

HOW TO MASTER YOUR AUTOMATIC HOME KNITTER

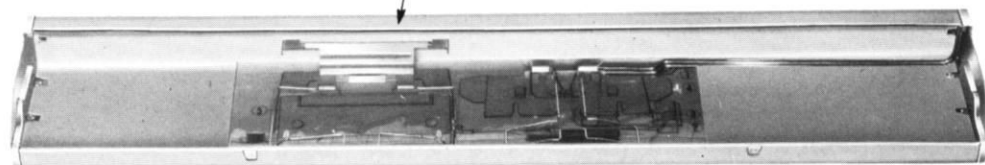
instruction manual **BROTHER-KNIT**

1
The first of these is the
fact that the number of
cases of the disease has
increased in the last few
years.

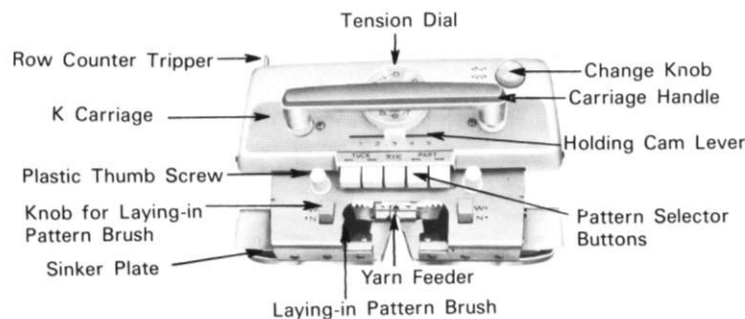
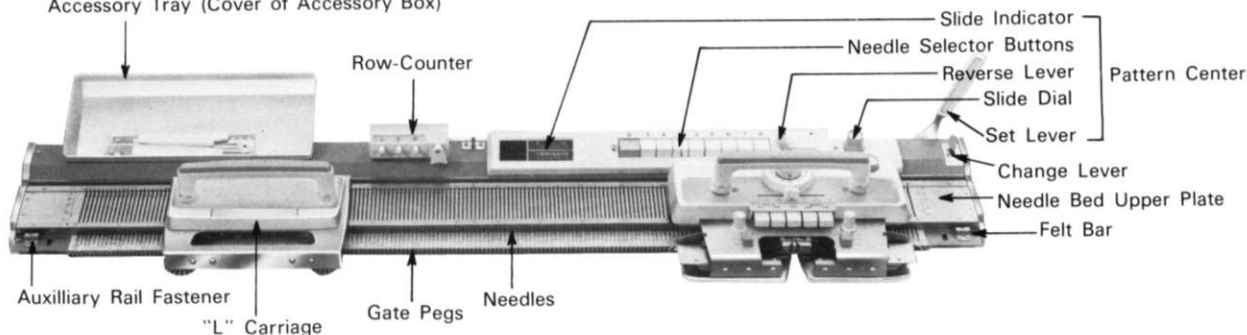
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Carrying Case



Accessory Tray (Cover of Accessory Box)

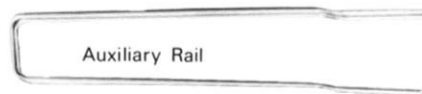




Cast-on Comb, Small



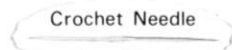
Automatic Yarn Tension Unit



Auxiliary Rail



Cast-on Comb



Crochet Needle



Latch Tool



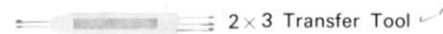
Set Lever



Hand Brush



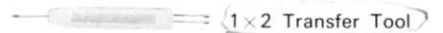
Oil Bottle



2x3 Transfer Tool



1x3 Transfer Tool



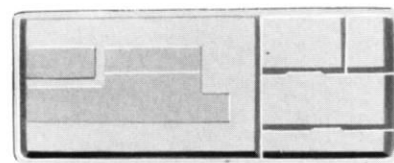
1x2 Transfer Tool



Spare Needles



Color Weight



Accessories Box



Row-Counter



Needle Pusher



Plastic Case for Spare Needles

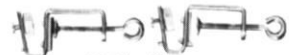


Table Clamps



Carriage Lock



Cast-on Thread



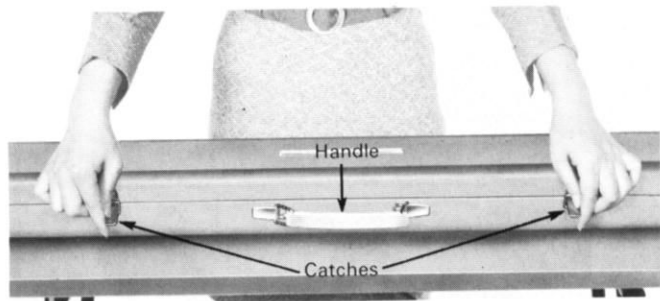
Carriage Handles

Sinker Plate Assembly

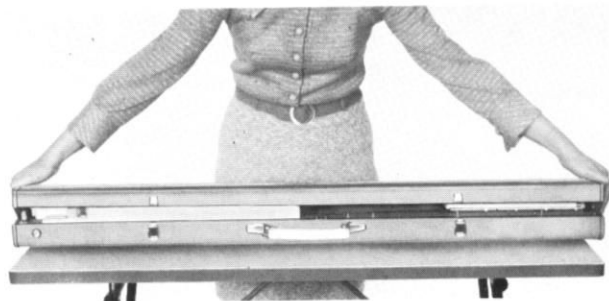


Weight hanger

SETTING UP THE KNITTER



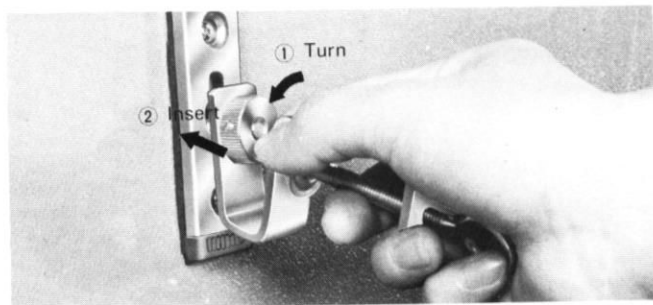
- (1) Place the knitter with the handle of carrying case away from you and unlock the catches on both sides of the handle.



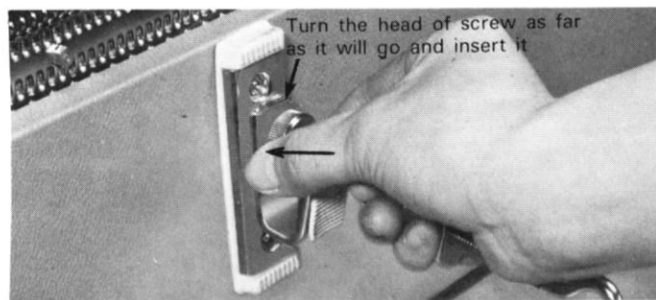
- (2) Replace the auxiliary rails in the upper case as shown in figure.



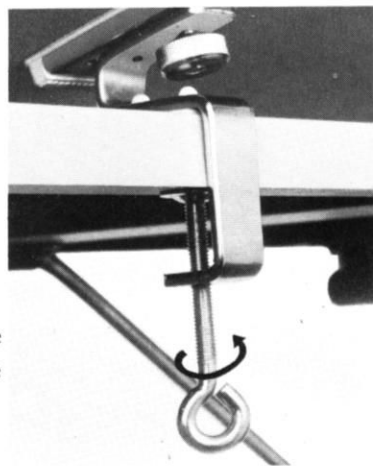
- (3) Remove the accessories box on the needle bed.



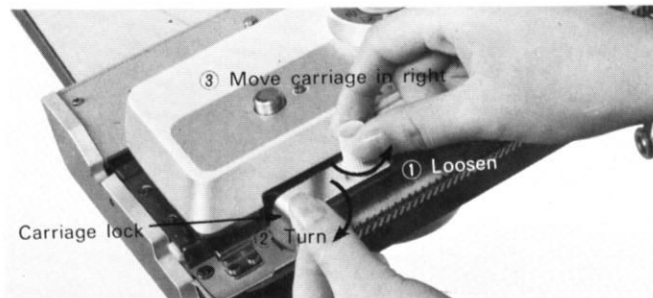
- (4) Take the table clamps out of the accessories box. Raise the front of the knitter, insert the head of screw into the aperture.



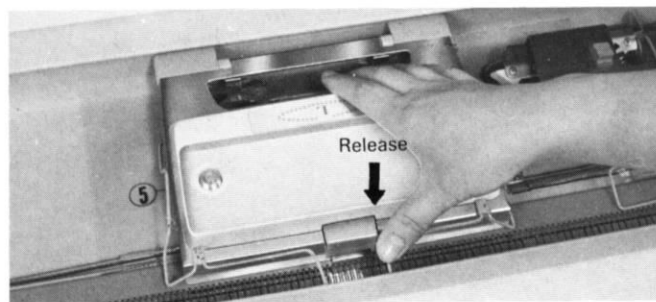
(5) Press the head of screw upwards and fasten the knob.



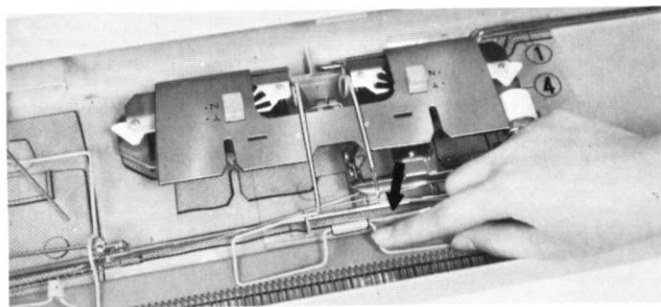
(6) Fasten the knitter to the table by tightening table clamp screws.



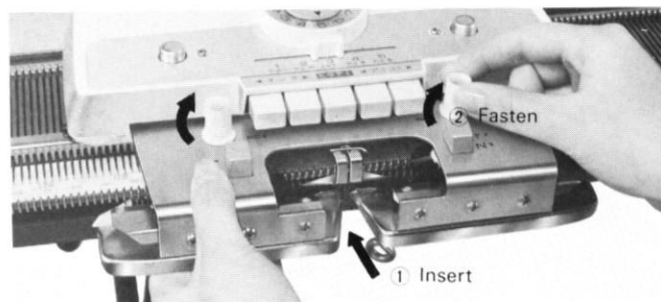
(7) Remove the carriage lock.



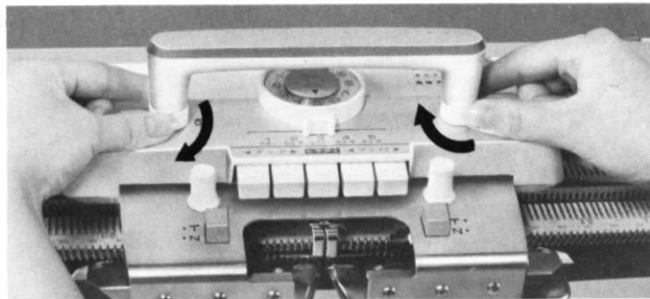
(8) Release the spring in the case and remove the L carriage.



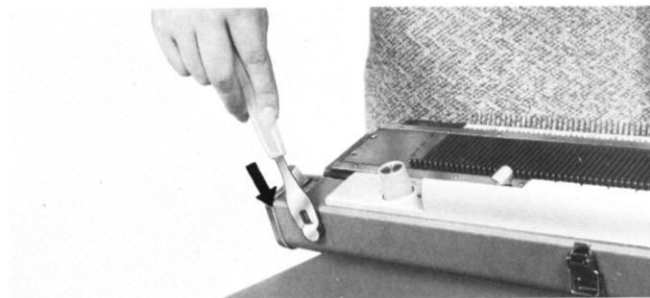
- (9) Release the spring in the case and remove the sinker plate assembly.



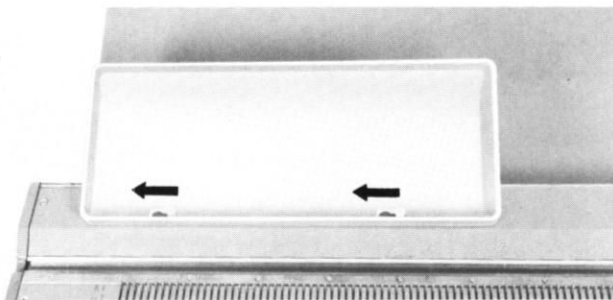
- (10) Loosen the plastic thumb screws of carriage, insert the sinker plate assembly as far as it will go and fasten thumb screws securely.



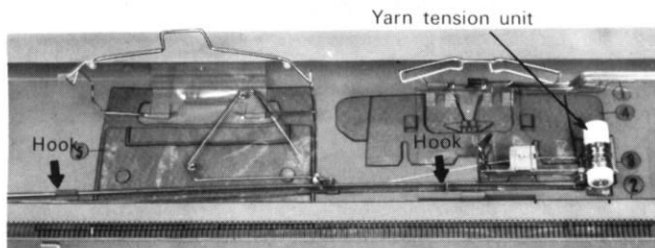
- (11) Fasten the handle on the carriage.



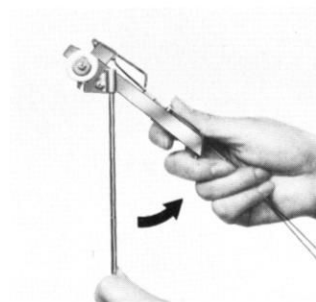
- (12) Fit the set lever onto the shaft of the setter at the rear right of the needle bed.



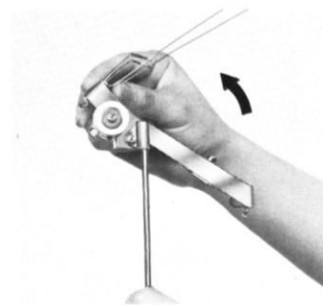
- (13) Set the accessory tray (the cover of accessories box) on the accessory tray setting studs.
(Insert the studs in the openings of the accessory tray and slide it to the left as far as it will go.)



- (14) Take out the automatic yarn tension unit from the case.



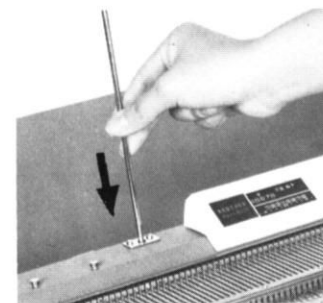
- (15) Turn the front yarn guide arm in the direction of the red arrow.



- (16) Turn the take up springs as far as they will go.



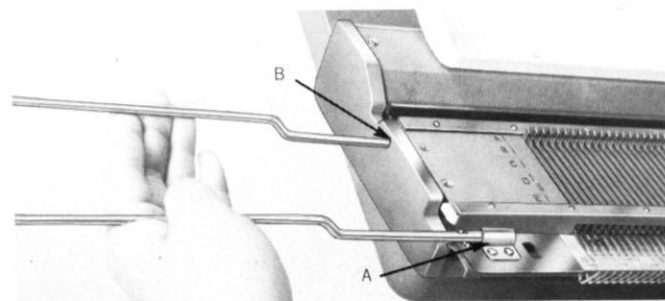
- (17) Turn out the rear yarn guide as far as it will go.



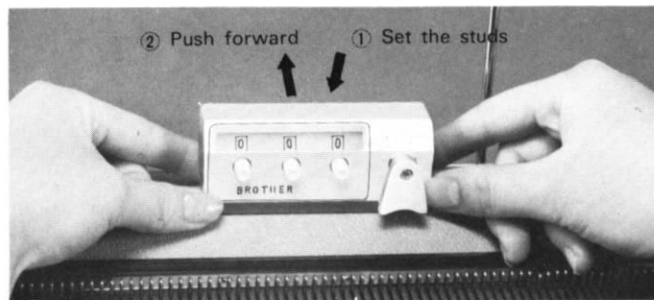
- (18) Fit the end of the rod into the stand hole at the center of knitter with the rear yarn guide away from you.



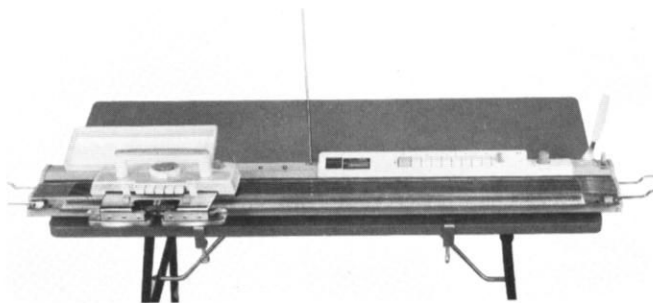
(19) Take out the auxiliary rails from the case.



(20) Insert the short side of rail to Fasten ① and long side to hole ②.

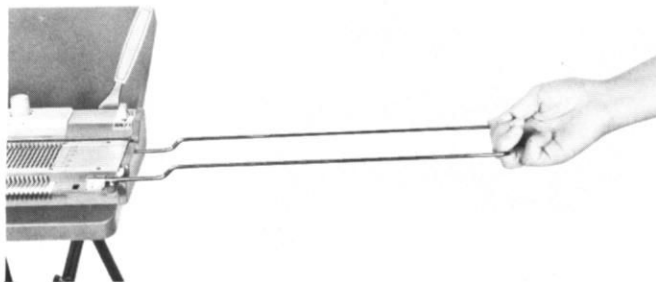


(21) Set the row counter on the row counter setting studs.

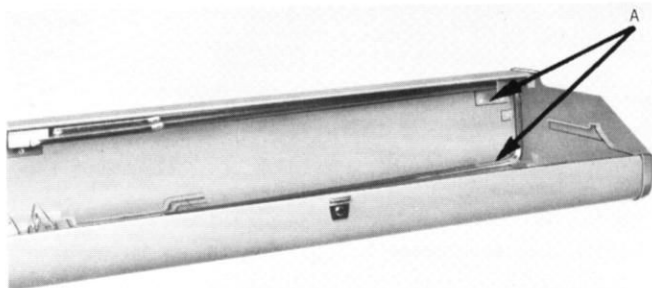


(22) Now you have finished to set up the knitter.

