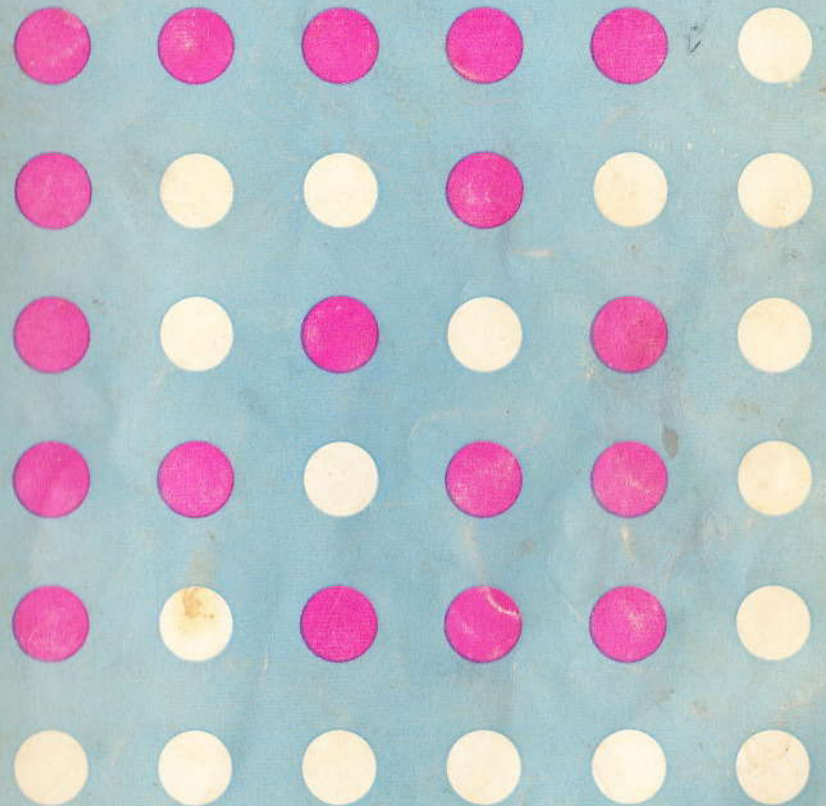
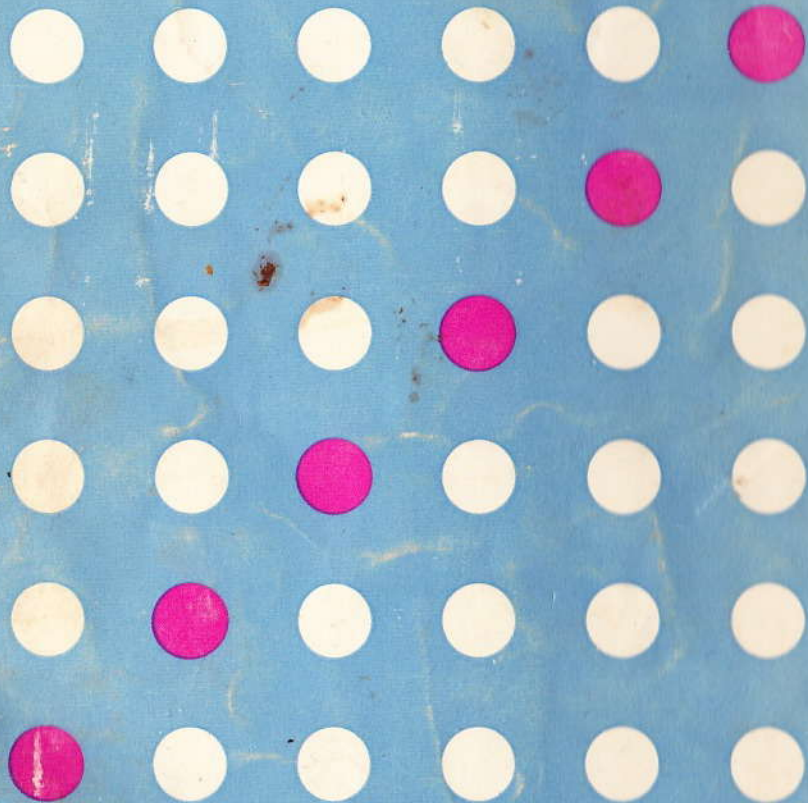


INSTRUCTION MANUAL

for **SR-101** model



RIBBING ATTACHMENT

IT IS ALWAYS TRUE a double bed does more than a single bed.

ALSO IS TRUE the double bed costs and annoys more than the single bed.

IT IS ALWAYS WISE to pay less for more.

HERE IS A RIBBER which makes a double bed knitting machine when attached to a single bed machine.

THIS EXPENSIVE RIBBER is meant to do as much as a double bed does while it costs and annoys you far less than a double bed.

THIS HANDY RIBBER together with SK-101 Model knitting machine is a form of automatic knitting with high efficiency that is how the home industry today should be.



Features of SR-101 Ribber

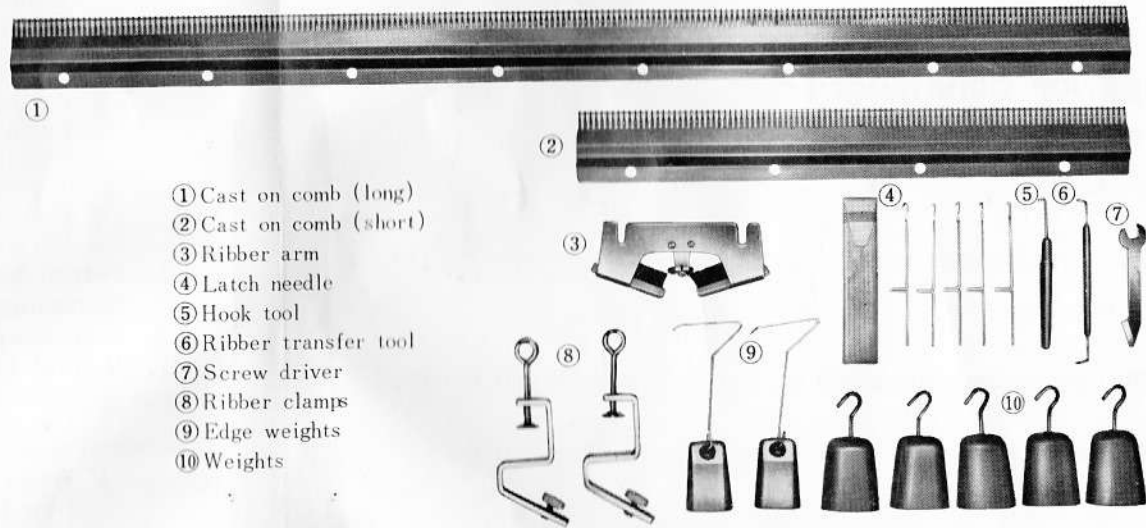
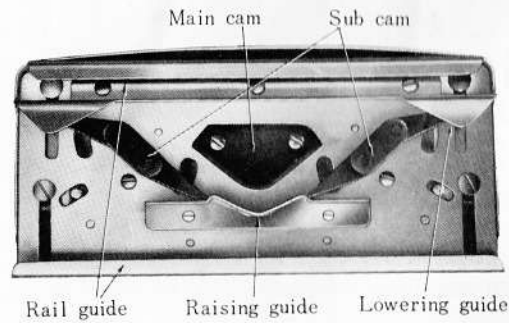
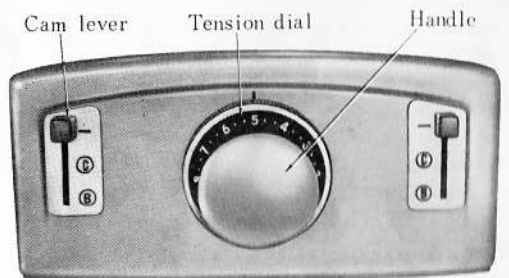
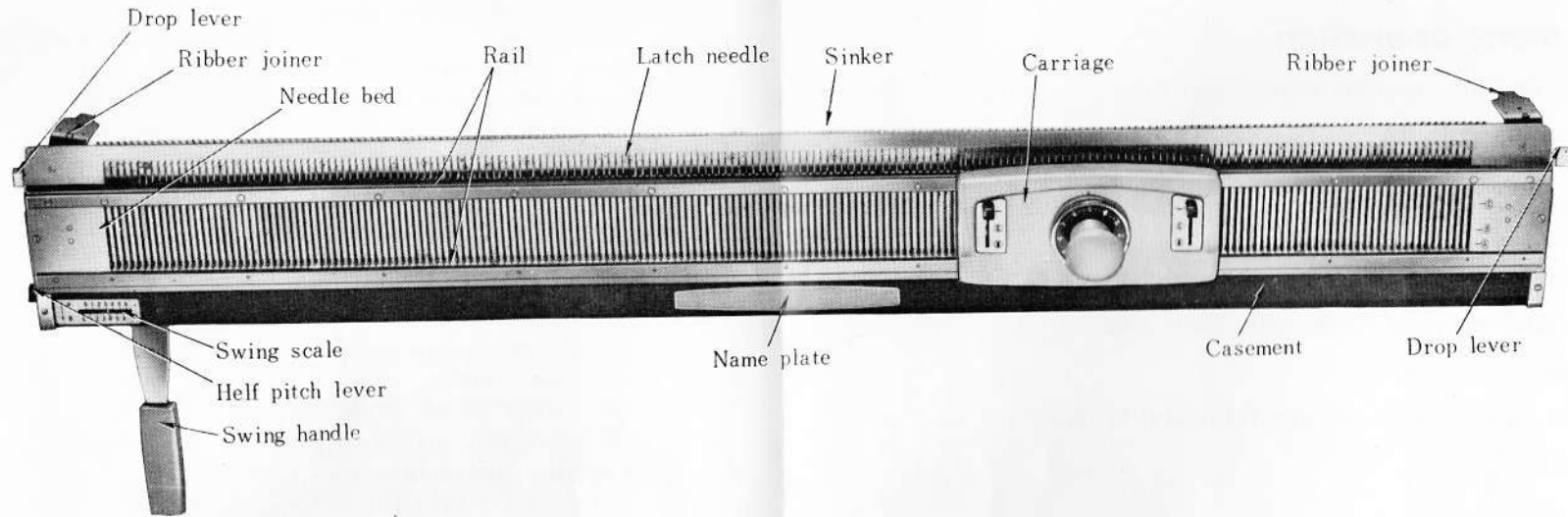
Convenient operation

- ☆ Cam lever with 3 position enables you to put the stitches behind latches automatically.
- ☆ The swing scale clearly indicates where the ribber is.
- ☆ Press down the drop levers and the ribber is lowered 3/4 of an inch enabling you to work with main machine only, pick up dropped stitches, etc.
Marked on the needle bed are A,B, and C to visualize 3 positions of needles.
- ☆ The Half Pitch lever will set the ribber in square and staggered positions.

