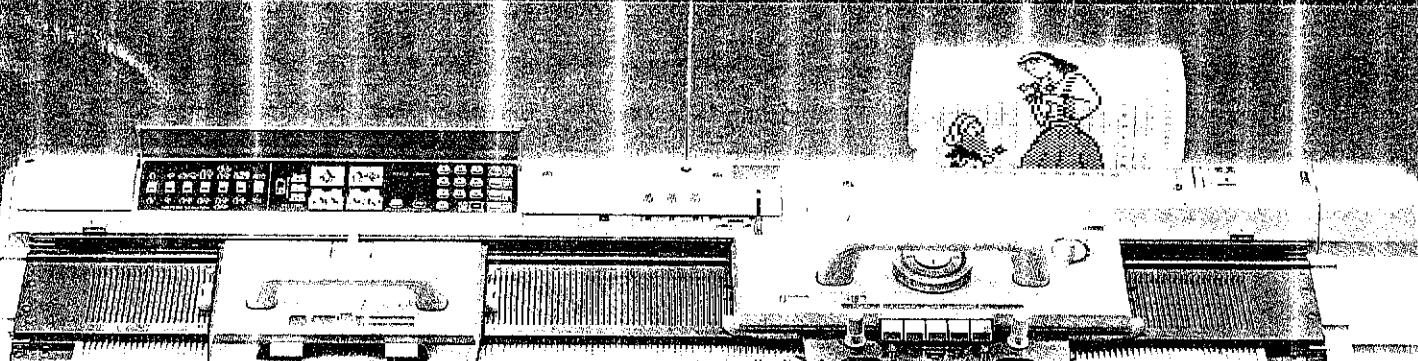


# INSTRUCTION MANUAL

KH-910





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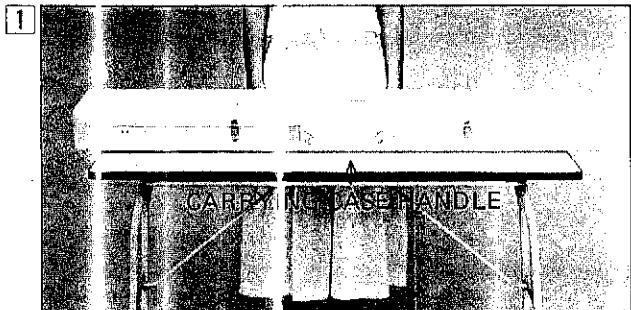
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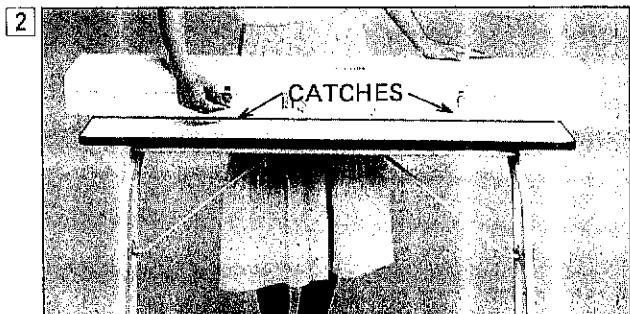
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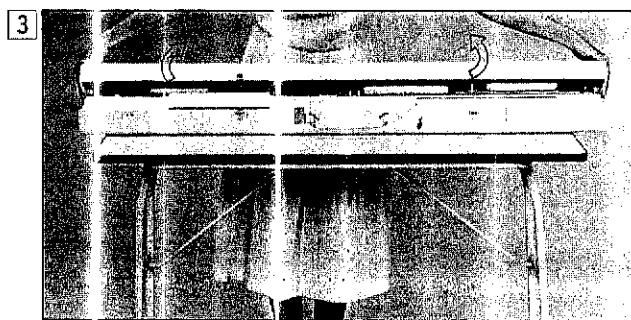
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**1-1. SETTING UP  
YOUR MACHINE**

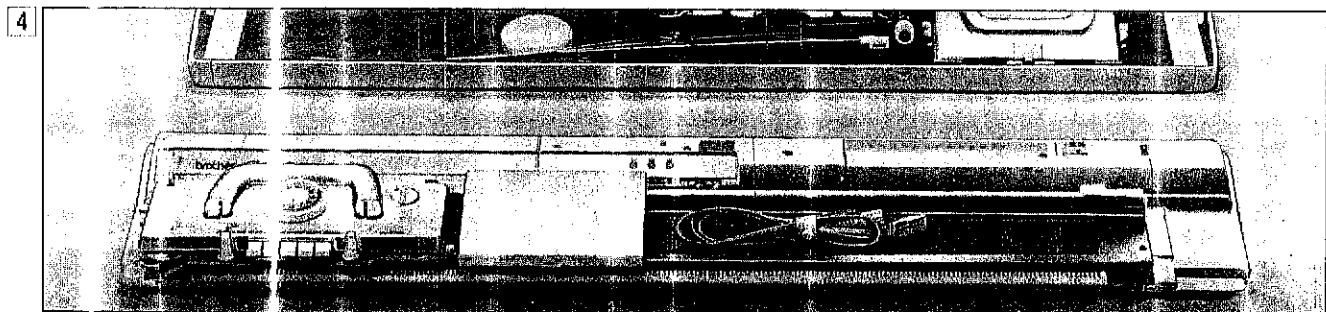
Place the machine on a firm table, with the CARRY CASE HANDLE away from you.



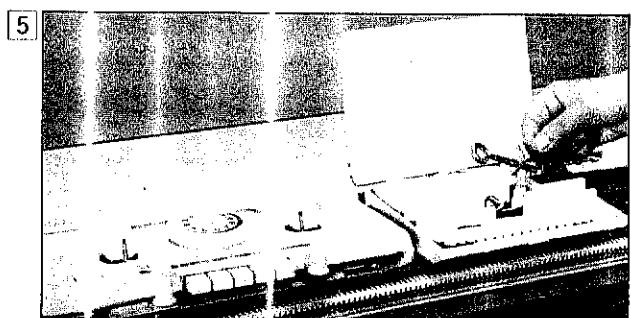
Unlock the CATCHES on either side of the handle.



Lift the UPPER CASE slightly, and pull toward you to release the lid.



After releasing the UPPER CASE,



Take the two TABLE CLAMPS out of the accessory box.

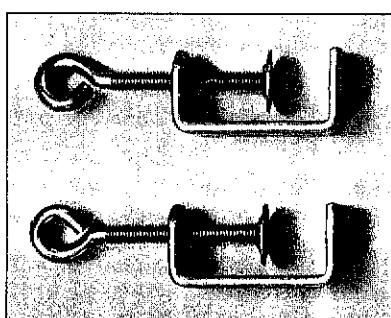
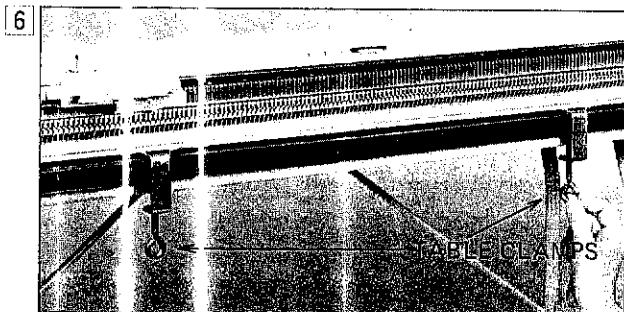
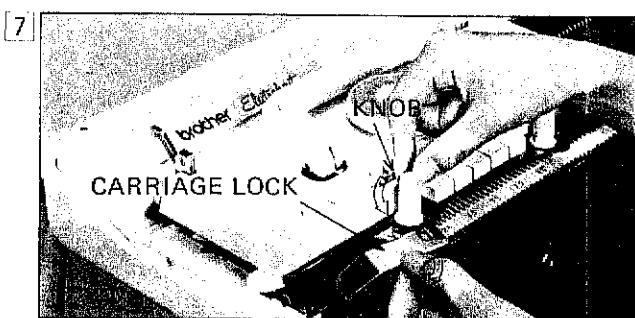


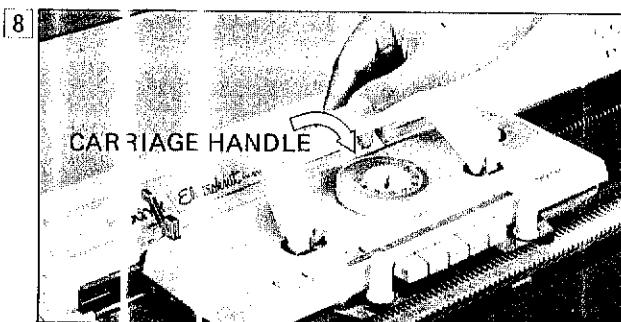
TABLE CLAMPS.



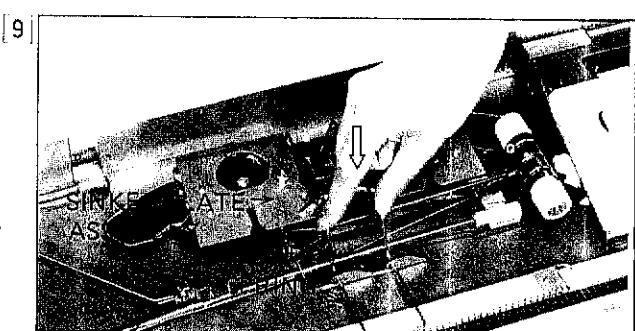
Fasten the machine to the table by tightening the TABLE CLAMP SCREWS.



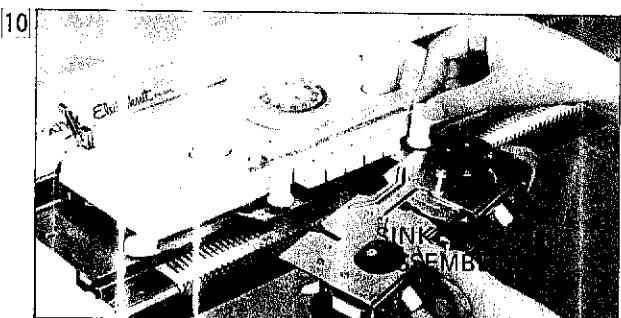
Loosen the KNOB and remove the CARRIAGE LOCK.



Pull the CARRIAGE HANDLE toward you and set it up.

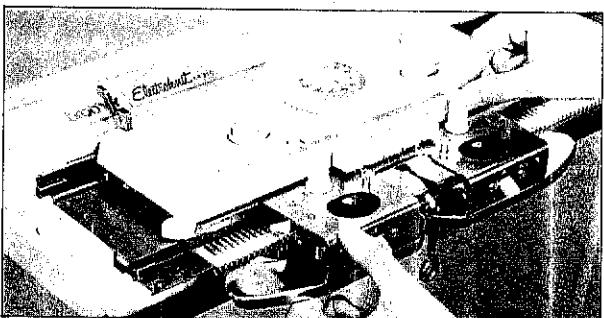


Press down the SPRING and remove the SINKER PLATE ASSEMBLY from the carrying case.

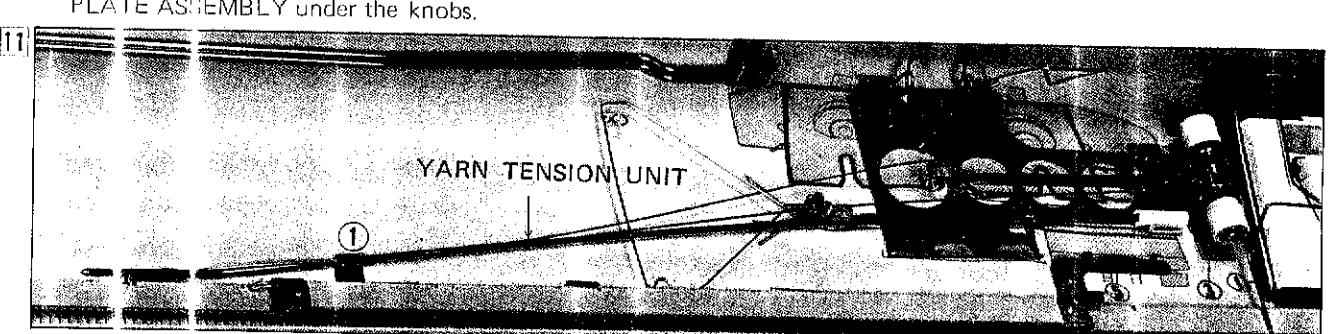


Setting up the SINKER PLATE ASSEMBLY on the K CARRIAGE.

1). Loosen the KNOBS and insert the SINKER PLATE ASSEMBLY under the knobs.

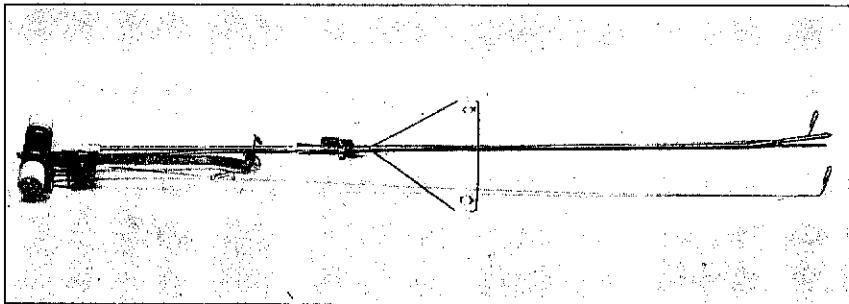


2). Be sure to tighten the knobs so the SINKER PLATE ASSEMBLY will fit securely.



Remove the YARN TENSION UNIT from the carrying case.

