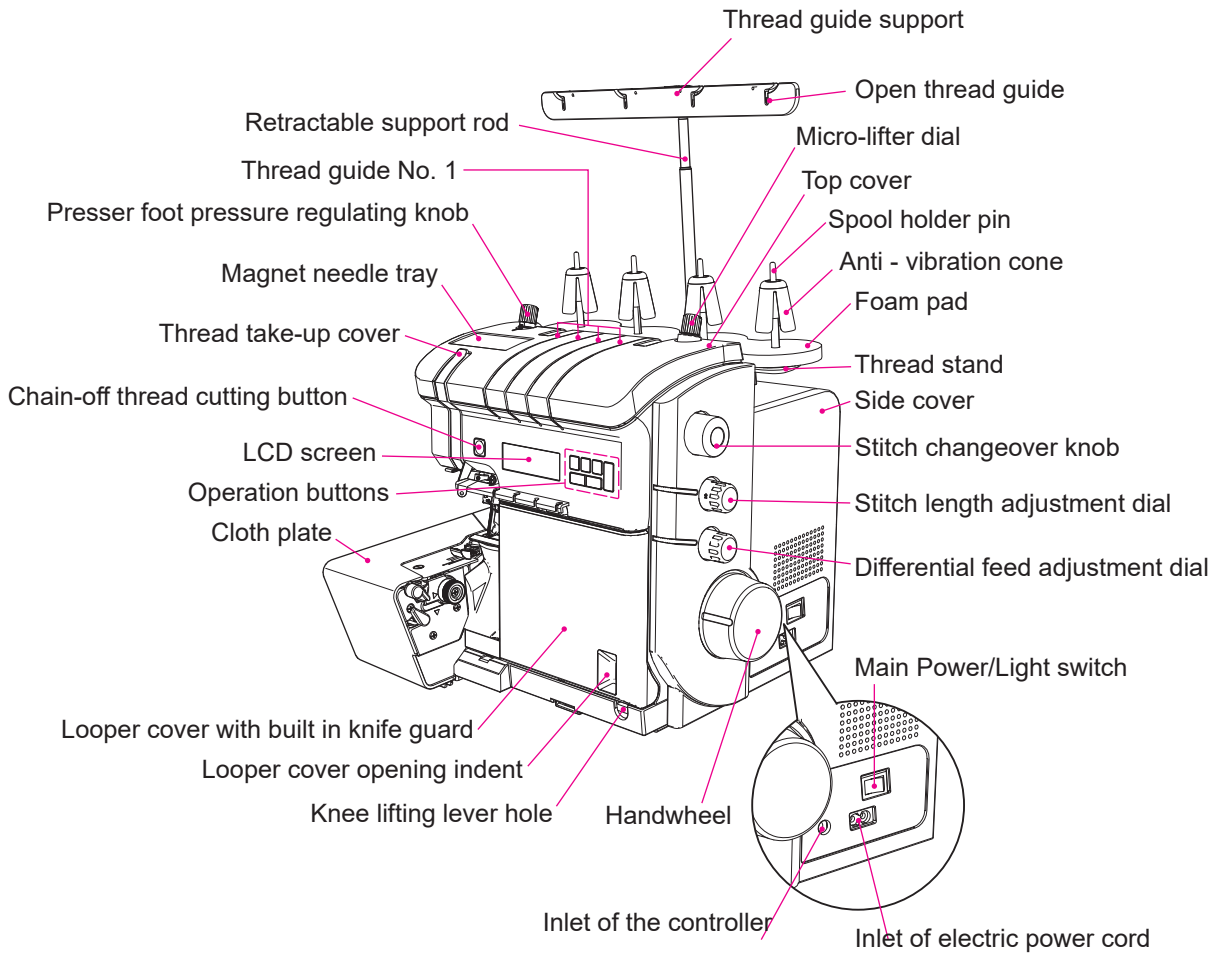
[https://www.youtube.com/playlist?list=PLY0cKTfgy6Qzeb8ImZ4vamVBt\\_P2A3Sp7](https://www.youtube.com/playlist?list=PLY0cKTfgy6Qzeb8ImZ4vamVBt_P2A3Sp7)



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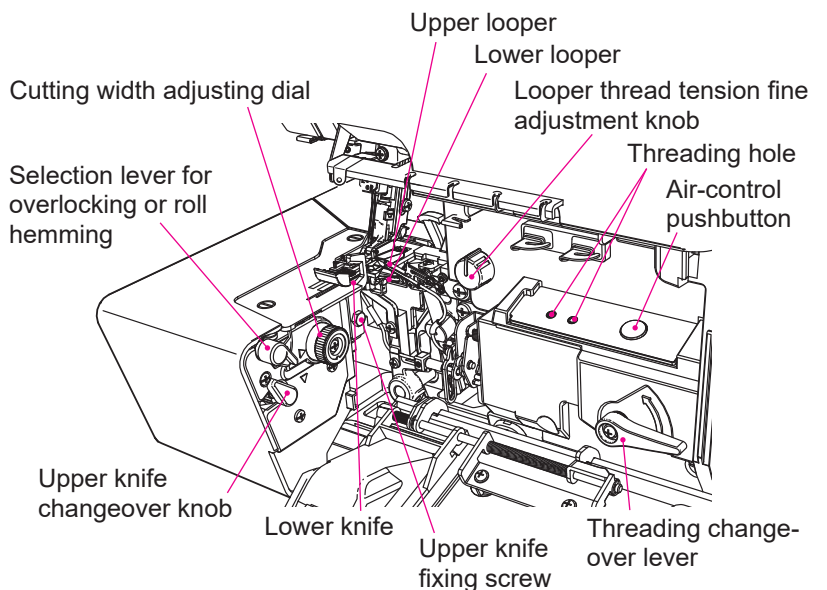
# Details of the machine



## ● View with looper cover open

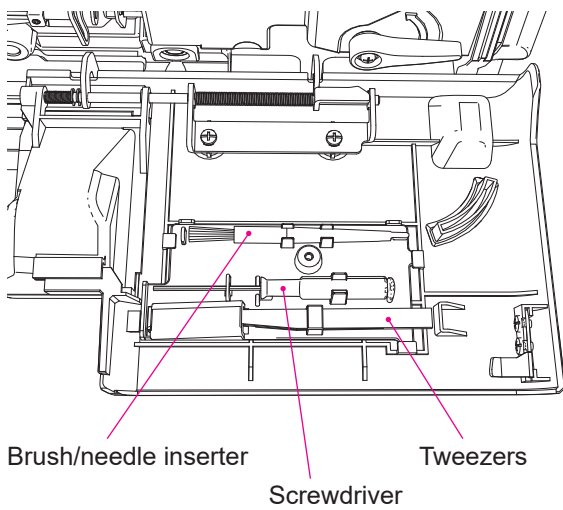
**CAUTION**

Be sure to turn off the power switch before opening the looper cover.

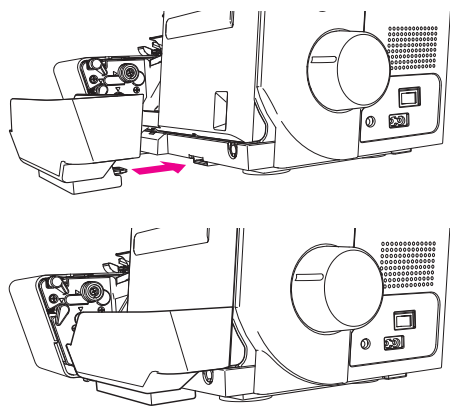


# Details of the machine

## ● Accessories



<p>Electronic foot control (Model No.: JC-002)</p>	<p>Accessory bag</p>	<p>Knee lifter lever</p>
<p>Power cord</p>	<p>Dust cover</p>	<p>Spool caps</p>
<p>Looper threader</p>	<p>Waste collector</p>	<p>Wool needle</p>
<p>Needle set HA×1 No.80(No.12)×3 No.90(No.14)×2</p>	<p>Tractor foot</p>	<p>T-shape screwdriver</p>
<p>Oil</p>	<p>Curve foot</p>	
<p>Retractable support rod</p>	<p>Thread guide support</p>	<p>· Instruction manual (This manual)</p>

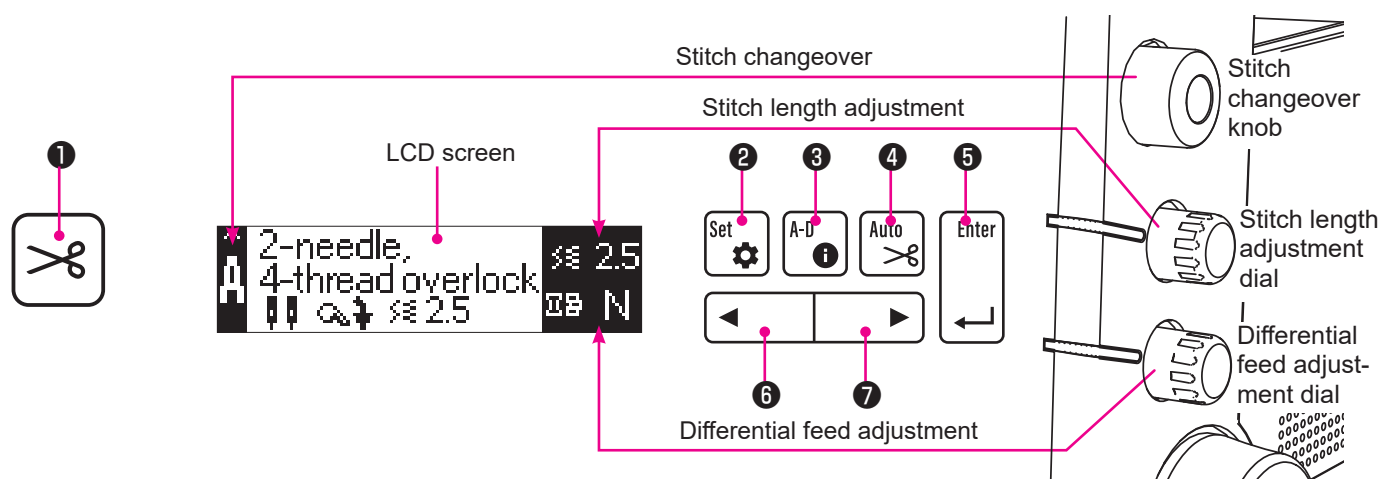


### Waste collector

Insert the waste collector into the hole in the lower part of the looper cover.

It catches the cut-off fabric as you sew, keeping your working area neat and tidy.

## Operation buttons on the LCD screen



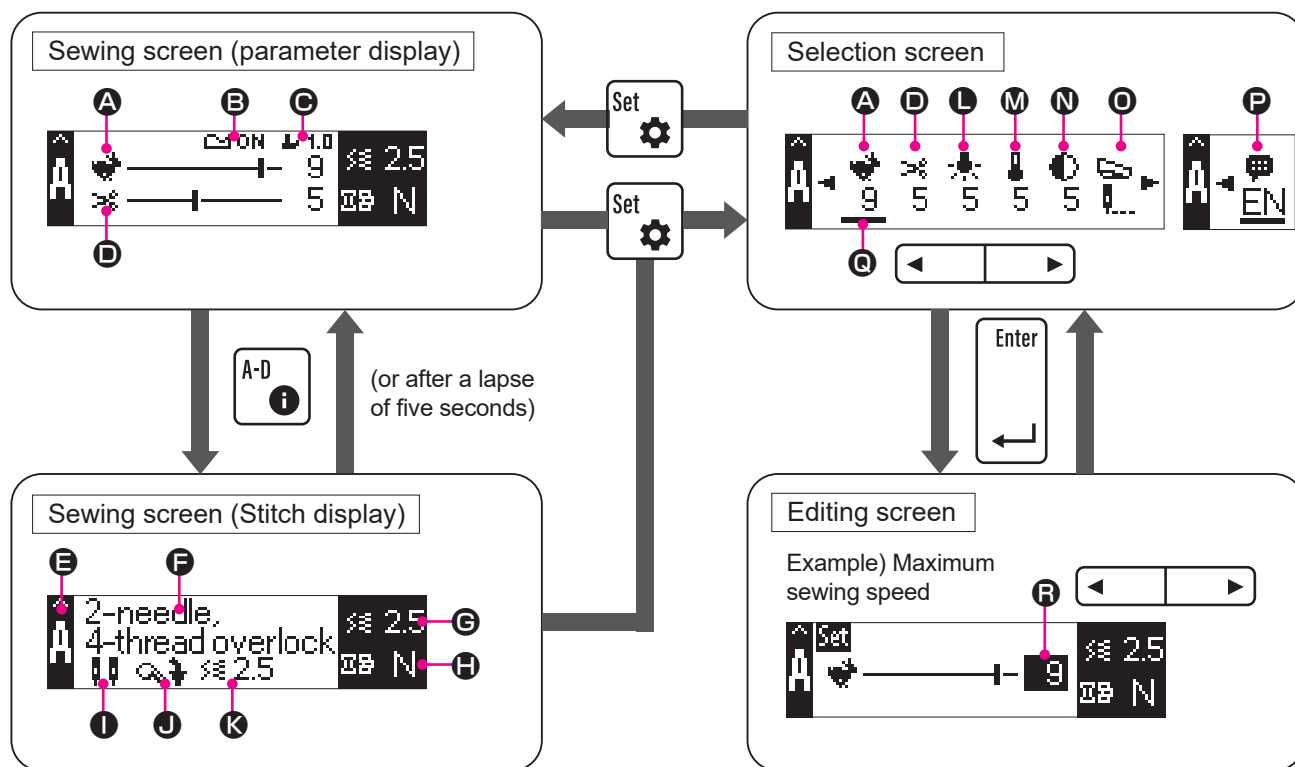
	Button name	Function
①	Chain-off thread cutting button	Use this button to manually cut the chain-off thread. * Chain-off thread is stitch-formed thread with no material.
②	Edit button	Displays the data edit screen. With this button, the "maximum sewing speed", "automatic chain-off thread cutting length", "hand LED illumination", "hand LED color temperature", "LCD contrast", "Machine operation when operating the foot switch" and "display language" can be edited.
③	Stitch display button	Displays the stitch display screen. Four different types of stitches are available: "A: 2-needle 4-thread", "B: 1-needle 3-thread", "C: Narrow overlocking" and "D: Rolled hemming".
④	Automatic chain-off thread cutting changeover button	Changes over ON/OFF of the automatic chain-off thread cutting. When this button is placed in ON, the material end is detected at the end of sewing and chain-off thread is automatically cut to the set length.
⑤	Enter button	Confirms the content you have edited.
⑥	Left button	Moves the selection bar on the LCD screen to the left.
⑦	Right button	Moves the selection bar on the LCD screen to the right.

\* The buttons are disabled while the sewing machine is in operation.

	LCD screen display	Display contents	
①		Displays the stitch.	Change over the stitch with the stitch changeover knob.
②		Displays the stitch length.	Adjust the stitch length by turning the stitch adjustment dial.
③		Displays the differential feed ratio.	Adjust the differential feed amount by turning the differential feed adjustment dial.

# Editing and setting

## LCD screen display



	Display contents
<b>A</b>	Maximum sewing speed
<b>B</b>	Material detection sensor ON (With a material) OFF (Without a material) (This parameter is displayed only when the automatic chain-off thread cutting function is enabled.)
<b>C</b>	Height of the presser foot by the micro-lifter (This parameter is displayed only when the presser foot is in its upper position.)

	Display contents
<b>D</b>	Automatic chain-off thread cutting length
<b>E</b>	Stitch symbol
<b>F</b>	Stitch name
<b>G</b>	Stitch length
<b>H</b>	Differential feed ratio
<b>I</b>	Number and positions of the needles to be set
<b>J</b>	Position of the overlocking width changeover knob

	Display contents
<b>K</b>	Recommended value of stitch width
<b>L</b>	Hand LED illumination
<b>M</b>	Hand LED color temperature
<b>N</b>	LCD contrast
<b>O</b>	Machine operation carried out by depressing the foot switch
<b>P</b>	Display language
<b>Q</b>	Selection bar
<b>R</b>	Set value

### 1. At the startup of the sewing machine



Welcome screen

After a lapse of four seconds

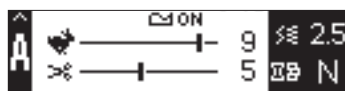


Press the chain-off thread cutting button.



**CAUTION**

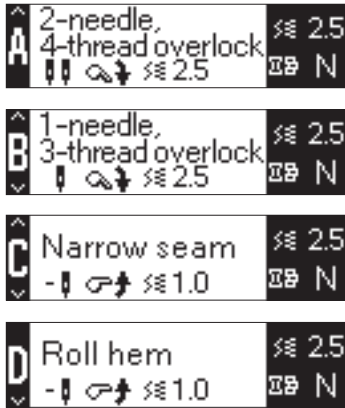
**Be aware that the chain-off thread cutter will move.**



Sewing screen (parameter display) is displayed.