Superior construction

- ☆ The swing of the ribber has been extended to as many as 6 pitches.
- ☆ Improved sinkers are of polished steel which allow the yarn to flow smoothly.
- ☆ Braking spring plate keeps needles from jumping out blindly.
- ☆ Damaged needles can be replaced by just pulling out the needle retaining band.
- ☆ The ribber joiners have stopping clows which allow the correct gap between the main machine and ribber

Ribber and its accessories

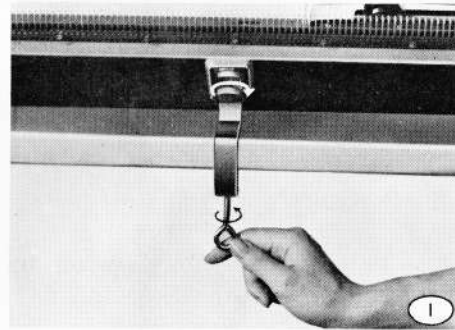


- ① Cast on comb (long)
- ② Cast on comb (short)
- ③ Ribber arm
- ④ Latch needle
- ⑤ Hook tool
- ⑥ Ribber transfer tool
- ⑦ Screw driver
- ⑧ Ribber clamps
- ⑨ Edge weights
- ⑩ Weights

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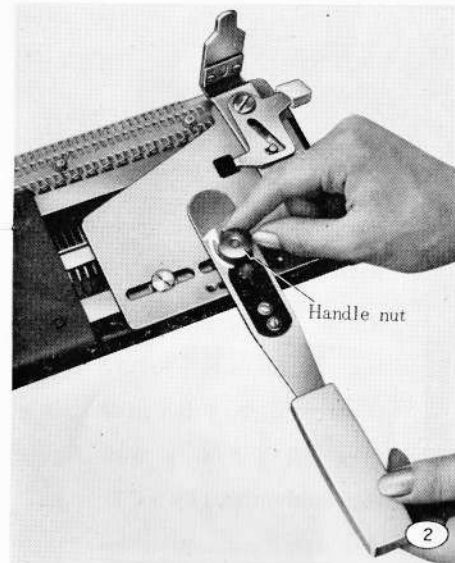
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I. Setting Up



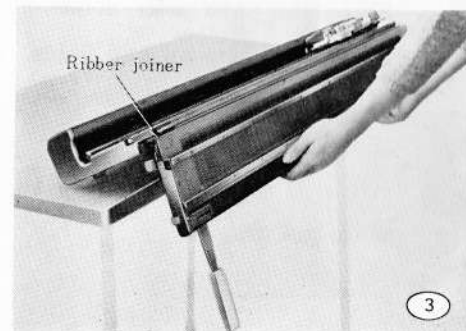
Clamp the main machine to a table.

Use a pair of clamps which are among the ribbers accessories. Fix them to the bottom of the machine and clamp firmly to a table. (1)



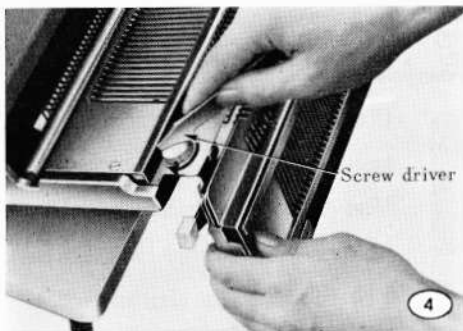
Set the swing handle to the back of the ribber's.

Remove the swing handle nut, set the handle in place, and screw the nut firmly. (2)



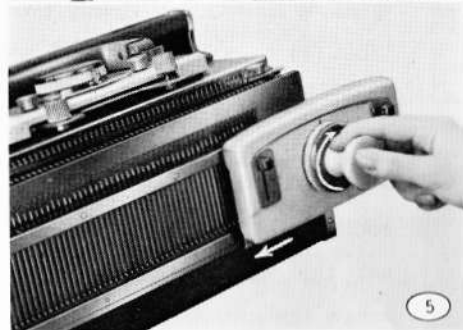
Attach the ribber to the main machine.

See to it that the carriage fixer of main machine is removed. Remove the screws from both ribber joiners. Insert both joiners to the slots of main machine until the claws stop. (3)



Place the screws through the bed of main machine and tighten with a screw driver. (4)

Screw in the ribber carriage handle.



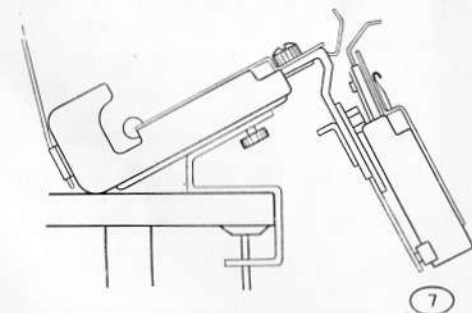
Put the ribber carriage on its track.

Rail guides slide on the rails. (5)



Replace the fabric pressor arm with the ribber arm.

Raise the carriage handle and the row counter lever. Loosen the arm nuts, push in the ribber arm all the way and tighten the arm nuts. (6)



Stand the yarn pole, attach to it the auto-tension and guide.

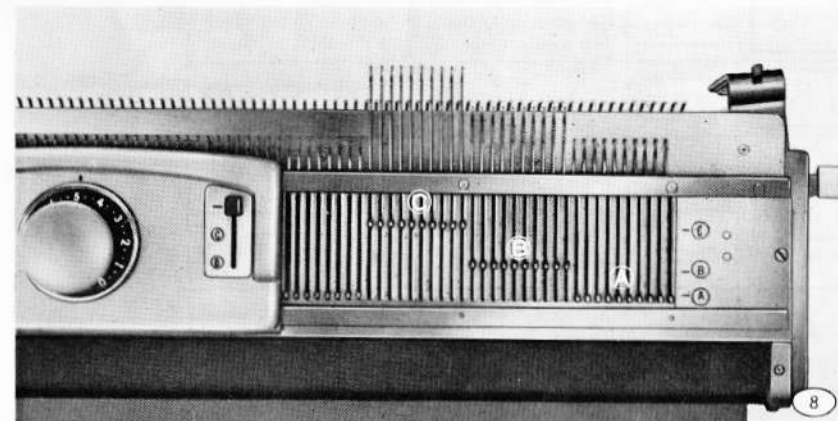
Figure 7 shows right angle for the yarn pole.

Attach the row counter to the main machine

II. Basic know-how

(1) Position of the ribber needles

Ribber needles have three positions, A. B. and C.



A) Inoperative positions

Needles are on the bottom of the grooves.

The carriage will not engage the needles in this position.

B) Lowered positions

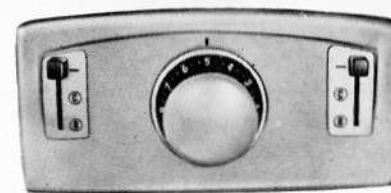
Needle butts are in the lower third of the needle bed.

Push up needles to this position when starting to work.

C) Behind latch positions

Needle butts are in the upper third of the needle bed.

Needles in this position have stitches or loose yarn behind their latches.



(2) Cam lever

Both cam levers have three positions, -, C, and B. (9)

Next chart shows how to use the cam levers.

Positions of cam Levers	Direction of Carriage	Function of Needles		Application
		Needles in C position are:	Needles in B position are:	
	→ ←	Knitting and remain in C position.	Non-knitting, yarn behind latches, and come to C position.	1K 1P double rib 2K 2P 2K 1P
	→ ←	Non-knitting, yarn goes behind latches, and remain in C position.	Non-knitting, yarn goes behind latches, and come to C position.	
	→ ←	"	Non-affecting and remain in B position.	Semi-circular
	→	Knitting and remain in C position.	Non-knitting, yarn goes behind latches, and needles come to C position.	Swing patterns
	←	Non-knitting, yarn goes behind latches, and remain in C position.	"	
	→	Knitting and come to B position.	Non-affecting and remain in B position.	Bound off cast on, circular, pop corn, semi-circular, pin tuck, partial, etc.
	←	Non-knitting, yarn goes behind latches, and remain in C position.	Non-knitting, yarn goes behind latches, and come to C position.	
	→	"	Non-affecting and remain in B position.	
	←	"	Non-knitting, yarn goes behind latches, and come to C position.	

(3) Tension dial (Stitch adjusting dial)

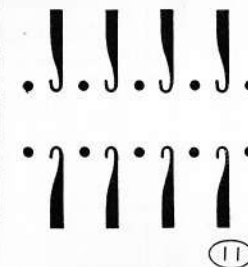
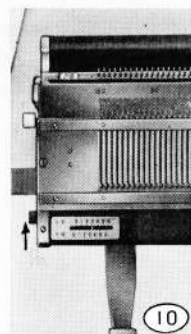
The tension dial has 30 graduations between 0 to 10, and is to regulate yarn tension according to the stitch gauge desired. Use same tension both on the main machine carriage and ribber carriage unless otherwise required.

(Suggested tensions)

Yarn used	1K1P	Double	2K2P	Circular
Light weight	2	3 - 4	4 - 5	2 - 3
Medium weight	5 - 6	5 - 6	6 - 7	5 - 6
Heavy weight	7 - 8		8	6 - 8

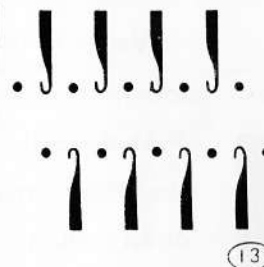
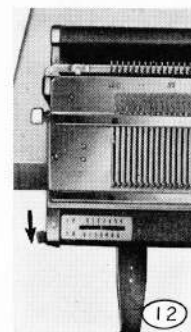
(4) Half pitch lever

This is to set the ribber needles right in front of main needles or to stagger them in between main needles. The former with the lever in P position and the latter with the lever in H position.