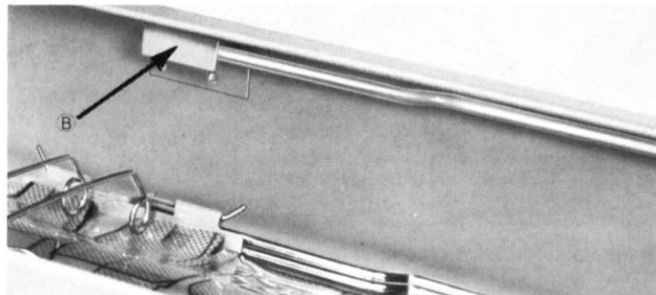
FOLDING UP THE KNITTER



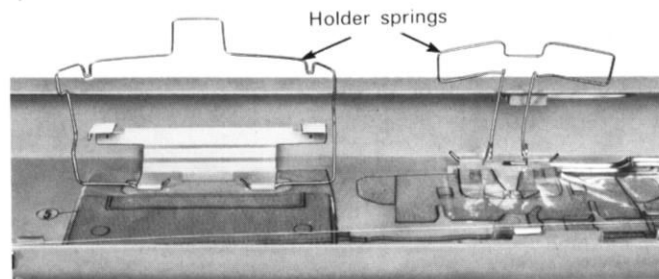
(1) Remove the auxiliary rail (lift up and pull it.).



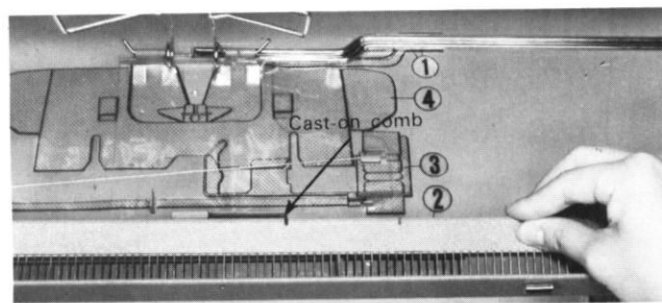
(2) Fit the corner of rails to the holder ① of case.



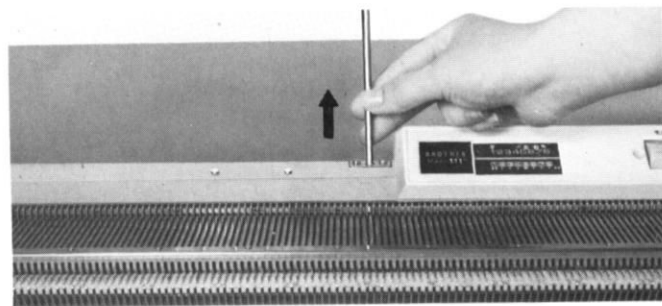
(3) Fit the other end of rails to part ②.



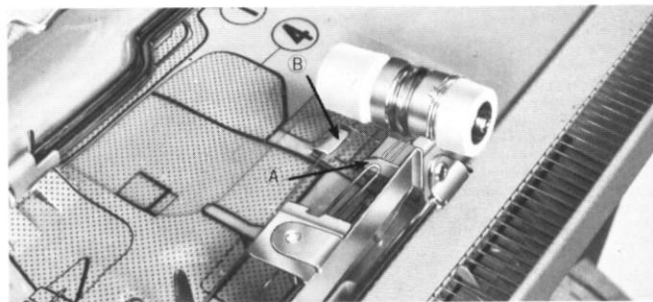
(4) Open the spring in the case.



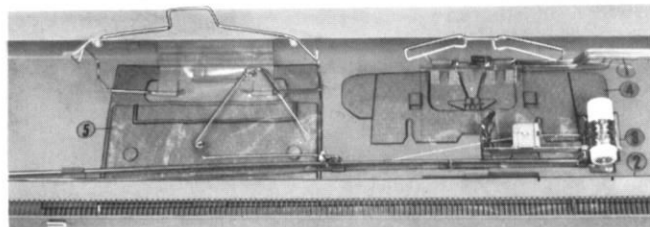
(5) Replace the cast-on comb in the case.



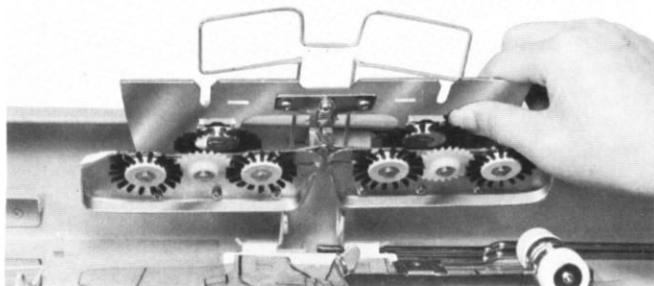
(6) Fold up the yarn tension unit, and remove it.



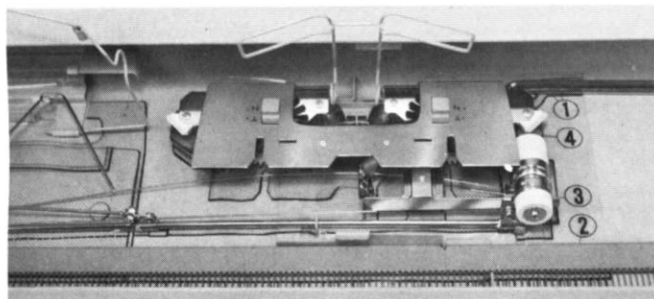
(7) Replace the yarn tension unit as shown in figure. (Fit the head A of yarn tension unit under the clasp B of the case.)



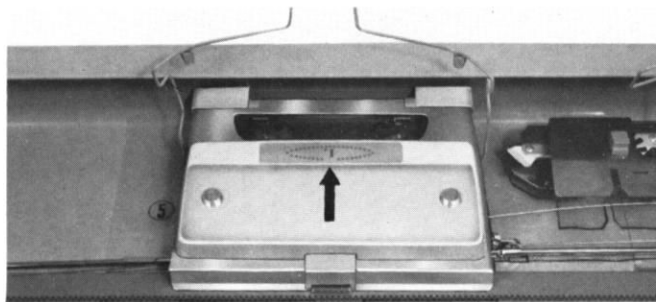
(8) Place the yarn tension rod and the take-up spring beside comb and put them inside of hooks.



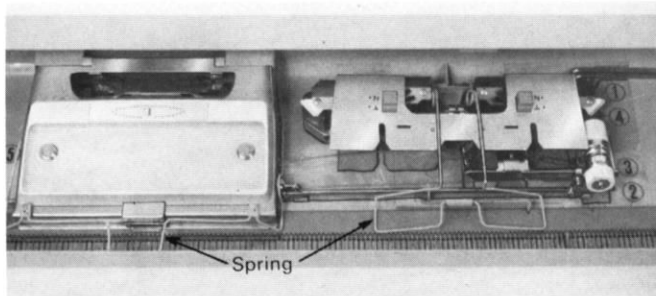
(9) Remove the sinker plate and replace it as shown in figure.



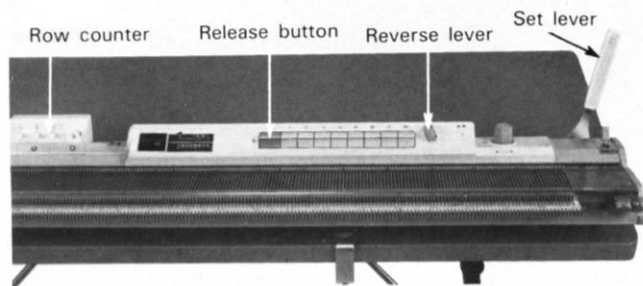
(10) Place the sinker plate on the packing instruction sheet ④.



(11) Remove handle from the L carriage and replace the L carriage as shown in figure.



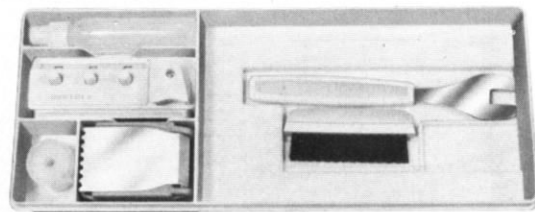
(12) Close the springs.



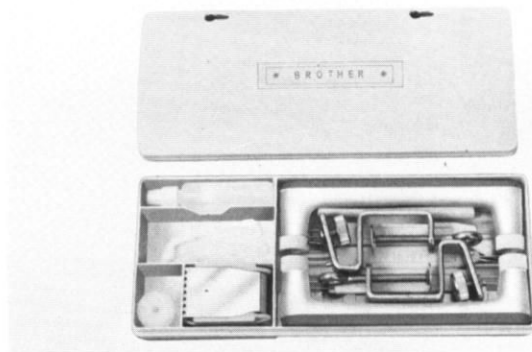
- (13) Remove the set lever, push down the release button, set the reverse lever to "A" and push back all needles to position "A".



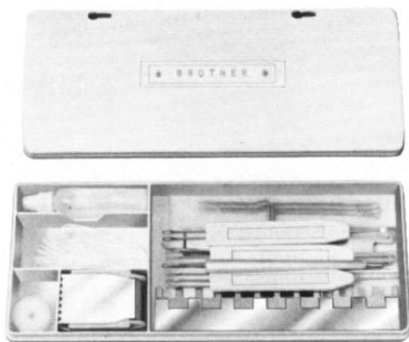
- (14) Take out the carriage lock from the accessories box and lock carriage on the left end of the needle bed.



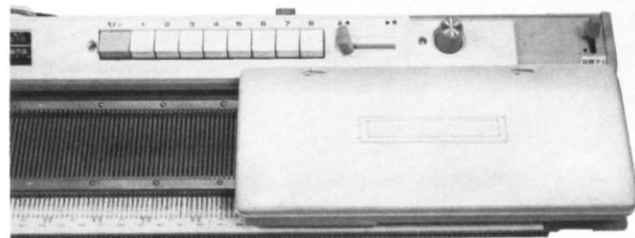
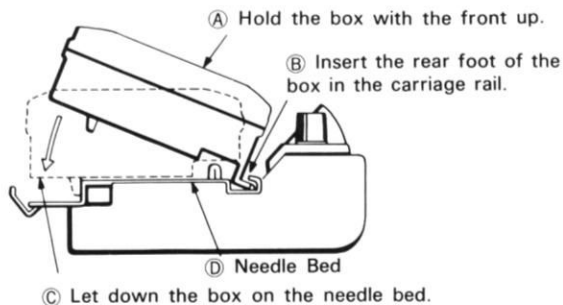
- (15) Place the row counter, set lever, brush and etc. in the accessories box.



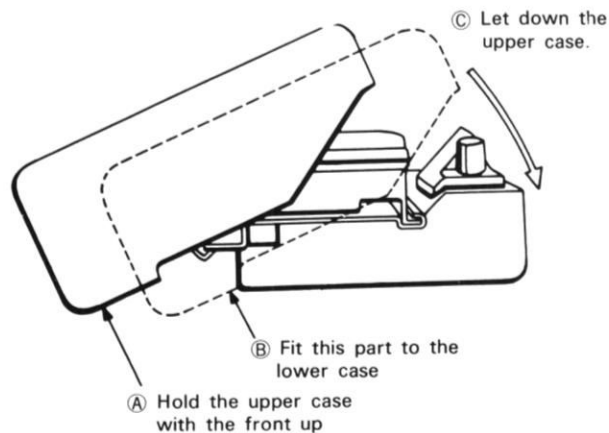
- (16) Place the small tools in the accessories box.

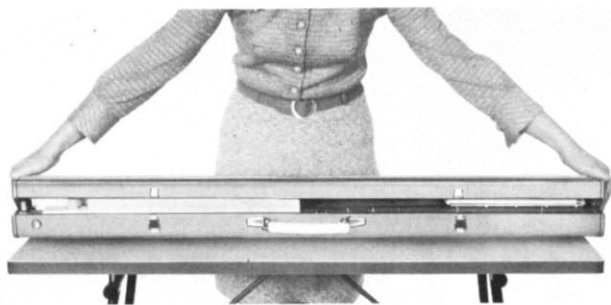


(17) Place the other accessories in the accessories box.



(18) Place the box on the right side of the needle bed.
The left end of the accessories box must be in line with the number 65 needle.



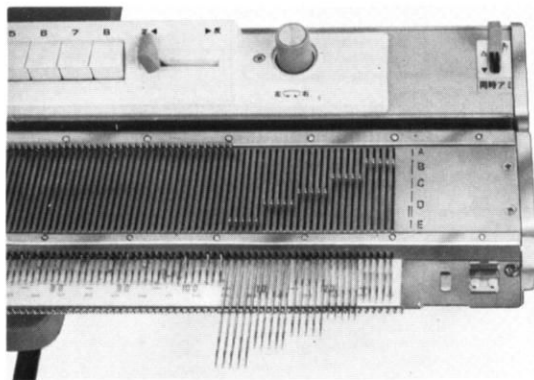


(19) Close the upper case and lock the catches.

Illustration of a person closing a long, thin case.

PREPARING TO KNIT

Needle positions



★ On either side of the needle bed there appear the marks A, B, C, DI, DII & E. These are the five needle positions.

A—Non working position.

Needles will not knit.

B—Working position.

Used for general work.

C, DI, DII,—Pattern knitting positions.

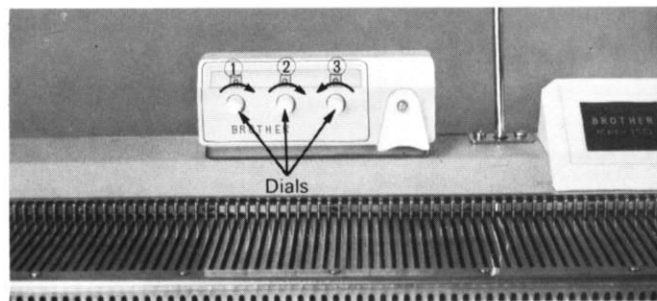
Used for various pattern stitches.

E—Holding position.

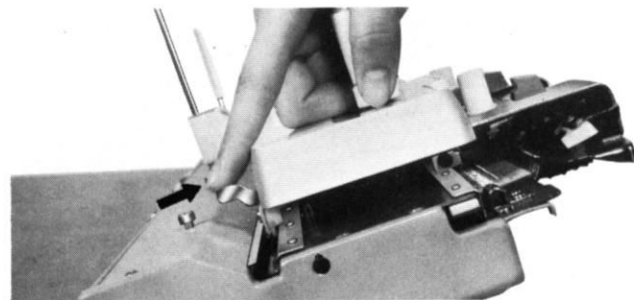
The stitch will 'hold' on the needle until released.

Used for shaping e.g. pockets and buttonholes.

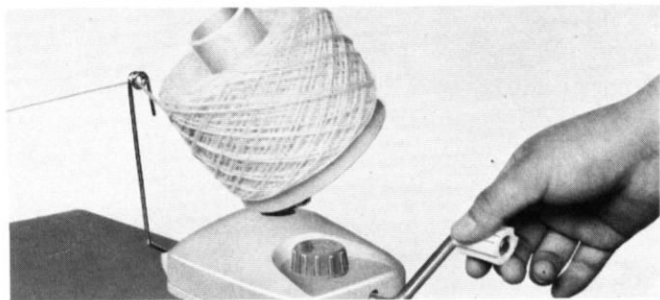
Row counter



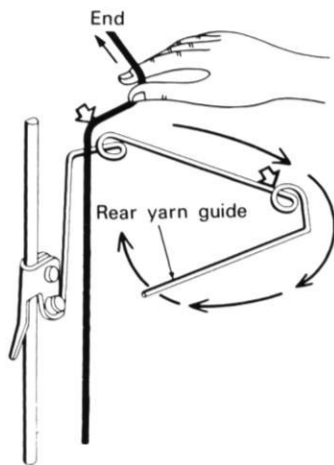
★ You can turn the figures on the row counter to zero, by turning as indicated by arrows, the 3 dials in order from left.



★ To set the row counter out of operation, pull up the tripper toward yan.



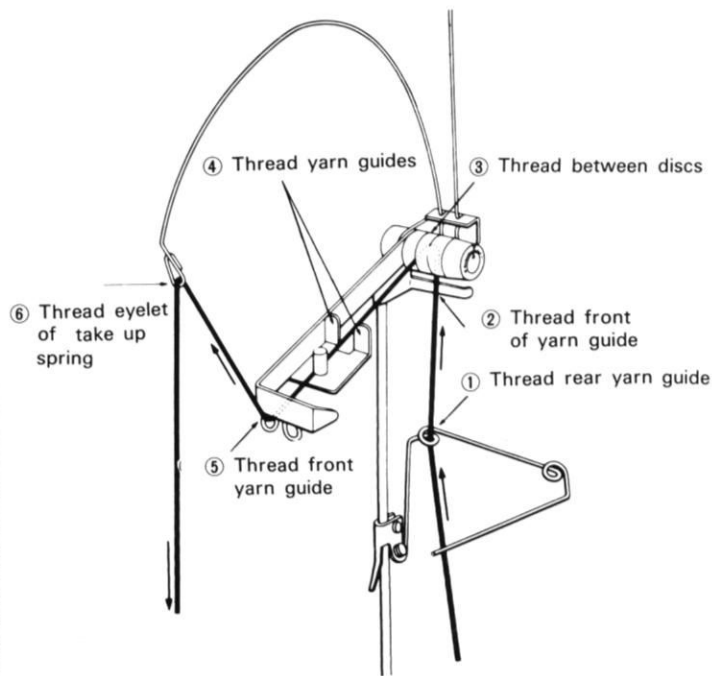
- (1) Wind the yarn by using the Wool Winder (Contact dealer for informations.)



- (2) Thread the automatic yarn tension unit.