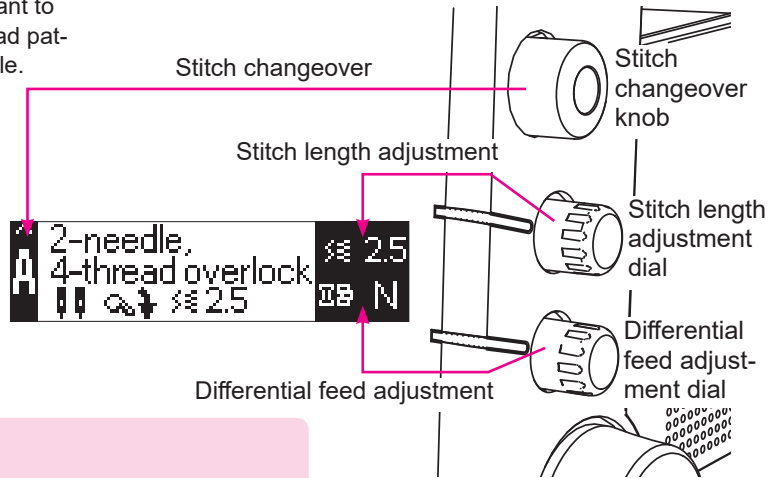
## 2. How to select the stitch

Change over the stitch to be sewn by turning the stitch changeover knob.



\* Select "A" when you want to sew a 1-needle, 3-thread pattern using the left needle.

\* **Use the right needle.**  
\* If you want to sew the "1-needle 2-thread" stitch, select "B".



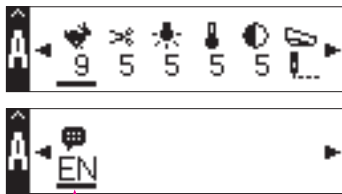
### ◆ Thread tension

This product has adopted the feeder type automatic thread tension controller. Since this automatic thread tension controller supplies the required amount of thread according to the stitch, material thickness, stitch length and knife width you have selected, it is not necessary to adjust the thread tension.

## 3. Items that can be set and setting method

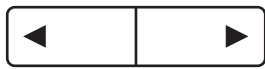
Data selection screen

Press



Selection bar

The selection bar blinks below the item you have selected.

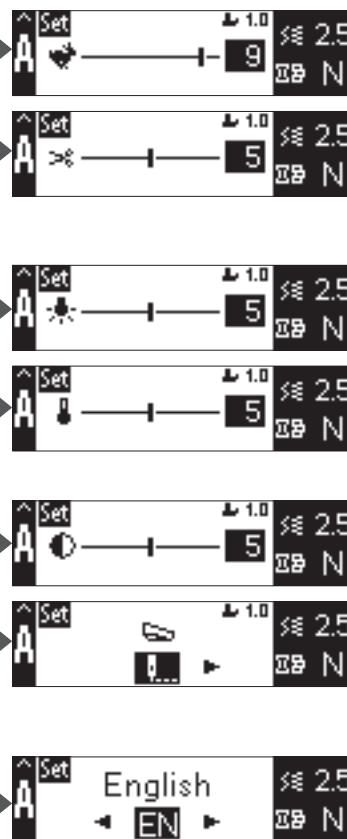


Press these buttons to select or edit the item.



Press this button to confirm the selection or editing you have carried out.

Data editing screen



The maximum sewing speed can be changed.  
1: Slow → 10: Fast

The automatic chain-off thread cutting length can be set.  
1: 1cm → 10: 10cm  
\* The chain-off thread cutting length is a rough guide. It varies depending on sewing conditions such as the type of thread and stitch length.

The illumination of the hand LED can be changed.  
0: Dark → 10: Bright

The color temperature of the hand LED can be changed.  
0: Low (cold color system) → 10: High (warm color system)

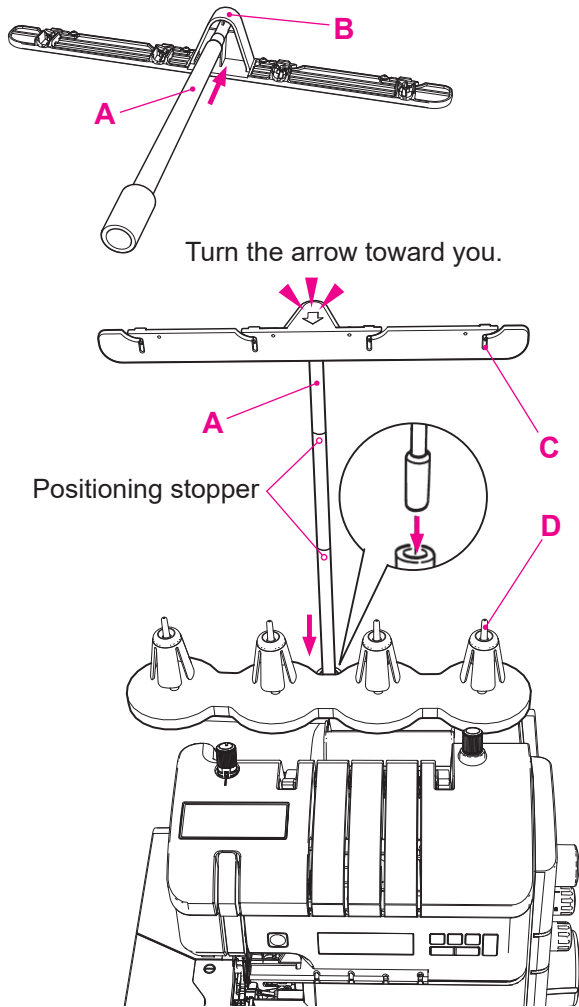
The contrast of the LCD can be changed.  
1: High → 10: Low

It is possible to change the machine operation to be carried out by depressing the foot switch.  
 : Half stitch/low-speed inching stitch  
 : Chain-off thread cutting

The display language of the LCD can be changed.  
Japanese, English, Spanish, German, French, Italian, Dutch, Danish, Norwegian, Finnish, Swedish, Czech, Russian and Chinese

After you have completed editing, press and to return the screen to the sewing screen.

# Preparing the machine / Using the machine



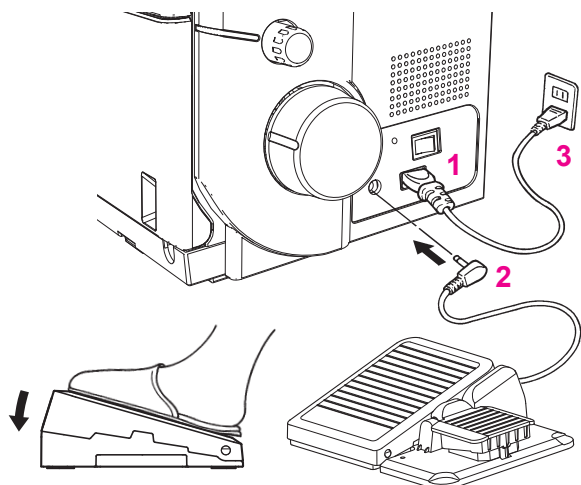
## Thread stand

1. Insert retractable support rod (A) into thread guide support (B).
2. Draw out retractable support rod (A) to put it into the positioning stopper until it clicks. Then, install open thread guide (C) so that it is positioned directly above spool holder pin (D).

	<p><b>Thread / cones / spools</b></p> <p>The anti-vibration cone should be used with the wider edge at the bottom on the spool holder pin when sewing with cones.</p>		<p><b>Large spools</b></p> <p>If large industrial spools are used, position the anti-vibration cone upside down on the spool holder pin, i.e. with the wider edge at the top.</p>
	<p><b>Household spools</b></p> <p>Remove the anti-vibration cones. Place spools on spool holder pins and push the spool caps on with the rounded side downwards.</p>		



## Preparing the machine / Using the machine



### **CAUTION:**

Turn OFF the power switch before plugging or unplugging.

### Attaching the foot control

1. Insert the power cord plug into the machine socket.
2. Insert the controller plug into the controller plug-in port.
3. Insert the power cord plug into the indoor electrical outlet.

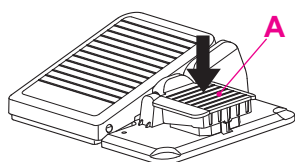
The foot control regulates the sewing speed. The sewing speed can be adjusted by increasing or decreasing the pressure on the foot control.

### **WARNING**

This appliance has a polarized plug (one blade wider than the other).

To reduce the risk of electric shock, this plug is intended to fit in a polarized main socket only one way.

If the plug does not fit fully in the polarized main socket, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper polarized main socket. Do not modify the plug in any way. (for USA, Canada only)



### ■ Setting the foot switch

In the initial setting, the foot switch has been set to "half stitch/low-speed inching stitch".

It is possible to select "chain-off thread cutting" by changing the setting. (Refer to page 9)

### : Half stitch/low-speed inching stitch

#### • Half stitch

It is possible to sew half stitches by lightly depressing the foot switch (A).

#### • Low-speed inching stitch

Press and hold down foot switch (A) to carry out sewing at a low speed.

### : Chain-off thread cutting

It is possible to cut chain-off thread by depressing the foot switch (A).

## Preparing the machine / Using the machine

### Changing the position of the needle up/down switch

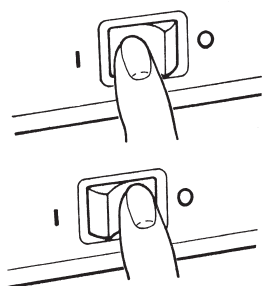
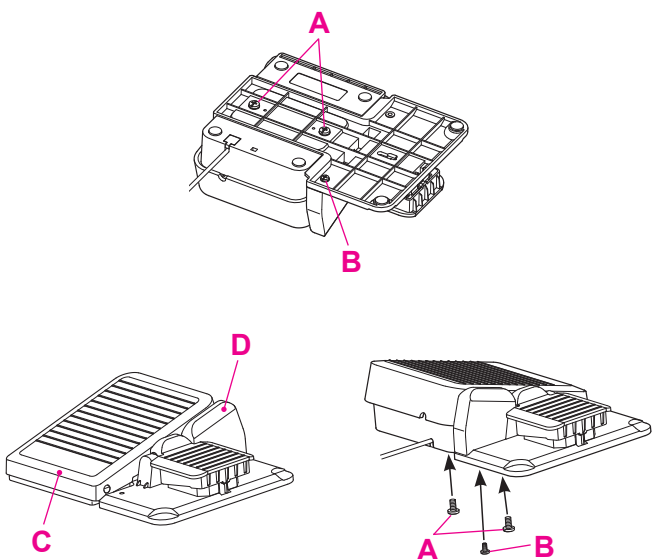
#### CAUTION

If you want to change the position of the needle up/down switch, be sure to turn OFF the power switch or unplug the controller.

The lateral position of the needle up/down switch can be changed in relation to the controller pedal. Adjust the needle up/down switch to your preferred position for use.

#### [How to change]

1. Remove pedal setscrews (A) and block setscrew (B).
2. Reverse pedal (C) and block (D). Install pedal (C) to block (D) to the opposite side. Then, secure them by tightening pedal setscrews (A) and block setscrew (B).



### Main Power/light switch

The main power/light switch is conveniently placed on the handwheel side of the machine in front of the socket.

I = On with light

O = Off

#### CAUTION:

Perform these following steps when you are not using your sewing machine.

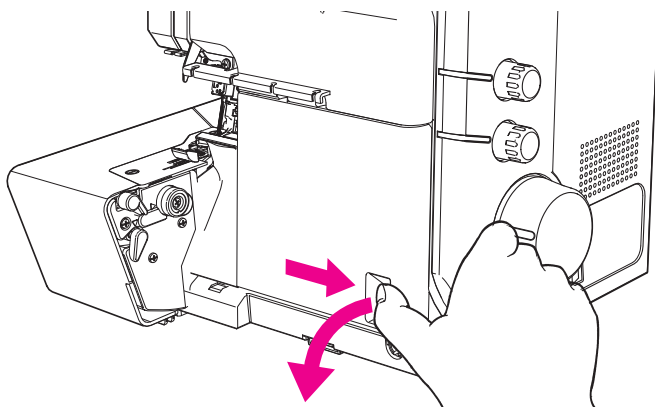
1. Be sure to turn OFF the power switch.
2. Be sure to remove the power plug from the wall outlet.
3. Do not place a thing on the foot controller.

### Looper cover

To open, press to the right with your thumb in the indent provided and tilt the cover towards you. To close push it up and press lightly to the right. The cover engages automatically.

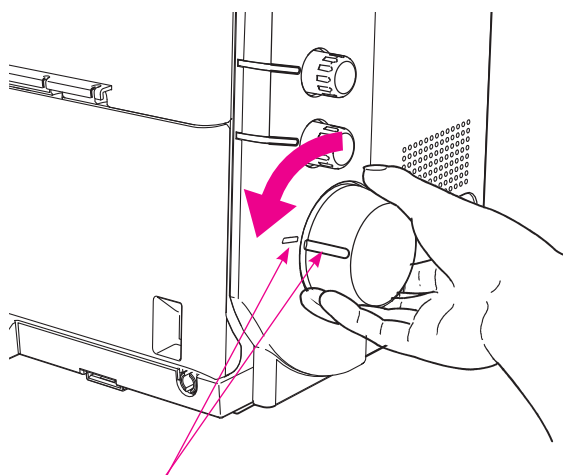
**Safety device:** The sewing machine is equipped with a safety device in order to prevent malfunction. In any of the following cases, the safety device works to prevent the sewing machine from running.

- \* When the looper cover is opened
- \* When the cloth plate is opened
- \* When the presser foot is raised



## Using the machine

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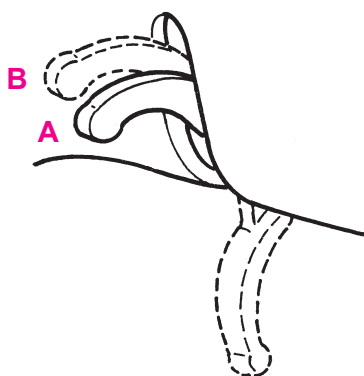


### Handwheel

The handwheel turns forward, i.e. in the same direction as on a household sewing machine.

\* The needle is brought to its upper end by aligning the “—” marking on the side of the front cover with the “□” marking on the handwheel.

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### Two step presser foot lifter with integrated front foot lift

To raise the presser foot, lift the presser foot lever on the rear of the machine, until it engages (A). It can be raised again to the maximum height and held in this position to provide more space between presser foot and stitch plate (B).

When the foot is raised (A and B), the front of the foot is automatically lifted.

**Note:** When the presser foot is raised, all the tensions are released making it easier to thread the machine.

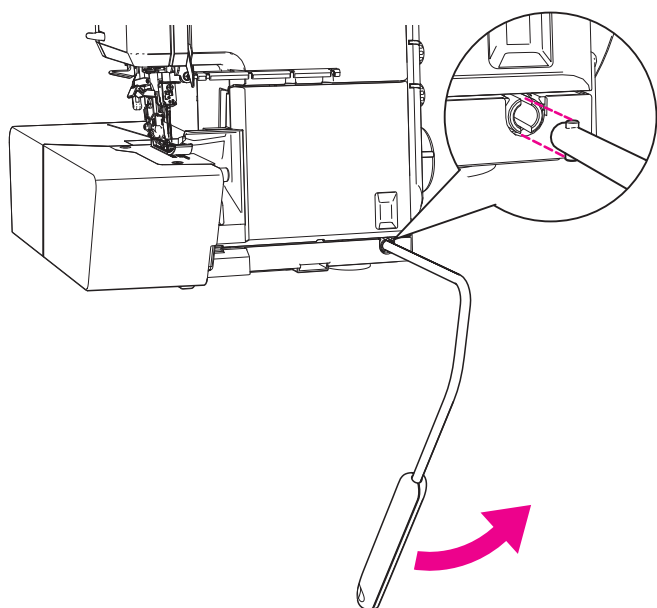
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### How to use the knee lifting lever

You can lift/lower the presser foot without taking your hands off the material.

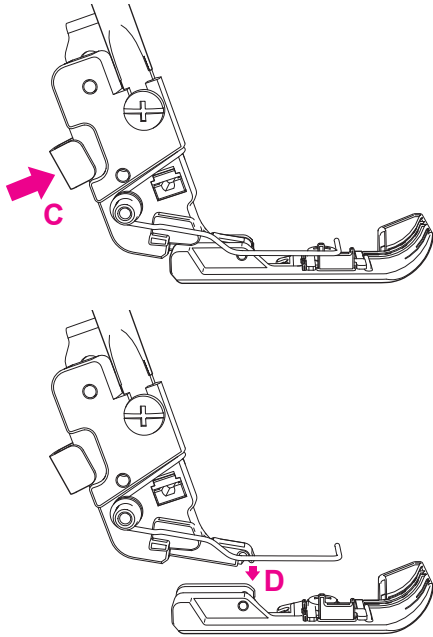
1. Insert the protruding part of the knee lifting lever into the recessed part of the mounting hole.
2. Press the knee lifting lever to the right to lift the presser foot, or to the left to lower it.

