RIB KNITTER

INSTRUCTION BOOK

MODEL KR-11

Lemair Helvitia Ribber

INSTRUCTION BOOK

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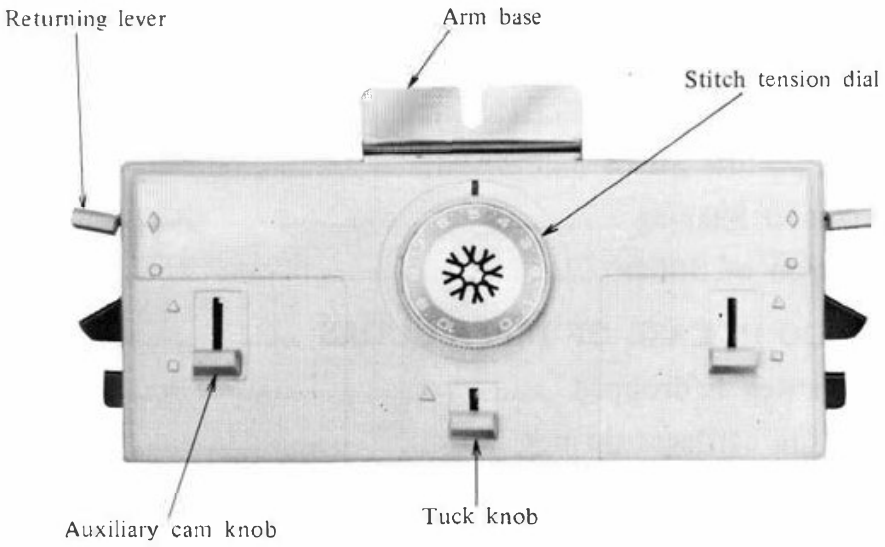
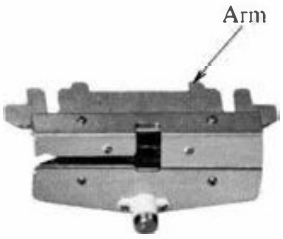
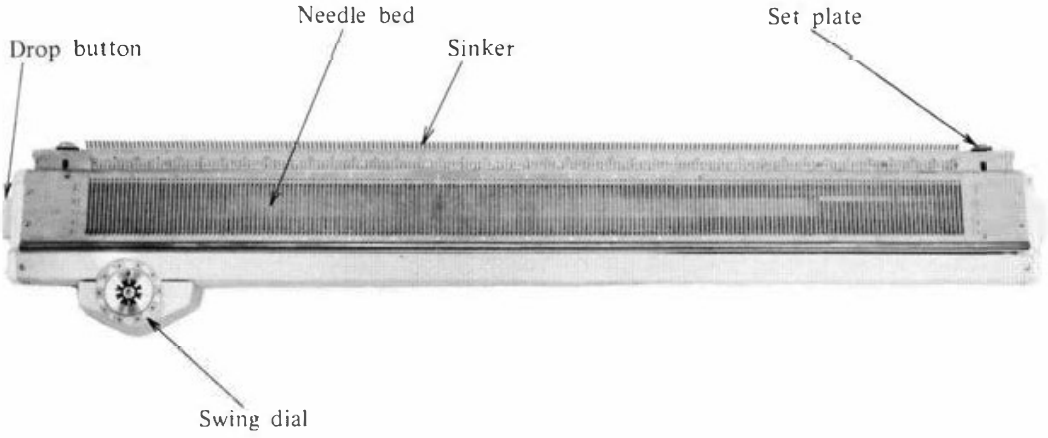
NAMES OF PARTS

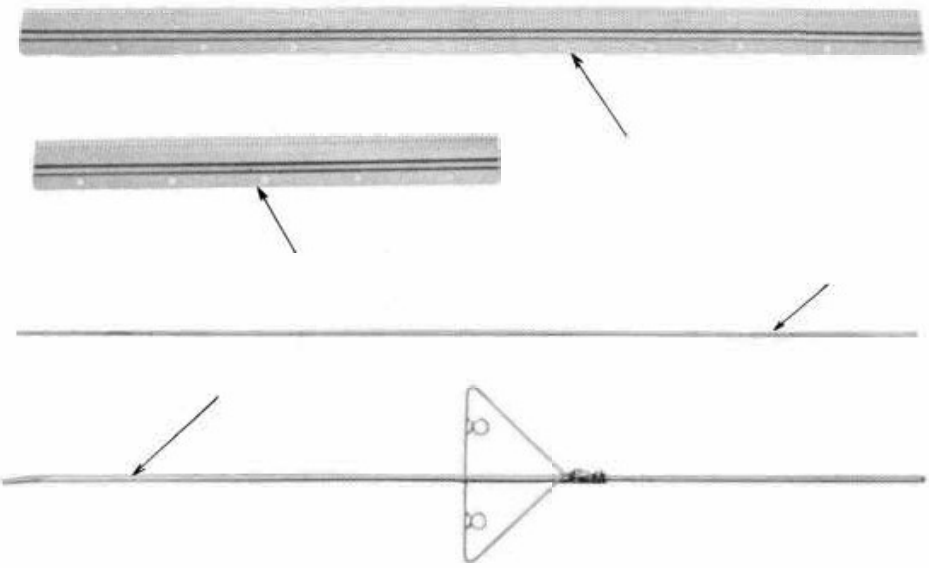
Carriage

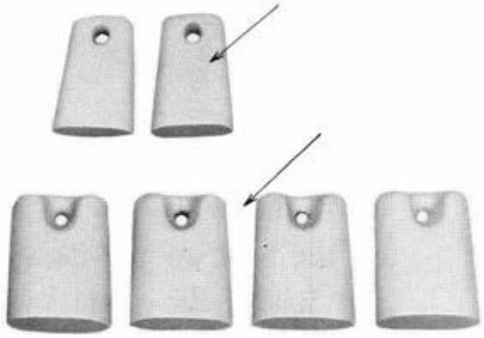


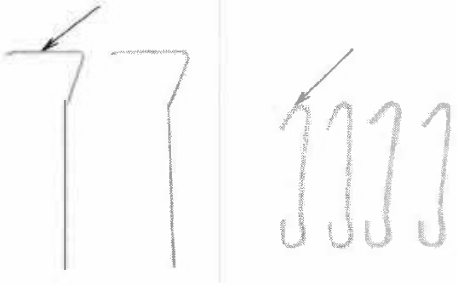
Body

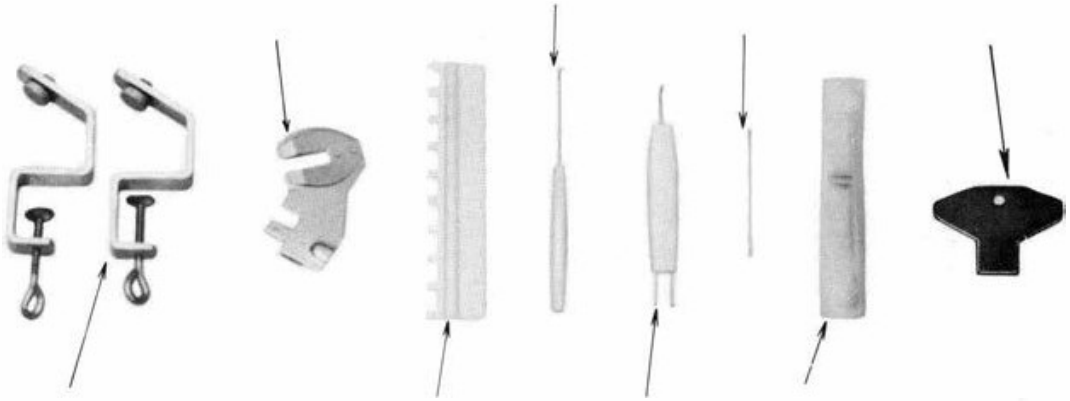




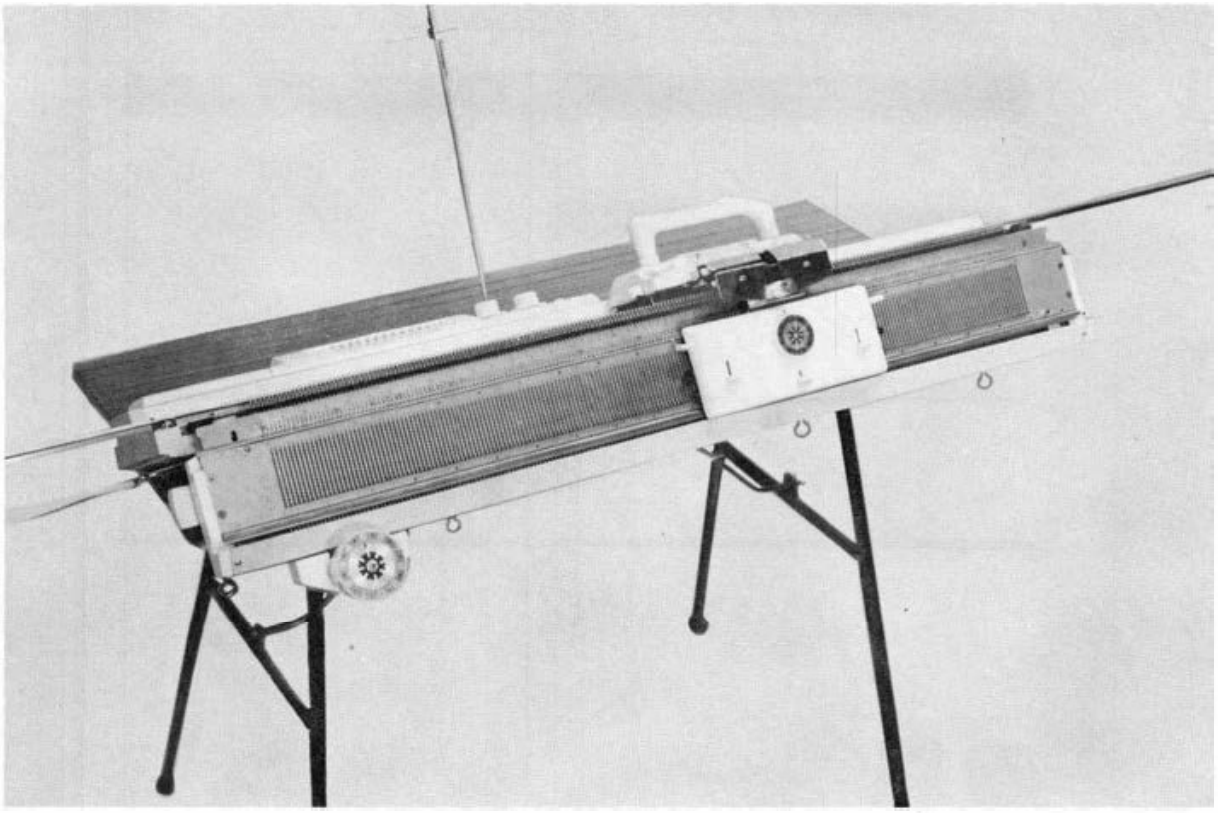


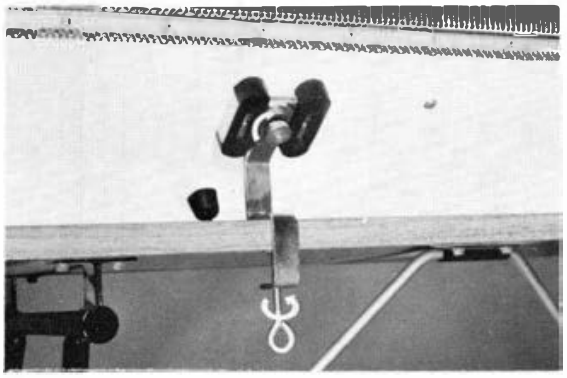




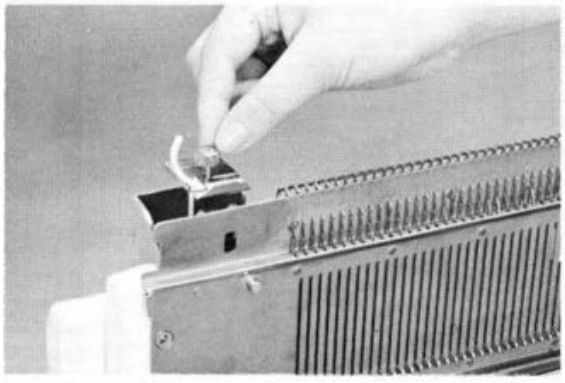


ASSEMBLING THE RIB KNITTER

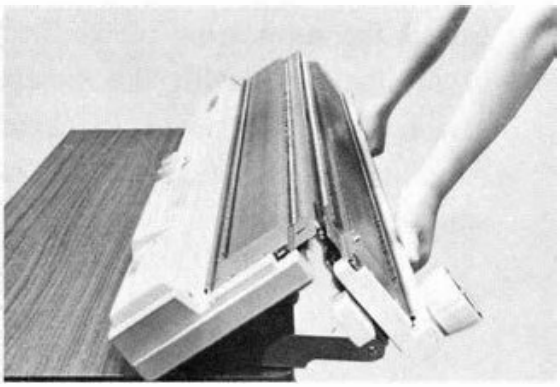




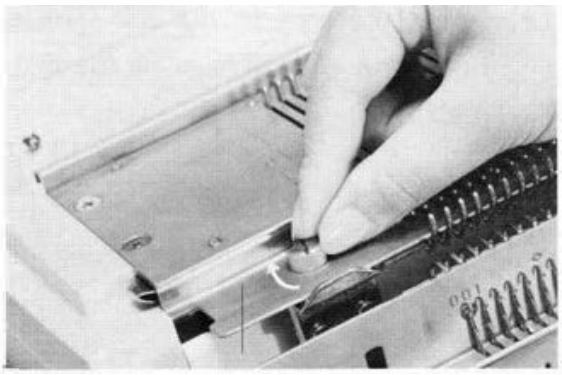
(1) Tighten the clamp of the Rib Knitter to the hole of the rubber washer on the back of the main machine, and install the main machine on the table.



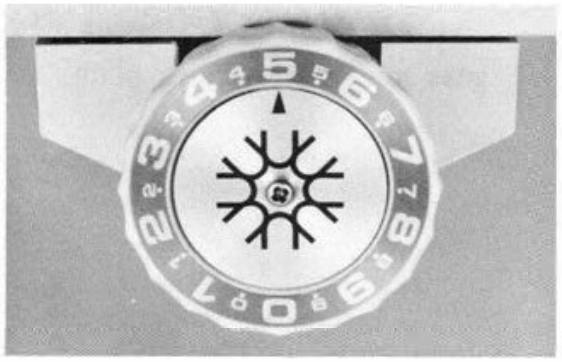
(2) Remove the screw fixed to the installing plates on both sides of the Rib Knitter.



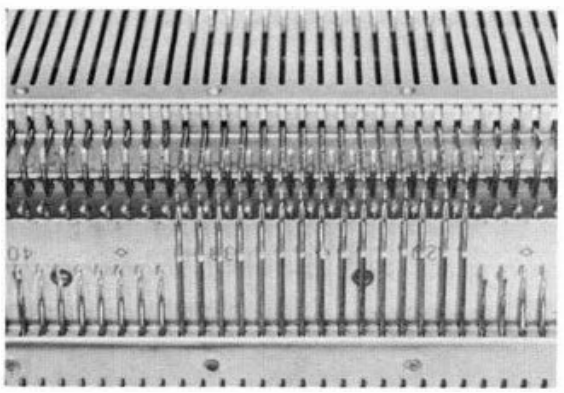
(3) Loosen the wing nuts and place the supporting plates at both ends of the Rib Knitter on the table, then insert the Rib Knitter fully in until the set plate touches the front edge of the main machine's groove plate.



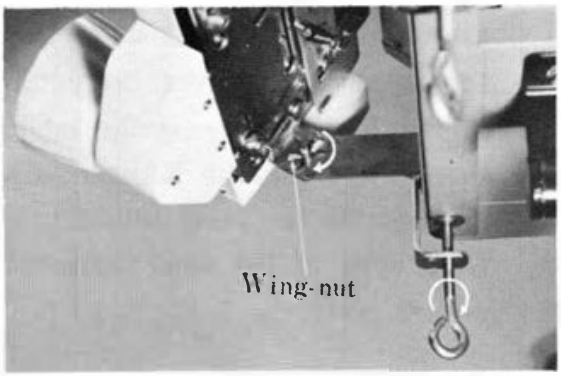
(4) When the Rib Knitter is fully pushed in, tighten the screws of the Rib Knitter lightly.



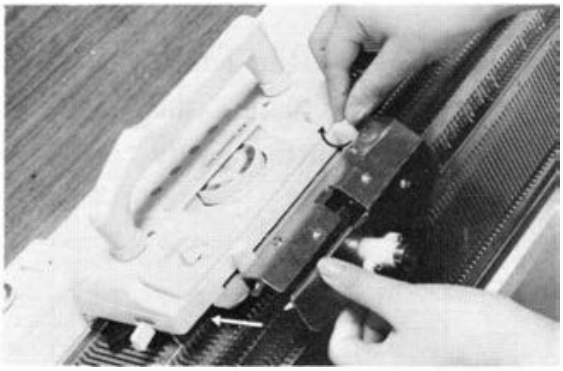
(5) Match the graduation of swing dial to 5.



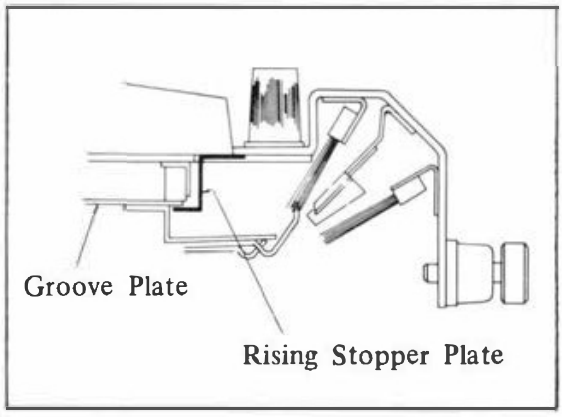
(6) Adjust side position so that points of knitting needles of main machine and Rib Knitter are opposite each other, then tighten both screws of the Rib Knitter firmly.