How to thread the front yarn guide

Thread the yarn through front yarn guide as shown in figure.



Set tension dial at 5 for fine wool

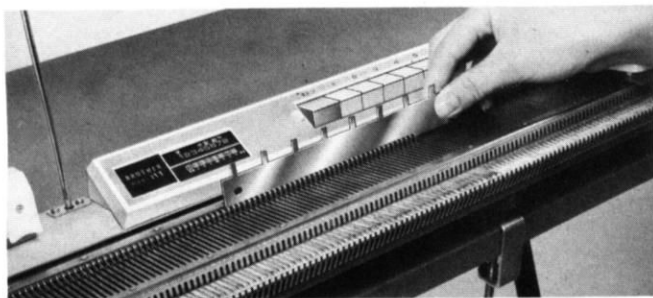
Change knob: N

Holding cam lever position: 3

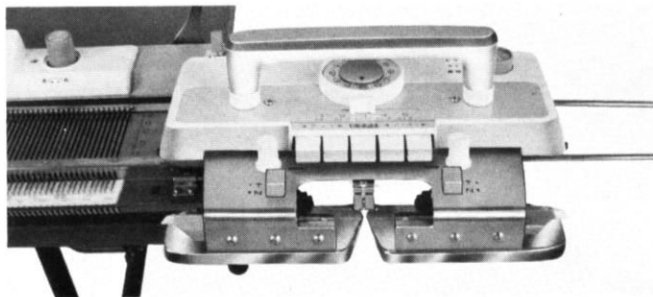
Button for Laying-in Pattern Brush: N

Pattern Selector Buttons: Plain Knitting

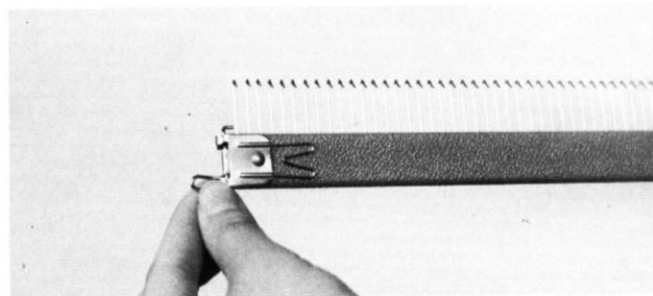
(3) Set the carriage as follows.



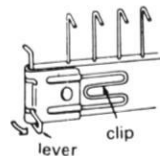
(4) Using the straight edge of a needle pusher, bring forward the desired number of needles to position "B", or about $\frac{1}{2}$ " from the resting position "A".

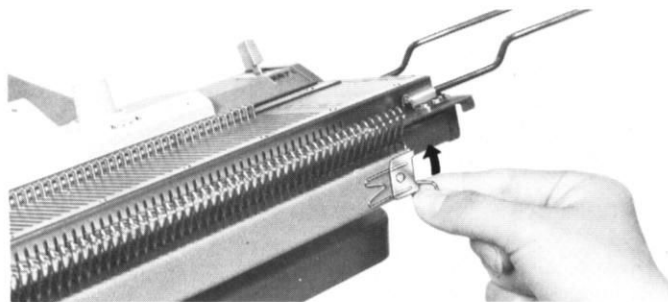


(5) Move the carriage across the working needles and put the carriage on the right end of the needle bed.



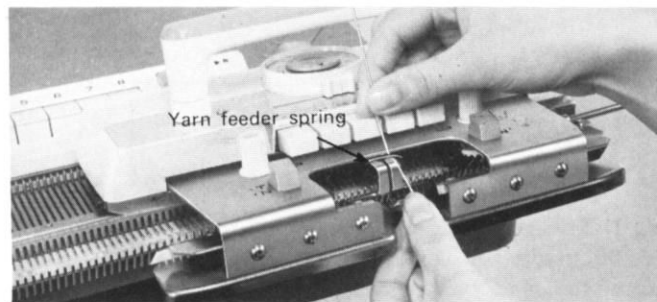
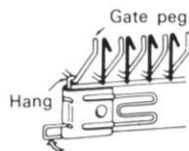
(6) Hold comb centered to the edge of the needle bed with the wire hooks of the comb facing you. Turn securing levers at both ends to face you.



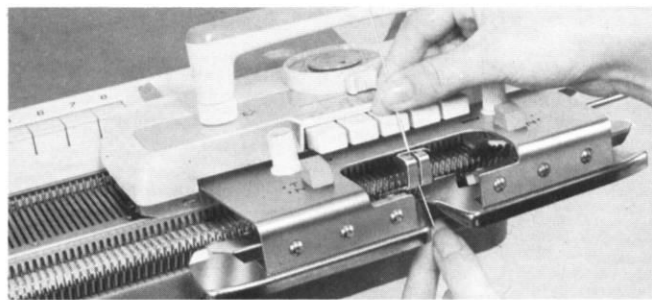


- (7) Place hooks between pegs of needle bed as far as possible.

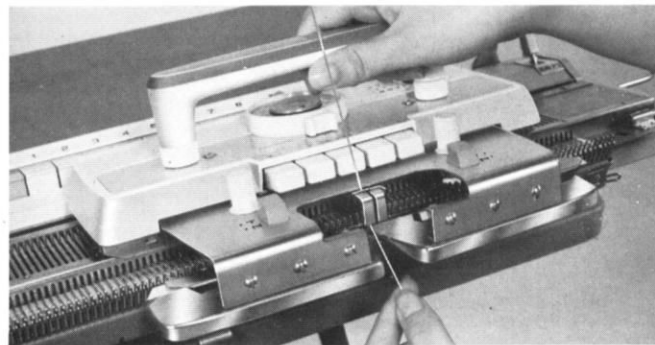
Turn the two securing levers outwards to the right and left respectively, and cast-on comb will hang correctly on the machine.



- (8) Thread yarn under the yarn feeder spring.

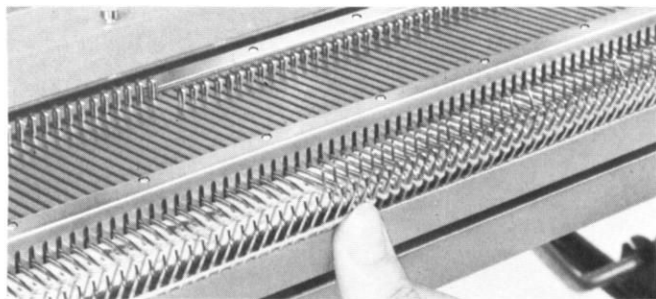


- (9) Pull yarn back into slit until you hear the click of the yarn feeder spring.

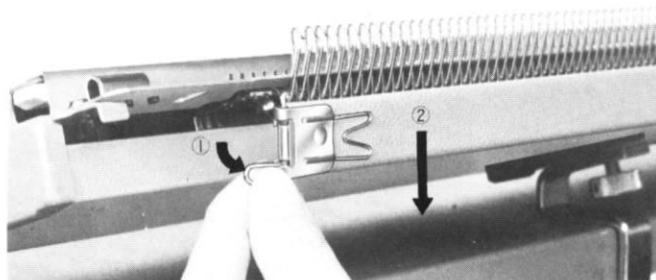


- (10) Hold the end of yarn and move the threaded carriage from right to left.

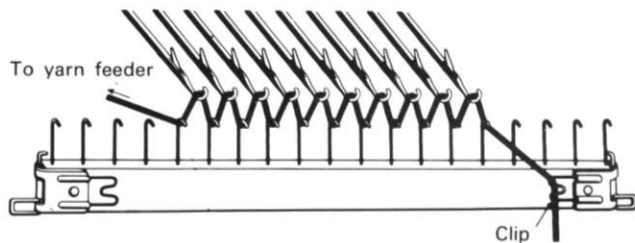
This will cause loops to be picked up in the needle hooks.



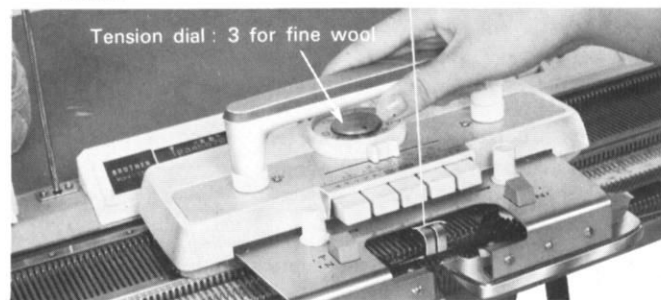
- (11) If the last few needles come up from the line of other threaded needles, push them back with fingers. Continue the carriage movement until the carriage is clear of the cast-on comb.



- (12) Carefully unhook the comb from the pegs by turning the securing levers of the cast-on comb and let the cast-on comb hang in the loops of yarn.



- (13) Turn the loose end of the yarn round the cast-on comb clip to keep it out of the way and to secure the first stitch.

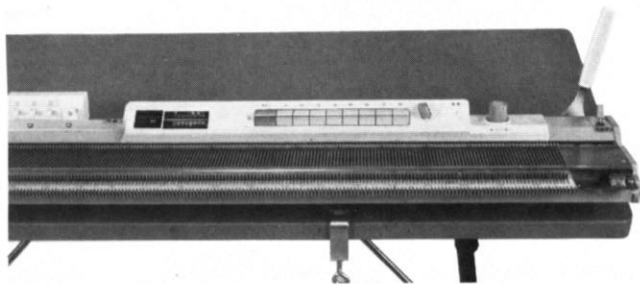


- (14) After casting-on, move the carriage from left to right and continue knitting. Move the carriage at an even speed and listen for a click at the end of each row.

If the carriage is jammed in the course of normal knitting, see page 43.

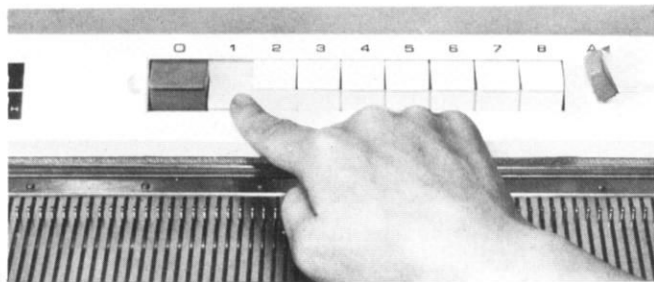
HOW TO USE THE PATTERN CENTER

Pattern center

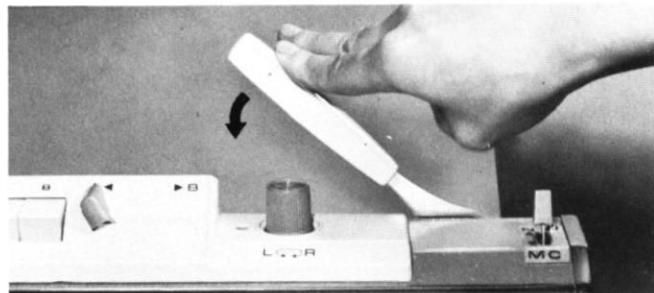


- * The push button patterning system is one of the revolutionary features of this knitter.
- * Multicolor and textured designs now can be made automatically and the push buttons in conjunction cams can produce most intricate designs effortlessly.

Needle selection

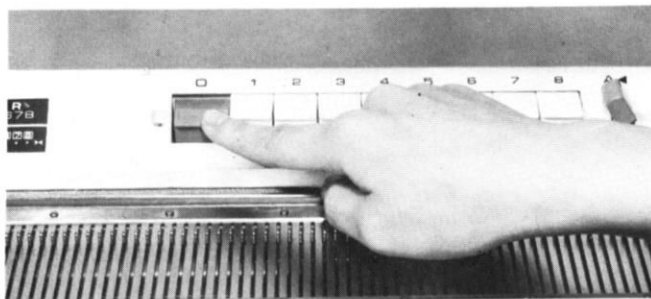


- (1) Raise the desired number of needles from position "A" to position "B".
- (2) Push down the "1" button.

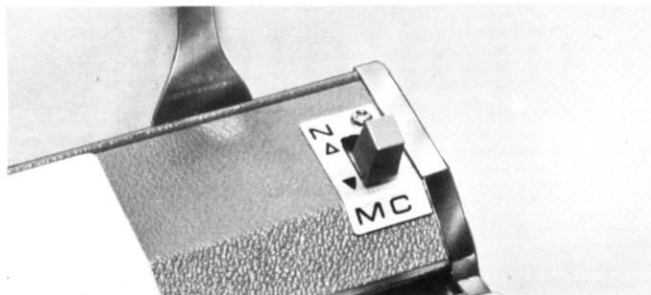


- (3) Turn the set-lever to the left as far as it will go, then the corresponding needles will be raised to position "D 1". Move the carriage with setting for plain knitting.
- (4) Then all needles will be back to position "B".

- (5) Turn the set lever again so the same needle's group will be raised.



- (6) Push down the release button, then the button "1" will be released.

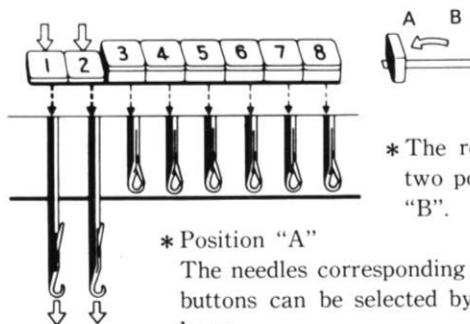


- (7) Shift the needle selector lever towards yourself so that when pushing down the set lever, the needles will actuate in a large motion to come to the position of DII. This operation is used for multicolor knitting.

Needle selector button and reverse lever

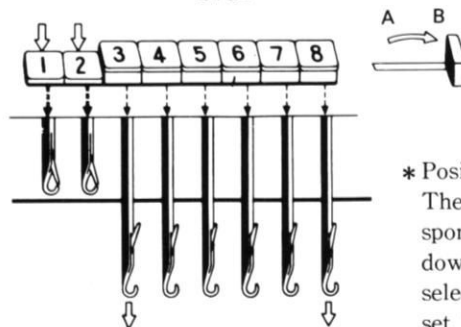
- * There are eight needle selector buttons.

Each button controls each needle group. A combination of pushed down buttons will control the corresponding combination of selected needles.



* Position "A"

The needles corresponding to pushed down buttons can be selected by turning the set lever.



* Position "B"

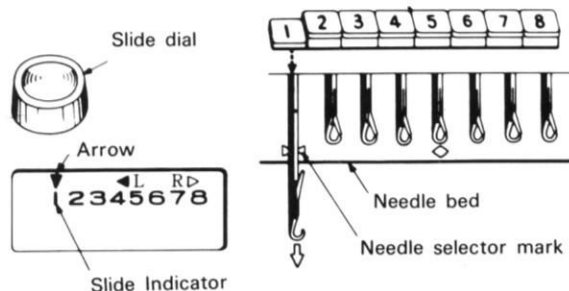
The needles corresponding to unpushed down buttons can be selected by turning the set lever.

Therefore, by using the reverse lever, needle selection in multicolor knitting is very simple.

Slide dial and slide indicator

- (1) Push down the "1" button, turn the slide dial and set the arrow at 1 on the slide indicator.

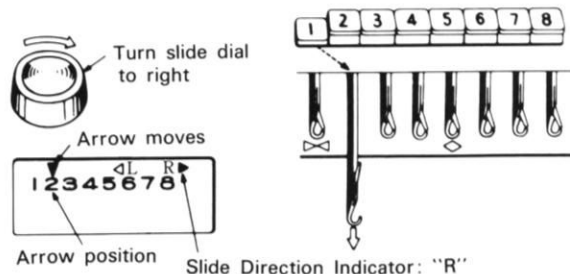
Swivel the set lever, then the needles on the mark \bowtie will be selected.



- (2) Turn the slide dial and set the arrow at 2 on the slide indicator.

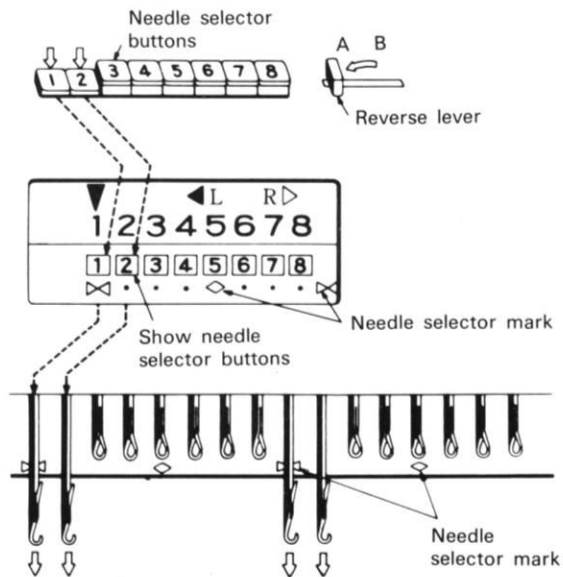
Turn the set lever, then the needles on right side of the mark \bowtie will be selected.

The slide direction indicator indicates the direction in which the slide dial is turned.



- * The slide dial is used for sliding needle selection position and very useful for zigzag patterns and diagonal patterns.

- (3) Relation between the needle selector buttons and the needles are shown in the figure.