P...As in case for 1 K 1P ribbing, when setting ribbers needles right in front of main machine needles (11), set the Half Pitch lever to P.

Upper numbers show the swing of the ribber on P position.

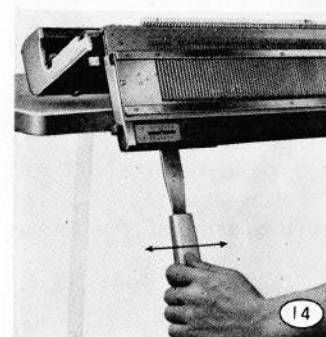


H...As in case for double rib, when setting ribber needles staggered with main machine needles (13), set the lever to H. (12) (The ribber is swung half pitch to the right)

Lower numbers indicate the ribbers swing on H position.

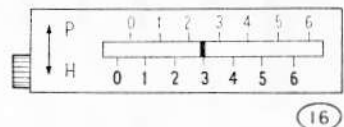
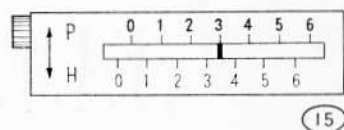
Pitch means a distance between one and next needle.

(5) Swing handle

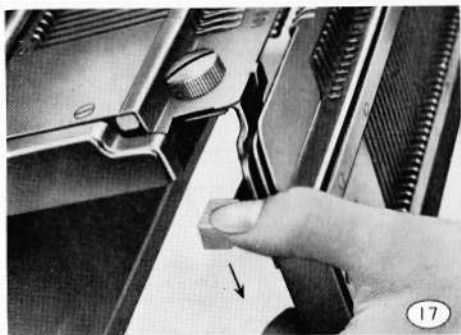


The swing handle is to swing the ribber lengthwise for many "swing patterns", like "herring bone", "web", etc. (14)

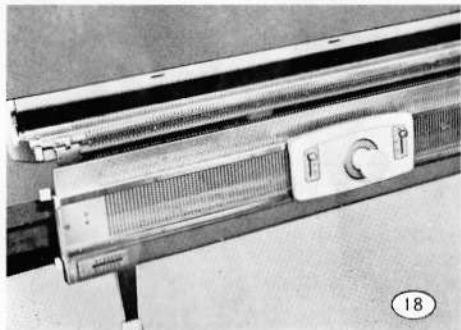
With the swing handle you can swing the ribber for 6 pitches as indicated on the scale. It is usually recommendable to set the ribber at 3 which is the center. Read upper figures for P scale (15) and lower figures for H scale. (16) The swing indicator shows you where you are with your ribber.



(6) Drop lever



Push down the drop levers and the ribber drops for about 3/4 of an inch. (17)



It is convenient to drop the ribber this way when you work with the main machine only or picking up dropped stitches. (18)

Just push up the ribber and it's clicked up in the original positions. (Don't bother with the joiners)

III. Accessories

(1) Cast on comb

Long comb is for 200 stitches and short one 100 stitches.

(2) Weights

Five weights are included in the accessories.

The more stitches you knit the more weights are necessary. Hang those weights to the holes of cast-on comb and balance it well.

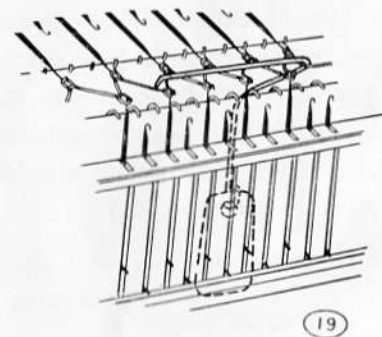
(Suggested number of weights)

Number of stitches	weights	Edge weights
- 40	1 pcs.	2 pcs.
40 - 80	2 pcs.	∕
80 - 120	3 pcs.	∕
120 - 160	4 pcs.	∕
160 - 200	5 pcs.	∕

(3) Edge weights

Two edge weights are for weighing both edges of knitting by putting the hanger on the both edges between main machine needles and ribber needles. (19)

Bring up the weights as you proceed in knitting.



(4) Ribber transfer tool

Use this tool to transfer stitches from main machine needles to ribber needles to ribber needles, viceversa or to next needle.

(5) Hook tool

This is to pick up dropped stitches or to transfer stitches.

IV. Knitting Instructions

(1) 1knit 1 Purl rib



(20)

This is the typical form of ribbed stitches. Every other needles on main machine and ribber are used alternatively. This elastic fabric has vertical rows of knit and purl alternatively. Shown here is the ribbing in medium weight yarn.

First Step: Bound off cast on

A. Pitch setting

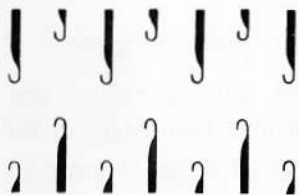
Set the Half Pitch lever to P. (Square position)

B. Needle arrangement

a) Pull out every other needles on main machine to B position with 0 mark on needle bed at center.

b) On the ribber, bring out every other needles to B position staggering with main machine needles which are just pulled out.

N.B. Both end needles should be of main machine. (21)

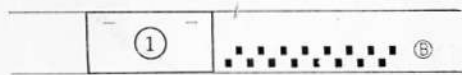


(21)

C. Carriage setting

a) Ribber carriage { Cam lever Both at -
Tension dial 1

Try the carriage across a couple of times and put it on the left side. Needles are aligned along position C with their latches open. (22)



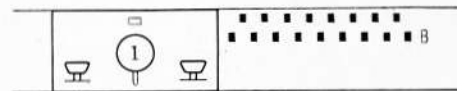
(22)

Leave outside stitches on main machine

b) Main carriage

{ Cam lever Both up
Russel buttons Both up
pick lever ●
Tension dial 1

Try the carriage across a couple of times and put it on the left side. Needles are aligned along position B with their latches open. (23)



(23)

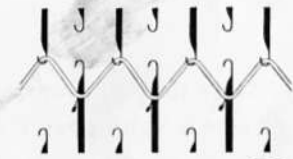
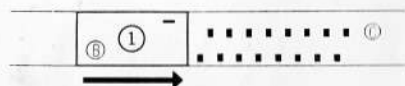
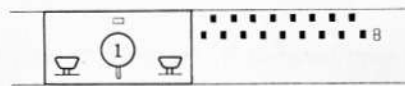
D. Threading

Pass yarn through the Auto-tension and yarn feeder and down to between main machine and ribber.

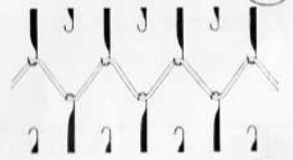
a) Move the main carriage from left to right.

(Yarn is hooked zigzag between main and ribber needles.) (24)

b) Set left cam lever of ribber carriage to B and move the carriage from left to right. (Ribber needles are down at B position with yarn in hooks) (25)



(24)



(25)

E. Cast-on comb



Cast on wire

(26)

Pull out the wire from the comb. Thrust the teeth of the comb up through the zigzag hooked yarn and replace the wire over the yarn. (26)

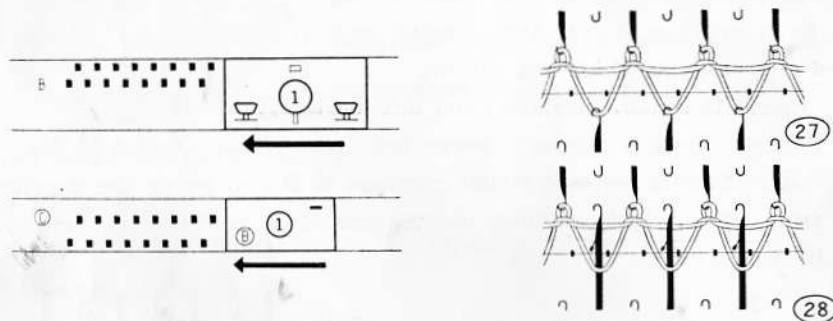
Balance the comb well.

F. Weights

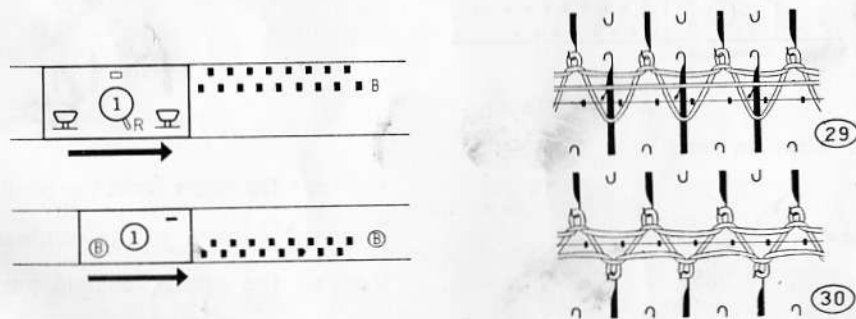
Put an appropriate number of weights on the comb keeping its balance.

G. Bound off casting on

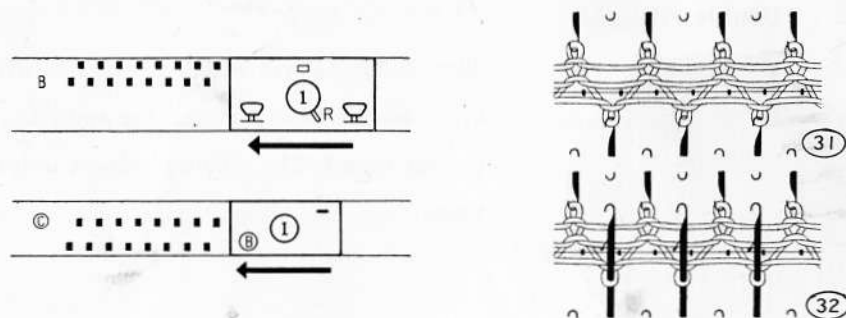
- Move the main carriage from right to left.
(knit with main machine only) (27)
- Move the Ribber carriage from right to left.
(Yarn is behind the latches and needles are in C position.)