\* Do not touch the knee lifting lever during sewing. If you touch it, the presser foot will go up to cause a deformation of the seam.



# Using the machine

## Changing the presser foot

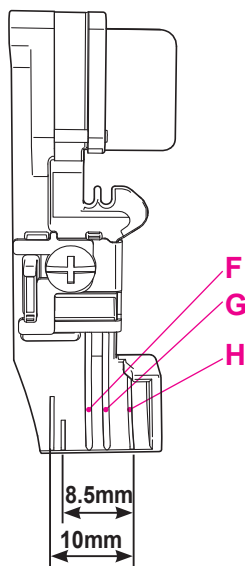


### ⚠ CAUTION

When you want to change the presser foot, turn OFF the power switch and lower the upper knife.

- Raise the presser foot.
- Turn handwheel towards you until needles are fully raised. Match the matching up marks on handwheel and side cover.

Press the catch (C) to release the presser foot from the clamp. Raise the presser foot shank to the highest position (B) and remove the presser foot to the left. To attach the presser foot, place it under the shaft. The groove in the shaft should line up exactly with the presser foot pin (D). Lower the presser foot lifting lever and check that the groove in the shank should line up exactly with the presser foot pin (D). If it is not lined up, press the catch (C) to line up.



## How to use the presser foot

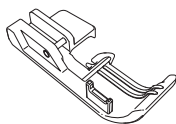
Use the marker on the presser foot as a guide when placing the material under the presser foot.

(F) Left needle position

(G) Right needle position

(H) Knife position (when the cutting width adjusting dial is set at scale mark "3.0")

The knife position represents the position at which the material is cut.



### • Curve foot

The curve foot is able to make small turns since it is smaller than the standard presser foot. It is useful for sewing small curves.

### • Tractor foot

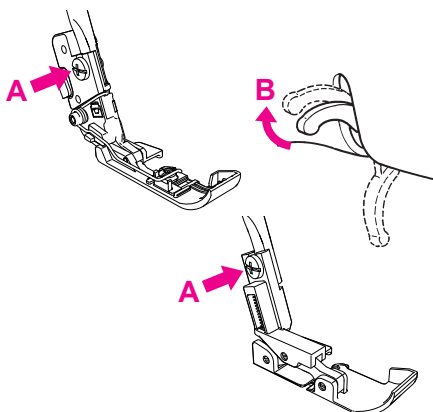
Multi-layered parts of the material can be easily fed under the tractor foot. It is possible to produce seams at regular intervals by using the tractor foot.

How to set tractor foot

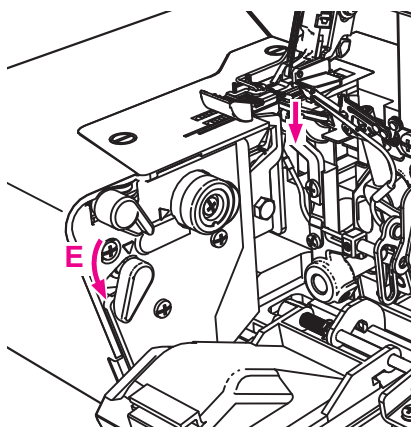
- Raise the presser foot.
- Turn handwheel towards you until needles are fully raised.

Using the screwdriver, loosen the (A) screw and remove the presser foot. Raise the presser foot lifter to position (B) illustrated in the figure, attach the tractor foot.

Securely tighten the (A) screw for tractor foot holder.



## Using the machine



### To carry out sewing without cutting the material (the upper knife is deactivated)



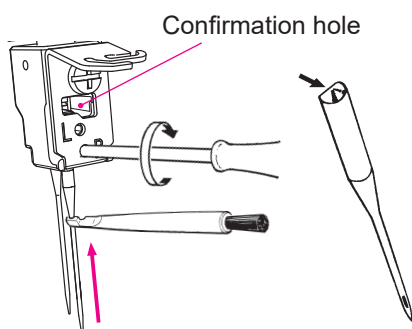
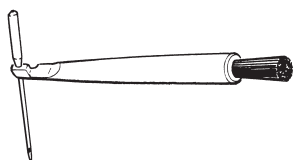
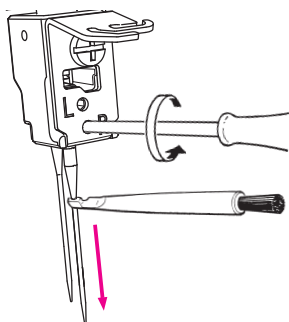
**CAUTION**

Switch the machine off (Power switch to "0")

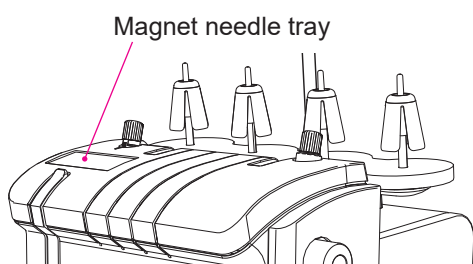
1. Lower the upper knife changeover knob in the direction of the arrow.
2. Check to be sure that the knife is lowered.

#### Caution:

To use the upper knife, place the upper knife changeover knob to the E position and turn the handwheel by hand about two turns to lift the upper knife.



Confirmation hole



Magnet needle tray

### Inserting the needles



**CAUTION**

Switch the machine off (Power switch to "0")

Needles can be inserted quickly and easily with the practical needle inserter.

- Disconnect machine from electricity supply.

Turn handwheel towards you until needles are fully raised. Match the matching up marks on handwheel and side cover.

#### Lower the presser foot.

Using the screwdriver, loosen the needle setscrews and remove the needles.

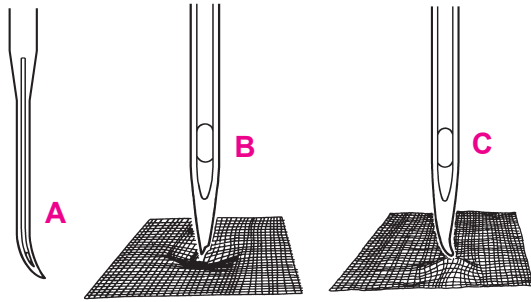
Place the right-hand needle, flat side towards the back, into the hole of the needle inserter and insert the needle as far as possible into the needle clamp. Tighten the setscrew lightly and then insert the left-hand needle in the same way and tighten both setscrews.

- \* You can check that the needle is fully inserted into the hole of the needle inserter through the confirmation hole.
- \* Be aware that the sheet metal inside the needle clamp may be bent if you tighten the screw excessively. Take care not to excessively tighten the screw.

#### • Magnet needle tray

You can place the needle you have changed on this tray.

## Needle and thread



### Needles

Needles must be in perfect condition. Problems can occur if needles:

- A** are bent.
- B** are damaged or blunt.
- C** have hooked points.

## Needle and thread

The needle size used depends on the thread. The needles should be in accordance with thread used.

When sewing, the thread is fed through the long groove in the needle. If the needle is too fine, the thread does not fit into the groove and stitches will be skipped.

Use needles No. 70 - 90.

\* It is recommended to use JLx2 needle, especially when sewing thick materials, overlapped section, etc, with overlock machine.

## Thread/decorative threads

Sewing and special overlock threads are manufactured in a wide variety of types, weights and combination of fibres. It is worth investing in good quality threads for perfect sewing results. Decorative threads specially made for overlockers (available on cones) are also becoming widely available. We recommend following the basic guidelines when using special threads on your overlocker:

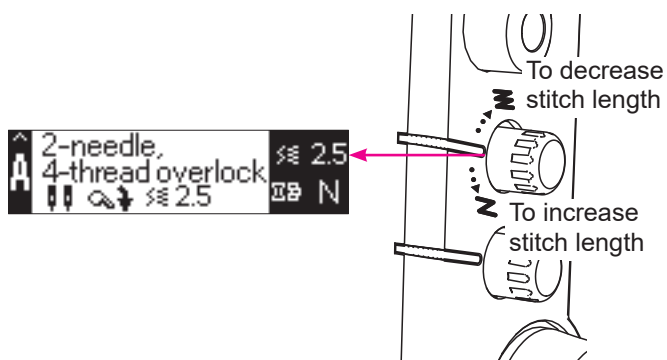
- Purchase threads on cones or spools which are produced exclusively for overlocking.
- When using normal spools, use the spool caps (in accessory bag).
- Only use decorative threads in the loopers. The thread must move easily and without resistance through the thread guides and looper eyes.
- The thicker the thread, the longer the stitch length (3-4).
- The thicker the thread, the looser the tensions.
- Sew slowly when using decorative threads. Pull the thread chain gently to the rear when starting to sew.

Always test sew decorative threads before starting to sew your work.

## Thread, needle, application table

Thread	Needles	Where	Application
All purpose overlock thread 120/2 (polyester)	70-90	Needles and looper threads	For all overlock.
Polyester-continuous filaments		Loopers only	Neatening edges
Woolly nylon		Loopers only	Soft seams in knits, rolled hems.
Spun Polyester	80-90	Needles, and looper threads	Seams in all fabrics.
Embroidery/darning and decorative threads	70-90	Loopers only	Neatening edges, rolled hems.

## Adjustments and settings



### Stitch length

It can be adjusted while sewing.

The stitch length is infinitely variable from 0.7 to 4 mm. Most overlock work is done with a basic setting of 2.5 mm.

For roll hemming or narrow overlocking, it is best to set the dial at "0.7 to 1.5".

For blind stitch which requires the "use of separately-available presser foot", set the dial at "4".

### Cutting width



**CAUTION**

Switch the machine off (Power switch to "0")

If the material does not reach the stitch edge, adjust the cloth cutting width by turning the cutting width adjusting dial.

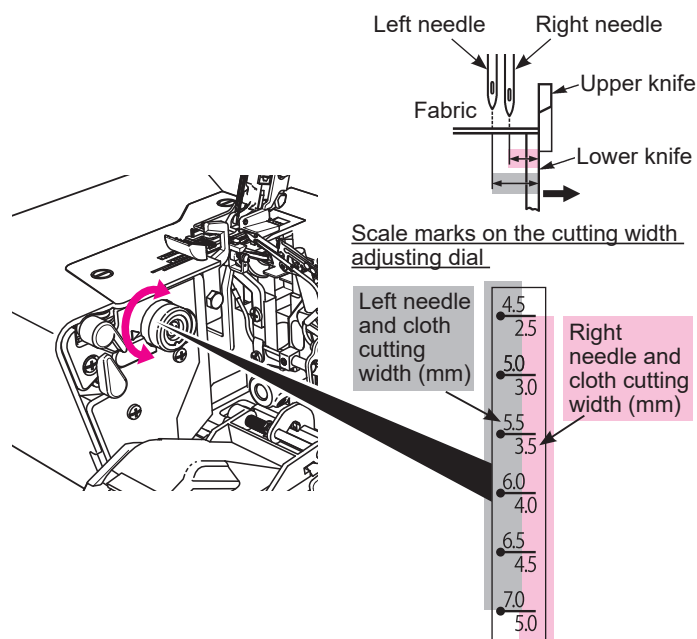
- Raise the upper knife.
- Turn cutting width adjustment dial in the desired direction.
- Lower upper knife.

The position of the lower knife determines the width of the seam.



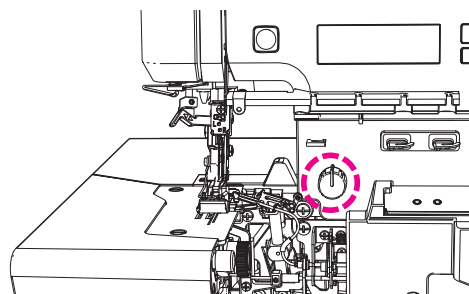
**WARNING**

Do not carry out sewing with a marking pin stuck in the material. In addition, do not attempt to cut anything other than fabric and thread with the upper/lower knives. Be aware that doing so can cause needle break or personal injury.



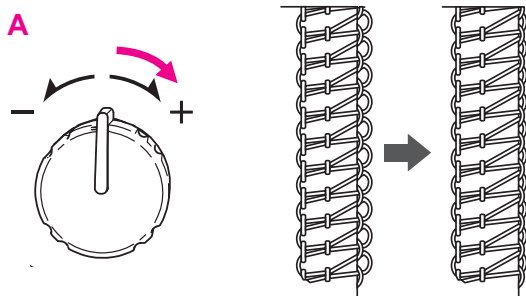


## Adjustments and settings

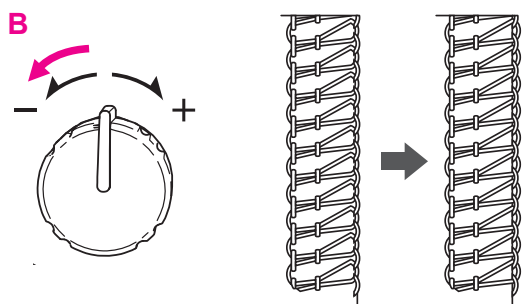


### Adjusting the stitch width finely

This sewing machine automatically controls the thread tension. It should be remembered, however, that in some cases the stitch formation can be improved by turning the looper thread tension fine adjustment knob clockwise or counterclockwise according to the type of material or thread and the differential feed adjustment amount.




- A** If the looper thread tension is too low  
→ Turn the knob clockwise.

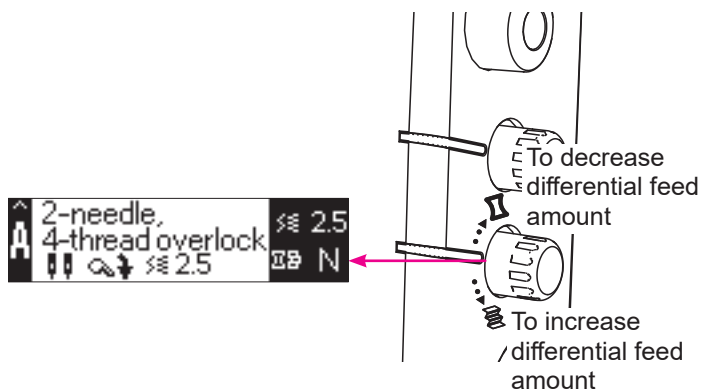


- B** If the looper thread tension is too high  
→ Turn the knob counterclockwise.

### **WARNING**

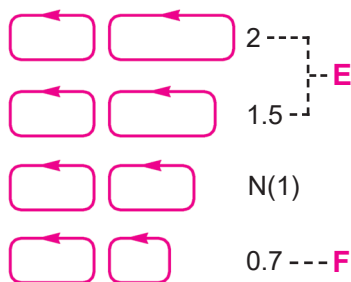
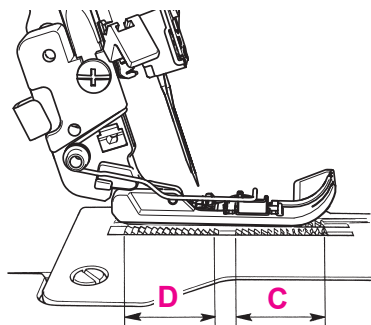
 Do not carry out sewing with a marking pin stuck in the material. In addition, do not attempt to cut anything other than fabric and thread with the upper/lower knives. Be aware that doing so can cause needle break or personal injury.

# Adjustments and settings



## Differential feed

There are two feed dogs one front (**C**) and one rear (**D**). The two feed dogs move independently and the distance each feed dog travels during one complete movement can be adjusted. The differential feed prevents fluting or waving in knitted or stretch fabrics and movements between the layers of fabric. It also ensures pucker-free seams in smooth fabric such as nylon or closely woven fabric.



### Perfectly flat seams in knits or stretch fabrics.

The distance travelled by the front feed dog should be greater than that of the rear feed dog. The front feed dog, therefore, feeds an amount of fabric which the rear feed dog can take up behind the needle without stretching the fabric. (**E**)

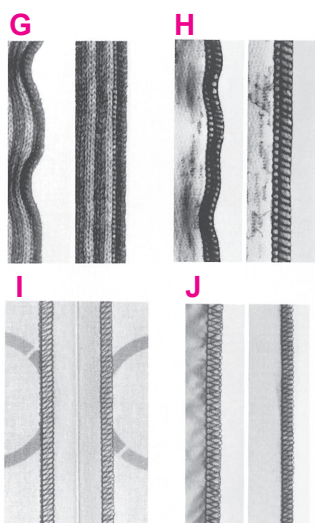
### Pucker - free seams in nylon or closely woven fabrics.