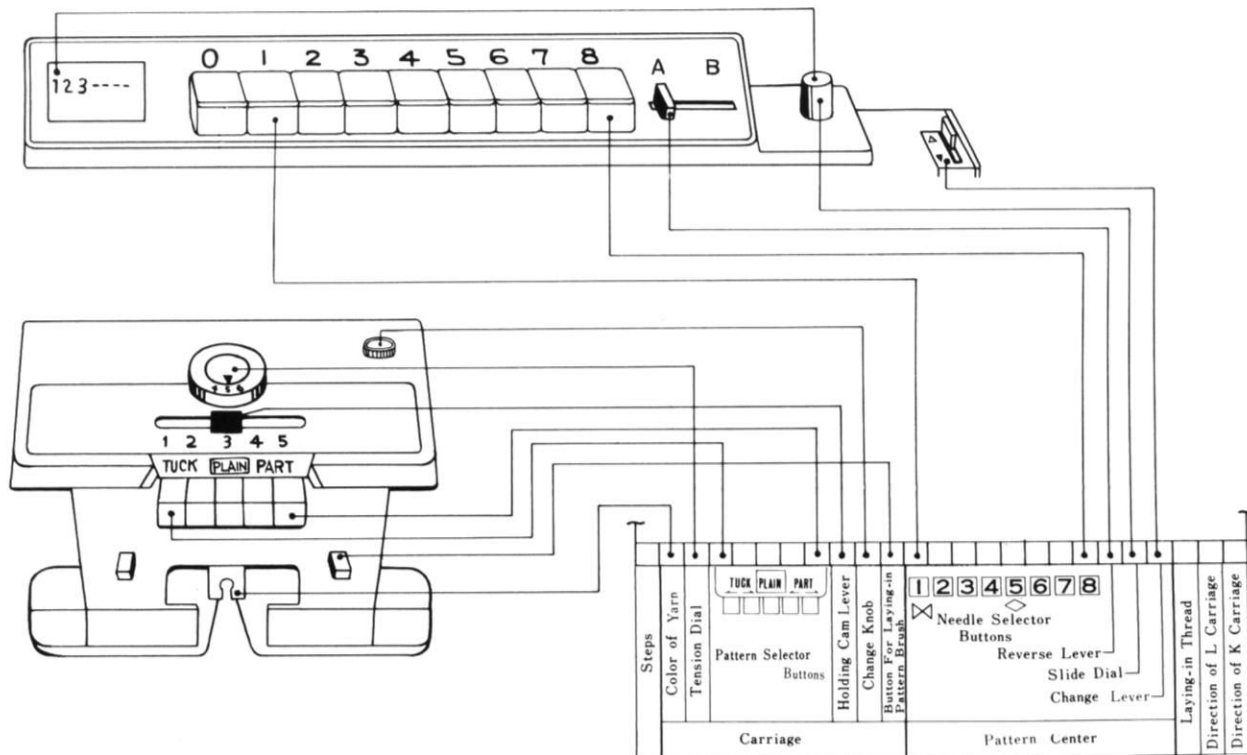


HOW TO KNIT PATTERN KNITTING

Knitting tables

* Various knitting patterns are shown in the following pattern knitting tables.

The lower section of the table shows the operating parts of the knitter.



How to read the pattern knitting tables

- Steps:
 - Operate the knitter in numerical order.
 - The required operation in each step is shown in the lateral rows of the table.
- Direction of carriage movement:
 - Move the carriage according to the direction of arrow.
 - Before step 1, place the carriage on the right side of the needle bed.
- Color of yarn:
 - Shows the color of yarn in the yarn feeder.
 - Main Color: a
 - Sub Color : b, c,
 - Figure "○" means the movement of the carriage without knitting.
- Tension Dial:
 - Shows the tension No. of the Dial.
 - The numerals show tension for medium size yarn.
- Holding Cam Lever:
 - Shift the holding cam lever to the marked position.
- Pattern selector button:
 - Press the button corresponding to the designated mark.
- Change knob:
 - Turn this knob to corresponding position of the marks: N, T and MC.
- Button for Laying-in Pattern Brush:
 - Place this button to corresponding position of the marks.

Needle Selector Buttons

① ~ ⑧ :

Shows the button to be pushed down and operation of the set lever.

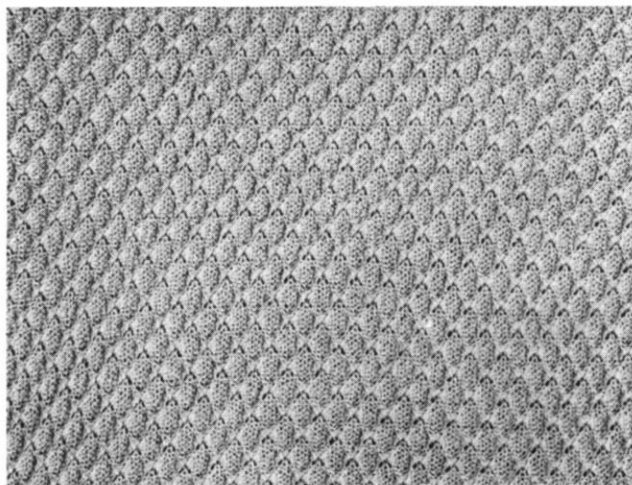
- a) ⑤ means pushing down button "5" and operation of the set lever.
- b) ■ means operation of the set lever without repushing down of button.

- Reverse lever:
 - Shift the reverse lever to the corresponding mark.
- Slide dial:
 - Turn the slide dial to set the scale at this figure.
- Change lever:
 - Shift this lever to the marked position.
- Laying-in thread:
 - Shows the color of the laying-in thread.
- Direction of L-Carriage:
 - Slide the L-carriage to the marked direction.
- Direction of K-Carriage:
 - Slide the K-carriage to the marked direction. The mark of "→" means one-way travel and the mark of "↻" means the round travel of the carriage. Before knitting, position the K-carriage at the right end of the knitting material.

1. Holding pattern

[illegible]

This pattern can be knitted by operating the holding cam lever, slide dial and set lever.



How to knit the holding pattern

It is not necessary to change the yarn, pattern selector button and reverse knob.

Knit several rows of plain knitting and rest the carriage on the right side of the needle bed apart from knitting.

Step 1.

color of yarn : main color
tension dial : 3
holding cam lever : 2
pattern selector button: plain
change knob: Set the knob at the position of "N".
button for laying-in pattern brush: Set the button at the position of "N".
needle selector button : 1, 5
reverse knob : A
slide dial : 1
change lever: Set the lever at the mark of "△".

After setting as above, swivel set lever and move the carriage from right to left.

Step 2.

Move the carriage to right.

Step 3.

Move the carriage to left.

Step 4.

Move the carriage to right.

Step 5.

Change the holding cam lever from 2 to 3 and move the carriage to left.

Step 6.

Move the carriage to right.

Step 7.

Turn the slide dial and set the arrow to 3 on the slide indicator.

Swivel the set lever.

Change the holding cam lever from 3 to 2.

Move the carriage to left.

Step 8.

Move the carriage to right.

Step 9.

Move the carriage to left.

Step 10.

Move the carriage to right.

Step 11.

Change the holding cam lever from 2 to 3 and move the carriage to left.

Step 12.

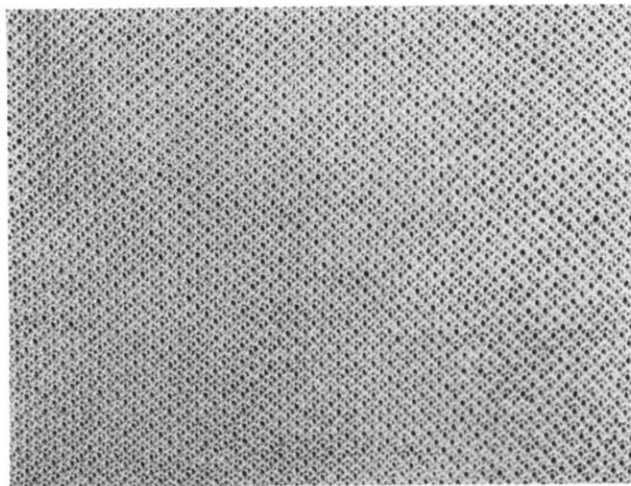
Move the carriage to right.

Repeat steps (1)~(12).

2. Tucking pattern

[illegible]

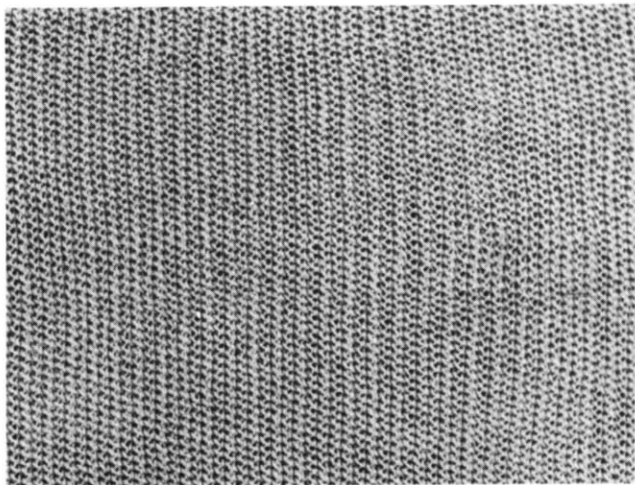
* This pattern can be knitted by operating the reverse lever and set lever only.



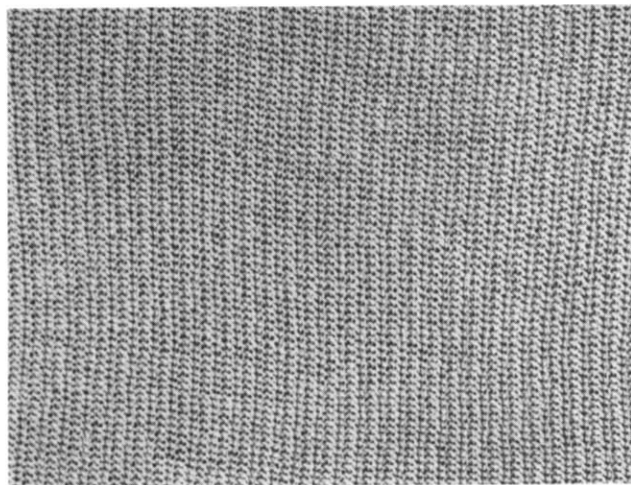
3. Whole tucking pattern

[illegible]

* This pattern can be knitted by operating the reverse lever and set lever.



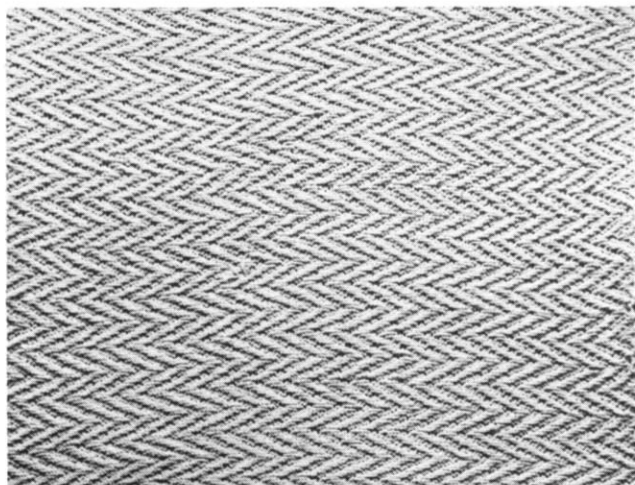
4. Holding and tucking pattern

[illegible]

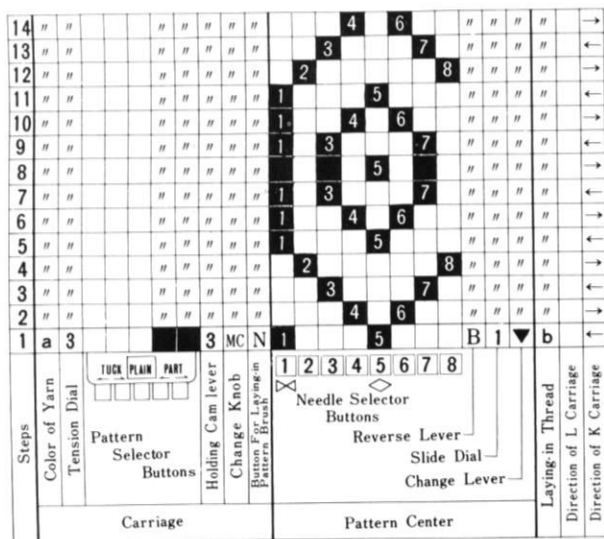
5. Zigzag pattern

[illegible]

* * This pattern can be knitted by operating the slide dial and the set lever.



Multicolor pattern knitting is efficiently and concurrently done by this knitter as follows.



- (1) After several rows of plain knitting, stop the carriage on the left side once.
- (2) Turn to set the change knob at the MC position and at the same time, slide the carriage to the right, so that the knitting needles will come on to the position D I.

Yarn: Main color

Tension dial: 3

Holding cam lever: 3

Pattern selector button: Part

Change knob: MC

Button for laying-in pattern brush: N

Needle selector button: 1, 5

Reverse knob: B

Slide dial: 1

Change lever: ▼

After setting as above, swivel set lever and lay across the thread on the open latches of the needles from carriage side first. Move the carriage from right to left.

Step 2.

Push down 4 and 6 buttons, swivel the set lever. Lay across the thread from left to right and move the carriage to right.

Step 3.

Push down 3 and 7 buttons, swivel the set lever. Lay across the thread from right to left and move the carriage to left.

Step 4.

Push down 2 and 8 buttons, please repeat same step as step 2.

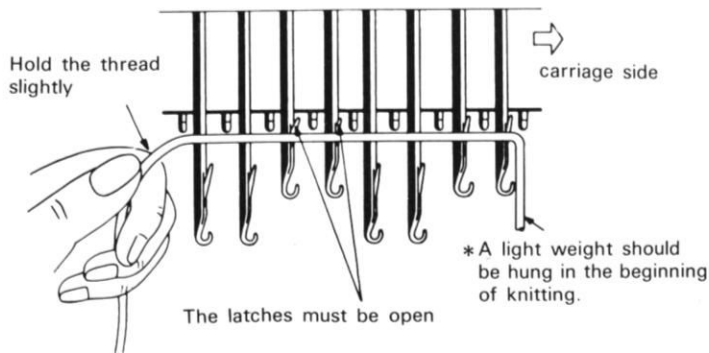
Step 5 to 14.

Please knit in accordance with the pattern knitting table.

Multicolor patterns knitting

- * Be sure to lay across the thread on the open latches of the needles from the carriage side first.
- * Open all the latches when laying the thread across the needles. The closed latches cause dropping the stitches.
- * The laying thread should be held as tight as it will not be loose.
- * Shift the change lever to the mark of "△" when finished patterning.

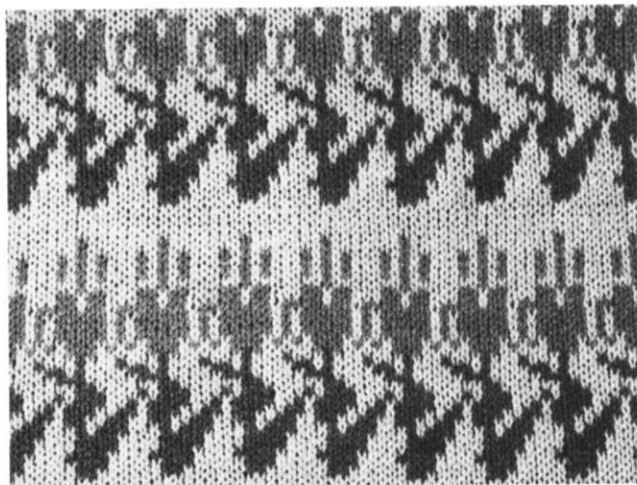
How to lay across the thread



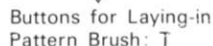
How to lay across the laying thread.

Please lay across the thread by hand precedently as above figure.

6. Multicolor pattern knitting (2)

[illegible]

Laying-in pattern apparatus is one of the wonderful features making the knitter a versatile instrument for various types of knit wear. Change Knob: T



1. Press down Laying-in Knobs to T.
2. Set Change Knob on carriage to T.

The following is the basic laying-in pattern.

2	"	"		"	"	"			B	"	"	→					
1	a	4			3	T	T	1	3	5	7	A	1	△	b	←	
Steps	Color of Yarn	Tension Dial	TUCK PLAIN PART □ □ □ □ □ □ □ □			Holding Cam Lever	Change Knob	1 2 3 4 5 6 7 8 X Needle Selector Buttons								Laying in Thread	Direction of L Carriage
							Button For Laying in Pattern Branch		Reverse Lever Slide Dial Change Lever								Direction of K Carriage
	Carriage							Pattern Center									

{	Main Yarn a	Summer yarn
	Laying-in Yarn b	"

In case of laying-in pattern knitting, always set the change lever at the marking of “△”.

Hold the thread slightly

carriage side

*A light weight should be hung in the beginning of knitting.

The latches must be open

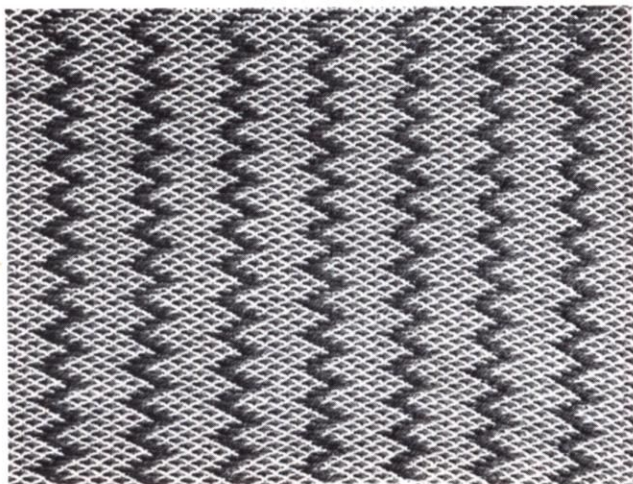
How to lay across the laying thread.

Please lay across the thread by hand precedently as above figure.