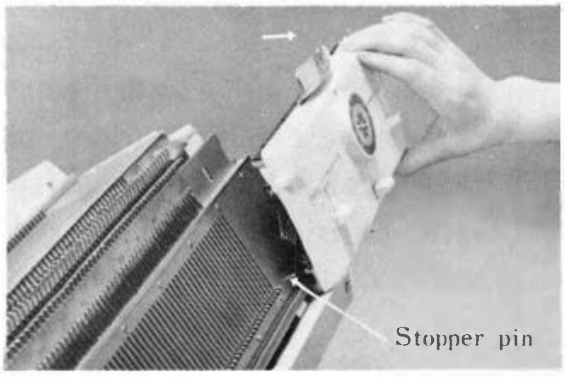
(7) Install the supporting plates firmly on the table with the clamps attached to the main machine. Next tighten the wing nut of the supporting plates.



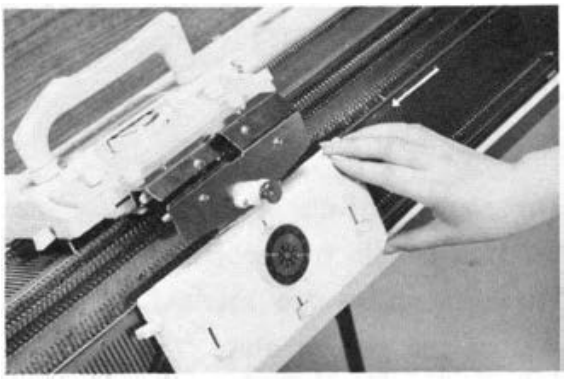
(8) Insert the arm of the Rib Knitter fully into the carriage of the main machine.



(9) Insert the arm so that the front end of the rising stopper plate goes under the groove plate.



(10) Put the carriage of the Rib Knitter in the Rib Knitter's main body. Fit the rear slider of the carriage into the rear rail, incline the carriage towards you and insert, so that the stopper pin of the groove plate and the stopper pin of the carriage do not collide with each other.

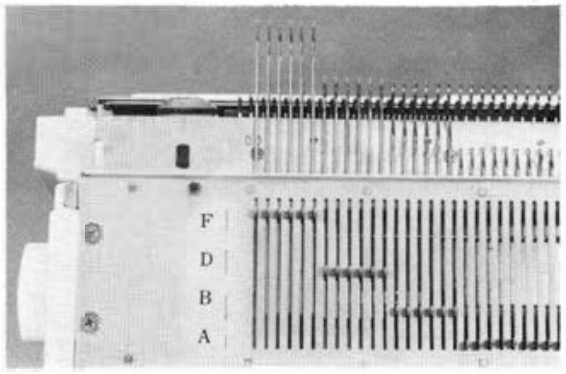


(11) When the inclined carriage of the Rib Knitter is put back to its former position and in that condition if moved to the carriage position of the main machine, it will be connected to the carriage of the main machine.

(12) Insert the tension bar attached to the Rib Knitter to the main machine side. Next insert the tension body attached to the main machine into the tension bar.

BASIC KNOWLEDGE BEFORE KNITTING

1. Positions of Knitting Needles



There are positions A, B, D, F for the knitting needle of the Rib Knitter. These positions are marked on each side of the groove plate.

A: Denotes needles at rest (position of knitting needles not in use).

B: Position for plain knitting.

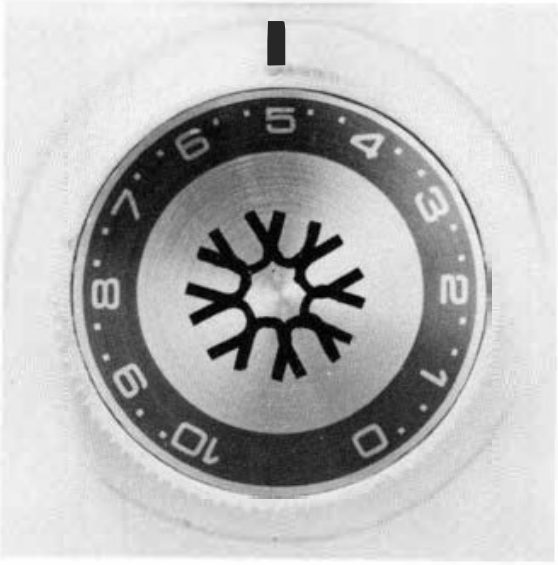
D: Position for plain knitting (used for horizontal shaping to increase the part of knitting).

F: Front side resting position (used for horizontal shaping).

* As the position of the knitting needle is adjusted to the main machine, positions C, E are not used for Rib Knitter.

2. Functions of various parts of the carriage

Stitch Tension Adjusting Dial



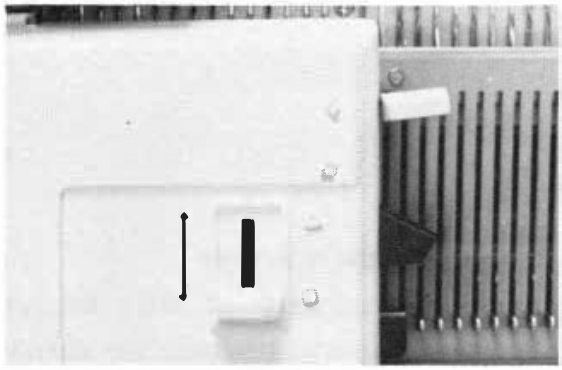
Adjusting can be done according to the thickness of knitting yarn and the stitch size required for the pattern. The numerals are set to the index at the center.

Stitch will become larger as the numerals become larger.

Standard Dial Graduation

Kind of yarn \ Pattern	One needle rib stitch	Two needle rib stitch	Full rib stitch	Circular plain knitting
2 ply	—	—	0 ~ 1	2 ~ 3
3 ply	1 ~ 2	4 ~ 5	3 ~ 4	4 ~ 5
4 ply	6 ~ 7	8 ~ 9	—	—

Auxiliary Cam Knob

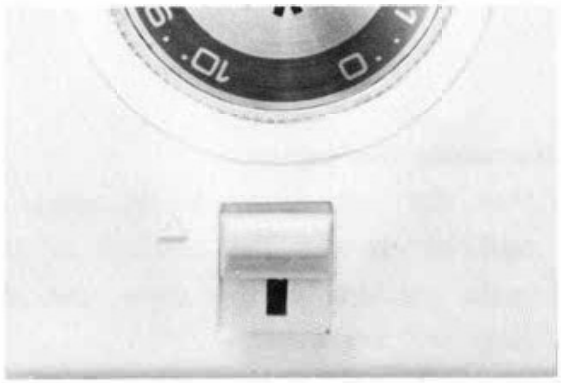


Switching is done according to pattern to be knitted.

□ : Needles of (B) position will knit.

△ : Needles of (B) position will not knit.

Tuck Knob

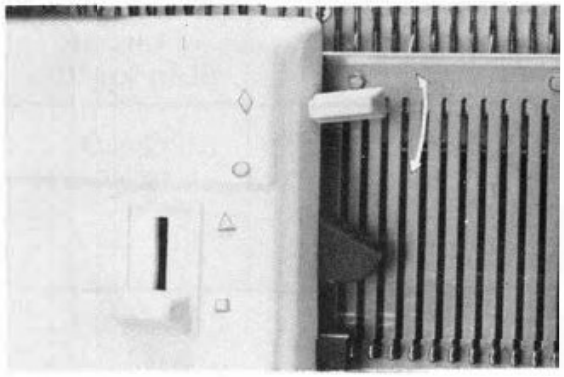


The tuck knob is used when the auxiliary-cam-knob is set to △ mark.

△ : The knitting yarn will be caught on the hook of knitting needles of (B) position.

No mark : The knitting yarn will not be caught on the hook of knitting needle of (B) position.

Returning Lever

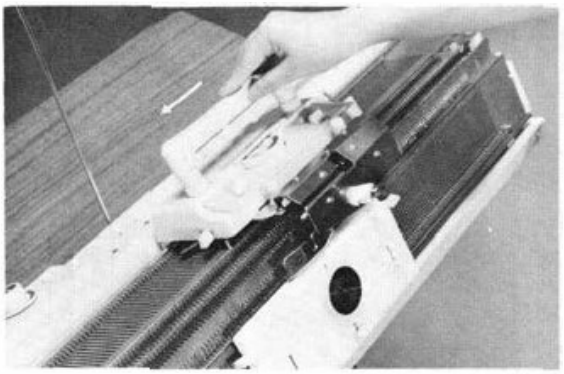


Used when needles of (F) position either knit or do not knit.

○ : Needles of (F) position do not knit.
(Used for shaping)

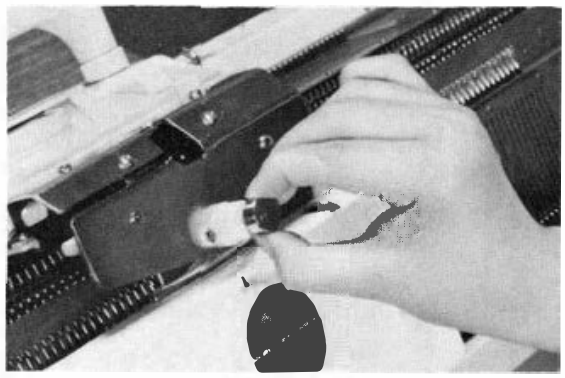
◇ : Will knit needles of (F) position.
(Used when shaping is done by plain knitting).

3. Connecting and Removing the carriages



Connecting the carriages

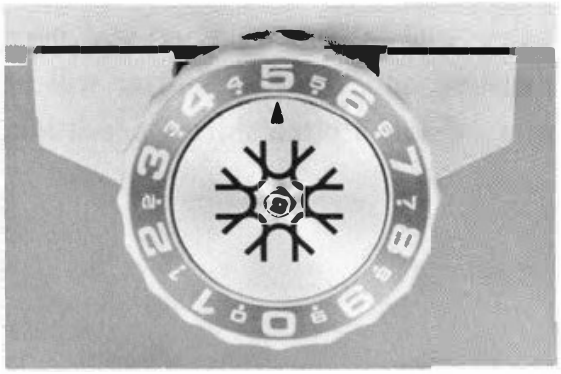
When the carriage of main machine is moved slowly towards the carriage of the Rib Knitter, both carriages will be connected automatically.



Removing the carriages

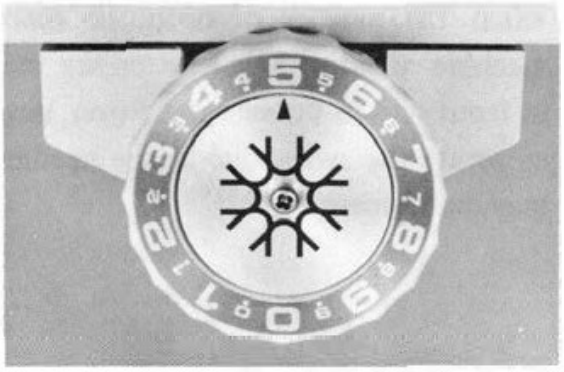
Pull the connecting knob upwards, and by moving the carriage of the main machine in this state, the carriage will come off.

4. Swing Dial

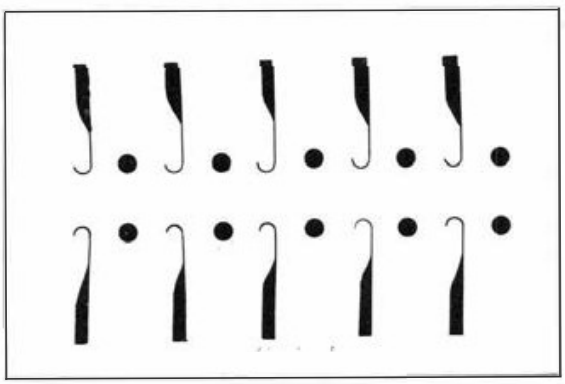


The swing dial is used when stitches are shifted horizontally as in swing stitch and arrow swing stitch.
Maximum swing is 10 pitches (Pitch: This indicates the space of 4.5 mm between the needles.)

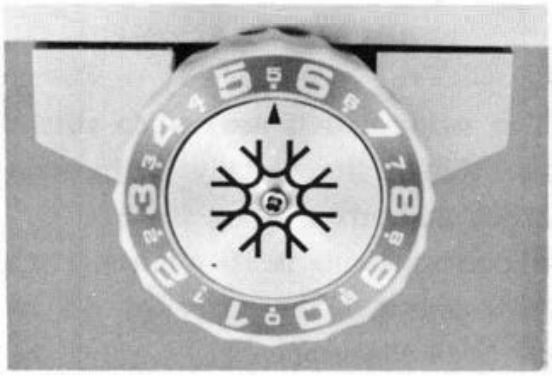
By rotating the swing dial the Rib Knitter can be swung toward horizontally direction.
By rotating the swing dial once, it swings one half pitch.
For a swing of one pitch rotate the swing dial two shifts.



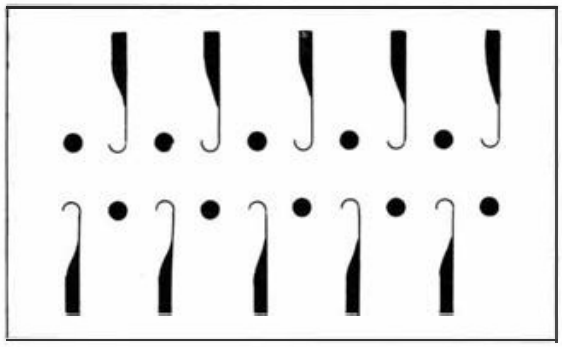
When a large numeral matches the indication (▲ mark) of the swing dial, the needles of the main machine and Rib Knitter are in pointed state with each other.



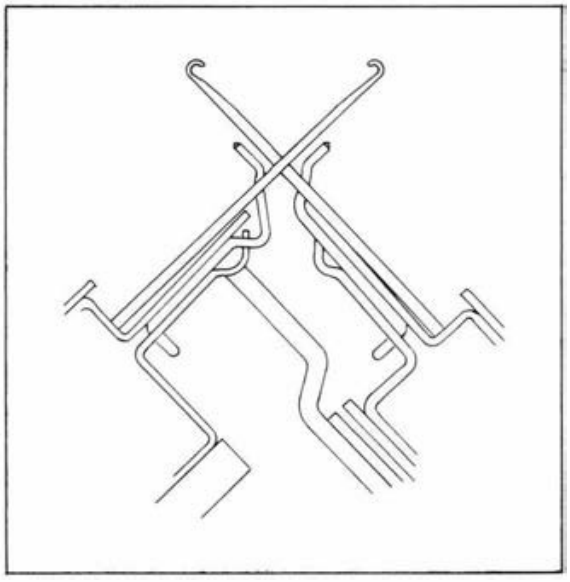
In this condition, as the needles of the main machine and Rib Knitter will collide if fully protruded, one side must be returned to position (A).
(Used for such as one needle rib stitch.)



When a small numeral with □ mark matches the indicated position of the swing dial, the needles of the main machine and the Rib Knitter will be in a off-half a pitch shifted condition.

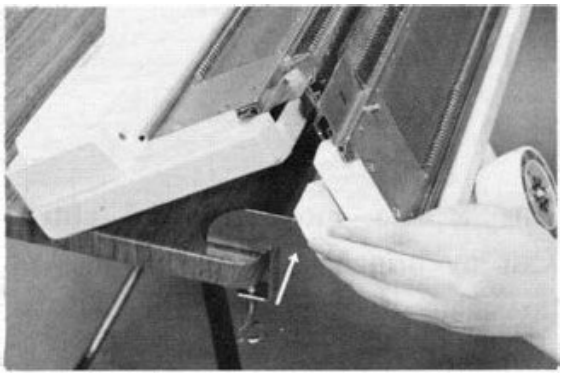


In this condition the needles of the main machine and Rib Knitter will not collide with each other even when fully protruded condition.
This is used for full rib stitch.

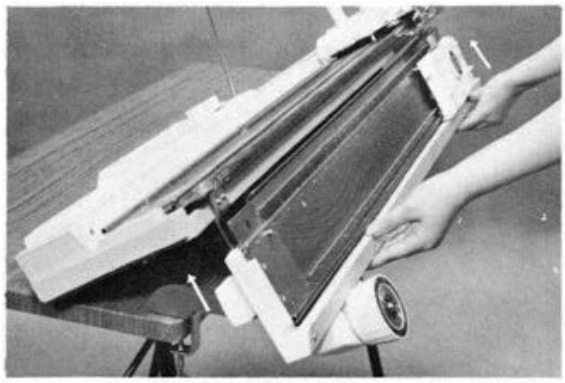


When the needles of both the main machine and the Rib Knitter are out in front and in crossed condition, never rotate the swing dial as the needles may be damaged.

5. Drop Button

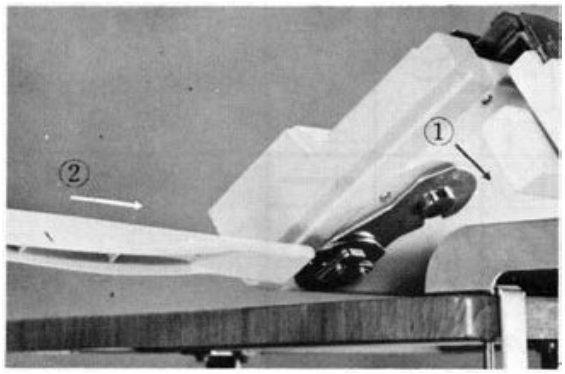


This is used to pick up dropped stitches, when knitting is done only with the main machine, with the Rib Knitter attached. The body will drop when the drop button on both sides of the Rib Knitter's body are pushed in.



To return the Rib Knitter to former position, hold the body with both hands and push upwards. If the knitted cloth is on the Rib Knitter, the position of the needles will move upwards when returned to former position, so re-arrange the needles to B position.

6. Support Fixture for Control Lever



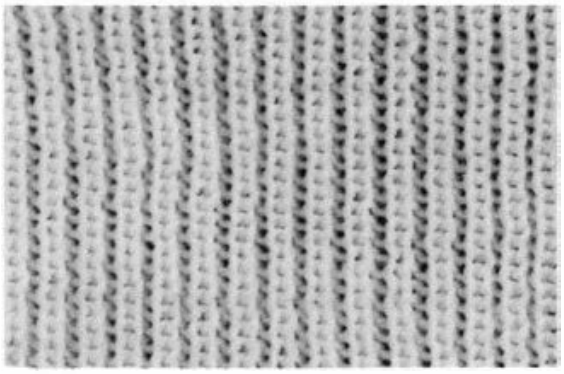
When selecting needles on the main machine by means of the control lever, with the Rib Knitter in attached condition, the support fixture is used.
First, insert the support fixture on to the shaft under the left of main machine.
Next insert the control lever into the support fixture.