- Move the main carriage, with the cam lever at R, from left to right.
(Yarn is spun over ribber needles.) (29)
- Move the ribber carriage from left to right.
(Ribber needles have knit and come to B position.) (30)

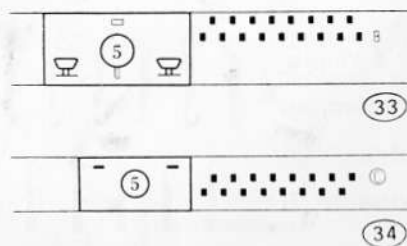


- Move the main carriage from right to left.
(Knit with main machine only) (31)
- Move the ribber carriage from right to left.
(Yarn is behind the latches and needles are in C position) (32)



Second step: 1K1P ribbing

Main carriage	}	Cam lever	Center
		Russel buttons	Both up
		Pick lever	●
		Tension dial	5

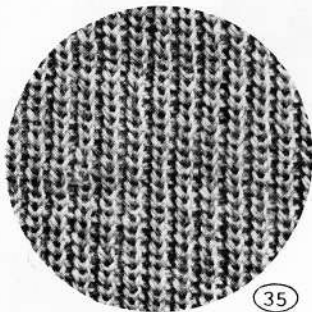


Ribber carriage	}	Cam lever	Both
		Tension dial	5

- Move the main carriage from left to right.
(Main needles have knit and ribber needles receive yarn)
- Move the ribber carriage from left to right.
(Ribber needles have knit and come to C position)
- Move the main carriage from right to left.
(Main needles have knit and ribber needles receive yarn)
- Move the ribber carriage from right to left.
(Ribber needles have knit and come to C position)

This repeat a) through d)

(2) Double rib (35)



Double Knit

This is 1K 1P rib which is worked with every needle of main machine and ribber. Shown here is the ribbing in light weight yarn.

*Heavy duty rib
Light weight Blue cone
yarn - 2/02/16
Tan 3-2-1 double strand
3-2-dbl strand
↑
9416R Boot*

First step: Bound off cast on

A) Pitch setting

Set the Half Pitch lever to H.

(Ribber needles are staggered with main needles.)

B) Needle arrangement

a) On main machine, pull out a required number of needles to B position, an equal number on each side of 0.



b) Also bring out ribber needles to B position.



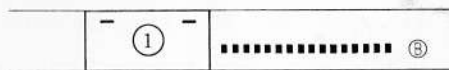
(36)

N. B. The most outside needles are of main machine.

C. Carriage setting

a) Ribber carriage (37) { Cam lever Both -
Tension dial 1

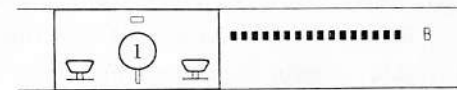
Try the carriage back and forth and put it on the left side. Needles are aligned along C position with their latches open.



(37)

b) Main carriage (38) { Cam lever Center
Russel buttons Both up
Pick lever ●
Tension dial 1

Try the carriage back and forth and put it on the left side. Needles are aligned along B position with their latches open.

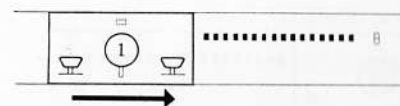


(38)

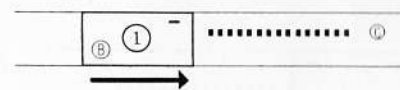
D. Threading

Pass yarn through the Auto-tension, yarn feeder and down to between main machine and ribber.

a) Move main carriage from left to right. (Yarn is hooked) (39)



b) With rear cam lever at B, move ribber carriage from left to right. (Ribber needles are lowered to B position with yarn in their hooks) (40)



(39)



(40)

E. Cast on comb

First remove the wire from the comb. Thrust the teeth up through the zigzag hooked yarn and replace the wire over the yarn. Keep it in good balance.

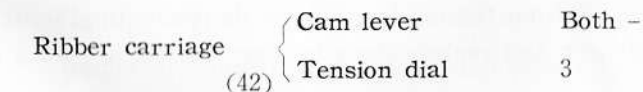
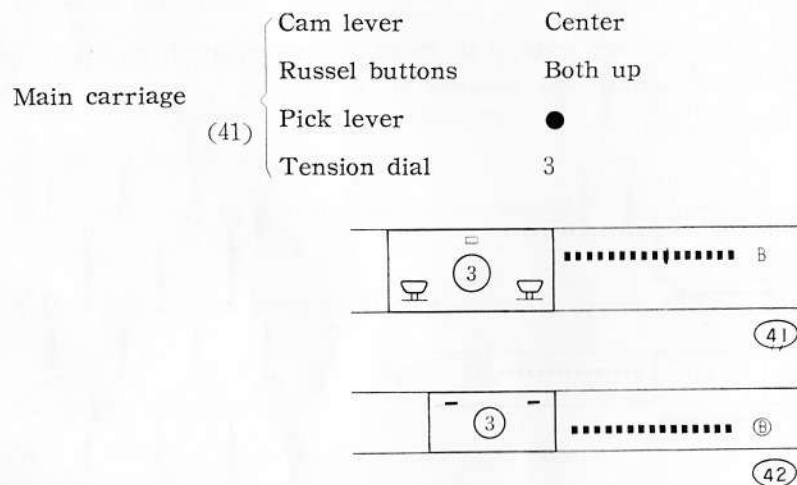
F. Weights

Hang an appropriate number of weights on the holes of the cast on comb keeping its balance.

G. Bound off casting on

- Move main carriage from right to left.
(Have knit with main machine only)
- Move ribber carriage from right to left.
(Yarn is behind latches and needles are in C position.)
- With cam lever at R, move the main carriage from left to right.
(Yarn is spun across over the ribber needles)
- Move ribber carriage from left to right.
(Ribber needles have knit and come to B position)
- Move main carriage from right to left.
(Have knit with main machine only.)
- Move ribber carriage from right to left.
(Yarn is behind latches and needles are in C position.)

Second step: Double ribbing

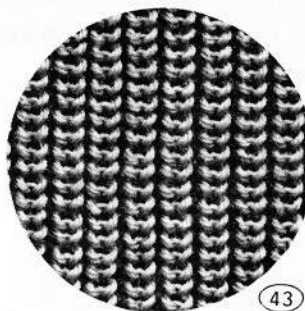


- Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)
- Move ribber carriage from left to right.
(Ribber needles have knit and come to C position.)

- Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
 - Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)
- Thus repeat a) through d)

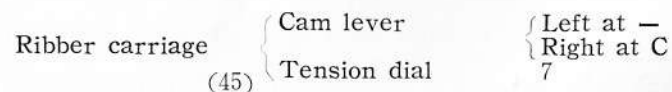
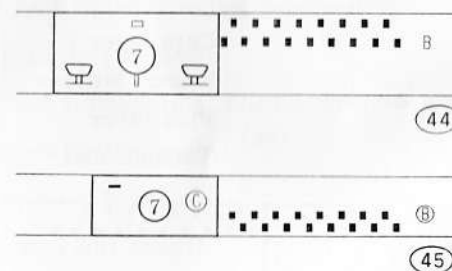
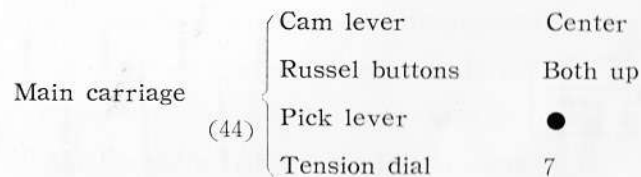
V. Variation patterns

(1) English rib (43)



This is the 1K 1P₁ or double rib with one side tucked.

Shown here is 1K 1P English rib in medium weight yarn. Bound off cast on for 1K 1P rib is applied. When light weight yarn is used, double rib is preferred and therefore bound off cast on for double rib is applied.

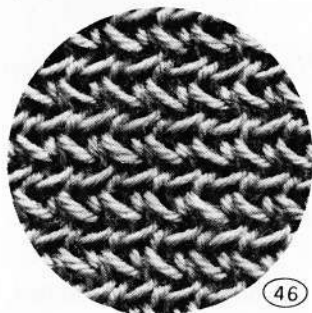


- Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)

- b) Move ribber carriage from left to right.
(Yarn is behind latches and needles are in C position.)
- c) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- d) Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)

Thus repeat a) through d)

(2) **Swung English rib** (46)



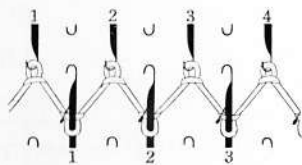
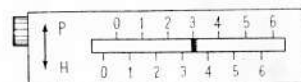
(46)

This is a variation of English rib which is worked by 2 pitches swing in 1K 1P rib or 1 pitch swing in double rib.

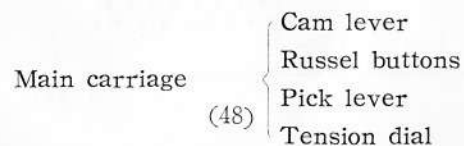
Shown here is the swung English rib of 1K 1P, therefore 1K 1P bound off cast on.

(For the swung English double rib, use light weight yarn.)

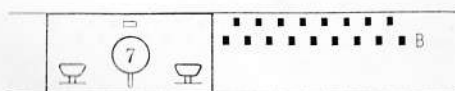
Set the ribber at 3 on P scale. (Square position). (47)



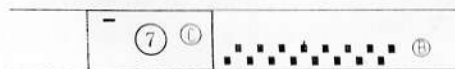
(47)



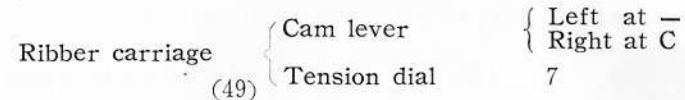
(48)



(48)

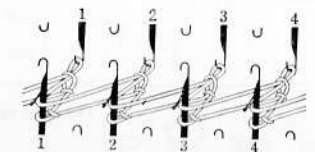
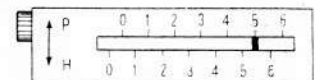


(49)



(49)

- a) Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)
- b) Move ribber carriage from left to right.
(yarn is behind latches and needles are in C position.)
- c) With the swing handle, swing the ribber 2 pitches to the left.
(Swing indicator points at 5 on P scale.) (50)

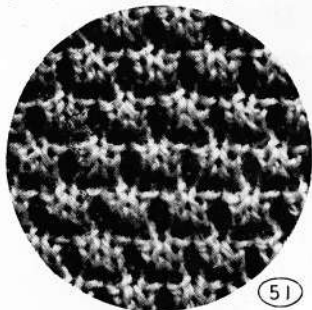


(50)

- d) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- e) Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)
- f) Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)
- g) Move ribber carriage from left to right.
(Yarn is behind latches and needles in C position.)
- h) Swing the ribber 2 pitches to the right.
(Swing indicator points at 3 on P scale.)
- i) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- j) Move ribber carriage from right to left.
(needles have knit and come to C position.)