The distance travelled by the rear feed dog should be greater than that of the front feed dog. The front feed dog, therefore, holds the fabric back so that the rear feed dog can take it up behind the needle without any puckering. (**F**)

### Adjusting the differential feed

The differential feed can be adjusted by simply turning the differential feed adjustment dial in the direction desired. Always make a trial run. The differential feed is infinitely variable and can be adjusted while sewing.

\* The thread tension may vary depending on the differential feed adjustment amount. In such a case, adjust the thread tension with the looper thread tension fine adjustment knob. (Refer to page 18).



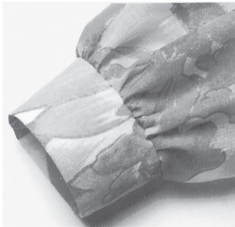
### Adjusting the differential feed

Simply turn the dial in the direction desired for fully variable adjustment while sewing. Test sew.

	Effect	Fabric
2	Wave-free seams (G)	Thick wool knits, hand knitted articles, very stretchy fabrics
1.5	Wave-free seams (H)	Cotton, silk, synthetic jersey, sweatshirt fabrics and fine knits
N	Normal feed (I)	Woven fabrics
0.7	No puckering (J)	Fine nylon jersey, closely woven fabrics, lining fabric satin, poplin

# Adjustments and settings

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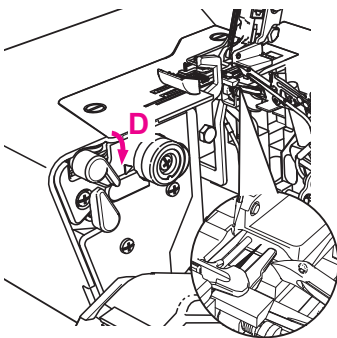
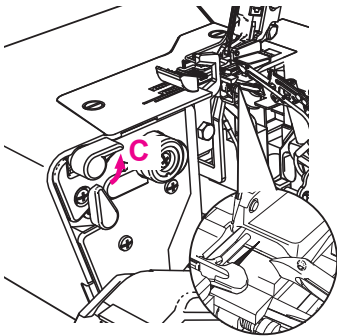
## Gathering

Using the differential feed, a single layer of fabric can be gathered before sewing it to the garment.

For example, sleeve heads and lower edges, yokes, lace edging or frills.

### Adjustment:

- Stitch: 4-thread overlock
  - Differential feed: 2
  - Stitch length: 4
  - Cutting width: 2-3
- \* If you want to make gathering far more than regular gathering, you should pull the needle thread after the completion of sewing.
- \* After the completion of sewing gathering, return the differential feed adjustment value to "N".



## Roll hemming

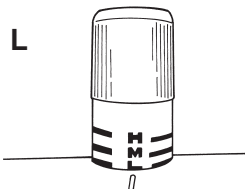
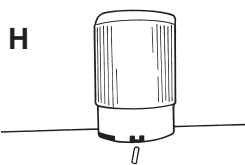
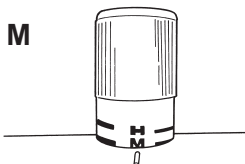
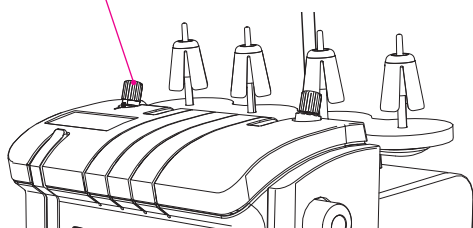
- Turn the handwheel towards you until the needles are fully raised.
- For roll hemming, move the overlocking width changeover knob upward and check that the overlocking claw retracts. (C).
- For standard overlocking, move the overlocking width changeover knob downward and check that the overlocking claw projects. (D).

The roll hemmer is fully integrated in the machine. The edge of the fabric will be automatically rolled over, producing a very narrow, fine seam or hem.

Roll hemming is ideal for finishing edges on all fine fabrics, such as evening clothes, lingerie, scarves, frills and also for curtains and napkins.

## Adjustments and settings

Presser foot pressure regulating knob

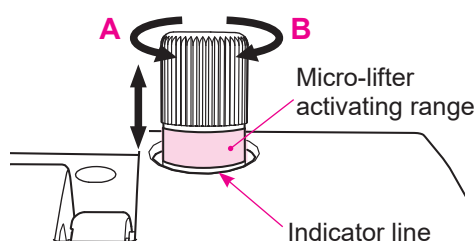
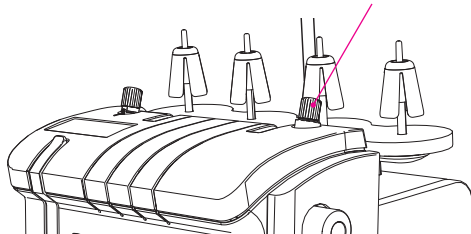


### Presser foot pressure

The presser foot pressure is factory adjusted to a medium setting. Align the marker line on the presser foot pressure regulating knob with the upper end of the top cover.

- Position of knob for normal pressure (**M**) = Medium.
- More pressure: for thick or stiff fabrics such as denim, tweed, firm linen (**H**) = High.
- Less pressure: for light-weight or sheer fabrics and knits (**L**) = Low.

Micro-lifter dial



### Setting the height of the presser foot with the micro-lifter dial

When sewing heavy-weight materials or slippery materials, material slippage can be prevented by changing the presser foot height without reducing the presser foot pressure (keeping the presser foot pressure at the current level).

Use the micro-lifter for quilting, sewing slippery materials such as velvet, or knit-type elastic materials.

It is also possible to change the height of the presser foot by the micro-lifter even during sewing.

Turn the micro-lifter dial to set the presser foot to such a height that will press the material appropriately.

**A** To decrease the presser foot height

**B** To increase the presser foot height

\* When you do not use the micro-lifter, turn the dial fully in the direction **A**.

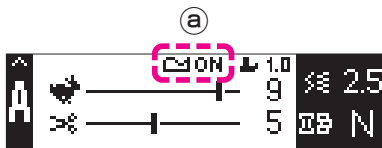
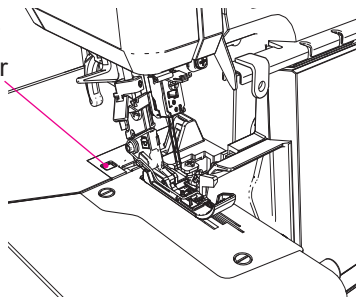
\* The indicator line of the micro-lifter activating range can also be used as a guide for next sewing.

\* Place the same material (for test sewing) as the material for actual sewing and adjust the presser foot height.

Be aware that the material may fail to be fed to cause thread tangling if the presser foot is lifted too high.

# Adjustments and settings

Automatic chain-off thread cutter sensor



## Automatic chain-off thread cutting

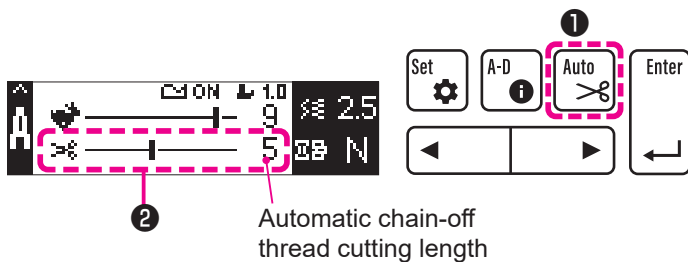
When the automatic chain-off thread cutting function is enabled, the material end is detected at the end of sewing and chain-off thread is automatically cut to the set length.

- \* If the material is present on the sensor, the chain-off thread cutter will not operate.
- \* Note that the automatic chain-off thread cutting function may fail to work well depending on the material used (such as a transparent material). In such a case, place the automatic chain-off thread cutting function in OFF and press the chain-off thread cutting button manually.

\* As long as the sensor recognizes the material, (a) is displayed on the LCD screen.

## ■ Setting the automatic chain-off thread cutting function

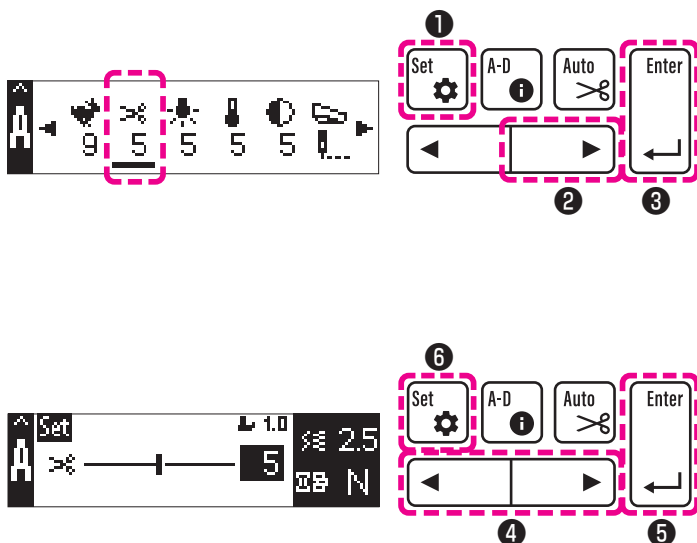
1. Press automatic chain-off thread cutting changeover button ①.
2. When the automatic chain-off thread cutting function is set, ② is displayed on the sewing screen (parameter display).
3. If you want to disable the automatic chain-off thread cutting function, press automatic chain-off thread cutting changeover button ① again.



## ■ Setting the length of chain-off thread

It is possible to set the chain-off thread length to be cut automatically.

1. Press edit button ①.
2. Press right button ② to select the item (second from the left) corresponding to the automatic chain-off thread cutting length.
3. Press enter button ③.
4. Press right or left button ④ to determine the chain-off thread cutting length.
5. Press enter button ⑤.
6. Press edit button ⑥.



## Threading preparations / Tips

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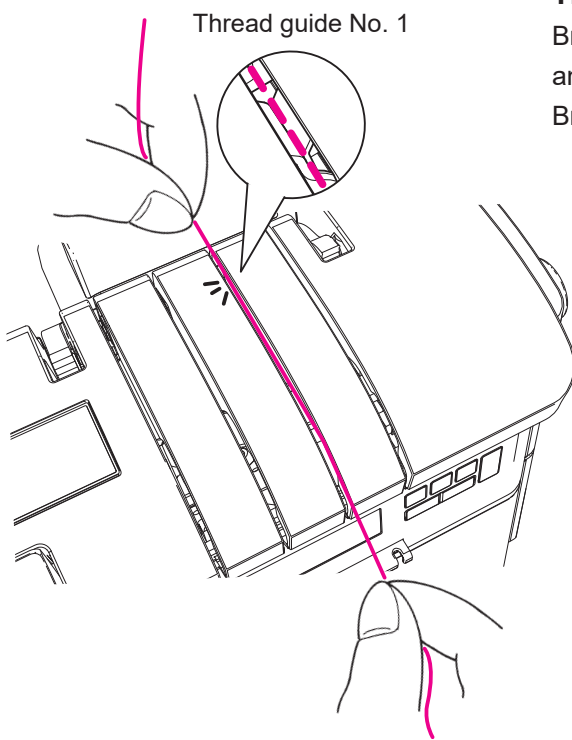
1. Extend the retractable support rod fitted with open thread guide as far as it goes.
2. Raise the presser foot. (Tension disk opens.)
3. Open the looper cover.
4. Turn the power on.

### Threading sequence

The thread guides can be threaded in any sequence.

The threading sections are color coded correspondingly.

- Lower looper thread (red markings)
- ▲ Upper looper thread (blue markings)
- Right needle thread (green markings)
- ◆ Left needle thread (beige markings)












### Threading the thread guide No. 1

Bring down the thread you have put on the retractable support rod and fit it in the thread guide No. 1 until you hear a click.

Bring the thread toward you along the groove.

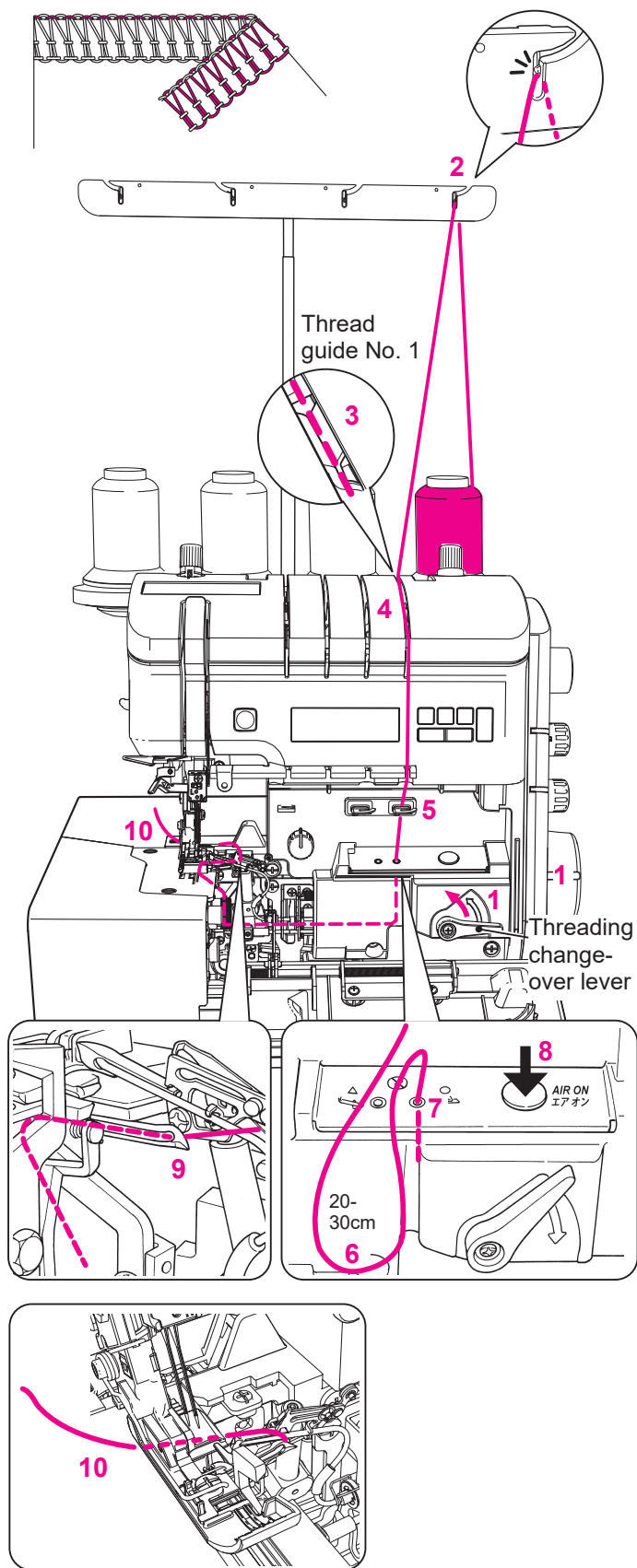
# Stitch chart

Stitch	Stitch width	Stitch changeover knob	Basic settings
4-Thread overlock with integrated safety seam 	5-7.5 mm, right and left needles	A	Stitch length: 2.5 Cutting width: 2.5-5.0 (Left needle 4.5-7.0) Differential: N-2 (knits) 0.7-N (wovens)
3-Thread overlock  Left needle  Right needle 	5-7.5 mm, left needle	A	Stitch length: 2.5 Cutting width: 2.5-5.0 (Left needle 4.5-7.0) Differential: N-2 (knits) 0.7-N (wovens)
	3-5.5 mm, right needle	B	
3-Thread narrow seam 	2 mm, right needle	C	Stitch length: 0.7-1.5 Cutting width: 2.5-3.5 (Left needle 4.5-5.5) Differential: N-0.7 Stitch lever: roll hem
3-Thread roll hem 	2 mm, right needle	D	Stitch length: 0.7-1.5 Cutting width: 2.5-3.5 (Left needle 4.5-5.5) Differential: N-0.7 Stitch lever: roll hem
2-Thread Flatlock  Left needle  Right needle 	5-7.5 mm, left needle	A *1	Stitch length: 2-3 Cutting width: 2.5-5.0 (Left needle 4.5-7.0) Differential: N Upper looper converter
	3-5.5 mm, right needle	B *1	
2-Thread overlock  Left needle  Right needle 	5-7.5 mm, left needle	A *1	Stitch length: 2.5 Cutting width: 2.5-5.0 (Left needle 4.5-7.0) Differential: N Upper looper converter
	3-5.5 mm, right needle	B *1	

\*1 If you want to sew with two threads, use the 2/3-thread changeover attachment and re-thread the needles. (Refer to page 33)



## Threading 4/3 Thread OL



### Lower looper thread, red markings



Switch the machine off (power switch "0")