(* The support fixture for the control lever is used when the main machine of the KE-1200 type is used.)

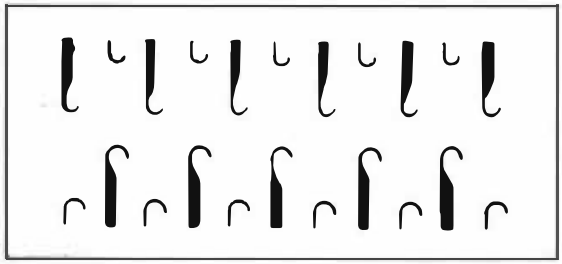
CASTING ON

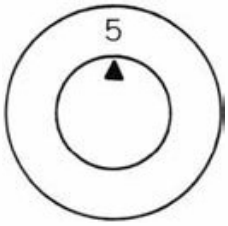
The table below shows a sample of the casting on operation by taking a one needle rib stitch as an example.

One Needle Rib Stitch



This is the most standard stitch. Knit by bringing out the needles of the main machine and Rib Knitter alternately at one needle intervals. Lengthways are knit and purl made at one stitch interval. It becomes soft and sideways flexible knitted cloth.



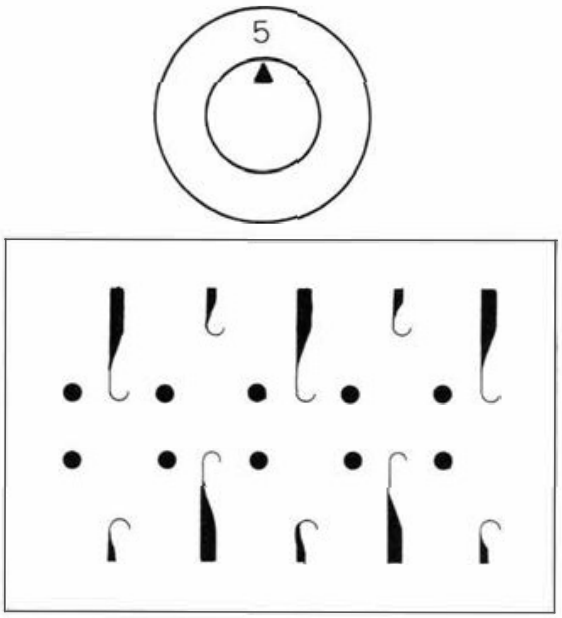


O	MC	RC	S	D	
①	◇ ◇	◇ □ □ □ ◇	5	←	
②	// //	// // // △ //	//	· →	
③	// //	// // // // //	//	←	
④	// //	// // // // //	//	→	
1	// //	// // // □ //	//	←	
2	// //	// // // // //	//	→	

Repeat the above 1–2 operations.

O=Order.....Shows the order of operation
MC=Main Carriage.....Shows the operation of cam button, pull-up knob and returning lever.
a. Push cam button at ■ mark.
b. Set the pull-up knob and returning lever to the respective position indicated by codes.
RC=Ribbing Carriage.....Set the auxiliary cam knob, tuck knob and returning lever to the respective position indicated by codes.
S=Swing Dial.....Set the indicated numeral to ▲ mark.
D=Direction of Carriage.....Advance the carriage toward ⇆ direction.
Needles are set on both machines by following the needle setting diagram.

1. Needle Setting

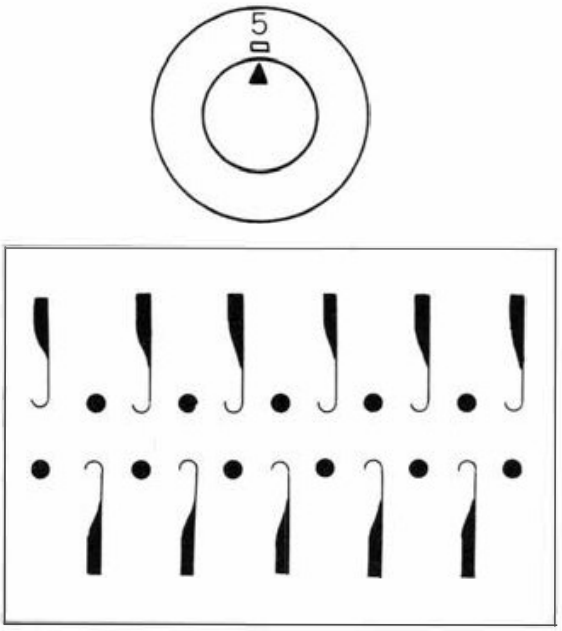


Needles are set for the main machine and the Rib Knitter. Needle setting varies in accordance with the kind of knitting.

For one-needle rib stitch

Set large numeral to indication (▲ mark) of swing dial.

Place needles of the main machine and the Rib Knitter alternatively at one needle intervals to B position, for the required stitches.

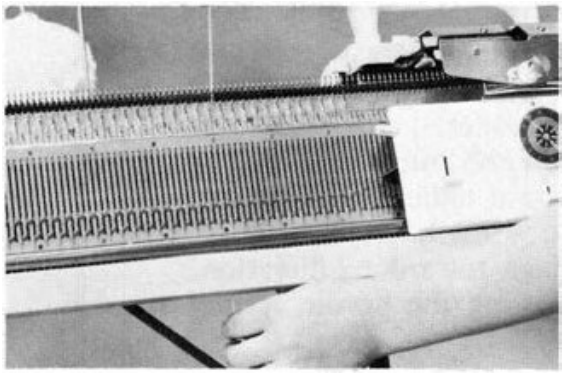


(For full rib stitch)

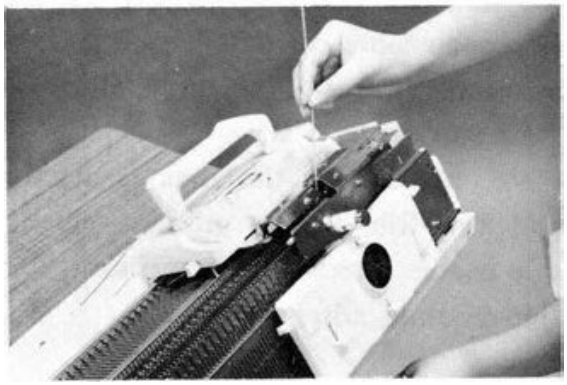
Set small numeral with □ mark to indication (▲ mark) of swing dial. Place needles of main machine and Rib Knitter to B position, for the required stitches.

For setting of needles other than above, instructions are given for respective different kinds of stitchings.

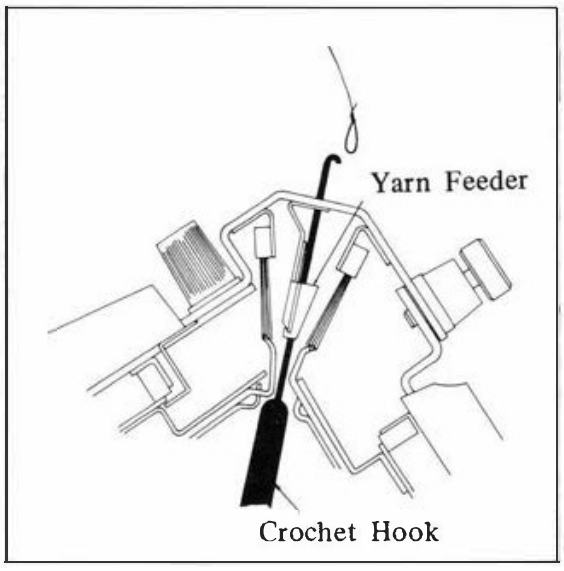
2. Threading the yarn



The yarn passed through the tension, is passed between the sinker of the Rib Knitter and the main machine at the left side of the carriage, and hold the end of the yarn, which hangs down, by the left hand.



Hold the upper side of the yarn in the right hand and bring the yarn to the center of the arm along the arms groove. Span the yarn in a line with the groove of the yarn feeder, and by pulling it downwards push it in, and it will enter the yarn feeder.

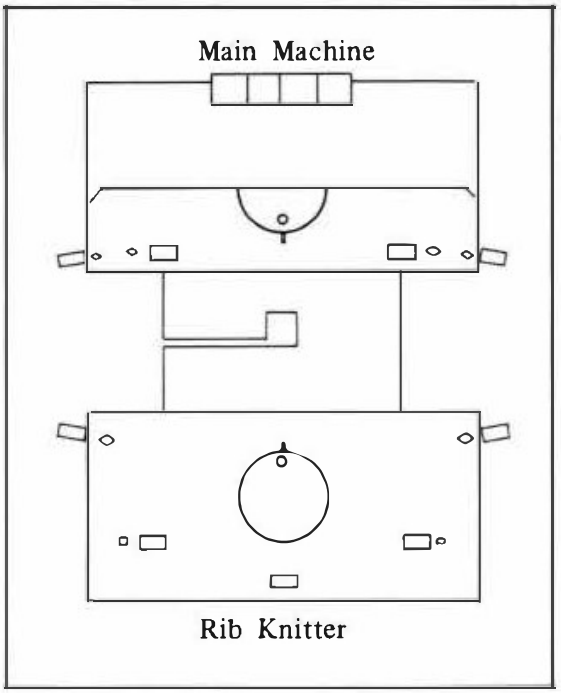


Different method of threading

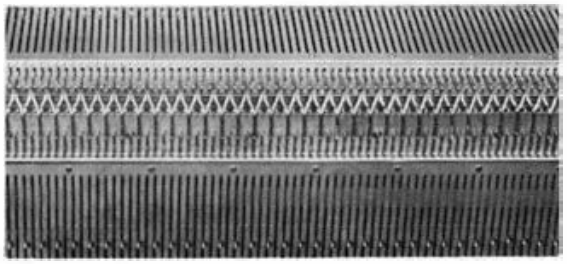
Make a loop at the end of the yarn which has been passed through the tension, and hang, then insert the crocket hook from under and between the sinker of the main machine and the Rib Knitter and hook the loop of yarn and pull it out downwards.

Setting the Carriage

Set the carriage as shown in the figure.

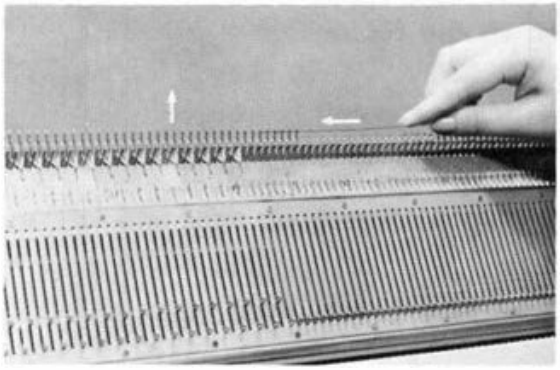


Main machine
Cam Buttons: all released
Pull-up Knobs: both right and left on ◇ mark.
Returning Lever: both right and left on ◇ mark.
Stitch Tension Adjusting Dial: 1
Rib Knitter
Auxiliary-Cam Knobs: both right and left on □ mark.
Tuck Knobs: No mark.
Returning Lever: both right and left on ◇ mark.
Stitch Tension Adjusting Dial: 1



Hold lower end of yarn, and move carriage slowly. Yarn will be caught alternatively to the needles of the main machine and Rib Knitter.

4. Setting the Cast-on Comb



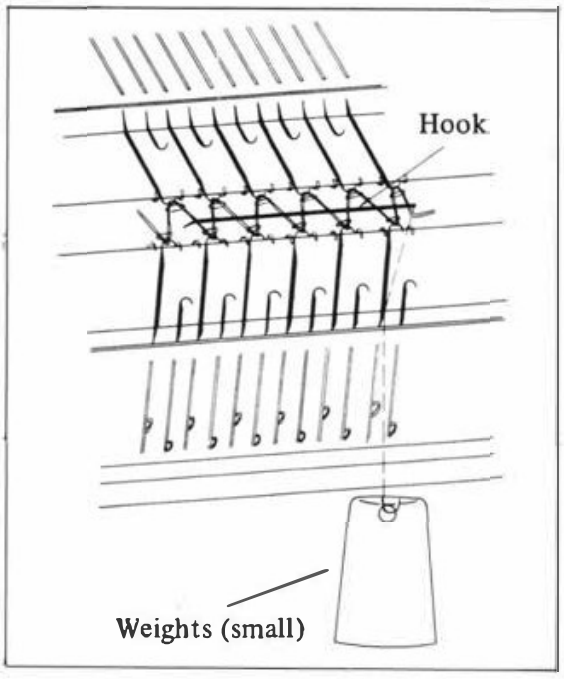
There are two kinds of cast-on combs, large (200 stitches), small (100 stitches). Each is used according to number of stitches.
Pull out the wire of the cast on comb then see that the cast-on comb is uniform against the stitching width and insert so that the comb of the cast-on comb protrudes between the Knitting yarn. Insert the wire of the cast-on comb.

Standard Weight Quantity

Number of stitches	Weight (Large)
up to 50 stitches	1
50 ~ 100	2
100 ~ 150	3
150 ~ 200	4

Next, weights are applied. Allowance is made for quantity of weights in accordance with knitted cloth width and number of stitches.
Hang the given standard quantity of weights into the holes of the cast-on comb, with the right and left side balanced.

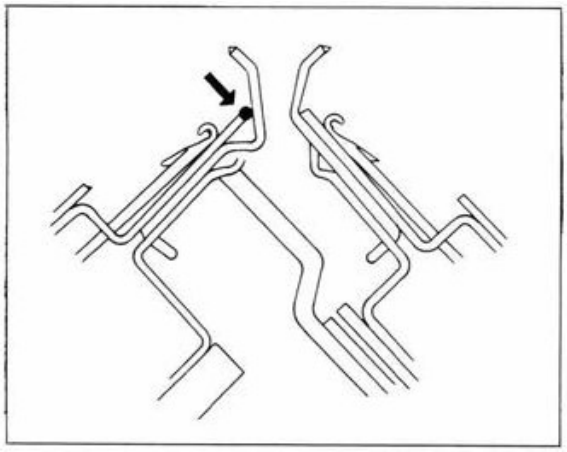
Edge Weights



The edge weights prevent both ends of the knitted cloth from lifting up. Hang the hook portion of the edge weight onto the yarn which is at the edge of the main machine and the Rib Knitter, then hang on weight (small), and move up the weights for every 10 rows or over.

*** Rib Knitting Wire**

For knitting 2 ply, summer yarn etc, the rib knitting wire is used.



Before setting of needle, place the rib knitting wire on, in between the front edge of the groove plate and the sinker needle of the main machine.

Set needle

From the needles at B position of the main machine, take out one needle to D position at intervals of about 20 needles.

Set returning lever of carriage for main machine to ◇ mark and knit one row.

Thereafter, hang the cast-on comb and weights and do normal knitting.

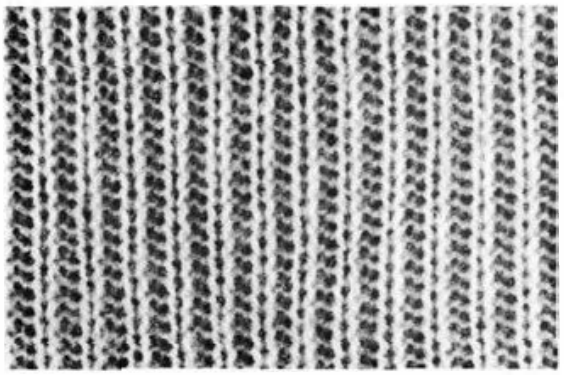
Set the knob or lever of carriage according to operation order ② and move it from left to right.

(Knitting can be done only on the main machine)

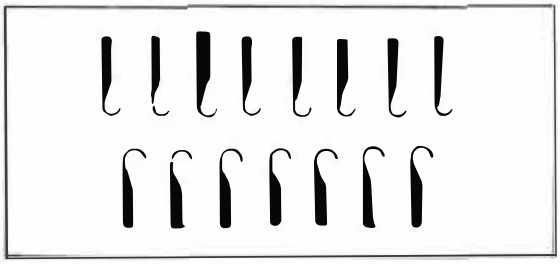
Move carriage according to operation order ③ – ④ . By this, the closing of the rib knitting has been done. The number of operation order with ○ as in ① ~ ④ shows the casting-on and the closing of the rib knitting. Order 1 ~ without ○ shows the method of respective main knitting.

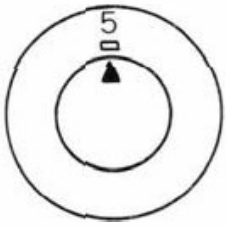
PRACTICAL KNITTING

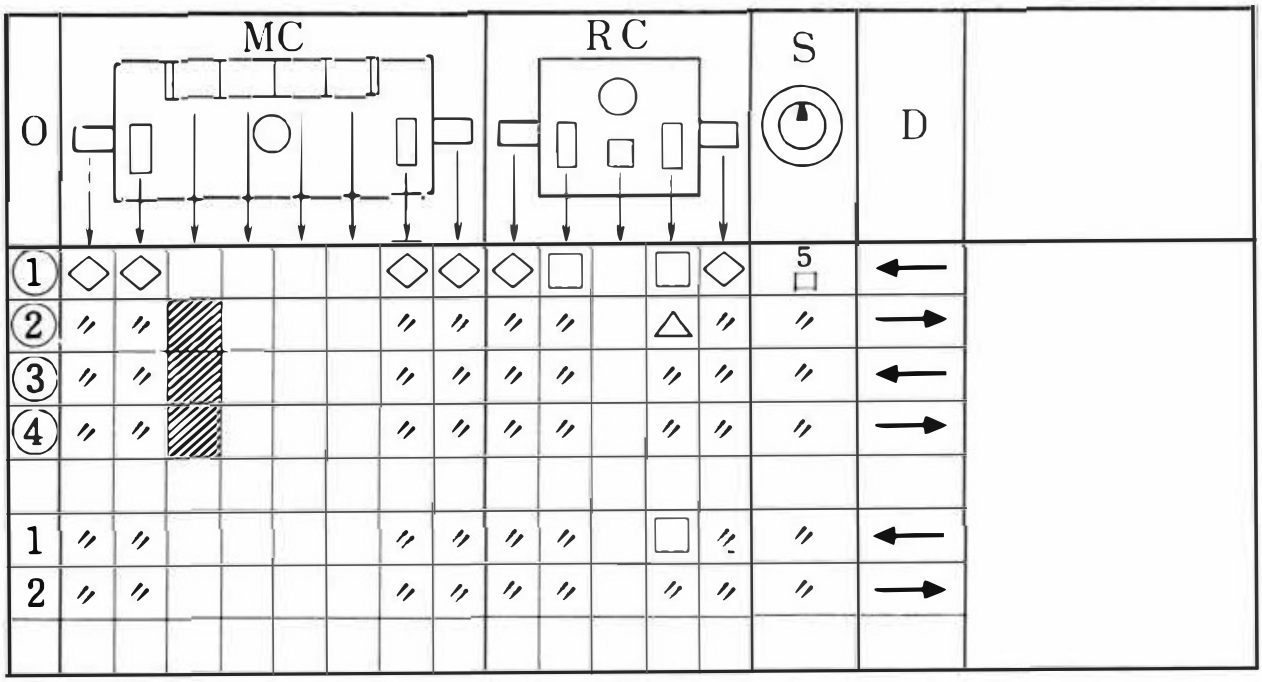
Full Rib Stitch



Knit by bringing out all needles of the main machine and Rib Knitter. The texture of stitch is the same as the one needle rib stitch.

