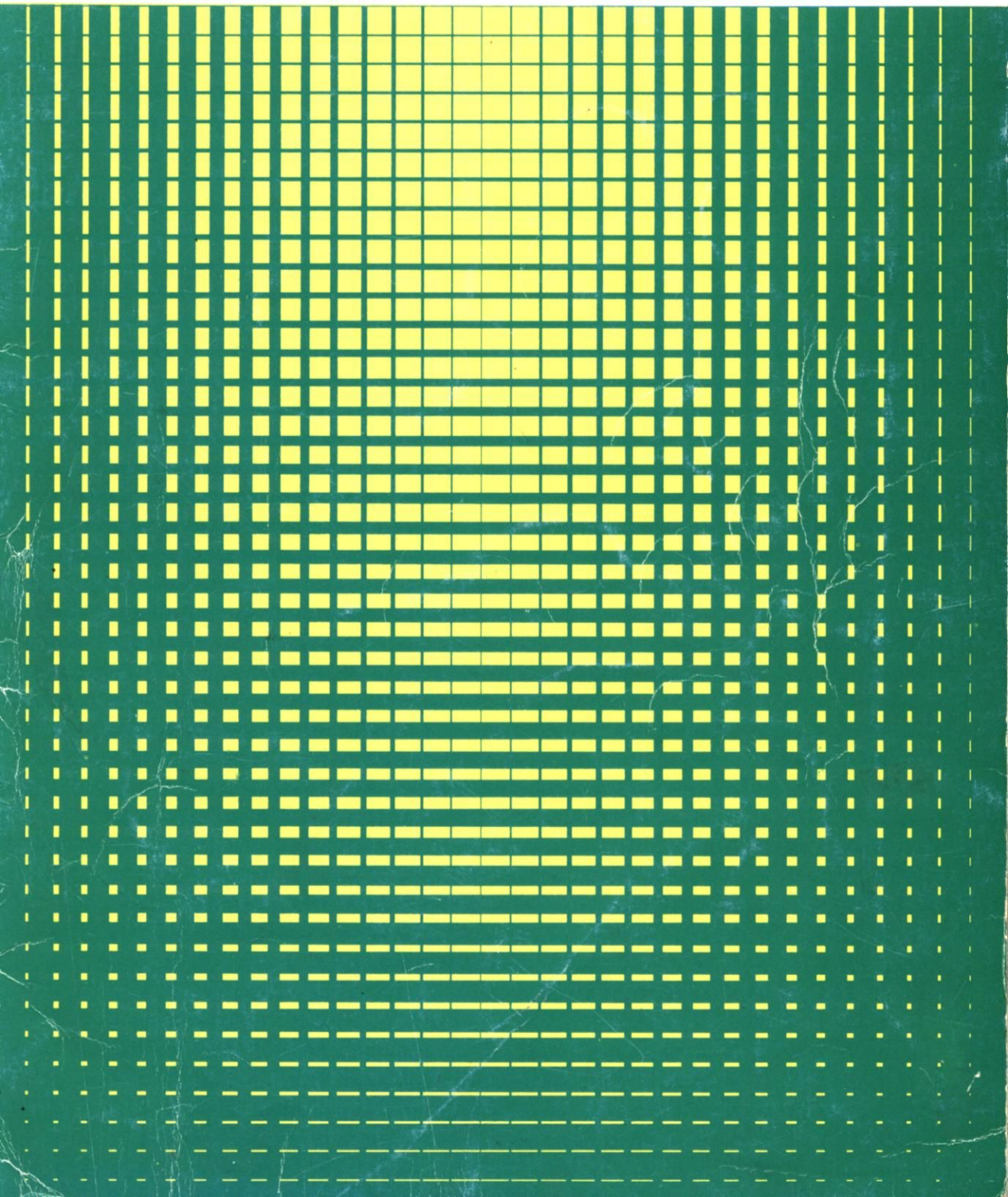


**Instruction manual
for Knitting machine
Model KH-210**

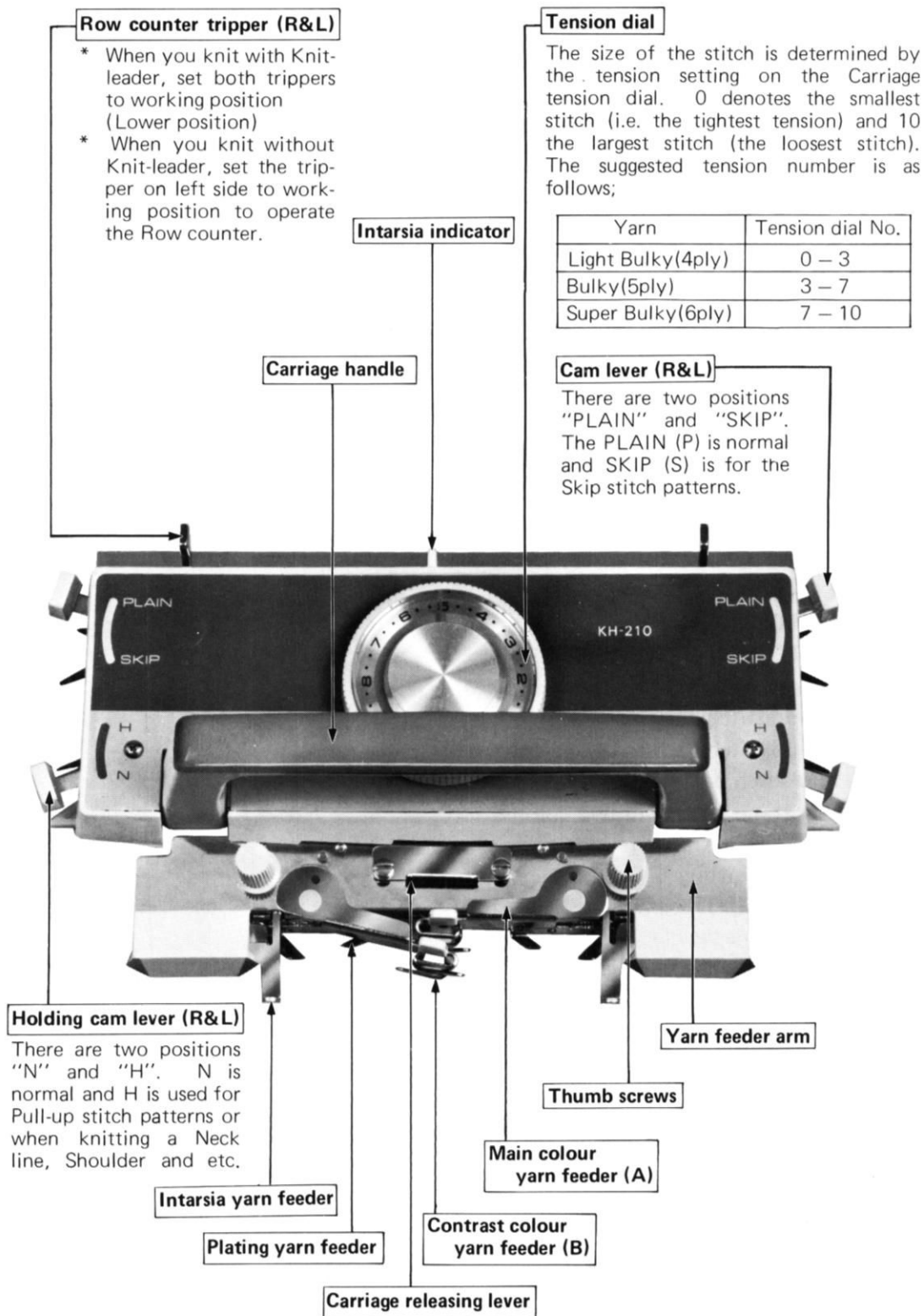




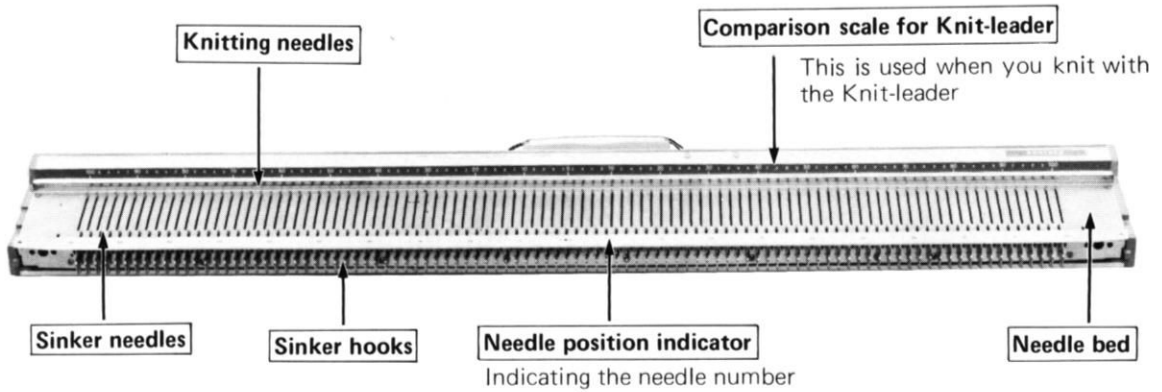
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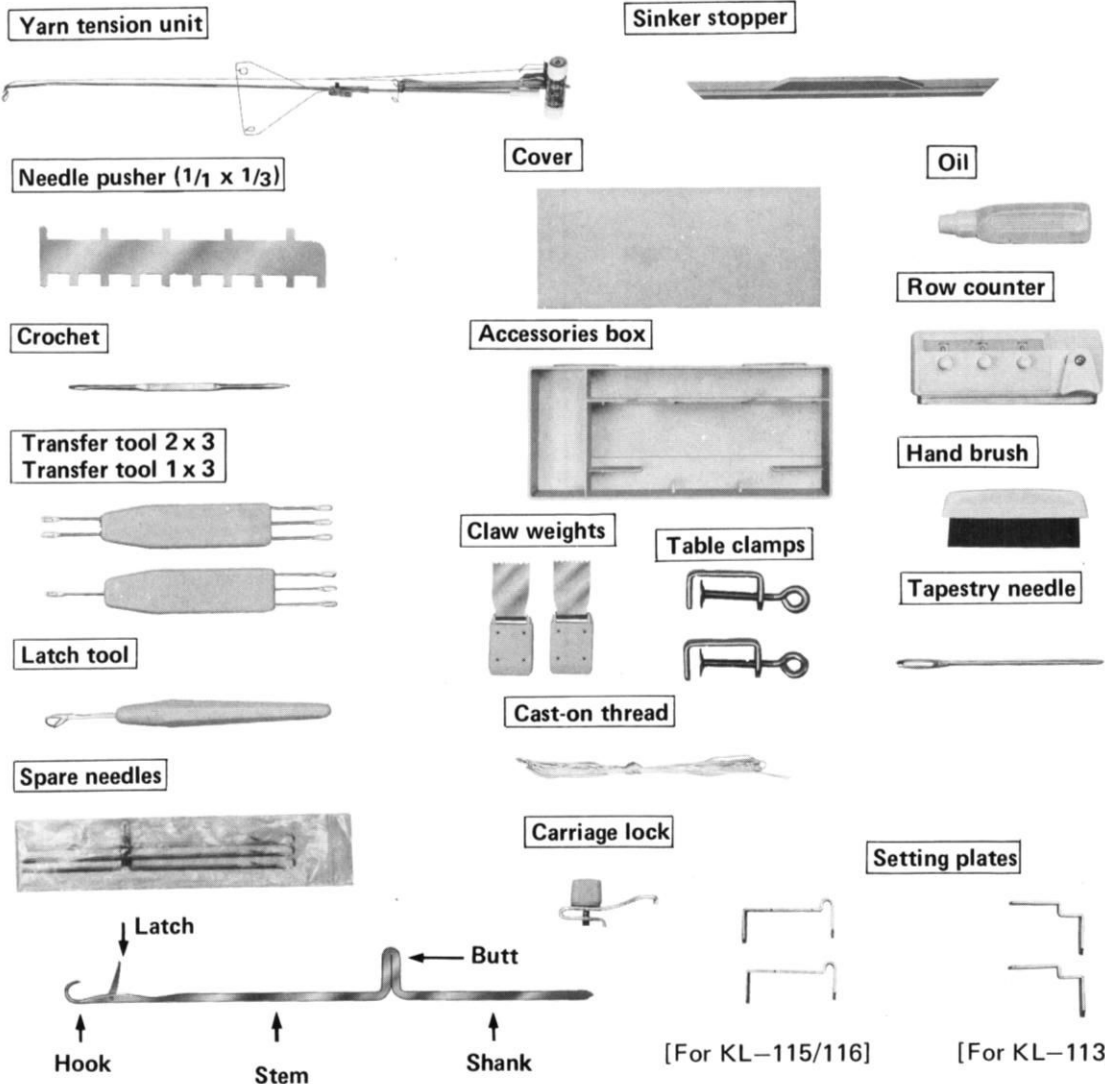
PART NAME AND FUNCTIONS.....Carriage



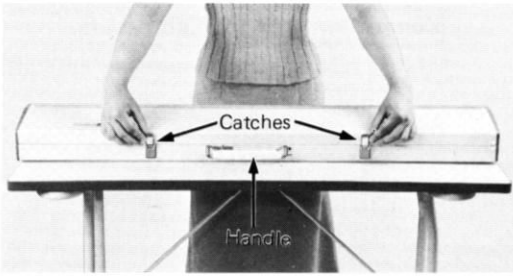
.....Machine body



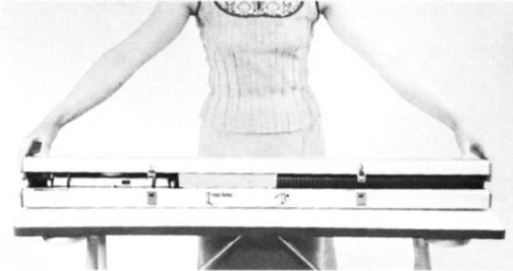
.....Accessories



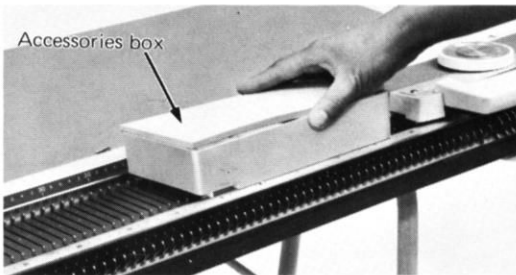
SETTING UP YOUR MACHINE



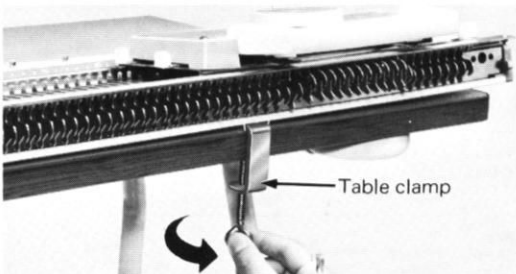
- (1) Place the machine on a firm table with the Carrying case handle away from you. Unlock the catches on either side of the handle.