7. Laying-in pattern (2)

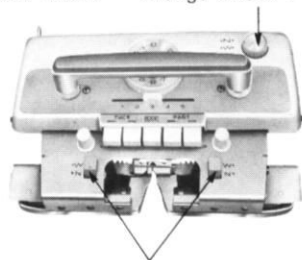
[illegible]

{	Main Yarn a	Summer yarn
	Laying-in Yarn b	4 ply yarn



7. Laying-in patterns (1)

Laying-in pattern apparatus is one of the wonderful features making the knitter a versatile instrument for various types of knit wear. Change Knob: T



Buttons for Laying-in
Pattern Brush: T

1. Press down Laying-in Knobs to T.
2. Set Change Knob on carriage to T.

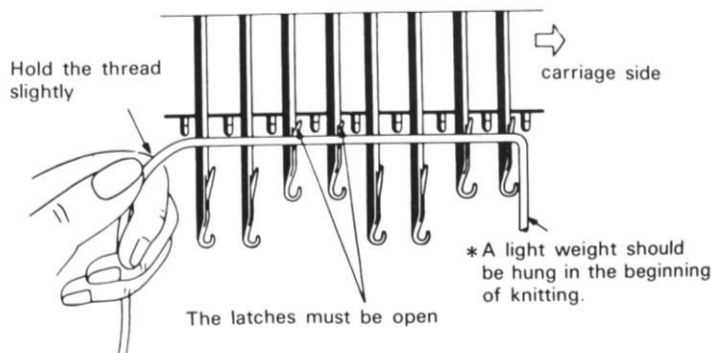
The following is the basic laying-in pattern.

[illegible]

{	Main Yarn a	Summer yarn
	Laying-in Yarn b	"

In case of laying-in pattern knitting, always set the change lever at the marking of “△”.

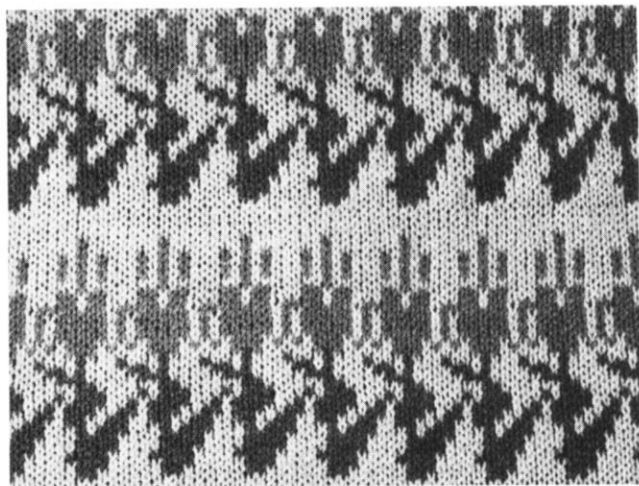
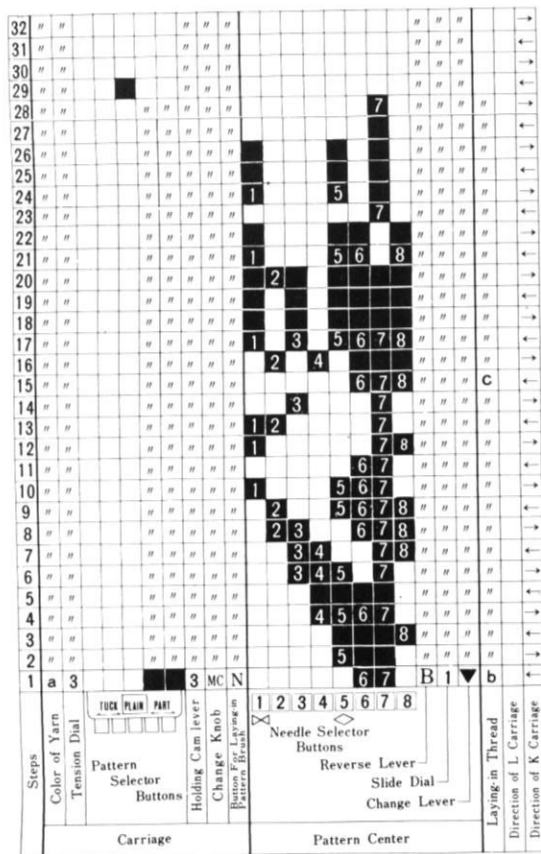
How to lay across the thread



How to lay across the laying thread.

Please lay across the thread by hand precedently as above figure.

6. Multicolor pattern knitting (2)



After setting as above, swivel set lever and lay across the thread on the open latches of the needles from carriage side first. Move the carriage from right to left.

Step 2.

Push down 4 and 6 buttons, swivel the set lever. Lay across the thread from left to right and move the carriage to right.

Step 3.

Push down 3 and 7 buttons, swivel the set lever. Lay across the thread from right to left and move the carriage to left.

Step 4.

Push down 2 and 8 buttons, please repeat same step as step 2.

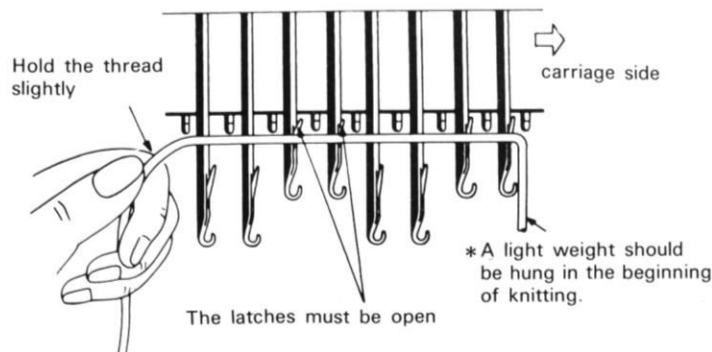
Step 5 to 14.

Please knit in accordance with the pattern knitting table.

Multicolor patterns knitting

- * Be sure to lay across the thread on the open latches of the needles from the carriage side first.
- * Open all the latches when laying the thread across the needles. The closed latches cause dropping the stitches.
- * The laying thread should be held as tight as it will not be loose.
- * Shift the change lever to the mark of "△" when finished patterning.

How to lay across the thread

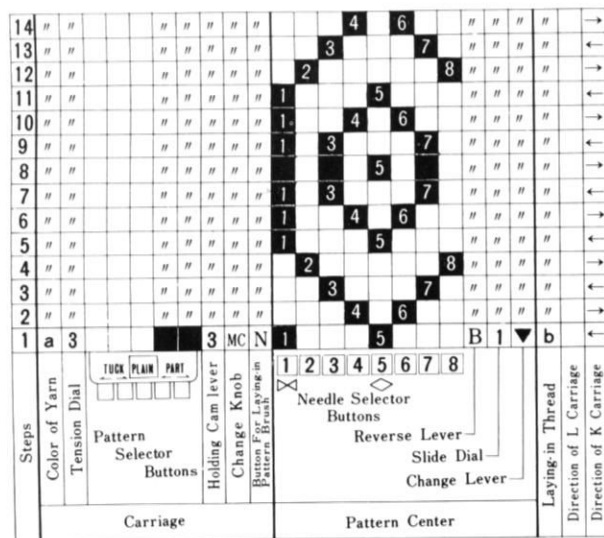


How to lay across the laying thread.

Please lay across the thread by hand precedently as above figure.

6. Multicolor pattern knitting (1)

Multicolor pattern knitting is efficiently and concurrently done by this knitter as follows.



How to knit the holding pattern

- (1) After several rows of plain knitting, stop the carriage on the left side once.
- (2) Turn to set the change knob at the MC position and at the same time, slide the carriage to the right, so that the knitting needles will come on to the position D1.

Step 1.

Yarn: Main color

Tension dial: 3

Holding cam lever: 3

Pattern selector button: Part

Change knob: MC

Button for laying in pattern brush: N

Needle selector button: 1, 5

Reverse knob: B

Slide dial: 1

Change lever: ▼

After setting as above, swivel set lever and lay across the thread on the open latches of the needles from carriage side first. Move the carriage from right to left.

Step 2.

Push down 4 and 6 buttons, swivel the set lever. Lay across the thread from left to right and move the carriage to right.

Step 3.

Push down 3 and 7 buttons, swivel the set lever. Lay across the thread from right to left and move the carriage to left.

Step 4.

Push down 2 and 8 buttons, please repeat same step as step 2.

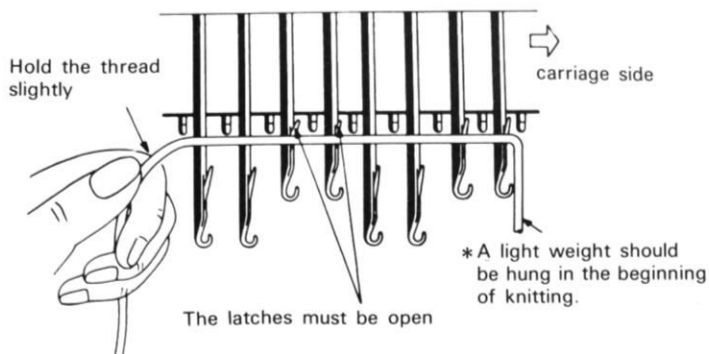
Step 5 to 14.

Please knit in accordance with the pattern knitting table.

Multicolor patterns knitting

- * Be sure to lay across the thread on the open latches of the needles from the carriage side first.
- * Open all the latches when laying the thread across the needles. The closed latches cause dropping the stitches.
- * The laying thread should be held as tight as it will not be loose.
- * Shift the change lever to the mark of "△" when finished patterning.

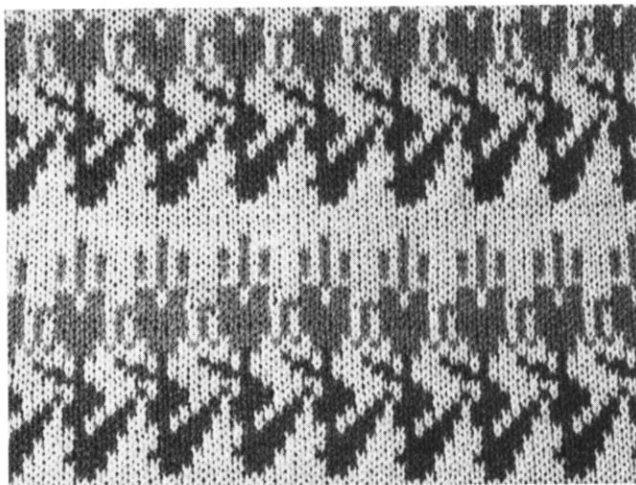
How to lay across the thread



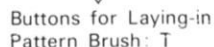
How to lay across the laying thread.

Please lay across the thread by hand precedently as above figure.

6. Multicolor pattern knitting (2)

[illegible]

Laying-in pattern apparatus is one of the wonderful features making the knitter a versatile instrument for various types of knit wear. Change Knob: T



1. Press down Laying-in Knobs to T.
2. Set Change Knob on carriage to T.

The following is the basic laying-in pattern.

2	"	"		"		"	"	"						B	"	"	→	
1	a	4				3	T	T	1	3	5	7	A	1	△	b	↑	
Steps	Color of Yarn Tension Dial	TUCK PLAIN PART <div><div></div><div></div><div></div><div></div><div></div><div></div></div>				Holding Cam Lever	Change Knob	Button For Laying in Pattern Brush	1	2	3	4	5	6	7	8	Laying in Thread Direction of L Carriage Direction of K Carriage	
		Pattern Selector Buttons							∞	Needle Selector Buttons				◇				
									Reverse Lever									
													Slide Dial					
													Change Lever					
Carriage									Pattern Center									

{	Main Yarn a	Summer yarn
	Laying-in Yarn b	"

In case of laying-in pattern knitting, always set the change lever at the marking of “△”.

Hold the thread slightly

carriage side

The latches must be open

* A light weight should be hung in the beginning of knitting.

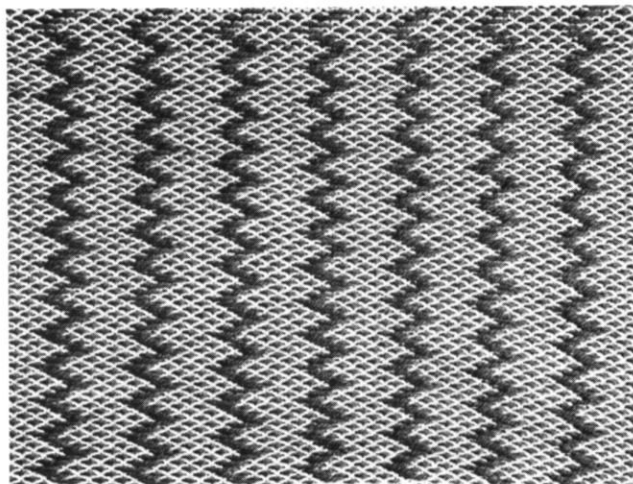
How to lay across the laying thread.

Please lay across the thread by hand precedently as above figure.

7. Laying-in pattern (2)

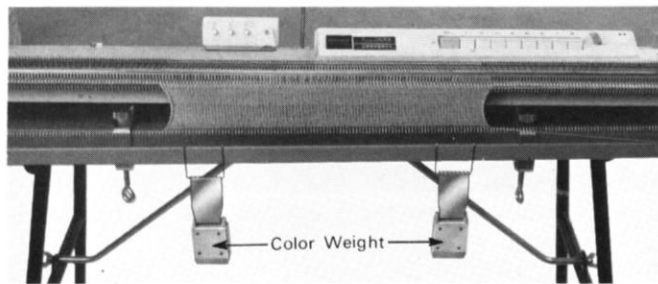
6	"	"		"		"	"	"							"	2	"	"	→			
5	"	"		"		"	"	"							"	3	"	"	←			
4	"	"		"		"	"	"							"	4	"	"	→			
3	"	"		"		"	"	"							"	3	"	"	←			
2	"	"		"		"	"	"							"	2	"	"	→			
1	a	3				3	T	T	1	3	5				A	1	△	b	←			
Steps	Color of Yarn	Tension Dial	TUCK PLAIN PART			Holding Cam Lever	Change Knob	Buttons for Laying-in Pattern Brush	1 2 3 4 5 6 7 8								Laying-in Thread					
									X Needle Selector Buttons Reverse Lever Slide Dial Change Lever								Direction of L Carriage					
																		Direction of K Carriage				
Carriage									Pattern Center													

{ Main Yarn aSummer yarn
 { Laying-in Yarn b4 ply yarn



LACE KNITTING

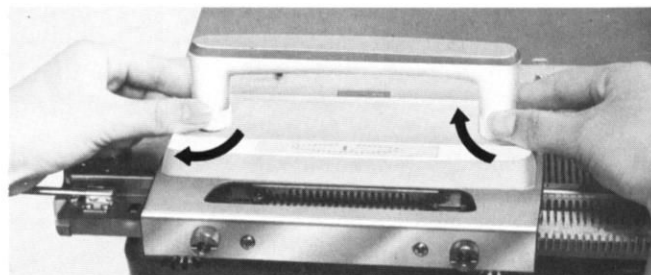
How to use the L carriage



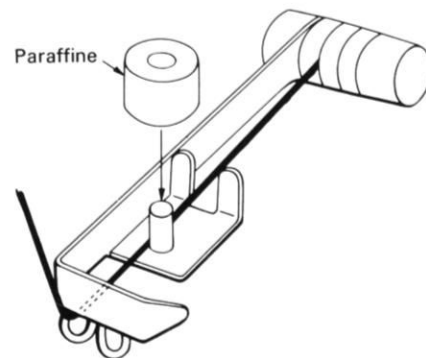
- (1) Knit several rows in plain knitting, hang the color weights on the cast-on comb.

Yarn used	Tension dial
Fine wool (2 ply)	2 ~ 4
Lace yarn	2 ~ 4
Medium wool (3 ply)	3 ~ 5
" (4 ply)	5 ~ 6

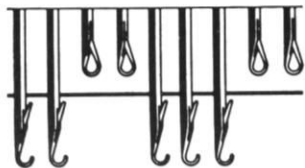
- (2) Set the tension dial as shown in the above table.



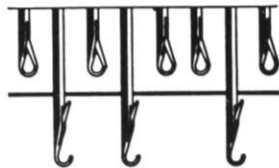
- (3) Fasten the handle on the L carriage.



Fit paraffin to stud on front yarn guide.



(bad)

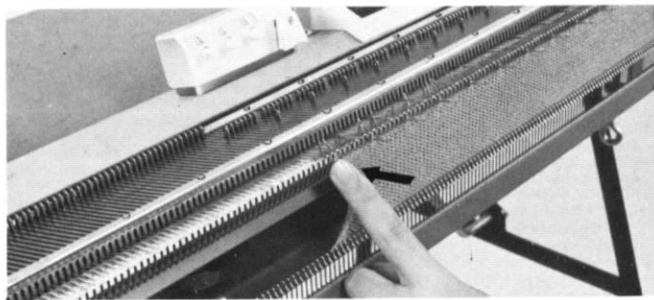


(good)

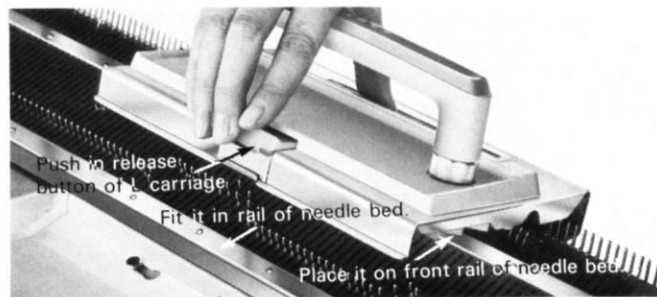
- (4) Push down the push button according to the pattern, and swivel the set lever and select the needles.

When the needles are selected together with the adjacent needle, you can not knit. Therefore, make sure not to move the L carriage.

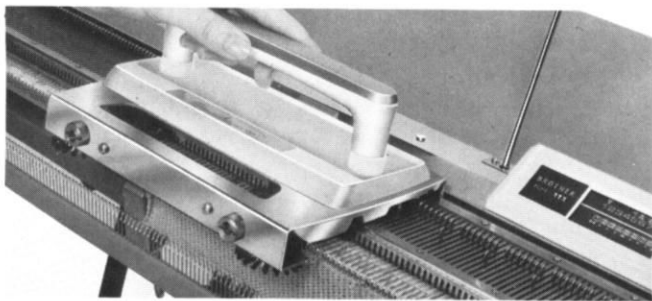
In case of lace knitting, the change lever must be set at "△".