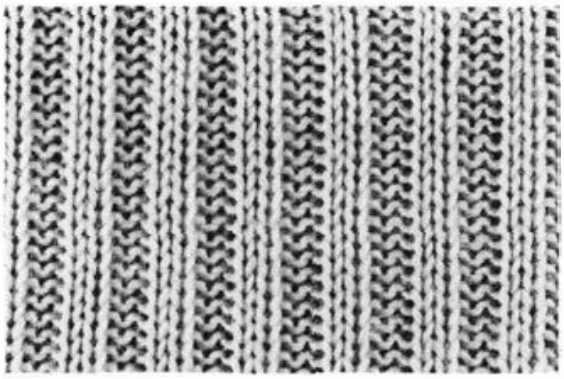






Repeat the above 1–2 operations.

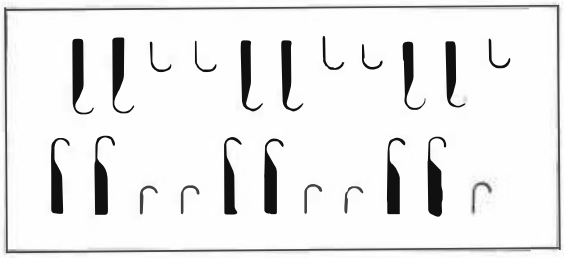
Two Needle Rib Stitch

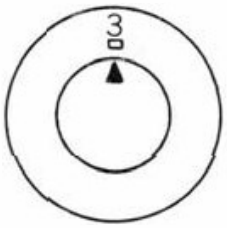


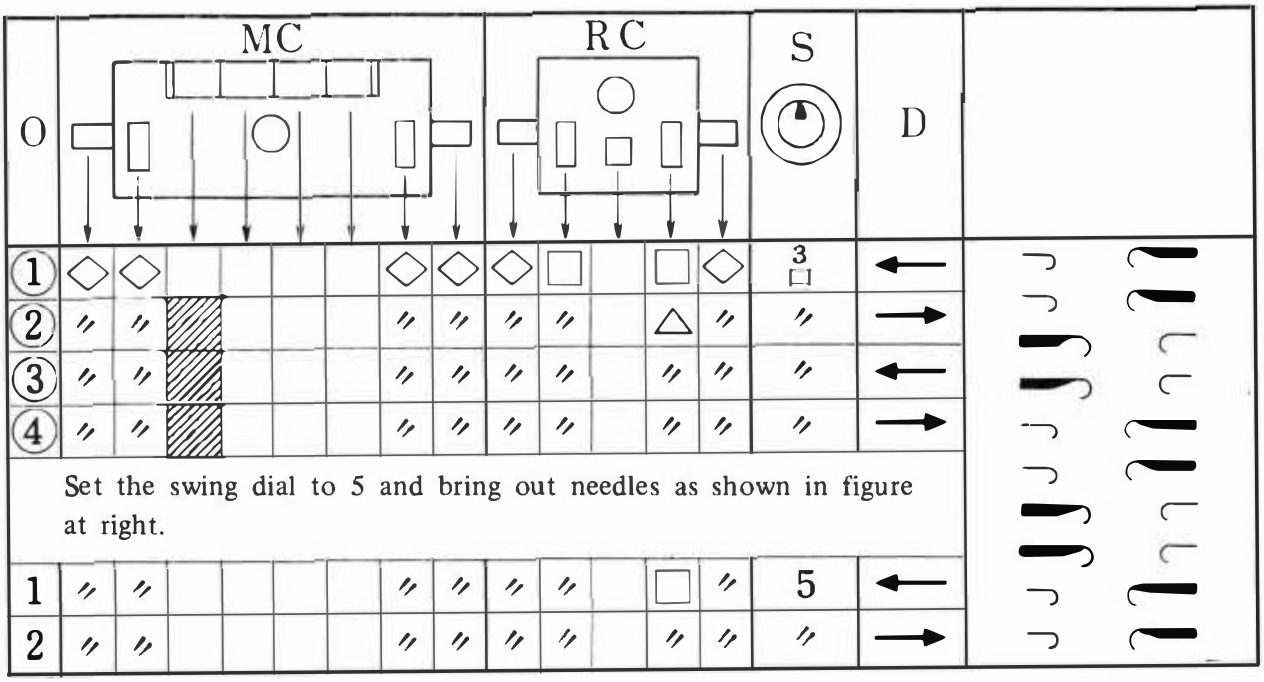
This is the knitted cloth by which 2-knit stitches and 2-purl stitches are formed lengthwise.

There are two methods to bring out the needles of two needle rib stitch.

First Method

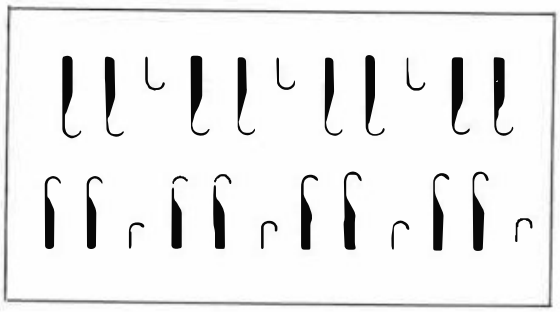


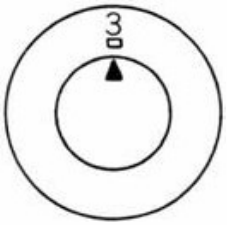


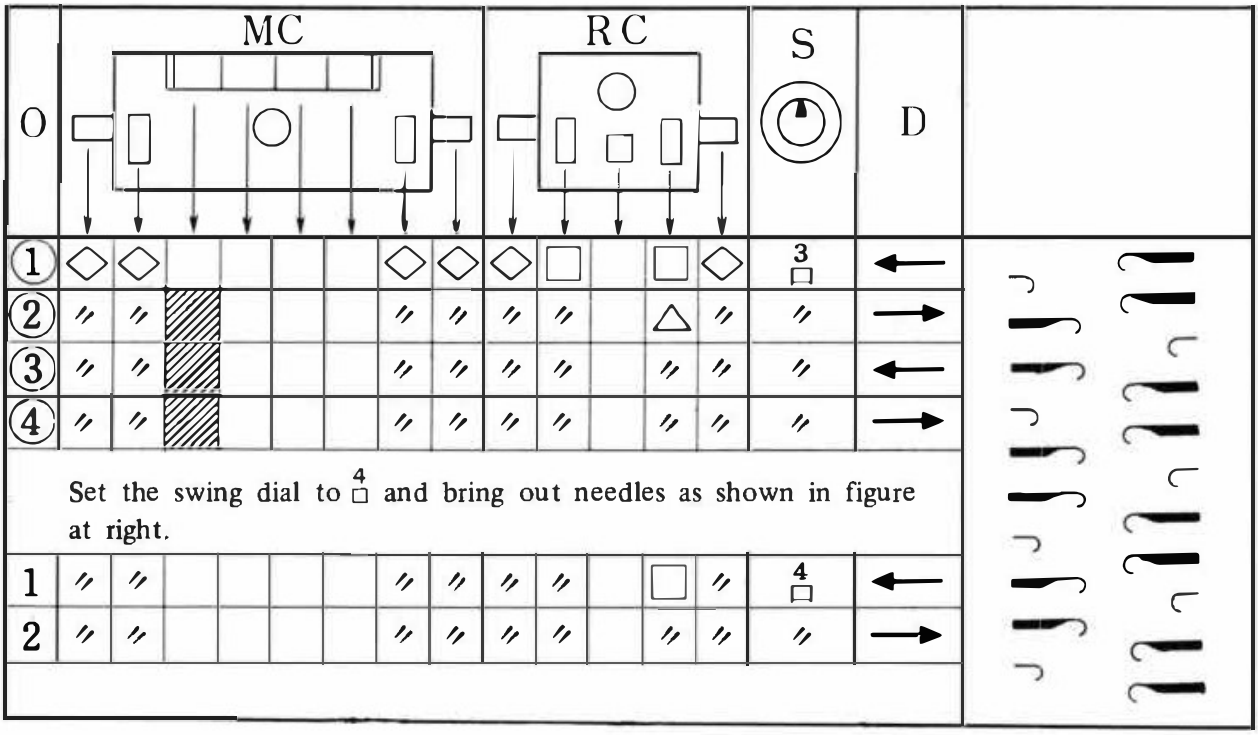


Repeat the above 1–2 operations

Second Method



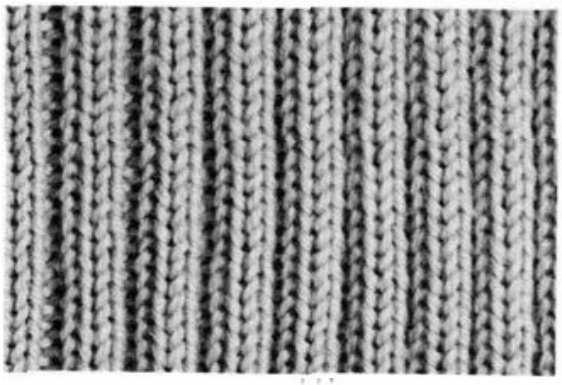




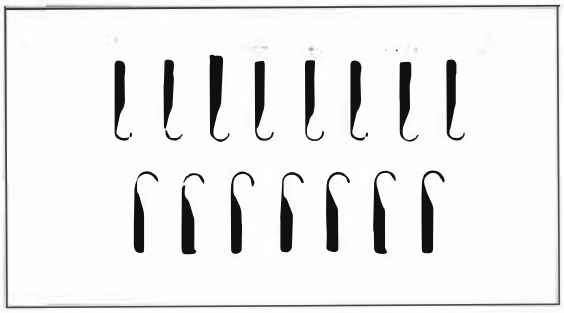
Set the swing dial to 4 and bring out needles as shown in figure at right.

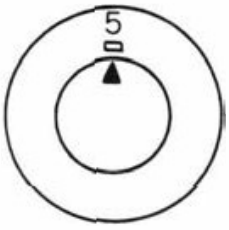
Repeat the above 1–2 operations.

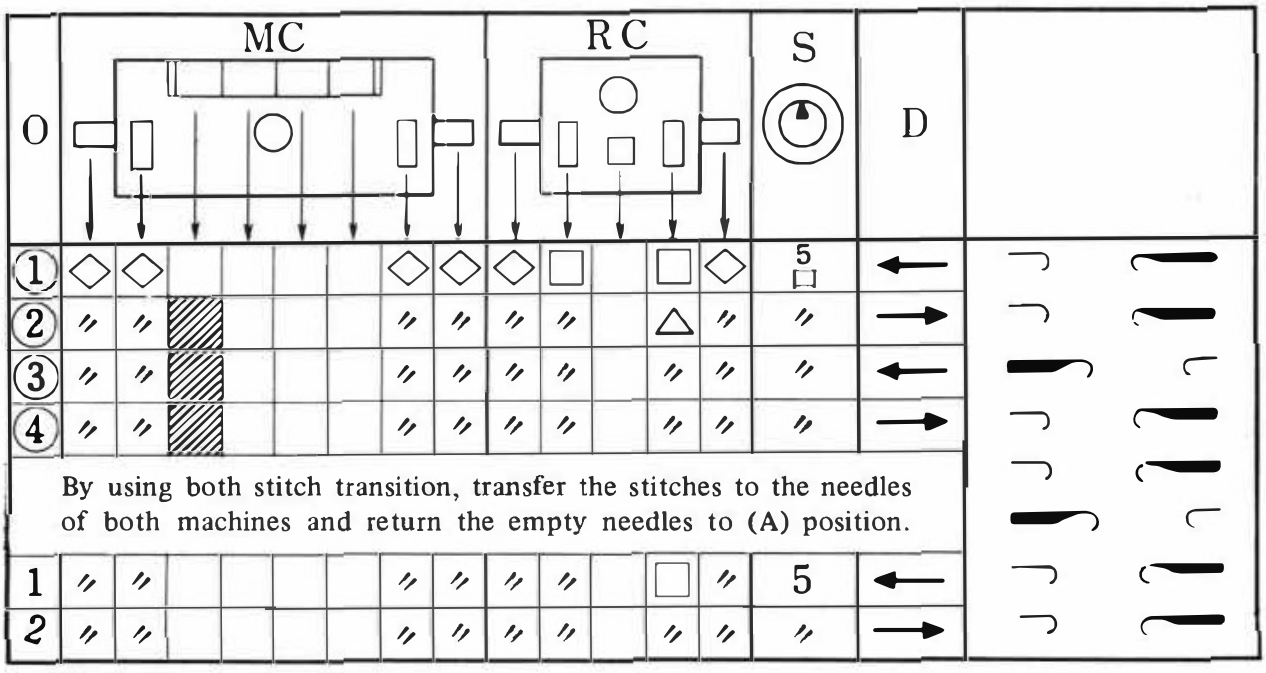
2 Stitches and 1 Stitch Rib Knitting



This is the knitted cloth by which 2 knit stitches and 1 purl stitch are made lengthwise alternately.

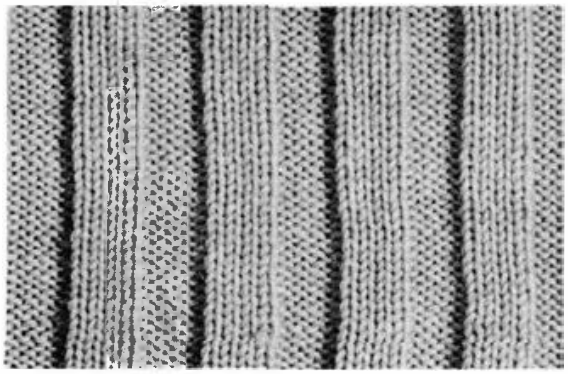




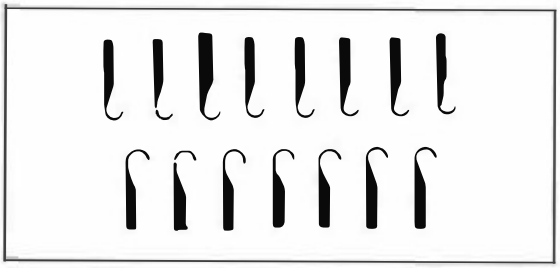


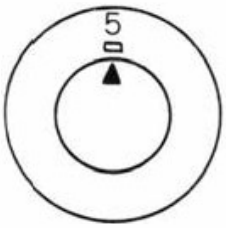
Repeat the above 1–2 operations.

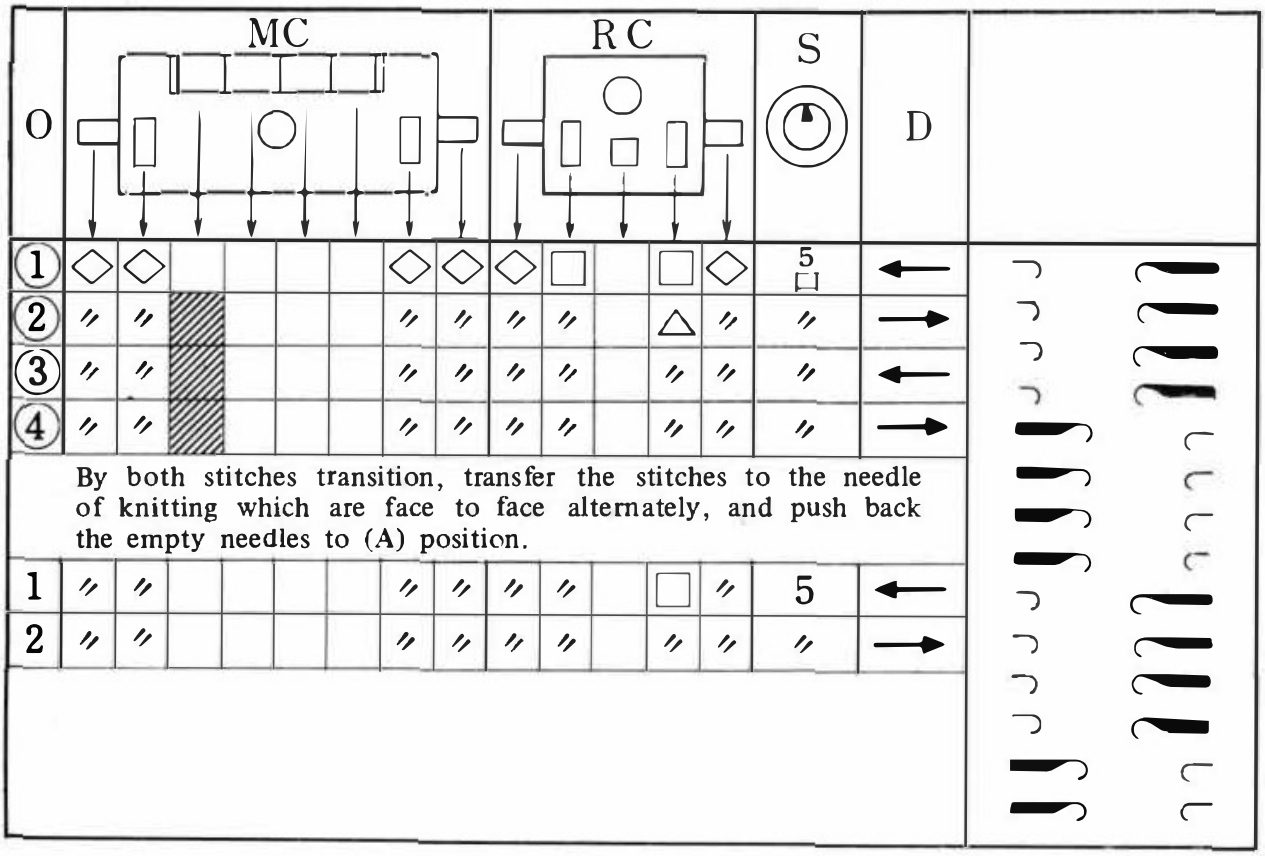
4 Stitches Rib Knitting



This is the rib knitting by which 4 knits and 4 purls are made length-wise.