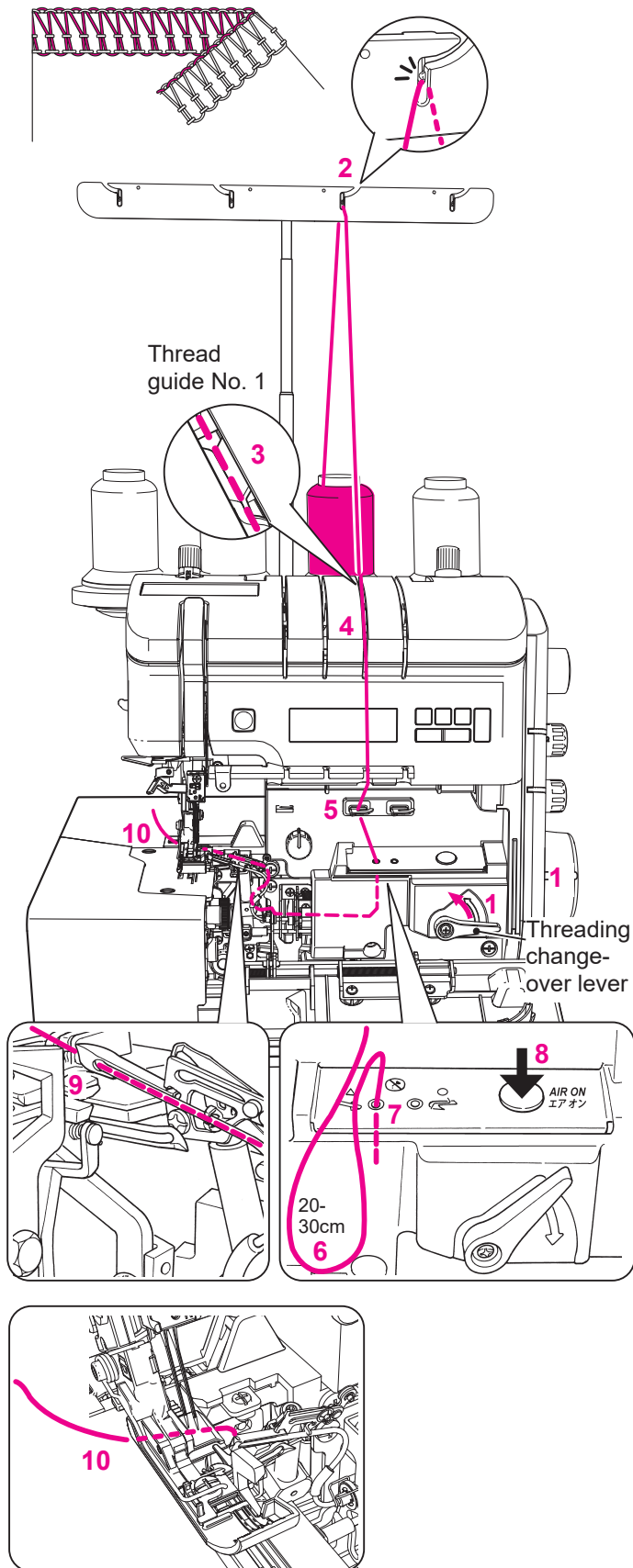
Place the spool on the spool holder pin as illustrated.

- (1) Raise the threading changeover lever in the direction of the arrow.  
Turn the handwheel toward you until it clicks.  
(The threading pipe is connected.)
- (2) Thread the thread guide which is located just above the spool from back to front.  
At this time, fit the thread firmly in the groove.
- (3) Thread the thread guide No. 1.
- (4) Pull the thread by both hands and thread the thread guide.
- (5) Thread the thread guide.
- (6) Pull out the thread by 20 to 30 cm to let it sag inside the looper cover.
- (7) Pass the top end of thread through threading hole by 1 to 2 cm.
- (8) Press the air-control pushbutton.
- (9) Check to be sure that the thread comes out from the top end of the lower looper.
- (10) Bring the pulled-out thread down from above the upper looper to route it under the presser foot and pull it out from its rear.

### Note:

If the upper or lower looper thread breaks during sewing, re-threading is necessary. Remove both the broken and unbroken looper threads. Then, set the threading change-over lever to the threading side to carry out threading of the upper and lower loopers.

# Threading 4/3 Thread OL



## Upper looper thread, blue markings

	<b>Switch the machine off (power switch "0")</b>
--	--

Place the spool on the spool holder pin as illustrated.

- (1) Raise the threading changeover lever in the direction of the arrow.  
Turn the handwheel toward you until it clicks.  
(The threading pipe is connected.)
- (2) Thread the thread guide which is located just above the spool from back to front.  
At this time, fit the thread firmly in the groove.
- (3) Thread the thread guide No. 1.
- (4) Pull the thread by both hands and thread the thread guide.
- (5) Thread the thread guide.
- (6) Pull out the thread by 20 to 30 cm to let it sag inside the looper cover.
- (7) Pass the top end of thread through threading hole by 1 to 2 cm.
- (8) Press the air-control pushbutton.
- (9) Check to be sure that the thread comes out from the top end of the upper looper.
- (10) Pull the thread by approximately 10 cm to route it under the presser foot and pull it out from its rear.

### Caution:

After you have completed threading of the upper and lower loopers, be sure to return the threading changeover lever to its home position. If not, the looper cover cannot be closed.

# Threading 4/3 Thread OL

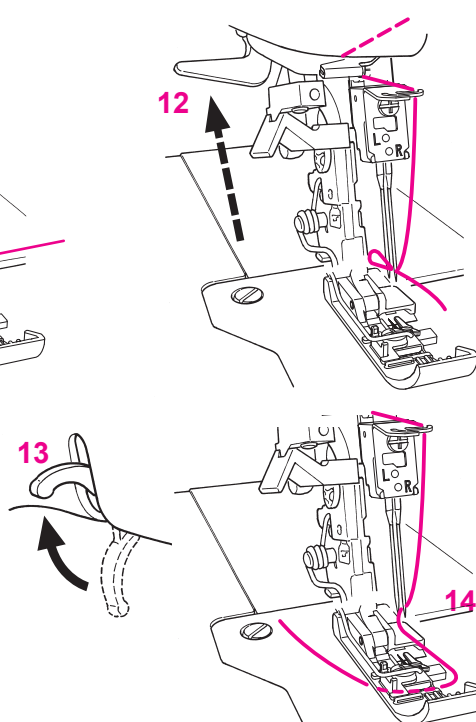
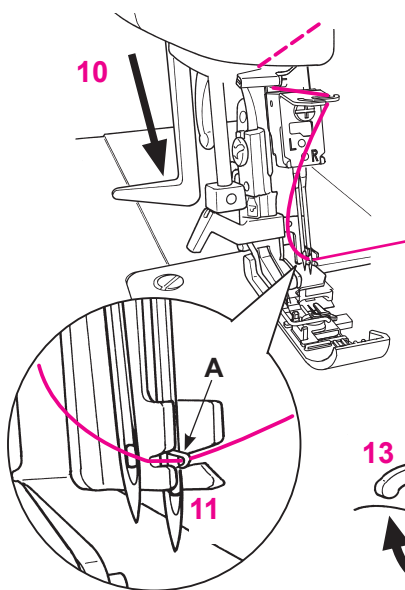
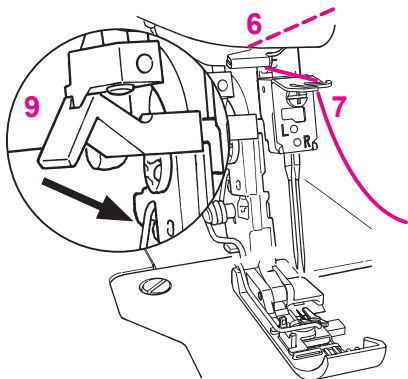
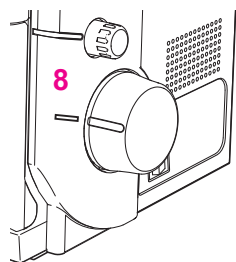
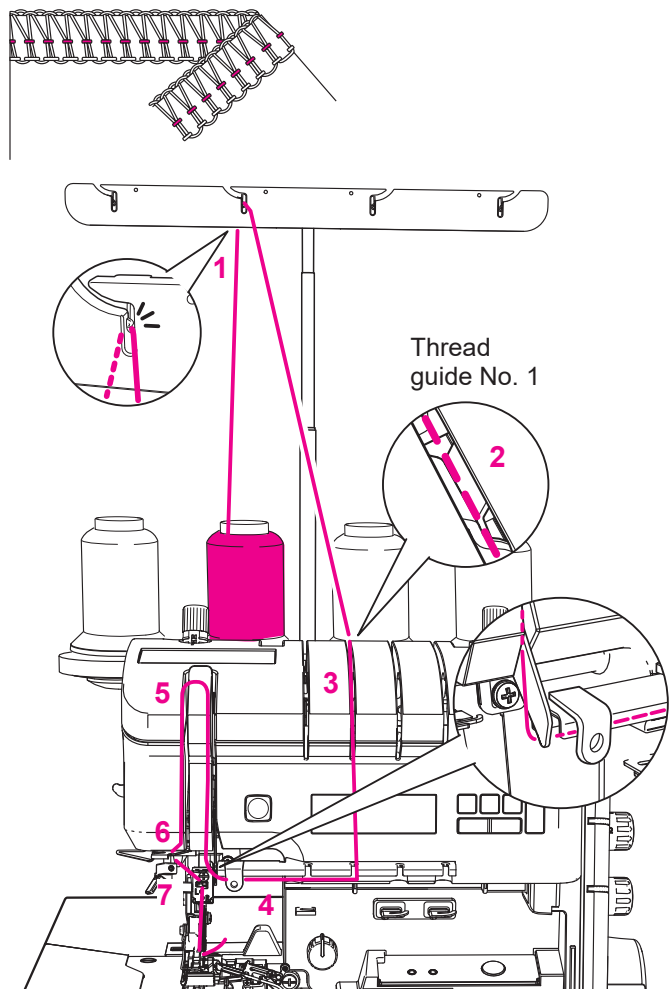
## Right-hand needle, green markings



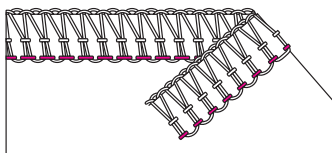
**Switch the machine off (power switch "0")**

Place the spool on the spool holder pin as illustrated.

- (1) Thread the thread guide which is located just above the spool from back to front.  
At this time, fit the thread firmly in the groove.
- (2) Thread the thread guide No.1
- (3) Route the thread in the groove.
- (4) Put the thread under the thread guide plate.
- (5) Thread the thread take-up cover (marked in green)
- (6) Thread the thread guide.
- (7) Thread the needle bar thread guide (right-hand side).
- (8) Turn the handwheel toward you to align the "□" mark with the "■" mark on the side face of the side cover.  
Then, lower the presser foot.
- (9) Set the right-/left-needle changeover lever to the right needle side.  
Be sure to move the right-/left-needle changeover lever to the right needle side until it will go no further.
- (10) Lower the threading lever as far as it goes.
- (11) Push the thread into section A with both hands.
- (12) The thread automatically passes through the needle eyelet by pushing the threading lever upward.
- (13) Lift the presser foot.
- (14) Pull out the thread by approximately 10 cm to route it under the presser foot and draw it out from its rear.



# Threading 4/3 Thread OL



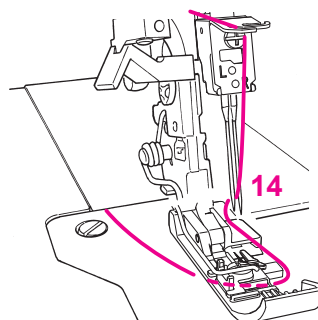
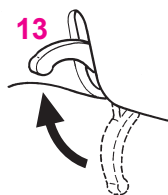
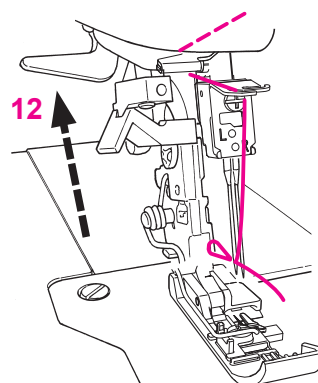
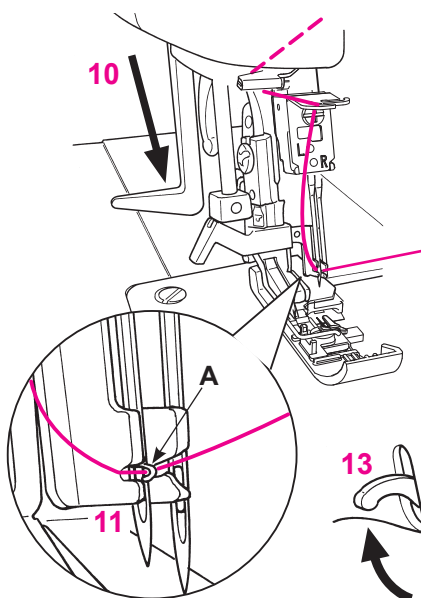
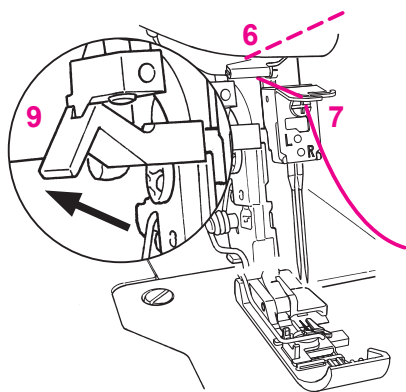
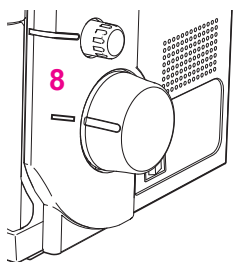
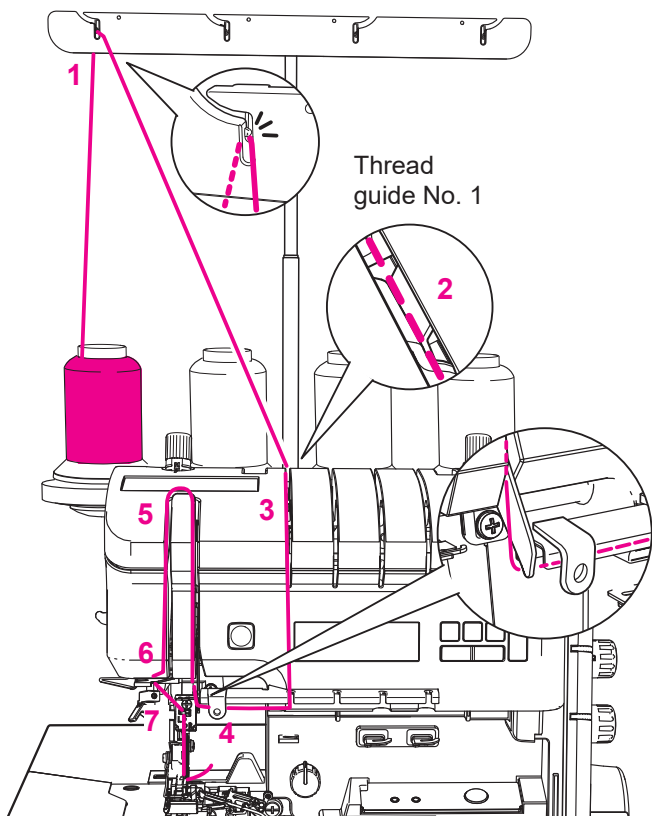
## Left-hand needle, beige markings



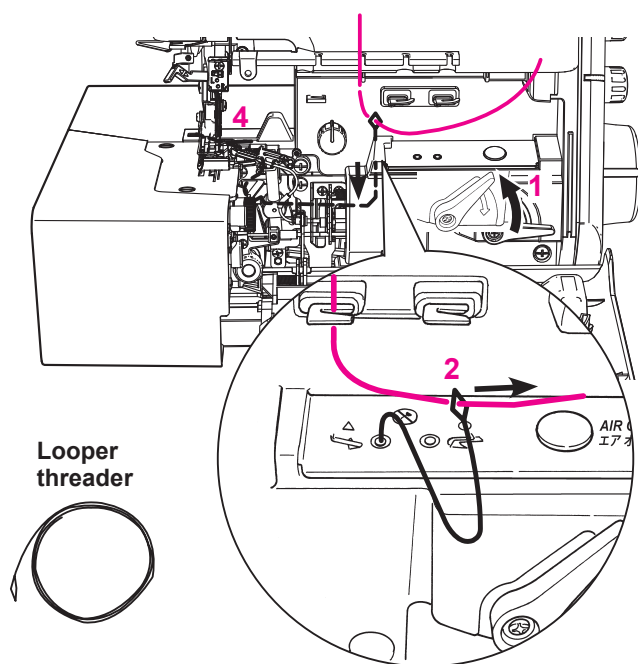
**Switch the machine off (power switch "0")**

Place the spool on the spool holder pin as illustrated.