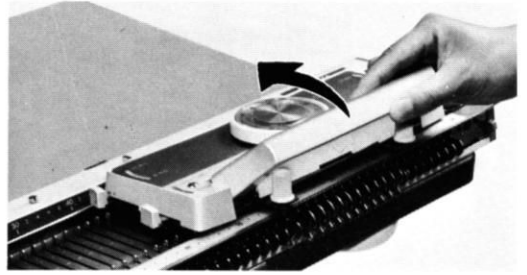
- (2) Lift the Upper case slightly, and pull toward you to release the lid.



- (3) Remove the Accessories box.



- (4) Take the two Table clamps out of the Accessories box, and fasten the knitter to the table by tightening the Table clamp screws.



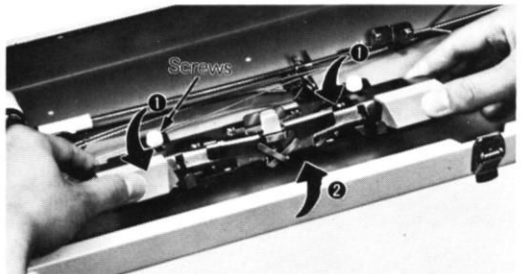
- (5) Set up the Carriage handle.



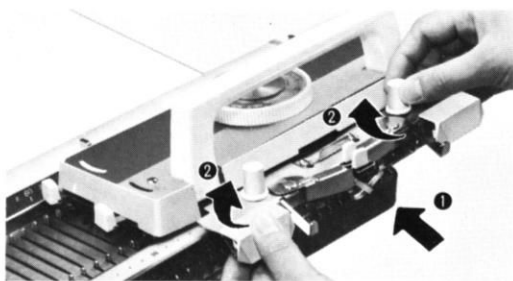
- (6) To remove the Carriage lock,
a. Loosen the screw on the lock plate.



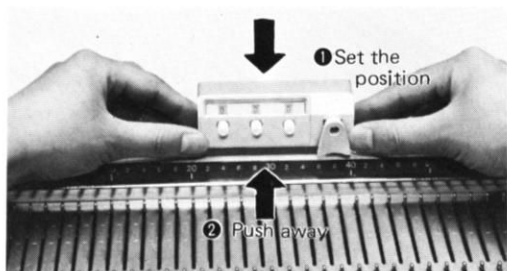
- b. Move the Carriage to the right end of the needle bed and turn the lock plate downward, then remove it.



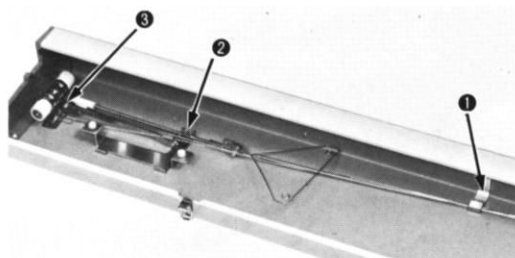
- (7) Loosen two screws on either side of the holder inside of the Upper case and take the Yarn feeder arm out of the case.



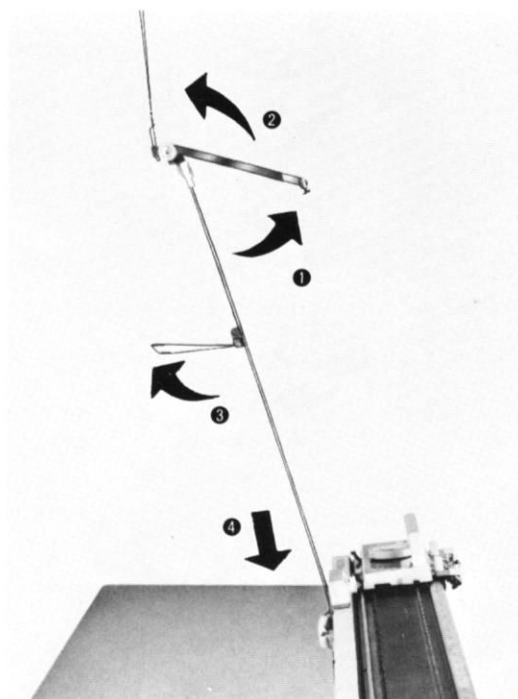
(8) Loosen the white plastic thumb screws on the Carriage, and insert the Yarn feeder arm. Push it back as far as it will go. Then, tighten the thumb screws securely.



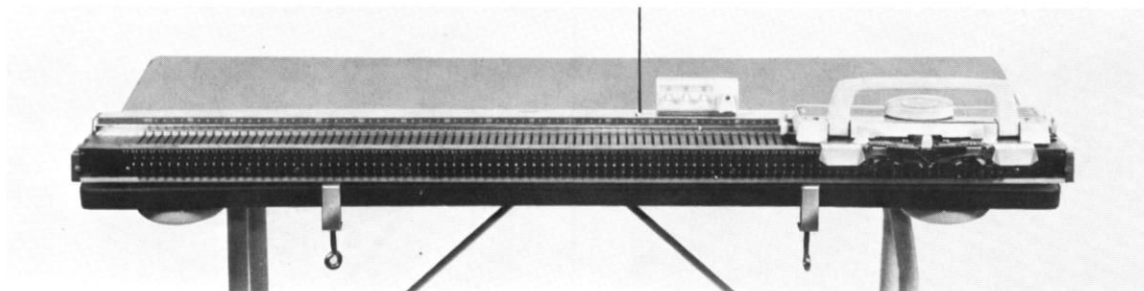
(9) Take the Row counter out of the Accessories box and set it onto the two studs and push it away from you.



(10) Take the Yarn tension unit out of the Upper case in the order indicated in the photograph.

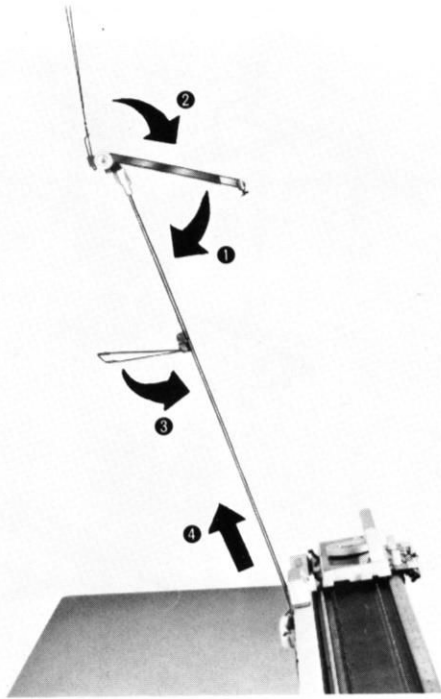


(11) Set up the Yarn tension unit in the order indicated in the photograph.

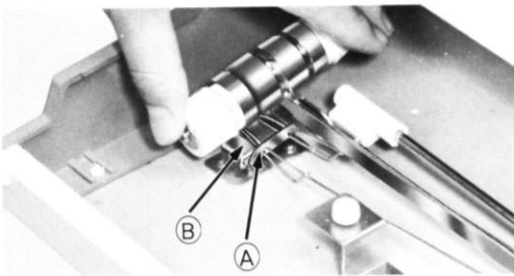


(12) The above photograph shows that the knitting machine is set up.

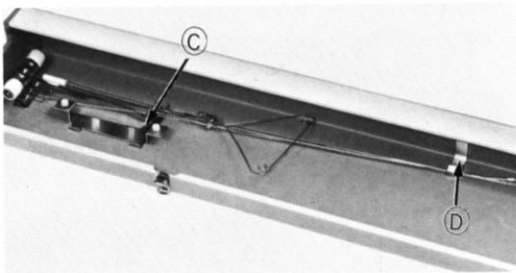
FOLDING UP YOUR MACHINE



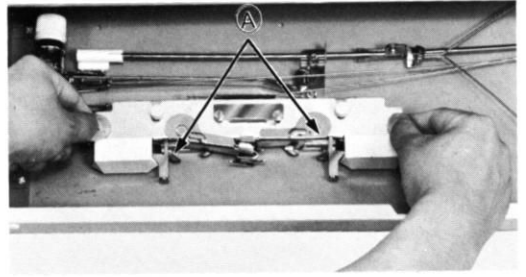
(1) Fold up the Yarn tension unit and remove it from the machine body.



(2) Fit the part A of the Yarn tension unit under the clasp B of the case.



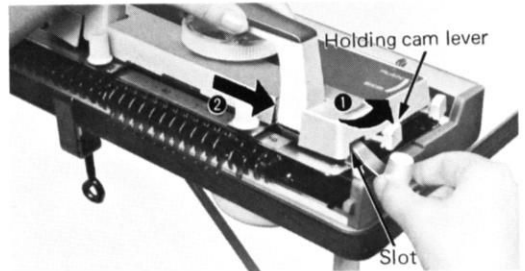
(3) Put the Yarn tension rod under the hook C, and place the Rod and Take-up springs into the hook D.



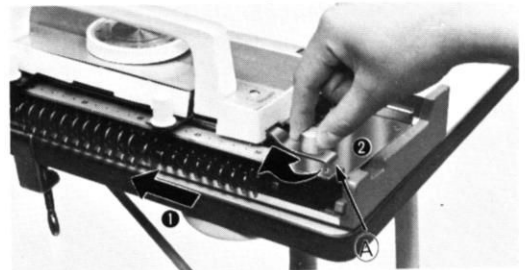
(4) Close both yarn feeders. Remove the Yarn feeder arm from the Carriage. Place the Yarn feeder arm on the holder of the Upper case.



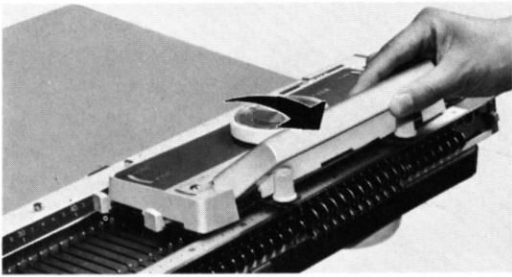
(5) Fasten two screws.



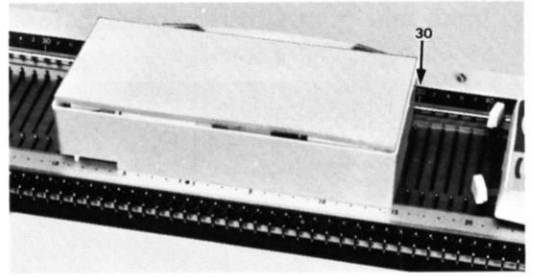
(6) Bring back all needles to A position. Set the right Holding cam lever on "H", and move the Carriage to the right end of the Needle bed, then insert the Carriage lock into the slot at the right side of the Carriage.



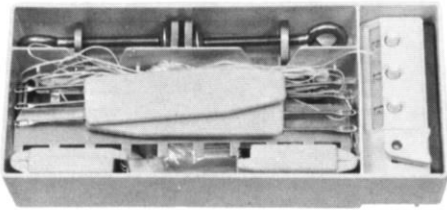
(7) Move the Carriage a little to the left, and set the Carriage lock to the slot on the Needle bed, then fasten the screw.



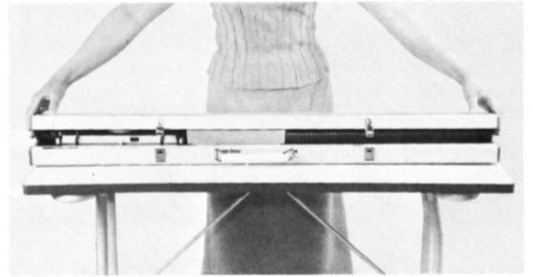
(8) Fold up the Carriage handle.



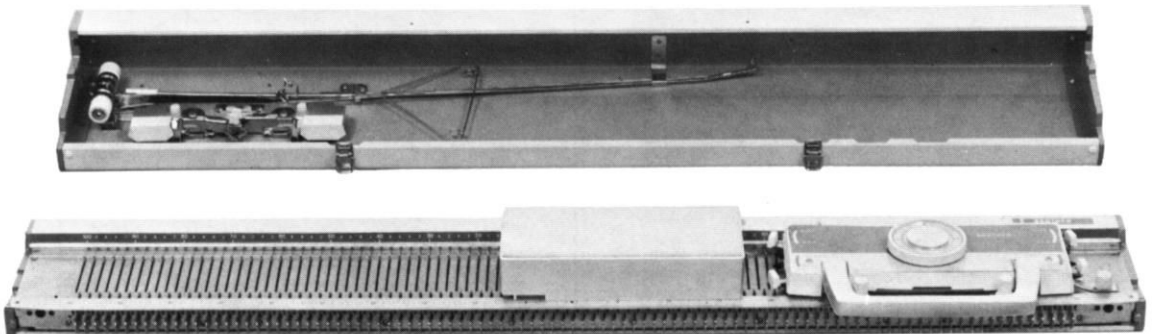
(10) Place the Accessories box onto the Needle bed. The right end of the Accessories box must be on the number 30 on the right side of the Comparison scale.
(The Row counter should be placed in left side of the Accessories box.)



(9) Remove the Row counter and Table clamps, put all accessories into the box.



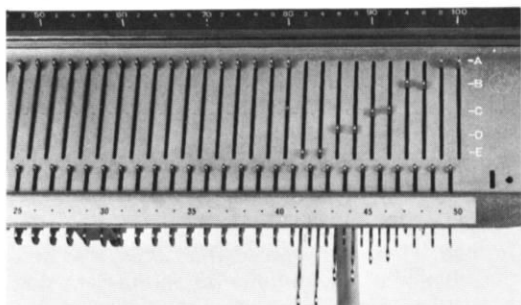
(11) Close the Upper case and lock the catches.