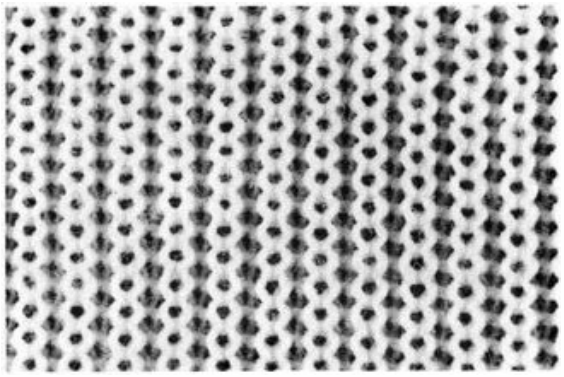




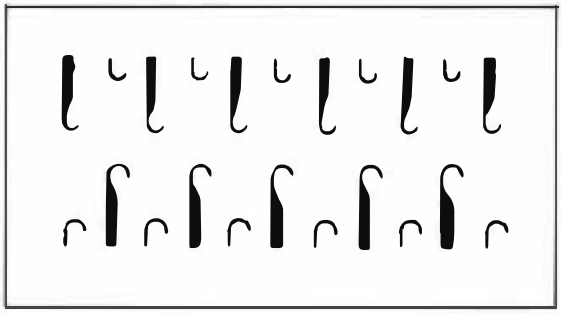


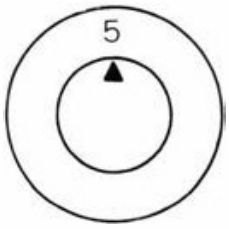
Repeat the above 1–2 operations.

Half Cardigan Stitch



This is the knitted cloth tucked on one side for the one needle rib stitch or full rib stitch. Half cardigan stitch of one needle rib stitch is tried and knitted here.



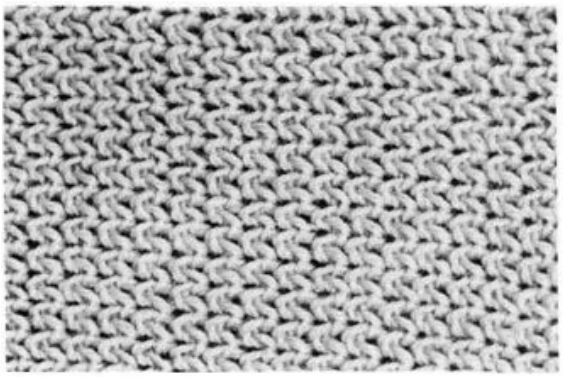


O	MC	RC	S	D	
①	◇ ◇	◇ □ □ □ ◇	5	←	
②	〃 〃	〃 〃 △ 〃	〃	→	
③	〃 〃	〃 〃 〃 〃	〃	←	
④	〃 〃	〃 〃 〃 〃	〃	→	
1	〃 〃	〃 〃 △ 〃 〃	〃	←	
2	〃 〃	〃 〃 〃 〃 〃	〃	→	

Repeat the above 1–2 operations.

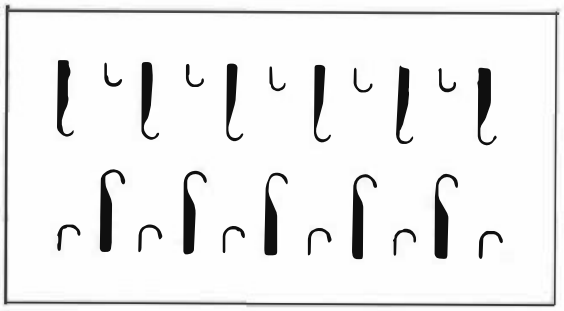
In case of half cardigan stitch of full rib stitch, the operation is same as the above diagram, with the exception of needle setting.

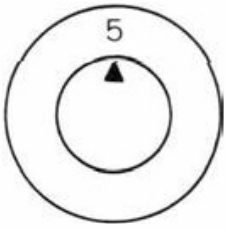
Half Cardigan Stitch Swing Pattern



This is the knitted cloth of half cardigan stitch to which swing operation is added.

Half cardigan stitch swing pattern of one needle rib stitch is tried here.





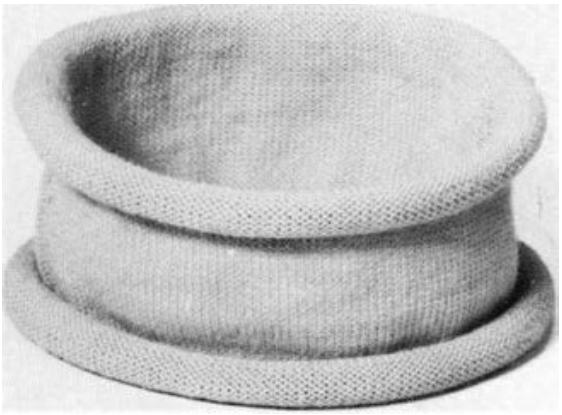
O	MC	RC	S	D
①	◇ ◇	◇ □ □ □ ◇	5	←
②	〃 〃	〃 〃 △ 〃	〃	→
③	〃 〃	〃 〃 〃 〃	〃	←
④	〃 〃	〃 〃 〃 〃	〃	→
1	〃 〃	〃 〃 △ 〃 〃	〃	←
2	〃 〃	〃 〃 〃 〃 〃	〃	→
3	〃 〃	〃 〃 〃 〃 〃	7	←
4	〃 〃	〃 〃 〃 〃 〃	〃	→

Repeat the above 1–4 operations.

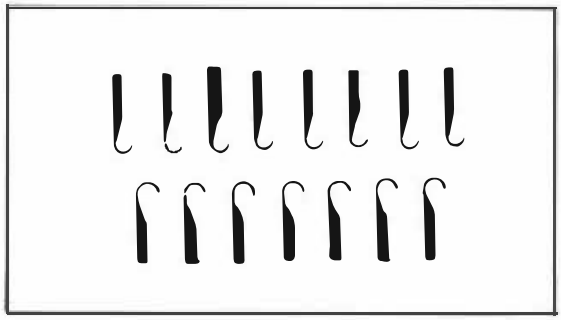
In case of half cardigan stitch swing pattern for full rib stitch, the operation is same as the above diagram except that the needle bringing

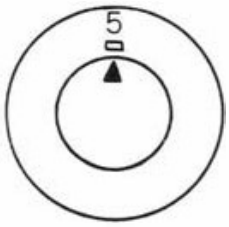
out and swing of full rib stitch becomes 1 pitch. (7 becomes 6 in the above diagram)

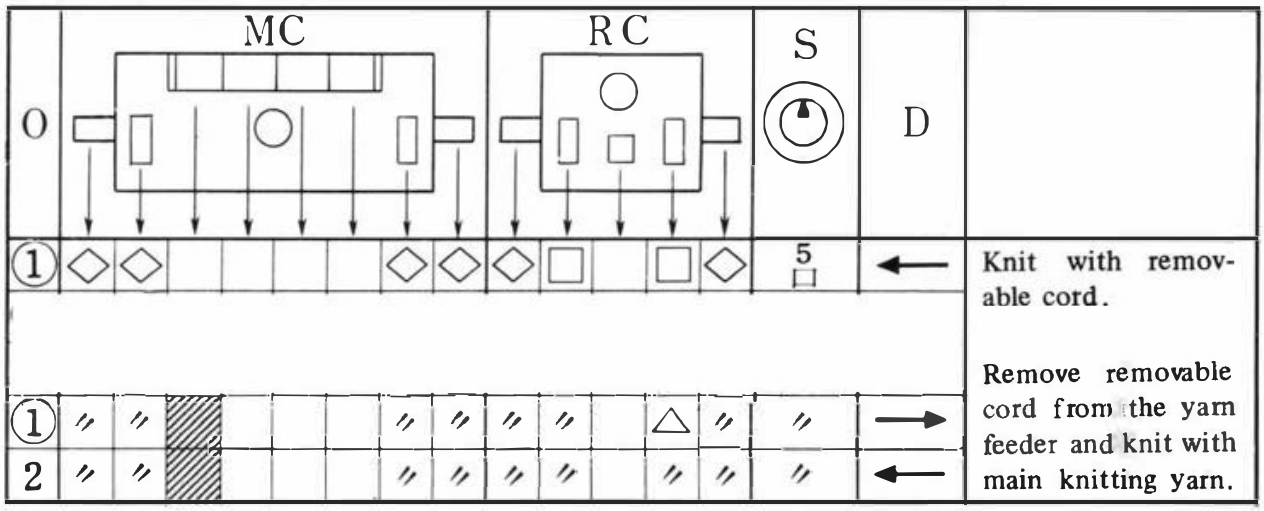
Circular Plain Knitting



This is the knitted cloth knitted cylindrically by plain knitting.

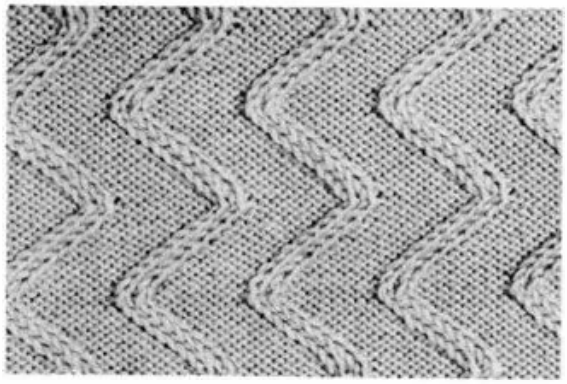




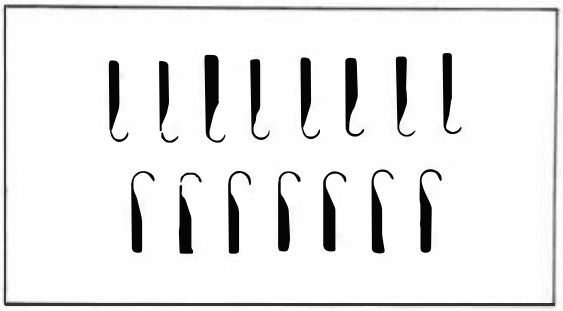


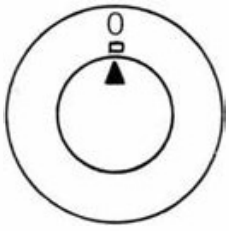
Repeat the above 1–2 operations.

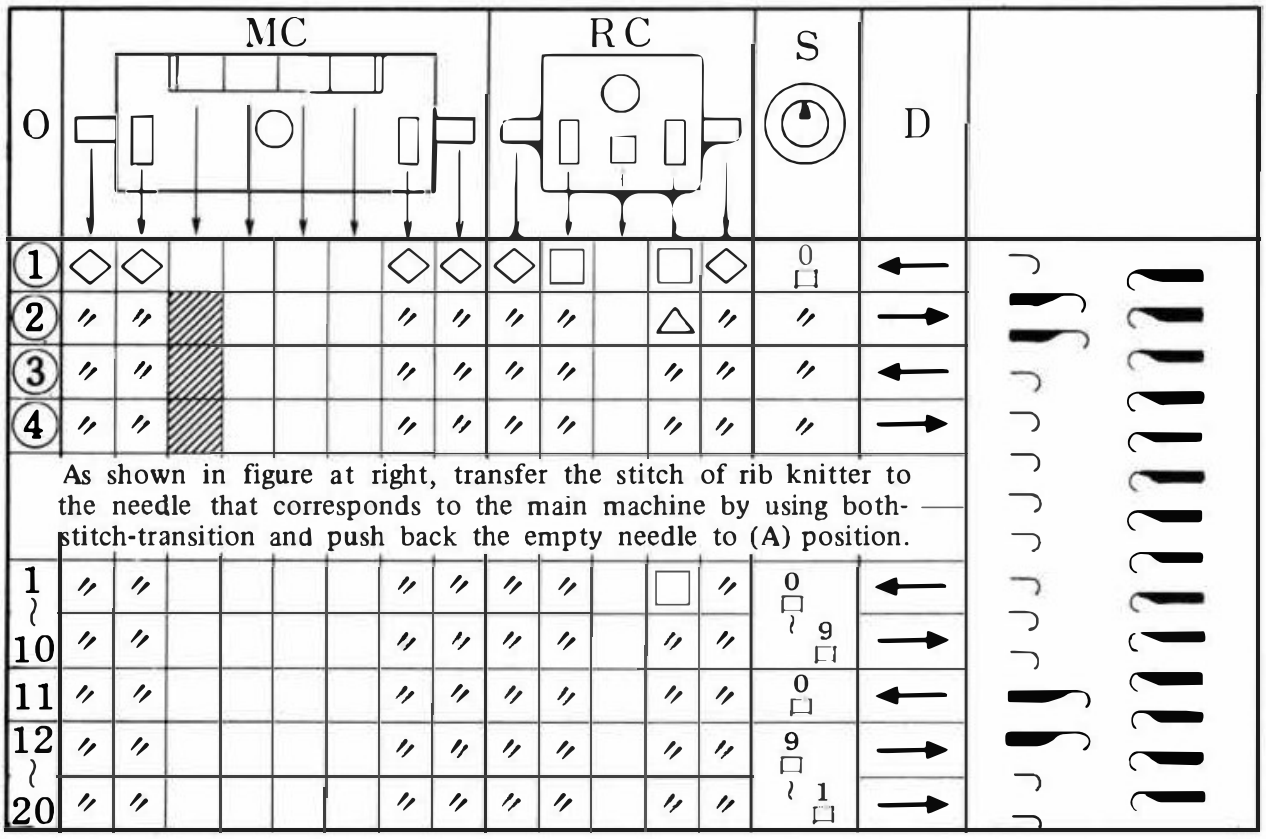
Swing Knitting



This is the knitted cloth which is plain knitted with main machine and swinging the Rib Knitter by 1 pitch.

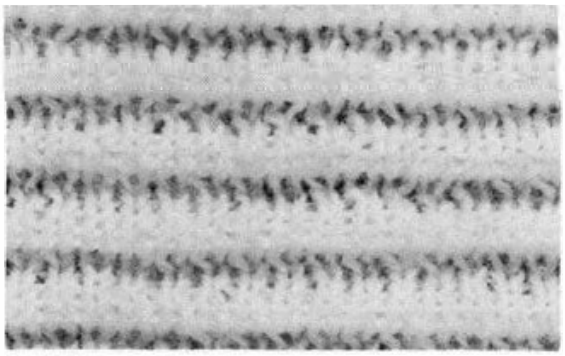




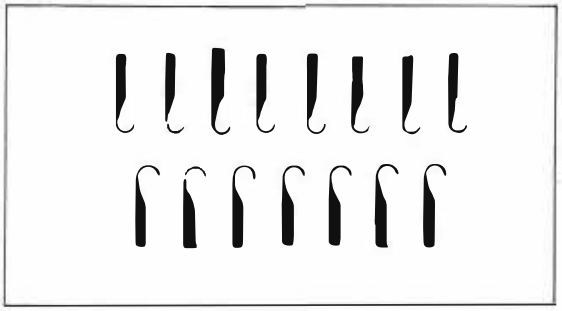


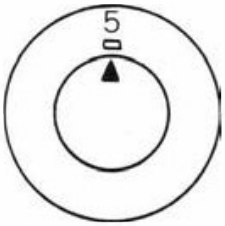
Repeat the above 1–20 operations.

Pin Tuck Knitting



If you knit 3～4 rows more on the side of main machine only in the rib knitting, its portion becomes Pin Tuck.
Pin Tuck Knitting of full rib knitting is tried and knitted here.

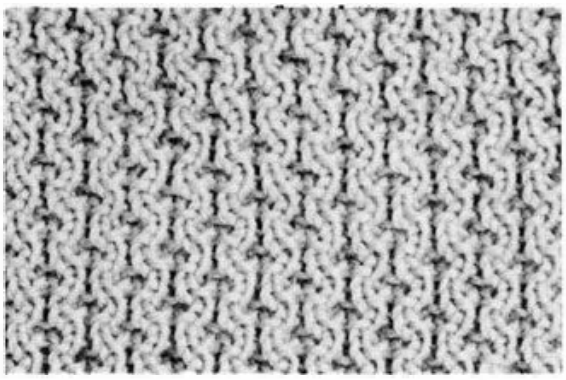




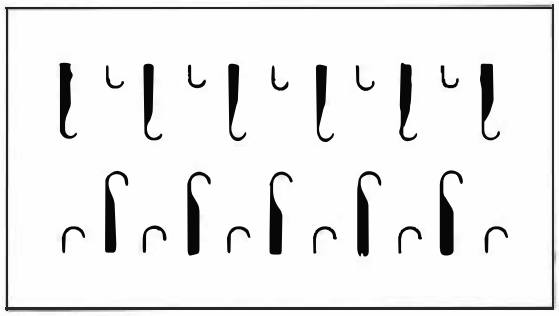
O	MC	RC	S	D	
①	◇ ◇	◇ □ □ ◇	5 □	←	
②	〃 〃	〃 〃 △ 〃	〃	→	
③	〃 〃	〃 〃 〃 〃	〃	←	
④	〃 〃	〃 〃 〃 〃	〃	→	
1	〃 〃	〃 〃 □ 〃	〃	←	
2	〃 〃	〃 〃 〃 〃	〃	→	
3	〃 〃	〃 △ △ 〃	〃	←	
4	〃 〃	〃 〃 〃 〃	〃	→	
5	〃 〃	〃 〃 〃 〃	〃	←	
6	〃 〃	〃 〃 〃 〃	〃	→	

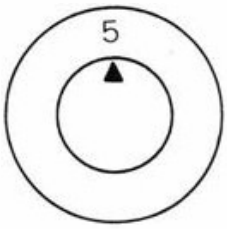
Repeat the above 1–6 operations.