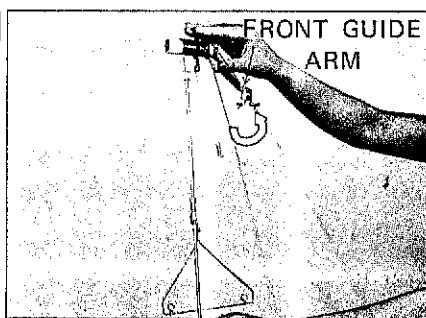
1). Take it out of the carrying case in the order of 1,2 and 3.



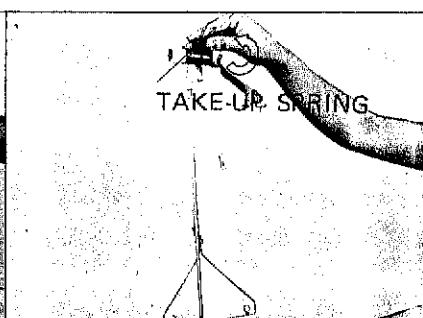
YARN TENSION UNIT

Setting up the YARN TENSION UNIT.

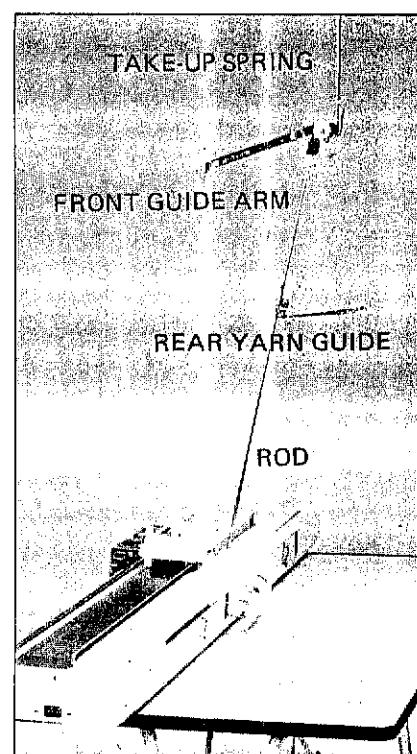
12



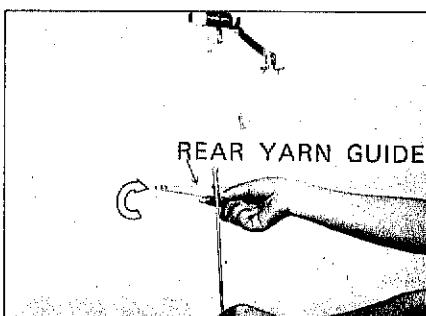
1). Turn the FRONT GUIDE ARM forward in the direction of the arrow.



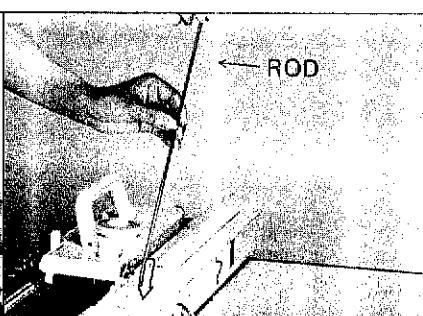
2). Turn back the TAKE-UP SPRINGS as far as they will go.



The REAR YARN GUIDE should face backwards.

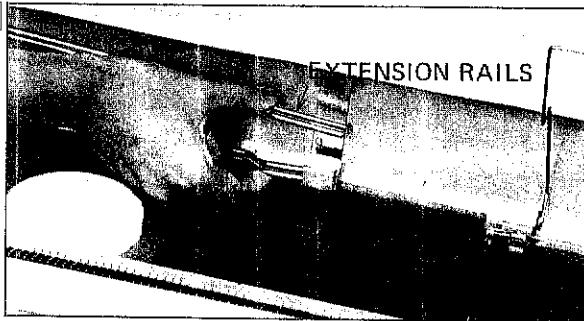


3). Raise the REAR YARN GUIDE until it is perpendicular to the rod.

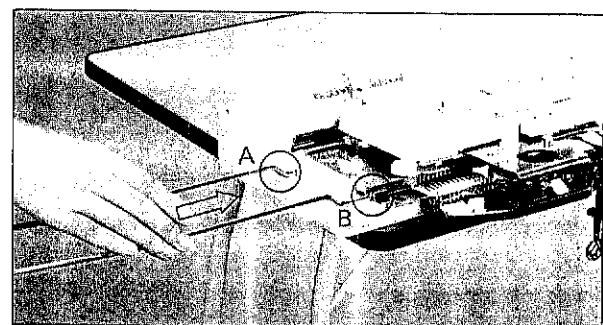


4). Insert the end of the ROD into the stand hole at the center of the machine.

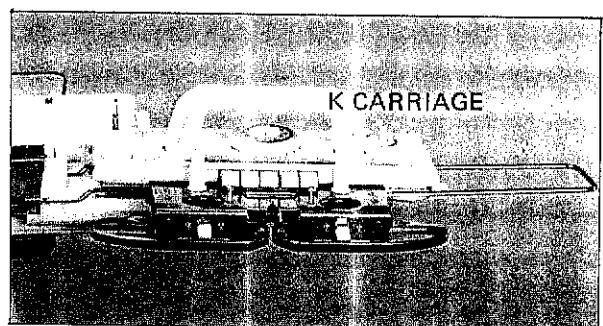
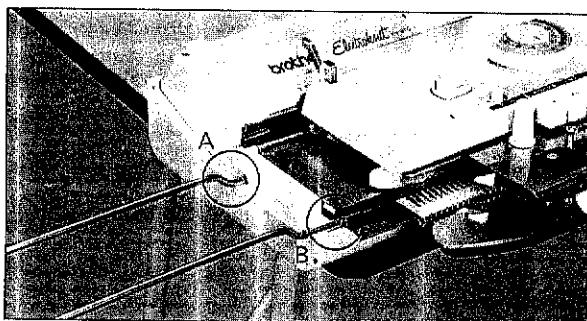
13



Remove the EXTENSION RAILS from the carrying case and set them up on both sides of the machine.

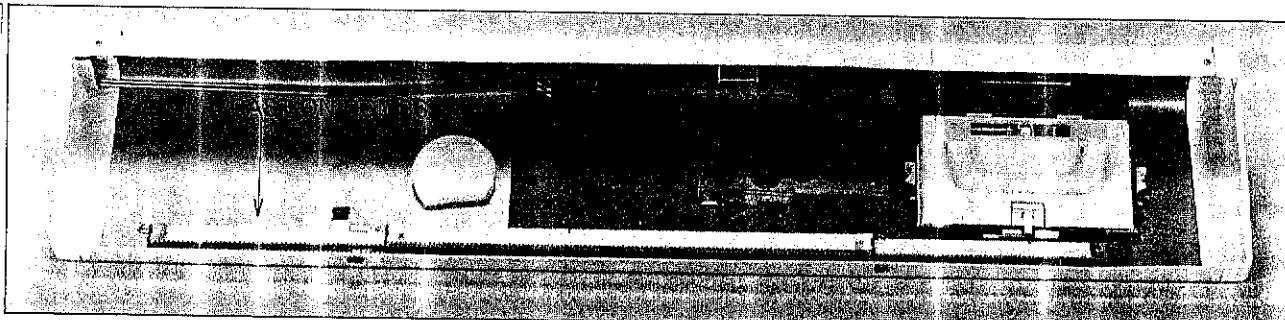


1). Insert EXTENSION RAILS into the holes (A and B) at the both sides of the machine.



2). Set up the EXTENSION RAILS securely to prevent K CARRIAGE from dropping off.

14

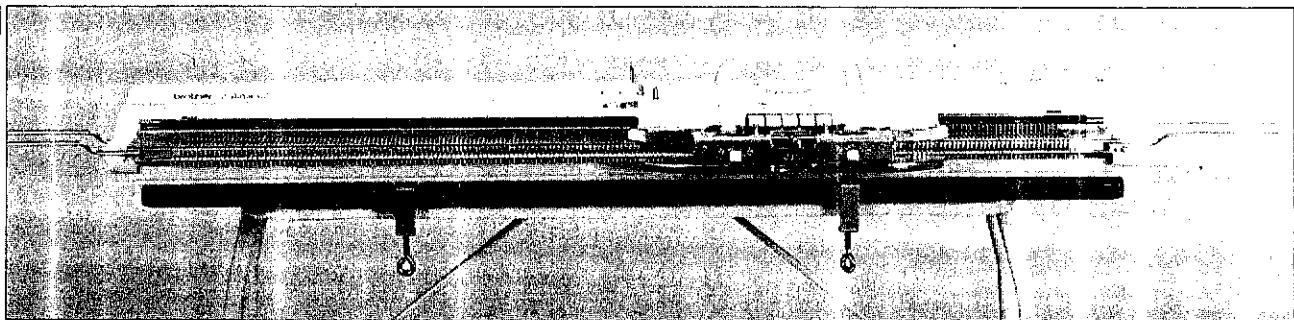


Remove the CAST-ON COMBS from the carrying case.

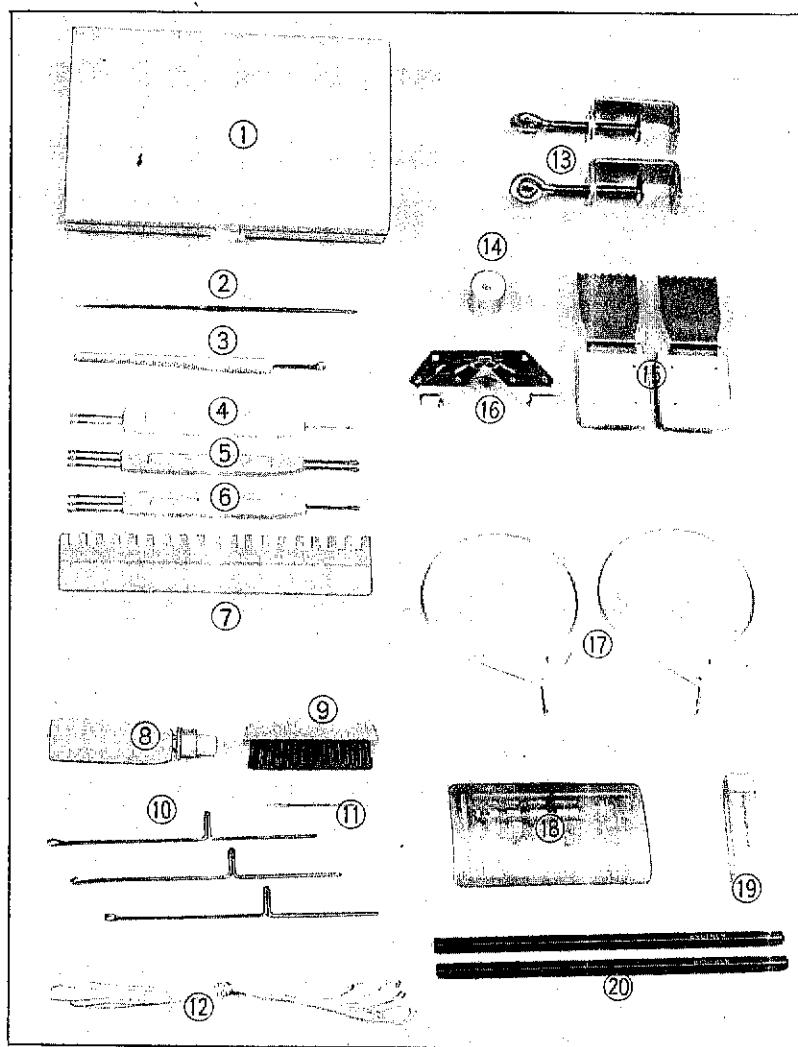
CAST-on COMB (LONG)

CAST-ON COMB (SHORT)

15



After setting up your machine, put the carrying case away.



The following parts are included in the accessory box.

- |                                 |                              |                                  |
|---------------------------------|------------------------------|----------------------------------|
| 1. Accessory box                | 8. Oil (1 pce.)              | 15. Claw weight (2 pcs.)         |
| 2. Crochet Needle (1 pce.)      | 9. Hand brush (1 pce.)       | 16. Plating yarn feeder (1 pce.) |
| 3. Latch tool (1 pce.)          | 10. Spare needle (3 pcs.)    | 17. Card guide (2 pcs.)          |
| 4. 1 x 2 Transfer tool (1 pce.) | 11. Tapestry needle (1 pce.) | 18. Template (1 pce.)            |
| 5. 2 x 3 Transfer tool (1 pce.) | 12. Cast-on thread (1 pce.)  | 19. Eraser (1 pce.)              |
| 6. 1 x 3 Transfer tool (1 pce.) | 13. Table clamp (2 pcs.)     | 20. Special pencil (2 pcs.)      |
| 7. 1/1 Needle pusher (1 pce.)   | 14. Wax (1 pce.)             |                                  |

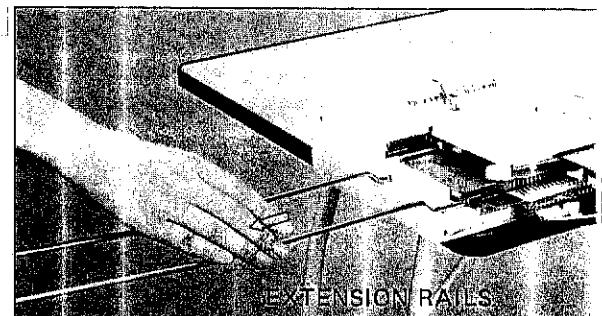
## 1-2. FOLDING UP YOUR MACHINE

1



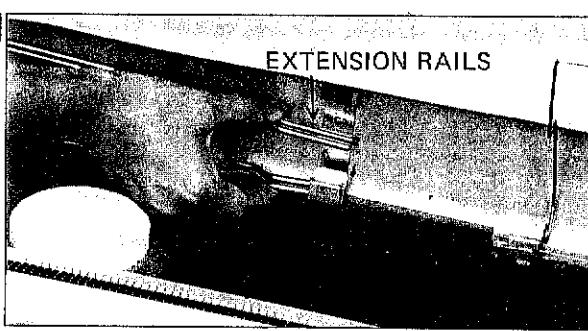
Push the release button and replace the L CARRIAGE in the carrying case.