* The above photograph shows that the all accessories are placed correctly.

HOW TO START KNITTING

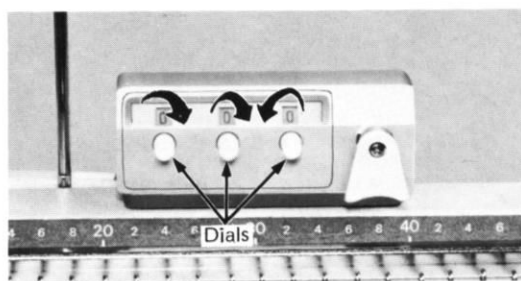
◆ Important points to remember before you start knitting



[Needle positions]

On either side of the needle bed, there appear the marks A, B, C, D and E. These are the five needle positions.

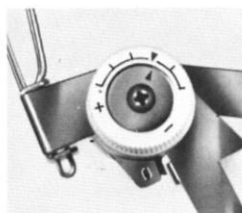
- A Non working position.
Needles will not knit.
- B Working position.
Used for general work.
- C Pattern knitting position.
- D Same as the C position. Also used for partial knitting when increasing the stitches.
- E Holding position. The stitch will hold on the needle in this position until released. Used for Pull-up stitch patterns.



[Row counter]

- ★ The figures on you row counter can be moved to zero by turning the dials according to the arrows starting with the dial on the left.
- ★ When using the row counter, set the row counter tripper on left side to working position (Lower position). If you do not wish to use the row counter, then, pull the tripper back to resting position.

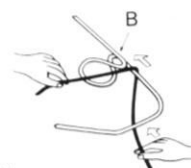
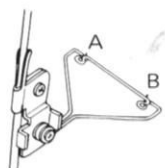
[Wool tension]



- ★ According to the thickness of yarn, adjust the controle knob. A tight tension (+ side) is used for a medium thickness yarn, and a

loose tension (- side) for a bulky or super bulky yarn. The tension we recommend for a light bulky yarn is where the two arrows meet.

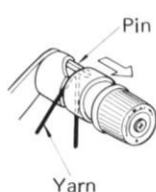
- * The bulky yarn is used for an example.



Rear yarn guide

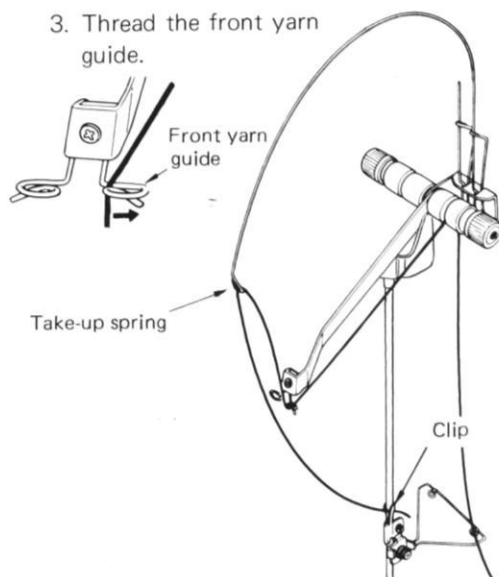
- (1) Threading the yarn tension unit.

1. Pass the yarn from the ball through the rear yarn guide as shown in the above illustrations.



2. Pass the yarn under the pin and through between two discs from behind. Set the controle knob at the minus(-) side.

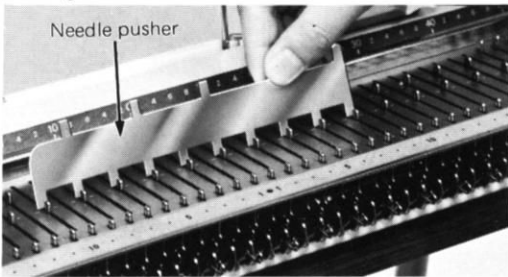
3. Thread the front yarn guide.



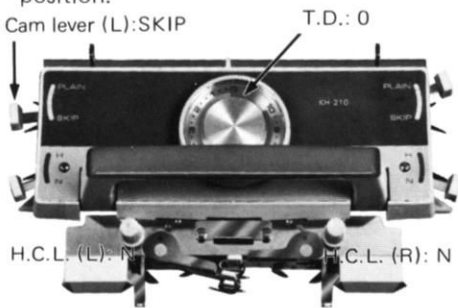
4. Thread the yarn into the eyelet of the Take-up spring and clip the yarn under the Yarn clip.



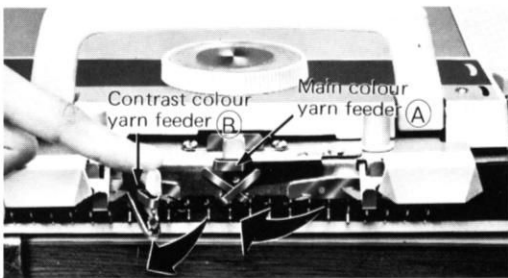
- (2) Bring forward by using the Sinkers stopper provided in the accessories box 40 needles to B position, 20 needles on either side of the center mark "0".
- (3) Move the Carriage across and back to straighten these needles into B position completely. Then, place the Carriage at right hand side of the needle bed.



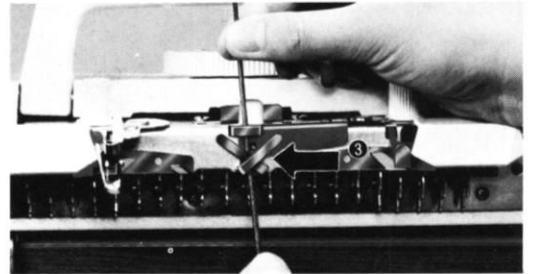
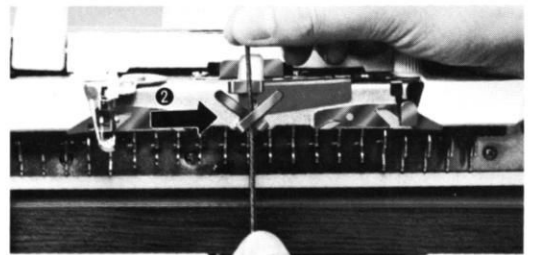
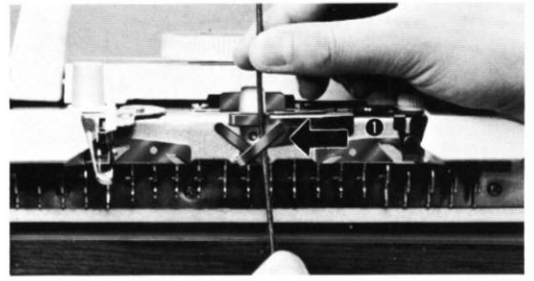
- (4) Using 1/1 needle pusher, bring forward every other needle from B position to C position.



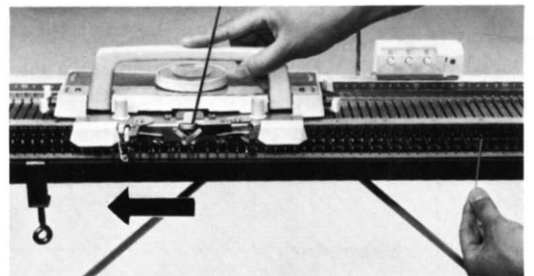
- (5) Set the various levers as shown in the photograph.



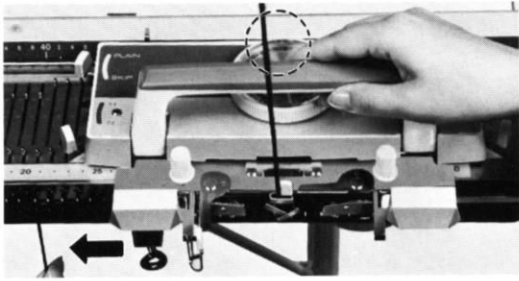
- (6) There are two yarn feeders. The right yarn feeder is for main colour yarn and the left for contrast colour yarn.
 - a. Open the left yarn feeder B to rest.



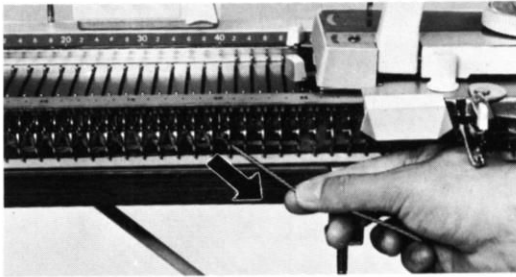
- b. Thread the yarn into the right yarn feeder A as shown above photographs.



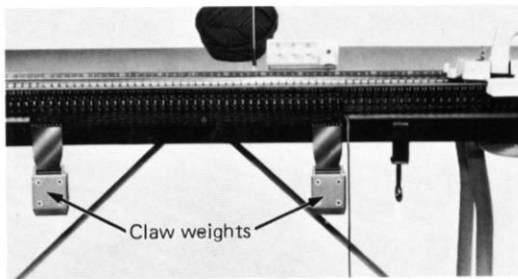
- (7) Hold the end of yarn by finger, then move the Carriage slowly from right to left side. The yarn will be caught by the needles which were brought from B to C position.
- (8) Move the Carriage from left to right slowly.



(9) Change the setting of Cam lever left from SKIP to PLAIN and reset the Tension dial from 0 to 5. Move the Carriage from right to left.

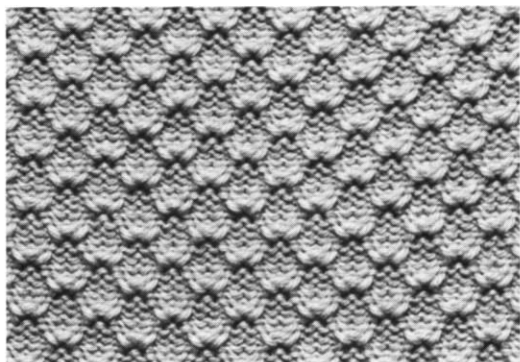


(10) Pull the end of yarn gently to the right.



- * After knitting several rows, hang the Claw weights onto both ends of the fabric.
- * Re-hang the Claw weights when the fabric gets long.

Example 1 [Pull-up stitch pattern]

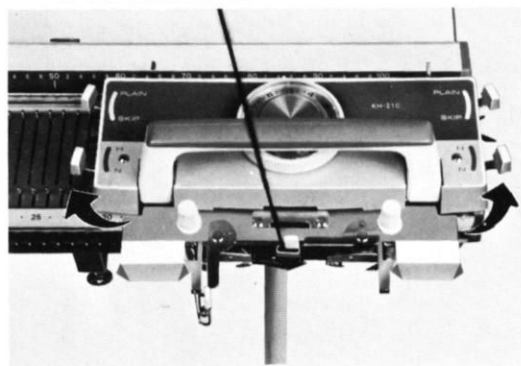


Yarn: Bulky(5ply)

T.D.: 5

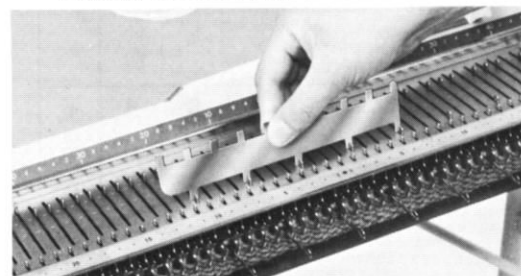
◆ Operation steps

- (1) After knitting several rows with plain stitch, place the carriage on the right end of the needle bed.



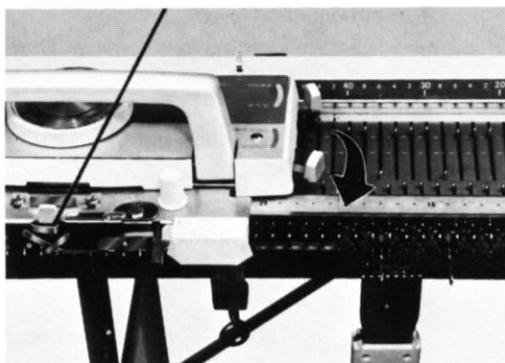
- (2) By following the operation chart, Set the various settings as follows:

Holding cam lever(L) : H
 Cam lever(L) : P (PLAIN)
 Yarn feeder B : Resting
 Tension dial : 5
 Yarn feeder A : a(Main colour)
 Cam lever(R) : P (PLAIN)
 Holding cam lever(R) : H

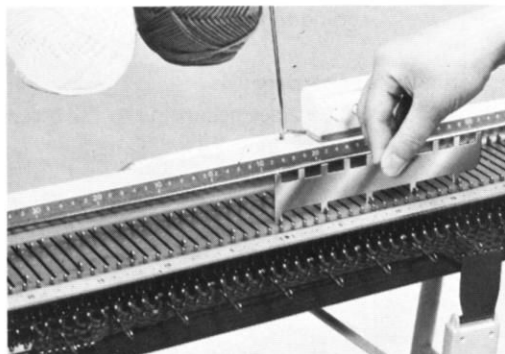


According to the operation chart, bring forward 1st and 5th needle (every fourth needle) to E position. You can use 1/3 needle pusher for this purpose.

8	"	"	"	"	"	"	N											→
7	"	"	"	"	"	"	"											←
6	"	"	"	"	"	"	"											→
5	"	"	"	"	"	"	H		3				7					←
4	"	"	"	"	"	"	N											→
3	"	"	"	"	"	"	"											←
2	"	"	"	"	"	"	"											→
1	H	P		5	a	P	H	1			5							←
Step																Direction of carriage		



- Step 1: After setting as above, move the carriage from right to left.
 Step 2: Move the Carriage to right.
 Step 3: Move the Carriage to left.
 Step 4: Change the right Holding cam lever from H to N, then move the carriage to right.

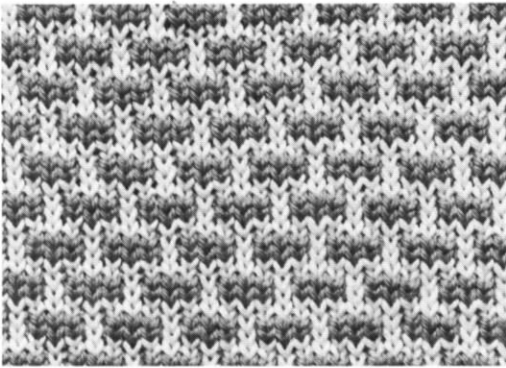


- Step 5: Change the right Holding cam lever from N to H. Bring forward 3rd and 7th needle to E position. Then, move the carriage to left.
 Step 6: Move the carriage to right.
 Step 7: Move the carriage to left.
 Step 8: Change the right Holding cam lever from H to N, then move the carriage to right.