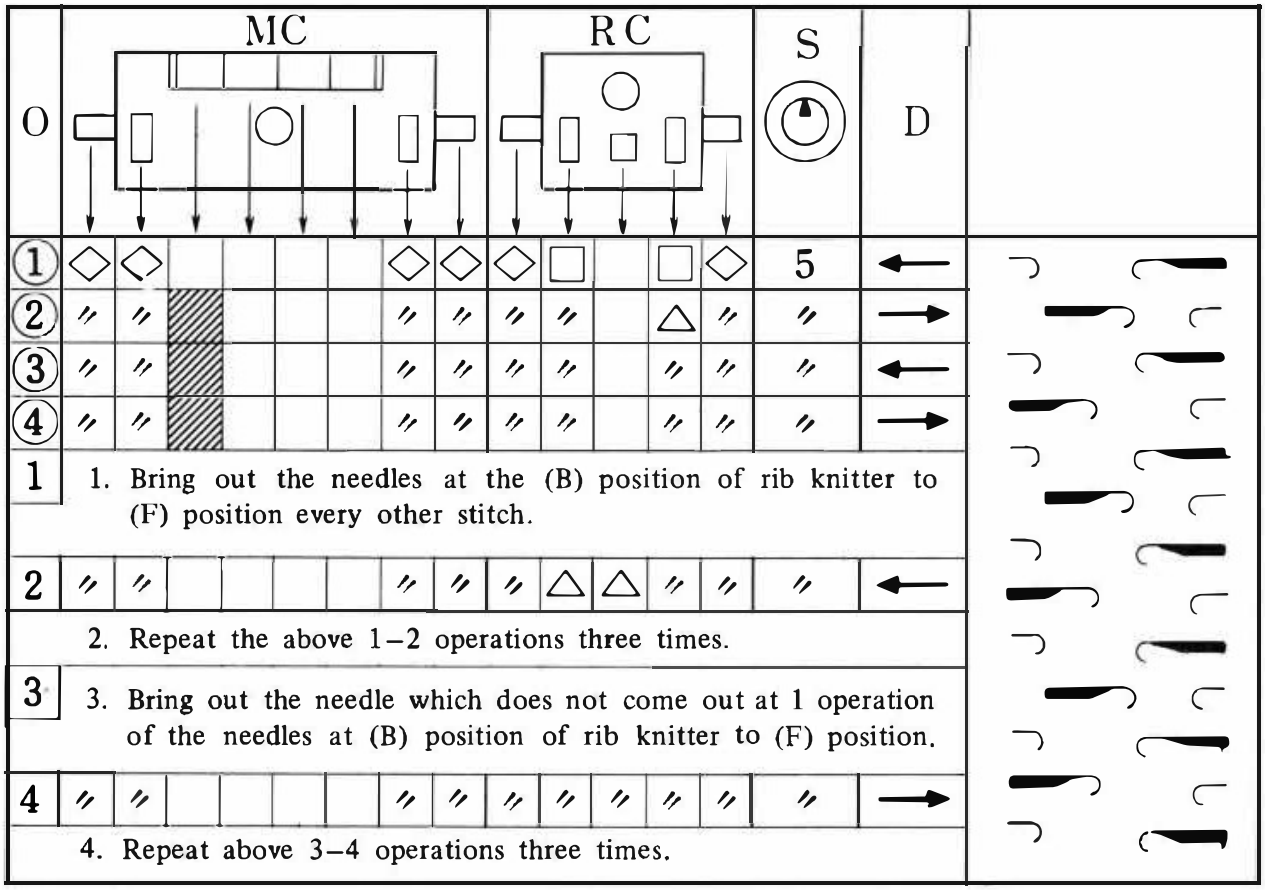
Tuck Rib Knitting



This is the knitted cloth which is tuck knitted alternately every other stitch on the side of Rib Knitter.

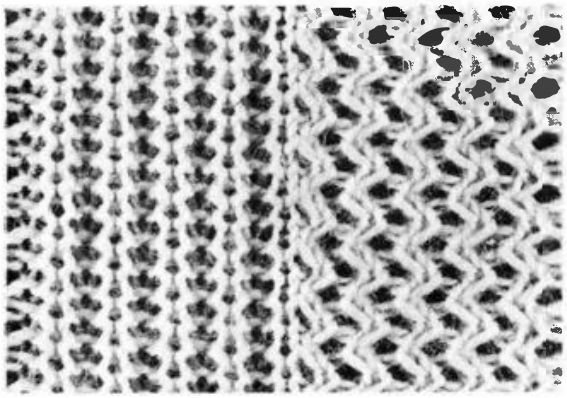


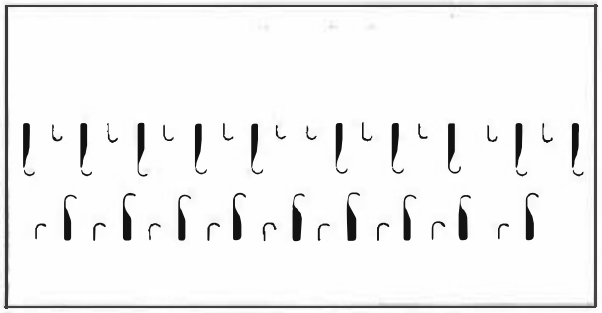


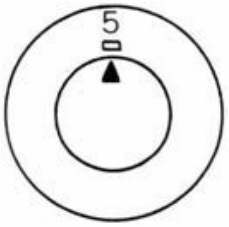


After this, repeat the above 1 ~ 4 operations.

Cardigan Stitch



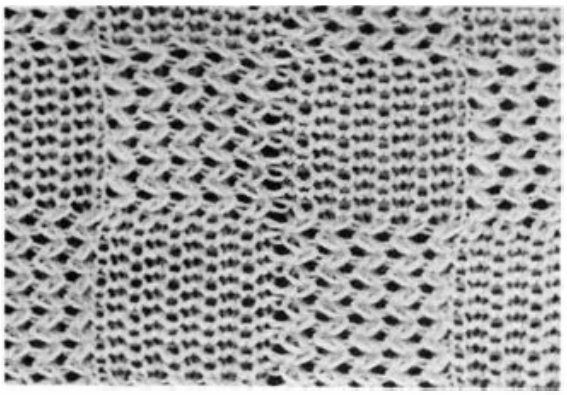


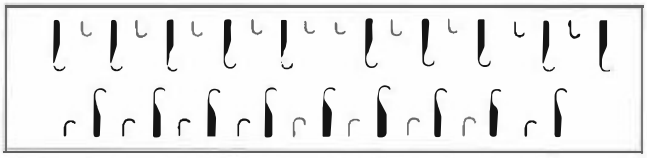


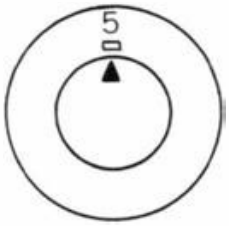
O	MC	RC	S	D	
①	◇ ◇	◇ □ □ ◇	5 □	←	
②	〃 〃	〃 〃 △ 〃	〃	→	
③	〃 〃	〃 〃 〃 〃	〃	←	
④	〃 〃	〃 〃 〃 〃	〃	→	
1	〃 〃	〃 〃 △ 〃 〃	〃	←	
2	〃 〃	〃 〃 〃 〃 〃	〃	→	
3	〃 〃	〃 〃 〃 〃 〃	6 □	←	
4	〃 〃	〃 〃 〃 〃 〃	〃	→	

Repeat the above 1–4 operations.

Cardigan Square Stitch



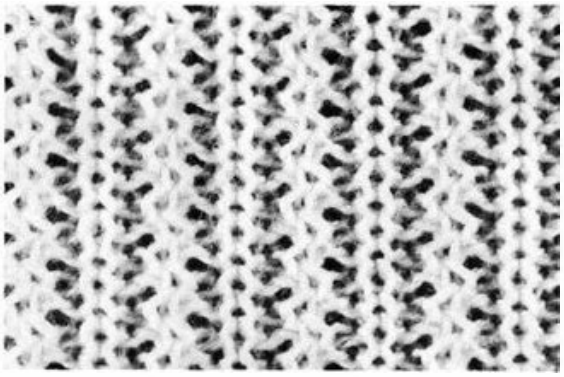


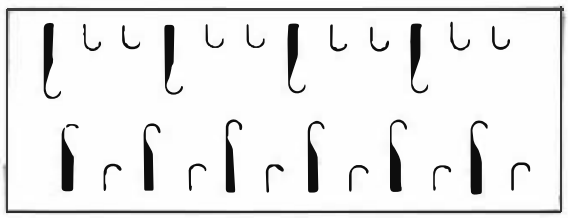


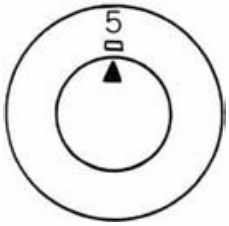
O	MC	RC	S	D	
①	◇ ◇	□ □ ◇ ◇	5	←	
②	〃 〃	△ 〃 〃 〃	〃	→	
③	〃 〃	〃 〃 〃 〃	〃	←	
④	〃 〃	〃 〃 〃 〃	〃	→	
1	〃 〃	△ 〃 〃 〃	〃	←	
2	〃 〃	〃 〃 〃 〃	〃	→	
3	〃 〃	〃 〃 〃 〃	6	←	
4	〃 〃	〃 〃 〃 〃	〃	→	
5	〃 〃	〃 〃 〃 〃	7	←	
6	〃 〃	〃 〃 〃 〃	〃	→	
7	〃 〃	〃 〃 〃 〃	6	←	
8	〃 〃	〃 〃 〃 〃	〃	→	

After this, repeat the above 1–8 operations.

Dog Tooth Check Pattern



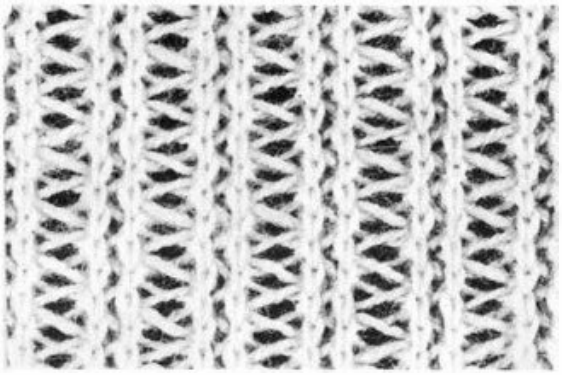


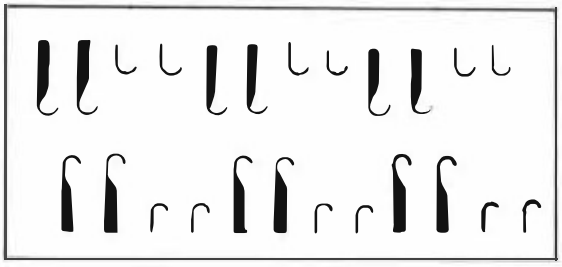


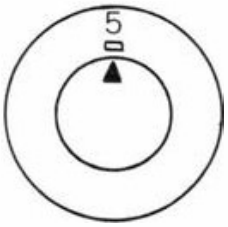
O	MC	RC	S	D	
①	◇ ◇	◇ □ □ □ ◇	5 □	←	
②	〃 〃	〃 〃 □ △ 〃	〃	→	
③	〃 〃	〃 〃 □ 〃 〃	〃	←	
④	〃 〃	〃 〃 □ 〃 〃	〃	→	
1	〃 〃	〃 〃 △ 〃 〃	〃	←	
2	〃 〃	〃 〃 〃 〃 〃	〃	→	
3	〃 〃	〃 〃 〃 〃 〃	6 □	←	
4	〃 〃	〃 〃 〃 〃 〃	〃	→	

Repeat the above 1–4 operations.

2-Stitch 4 Row Swing Pattern







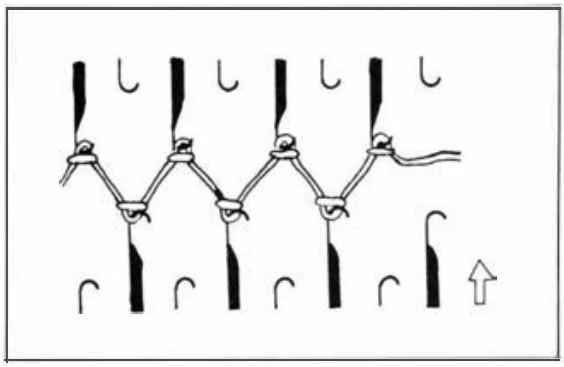
O	MC	RC	S	D	
①	◇ ◇	◇ □ □ ◇	5 □	←	
②	〃 〃	〃 〃 △ 〃	〃	→	
③	〃 〃	〃 〃 〃 〃	〃	←	
④	〃 〃	〃 〃 〃 〃	〃	→	
1	〃 〃	〃 〃 △ 〃 〃	〃	←	
2	〃 〃	〃 〃 〃 〃 〃	〃	→	
3	〃 〃	〃 〃 〃 〃 〃	6 □	←	
4	〃 〃	〃 〃 〃 〃 〃	〃	→	

Repeat the above 1–4 operations.

VITAL POINTS TO REMEMBER IN KNITTING

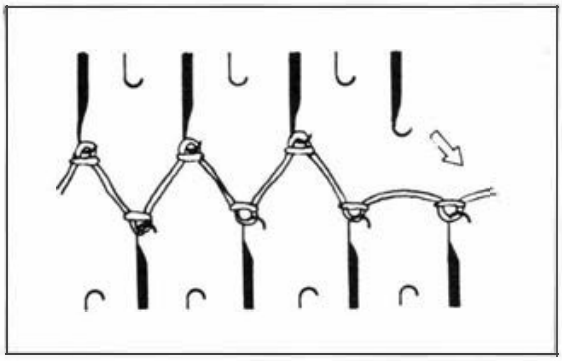
1. Increasing the Stitch

(1) Increasing one stitch



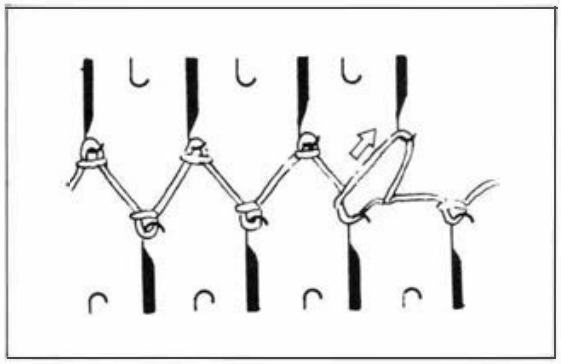
Method 1

This method is performed on the carriage side. Bring out one increasing needle to (B) position and in that condition, knit with the carriage to increase one stitch.



Method 2

Regardless of carriage position, transfer one edge stitch of knitted cloth to the needle brought out to outside (B) position.



Lift the back loop of inside stitch and hook it on the empty needle.

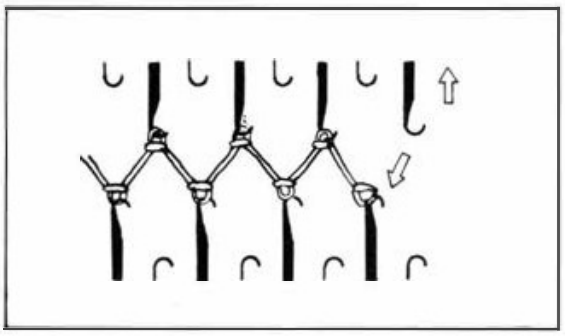
(2) Increasing a number of stitches

Keep the carriage stopped on the opposite side to be increased. Bring out the increasing needle of main machine and Rib Knitter to (B) position and knit one row.

Hang the edge stitch pushing tool and weights (small) on the knitted cloth which hooks alternately on the needles of increasing stitch of both machines and keep knitting and stitches will be increased.

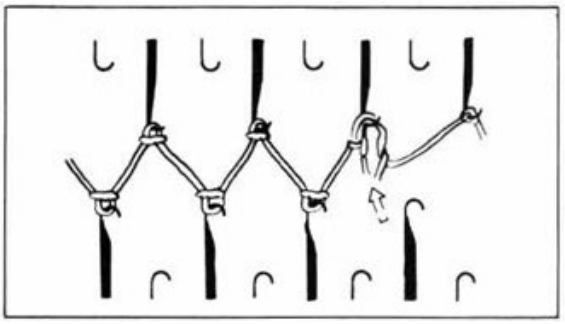
2 Decreasing the Stitch

(1) Decreasing one stitch



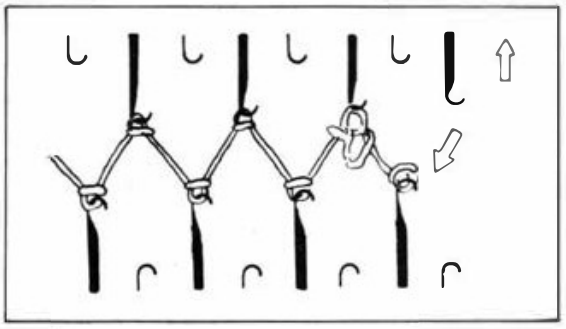
Method 1

Regardless of carriage position, transfer one edge stitch to inside needle. Push back the empty needle to (A) position.



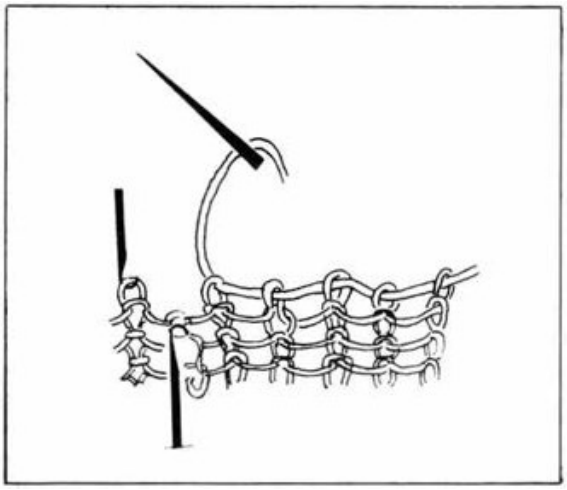
Method 2

Regardless of carriage position, transfer the second stitch from the edge to the third needle.