2



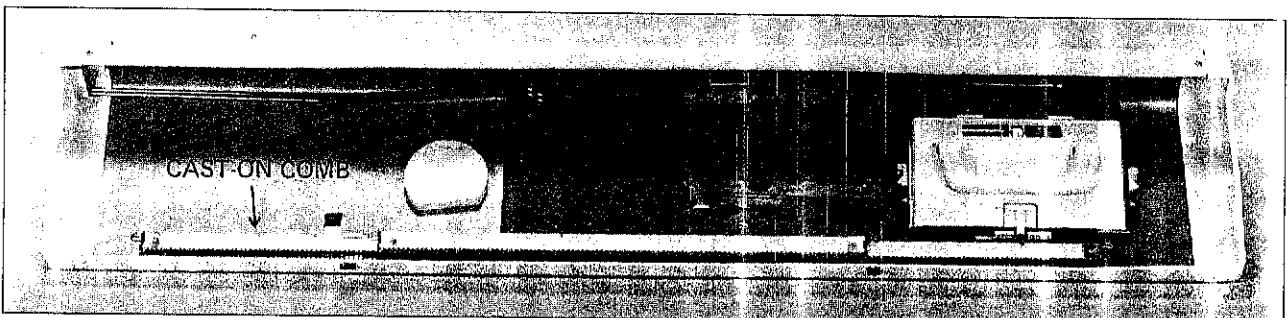
Remove the EXTENSION RAILS (lift up and pull).

3



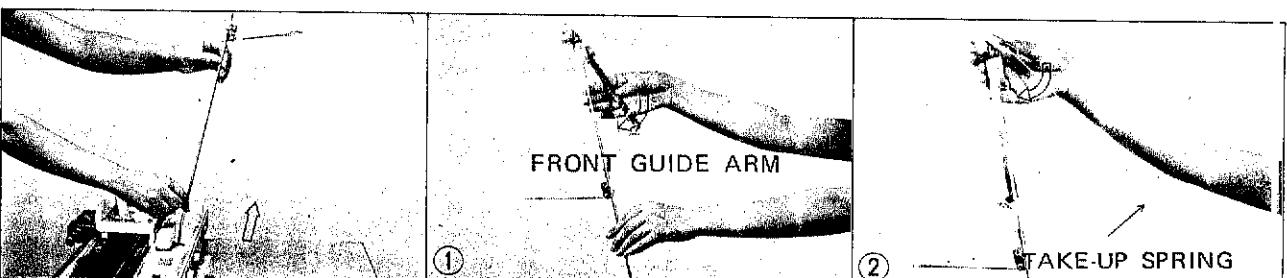
Replace the EXTENSION RAILS in the carrying case.

4



Replace the CAST-ON COMBS in the carrying case.

5

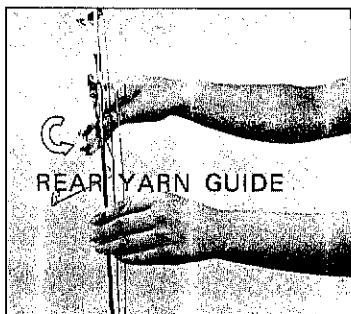


Pull out the YARN TENSION UNIT from the machine.

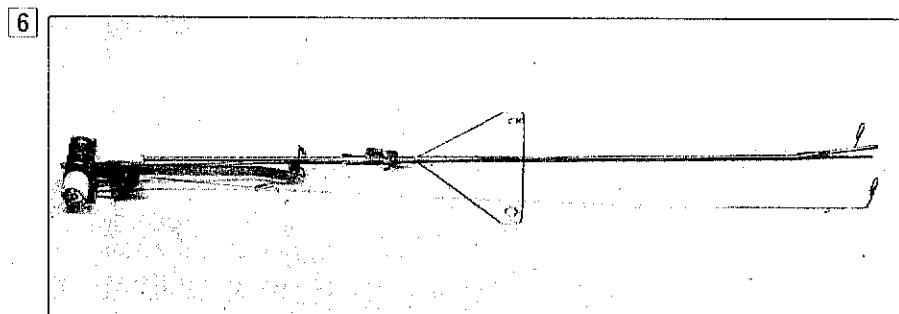
Fold up the YARN TENSION UNIT in order as shown in the figures.

1). FRONT GUIDE ARM.

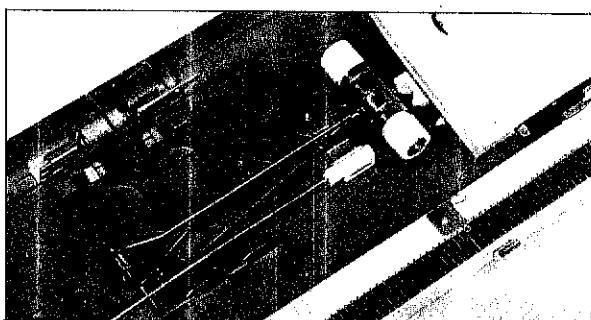
2). TAKE-UP SPRINGS.



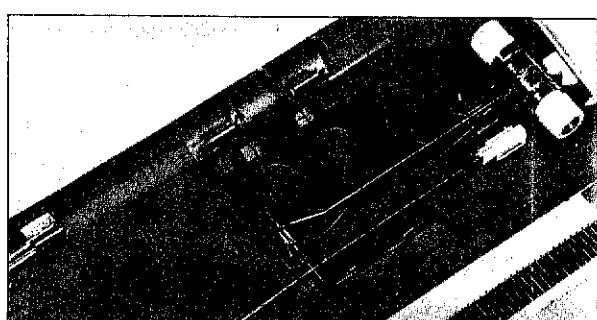
3). REAR YARN GUIDE.



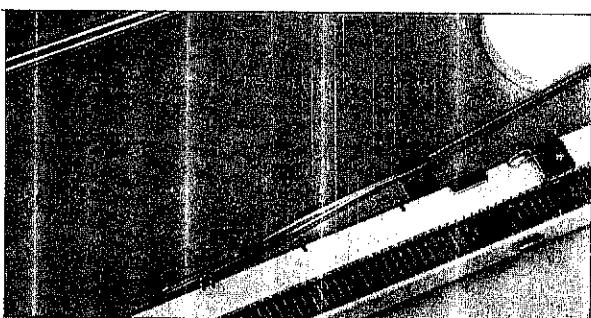
Replace the YARN TENSION UNIT in the carrying case.



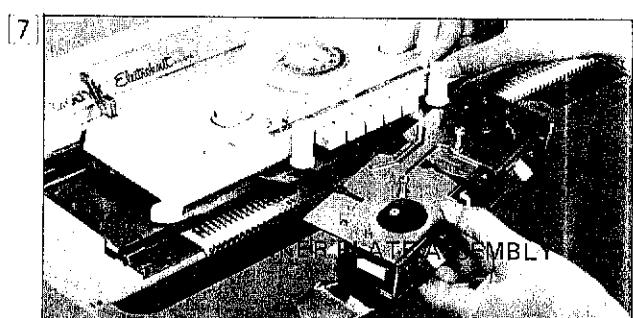
1). Set the A position of the YARN TENSION UNIT on the figure in carrying case.



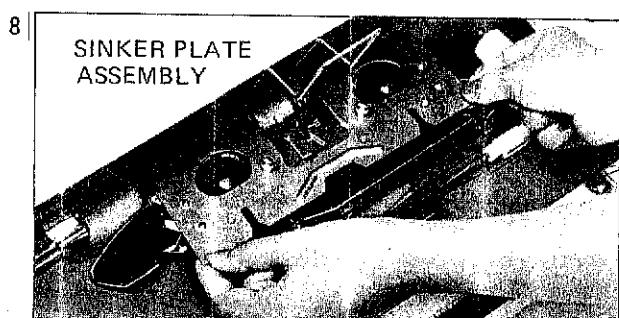
2). Set the YARN ROD on B position.



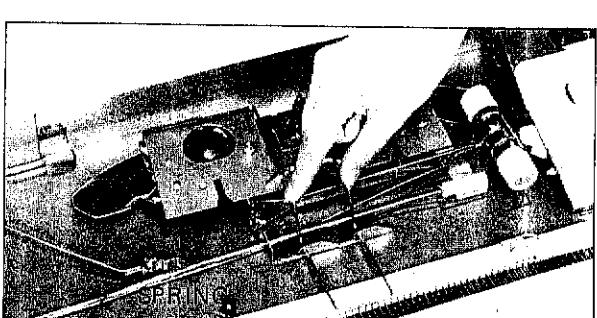
3). Set the YARN ROD and TAKE-UP SPRINGS on C position.



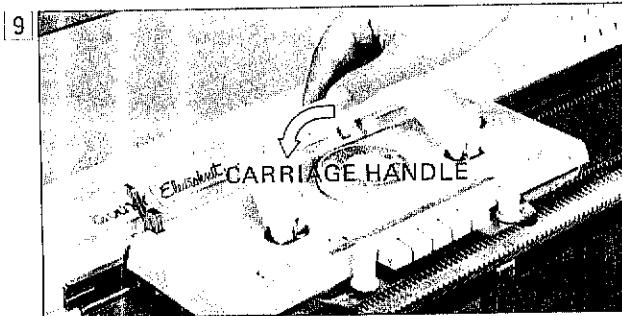
Loosen the KNOBS and remove the SINKER PLATE ASSEMBLY from the K carriage.



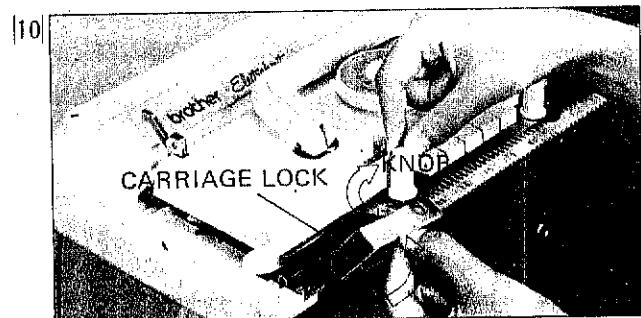
8) SINKER PLATE ASSEMBLY  
1). Replace it on the corresponding drawing in the carrying case.



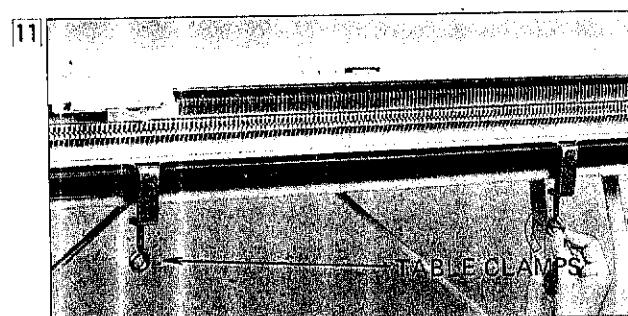
2). Set the SPRING to A position.



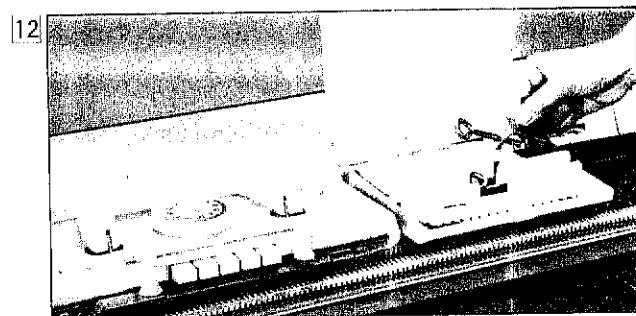
9 Push all needles back to position A and fold up the CARRIAGE HANDLE.



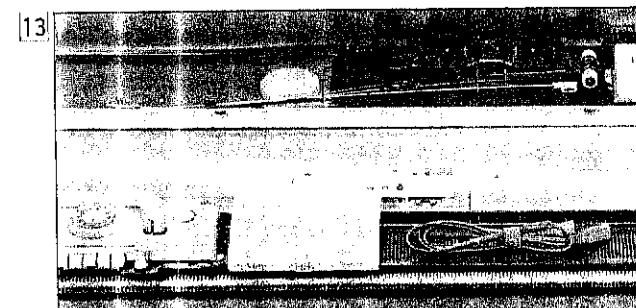
10 Insert the CARRIAGE LOCK in the hole at the left edge of the machine and lock the K CARRIAGE.



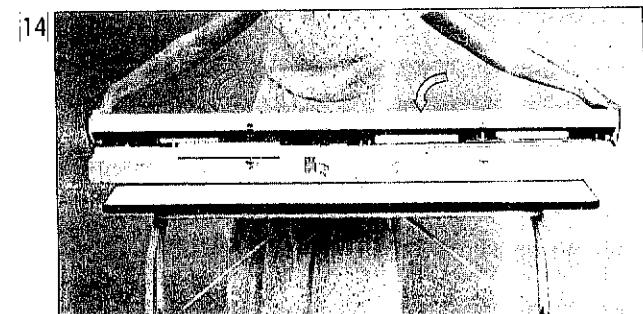
11 Release the two TABLE CLAMPS.