- (3) Repeat the steps (1) to (8).

Example 2

[Pull-up stitch pattern in two colours]

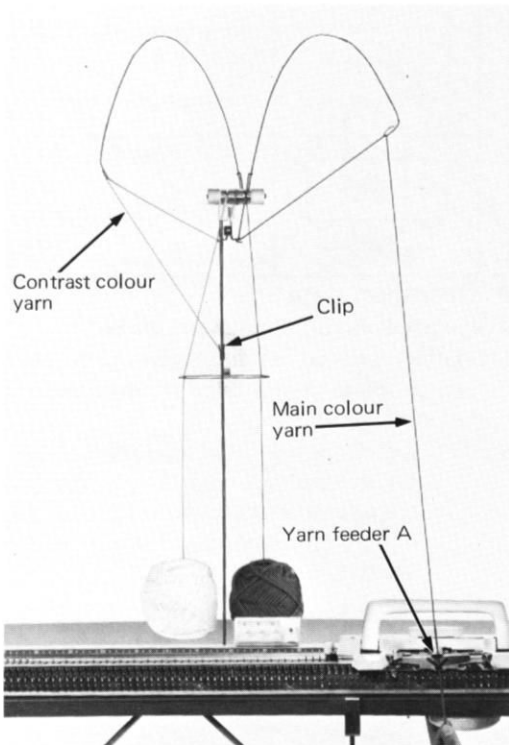


Yarn: a(Main colour) ... Bulky(5ply)
b(Contrast colour) ... Bulky(5ply)

T.D.: 5

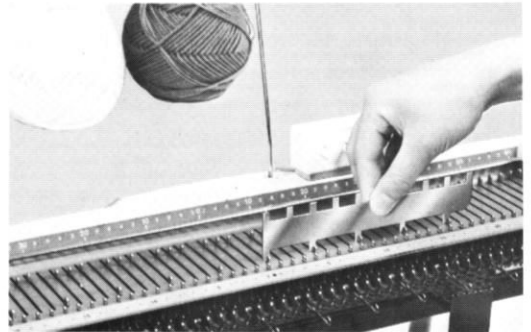
◆ Operation steps

By using both A and B yarn feeders, and changing the colour every two rows, knit the Pull-up stitch in two colours.



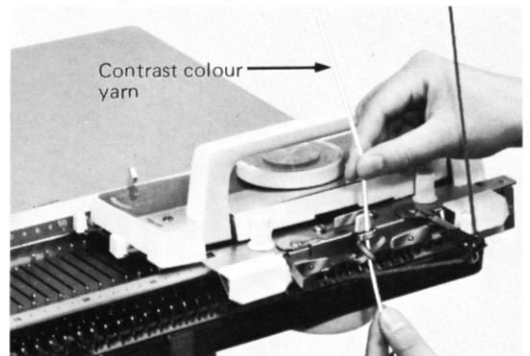
- (1) Thread the main and contrast colour of yarns into the yarn tension unit, then, hang the contrast colour yarn on the yarn clip of the yarn tension unit. Thread the main colour yarn into the yarn feeder A.

8	"	"	"	"	"	"	"												→
7	N	"	b	"	"	"	"												←
6	"	"	"	"	"	"	"												→
5	H	"	"	a	"	"	"		3										←
4	"	"	"	"	"	"	"												→
3	N	"	b	"	"	"	"												←
2	"	"	"	"	"	"	"												→
1	H	P	5	a	P	H			1										←
Step																Direction of carriage			



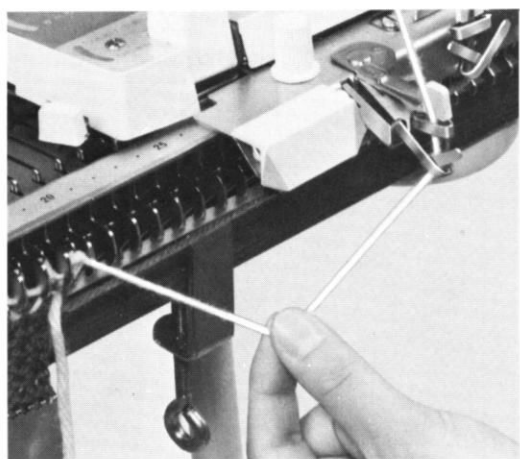
- (2) After knitting several rows with plain stitch, place the carriage on the right end of the needle bed.

Step 1: According to the operation chart, set the carriage as shown in the diagram, and arrange the needles for the pattern into E position. Then, move the carriage from right to left.



Step 2: Move the carriage to right.

Step 3: Change the left Holding cam lever from H to N. Swing yarn feeder "A" out of feed position, and set the contrast yarn feeder B into the position. Thread the contrast yarn into the yarn feeder B, then move the carriage to left.



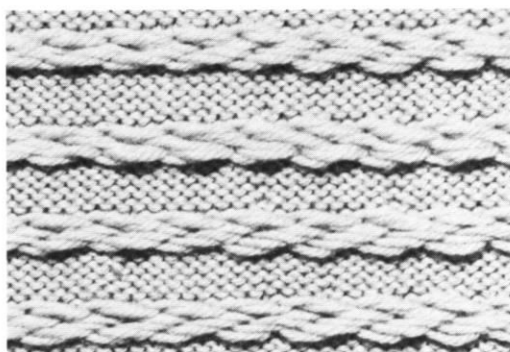
- Step 4: Move the carriage to right.
 Step 5: Change the left Holding cam lever from N to H. Bring forward 3rd and 7th needles to E position. Change the yarn feeder from B to A. Then, move the carriage to left.

* When changing the yarn feeder from B to A, pull down the contrast yarn before moving the carriage to avoid the needles in E position catching the yarn double.

- Step 6: Move the carriage to right.
 Step 7: Change the left Holding cam lever from H to N. Change the yarn feeder from A to B. Then, move the carriage to left.
 Step 8: Move the carriage to right.

(3) Repeat the steps (1) to (8).

Example 3 [Skip stitch pattern]



Yarn: Bulky(5ply) T.D.: 5 for Plain stitch
7 for Skip stitch

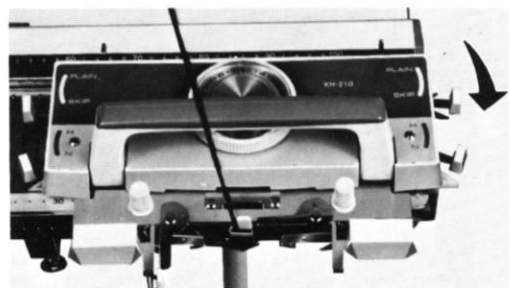
12	"	"	"	"	"	"	"													→
11	"	"	"	"	"	"	"													←
10	"	"	"	"	"	"	"													→
9	"	"	"	"	"	"	"													←
8	"	P		5		P	"													→
7	"	"	"	"	"	"	"	1				5								←
6	"	"	"	"	"	"	"		2				6							→
5	"	"	"	"	"	"	"			3				7						←
4	"	"	"	"	"	"	"				4				8					→
3	"	"	"	"	"	"	"			3					7					←
2	"	"	"	"	"	"	"		2				6							→
1	N	S		7	a	S	N	1					5							←
Step								1	2	3	4	5	6	7	8	Direction of carriage				
	Carriage							Needle arrangement												

◆ Operation steps

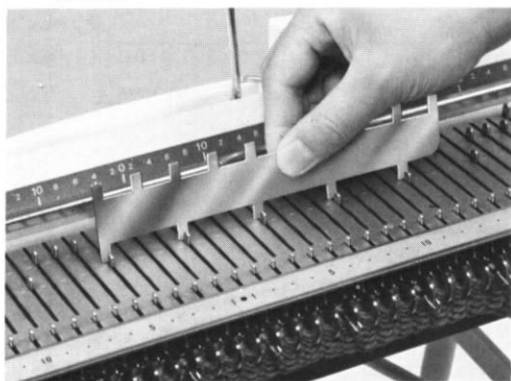
The example is knitted by Bulky yarn.

(1) After knitting several rows with plain stitch, place the carriage on the right end of the needle bed.

Step 1: According to the operation chart, set the carriage as shown in the diagram, and arrange the needles for the pattern to C position. Then, move the carriage from right to left.



Conti—



Step 2: Bring forward the needles for the step 2 of pattern, and move the carriage to right.

Step 3 to 7:

Continue the same operation as step 2, and move the carriage to the direction indicated in the chart.

Step 8: Change both Cam levers from S to P and change the tension dial number from 7 to 5. Then, move the carriage to right.

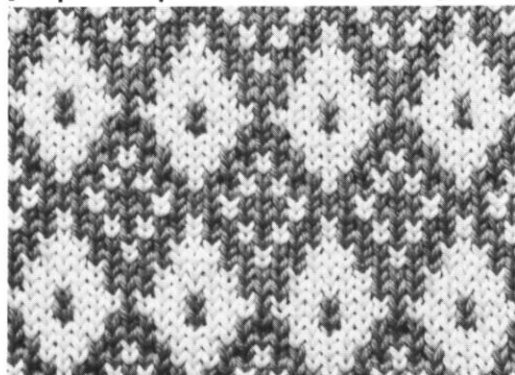
Step 9 to 12:

Move the carriage to the direction indicated in the chart.

(2) Repeat the steps (1) to (12).

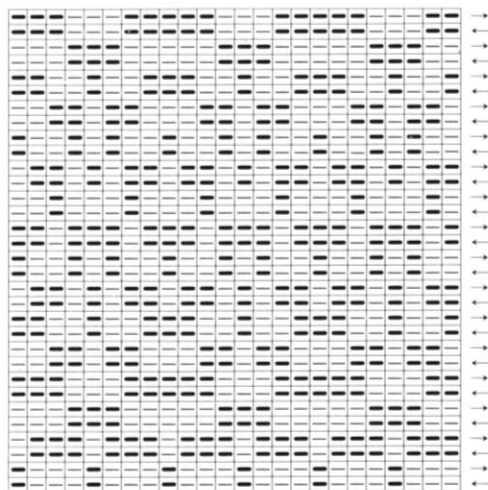
Example 4

[Skip stitch pattern in two colours]



Yarn: a(Main colour) ... Bulky(5ply)
b(Contrast colour) ...Bulky(5ply)

T.D.: 5



1 2 3 4 5 6 7 8

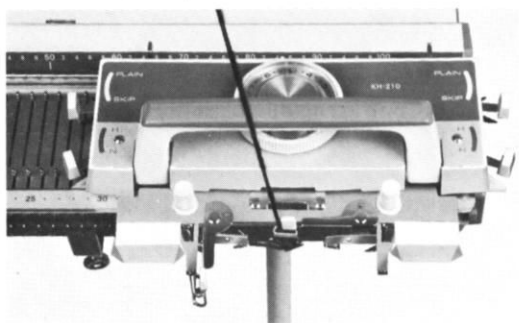
◆ Operation steps

The example is knitted with Bulky yarn.

(1) After knitting several rows in plain stitch, place the carriage on the right end of the needle bed.

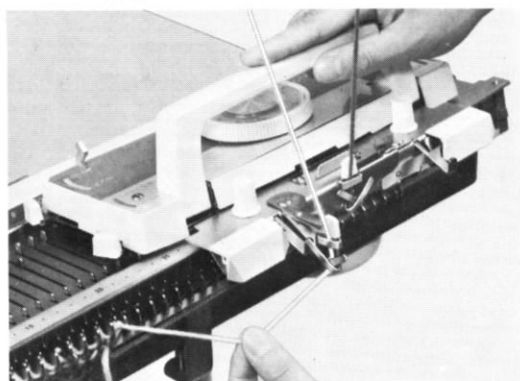
Step 1: Set the carriage according to the operation chart, and bring forward the needles for the pattern to C position. Then move the carriage from right to left.

Note: The yarn feeder B is used for step 1 of the pattern.



Step 2: Bring forward the needles according to pattern, and move the carriage to the right.

Step 3: Change the yarn feeder from B to A, and bring forward the needles for the pattern. Then, move the carriage to left.

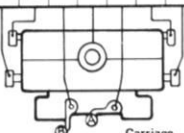


* When changing the yarn feeder from B to A, pull down the contrast yarn before moving the carriage to avoid the needles in C position catching the yarn double.

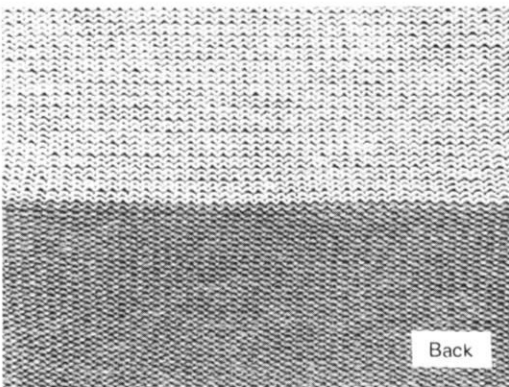
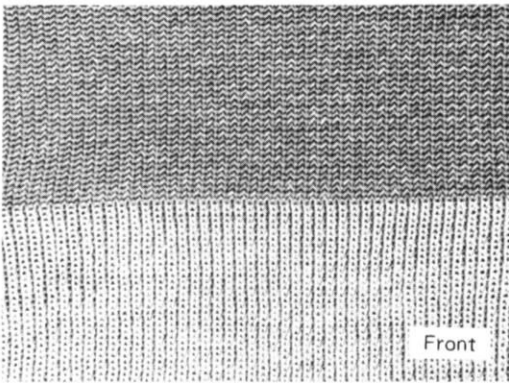
Step 4: Bring forward the needles for the pattern, and move the carriage to right.

Step 5 to 32:

Repeat the same operations as step 1 to 4 and move the carriage in the direction indicated in the chart.