Transfer the edge stitch to the second empty needle. Push back the empty edge needle to (A) position.

(2) Decreasing a number of stitches

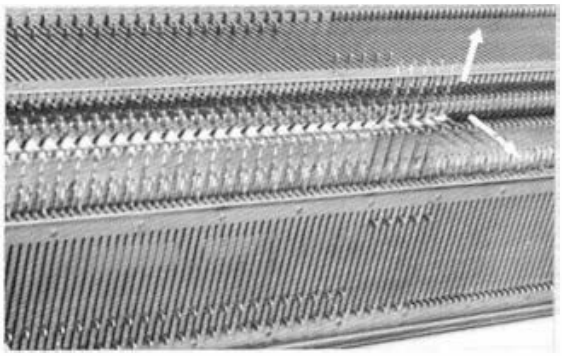


Keep the carriage stopped on the opposite side to be decreased.
Take off the decreasing stitch from the needle by passing it through different yarn with sewing needle.
Push back the empty needle to (A) position.

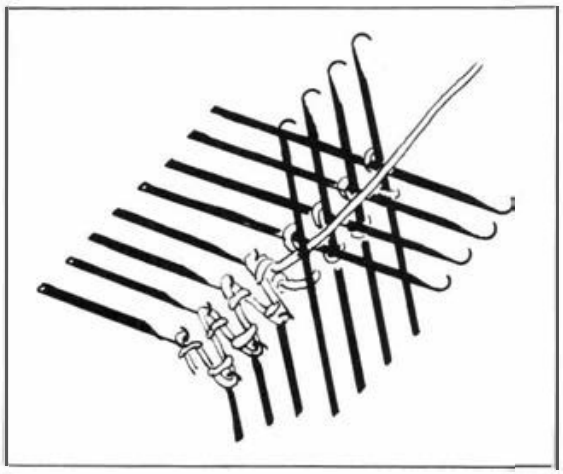
3. Horizontal Shaping

When knitting bust darts, shaped hems, mitred corners or any part when more rows are required on some needles than others, horizontal shaping is used.
In case of horizontal shaping, set the returning lever of carriage of main machine and Rib Knitter to ○ mark.

(1) Horizontal shaping to decrease the part of knitting

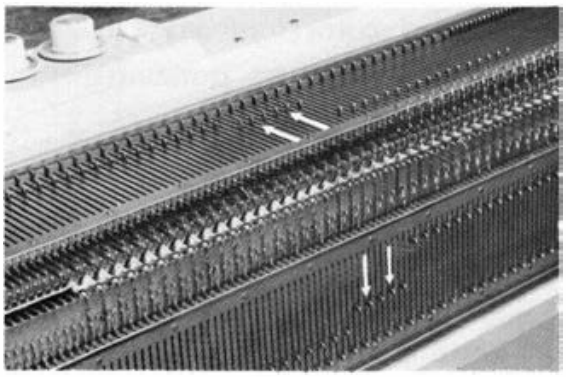


Bring out 4 more needles on the opposite side of carriage to (F) position.
Knit one row.
Only the knitting needles in (B) position will knit and the yarn will be taken across the stem of the needles in (F) position.

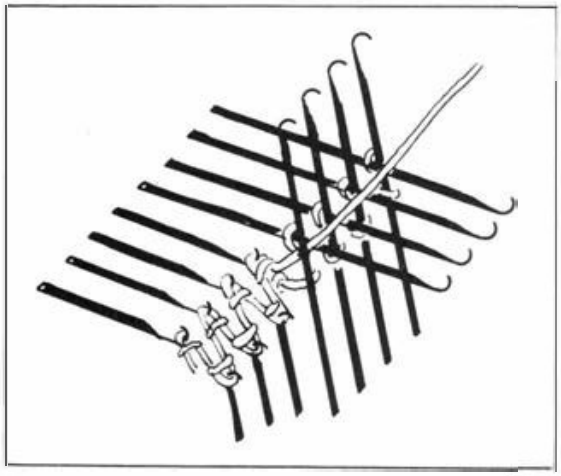


Take the knitting yarn round the nearest needle in (F) position.
In case of shaping on the left and right of knitted cloth, bring out the needle of shaping of the opposite side to (F) position.
Knit one row.
Repeat this until the shaping ends.
At the end of shaping, adjust the returning lever of main machine and Rib Knitter to ◇ mark.
Then knit one row.
The knitting needles in (F) position will knit too and all needles will line up in order at (B) position.

(2) Horizontal shaping to increase the part of knitting



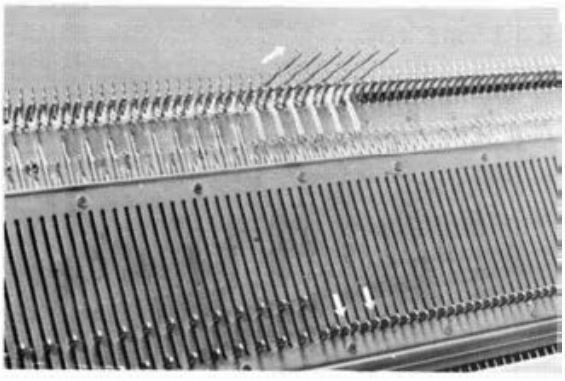
Bring out all needles of the shaping on the opposite side of carriage to (F) position. Push back the needle of increasing part to (C) position for the main machine and to (D) position for the Rib Knitter and knit one row.



Only the knitting needles in B, C and D position will knit and the yarn will be taken across the stem of the needles in (F) position.
Take the knitting yarn round the nearest needle in (F) position.
Knit one row.
Repeat above operations until all needles are in (B) position.

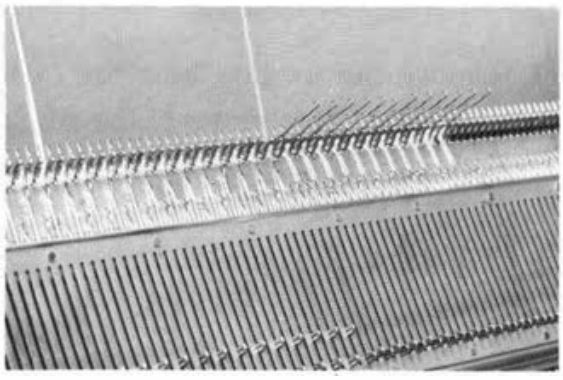
* **Horizontal shaping by swing dial**
To stitch by swing as in "Cardigan swing rib knitting", "Arrow swing knitting" and "Swing knitting", the needles of both machines will be out in (F) position in case of shaping. In this case as the needles will be crossed and swing will be impossible. So, do as follows.

Horizontal shaping to decrease the part of knitting



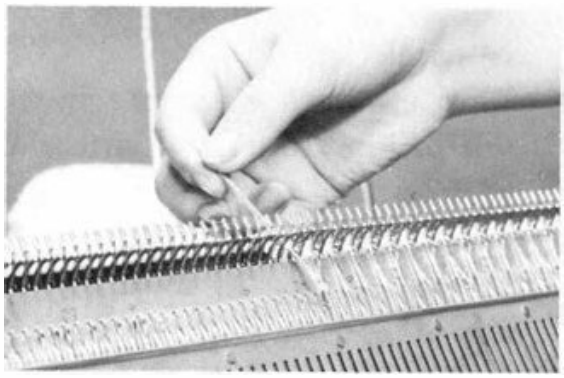
Make the needle of Rib Knitter of the shaping on the opposite side of carriage push behind latch, knit crossing the removable cord into the hook and push it back to (A) position.
Bring out the needle of the main machine to (F) position.
Knit one row.
Repeat above operations.

Horizontal shaping to increase the part of knitting

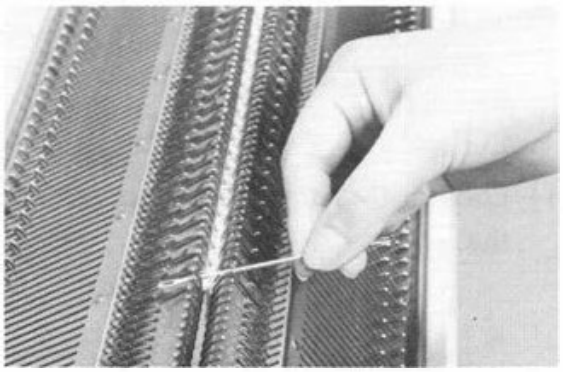


Make the needle of Rib Knitter out of the shaping on the opposite side of carriage push behind latch, knit with the removable cord and push it back to (A) position.
Bring out the needle of the main machine to (F) position. Bring out the increasing needles to (B) position unlacing the removable cord with rib knitter, push it back to (C) position with the main machine and knit one row.
Repeat above operations.

4. Transition of Stitch



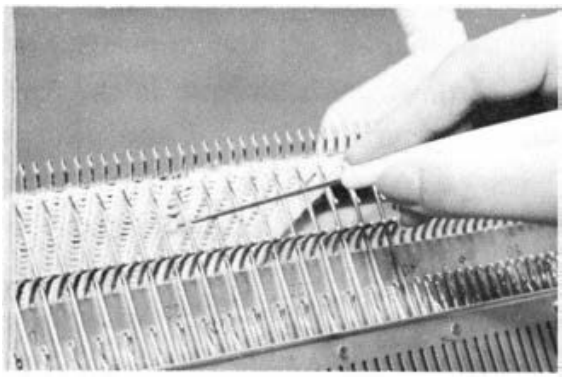
In case of transition from Rib Knitter to the main machine.
Transfer the stitch of Rib Knitter to the both-stitch-transition.
Slide the stitch to the oposite side while inclining the both-stitch-transition.



Hang the hole of opposite side to the hook of needles of main machine and transfer the stitch.
In case of transition from the main machine to the Rib Knitter, do same as above.

WHAT TO DO IN CASE OF DIFFICULTIES

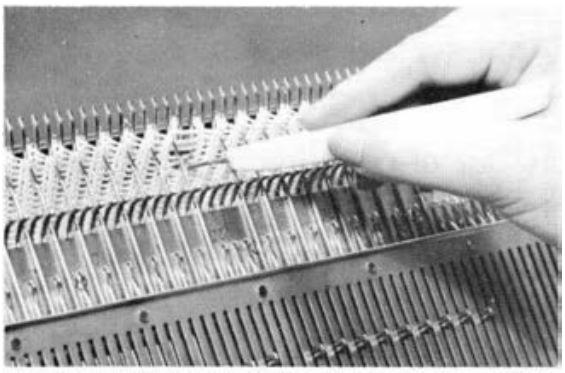
1. When stitch is dropped



(1) Remove the weights from the cast-on comb. This prevents the stitch from further unlacing.

(2) Drop the Rib Knitter down by pushing the Drop Button.

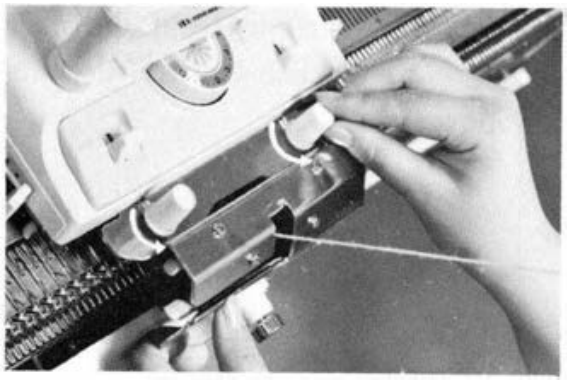
(3) In case of the stitch being unlaced 1 ~ 3 stitches. Pick them up with the crocket hook hang them on needle and make new stitch with needle.



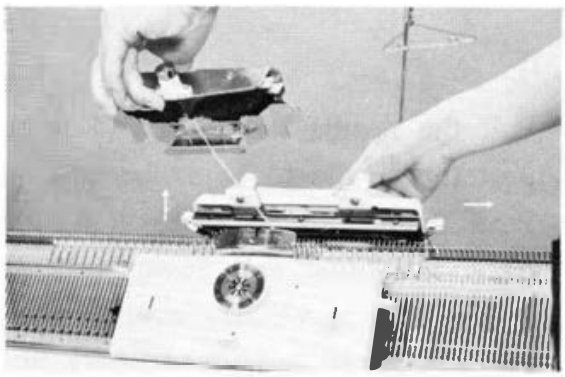
(4) When the stitches are unlaced more than 3 stitches, make the stitch with the latch tool and hang them on needle.
When the stitch is dropped on the side of Rib Knitter, put latch tool in from the front of the work.

In case of drop of stitch on the side of the Main Machine, put latch tool in from the back of the work.

2. When the carriages do not move

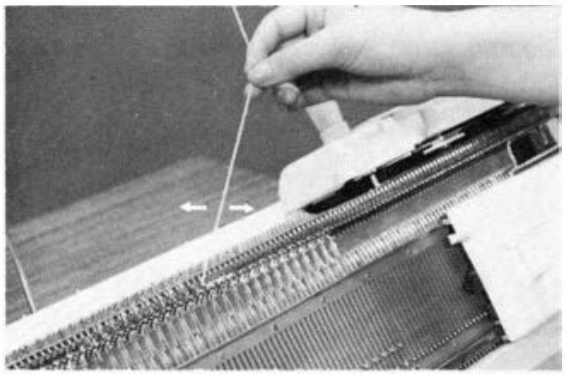


(1) Loosen the arm knob and remove the arm.



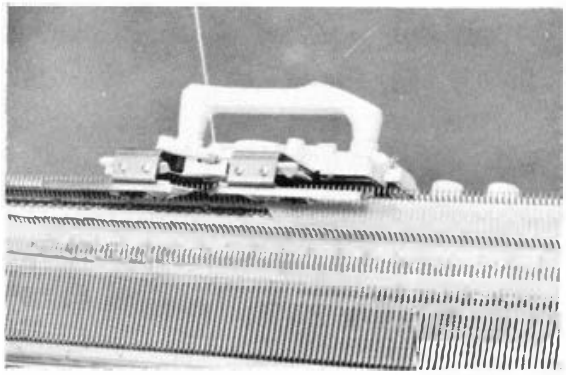
Lift up the front of the carriage of the main machine slightly and slide the carriage sideway away from the work.
In case of the Rib Knitter, do the same as above.

3. When want to unravel a row of stitches



Pulling the thread, untie the stitches of the main machine and Rib Knitter alternately.

4. When you want to knit only with the Main Machine, with the Rib Knitter in installed condition



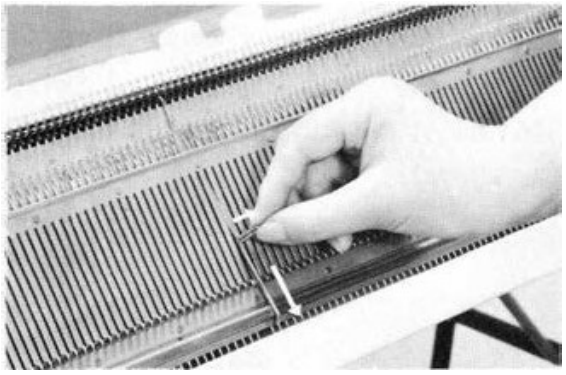
(1) Drop Rib knitter down by pushing Drop Button.

(2) Remove the arm for the Rib Knitter attach the arm for the main machine and knit.

5. When you want to remove the knitted cloth from the machine

After waste knitting 8 ~ 10 rows with waste yarn, remove the weights, then remove yarn from yarn feeder and run the machine empty, and knitted cloth will come off.

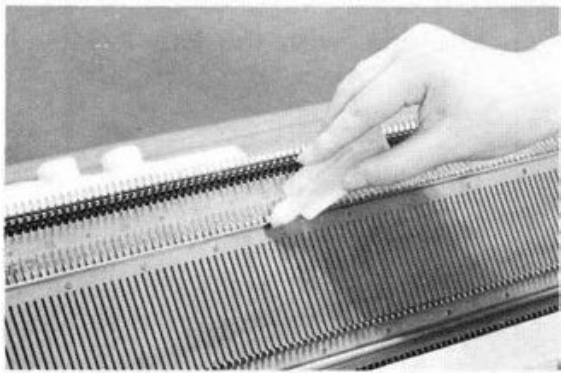
6. Exchanging the Knitting Needles



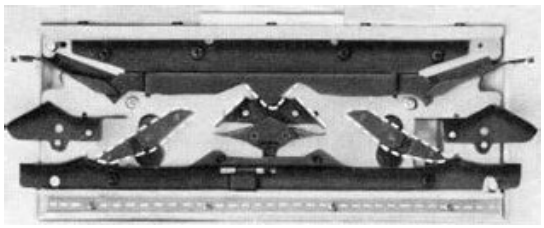
Pull the needle bar until end is just past the needle to be exchanged.
Push the needle to F position, then press the hook end downwards and the shank end will come up.
Pull the shank end up and back until it is out of the plate.
Insert new needle in reverse order.
When the new needle is in place push the needle bar back as before, at the same time keeping it in place by pressing forward on some of the needle butts.

7. Care and Maintenance of the Machine

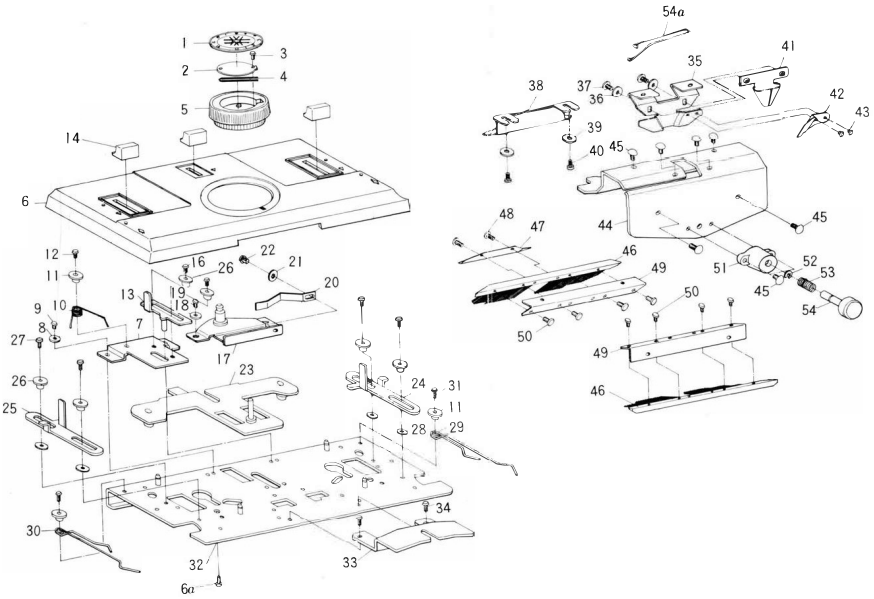
The machine must always be kept clean and oild to ensure satisfactory use.