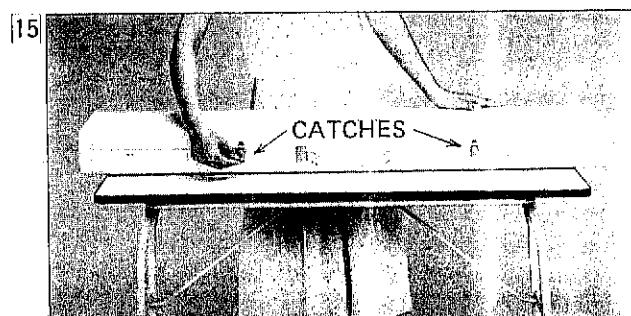
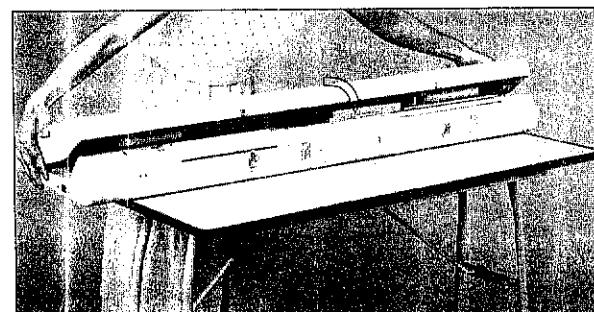
12 Replace the all accessories in the all accessory box and close it.



13 After replacing all the accessories.



14 Hold the UPPER CASE and close the carrying case as shown in the figure.

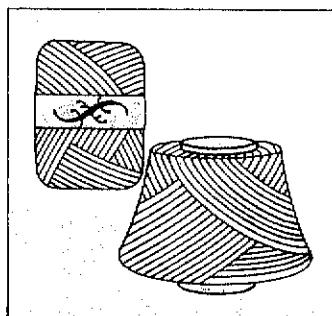
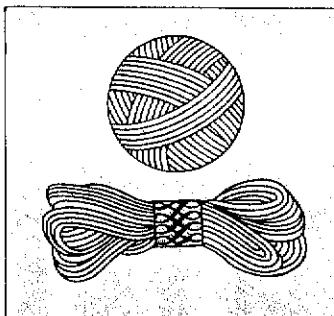


15 Lock the two CATCHES on either side of the handle.

## **2. HERE ARE A FEW IMPORTANT POINTS TO REMEMBER BEFORE YOU START KNITTING**

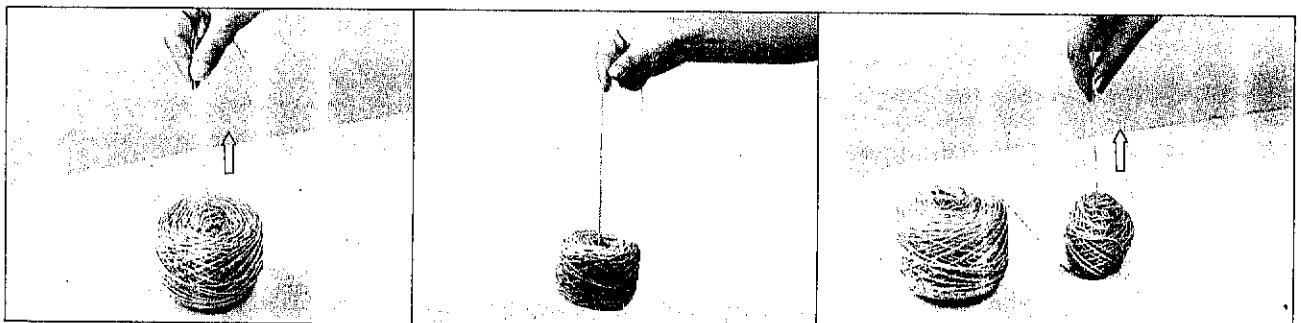
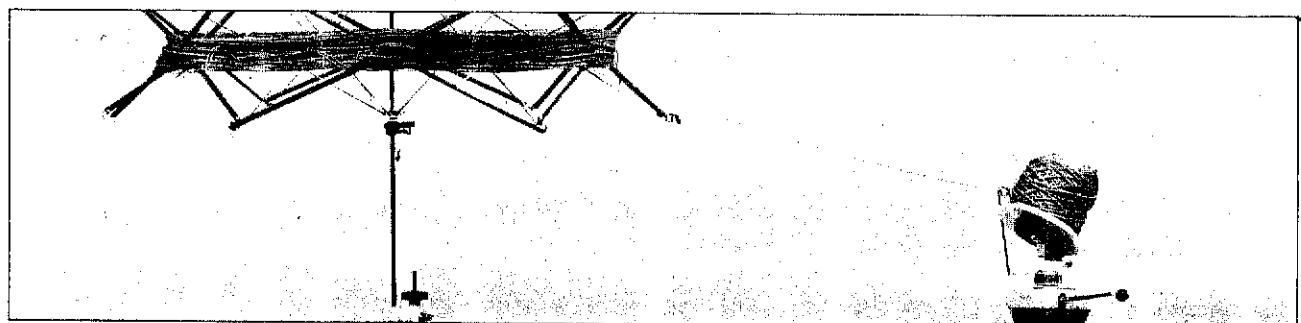
### **2-1. PREPARATION OF YARN**

For the beginning.  
It is best to use new yarn.



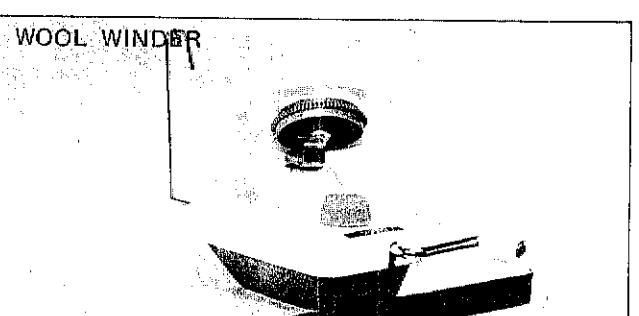
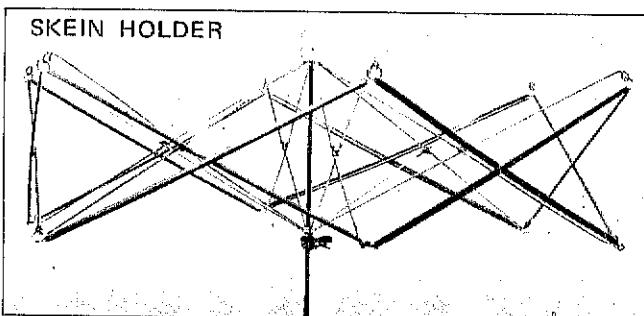
Rewind all yarn like those shown in the above illustration into a ball by using a SKEIN HOLDER and WOOL WINDER.

Yarn like those shown in the above illustration can be used as they stand..



When the wound yarn is pulled from the center of the ball, the yarn must come out freely without lifting the ball from the table.

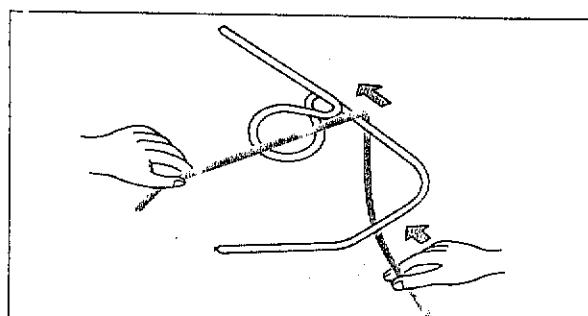
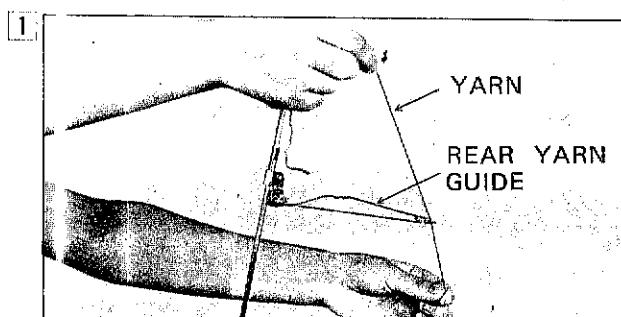
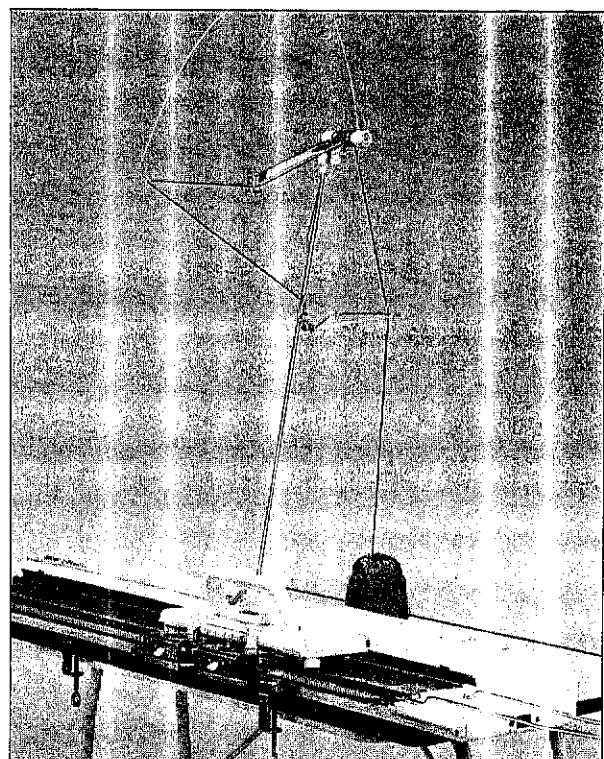
When the yarn does not come out smoothly, pull the yarn out of the center of the ball.



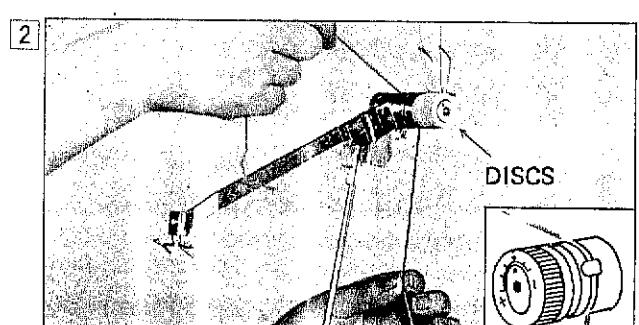
The SKEIN HOLDER and the WOOL WINDER are available separately.

## 2-2. THREADING THE YARN TENSION UNIT.

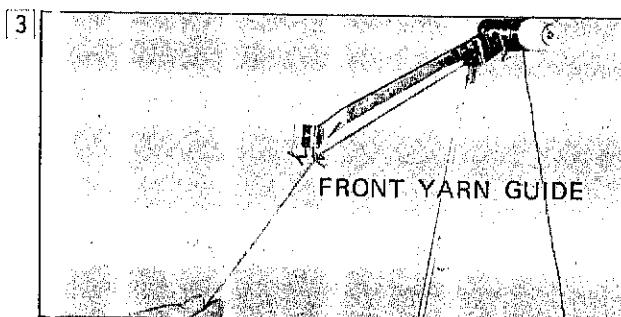
Thread the YARN TENSION UNIT in order as shown in the right figure.



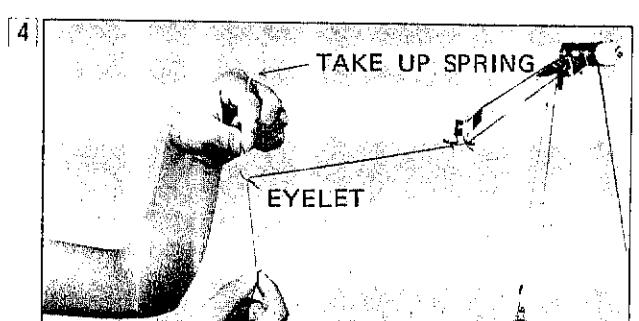
Pass the yarn from the ball through the REAR YARN GUIDE sliding the yarn through the eyelet.



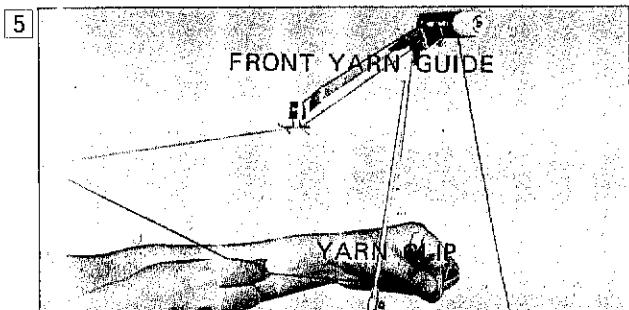
Pass the yarn under THE PIN and between the two DISCS from behind.



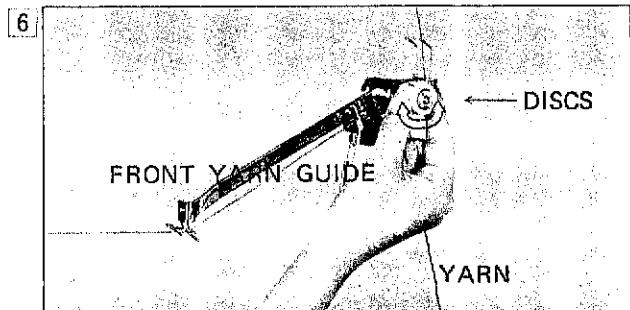
Thread the FRONT YARN GUIDE.