Thus repeat a) through j)

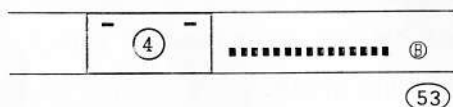
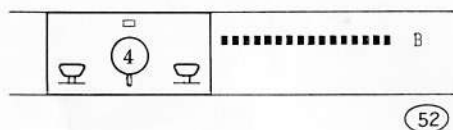
(3) Pop corn pattern (51)



This is a variation of double rib, which is tucked on the ribber 3 rows every other stitch staggering and slipped tuck. Shown here is in light weight yarn bound off cast on for double rib.

Main carriage

- (52) Cam lever
- Russel button
- Pick lever
- Tension dial



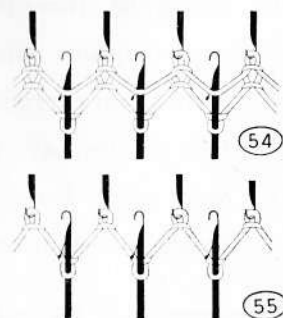
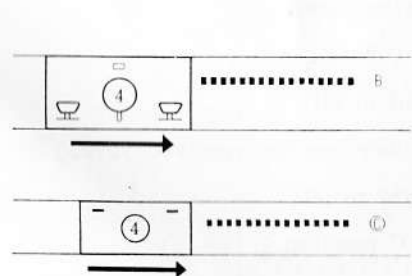
Ribber carriage

- (53) Cam lever
- Tension dial

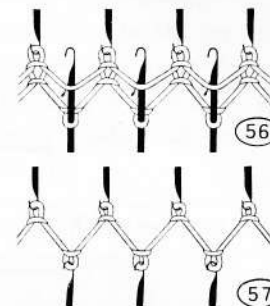
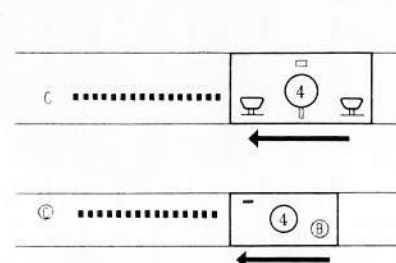
- Center
- Both up
-
- 4

- Both at -
- 4

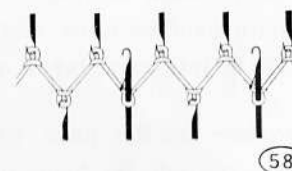
- a) Move main carriage from left to right. (54)
(Main needles have knit and ribber needles received yarn.)
- b) Move ribber carriage from left to right.
(Ribber needles have knit and come to C position.) (55)



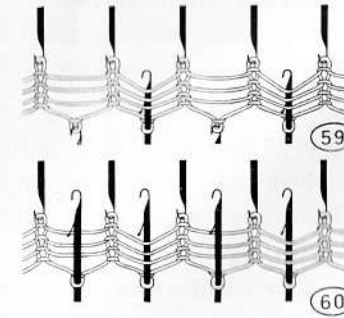
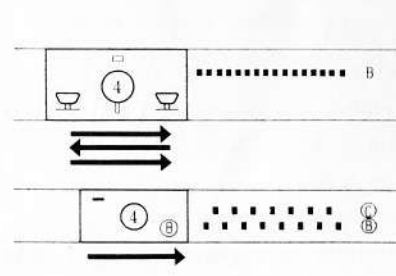
- c) Move main carriage from right to left.
(Main needles have knit, ribber needles received yarn.)
- d) With right cam lever at B, move ribber carriage from right to left.
(Ribber needles have knit and come to B position.) (57)



- e) On the ribber, bring out (with needle pusher) every other needles leaving left end needle in B position.
(Ribber needles are alternatively in B and C position) (58)



- f) Run the main carriage from left 3 strokes.
(Main needles have knit 3 rows and ribber needles in C position received 3 strands of yarn.) (59)
- g) Move ribber carriage from left to right.
(Ribber needles both in B and C position have come to C position with yarn behind latches.) (60)

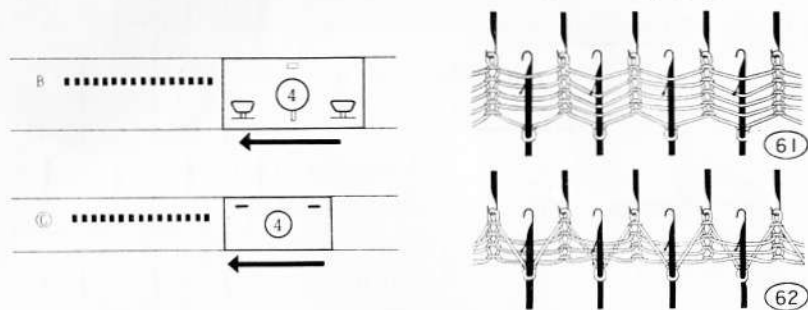


h) Move main carriage from right to left.

(Main needles have knit and ribber needles received yarn.) (61)

i) With right cam lever at —, move ribber carriage from right to left.

(Ribber needles have knit and come to C position.) (62)



j) Move main carriage from left to right.

(Main needles have knit and ribber needles received yarn.)

k) With left cam lever at B, move ribber carriage from left to right.

(Ribber needles have knit and come to B position.)

l) On the ribber, bring out (with needle pusher) every other needles including left end needle to C position.

(These stagger with needles previously brought out.)

m) Move main carriage from right 3 strokes.

(3 rows knit on main machine and ribber needles in C position received 3 strands of yarn.)

n) Move ribber carriage from right to left.

(Ribber needles both in B and C position have come to C position with yarn behind latches.)

o) Move main carriage from left to right.

(Main needles have knit and ribber needles receive yarn.)

p) With left cam lever at —, move ribber carriage from left to right.

(Ribber needles have knit and come to C position.)

q) Move main carriage from right to left.

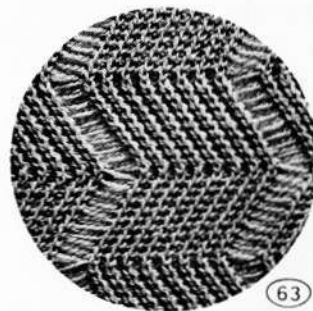
(Main needles have knit ribber needle received yarn.)

r) With right cam lever at B, move ribber carriage from right to left.

(Ribber needles have knit and come to B position.)

Repeat a) through r)

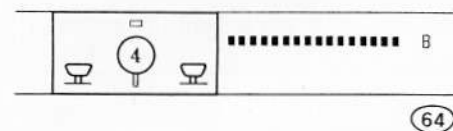
(4) Herring bone swing (63)



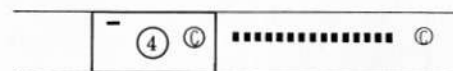
(63)

This is a combination of tucking and swing. Swing the ribber 2 pitches for 1K 1P rib and 1 pitch for double rib and tuck one row on the ribber before you swing it back. Repeat swing back and forth for desired rows then change the direction of the swing. Shown here is a herring bone in light weight yarn, a variation of double rib, bound off cast on for double rib.

Main carriage	(64)	Cam lever	Center
		Russel buttons	Both up
		Pick lever	●
		Tension dial	4



(64)



(65)

Ribber carriage	(65)	Cam lever	{ Left at —
		Tension dial	Right at C

4

a) Move main carriage from left to right.

(Main needles have knit ribber needles received yarn.)

b) Move ribber carriage from left to right.

(yarn is behind latches and needles are in C position.)

c) Swing the ribber 1 pitch to the left.

(Swing indicator points at 4 on H scale.)

d) Move main carriage from right to left.

(Main needles have knit and ribber needles received yarn.)

e) Move ribber carriage from right to left.

(Ribber needles have knit and come to C position.)

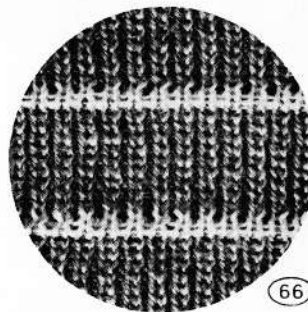
f) Swing the ribber 1 pitch back to right.

(Swing indicator points at 3 on H scale.)

g) Thus repeat from a) to f) 9 times.

- h) Move main carriage from left to right.
(Main needles have knit, ribber needles received yarn.)
- i) Move ribber carriage from left to right.
(Yarn is behind latches and needles are in C position.)
- j) Swing the ribber 1 pitch to the left.
(Swing indicator points at 4 on H scale.)
- k) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- l) Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)
- N. B. From here the direction of the swing is changed.
- m) Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)
- n) Move ribber carriage from left to right.
(Ribber needles come to C position with yarn behind latches.)
- o) Swing the ribber 1 pitch to the right.
(Swing indicator points at 3 on H scale.)
- p) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- q) Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)
- r) Swing back the ribber 1 pitch to the left.
(Swing indicator points at 4 on H scale.)
- s) Thus repeat m) through r) 9 times.
- t) Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)
- u) Move ribber carriage from left to right.
(Ribber needles come to C position with yarn behind latches.)
- v) Swing the ribber 1 pitch to the right.
(Swing indicator points at 3 on H scale.)
- w) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- x) Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)
- N. B. Here, the direction of the swing changes again.
Thus repeat a) through x)

(5) Pin tuck (66)

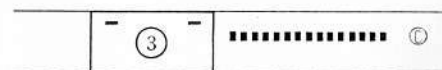


This is a variation of double rib. While doing double rib, knit 3 or 4 rows more on main machine only, this extra knitting 3 or 4 rows on one side gives pin tucked effect. Shown here is pin tuck in light weight yarn, bound off cast on for double rib.