Wipe away all dust and grit from the groove plate and rear rail with a soft rag.
Apply oil attached to main machine lightly to the front and rear rails.



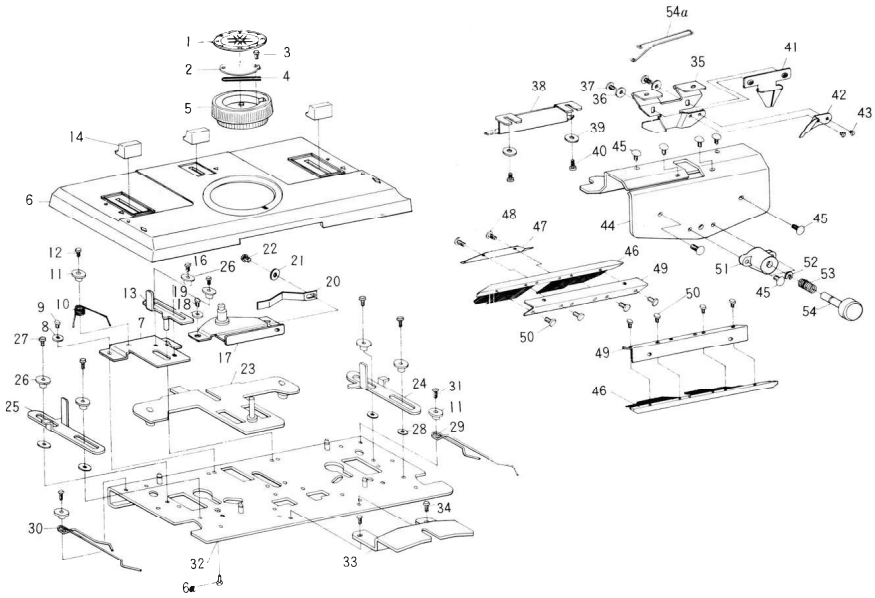
Apply oil to the underside of the carriage. Wipe away all dirt and apply oil to the dotted line shown in the picture.
Wipe away dirt from metal parts with a rag, then wipe them with a oil-soaked rag.
Keep the machine in a dry steam-free atmosphere.



PARTS LIST

1. Carriage Components

Ref. No.	Part No.	Description	Amt. Req.
1	KR110145	Dial decorating plate	1
2	K11332	Dial presser	1
3		Pan head tapping screw M3 x 8 ⊕	2
4	K11331	Dial stopper	1
5	K19330	Dial	1
6	KR110105	Carriage cover	1
6a		Binding head screw M3 x 6 ⊕Ni	2
7	KR110140	Tuck plate base	1
8		Plain washer M3	2
9		Binding head screw M3 x 4 ⊕ Ni	2
10	KR110143	Tuck plate spring	1
11	K16563	Connecting bar collar	3
12		Binding head screw M3 x 8 ⊕	1
13	KR110141-A	Tuck plate assembly	1
14	K19345	Pull-up needle knob	3
16		Binding head screw M3 x 5⊕Ni	2
17	KR110130-A	Main cam base plate presser assembly	1
18		Plain washer M3	2
19		Binding head screw M3 x 5⊕Ni	2
20	K16316	Dial stopper	1
21		Plain washer M2.6	1
22		Binding head screw M2.6 x 4⊕Ni	1
23	KR110110-A	Main cam base plate assembly	1
24	KR110133	Auxiliary cam plate (right)	1
25	KR110134	Auxiliary cam plate (left)	1
26	KR110135	Auxiliary cam plate collar	6
27		Binding head screw M3 x 5⊕Ni	4
28		Plain washer M3	4
29	KR110136	Auxiliary cam plate spring (right)	1
30	KR110137	Auxiliary cam plate spring (left)	1
31		Binding head screw M3 x 7⊕Ni	2
32	KR110101-A	Carriage base plate assembly	1
33	KR110147	Arm base	1
34		Binding head screw M3 x 5⊕Ni	2
35	KR110152	Yarn feeder supporting plate	1
36		Plain washer M3	2
37		Binding head screw M3 x 5⊕Ni	2
38	K12B435	Rising stopper plate	1
39		Plain washer M3	2
40		Binding head screw M3 x 4⊕Ni	2
41	KR110151	Yarn feeder	1
42	KR110153	Yarn presser	1
43		Binding head screw M2.6 x 3 ⊕ Ni	2
44	KR110150	Arm	1
45		Truss head screw M3 x 5⊕Cr	8
46	KR110154	Latch brush	2
47	KR110159	Latch presser	1
48		Binding head tapping screw M2.6 x 6 ⊕ Ni	2
49	KR110155	Brush holder	2
50		Binding head tapping screw M2.6 x 6 ⊕ Ni	8
51	KR110157	Arm releasing pin base	1
52		Snap ring E-4	1
53	KR110158	Arm releasing pin spring	1
54	KR110156	Arm releasing pin	1

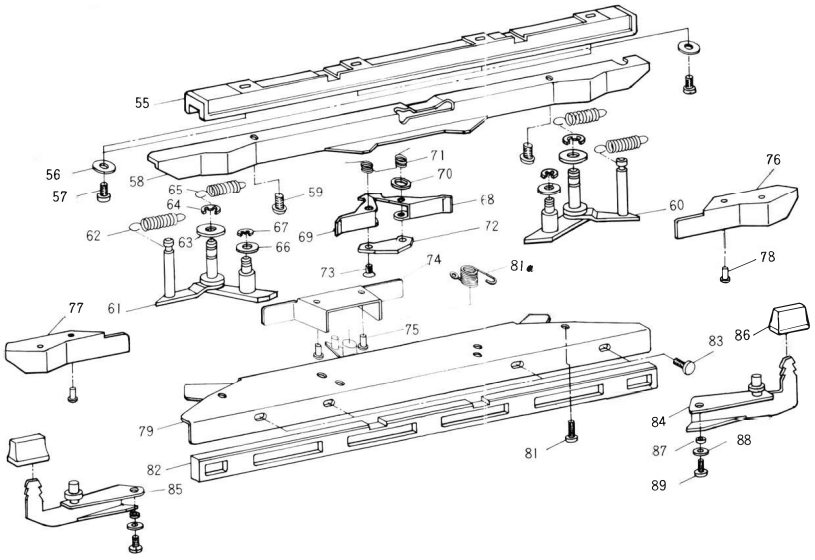


PARTS LIST

1. Carriage Components

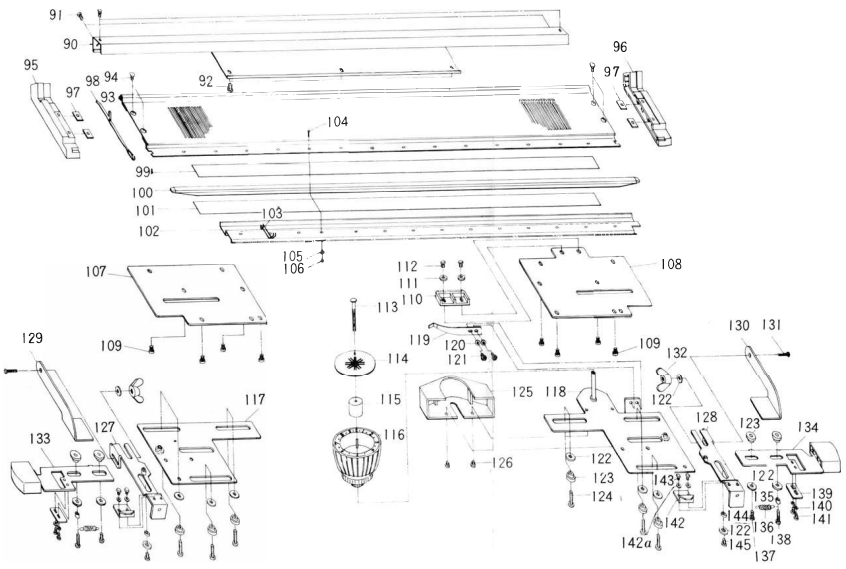
Ref. No.	Part No.	Description	Amt. Req.
1	KR110145	Dial decorating plate	1
2	K11332	Dial presser	1
3		Pan head tapping screw M3 x 8 ⊕	2
4	K11331	Dial stopper	1
5	K19330	Dial	1
6	KR110105	Carriage cover	1
6a		Binding head screw M3 x 6 ⊕Ni	2
7	KR110140	Tuck plate base	1
8		Plain washer M3	2
9		Binding head screw M3 x 4 ⊕ Ni	2
10	KR110143	Tuck plate spring	1
11	K16563	Connecting bar collar	3
12		Binding head screw M3 x 8 ⊕	1
13	KR110141-A	Tuck plate assembly	1
14	K19345	Pull-up needle knob	3
16		Binding head screw M3 x 5 ⊕ Ni	2
17	KR110130-A	Main cam base plate presser assembly	1
18		Plain washer M3	2
19		Binding head screw M3 x 5 ⊕ Ni	2
20	K16316	Dial stopper	1
21		Plain washer M2.6	1
22		Binding head screw M2.6 x 4 ⊕ Ni	1
23	KR110110-A	Main cam base plate assembly	1
24	KR110133	Auxiliary cam plate (right)	1
25	KR110134	Auxiliary cam plate (left)	1
26	KR110135	Auxiliary cam plate collar	6
27		Binding head screw M3 x 5 ⊕ Ni	4
28		Plain washer M3	4
29	KR110136	Auxiliary cam plate spring (right)	1

Ref. No.	Part No.	Description	Amt. Req.
30	KR110137	Auxiliary cam plate spring (left)	1
31		Binding head screw M3 x 7 ⊕ Ni	2
32	KR110101-A	Carriage base plate assembly	1
33	KR110147	Arm base	1
34		Binding head screw M3 x 5 ⊕ Ni	2
35	KR110152	Yarn feeder supporting plate	1
36		Plain washer M3	2
37		Binding head screw M3 x 5 ⊕ Ni	2
38	K12B435	Rising stopper plate	1
39		Plain washer M3	2
40		Binding head screw M3 x 4 ⊕ Ni	2
41	KR110151	Yarn feeder	1
42	KR110153	Yarn presser	1
43		Binding head screw M2.6 x 3 ⊕ Ni	2
44	KR110150	Arm	1
45		Truss head screw M3 x 5 ⊕ Cr	8
46	KR110154	Latch brush	2
47	KR110159	Latch presser	1
48		Binding head tapping screw M2.6 x 6 ⊕ Ni	2
49	KR110155	Brush holder	2
50		Binding head tapping screw M2.6 x 6 ⊕ Ni	8
51	KR110157	Arm releasing pin base	1
52		Snap ring E-4	1
53	KR110158	Arm releasing pin spring	1
54	KR110156	Arm releasing pin	1



2.

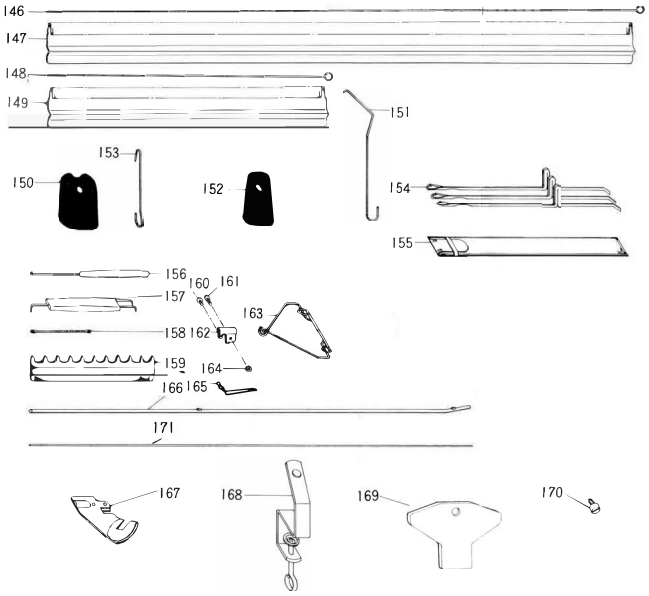
Ref. No.	Part No.	Description	Amt. Req.
55	K13107	Rear slider	1
56		Washer M2.6	4
57		Binding head screw M2.5 × 4.5 ⊕ Ni	4
58	KR110123	Rear guide	1
59		Binding head screw M3 × 5 ⊕ PK	2
60	KR110112-A	Main cam assembly (right)	1
61	KR110114-A	Main cam assembly (left)	1
62	K13217	Auxiliary cam spring	2
63		Plain washer M5	2
64		Snap ring E-4	2
65	K19206	Main cam base plate spring	2
66		Washer M4	2
67		Snap ring E-3	2
68	K13257	Tuck cam (right)	1
69	K13259	Tuck cam (left)	1
70	K13258	Tuck cam collar	1
71	K13261	Tuck cam spring	1
72	K19260	Tuck cam plate	1
73		Counter-sunk head screw M2.6 × 5 ⊕ PK	2
74	KR110125	Guide plate	1
75		Rivet 2.3ϕ x 4	2
76	KR110120	Latch pulling out plate (right)	1
77	KR110121	Latch pulling out plate (left)	1
78		Rivet 2.3ϕ x 4	4
79	KR110117	Front guide	1
81		Binding head screw M3 × 5 ⊕ PK	4
82	K13106	Front slider	1
83		Binding head tapping screw M2.6 × 6 ⊕ PK	5
84	K16227-A	Rassel cam assembly (right)	1
85	K16233-A	Rassel cam assembly (left)	1
86	K19236	Rassel cam knob	2
87	K11308	Rassel cam collar	2
88		Plain washer M3	2
89		Binding head screw M3 × 5 ⊕ PK	2



3. Card Feed Components

Ref. No.	Part No.	Description	Amt. Req.
90	KR110261	Rear cover	1
91		Binding head tapping screw M3 x 8 ⊕ Cr	4
92		Binding head screw M3 x 4 ⊕ Ni	3
93	KR110201-A	Groove plate assembly	1
94		Counter-sunk head screw M4 x 8 ⊕ Cr	4
95	KR110267	Side plate (right)	1
96	KR110268	Side plate (left)	1
97	K16823	Groove plate set nut	4
98	K16510	Knitting needle	200
99	K12590	Vinyl film	1
100	K12630-A	Knitting needle stopper assembly	1
101	K11508	Black tape	1
102	KR110207	Sinker needle mounting plate	1
103	KR110208	Sinker needle	101
104		Counter-sunk head screw M2.6 x 8 ⊕ Cr	14
105		Plain washer M2.6	14
106		Nut M2.6	14
107	KR110211	Swing base plate (right)	1
108	KR110212	Swing base palte (left)	1
109		Binding head screw M3 x 5 ⊕ Ni	8
110	KR110242	Swing rack gear	1
111		Plain washer M4	2
112		Binding head screw M4 x 7 ⊕ Ni	2
113		Truss head screw M4 x 25 ⊕ Cr	1
114	KR110249	Swing dial index plate	1
115	KR110246	Swing dial collar	1
116	KR110245-A	Swing dial assembly	1
117	KR110215-A	Swing dial base assembly (right)	1
118	KR110216-A	Swing dial base assembly (left)	1

Ref. No.	Part No.	Description	Amt. Req.
119	KR110241	Swing dial spring	1
120		Plain washer M3	2
121		Binding head screw M3 x 4 ⊕ Ni	2
122	C65158	Washer	14
123	KR110234	Releasing plate collar	10
124		Binding head screw M4 x 10 ⊕ Ni	6
125	KR110250	Swing dial cover	1
126		Binding head screw M3 x 5 ⊕ Ni	3
127	KR110221	Installing plate (right)	1
128	KR110222	Installing plate (left)	1
129	KR110251	Supporting plate (right)	1
130	KR110252	Supporting plate (left)	1
131		Binding head screw M4 x 17 ⊕ Ni	2
132		Wing nut M4	2
133	KR110231-A	Releasing plate assembly (right)	1
134	KR110232-A	Releasing plate assembly (left)	1
135	K16597	Releasing plate collar	2
136	KR110235	Releasing plate spring	2
137		Binding head screw M4 x 10 ⊕ Ni	2
138		Binding head screw M4 x 17 ⊕ Ni	2
139	KR110233	Installing plate pin guide	2
140		Plain washer M3	4
141		Binding head screw M3 x 5 ⊕ Ni	4
142	KR110226	Set plate	2
142-a		Plain washer M3	4
143		Binding head screw M3 x 5 ⊕ Ni	4
144	KR110224	Installing plate collar	2
145		Binding head screw M4 x 7 ⊕ Ni	2



4. Accessories Components

Ref. No.	Part No.	Description	Amt. Req.
146	KR110276	Cast-on wire (large)	1
147	KR110274	Cast-on comb (large)	1
148	KR110277	Cast-on wire (small)	1
149	KR110275	Cast-on comb (small)	1
150	KR110272	Weight (large)	4
151	KR110282	Hook (A)	2
152	KR110273	Weight (small)	2
153	KR110283	Hook (B)	4
154	K16510	Spare needle	3
155	K13932	Needle bag	1
156	KR110278	Crochet hook	1
157	KR110279	Transfer needle	1
158	KR110280	Both stitch transition	1
159	K12B936	Pattern plate	1
160		Binding head screw M3 x 5 ⊕ Ni	1
161		Binding head screw M3 x 9 Ni	1
162	K13833	Guide installing metal	1
163	K19836	Yarn guide (A)	1
164		Nut M3	1
165	K11837	Yarn retainer	1
166	KR110288	Tension bar	1
167	KR110296-A	Control lever supporting tool assembly	1
168	KR110290-A	Clamp for Rib Knitter assembly	1
169	KR110271	Driver	1
170	KR110285	Installing screw	2
171	KR110843	Rib knitting wire	1

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