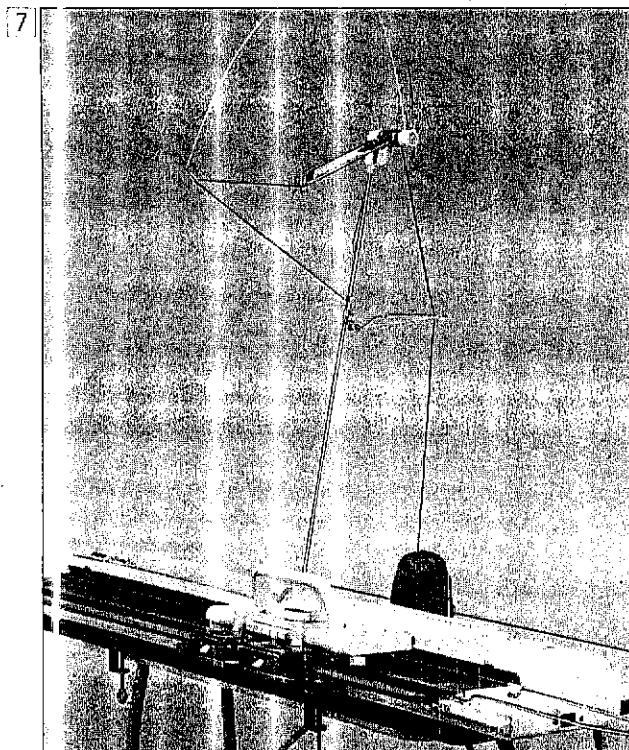
Thread the yarn into the EYELET OF THE TAKE-UP SPRING.



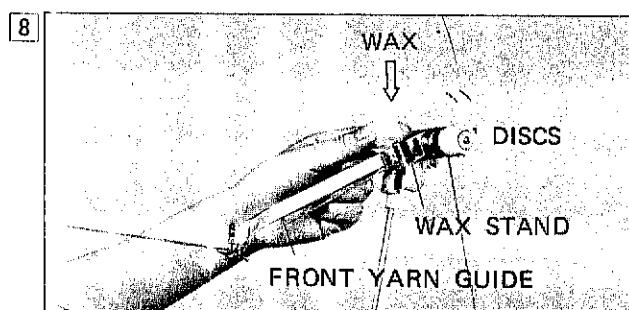
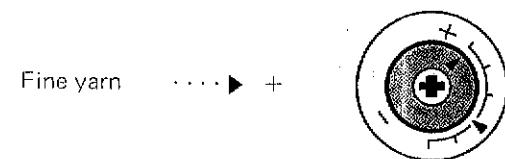
Clip the yarn under the YARN CLIP.



Set the arrow mark according to the thickness of yarn as below.



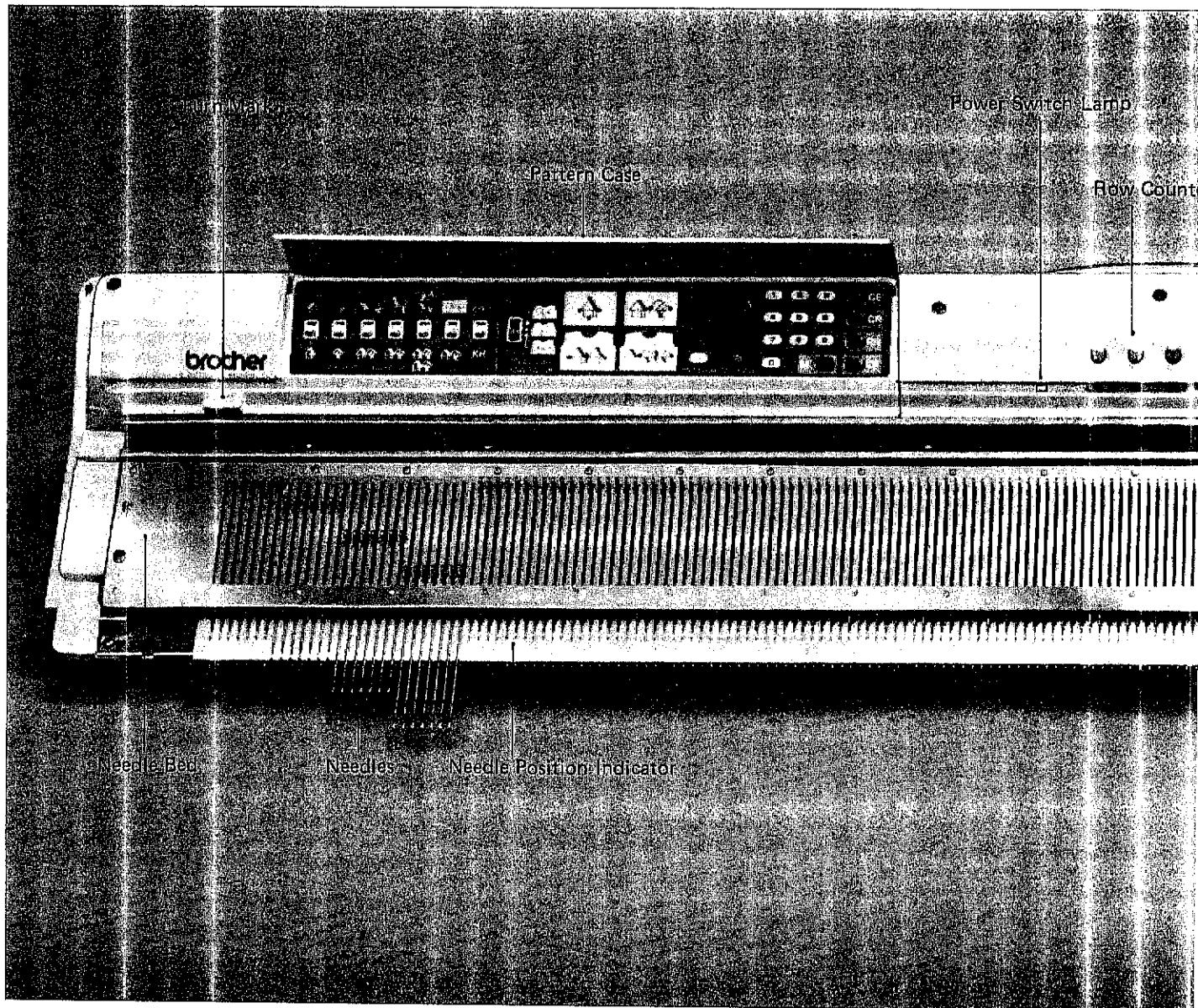
After threading the YARN TENSION UNIT.



When you start knitting, set the WAX from the accessory box on the special stand.

The WAX will help the yarn to slide more smoothly.

## 2-3. NAME OF PARTS

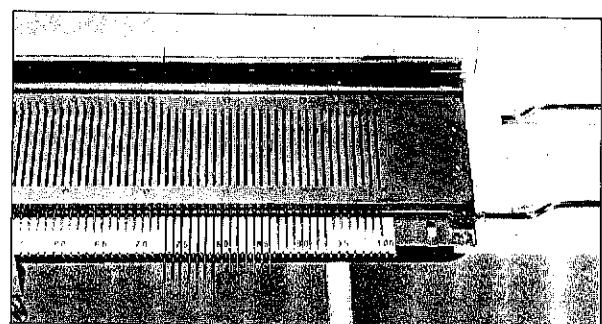


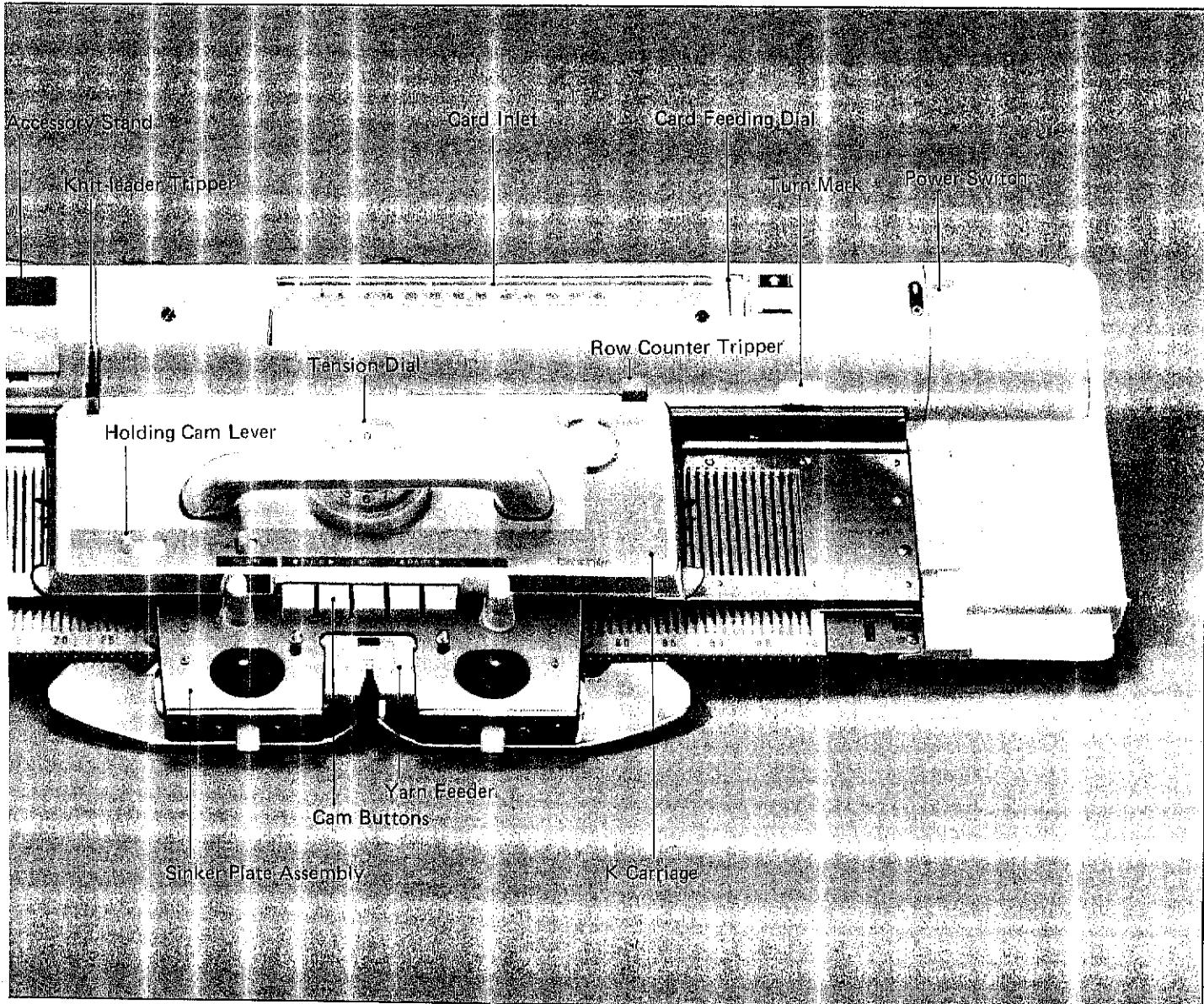
### 2-3-1. NEEDLE POSITION

On either side of the needle bed there appear the marks A, B, D and E.

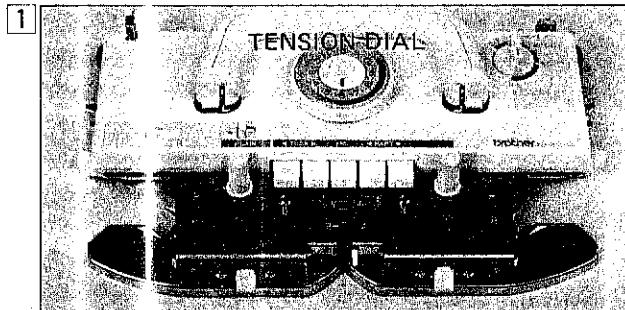
- A ..... Non-working position.
- B ..... Working position (Used for general work).
- D ..... Pattern knitting position (Selected Needles are brought to this position by the K carriage).
- E ..... Holding position (The stitch will 'Hold' on the needle until released. Used for shaping e.g. socks, necklines, darts).

When you fold up the machine, return the needles to position A.



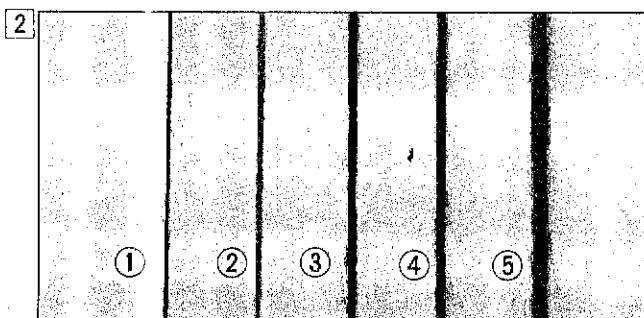


## 2-4. RELATION BETWEEN THE TENSION DIAL AND YARN



### TENSION DIAL

This dial is graduated from 0 to 10, each space being subdivided into three parts.  
Adjust the dial according to the thickness of the yarn.



### YARN

The various thicknesses of yarn as distinguished as follows. Yarns are shown in the right figure.

1. Very fine yarn
2. Fine yarn
3. Medium yarn
4. Thick yarn
5. Very thick yarn

There are too many types of yarn to show all of them here and each type of yarn requires its own Tension Dial (T.D.) number.