- (5) In case the end needle is selected, push it back with your finger.

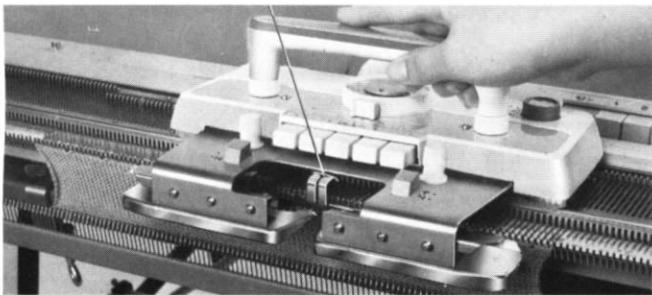


- (6) Set the L carriage and make sure the rear side of L carriage fits in the back rail of needle bed.

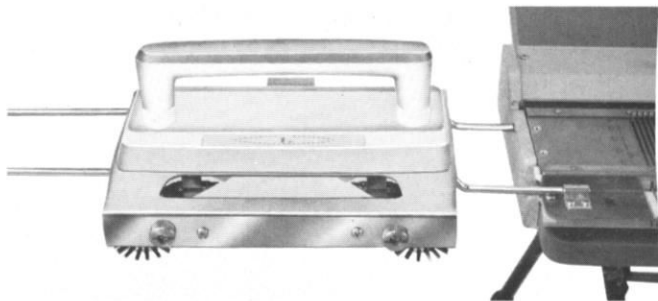


(7) Move the L carriage slowly.

If the L carriage is jammed, see page 44.

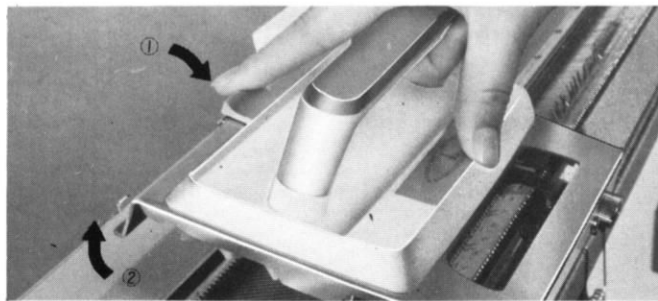


(8) After moving the L carriage, move the K carriage to knit.



To reset the released L carriage on the auxiliary rail

When you reset the released L carriage on the auxiliary rail, place it right on the rail, as shown in figure.



To unlock the L carriage

- ① Push in the release button of the L carriage.
- ② Lift the rear of it and pull it toward you.

〈Example〉

[illegible]

The required operation is shown in the lateral row of each step.

- a) **1** means pushing down button “1” and operation of the set lever.
- b) **■** means operation of the set lever without pushing down button.

Turn the slide dial before operating the lever and set the slide indicator.

Move the L carriage according to the direction of arrow.

Move the K carriage according to the direction of arrow.

→ one row

↪ two rows

- * Always operate the L carriage before operating the K carriage.
- * Place the K carriage at first on the right side of the needle bed.
- * Set the reverse lever to position "A".

8. Lace pattern (1)

This is the most basic lace pattern.

Step 1:

push down needle selector buttons ① and ⑤ and swivel set lever.

It is not necessary to reset the slide dial. (If the end needles are out to position "D", push them back with fingers.)

Move the L carriage slowly from left to right (If the L carriage is jammed on the way, see page 44.)

Knit two rows by the K carriage.

Step 2:

Repeat step 1 from step 2 to step 6.

Step 7:

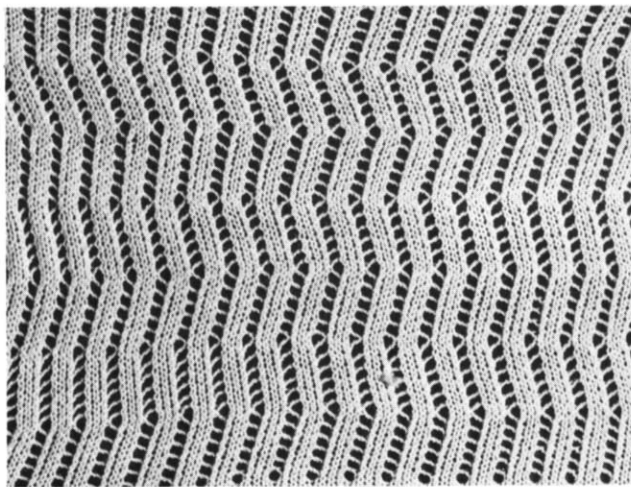
Swivel the set lever.

Move the L carriage from right to left.

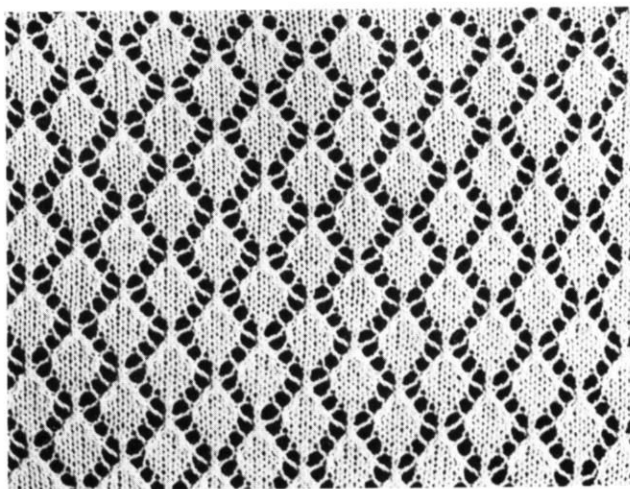
Knit two rows by the K carriage.

Step 8:

Repeat step 7 in steps through 12.

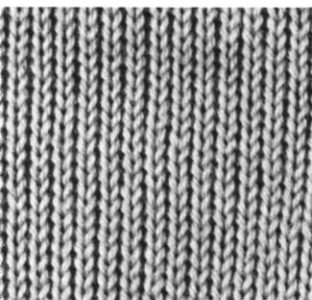


8. Lace pattern (2)

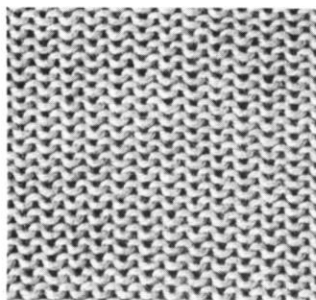
[illegible]

IMPORTANT POINTS TO REMEMBER

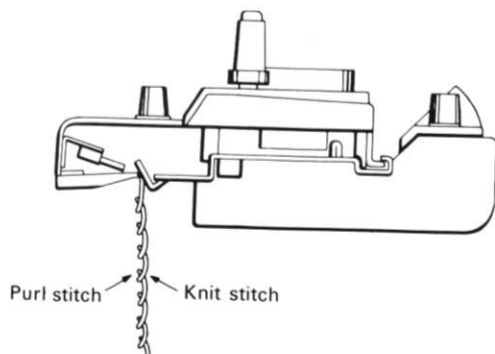
Knit stitch and purl stitch



《Knit stitch of plain knitting》



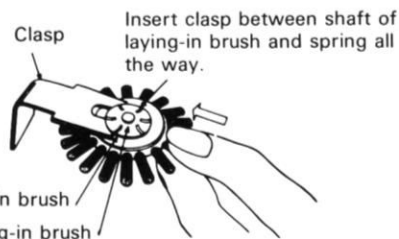
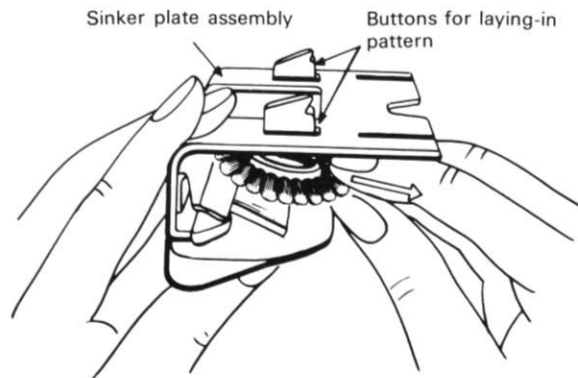
《Purl stitch of plain knitting》



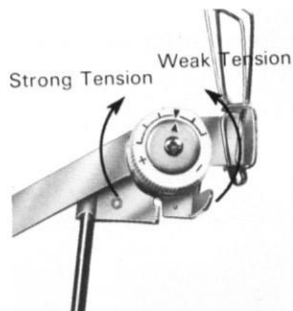
*In knitting, that side of the material which faces you is called the purl stitch, and the other side is called the knit stitch.

How to remove the laying-in pattern brushes

*Set the laying-in pattern buttons to position "N" and remove the laying-in pattern brushes from the sinker plate assembly.

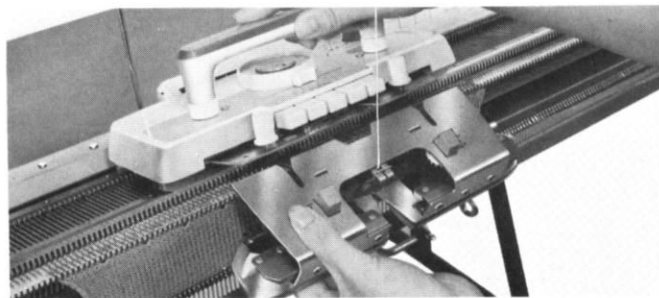


Adjusting the yarn tension



- (9) Adjust the locating knob. The locating knob has marks “+” and “-”. “+” denotes strong tension, and “-” weak tension. Strong tension is suitable to thin yarn and weak tension is suitable to thick yarn.

When the carriage is jammed

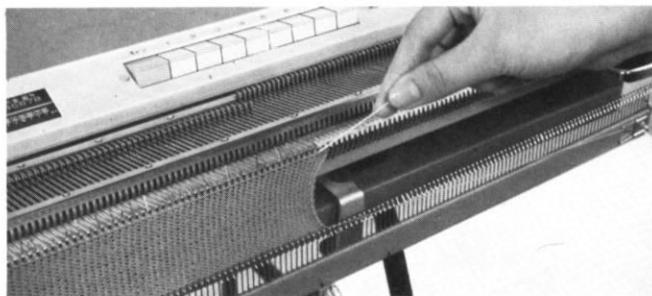


- (1) Loosen the thumb screws of the sinker plate, remove the sinker plate from the carriage.
- (2) Grip the handle of the carriage and lift the front of the carriage.

Slide the carriage to the side where the row commenced and when clear of needles lower the front onto the needle bed.

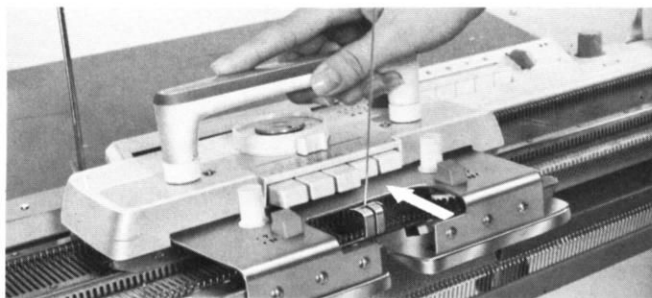
- (3) Attach the sinker plate to the carriage and fasten the thumb screws of sinker plate securely.
- (4) Unravel last row of knitting and if necessary rethread carriage feeder.

Undoing rows (unravelling)



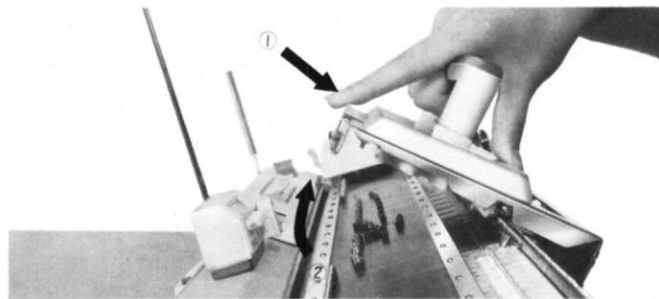
- (1) Pull yarn slightly out of stitches. The stitches of the previous row will slip into the hooks of needles automatically as the yarn is raised towards the needle bed.
- (2) Move the carriage in either direction without knitting.
- (3) Pull the ripped yarn down through the back of the rear yarn guide until the yarn take up spring is brought back into operation.
- (4) Adjust the numbers on the row counter.

Carriage movement without knitting

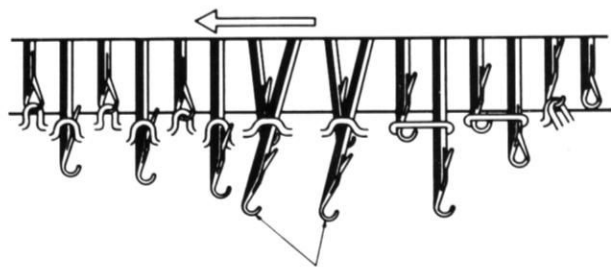


- * In case of plain knitting you can move the carriage without knitting by pushing down both PART buttons.
- * If the needles are in position D I, push back the needles in position D I to position B.
- * If the needles are in position D II or E, set the holding cam lever to 3.

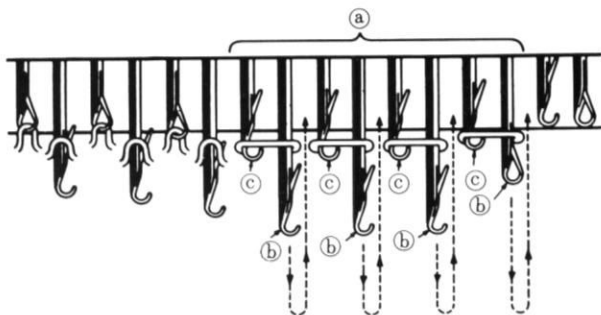
When the L carriage is jammed



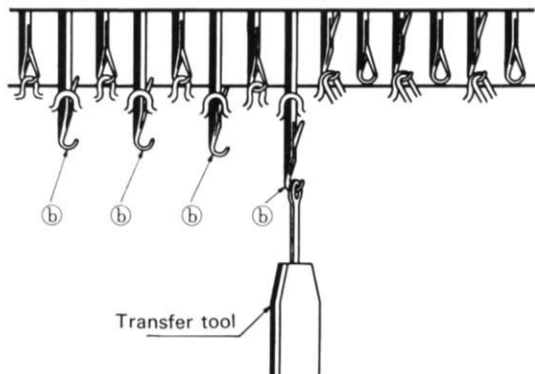
- * Remove the L carriage from its jammed position.
- * If the L carriage is caught with needles, take sufficient care in removing it.
- * After removing the L carriage, you can knit according to following steps.



- ① If you see needles caught with each other, separate them by lifting their tips.



- ② If stitches are caught on two needles as shown by ① above figure, pull selected needles ② toward you and push them back together with needles ③ to position “B” in order to transfer the stitches.

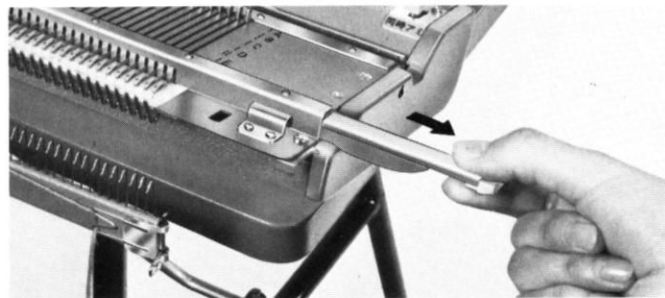


- ③ For other part, transfer the stitch of selected needle ② with transfer tool to adjacent needle.
(For use of the transfer tool, see page 60).

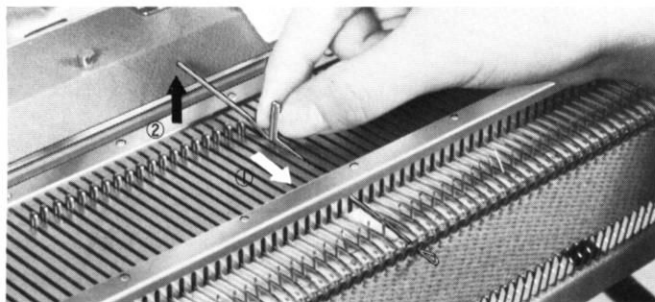
When the needle is bent



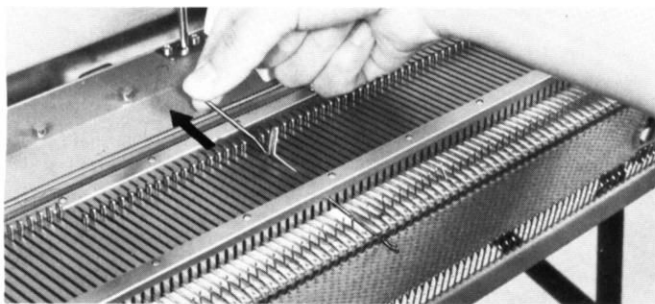
- (1) Push either side of the felt bar end piece with the end of latch tool until it comes out.



- (2) Withdraw it by hand from the knitter until the needle you wish to change is free.



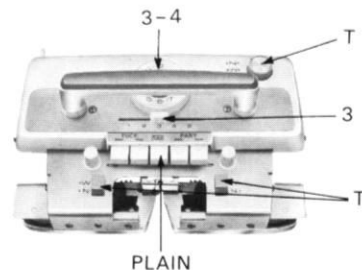
- (3) Pull the needle forward as far as it will go.
Push down the hook of the needle until shank end of the needle rises clear of needle bed.



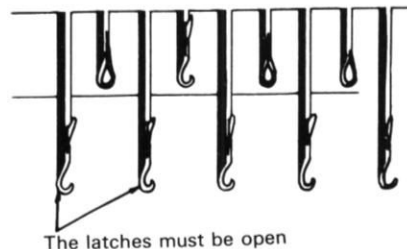
- (4) Grasp the shank end and draw it out backwards.
(5) Replace it with a new needle by holding it with latch opened.
Push the felt bar back into place.