- (1) Thread the thread guide which is located just above the spool from back to front.  
At this time, fit the thread firmly in the groove.
- (2) Thread the thread guide No.1
- (3) Route the thread in the groove.
- (4) Put the thread under the thread guide plate.
- (5) Thread the thread take-up cover (marked in beige)
- (6) Thread the thread guide.
- (7) Thread the needle bar thread guide (left-hand side).
- (8) Turn the handwheel toward you to align the "□" mark with the "■" mark on the side face of the side cover.  
Then, lower the presser foot.
- (9) Set the right-/left-needle changeover lever to the left needle side.  
Be sure to move the right-/left-needle changeover lever to the left needle side until it will go no further.
- (10) Lower the threading lever as far as it goes.
- (11) Push the thread into section A with both hands.
- (12) The thread automatically passes through the needle eyelet by pushing the threading lever upward.
- (13) Lift the presser foot.
- (14) Pull out the thread by approximately 10 cm to route it under the presser foot and draw it out from its rear.



## Threading 4/3 Thread OL



### How to use the looper threader

To thread woolly thread or any thread that cannot pass smoothly through the threading holes, it is recommended either to use the “looper threader” supplied in the accessory bag, or to prepare an approximately 30cm long spun thread or the like, tie it at the end of the woolly thread, pass the spun thread through the threading hole and pull it until the woolly thread passes through the hole. (The looper threader can also be used as a cleaning tool for pipes.)

1. Raise the threading changeover lever in the direction of the arrow. Turn the handwheel toward you until it clicks.
2. Pass the thread through the looper threader ring.
3. Pass the looper threader through the looper by hand until it comes out from the end of the looper.
4. When the looper threader comes out from the end of the looper, draw it out until thread comes out.

#### Caution:

Do not place the air-control switch in ON.

#### Note:

If the upper or lower looper thread breaks during sewing, re-threading is necessary. Remove both the broken and unbroken looper threads. Then, set the threading changeover lever to the threading side to carry out threading of the upper and lower loopers.

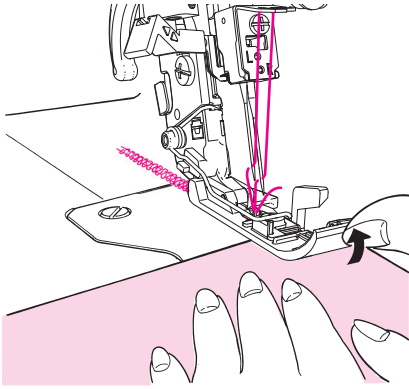
#### Caution:

After the completion of threading of the upper and lower loopers, return the threading changeover lever to its home position. If not, the looper cover cannot be closed.





# Trial sewing




## Sewing test

Sew two pieces of the material together. Then, check whether or not the finished seam is correct.

1. Close the looper cover. Turn the power on.
2. Check that the upper knife is raised.
3. Lower the presser foot.
4. While holding the thread trailing from the rear of the presser foot by hand, depress the controller to produce chain-off thread by 6 to 7 cm.
5. Raising the front part of the presser foot with fingers, put the fabric under the presser foot until this side of the upper knife is reached.
6. Start the sewing machine.
7. After the completion of sewing, cut the chain-off thread.

## How to cut the chain-off thread

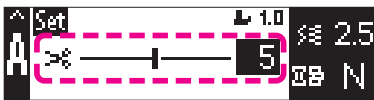
### ① Press the chain-off thread cutting button

After the completion of sewing, press  to cut the chain-off thread.

### ② Enable the automatic chain-off thread cutting function in prior

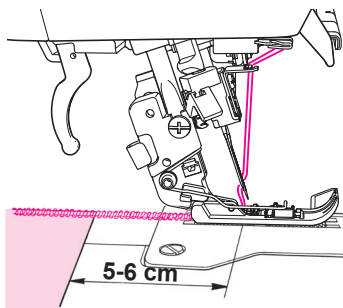
Press .

Refer to page 22 for details.

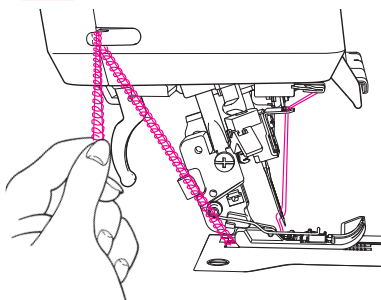


### ③ Cut the chain-off thread with the thread cutter

1. After the completion of sewing, produce chain-off thread by 5 to 6 cm.



2. Put the chain-off thread over the thread trimming blade for trimming.



### ④ Cut the chain-off thread with the upper knife

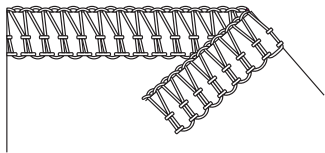
Pull the chain-off thread and bring it toward you. Then, cut it with the upper knife.

### ⑤ Depress the foot switch

After you have completed sewing, depress the foot switch to cut the chain-off thread.

\* In order to cut the chain-off thread by depressing the foot switch, it is necessary to set the function of the foot switch accordingly in advance. (Refer to page 9)

# Practical Sewing - Overlock

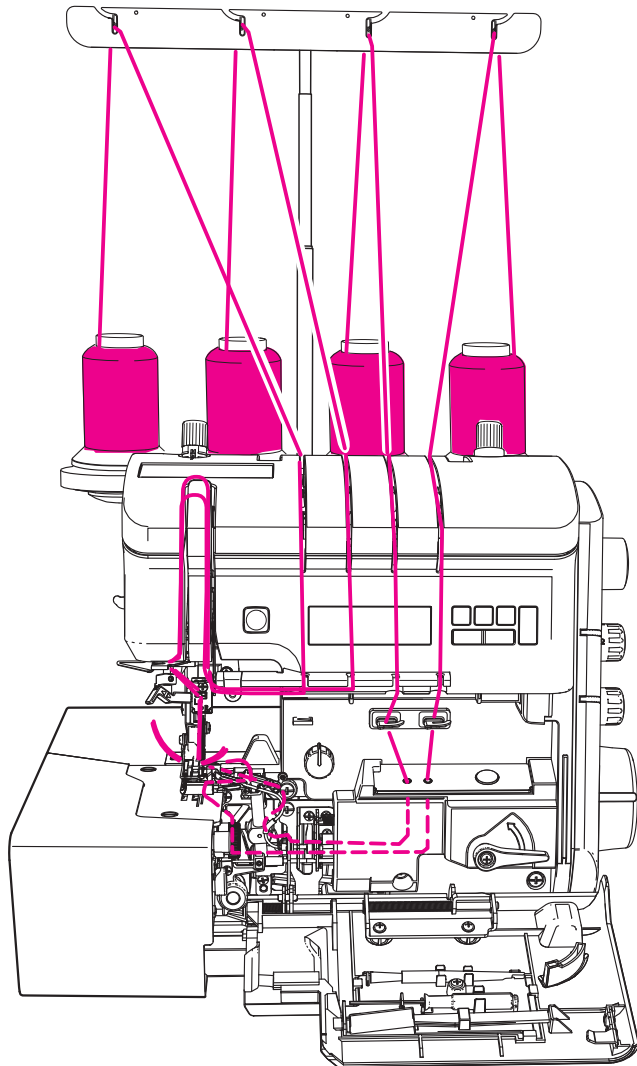


## 2-needle, 4-thread overlocking

**CAUTION**

Be sure to turn OFF the power switch before removing or attaching the needle.

Left needle thread    Right needle thread    Upper looper thread    Lower looper thread

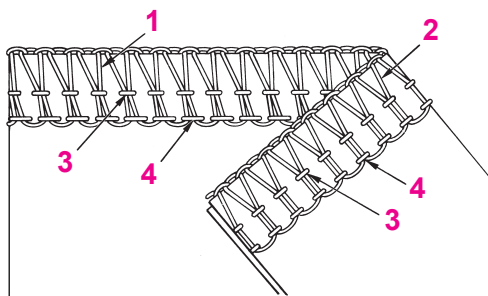


1. Attach both of two needles. (It is the standard state of the sewing machine.)
2. Set the stitch changeover knob to "A".
3. Thread the upper and lower loopers and the right and left needles. (Refer to pages 25 to 28)
4. Adjust the stitch length adjustment dial in accordance with the type of the fabric to be sewn. (Standard 2.5) (Refer to page 17)
5. Adjust the cutting width adjusting dial in accordance with the type of the fabric to be sewn. (Refer to page 17)

### Correctly finished stitches

1. Upper looper thread (blue).
2. Lower looper thread (red).
3. Right-hand needle thread (green).
4. Left-hand needle thread (beige).


Perfect stitch formation is when both looper threads meet at the fabric edge. The needle threads form straight stitches for a stretchy and durable seam.

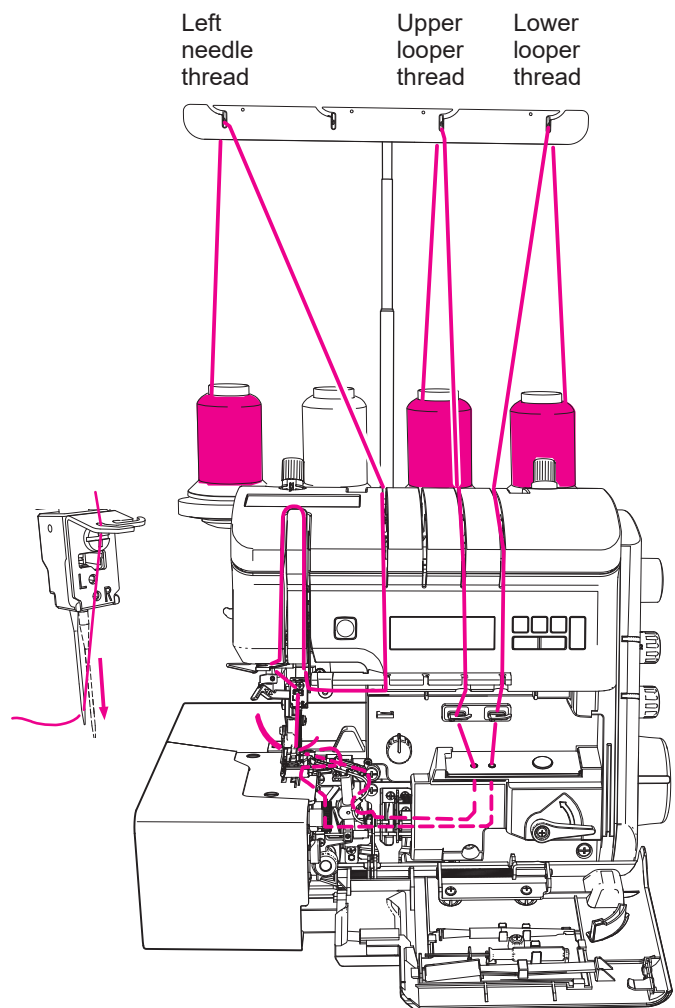
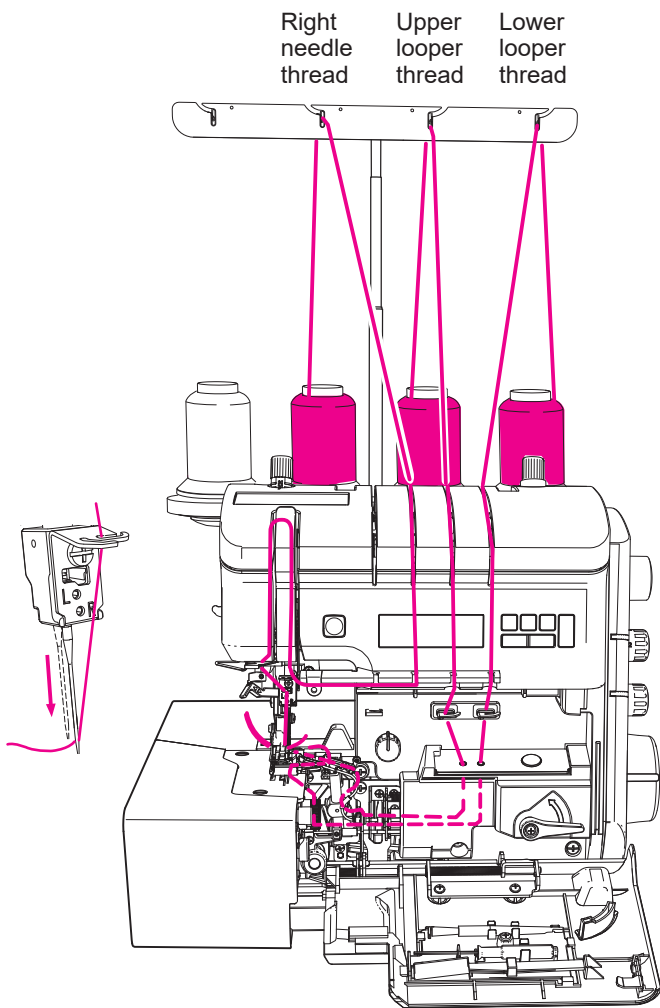
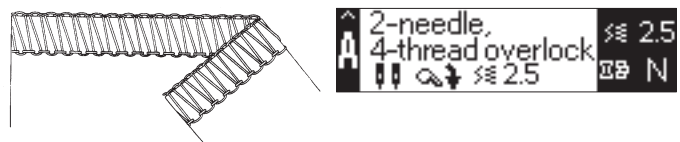
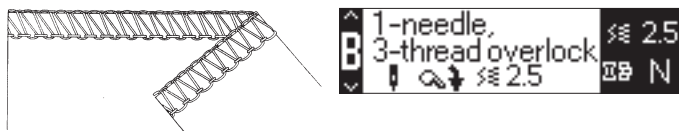




# Practical Sewing - Overlock

## 1-needle 3-thread overlocking

 <b>CAUTION</b>	<p>Be sure to turn OFF the power switch before removing or attaching the needle.</p>
--	--



### For wrapped overlocking with the right needle (3 to 5.5 mm in width)

1. Remove the left needle. (Refer to page 15)
2. Set the stitch changeover knob to "B".
3. Thread the upper looper, lower looper and right needle. (Refer to pages 25 to 27)

### For wrapped overlocking with the left needle (5 to 7.5 mm in width)

1. Remove the right needle. (Refer to page 15)
2. Set the stitch changeover knob to "A".
3. Thread the upper looper, lower looper and left needle. (Refer to pages 25, 26 and 28)

# Practical Sewing - Overlock



## 1-needle 2-thread overlocking

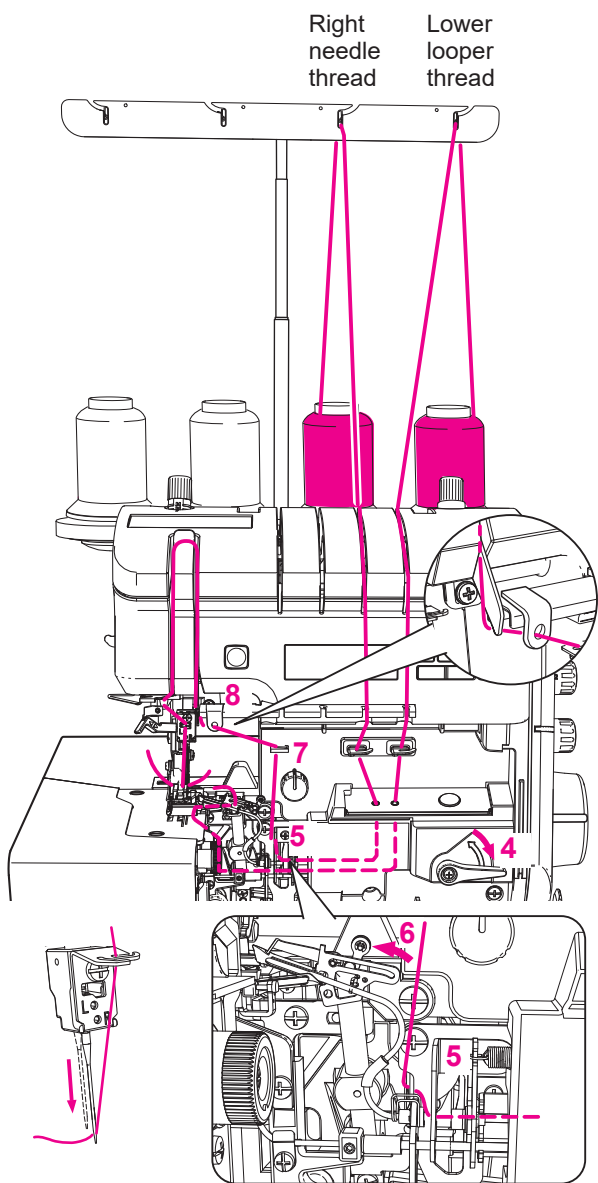


**Be sure to turn OFF the power switch before removing or attaching the needle.**

It is possible to carry out overcasting, decorative stitching (unfolded seam stitching) and 2-thread hemming with two threads by threading the right needle and lower looper.