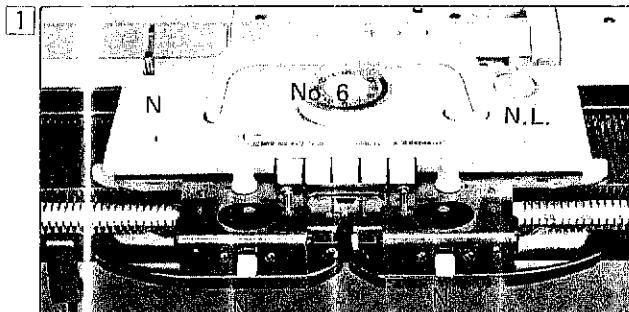
So, find the proper Tension Dial (T.D.) number by referring to the following table.

Type of yarn	Recommended T.D. number
1. Very fine yarn	1 ~ 3
2. Fine yarn	3 ~ 5
3. Medium yarn	5 ~ 7
4. Thick yarn	7 ~ 9
5. Very thick yarn	8 ~ 10

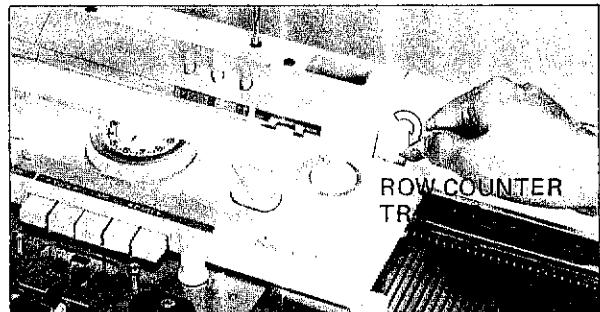
Remarks; For very thick yarn or bulky yarn, use every other or every third needle.

### **3. BASIC OPERATION PRACTICE I (PLAIN KNITTING)**

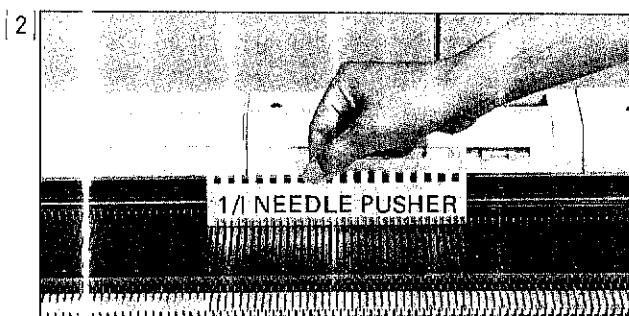
#### **3-1. PLAIN KNITTING.**



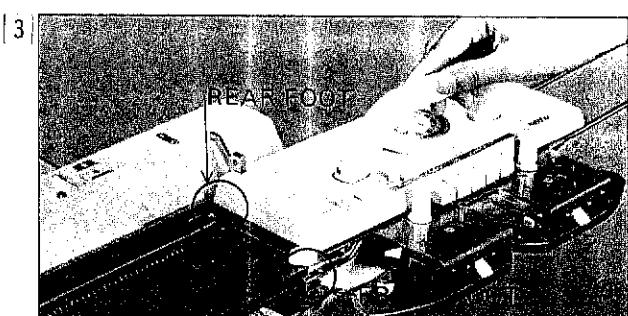
Set the K CARRIAGE.  
(The following instructions are explained based on Tension dial number 6.)



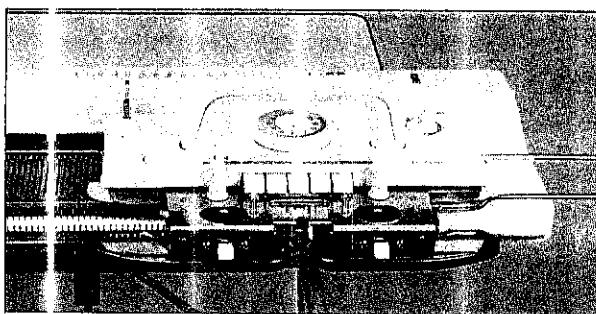
When using the ROW COUNTER, set the ROW COUNTER TRIPPER to working position.



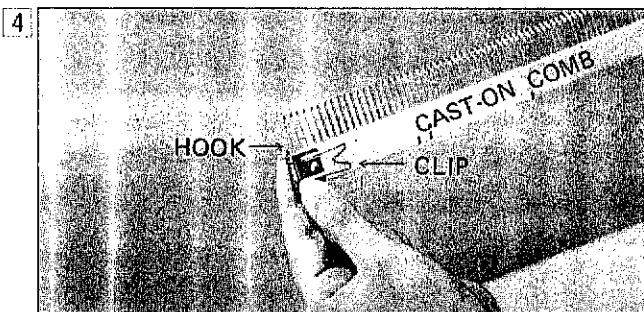
Using straight edge of the 1/1 NEEDLE PUSHER bring forward 60 needles to position B. (30 needles on either side of the center mark "0".)



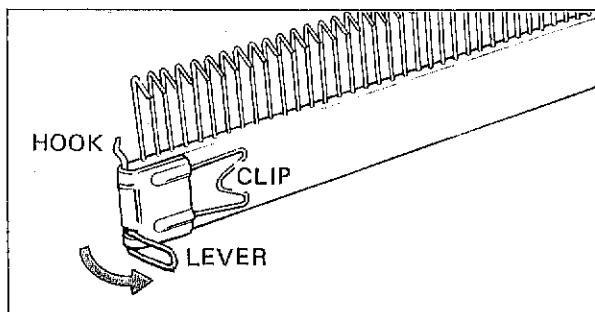
After seeing that the REAR and FRONT FEET of the K CARRIAGE are set on the NEEDLE BED correctly, move the K CARRIAGE across and back to straighten these needles into position B.



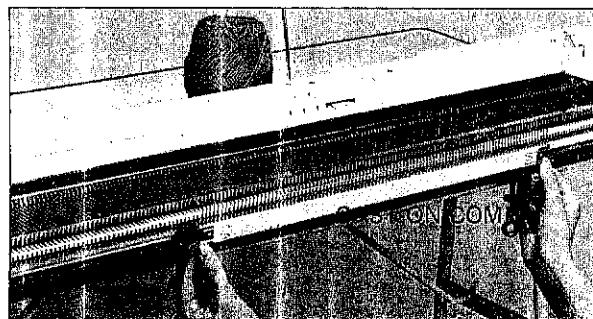
Place the K CARRIAGE at right side of the machine.



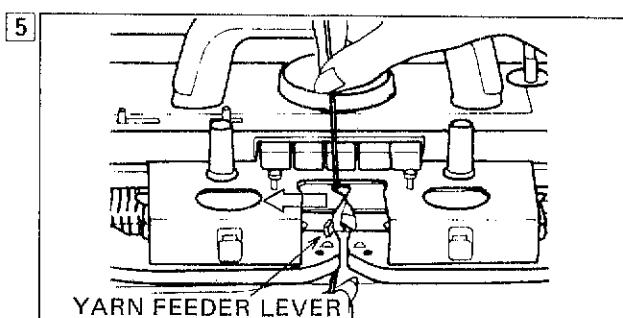
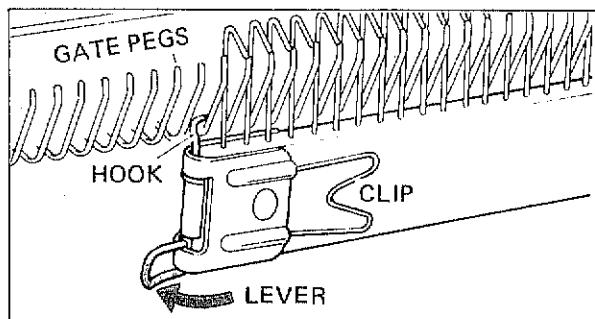
For cast-on, hang the CAST-ON COMB on the GATE PEGS of the machine.



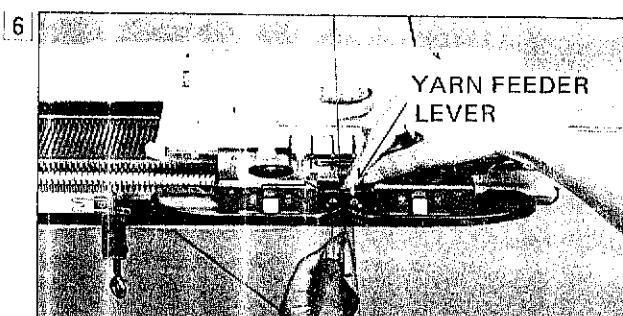
1). Hold the CAST-ON COMB, with the clip facing you, and turn levers at both sides to you.



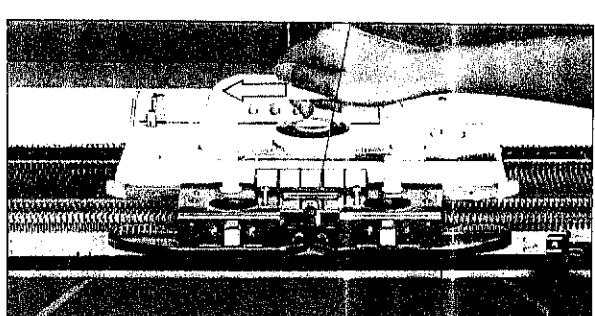
2). Place both HOOKS on the GATE PEGS as shown in the figures.



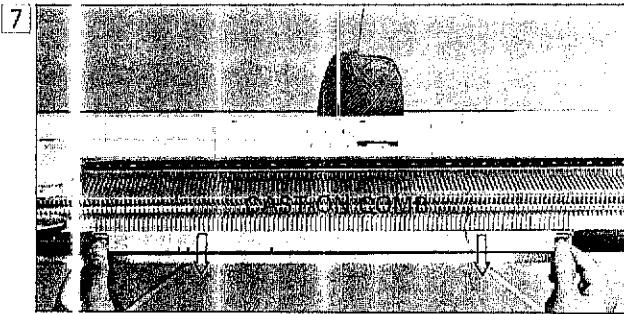
Turn the YARN FEEDER LEVER to the left and take the end of the yarn (which has been clipped onto the YARN TENSION ROD). Thread it into the YARN FEEDER "A" for main yarn. Hold the yarn from below with your left hand and from above with your right. Then put the yarn into the YARN FEEDER "A".



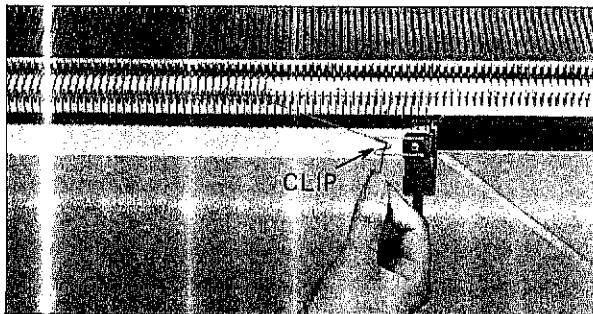
Hold the end of the yarn with your left hand under the YARN FEEDER "A". Close the YARN FEEDER LEVER.



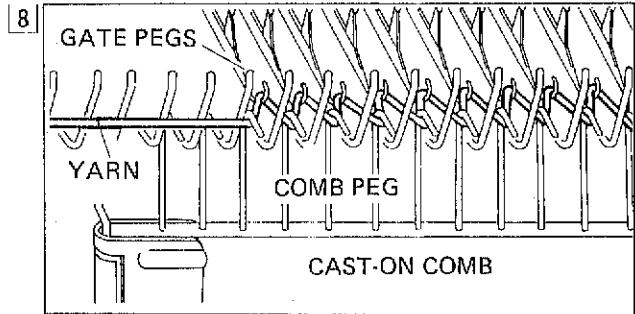
Move the K CARRIAGE to the left, holding the end of the yarn with your left hand. (When moving the K CARRIAGE, keep your left hand at the right edge of the knitting).



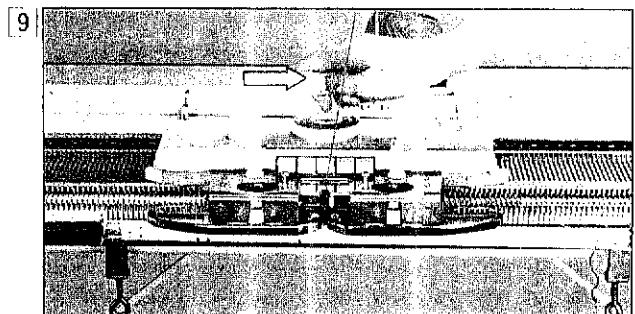
7 Remove the CAST-ON COMB from the GATE PEGS. Lower the CAST-ON COMB by turning the levers at both sides (at the same time) toward you. Make certain that the COMB PEGS catch the yarn between each GATE PEG.



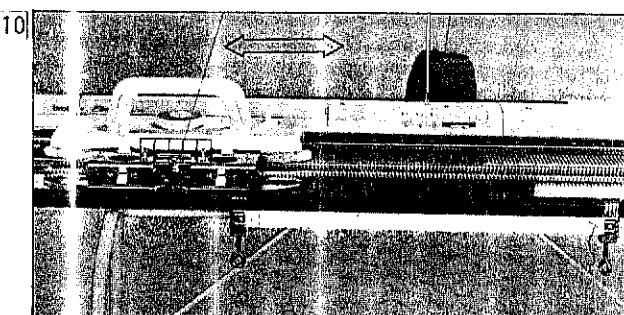
Clip the right end of the yarn as shown in the figure.