Refer now to page 14



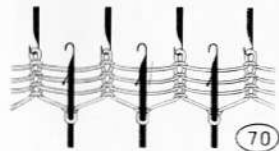
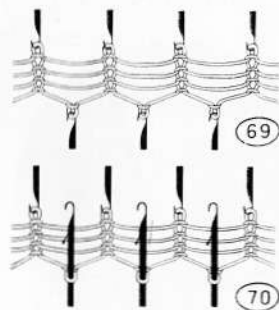
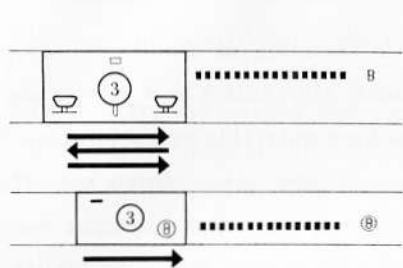
(67)



(68)

	Cam lever	Center
	Russel buttons	Both up
Main carriage	Pick lever	●
(67)	Tension dial	3
	Cam lever	Both —
Ribber carriage	Tension dial	3
(68)		

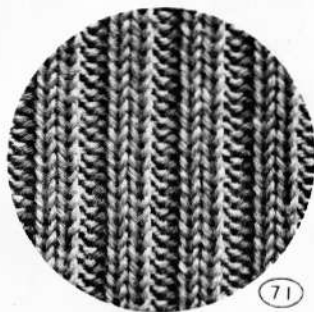
- a) Knit in double rib for desired rows.
(Terminate your last row with both carriage on the right.)
- b) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- c) With right cam lever at B move ribber carriage from right to left.
(Ribber needles have knit and come to B position.)
- d) Run the main carriage from left 3 strokes.
(Main needles have knit 3 rows. (69))
- e) Move ribber carriage from left to right.
(Ribber needles come to C position with yarn behind latches. (70))



- f) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- g) With right cam lever at —, move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)

Thus repeat a) through g)

(6) 2 Knit 2 Purl rib



This is a rib with 2 knit and 2 purl alternating stitches.

Shown here is in medium weight yarn.

First step: Bound off cast on for 2K 2P

A. Pitch setting

Set the Half Pitch lever to H.

(Staggered position.)

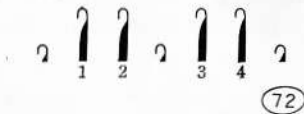
B. Needle arrangement

- a) A number of stitches to be cast on should be a multiple of 4 plus 2.
- b) On the main machine use flat side of needle pusher and bring out 3/4 of stitches to B position with 0 mark in the center.

- c) With 1/2(one on two off) needle pusher, push back every third needles from left end to the inoperative position A.



- d) On the ribber, bring out needles likewise to B position leaving every third needles in A position. (Staggered position.) (72)



C. Carriage setting

Ribber carriage	{ Came lever	Both at —
	{ Tension dial	1

Try the carriage back and forth and put it on the left side. Needles are aligned along C position with their latches open.

Main carriage	{ Cam lever	Center
	{ Ressel buttons	Both up
	{ Pick lever	●
	{ Tension dial	1

Try the carriage back and forth and put it on the left side. Needles are aligned along B position with their latches open.

D. Threading

- ★ Swing the ribber 1 pitch to the left. (73)

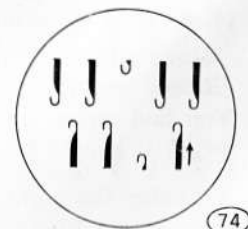


- ★ On the right side of the ribber, bring out to C position an extra needle second from the right end of needles brought out to C position.



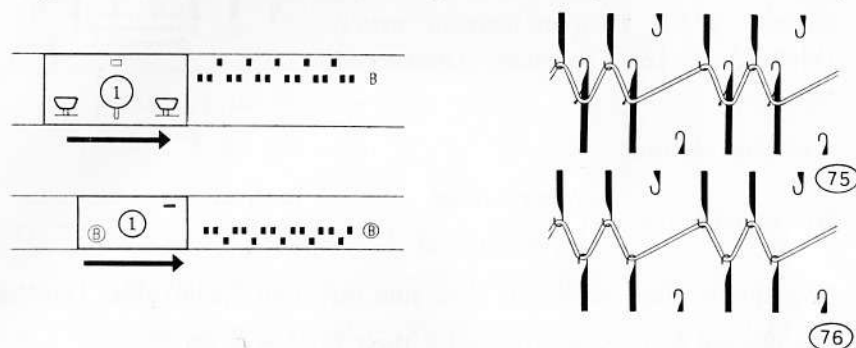
(74)

- ★ Pass yarn through the Auto-tension, yarn feeder and then down to between main machine and ribber.



(74)

- a) Move main carriage from left to right.
(Yarn is hooked zigzag between main needles and ribber needles.) (75)
- b) With left cam lever at B, move ribber carriage from left to right.
(Ribber needles are lowered to B position with yarn in their hooks.) (76)



E. Cast on comb

Pull out the wire from the comb. From underneath thrust the teeth of the comb up through the zigzag yarn and replace the wire. Keep the comb balanced.

F. Weights

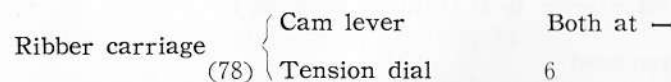
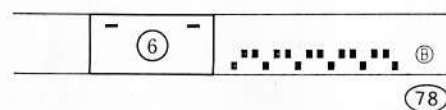
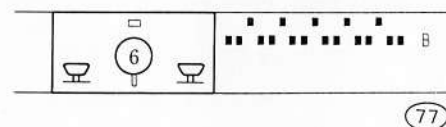
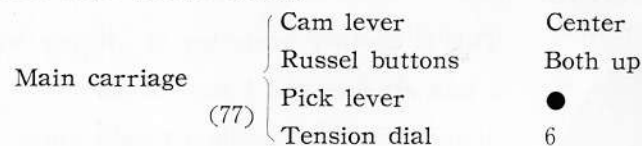
Hang an appropriate number of weights to the holes of the cast on comb keeping its balance.

G. Bound off casting on.

- a) Move main carriage from right to left.
(You have knit with main machine only.)
- b) Move ribber carriage from right to left.
(Ribber needles come to C position with yarn behind latches.)
- c) with cam lever at R, move main carriage from left to right.
(Yarn is spun across over ribber needles.)
- d) Move ribber carriage from left to right.
(Ribber needles have knit and come to B position.)
- e) Move main carriage from right to left.
(Knit with main machine only.)
- f) Move ribber carriage from right to left.
(Ribber needles come to C position with yarn behind latches.)
You had swung the ribber 1 pitch to the left for casting on and now swing it back 1 pitch to the right.

Transfer the right edge stitch on the ribber to the right end needles of main machine.

Second step: 2K 2P ribbing



- a) Move main carriage from left to right.
(Main needles have knit and ribber needles received yarn.)
 - b) Move ribber carriage from left to right.
(Ribber needles have knit and come to C position.)
 - c) Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
 - d) Move ribber carriage from right to left.
(Ribber needles have knit and come to C position.)
- Thus repeat a) through d)

★ There is a following alternative method for 2K2P rib.

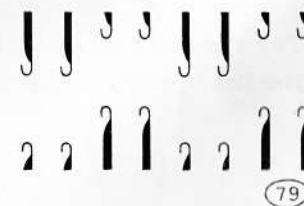
A. Pitch setting

Ribber is in square position as in 1K 1P rib.

B. Needle arrangement (79)

Set the half pitch lever to H and swing the ribber 2 pitch to the left and cast on.

Set back the half pitch lever to P, and swing it back and follow above instruction for somewhat looser 2K2P rib.



(7) 2 Knit 1 Purl rib (80)

This is another variation of ribbing with 2 knit stitches and 1 purl stitch.

Shown here is in medium weight yarn.



(80)

First step: Bound off cast on

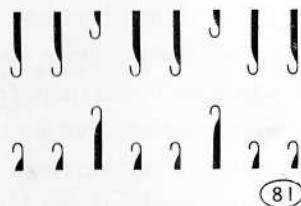
A. Pitch setting

Set the Half Pitch lever to P (Square position.)

B. Needle arrangement

A number of stitches to be cast on should be a multiple of 3 plus 2.

a) On the main machine, bring out the required number of needles to B position with 0 mark in the center. From left end, push back every third needles to A position using 1/2 needle pusher.



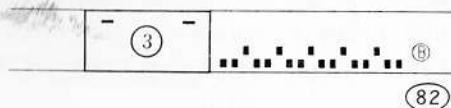
b) On the ribber, bring out to B position every third needles on the main machine previously pushed back to A position. (81)

C. Carriage setting

a) Ribber carriage (82)

Cam lever	Both at —
Tension dial	3

Try the carriage back and forth and put it on the left side. Needles are aligned along C position with their latches open.



b) Main carriage (83)

Cam lever	Center
Russel buttons	Both up
Pick lever	●
Tension dial	3

Try the carriage back and forth and put it on the left side. Needles are aligned along B position with their latches open.



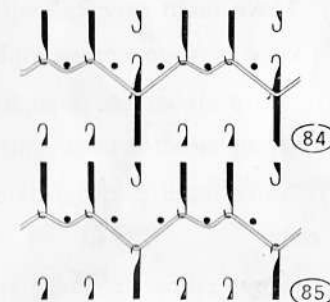
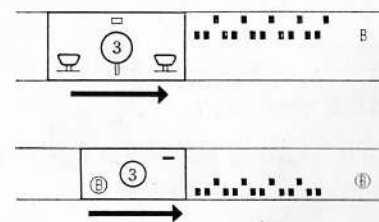
(83)

D. Threading

Pass yarn through the Auto-tension, yarn feeder and down to between main machine and ribber.

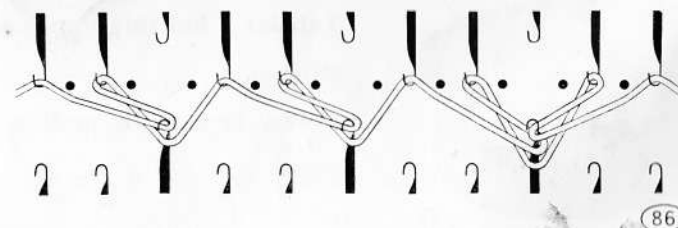
a) Move main carriage from left to right.

(Yarn is hooked zigzag between main machine and ribber.) (84)



b) With left cam lever at B, move ribber carriage from left to right. (Needles are lowered to B position with yarn in their hooks.) (85)

c) With the hook tool, pick up the yarn between two main needles and put it on the ribber needle in B position. (86)



(86)

E. Cast on comb

Pull out the wire from the comb. From underneath thrust the teeth of the comb up through the zigzag yarn and replace the wire. Keep it balanced.

F. weights

Hang an appropriate number of weights to the holes of the comb keeping it balanced.