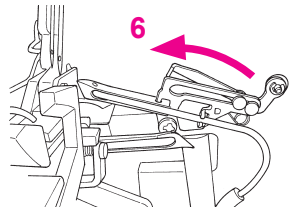
Use the 2/3 thread changeover attachment.

1. Remove the left needle. (Refer to page 15)
  2. Set the stitch changeover knob to "B".
  3. The threading path of the needle thread is same as that of the upper looper thread up to the halfway point. Then, it is changed to the threading path of the needle thread. (Refer to page 26)
  4. When the thread comes out of the top end of the upper looper, lower the threading changeover lever. (The threading pipe will come off.)
  5. Pull out the thread from the joining section of the threading pipe and pass it through the hole located just above the joining section.
  6. Push the 2/3 thread changeover attachment mounted to the upper looper to the left.
- Check to make sure that the projection of the 2/3 thread changeover attachment is fitted in the hole at the top end of the looper. By taking the aforementioned procedure, the upper looper thread will not be fed, but the lower looper thread will be fed to produce 2-thread stitches.
7. Thread the take-up thread guide.
  8. Pass the thread through the hole from this side and pass it along the threading path in the same manner as the right needle thread. (Refer to page 27)
  9. Thread the lower looper. The threading path of the lower looper is same as the standard stitching (2-needle 4-thread). (Refer to page 25)

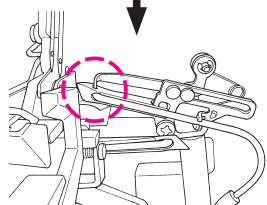


## 2/3-thread changeover attachment

Push the lever to the left.

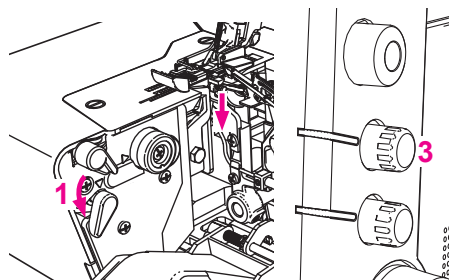


Check to make sure that the projection is fitted in the hole.



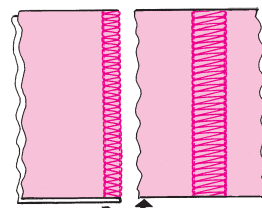
## Decorative stitching (open seam stitching)

1. Deactivate the upper knife.
2. Use a decorative thread as the upper looper thread. (Filament thread is best-suited as the needle thread and the lower looper thread. However, spun thread can also be used.)
3. Set the stitch length adjustment dial to "2 to 2.5".




4. Fold the material in two. Carry out sewing with a preset overlocking width.
5. After the completion of sewing, unfold the material.

\* It is recommended to sew the fabric while allowing an excess of thread to be provided at the edge of the fabric to produce beautifully-finished seams.



# Practical Sewing - Overlock

## Rolled hemming and narrow overlocking

 <b>CAUTION</b>	<b>Be sure to turn OFF the power switch before removing or attaching the needle.</b>
--	--

The sewing machine incorporates the hemming device to enable roll hemming and narrow overlocking. The sewing machine is able to overlock the material edges such as bottoms and sleeve cuffs beautifully while automatically folding them inwardly.

### ● Roll hemming

The roll hemming is the stitch system that laps the material edge with the upper looper thread.

#### Preparation for hemming (roll hemming)

1. Remove the left needle. (Refer to page 15)
2. Set the stitch changeover knob to "D".

### ● Narrow overlocking

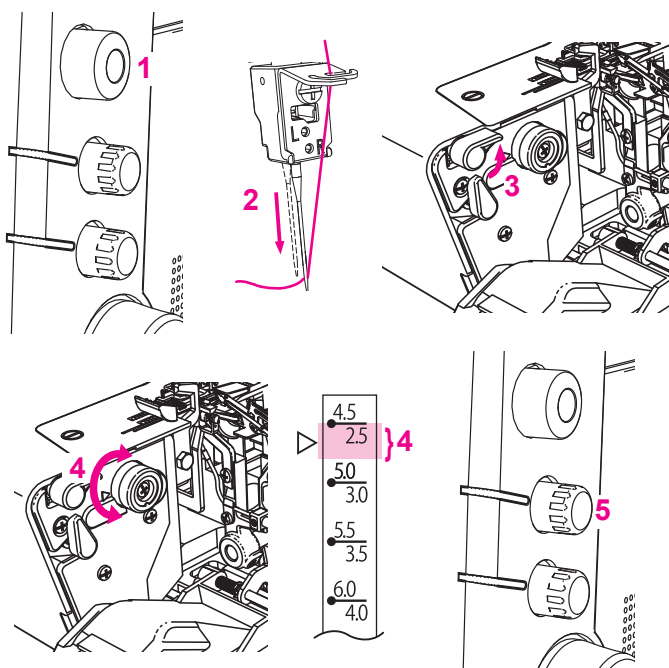
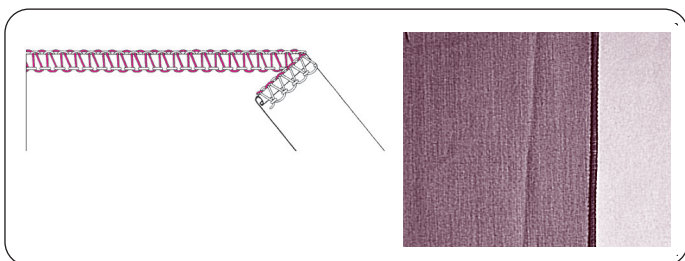
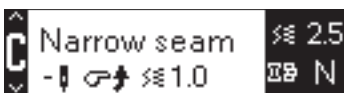
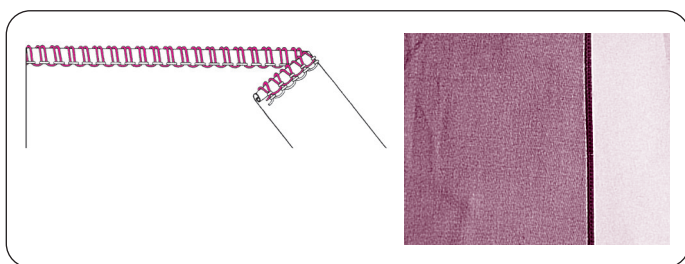
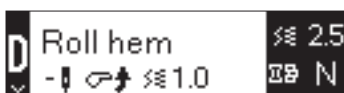
The narrow overlocking is the overlock stitch system overlocking width of which is narrower than the standard one.

#### Preparation for narrow overlocking

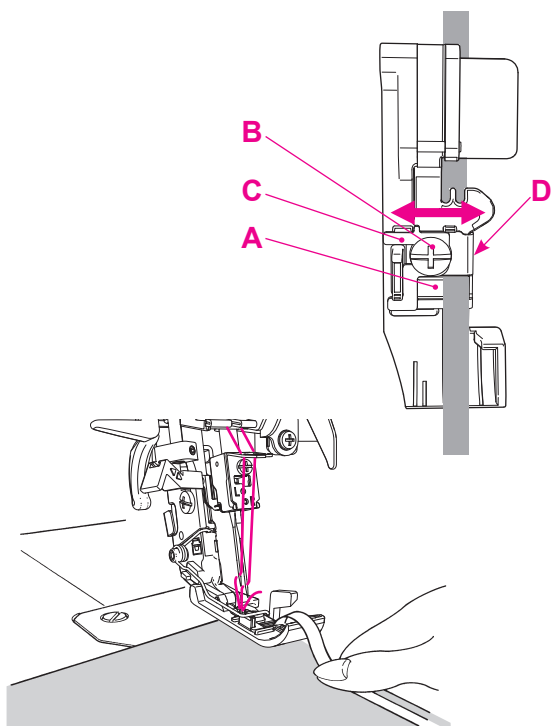
1. Remove the left needle. (Refer to page 15)
2. Set the stitch changeover knob to "C".

3. Install the right needle only.

4. Pull the overlocking width changeover knob toward you to lower the overlocking claw.
5. Set the cutting width adjusting dial at the scale mark "2.5 to 3.5".
6. When using filament thread or woolly nylon thread, set the stitch length adjustment dial (stitch length) at "0.7 to 1.5".



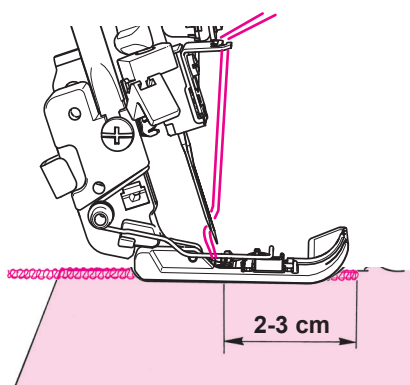
## Practical Sewing - Overlock



### Sewing in tape

The standard presser foot is equipped with a tape guide. A tape can be sewn into the shoulder or side seams of garments made from knits or stretch fabrics to prevent stretching.

1. Turn the handwheel toward you to bring the needle to its upper end.
2. Lift the presser foot. Pass the tape through the tape guide groove **A** and pull it out until the rear side of the presser foot is reached. Then, lower the presser foot.
3. Loosen the guide adjustment screw **B** with the accessory T-screwdriver. Adjust the tape guide **C** to the tape width (**D**) and tighten the guide adjustment screw.
4. Turn the handwheel by hand to sew the tape by two or three stitches.
5. Place the material on which you want to sew the tape under the presser foot.
6. Sew the tape while lightly supporting the tape by hand.



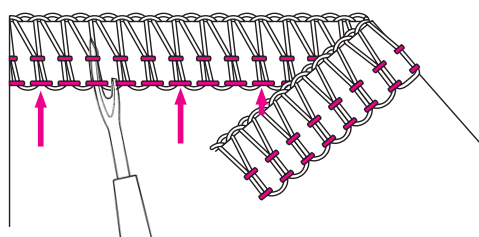
### Thread breakage during sewing

Sew off immediately at an angle and remove the work. Re-thread.

If the upper or lower looper thread breaks during sewing, re-threading is necessary. Remove both the broken and unbroken looper threads. Then, set the threading lever to the threading side to carry out threading of the upper and lower loopers.

First thread the looper and then the needles.

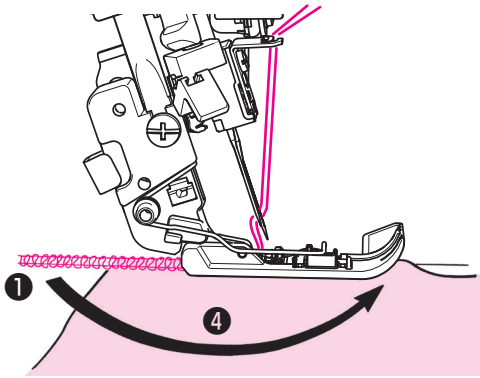
Start sewing again about 2 - 3 cm in front of the break.



### Unpicking seams

Looper thread can be easily undone by cutting the right and left needle threads with a commercially available seam ripper at several points of the finished seam and removing them.

# Practical Sewing - Overlock



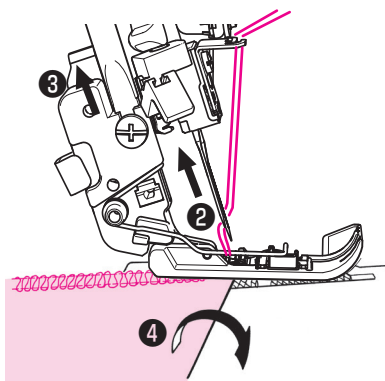
## Securing thread ends at the beginning and end of sewing

Overlock stitches can unravel if the threads are not secured at the beginning and end of sewing. Secure the thread ends.

### Securing thread ends with the overlock machine

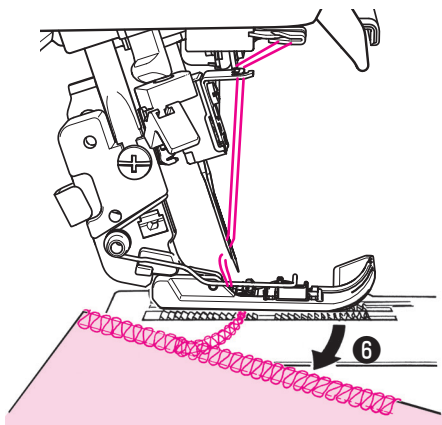
#### 1) Securing thread ends at the beginning of sewing

1. Pull out chain-off thread produced at the beginning of sewing by 3 to 4 cm.
  2. Sew the material by two or three stitches.
  3. Lower the needle and raise the presser foot.
  4. Draw out the chain-off thread toward you and place it between the presser foot and the material from the left side.
  5. Lower the presser foot and sew the chain-off thread on the material.
- \* If you do not sew the chain-off thread on the material, produce a longer chain-off thread at the beginning and end of sewing. Then, make a knot of the chain-off thread or put the chain-off thread under the seam with a wool needle.
- \* When stitches cross each other, chain-off thread is automatically secured.



#### 2) Securing thread ends at the end of sewing

- \* Place the automatic chain-off thread cutting function in OFF. (Refer to page 22)
1. Stop the needle at the end of material.
  2. Lift the needle.
  3. Raise the presser foot.
  4. Turn the material upside down. Lower the needle so that it enters the outside edge of finished seam.
  5. Lower the presser foot.
  6. Carry out sewing to produce chain-off thread by 2 to 3 cm taking care not to allow the finished seam to come in contact with the upper knife. Remove the material.
  7. Secure the chain-off thread.

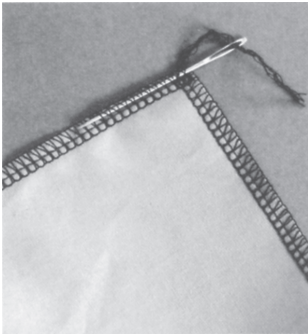




## Practical Sewing - Overlock

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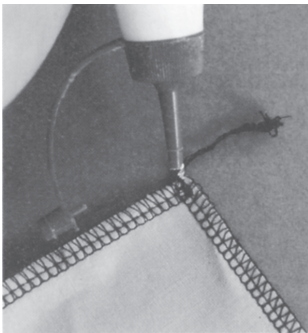
**A**



### **In the case of securing thread ends with a wool needle: (A)**

Leave a 2 to 3 cm long chain-off thread at the beginning and end of sewing. Put the chain-off threads in the finished seam by means of a wool needle.

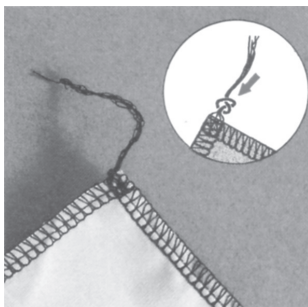
**B**



### **In the case of securing thread ends with glue for handicraft: (B)**

Apply a little amount of glue for handicraft at the root of chain-off thread on the material. Cut out the excess of chain-off thread after the glue has dried.

**C**

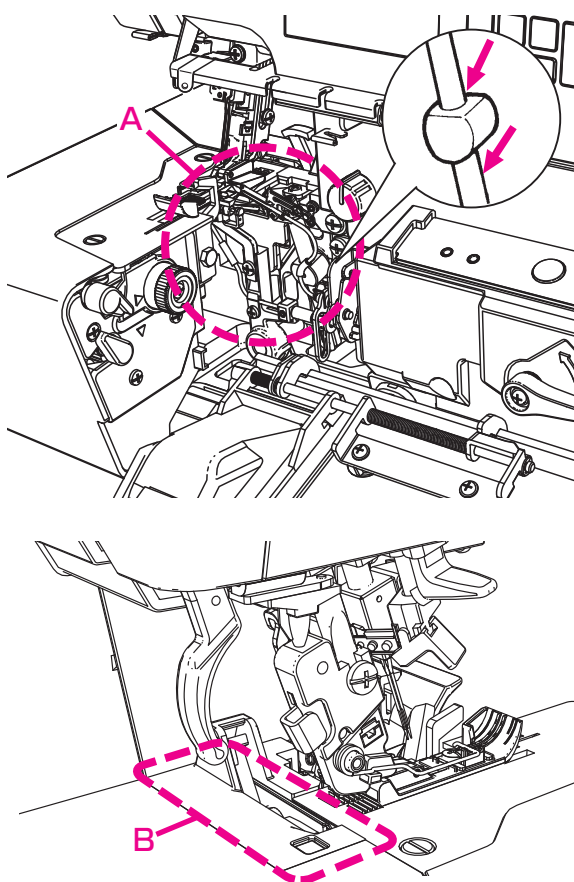


### **Securing thread ends by making a knot: (C)**

Bind all threads together and make a knot at the nearest position of the material. Then, cut out the excess of the threads.

# Maintenance

## Cleaning and lubricating



### CAUTION

Turn off the power switch and disconnect the power plug from the wall outlet before starting cleaning or lubricating the machine.