Automatic casting-on without using the cast-on comb (Finished edge)

*Use the weaving lever and needle selector buttons.

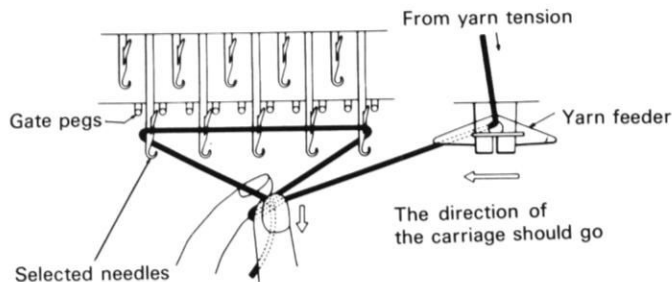


- (1) Set the carriage as above.



- (2) Depress the needle selector buttons $\frac{1}{2}$ and set the needles.
Place the carriage at right end of the needle bed.

- (3) Lay the yarn over the selected needles by hand. Hold both end of the yarn as shown in the figure.
- (4) Pulling down gently with the left hand, and move the carriage to knit slowly with the right hand.

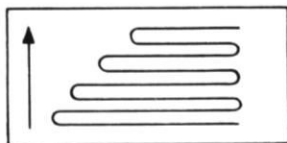


- (5) Continue to hold the end of yarn with left hand for next few rows.
- (6) Return the weaving lever to N, and release the end of yarn after knitting a few rows.

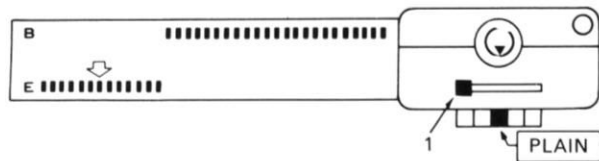
PARTIAL KNITTING

1. Partial knitting in Plain stitch

Decreasing stitches

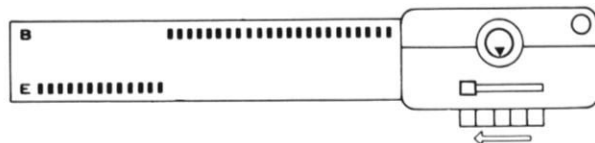


Set the holding cam lever in position "1".



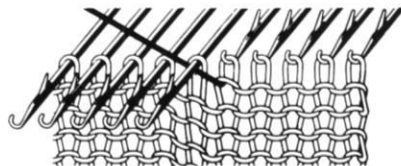
- (1) Bring up the needles in the opposite side of carriage, to position "E".

The number of needles to be raised to position "E", depends on the shape of the curve.

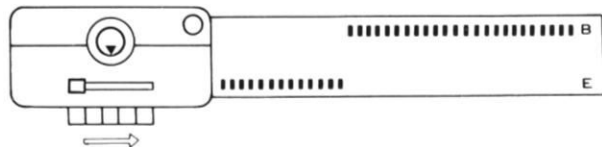


- (2) Knit one row.

When stitches are made with the needles in the position "B", the yarn lies across on the stems of the needles in position "E".



- (3) Pass the yarn under the stem of the first needle in position "E".

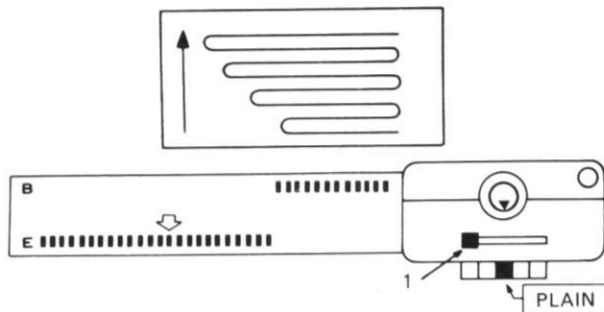


- (4) Knit one row.

Repeat steps (1), (2), (3) and (4).

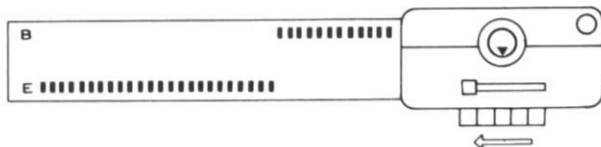
Increasing stitches

Set the holding cam lever in position 1.



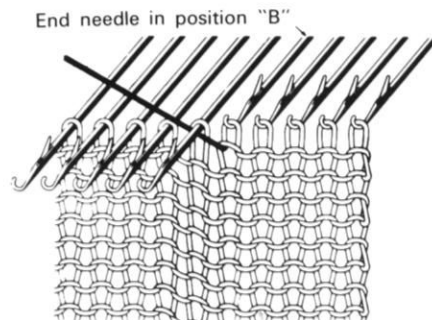
- (1) Bring up the needle in the opposite side of carriage, to position "E".

The number of needles to be raised to position "E" depends on the curve you want to get.

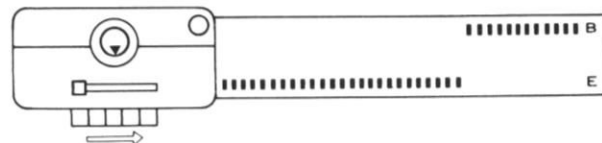


- (2) Knit one row.

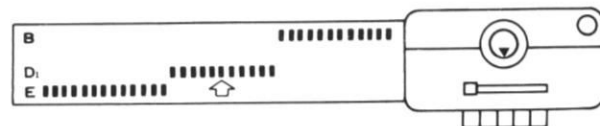
When stitches are made with the needles in the position "B", the yarn lies across the stems of the needles in position "E".



- (3) Pass the yarn under the stem of the first needle in position E.



- (4) Knit back one row.



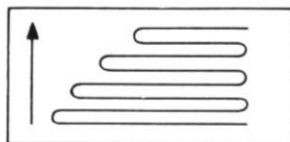
- (5) Manually move back the needles from position "E" to "D" by the number of stitches you want to increase. Repeat steps (2), (3), (4) and (5).

2. Partial knitting of multi-color pattern, zigzag pattern and laying-in thread pattern

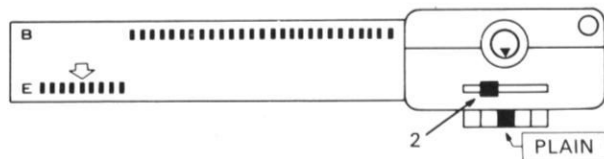
- (1) Shift the holding cam lever of the carriage to the position of 1, and position the resting needles at E.
- (2) Select the needles according to the table, (lay across the laying thread) and knit one row.
- (3) Pass the yarn (and the laying thread) under the stem of the first needle in position E.

3. Partial knitting of holding stitch pattern

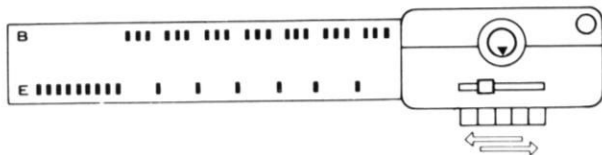
Decreasing stitches



We take one holding pattern stitch for the purpose of explaining the above subject. Every fourth needle have 2 holding stitches and 2 plain stitches alternatively. Set the holding cam lever in position "2".

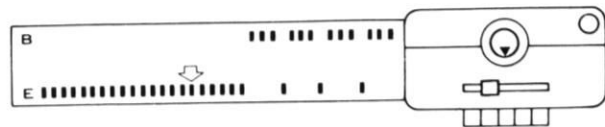


- (1) Raise the needles which you want to rest to position "E".

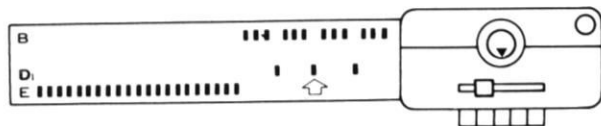


- (1) By using the needle selector buttons select the needles to hold up to position “D”.

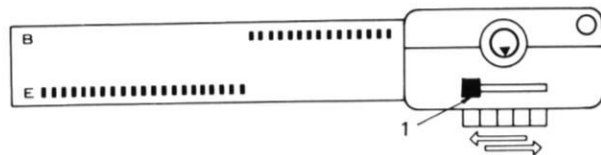
Knit 2 rows. But, at the end of the first row, pass the yarn under the stem of the first needle in position “E”.



- (3) Raise several needles which you want to rest to position “E”.



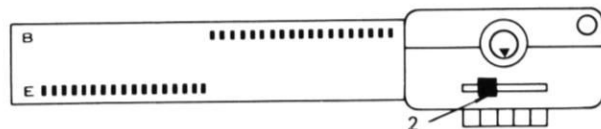
- (4) Move back the needles which have holding stitches from position “E” to “D”.



- (5) Shift the holding cam lever from “1” to “2”.

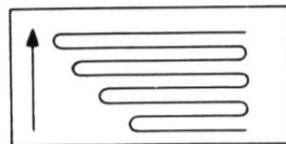
Knit two rows.

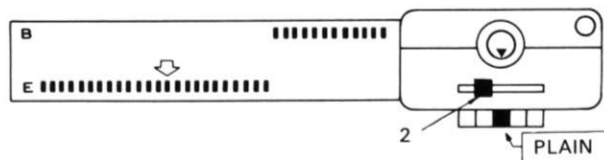
But, at the end of first row, pass the yarn under the stem of the first needle in position “E”.



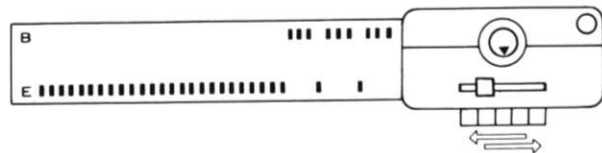
- (6) Reset the holding cam lever on 2. And repeat steps (1) to (6).

Increasing stitches



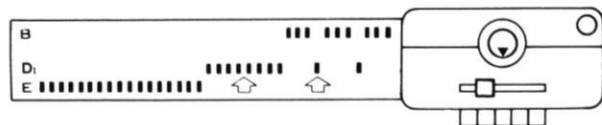


- (7) Raise the needles which you want to rest to position "E".

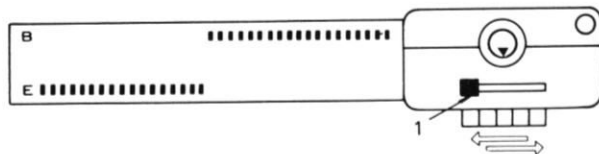


- (8) Knit 2 rows

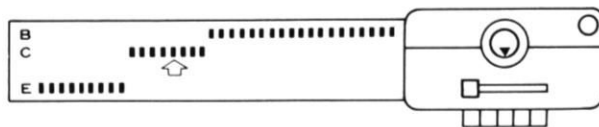
But at the end of the first row, pass the yarn under the stem of the first needle in position "E".



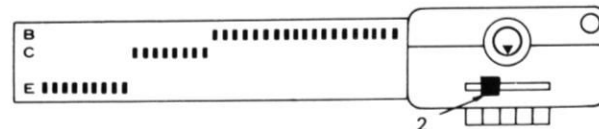
- (9) Move back the needles which have made holding stitches and those which you want to operate from "E" to "D1".



- (10) Shift the holding cam lever from "1" to "2". Knit 2 rows.



- (11) Move back the needles which you want to operate from "E" to "C".



- (12) Shift the holding cam lever from "1" to "2".
Repeat steps (2), (3), (4), (5), (6) and (7).

4. Partial knitting of Tucking pattern

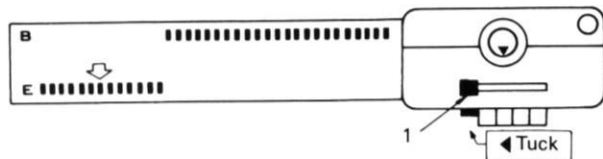
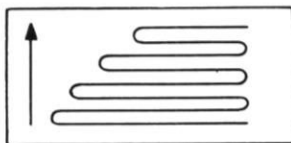
As one example, we select one tucking pattern. Every other needle has one tucking stitch and one plain stitch alternatively. Set the carriage.

When carriage is on the right-hand side of the knitting, push in left tuck button.

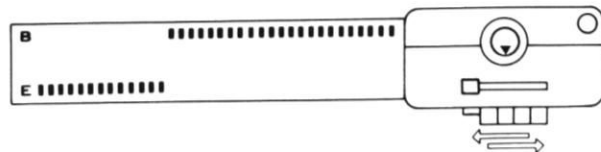
When carriage is on the left-hand side of the knitting, push in right tuck button.

Set both holding cam lever in position 1.

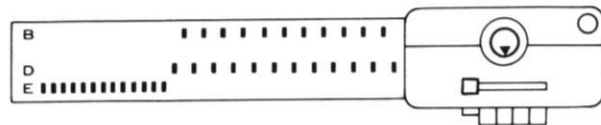
Decreasing stitches



- (1) Place the needles in position "B" and raise other needles to position "E".



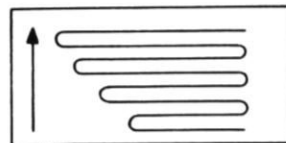
- (2) Using the needle selector buttons select the needles to position "D".

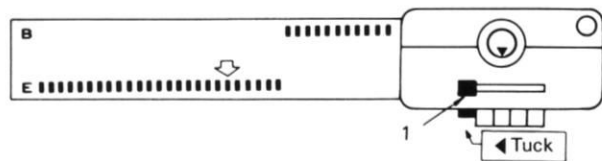


- (3) Knit 2 rows.

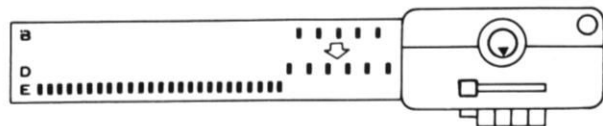
But, at the end of the first row, pass the yarn under the stem of the first needle in position E.

Increasing stitches

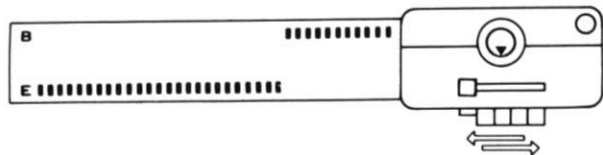




- (1) Place the needles to operate in position "B" and raise other needles to position "E".

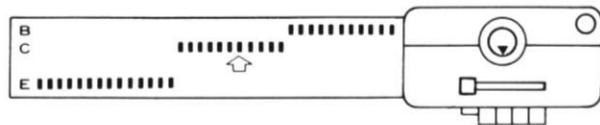


- (2) Using the needles selector buttons select the needles to position "D".

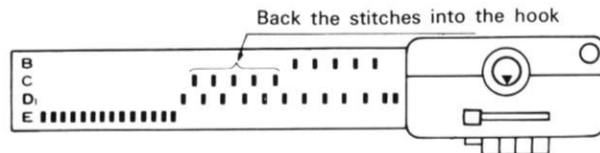


- (3) Knit 2 rows.

But, at the end of the first row, pass the yarn under the stem of the first needle in position "E".



- (4) Move back the needles which you want to operate to position C.

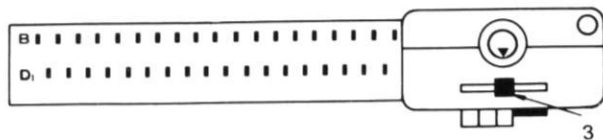


- (5) Using the needle selector buttons select the different needles from step (2).
 (6) Using the transfer tool, transfer the stitches on the back of the latches in position "C" onto the hooks of the needles and place these needles in position "B".
 (7) Repeat steps (2), (3), (4), (5) and (6).

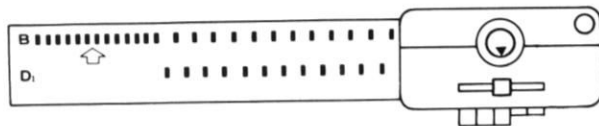
5. Partial knitting with the L carriage

- * Set the holding cam levers in position "3".
- * Push down both PART buttons.
- * Set the tension dial as shown in next table.

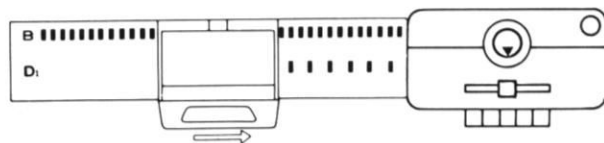
Numbers before setting	Setting Numbers
3	4
4	5
5	6



- (1) As shown in the pattern knitting table, push down needle selector buttons and swivel set lever.

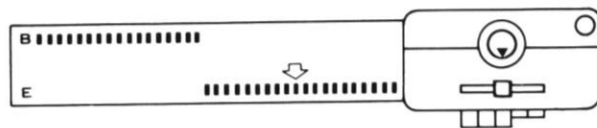


- (2) Of the selected needles, those which are not used must be pushed back to position "B".

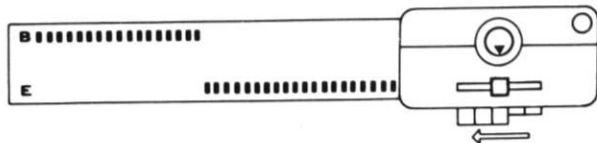


- (3) Move the L carriage in the direction shown in pattern knitting table.

- * If operation of the L carriage required more than once in the pattern knitting table, repeat steps (1), (2) and (3).



- (4) Raise the knitted needle to position "E".

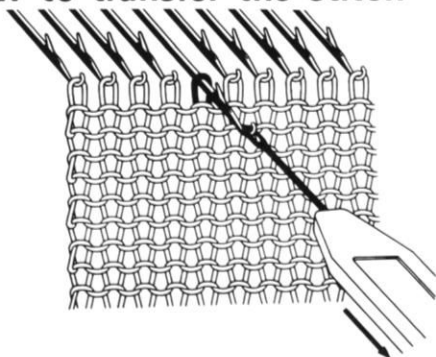


- (5) Move the L carriage in the direction shown in pattern knitting table.