G. Bound off cast on

- a) Move main carriage from right to left, knitting with main machine only.
- b) Move ribber carriage from right to left.
(Ribber needles come to C position with yarn behind latches.)
- c) Move main carriage with cam lever at R from left to right.
(Yarn is spun across ribber needles.)
- d) Move ribber carriage from left to right.
(Ribber needles have knit and come to B position.)
- e) Move main carriage from right to left knitting with main machine only.
- f) Move ribber carriage from right to left.
(Ribber needles come to C position with yarn behind latches.)

Second step: 2K 1P ribbing

Set both tension dial at 5 and proceed as in 2K 2P ribbing.

(8) Tubular knitting (87)



Tubular knitting in stockinet stitches.

Shown here is in medium weight yarn.

(87)

First step: Cast on

A. Pitch setting

Set the Half Pitch lever to P.

(square position)

B. Needle arrangement

a) On the main machine, bring out a required number of needles to B position using the flat side of needle pusher.



b) Also on the ribber, bring out same number of needles to B position. (88)



(88)

C. Carriage setting

Set the Half Pitch lever to H.

(Staggered position)

- | | | | |
|--------------------|---|--------------|-----------|
| a) Ribber carriage | { | Cam lever | Both at — |
| | | Tension dial | 1 |

Try the carriage back and forth and put it on the left side. Needles are aligned along C position with their latches open.

- | | | | |
|------------------|---|----------------|---------|
| d) Main carriage | { | Cam lever | Center |
| | | Russel Buttons | Both up |
| | | Pick lever | ● |
| | | Tension dial | 1 |

Try the carriage back and forth and put it on the left side. Needles are aligned along B position with their latches open.

D. Threading

a) Thread the yarn feeder with the ravelling cord and move main carriage from left to right.

(The ravelling cord is hooked zigzag between main and ribber needles.)

- b) with left cam lever at B, move ribber carriage from left to right.
(Ribber needles are lowered to B position with the ravelling cord in their hooks.)

E. Cast on comb

Pull out the wire from the comb. From underneath, thrust the teeth of the comb up through the zigzag hooked ravelling cord and replace the wire. Keep the comb balanced.

F. Weights

Hang an appropriate number of weights to the holes of the comb keeping it balanced.

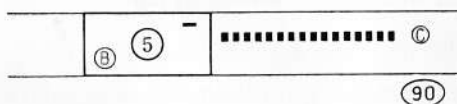
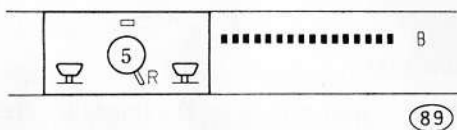
Set the Half Pitch lever to P. (Square position)

Replace the ravelling cord with medium weight yarn.

Second step: Tubular knitting

Main carriage	{	Cam lever	R
		Russel buttons	Both up
		Pick lever	●
		Tension dial	5

(89)



Ribber carriage	{	Cam lever	{ Left at B Right at —
		Tension dial	5

(90)

- a) Move main carriage from right to left knitting with main machine only.
- b) Move ribber carriage from right to left.
(Ribber needles come to C position with yarn behind latches.)
- c) Move main carriage from left to right.
(Yarn is spun across over ribber needles.)
- d) Move ribber carriage from left to right.
(Ribber needles knit and come to B position.)

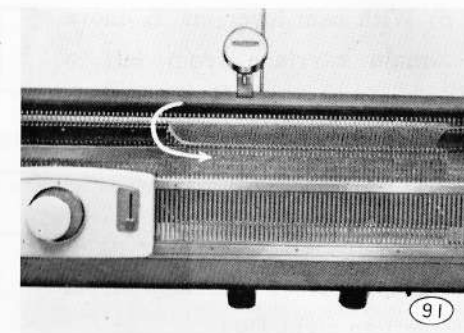
Thus repeat a) through d)

(9) Half Tubular (Double width) knitting (91)

This is a stockinet tubular with one side open providing a fabric of double width.

First step: Cast on

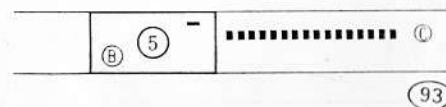
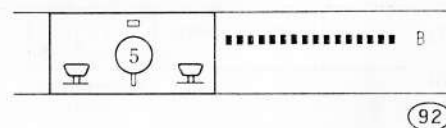
Pitch setting, Needle arrangement and threading are done as in case of Tubular knitting.



Second step: Half tubular knitting

Main carriage	{	Cam lever	Center
		Russel buttons	Both up
		Pick lever	●
		Tension dial	5

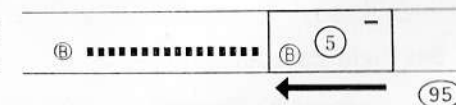
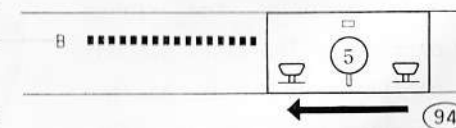
(92)



Ribber carriage	{	Cam lever	{ Left at B Right at —
		Tension dial	5

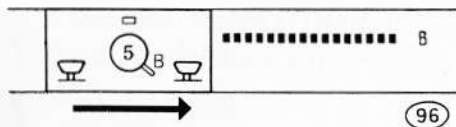
(93)

- a) Move main carriage from right to left knitting with main machine only. (94)
- b) Move ribber carriage from right to left. (95)
(Ribber needles come to C position with yarn behind latches.)



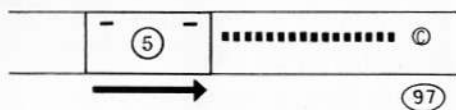
c) With cam lever at B move main carriage from left to right. (96)

(Yarn is spun across over ribber needles.)



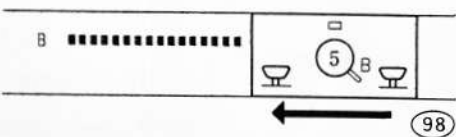
d) With left cam lever at - move ribber carriage from left to right. (97)

(Ribber needles have knit and come to C position.)



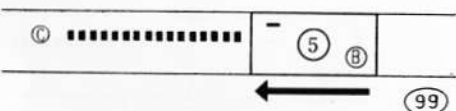
e) Move main carriage from right to left. (98)

(Yarn is spun across over ribber needles.)

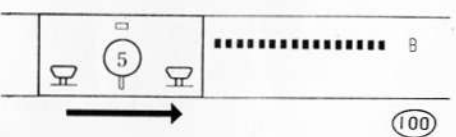


f) With right cam lever at B move ribber carriage from right to left. (99)

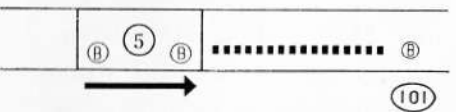
(Ribber needles have knit and come to B position.)



g) With cam lever at center move main carriage from left to right, knitting with main machine only. (100)



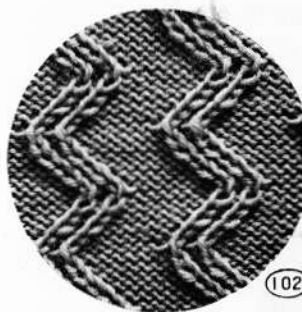
h) To transfer the ribber carriage to the right set left cam lever at B and pass the carriage from left to right. (101)



Set right cam lever to -.

Thus repeat a) through h) (102)

(10) Variation swing (102)



This is one of many possible patterns by swinging the ribber.

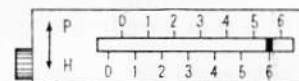
Shown here is in medium weight yarn.

First step: cast on

A. Pitch setting

Set the Half Pitch lever to H.

Swing the ribber all the way to the left.



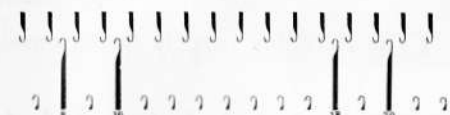
(103)

(Swing indicator points at 6 on H scale, staggered position.)

B. Needle arrangement

a) On the main machine, bring out required needles to B position with an equal number of needles on each side of 0.

b) On the ribber, bring out to B position the needles required for the pattern.



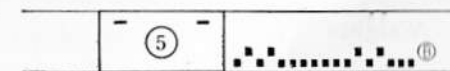
(104)

(Needles numbered 8, 10, 18, 20, 28, 30 etc.)

C. Carriage setting

a) Ribber carriage	{	Cam lever	Both at -
(105)	{	Tension dial	5

Try the carriage back and forth and put it on the left.



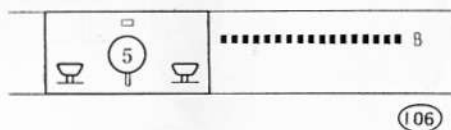
Needles are aligned along C

position with their latches open.

(105)

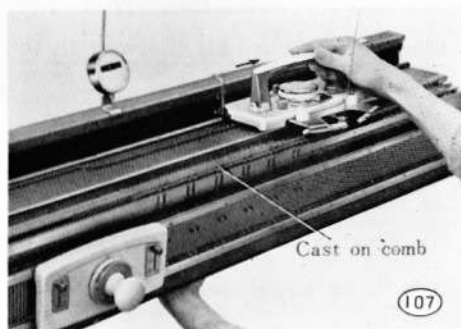
b) Main carriage (106)	} Cam lever Russel buttons Pick lever Tension dial	Center
		Both up
		●
		5

Try the carriage back and forth and put it on the left side. Needles are aligned along B position with their latches open.



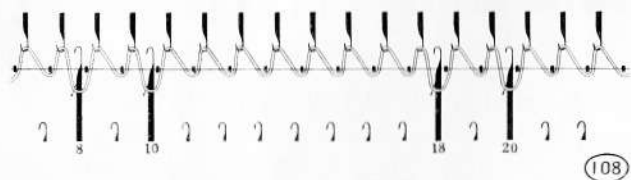
D. Threading

- Thread the yarn feeder with the ravelling cord.
- From underneath and between the main machine and ribber hold the cast on comb with one hand to the height of main machine sinkers. Move slowly main carriage from left to right.



(The ravelling cord is hooded passing through the teeth of the comb.)

(108)



- Move ribber carriage from left to right.
(Ribber needles come to C position with the cord behind latches.)

E. Weights

Hang an appropriate number of weights to the holes of the comb. Unthread the ravelling cord from the yarn feeder and thread the medium weight yarn.)