32	..	..	..	..	..	..	1	2	3					7	8	→
31	..	..	..	a	..	..	1	2	3					7	8	←
30	..	..	..	..	..	..				4	5	6				→
29	..	..	b	..	..	..				4	5	6				←
28	..	..	..	..	..	..	1	2				5			8	→
27	..	..	..	a	..	..	1	2				5			8	←
26	..	..	..	..	..	..			3	4			6	7		→
25	..	..	b	..	..	..			3	4			6	7		←
24	..	..	..	..	..	..	1			4			6			→
23	..	..	..	a	..	..	1			4			6			←
22	..	..	..	..	..	..		2	3			5		7	8	→
21	..	..	b	..	..	..		2	3			5		7	8	←
20	..	..	..	..	..	..			3				7			→
19	..	..	..	a	..	..			3				7			←
18	..	..	..	..	..	..	1	2		4	5	6		8		→
17	..	..	b	..	..	..	1	2		4	5	6		8		←
16	..	..	..	..	..	..	1			4			6			→
15	..	..	..	a	..	..	1			4			6			←
14	..	..	..	..	..	..		2	3			5		7	8	→
13	..	..	b	..	..	..		2	3			5		7	8	←
12	..	..	..	..	..	..	1	2				5		8		→
11	..	..	..	a	..	..	1	2				5		8		←
10	..	..	..	..	..	..			3	4			6	7		→
9	..	..	b	..	..	..			3	4			6	7		←
8	..	..	..	..	..	..	1	2	3					7	8	→
7	..	..	..	a	..	..	1	2	3					7	8	←
6	..	..	..	..	..	..				4	5	6				→
5	..	..	b	..	..	..				4	5	6				←
4			2	3	4			6	7	8	→
3	a			2	3	4			6	7	8	←
2	..	..	..	..	..	..	1					5				→
1	N	S	b	5		S	N	1				5				←	
Step							Needle arrangement								Direction of carriage		

Example 5 [Plating yarn knitting]



Yarn:

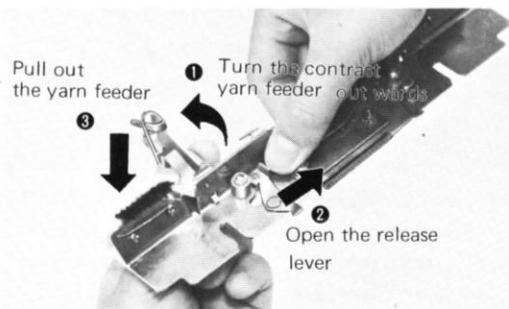
Main yarn(Back side)..... Medium(3 – 4ply)

Plating yarn(Front side).....Medium (3 – 4ply)

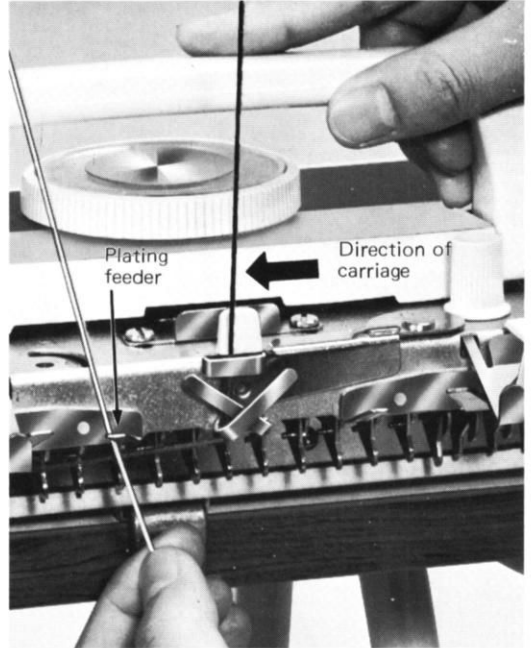
T. D. : 0

◆ Operation steps

- (1) Thread two yarns (different colour) into the yarn tension unit, and hang them on the yarn clip.
- (2) Remove the yarn feeder arm from the carriage, and turn yarn feeder arm upside down. Then, take off the contrast yarn feeder as shown in the photograph.
(i.e. The "B" yarn feeder on the left hand side of the yarn feeder arm.)



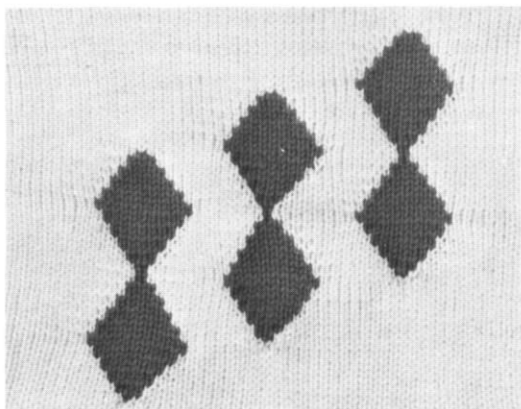
- (3) Re-fit the yarn feeder arm to the carriage again, set the various settings for plain knitting and tension dial on 0.
- (4) Set the main yarn feeder to working position and thread the main yarn into the yarn feeder. Knit several rows with plain stitch, and place the carriage on the right end of the needle bed.



- (5) Hang the plating yarn on the left plating yarn feeder, then move the carriage to left.
 - (6) Transfer the plating yarn from left plating yarn feeder to right one, then move the carriage to right.
 - (7) Repeat the steps (5) and (6).
- * By exchanging the main yarn for the plating yarn, the colour of the fabric between front and back would be exchanged.

Example 6 [Intarsia knitting]

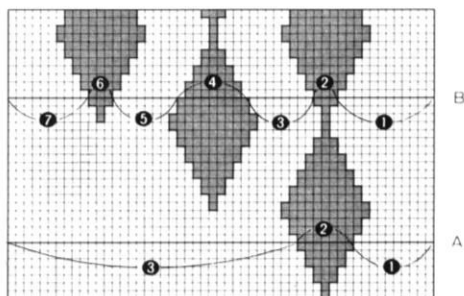
(There are no yarn strands at the back with this type of knitting.)



Yarn: Main colour ... Bulky(5ply)
Contrast colour ... Bulky(5ply)
T.D.: 5

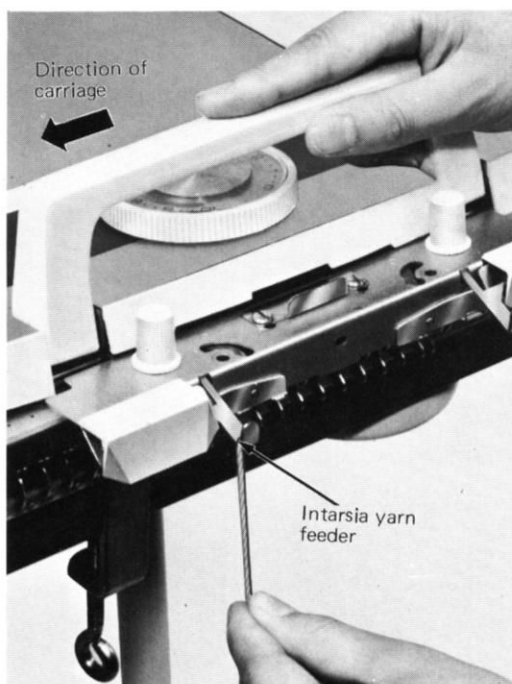
◆ Operation steps

The example is knitted with Bulky yarn.

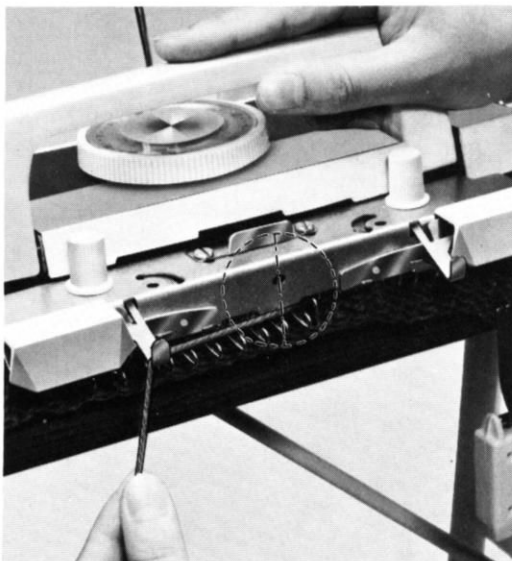


Prepare the yarns according to the pattern (not number of colours), for instance, 4 balls of main colour (1, 3, 5 and 7) and 3 balls of contrast colour (2, 4 and 6) for above diagram.

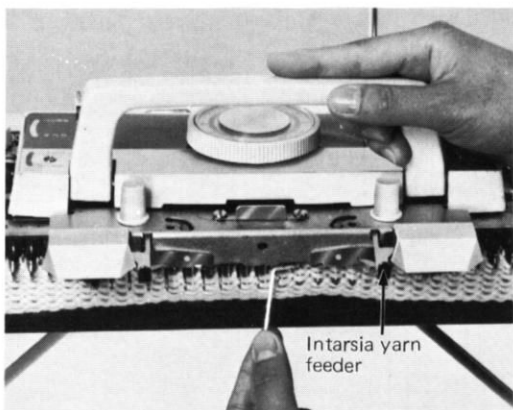
- (1) After knitting several rows with plain stitch, place the carriage on the right end of the needle bed. Then, remove the yarn from the yarn feeder.
- (2) Place the main and contrast yarns at your feet in the order as above diagram. (The yarn tension unit is not used for the Intarsia knitting.)
- (3) Take off both yarn feeders.
(How to take off ... see on page 16)



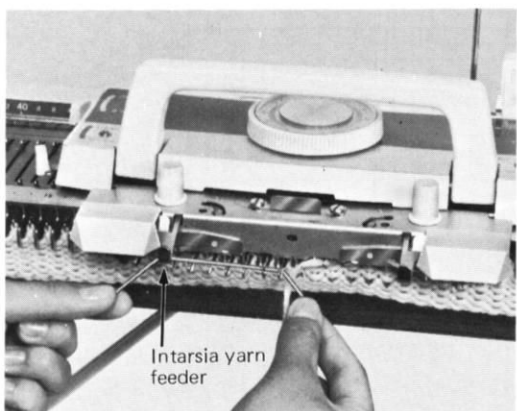
- (4) Hang the yarn on the left intarsia yarn feeder, and pull the yarn gently to give a slight tension. Then, move the carriage to left.



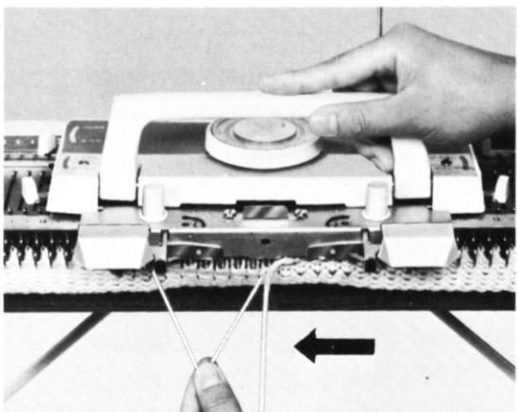
- (5) Stop the carriage at the position which you are going to change the colour of yarn.
* The yarn changing position is just center between two needles.



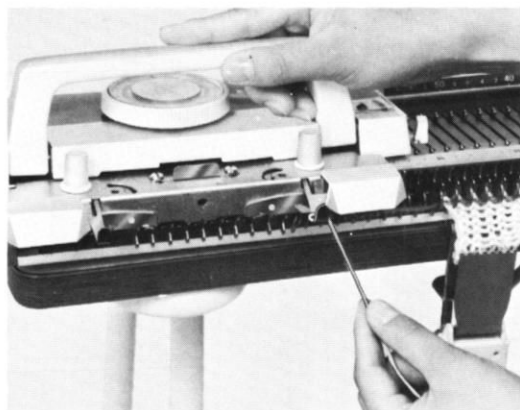
- (6) Remove the yarn which you have been knitting from the intarsia yarn feeder, and let it hang down between the two needles.



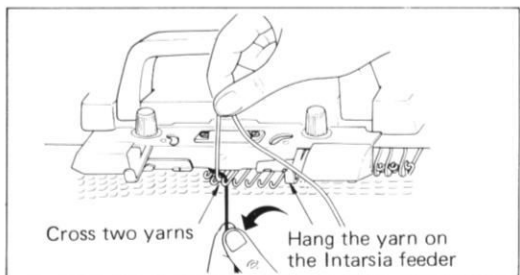
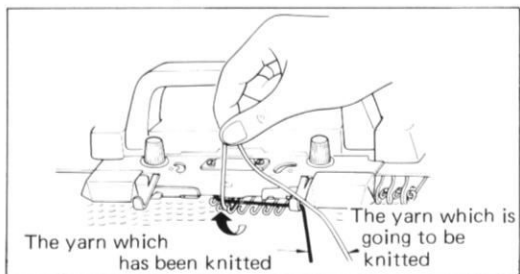
- (7) Lay the contrast yarn over the needles from the same position as above, between the two central needles to the left intarsia yarn feeder.



- (8) Pull both ends of contrast yarn gently, and proceed the carriage to knit.
 (9) Repeat the same operations as steps (5) to (8) at the next yarn changing position.