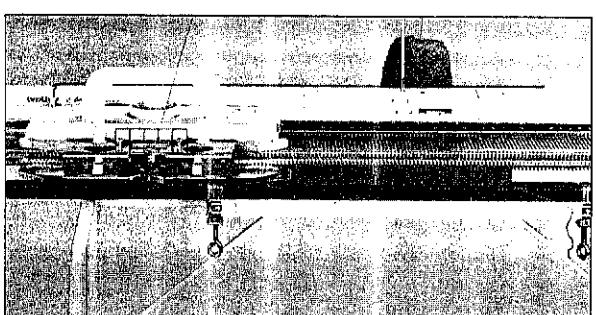
Release the yarn between the COMB and the K CARRIAGE, so that it may go under the last COMB PEG, adjacent to the end needle and above the rest.



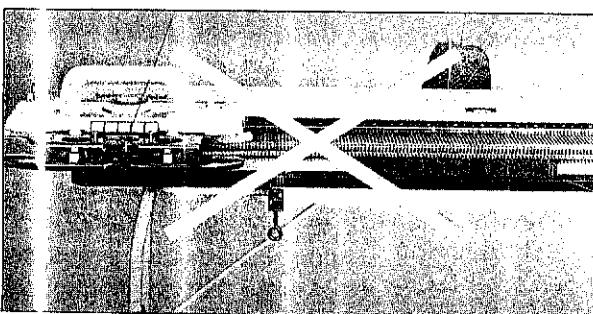
Move the K CARRIAGE to the right SLOWLY.



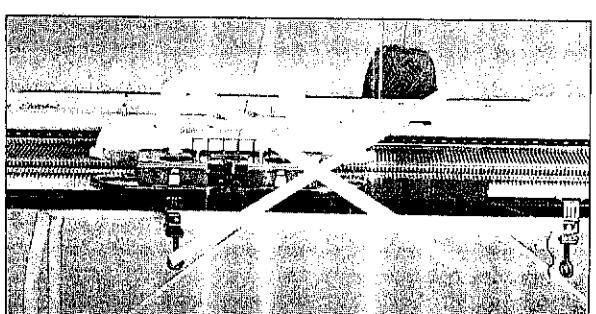
Continue to operate the K CARRIAGE back and forth. You are doing plain knitting.

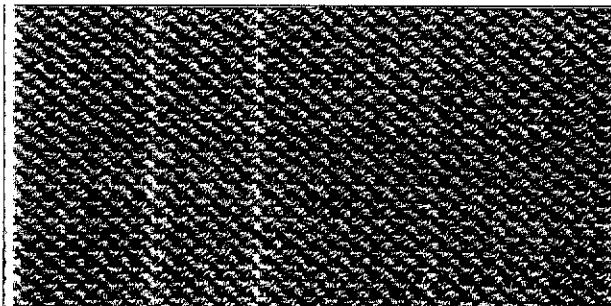


Always move the K CARRIAGE across until you hear the "CLICK" at end of a row.  
Continue knitting each row at the same speed.

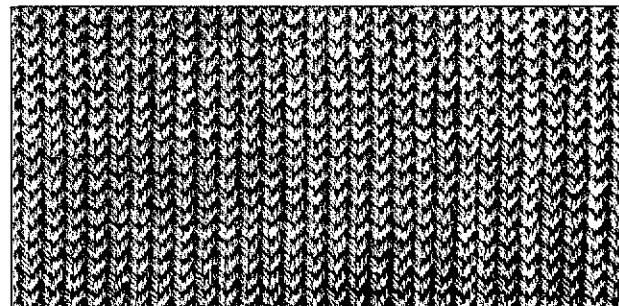


Do not move K CARRIAGE too far beyond the knitting, and do not reverse K CARRIAGE in the middle of a row.



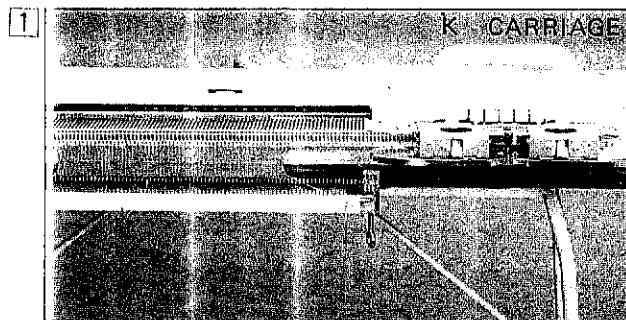


The purl side.  
When knitting, this side is facing you.

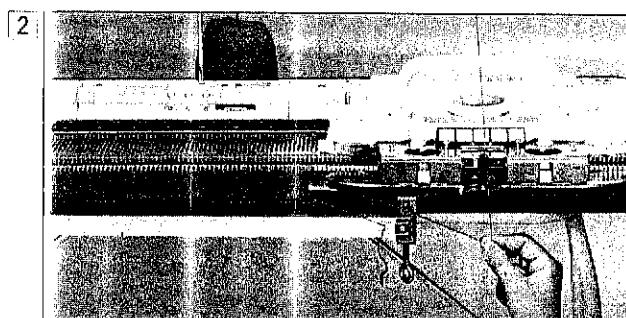


The plain side.  
When knitting, this side is away from you.

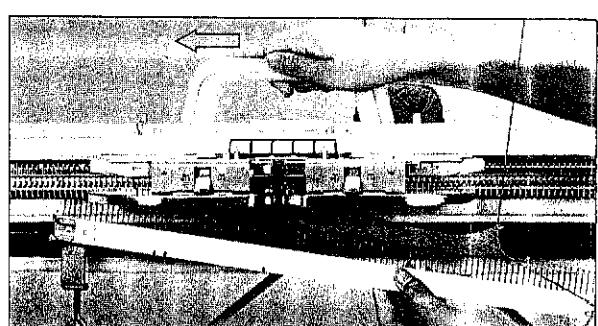
### 3-2. HOW TO REMOVE THE KNITTING FROM THE MACHINE.



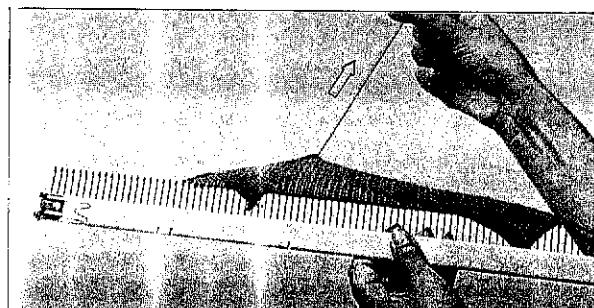
Place the K CARRIAGE on the right side.



Take the yarn out of the YARN FEEDER "A".



Move the K CARRIAGE to left holding the knitting.  
The knitting will be removed from the machine.



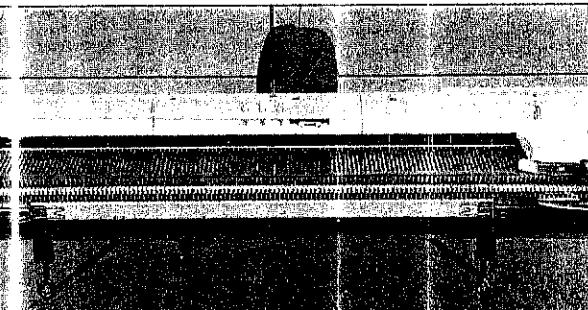
As the knitting is not finished off, it will unravel easily.

Plain knitting is the basic way to knit, so practice this until you can do it smoothly from the beginning.

### 3-3. CAST-ON WITH A FINISHED EDGE.

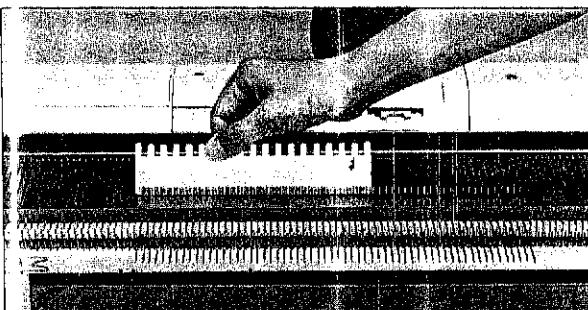
#### 3-3-1 HAND METHOD

1



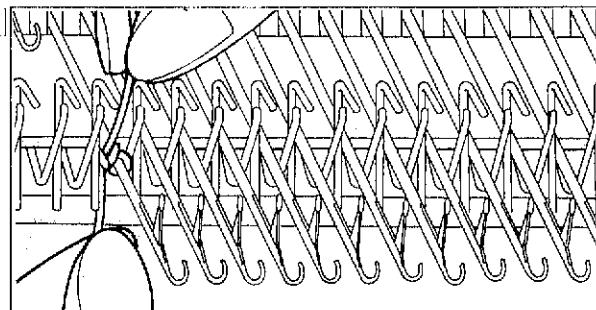
Hang the CAST-ON COMB onto the GATE PEGS.

2



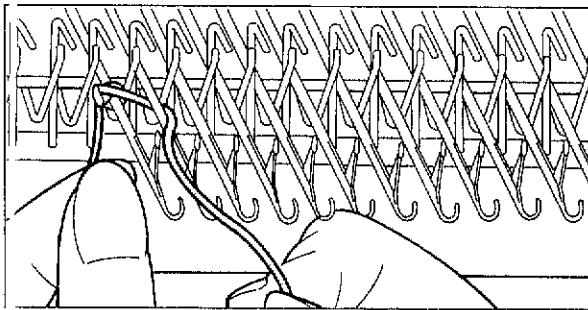
Place the K CARRIAGE on the right and bring forward to position E all the needles required.

3

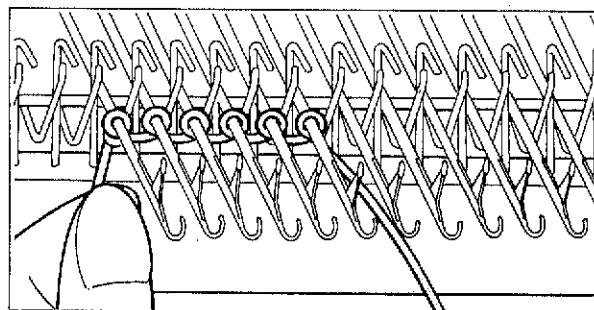


Make a loop and fasten the end of the yarn threaded through the YARN TENSION UNIT onto the end needle on the left.

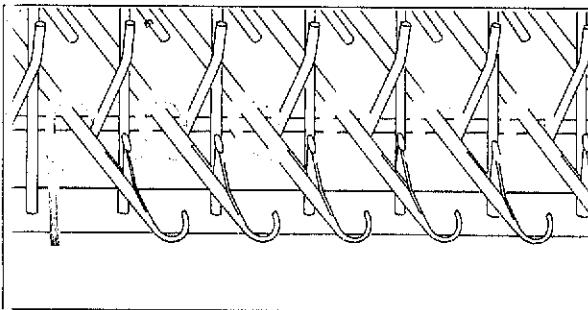
4



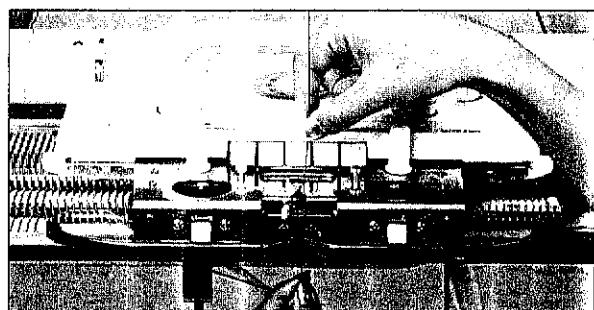
1). Loop the yarn around the second needle from left, counterclockwise.



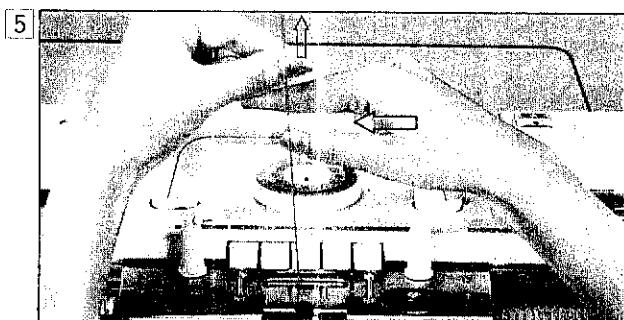
2). Loop the yarn around each needle from left to right in the same way.



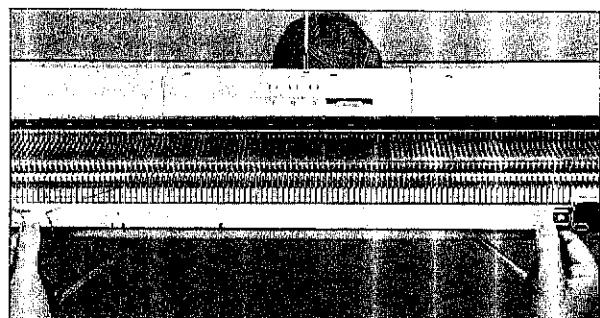
3). The loops must be pushed back on the stems of the needles. Do not make the loops too tight.



4). After looping the yarn around each needle, thread the yarn into the yarn feeder "A".

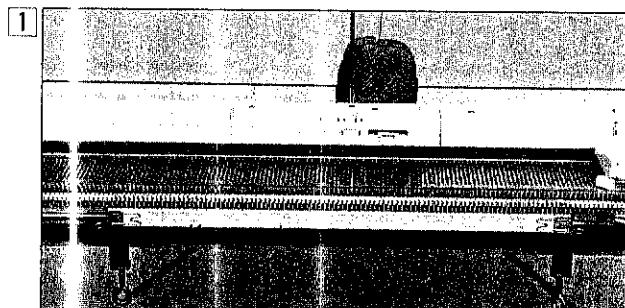


Move the K CARRIAGE from right to left lifting the yarn up slightly.