Second step: Pattern knitting

- Move main carriage from right to left.
(Main needles have knit and ribber needles received yarn.)
- Move ribber carriage from right to left.
(Ribber needles knit and come to C position.)
- Swing the ribber 1 pitch to the right.
(Swing indicator points at 5 on H scale.)
- Repeat a) through c) 6 times.
- Move main carriage from right to left.
(Main needles knit and ribber needles receive yarn.)
- Move ribber carriage from right to left.
(Ribber needles knit and come to C position.)
- Swing the ribber 1 pitch to the left.
(Swing indicator points at 1 on H scale.)
- Repeat e) through g) 6 times.
Repeat a) through h). (Swing the ribber 6 times to the right and then 6 pitches to the left alternatingly.)

VI. Partial knitting

Shown here is an example of partial knitting (decreasing) applied to 1K 1P rib in medium weight yarn.

Suppose both carriages are on the right side and there is one more row to go before starting partial knitting.

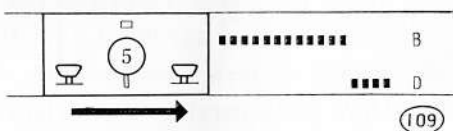
Main carriage	} Cam lever Russel buttons Pick lever Tension dial	Center
		Both up
		●
		5
Ribber carriage	} Cam lever Tension dial	{ Left at — Right at B
		5

- Move main carriage from right to left.
(Main needles knit and ribber needles receive yarn.)
- Move ribber carriage from right to left.
(Ribber needles knit and come to B position.)

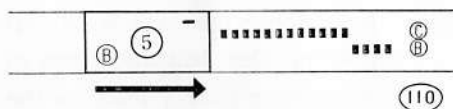
Partial knitting

- Bring out at the right side first group of main needles to be decreased to D position.
- Leave at the right side first group of ribber needles in B position and bring out the rest of needles to C position.

- Move main carriage from left to right. (109)
(Main needles in B position knit and ribber needles in C position receive yarn.)

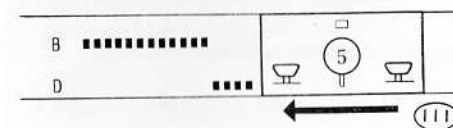


- Move ribber carriage from left to right with right cam lever at — and left at B. (110)
(Ribber needles in C position knit and come to B position.)

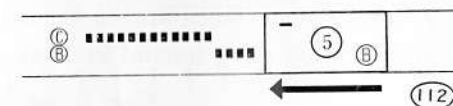


- On the ribber, again, leave resting needles in B position and bring out working needles to C position.

- On the main machine, pass the yarn around the innermost resting needles and move main carriage from right to left. (111)
(Main needles in B position knit and ribber needles in C position receive yarn.)



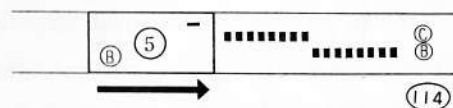
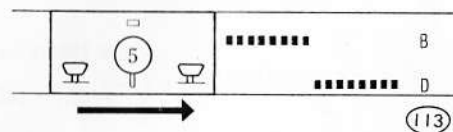
- Move ribber carriage from right to left. with left cam lever at — and right at B. (112)
(Ribber needles in C position knit and come to B position.)



(Ribber needles in C position knit and come to B position.)

One partial knitting (two short rows) is completed.

Repeat the procedures for desired decreasing. On the main machine, place the resting needles in C position and on the ribber place the working needles in C position and resting needles in B position. (113) (114)



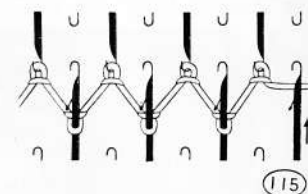
N. B. For partial knitting (increasing), first place resting needles of main machine in D position and push back to C position each group of needles as you proceed. On the ribber, repeat placing working needles in C position each time.

VII. Increasing stitches

★ Increasing one stitch at the edge.

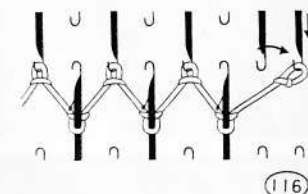
Method # 1

On the side where the carriage is on, bring out one resting needle to working position. (115)

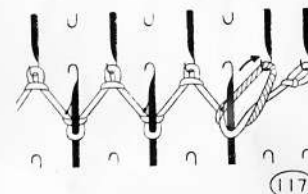


Method # 2

Transfer the edge stitch to next resting needle. (116)



Take the back loop and put it on the vacated needle. (117)

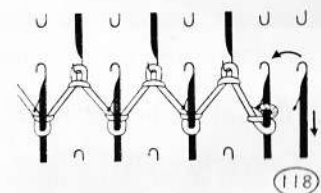


VIII. Decreasing stitches

★ Decreasing one stitch at the edge.

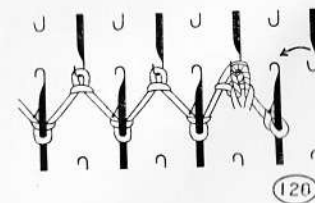
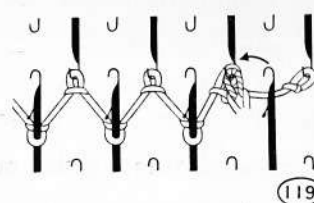
Method # 1

Transfer the edge stitch to next inside needle. (Main needle to ribber needle and vice versa) Push back the vacated needles to A position. (118)



Method # 2

Transfer the second stitch from edge to third needle. (119) Transfer the edge stitch to the second needle and push back the vacated needle to A position. (120)



IX. Helpful hints

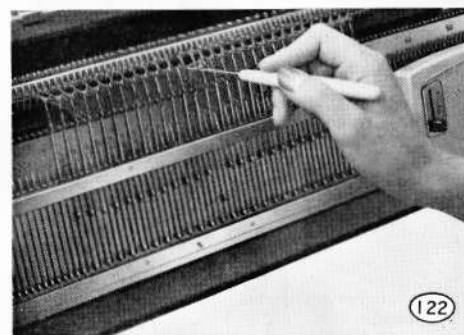
1. How to pick up dropped stitches



Unload the weights from the cast on comb before they further drop stitches.

Press down the drop lever and lower the ribber.

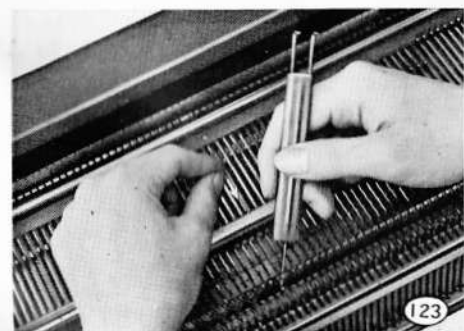
Pick up the dropped stitch with the hook tool and put it back on the needle.



When a stitch is dropped several rows down, Pick up the stitch with a tapet and crochet up before putting it on the needle.

2. Use of ribber transfer tool

(Converting 1K1P rib to stockinet)



a) Bring out every other resting needles on the main machine to B position and open their latches. (123)

b) Transfer stitches on the ribber to these resting needles on the main machine.



(Converting stockinet to 1 K 1 P rib)

Bring out required needles on the ribber. Transfer every other stitches from main machine to ribber.

3. How to knit with main machine only

Transfer stitches from ribber to main machine.

Push down the drop lever and lower the ribber.

Replace the ribbing arm with the arm for main machine and knit. (125)



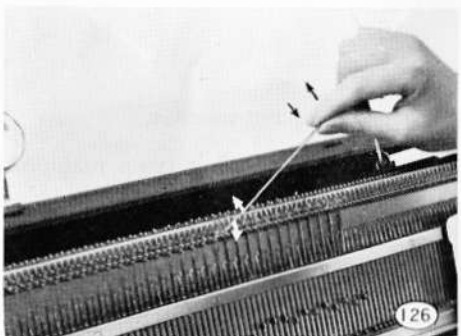
4. When the ribber carriage jams.

Do not force the carriage when it happens to jam but set the both cam levers B position and push back the carriage gently. When it does not move push it forward a little bit and then push back.

5. How to unravel your knitting on the machine.

Place ribber needles in B position.

As pulling the yarn flap it up and forward so that the yarn will come off the hooks sliding next stitches into hooks automatically. (126)



6. How to remove the knitting from machine.

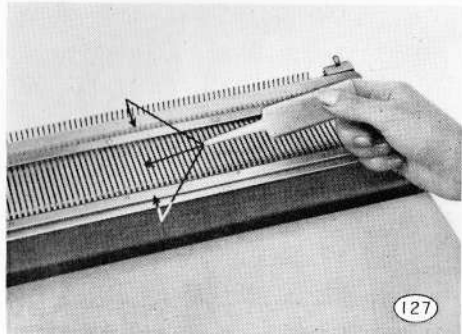
Do 5 or 6 rows waste knitting with a different yarn.

Unload weights, unthread the yarn feeder and move the carriage, then the knitting will be dropped.

X. Maintenance

1. How to oil

Always remember that proper oiling ensures pleasant and better knitting.

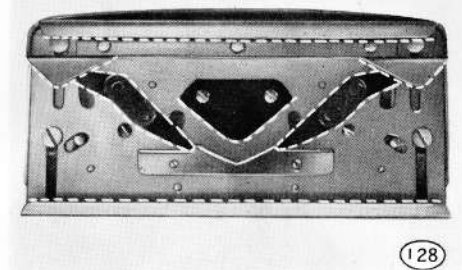


Oil following parts:

a) **Rail Oil**
outside sliding surface.

b) **Grooves of needle bed**

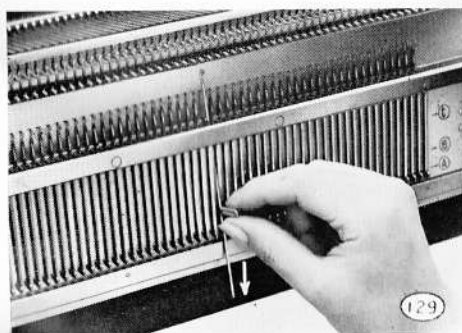
c) **Back of the carriage**
Dotted line shows where to oil.



2. How to replace needles

Replace a damaged needle with one of your spare needles.

You can change needles without removing the knitting from machine needles.



Just pull out the needle retaining band and pull out damaged needle as in case of main machine. Then put in the new needle, the hook first then the shank holding the butt.

M E M O