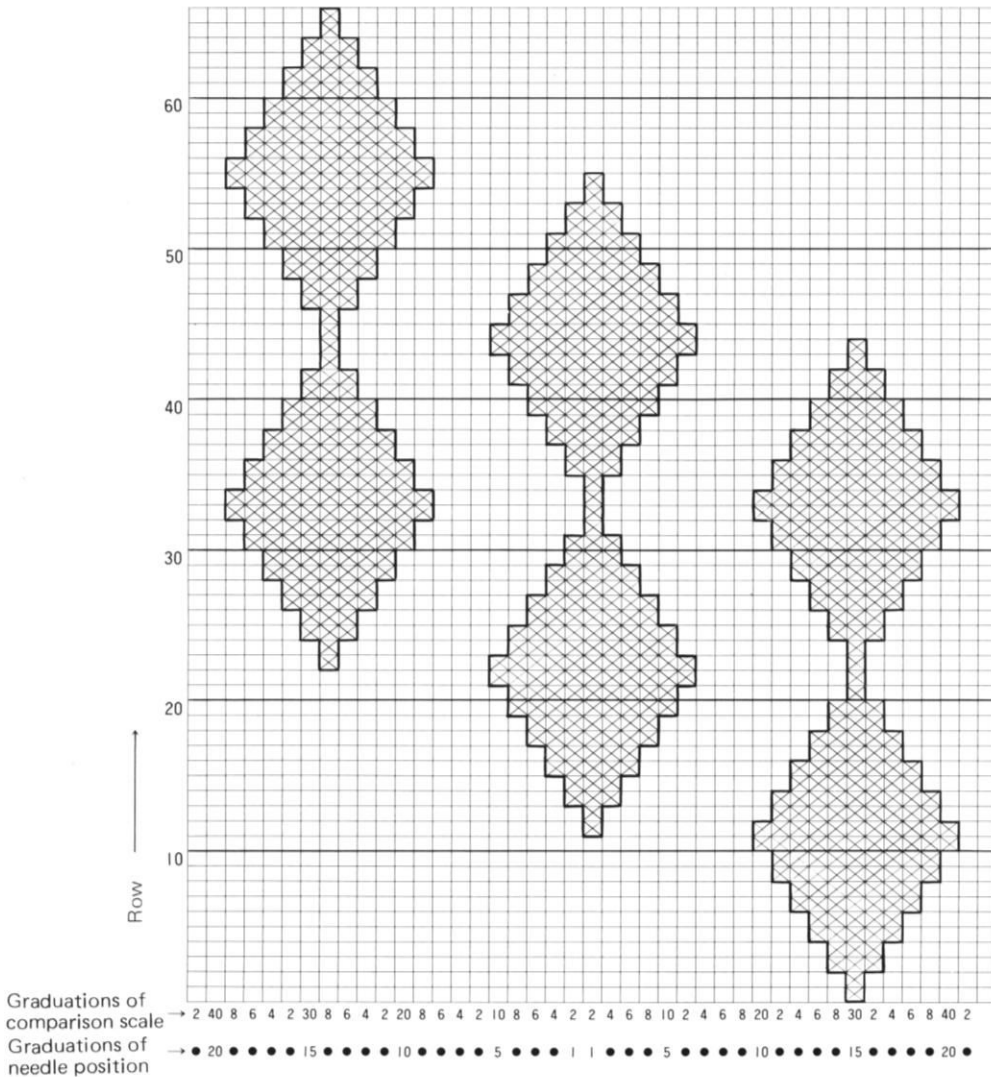


- (10) After completing one row, transfer the yarn from left intarsia yarn feeder to right one.

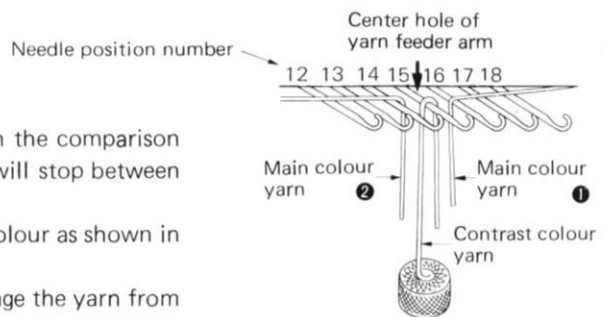
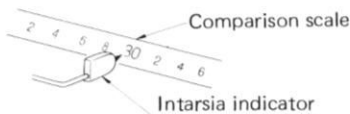


- (11) Move the carriage until the yarn changing position. Cross the main and contrast yarn at the yarn changing position, then lay the contrast yarn on the needles and hang it on the right intarsia yarn feeder.
 (12) Proceed the carriage to knit.
 (13) Repeat the same operations as steps (10) to (12).

- We recommend you to make the diagram for intarsia design before knitting. Please refer to the diagram mentioned below for your practice.
- ☆ When the intarsia indicator, which is at the back of the carriage in the center, points to a number on the comparison scale at the back of the machine, the opposite number needle on the needle number scale with then be at the center of the yarn feeder ready for the yarn to be changed.



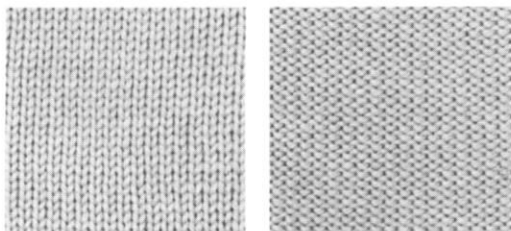
* Example for the first row as shown in the diagram above. (The carriage is moving from right to left.)



1. Set the Intarsia indicator to the number 30 on the comparison scale. The center hole of the yarn feeder arm will stop between the 15th and 16th needles on the right side. Change the yarn from main colour to contrast colour as shown in the illustration.
2. Slide the carriage by one stitch to left, and change the yarn from contrast colour to main colour.

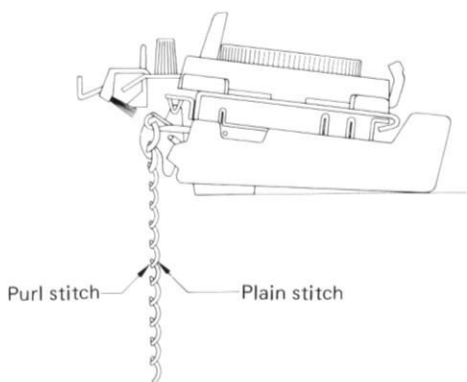
USEFUL HINTS

◆ Knitted fabric



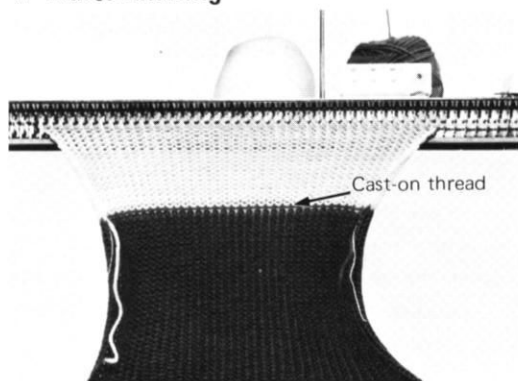
(Plain side)

(Purl side)



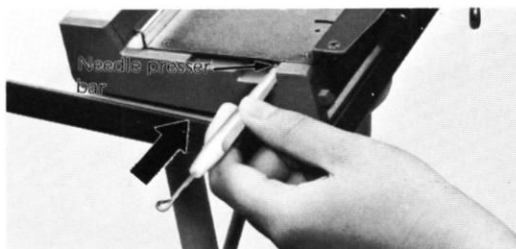
- ★ The plain side (or right side) of the knitted fabric (away from you) will look like above left photograph. And purl side (or wrong side) looks like above right photograph. Both sides can be used for the garment depend on your taste.

◆ Waste knitting

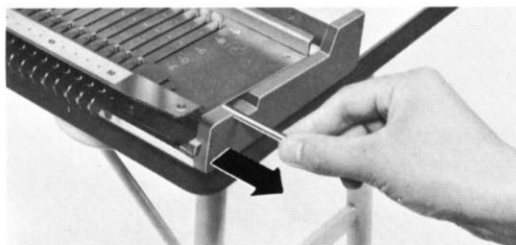


- ★ Before knitting with original yarn (or taking off the garment from the knitter), knit with waste yarn. And knit one row with the Cast-on thread so that you can separate the original knitting and waste knitting by pulling out the cast-on thread.

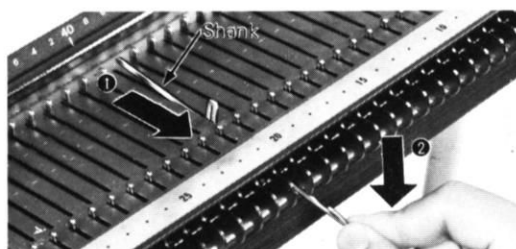
◆ Replacing a bent or broken needle



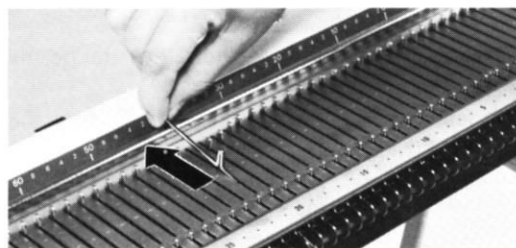
- (1) Push either side of the Needle presser bar with the end of the latch tool until it comes out.



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



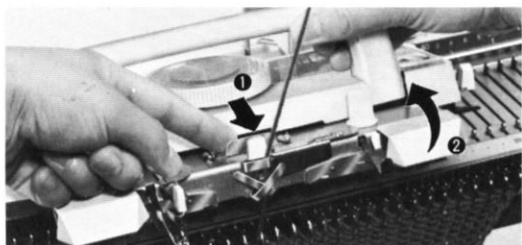
- (3) Pull the needle forward as far as it will go. Push down the hook of the needle until shank end of the needle rises clear of the needle bed.



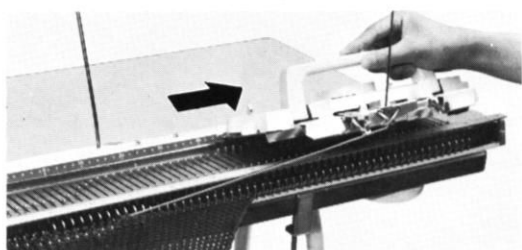
- (4) Grasp the shank end and draw it out backward.
- (5) Replace it with a new needle by holding it with latch opened. Push the needle presser bar into the place.

◆ **If the carriage should jam and how to unravel a row**

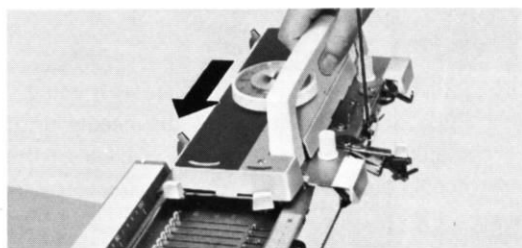
★ Please do not force the carriage to move.



- (1) Pull the carriage releasing lever on the yarn feeder arm toward you by finger, and lift up the front part of the carriage.



- (2) Keeping the front part of the carriage off the needle bed, slide the carriage to the side from where that row commenced.

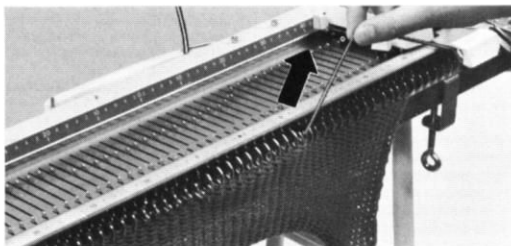


- (3) Put the carriage into the rail of the needle bed from the end.

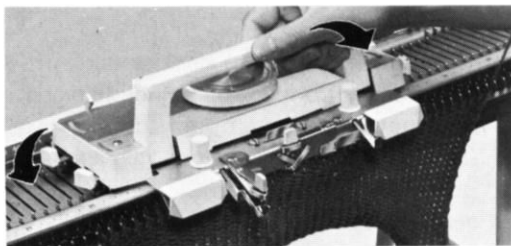
* Please ensure if the carriage is put into the rail correctly.

- (4) Unravel the last row of knitting.

◆ **How to unravel a row**



- ★ Pull the yarn slightly sideways and up (See above photograph), then remove the yarn from the Sinker hooks and needles. The stitch will come off the needles and the stitch from the row below will slip onto the needles.
- * Before starting the knitting again, please check that all stitches should be in the sinker hooks. If not, put the stitches into the sinker hooks.
- * If you find it necessary to move the carriage across the needles in action without knitting a row, please refer following instructions.

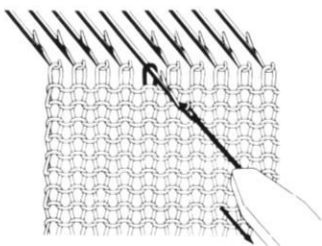


◆ **How to move the carriage without knitting a row**

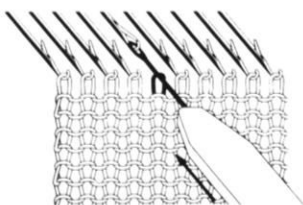
- (1) If the needles have been selected, push them back into B position.
(If there is a stitch behind the latch of the needle, please return this stitch into the hook of needle by using the transfer tool.)
- (2) Set both cam levers onto "SKIP", then move the carriage. The needles will not knit.
- (3) If the needles are in E position, set the Holding cam levers onto "H". Then, move the carriage.

HOW TO USE THE TRANSFER TOOL INCREASING/DECREASING STITCHES

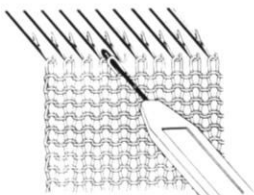
1. How to use the transfer tool



- (1) Hold the one eyed transfer tool parallel with the needle. Place the eye into the hook of the needle. Then, with transfer tool, bring the needle forward. The stitch in the hook of the needle will slide behind the latch and onto the stem of the needle.



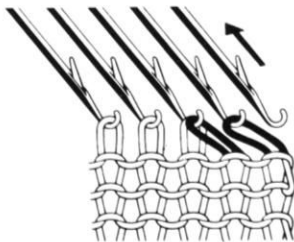
- (2) Without releasing the transfer tool, push the needle all the way back until the stitch is transferred onto the transfer tool.



- (3) Raise the transfer tool with the stitch on it and transfer it to the adjacent needle, right or left as desired.

2. Decreasing stitches

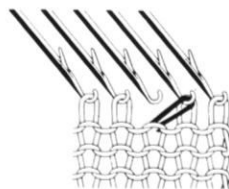
◆ One stitch at either side



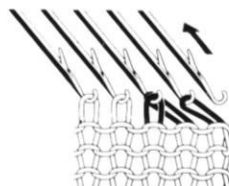
Method 1

Using 2 x 1 transfer tool, shift 2 stitches at the edge onto the transfer needles, then transfer these stitches onto inside adjacent needles. (See above illustration)
Push back the empty needle to A position.

Method 2



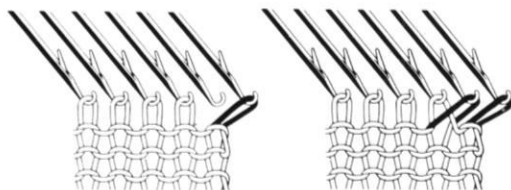
- (1) Using single transfer tool, transfer the 3rd stitch onto the 2nd needle.



- (2) Transfer the two stitches on the 2nd needle to the 3rd needle (empty) and the end stitch to the 2nd needle.