As you use the sewing machine, lint is likely to accumulate in the sewing machine. It is necessary to remove the lint periodically.

Since lint accumulates particularly in the sections around the throat plate and lower knife, remove the lint from those sections on a periodic basis. (A)

When cleaning the pipes of the upper and lower loopers, use the “looper threader” supplied in the accessory bag. (Refer to page 29 for how to use it.)

You may concern about the sewing noise, although not frequently, since this sewing machine uses special materials in critical sections. In such a case, apply one or two drops of oil to the points indicated with an arrow in the figure.

Dust and lint are likely to accumulate around the chain-off thread cutter. So, remove them regularly with the accessory cleaning brush supplied with the sewing machine.

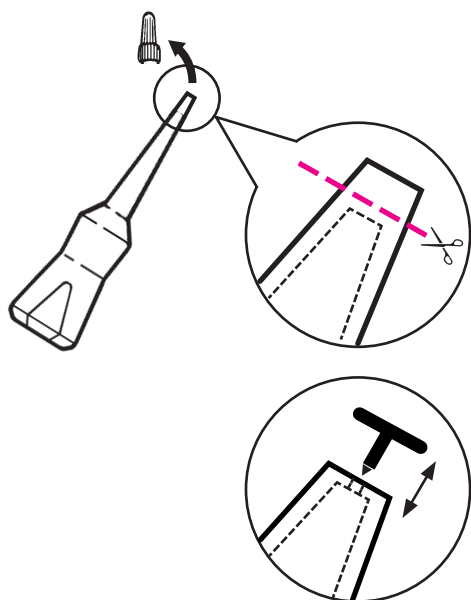
### Precautions to be taken when handling oil

- \* In the event the oil gets in the eye or adheres on skin, immediately wash it off in order to prevent irritation and rash.
- \* If swallowed accidentally, immediately seek for medical advice in order to prevent diarrhea and vomiting.
- \* Keep the oil away from children.
- \* Oil disposal is obliged by legislation. Dispose of the oil properly in compliance with the relevant legislation.

### How to use an accessory oiler

### CAUTION

Be careful not to hurt your hands while working.



When you use the oiler for the first time, remove the cap and cut the tip of the oiler spout slightly with a pair of scissors. Then, make a hole in the tip with a pushpin or the like.

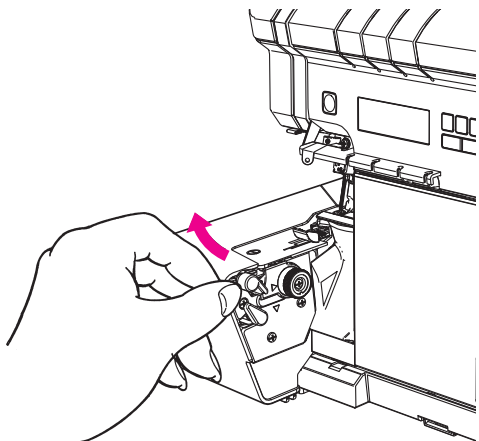
\* Be aware that, if you cut the tip of the oiler spout excessively, the hole will become larger to make it hard to supply a constant amount of oil.

1. Cut the tip with a pair of scissors.
  - \* It is important to leave the resin-sealed portion (approximately 0.5 mm) instead of cutting the tip until the penetrated portion is reached.
2. Make a hole with a pushpin or the like.



## Maintenance

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### To carry out cleaning with the cloth plate opened



#### **CAUTION**

Be sure to turn off the power switch before opening the cloth plate.

- **How to open the cloth plate**  
Push this side of the cloth plate to the left to open it.
- **How to close the cloth plate**  
Push the cloth plate toward the sewing machine.










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### Replacing the knife

Since the lower knife blade and the chain-off thread cutter blade are made of special carbide material, it is not normally necessary to replace them. However, they should be replaced when the blade edge is damaged.

For replacement of the lower knife blade, upper knife blade and the chain-off thread cutter blade, consult the distributor where you have purchased your sewing machine.

## Error display

Display	Description of error	Corrective measure
	When you have depressed the controller while the presser foot is left in its upper position.	Lower the presser foot.
	When the chain-off thread cutter has failed to return to its home position and stopped.	Remove any objects caught in the path of the chain-off thread cutter, if any, and press the chain-off thread cutting button. If the error persists after you have taken the aforementioned corrective measure, consult the distributor where you have purchased your sewing machine.
	When some object is caught in the path of the chain-off thread cutter and the cutter is unable to cut chain-off thread.	Remove the object that is caught in the path of the chain-off thread cutter.
	When you have tried to cut chain-off thread with the material placed on the path of the chain-off thread cutter.	Remove the material.
	When an excessive load is applied to the motor. (In such a case that the controller is held depressed for five minutes or more)	Wait for three seconds. Then, the screen will return to the previous screen.
	When you have depressed the controller with the cloth plate left opened.	Close the cloth plate.
	When the motor has locked up.	Wait for three seconds. Then, the screen will return to the previous screen.
	When the sewing machine malfunctions.	Consult the distributor where you have purchased your sewing machine.
		

## Trouble shooting guide

Problem	Cause	Solution	Page
The machine does not sew:	• Looper or cloth plate cover is open.	• Close the looper or the cloth plate cover.	12
	• The main switch is not on.	• Switch machine on. (Main switch to "I")	12
	• The machine is not plugged in.	• Insert plug into main socket.	11
Fabric does not feed evenly	• Differential feed is wrongly adjusted.	• Check the differential feed setting.	19
	• Presser foot pressure is too low.	• Adjust the presser foot pressure.	21
Thread breaks	• The machine is not threaded correctly.	• Check the threading.	25
	• Needles are incorrectly inserted.	• Insert needles fully into needle clamp with flat side to the back.	15
	• Wrong needles.	• Use needle system 130/705H or JLx2.	15
	• Stitch setting is wrong.	• Check the stitch setting.	9
Needles break	• Needles are bent or blunt, points are damaged.	• Replace needles.	16
	• Needles are not inserted correctly.	• Insert needles fully into needle clamp with flat side to the back.	15
	• Fabric was pulled while sewing.	• Guide fabric gently with both hands.	--
	• Stitch setting is wrong.	• Check the stitch setting.	9
Skipped stitches	• Needles are bent or blunt.	• Replace the needles.	15
	• Wrong needles used.	• Use needle system 130/705H or JLx2.	15
	• Presser foot pressure is too low.	• Increase presser foot pressure.	21
	• Stitch setting is wrong.	• Check the stitch setting.	9
Poor stitch formation	• Threads are not correctly between the thread guide No. 1.	• Check if thread is fitting between the thread guide No. 1.	23
		• Raise the presser foot and pull the thread.	23
	• Thread has got caught.	• Check threading path of each thread.	25
	• Machine is incorrectly threaded.	• Check threading path of each thread.	25
	• Stitch setting is wrong.	• Check the stitch setting.	9
Seams flute or wave, especially when sewing knits	• Fabric was pulled while sewing.	• Guide fabric gently.	--
	• Presser foot pressure is too tight.	• Reduce presser foot pressure.	21
	• Differential feed is set incorrectly.	• Adjust differential feed to N - 2.	19
Seams pucker	• Differential feed is set incorrectly.	• Adjust differential feed to 0.7 - N.	19
Fabric edges curl	• Too much fabric is in the stitch.	• Reduce cutting width.	17
	• Stitch selection lever is on roll hem.	• Set selection lever to overlock.	20
Thread loops are too loose	• Too little fabric in the stitch.	• Increase the cutting width.	17

## Trouble shooting guide

Problem	Cause	Solution	Page
Motor abnormalities	<ul style="list-style-type: none"> <li>• Noise is heard.</li> <li>• Motor does not turn at all.</li> <li>• Sparks are abnormally large.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the carbon brush with a new one.</li> </ul> <p>(Note) Contact your distributor to ask for the replacement of the carbon brush.</p>	--
Needle eye-let cannot be threaded	<ul style="list-style-type: none"> <li>• The “■” marking on the side of the front cover is not aligned with the “□” marking on the handwheel.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn the handwheel to align the “□” marking on it with the “■” marking on the side of the front cover.</li> </ul>	27,28
Upper and lower loopers cannot be threaded	<ul style="list-style-type: none"> <li>• When the handwheel is not fixed.</li> <li>• When the thread is not inserted into the bottom of the threading hole.</li> <li>• When the thread is not slacked before the threading hole.</li> <li>• When the thread is caught somewhere in the thread path.</li> <li>• When the pipe is clogged with lint.</li> </ul>	<ul style="list-style-type: none"> <li>• Raise the threading changeover lever and turn the handwheel to fix it.</li> <li>• Insert the thread into the threading hole by 1 to 2 cm.</li> <li>• Slack the thread before the threading hole.</li> <li>• Remove the thread from the location where it has been caught.</li> <li>• Thread the loopers by means of the looper threader supplied in the accessory bag to remove the lint in the pipe.</li> </ul>	25,26 25,26 25,26 -- 29

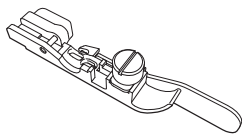
## Technical data

Stitch choice	Over lock	2 needles, 2 loopers: 4 thread overlock with integrated safety seam 1 needle, 2 loopers: 3 thread overlock, flatlock roll hem 1 needle, 1 looper: 2 thread overlock, flatlock roll hem 2 needles, 1 looper: 3 thread super stretch
Needle system		SCHMETZ 130/705 H or JLx2
Seam width		3.5-5.5 mm (3/2 thread overlock) 5.5-7.5 mm (4 thread overlock / 3/2 thread overlock / 3 thread super stretch)
Stitch length		0.7-4 mm
Differential feed		No puckering 0.7 - N No waving or fluting in knits N - 2
Presser foot lifter		By lever : 6 mm / 8 mm By knee lifter : 6 mm
Handwheel		rotates forwards
Sewing speed		Up to 1500 sti/min
Weight		11.2 kg
Dimensions		350 (W) x 310 (D) x 340 (H) mm
Foot control model No.		JC-001 (USA and Canada only) JC-002 (220-240V)

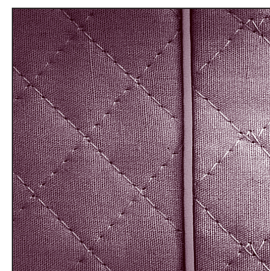
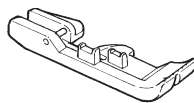
We reserve the right to make changes in the interest of technical progress.

## Optional Accessories

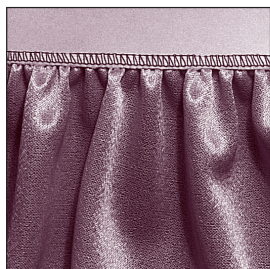
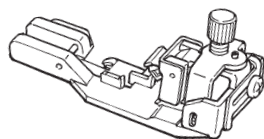
- Blind stitch presser foot
- Universal Blind Stitch Presser Foot



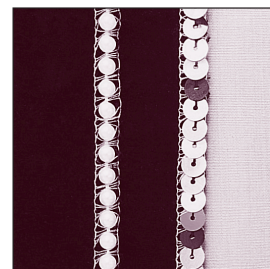
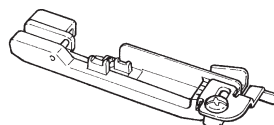
- Piping presser foot



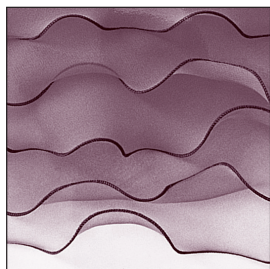
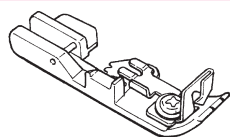
- Elasticator



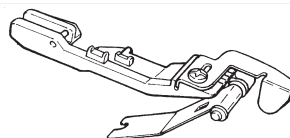
- Beading presser foot



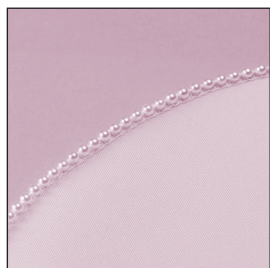
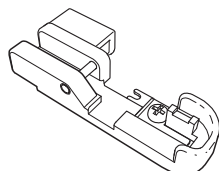
- Cording presser foot



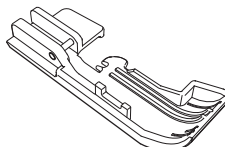
- Gathering presser foot



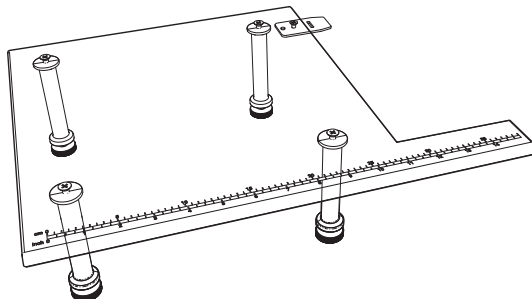
- Curved Beading Presser Foot



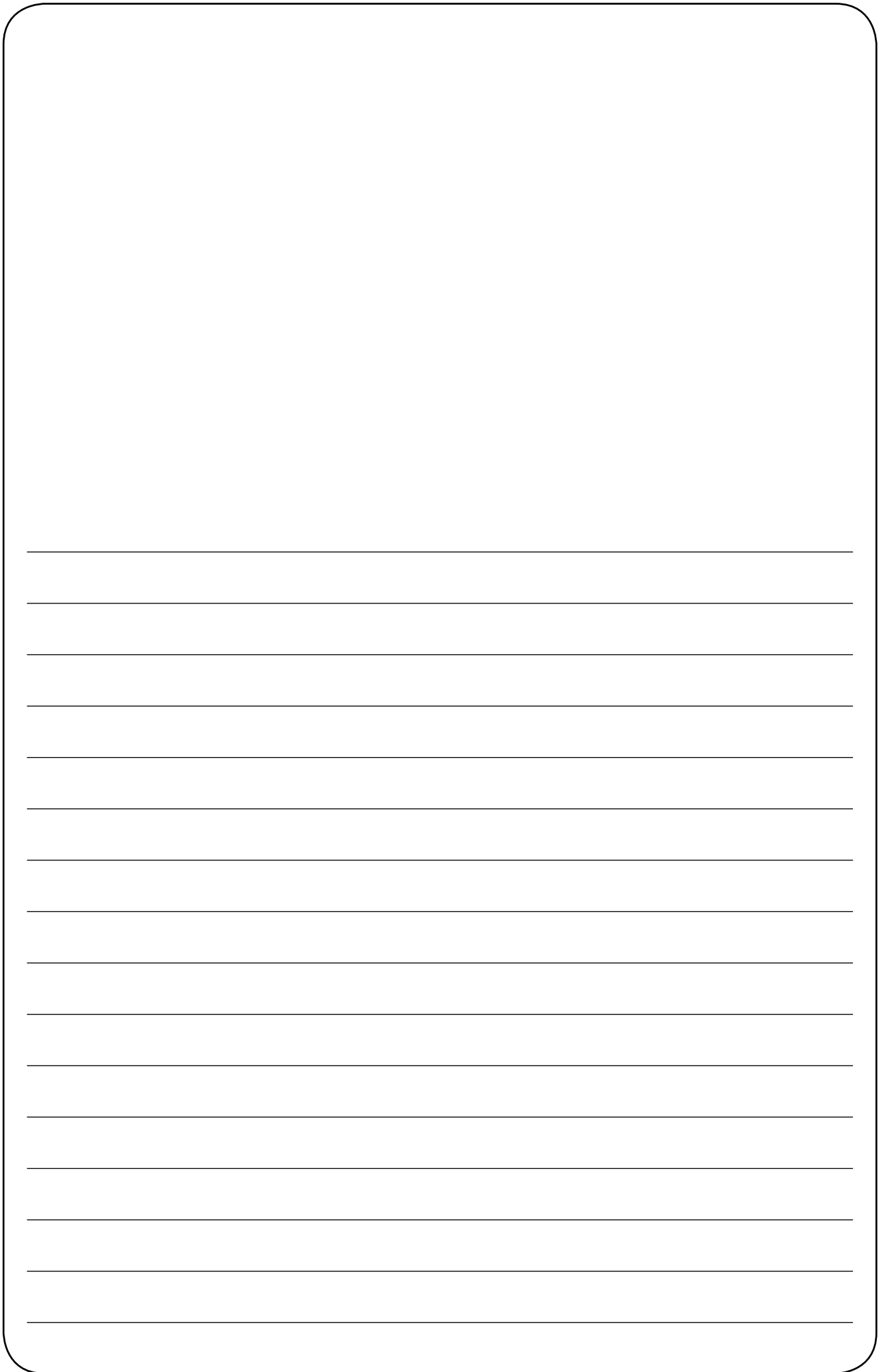
- Clear foot



- Wide table



Contact your local dealer.







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