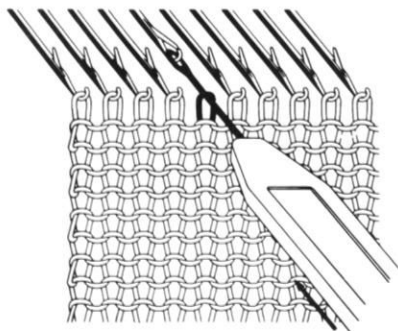
- * Hang the yarn in the hook of the first needle in position "B".

HOW TO TRANSFER THE STITCH

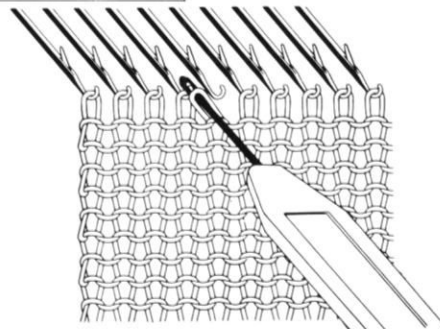
1. How to transfer the stitch



- (1) Hold the transfer tool parallel with the needle and place the eye of the transfer tool into the hook of the needle. Bring the needle forward. The stitch in the hook of the needle will slide behind the latch and onto the needle.



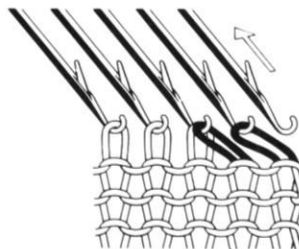
- (2) Without releasing the transfer tool from the hook of the needle, push the needle all the way back until the stitch is transferred onto the transfer tool.



- (3) Raise the transfer tool with the stitch on it and transfer it to the adjacent needle.

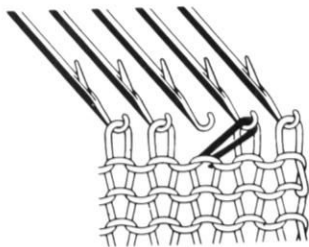
2. Decreasing stitch

Decreasing one stitch at either edge

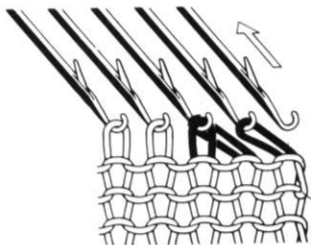


*Use the 2×1 transfer tool to transfer two stitches at the end to the inside needles, and place empty needle out of action to position "A".

Other method of Decreasing one stitch



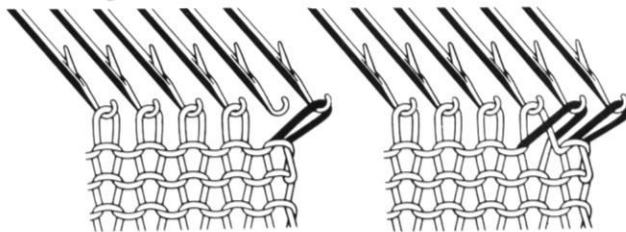
- (1) Use the single transfer tool to transfer the 3rd stitch to the 2nd stitch.



- (2) Transfer the 2nd stitch to the empty 3rd needle and the end stitch to the 2nd needle.
Place empty needle out of action.

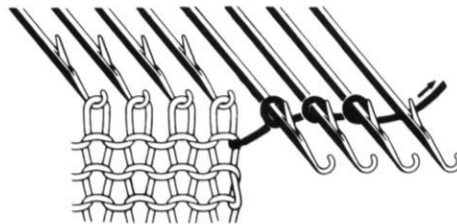
3. Increasing stitch

Increasing one stitch at either edge



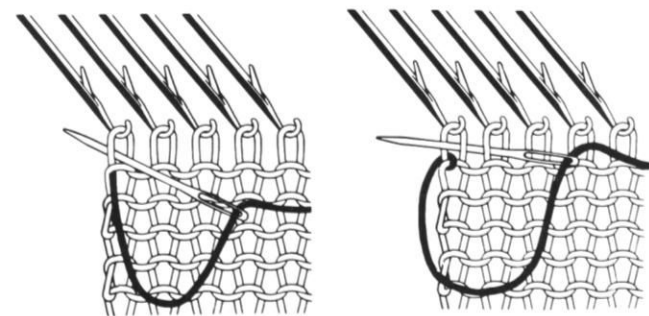
- (1) Use the transfer tool, move the stitch out to the adjacent empty needle.
- (2) To fill in empty needle pick up stitch from second needle in lower row.

Increasing several stitches at either edge



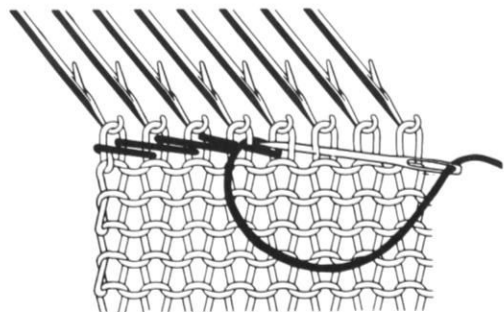
Bring into action on the same side as the carriage.
The increasing needles to position "E". Wind yarn around stem of each needle. Lower weaving knob to W.

4. How to bind off



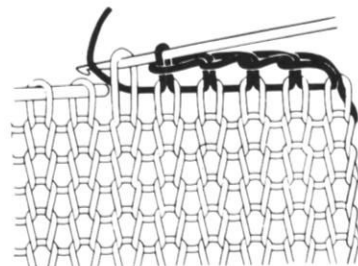
(1)

(2)



(3)

5. How to cast off

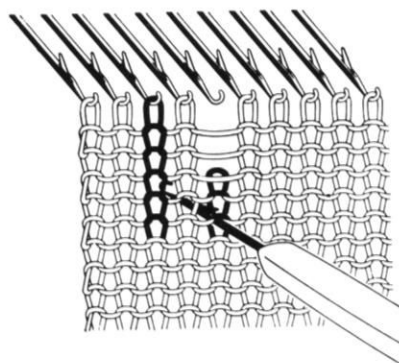
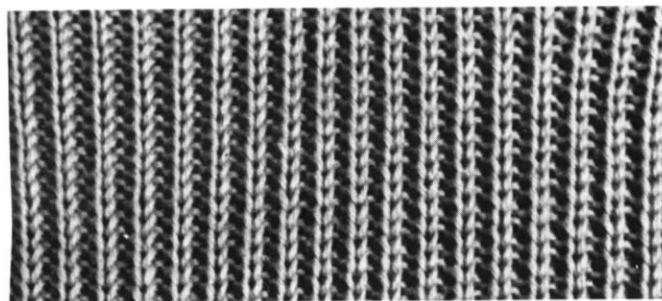
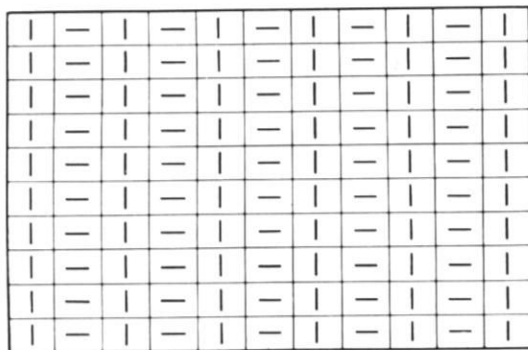


6. Ribbing stitch

The latch tool is used.

The ribbing is produced by having knit stitch over knit stitch and purl stitch over purl stitch, in vertical lines.

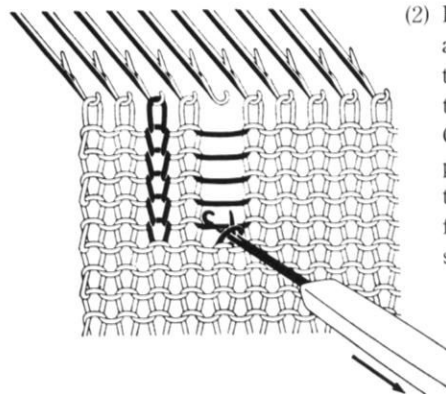
The ribbing narrows and lengthens the knitted fabric and increases its elasticity.



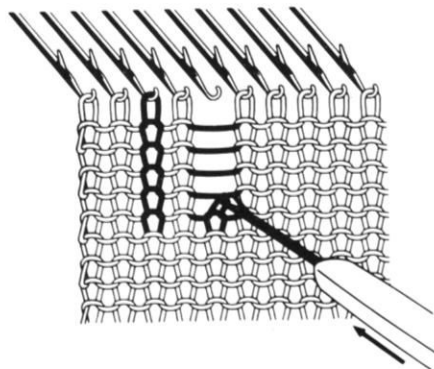
- (1) Knit as many rows as required for the length of the ribbing on a slightly tighter tension. Drop the third stitch from the end by pushing the needle forward then back until the stitch drops off the needle. Then, allow the stitch to drop

as far down the fabric as you wish.

Insert the hook of the latch handle into the loop of the last dropped stitch from the front of the fabric.

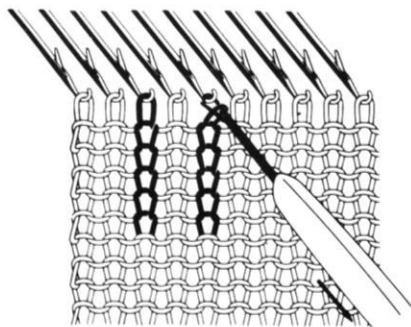


- (2) Hold the tool parallel, and see that the stitch is behind the latch. Catch the next parallel thread into the hook, and pull forward until new stitch is formed.



- (3) Watch the latch of tool, always pick up parallel threads one by one.

Note that the last stitch falls behind the latch so that the next parallel thread is in front of the latch.



- (4) When all parallel threads are picked up, the last stitch is placed back onto the empty needle. Repeat steps (2) and (3) for each row required to be "ribbed".

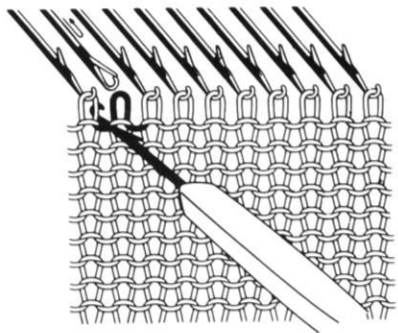
7. Garter stitch pattern



The latch tool is used

15																			
14																			
13																			
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11																			
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9																			
8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7																			
6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5																			
4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3																			
2																			
1																			

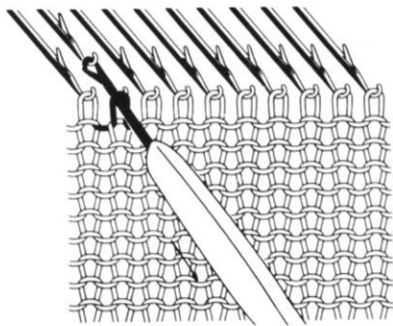
Garter
stitch
pattern



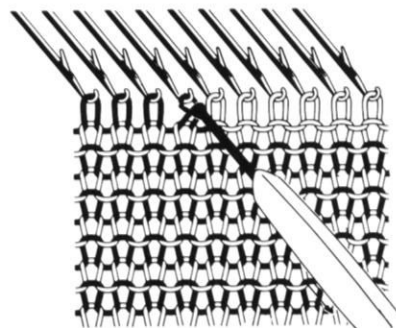
(1) Knit two rows in plain stitch.

Insert the latch tool second underneath stitch.

Remove the stitch from the needle and shake the latch tool with the stitch on the stem of the latch tool and ladder one stitch.

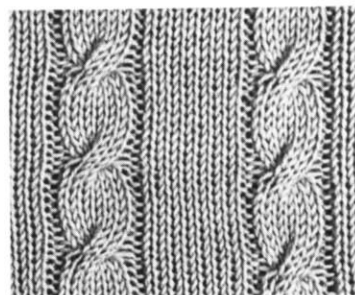


(2) Knit one ladder and make one stitch and transfer it on the empty needle.



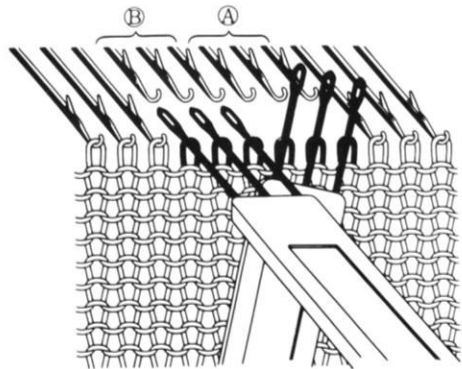
(3) Repeat (1) and (2) operation about all stitches on one row.

8. Cable stitch pattern

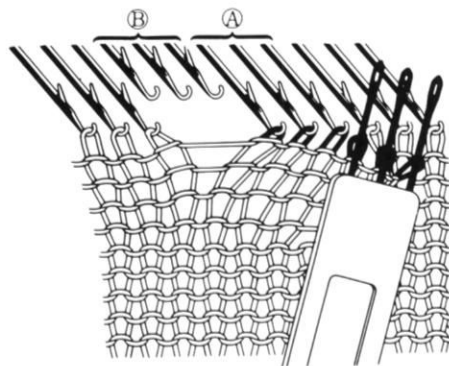


★ Knit several rows in plain knitting before transferring the stitch to make cables.

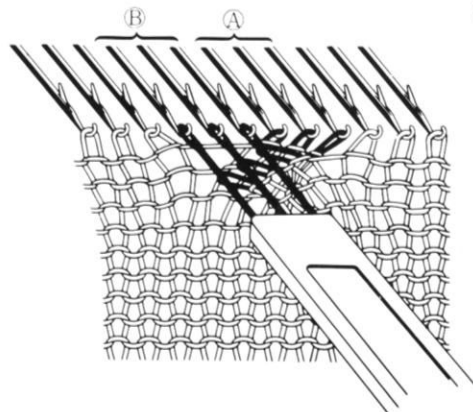
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			—					—				
10			—					—				
9			—					—				
8			—					—				
7			—					—				
6			—					—				
5			—					—				
4			—					—				
3			—					—				
2			—					—				
1			—					—				
			—					—				
			—					—				
	1	2	3	4	5	6	7	8	9	10	11	12



- (1) Using a pair of three-eye transfer tools pick up three stitches with one transfer tool, and the adjacent three stitches with the other tool.



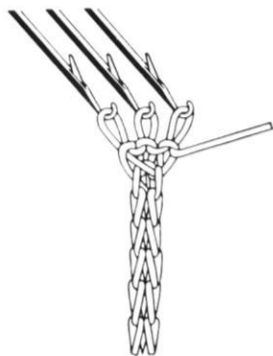
- (2) Place the three stitches on the tool in your left hand onto the hooks of the machine needles on the right.



- (3) Place the three stitches on the other transfer tool in your right hand onto the hooks of the needles on the left. Raise those six needles to position "E". Knit 10 rows. Rib two or

three stitches on both sides of the pattern starting at the beginning of the knitting.

9. Tube knitting



- (1) Cast-on 3 or 4 needles.
- (2) To get fine finish, use a slightly tight tension.
- (3) Depress right PART button.
- (4) Pull down the fabric by left hand, and move the carriage by right hand.

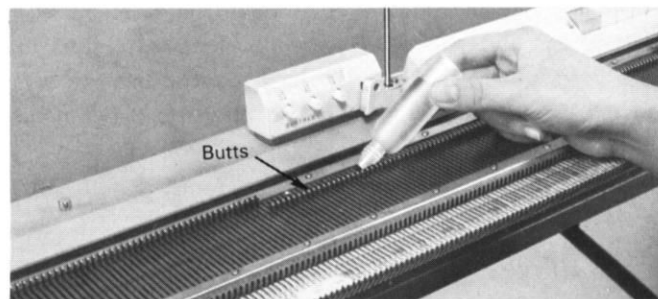
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

CARE OF YOUR KNITTING MACHINE

Oiling and cleaning

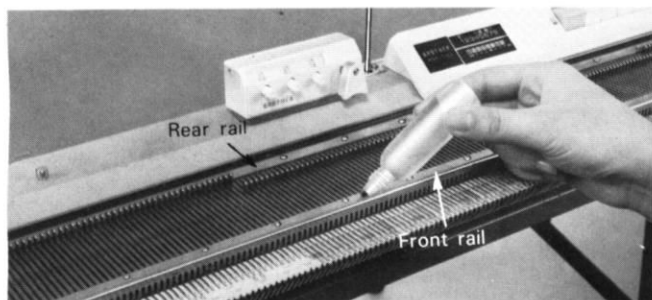


* Remove the cap and oil your machine before and after use.



(2) The needle butts

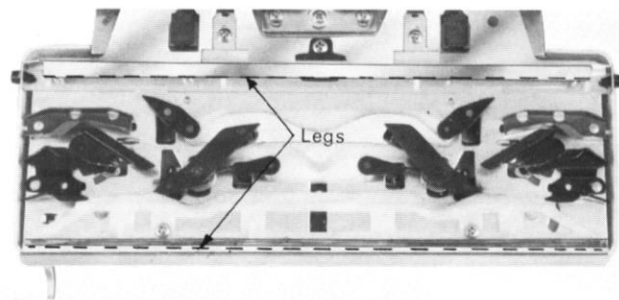
Oil the needle butts with oiler.



(1) The needle bed

Clean the needle bed and the carriage slide rails with clean cloth.

Oil the needle bed and the carriage slide rails using oiler.



(3) The carriage

With clean cloth, wipe away all fluff.

Oil all moving parts of the carriage with oiler.

Note

Clean and oil your knitter each time you have finished knitting and clean off all excess oil before use, especially from parts which will come into contact with the knitting. Always leave a light film of oil on all parts between the rails under the carriage.



M E M O

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