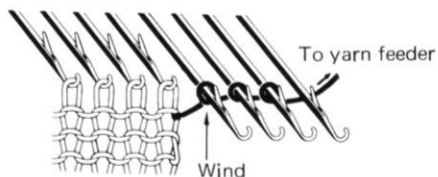
3. Increasing stitches

◆ One stitch at either side



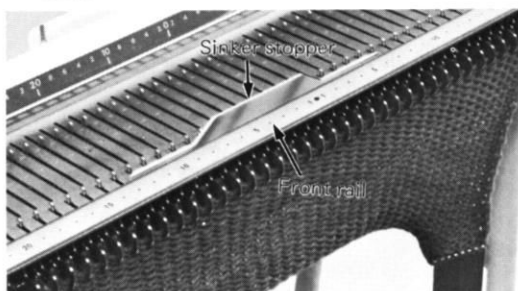
- (1) Using single transfer tool, transfer the end stitch onto the outside adjacent empty needle.
(2) To fill up empty needle, pick up the stitch from the 2nd stitch in lower row.

◆ Several stitches at either edge

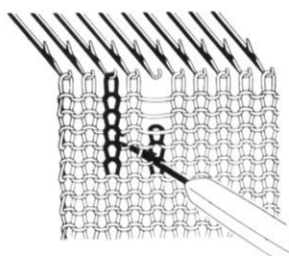


Push the needles to be increased to E position on the same side as the carriage. Loosely wind the yarn around the stem of each needle, going around the needles from below.

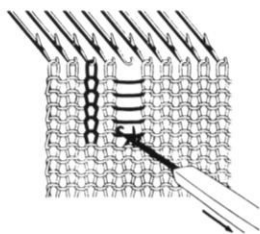
4. Ribbing stitches by using the latch tool



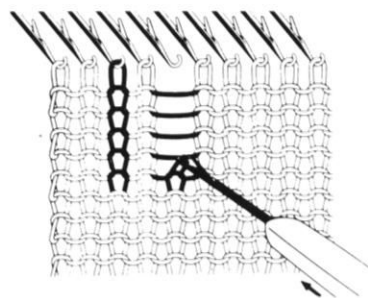
- (1) Place the sinker stopper between the sinker needles and needle position indicator.



- (2) Insert the hook of the latch tool into the loop from where you wish to make the ribbing stitches. Drop the stitch from the needle, and pull the fabric down to unravel the stitches.

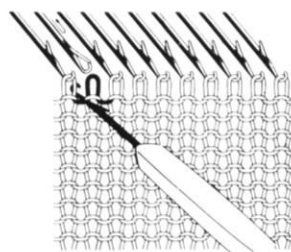
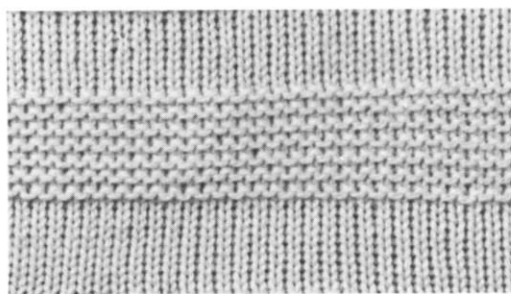


- (3) Hold the latch tool at right angle to the knitting and pull the fabric down slightly. Push the tool forward, the stitch will fall behind the latch. Now pull the tool back, at the same time catching the yarn across in the hook. Make sure to position the hook in the center of the yarn across, and pull the tool all the way back until the stitch is formed.

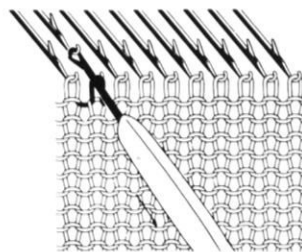


- (4) In the same way knit the stitches all the way to the top stitch.
- (5) After finishing the ribbing stitches remove the sinker stopper.

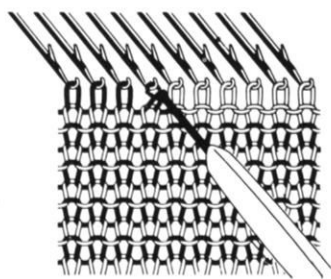
5. Garter stitches by using the latch tool



- (1) Insert the latch tool into the 2nd stitch from the top, and drop the stitch from the needle.

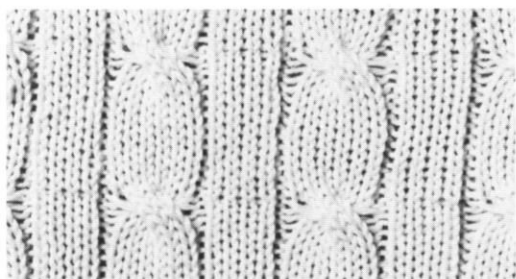


- (2) Make one stitch by the latch tool and transfer it on the empty needle.



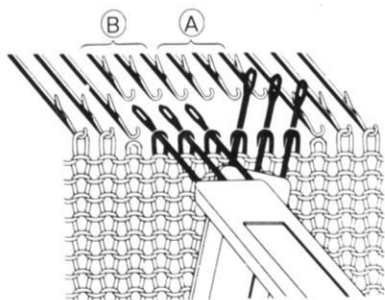
- (3) Repeat the steps (1) and (2) for all stitches in same row.
- (4) Repeat the same operation every other row.

6. Cable stitches

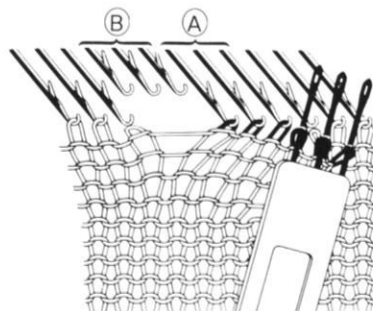


★ Set the various settings for plain knitting.

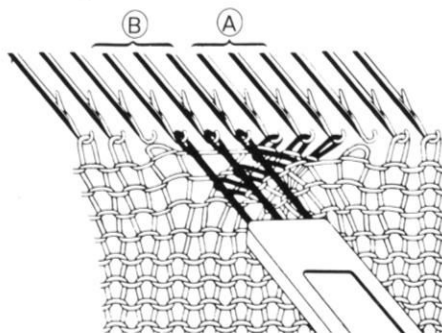
- (1) Knit 15 rows with plain stitch.



- (2) Remove the stitches on both sides of the cable stitches from the needles.
- (3) Using a pair of three-eye transfer tools, transfer the 3 stitches each onto the transfer tools.

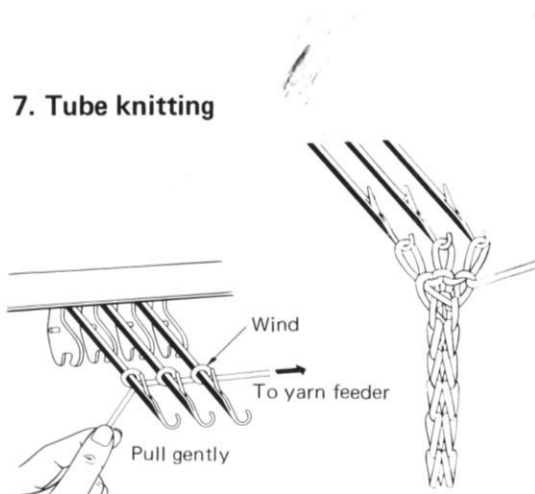


- (4) Place the three stitches on the tool in your left hand onto the hooks of the needles on the right.



- (5) Place the three stitches on the other tool onto the hooks of the needles on the left.
- (6) After crossing the stitches, make the ribbing stitches on both sides of the cable (make 15 rows of ribbing stitches) using the latch tool.
- (7) Bring forward all needles in B position to E position. (Holding cam levers on both sides are set on N.)
- (8) Repeat the steps (1) to (7).

7. Tube knitting



- (1) Cast-on 3 or 4 needles.
- (2) To get fine finish, use a slightly tight tension.
- (3) Set right cam lever on "SKIP"

* Pull down the fabric by left hand, and move the carriage by right hand.

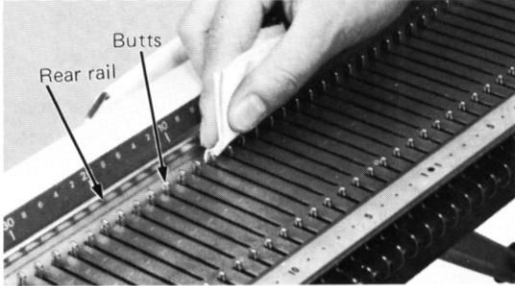
MAINTENANCE

★ Please do not put the oil into the machine directly.

◆ Care of machine



- ★ Before and during use, for best results your knitter, must be kept clean and regularly oiled with cloth.
- ★ Remove the cap and push the oil bottle so as to soak the cloth with oil.

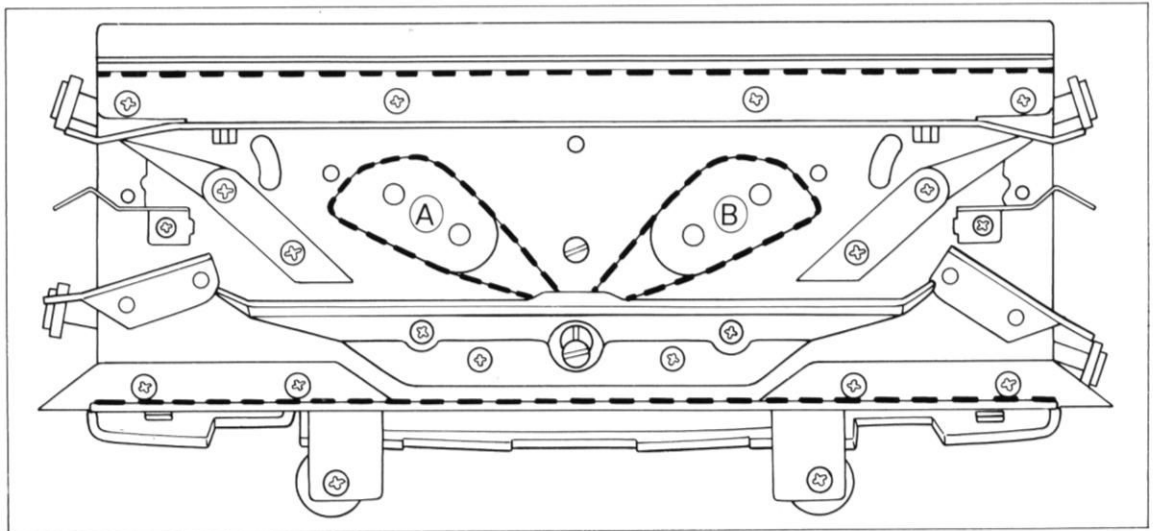


Clean and rub with above cloth following parts;

- (1) Butts of the needles.
- (2) Front rail of the needle bed.
- (3) Rear rail of the needle bed.
- (4) Runners on carriage and sides of all cams.

◆ Keeping the machine

You should clean and oil with cloth your machine before using it every time. Always leave a light film of oil on all parts under the carriage.



Back side of the carriage

KNITTING BY USING THE KNIT-LEADER

★ The Knit-leader is available separately to make the garment easily.

We recommend you to use the Knit-leader for making the garment. The model KL-116 is suitable for your knitting machine, model KH-210.

(The models KL-113/KL-115 also can be used for this purpose.)



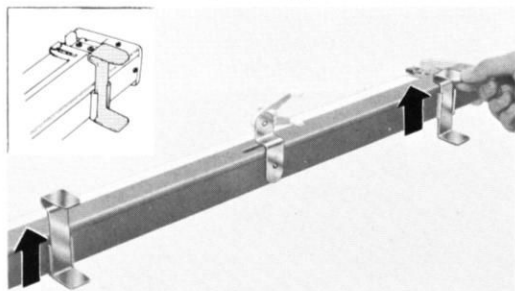
[Setting plates
for KL-116/KL-115]



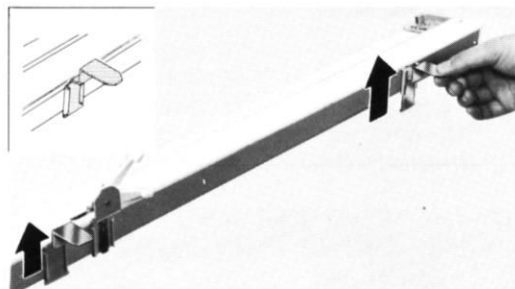
[Setting plates
for KL-113]

How to set the Knit-leader

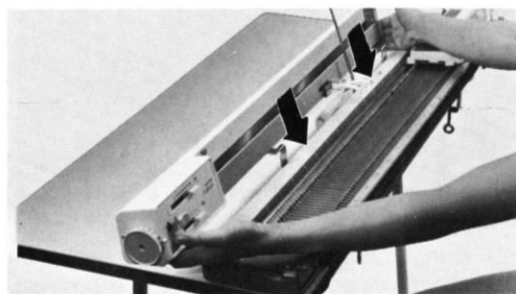
[Showing KL-116/KL-115]



[Showing KL-113]



(1) Insert the setting plates in each setting plate holder.



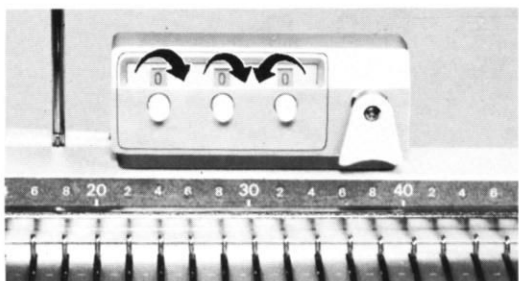
- (2) Insert the setting plates into the slots at the back of the knitter.
- (3) The other operations are explained in the original instruction manual for the Knit-leader.

Tension switch

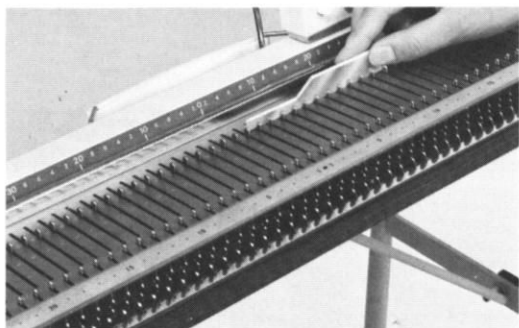
How to knit a tension switch

The size of the stitch is determined by the tension setting on the carriage tension dial. The tension at which your garment is to be knitted is usually given in the knitting pattern instructions, but as this is liable to differ for different brands of yarn, it is advisable always to knit a tension swatch (20 stitches x 30 rows) sample before commencing your garment.

Note: Knit a tension swatch 20 stitches x 30 rows for KH-210 knitting machine.

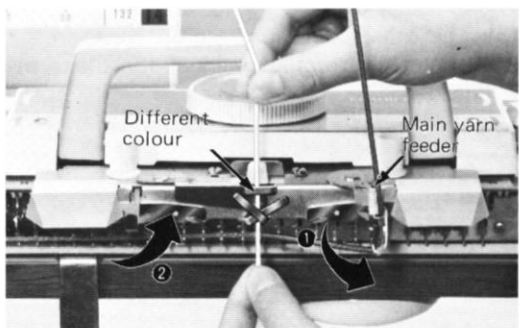


(1) Set the row counter dials to the number 0.



(2) Bring forward 40 needles (20 needles on either side of center mark 0.) to B position.

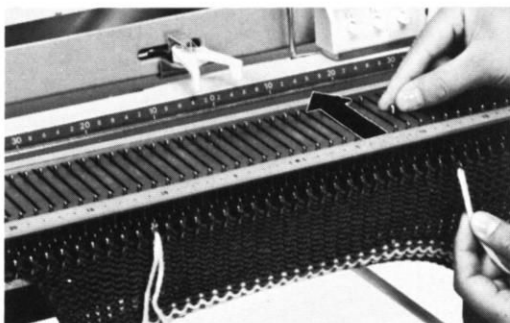
(3) Cast on with waste yarn, and knit 10 rows.



(4) Using a different colour of yarn, knit two rows.



(5) Set the row counter tripper on the left side of the carriage to the working position. (Right tripper should be set to the resting position.)



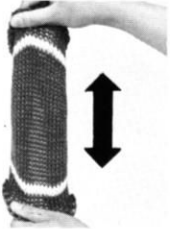
(6) Knit 15 rows with the original yarn, then bring forward 11th needles on either side of center mark 0 to E position. Hook the separate yarn into the hook of these needles, and push back them to B position.

(7) Knit 15 rows again with the original yarn, then knit two rows using the different colour of yarn.

(8) Knit 10 rows again with waste yarn and remove the swatch from the machine.

How to determine the gauge

- ★ This swatch is in stretched condition right after it has been knitted and must be restored to its natural state by following the steps mentioned below.



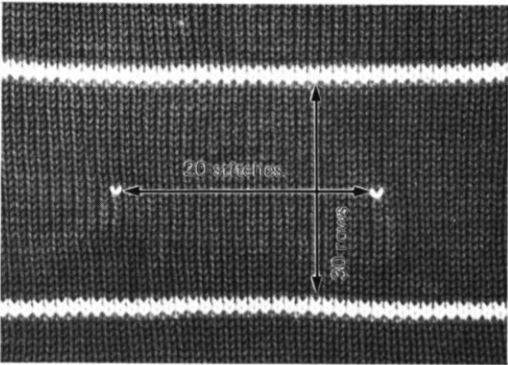
- (1) Stretch the swatch longitudinally two or three times.



- (2) Pat lightly with your hands to restore the stretched stitches.



- (3) If the material used is pure wool, please apply steam to the swatch with a steam iron before taking measurements.



- (4) In order to knit according to the correct size of your pattern, please measure the tension swatch accurately. Measure the height of 30 rows in centi and milli-meters, (inside the two lines knitted with a different colour.)

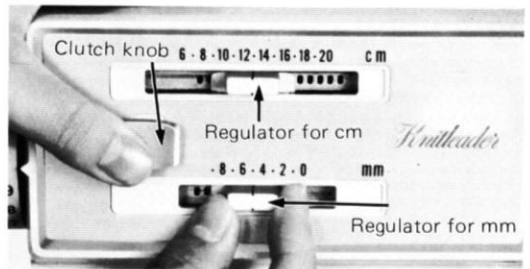
Measure the width of 20 stitches in centi and milli-meters.

Please take measurements of 30 rows and 20 stitches also when a pattern stitch is used.

For better accuracy it is preferable to take the above mentioned measurements at 3 different places on the swatch and use the average figure.

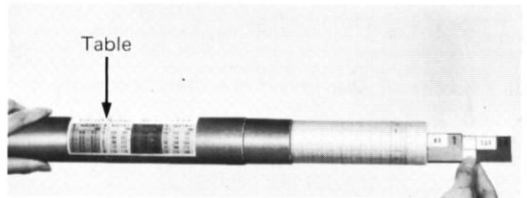
How to set the regulator

- ★ Suppose a swatch measures 135mm (13.5cm) for 30 rows and 132mm (13.2cm) for 20 stitches.

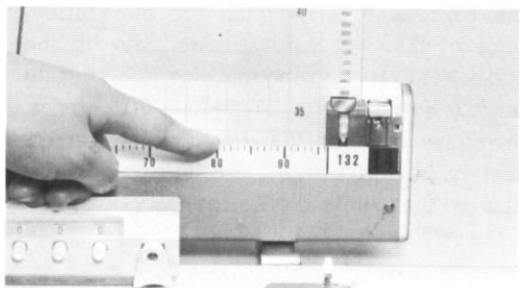


- (1) Press the clutch with your hand and keep it there, then set regulator for cm to 13 with your right hand. And set regulator for mm to 5.

The clutch button will be released automatically as soon as knitting is started.

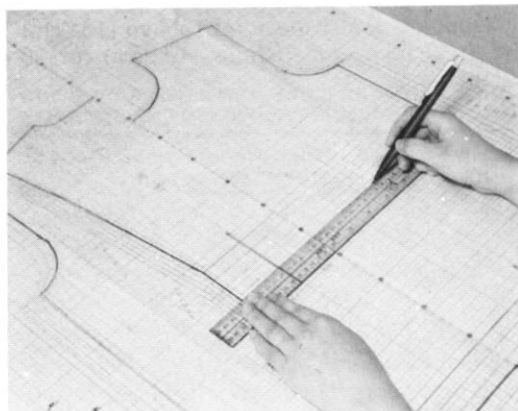


- (2) Refer to the Stitch measure scale table pasted on the Sheet case. For 132mm (13.2cm), see the column which covers the figure 132, and you will see that 132 is represented by No. 14 of Green.



- (3) Take out No. 14 of Green scale and set it onto the Knit-leader.

Pattern drawing on sheet

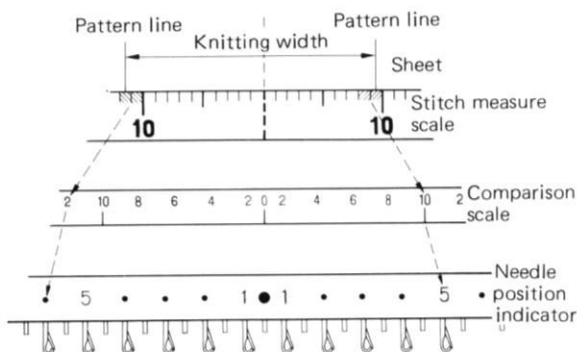


- (1) A pattern is to be drawn on the sheet in actual size.
- (2) Use the special Felt tip pen included in the Sheet case for drawing.
- (3) If a line or lines must be erased, wipe the sheet gently with a wet cloth.
- (4) Wait until the sheet is dry again before redrawing a line or lines.
- (5) In case of drawing more than one pattern on a sheet, use different coloured pens for easy identification Blue, Green and Orange in one set are available.
- (6) Drawing on the sheet should start with a reference line, 5cm above the bottom, the dotted line in the center representing the center of what you are going to knit.

Note:

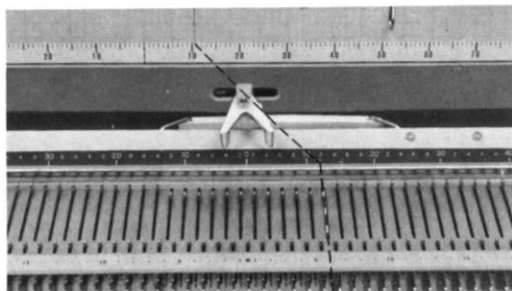
The Knit-leader is designed for the knitting gauge of 60 rows x 40 stitches. As for the model KH-210 knitting machine, the knitting gauge is formed with 30 rows x 20 stitches. Therefore, both of the row counter trippers must be set on working position to feed the sheet on the Knit-leader 2 steps every operation of the carriage.

The relations between the Stitch measure scale, Comparison scale for Knit-leader and Position of the knitting needles

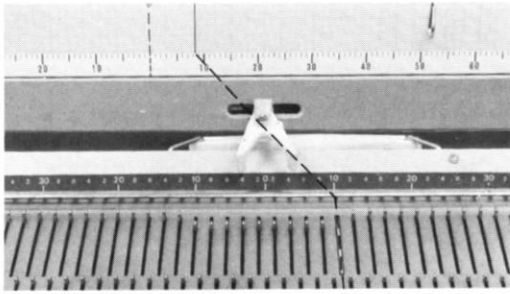


- ★ Read the graduations on the stitch measure scale, and using the comparison scale, you will understand the position (number) of the knitting needles.
See above illustration.

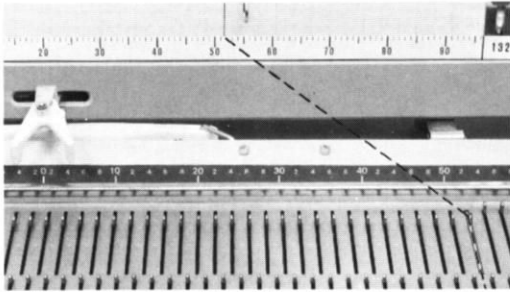
- (1) If the line drawn on the sheet goes over to higher graduation (even number), increase the stitch(es) and comes down to lower graduation (even number), decrease the stitch(es).
(If the line drawn on the sheet goes over odd number graduation, it is not necessary to increase or decrease the stitch.)



- (2) For instance, read as 11 in above photograph, and according to the comparison scale, bring forward 6 needles on either side of the center mark 0.



(3) Read as 9 in above photograph, and bring forward 5 needles on either side of the center mark 0.



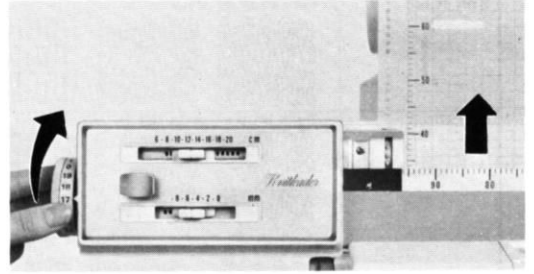
(4) Read as 52, and bring forward 26 needles.

NOTE

Move the carriage until the row counter trippers come in contact with the feeding lever on the Knit-leader if you knit with a few needles.

Knitting errors and corrections






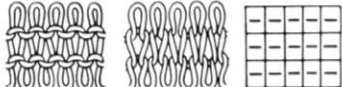



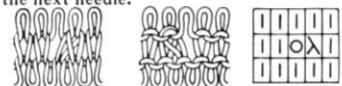











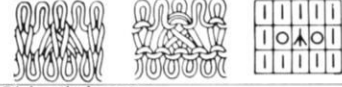











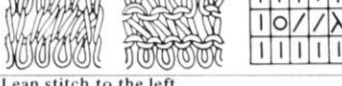



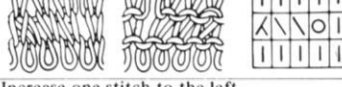

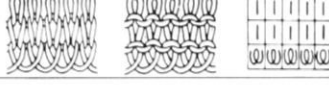

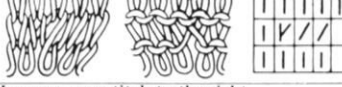


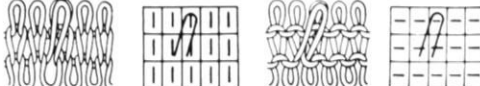


(1) Unravel the incorrect rows.



(2) Turn back the Feeding dial by double number of the incorrect rows which was unravelled to rewind the sheet.

* When the yarn stopped at the opposite side to the carriage after incorrect rows are unravelled, set both row counter trippers to resting position and move the carriage to the same side as the yarn stopped without knitting a row.

KNITTING SYMBOLS

Symbol & Name	How to Work	Symbol & Name	How to Work
Knit stitch 	Face loop of plain stitch. 	Crossing, right over the left 	Cross the stitches with the right stitch over the left. 
Purl stitch 	Back loop of plain stitch. 	Crossing, left over the right 	Cross the stitches with the left stitch over the right. 
Hole 	Hole made by transferring the stitch to the next needle. 	Cross stitch through left stitch 	Crossed stitches with the right side stitch through the stitch on the left side. 
Two stitches together 	Transfer right stitch to the adjacent left needle. 	Cross stitch through right stitch 	Crossed stitches with the left side stitch through the stitch on the right side. 
Two stitches together 	Transfer left stitch to the adjacent right needle. 	Slip stitch 	A loop marked is pulled up with yarn across behind it. 
Three stitches together 	The center stitch on top of the left and right stitches. 	Float stitch 	A loop marked is pulled up with yarn across in the front. 
Three stitches together 	Right stitch on top. 	Tuck stitch 	A few loops on marked rows pulled up onto one needle. 
Three stitches together 	Left stitch on top. 	Twisted tuck stitch 	A stitch twisted and pulled up onto a needle above. 
Lean stitch to the right 	Lean stitch to the right. 	Twisted stitch 	A stitch is twisted. 
Lean stitch to the left 	Lean stitch to the left. 	Winding stitch 	The loops made by winding the wool around the needles. 
Increased stitch to the right 	Increase one stitch to the left. 	Remarks: 1. As a rule, the symbols are used for the right side of the garment. When it especially calls for the wrong side of the garment, the stockinet sts are indicated by marks. 2. Diagram of symbols: In order to represent the structure of the pattern sts the square sections are usually used having each symbol in the center of the section. 3. Sinker loops: In order to represent the sinker loops the symbols are placed in between the sections as shown by the figure No. 1, and the row below it in the figure is to line the row below the mark in the diagram of symbols.	
Increased stitch to the left 	Increase one stitch to the right. 		
Three stitch increase 	The loops made by winding the wool around the needles. 	4. Woven in wool: The wool in contrasting color woven in the garment is indicated like the figures No. 2. 