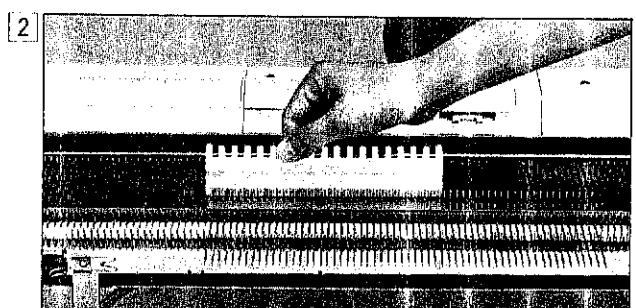


Release the CAST-ON COMB.  
Continue to operate the K CARRIAGE, then you will have plain knitting.

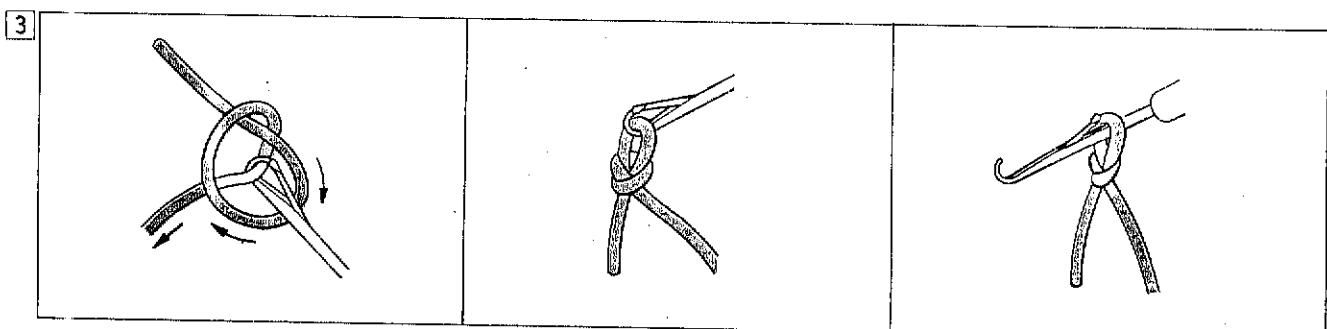
### 3-3-2. LATCH TOOL.



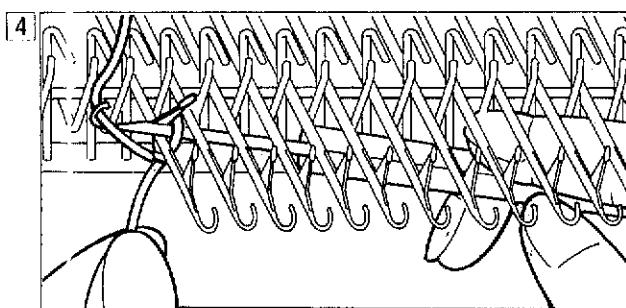
Hang the CAST-ON COMB onto the GATE PEGS.



Place the K CARRIAGE on the right and bring forward to position E all the needles required.

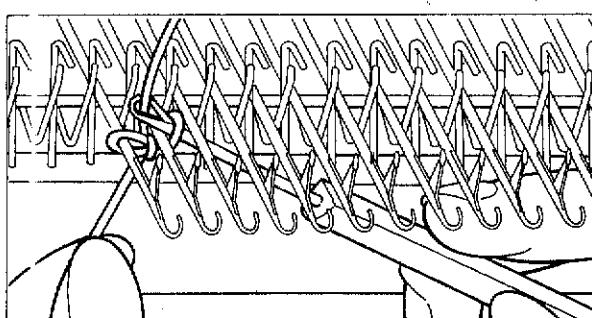


Make the chain stitch by using the latch tool.

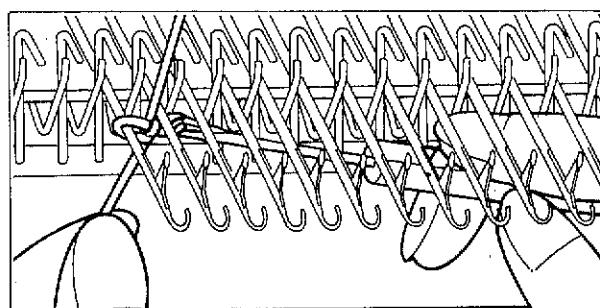


With the loop behind the latch, put the LATCH TOOL between the left edge needle and the second needle and make a stitch.

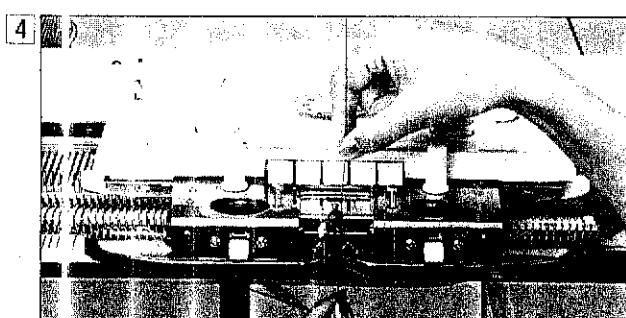
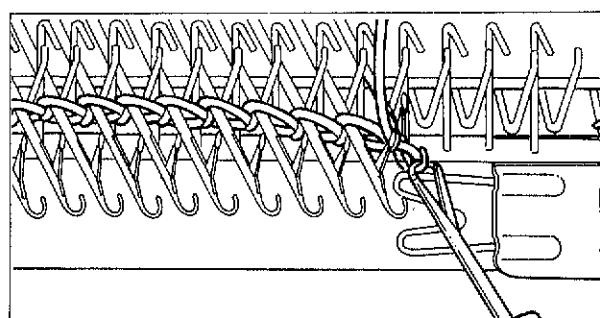
1). Push the LATCH TOOL up and hook the yarn.



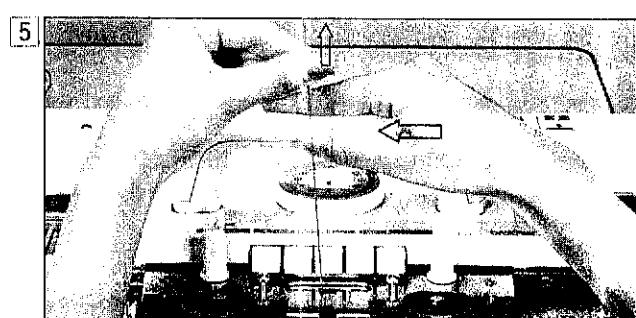
3). Repeat this, and when you get to the right, do not make the stitch. Transfer the yarn to the needle hook.



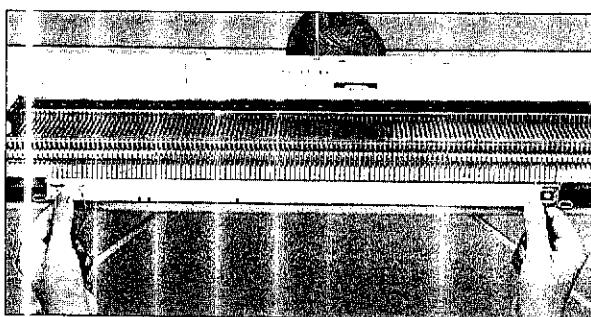
2). Pull the LATCH TOOL through the loop on the stem of the latch tool. Now you have made a stitch.



Thread the yarn into the YARN FEEDER "A".

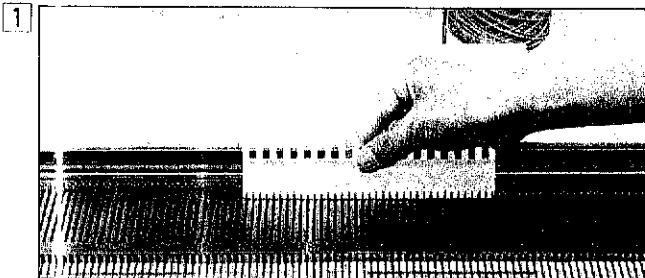


Move the K CARRIAGE to the left lifting the yarn up slightly.

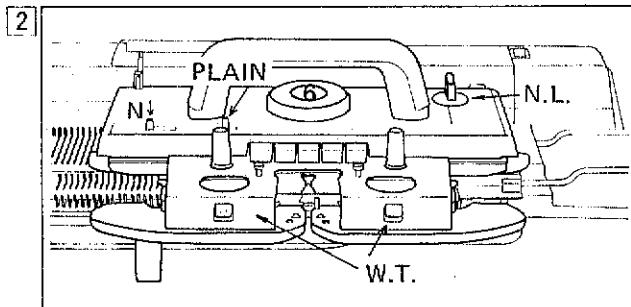


Release the CAST-ON COMB.  
Continue to operate the K CARRIAGE, then you will have plain knitting.

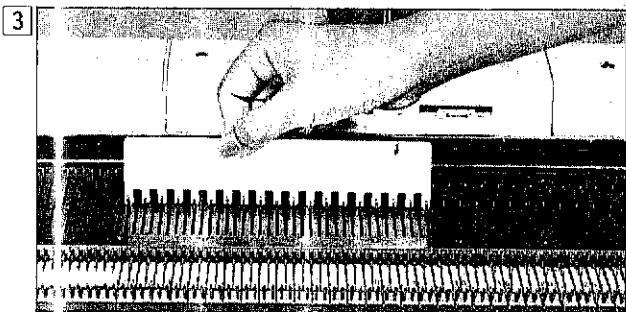
**3-3-3.USING THE WEAVING PATTERN LEVER  
AND 1/1 NEEDLE Pusher.**



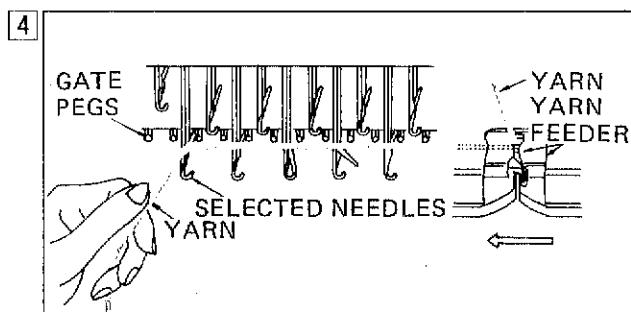
Bring forward the required needles to position B.



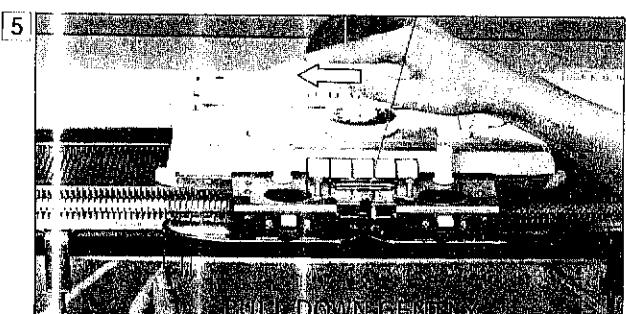
Set the K CARRIAGE as shown in the figure and place it on the right side of the machine.



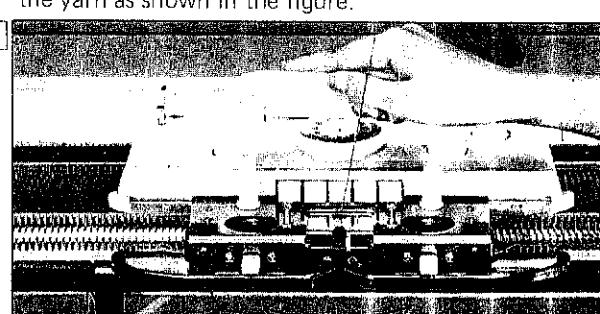
Using 1/1 NEEDLE Pusher, bring forward every other needle to position D.



Thread the yarn into the yarn feeder "A". Holding the end of the yarn in your left hand, lay the yarn over the selected needles as shown. Hold the end of the yarn as shown in the figure.



Pulling the yarn down gently with the left hand, move the K CARRIAGE to knit slowly with right hand. Continue to hold the end of yarn with left hand for few rows.

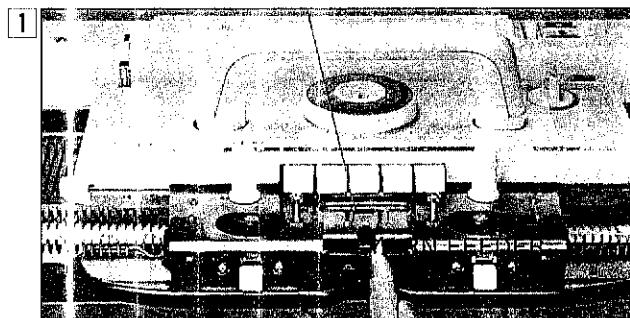


Return the Weaving pattern lever to N, and let go the grasp of the left hand after knitting a few rows.

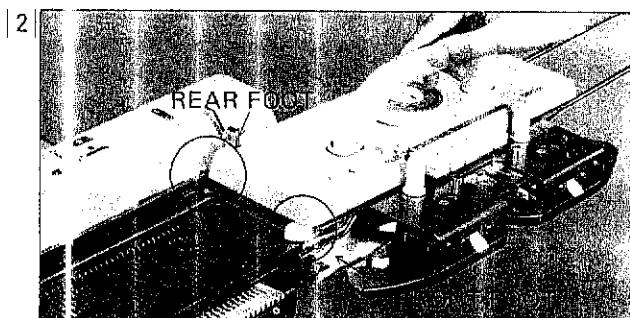


Now you can make plain knitting with finished edge.

## **4. KNOWLEDGE OF PLAIN KNITTING**



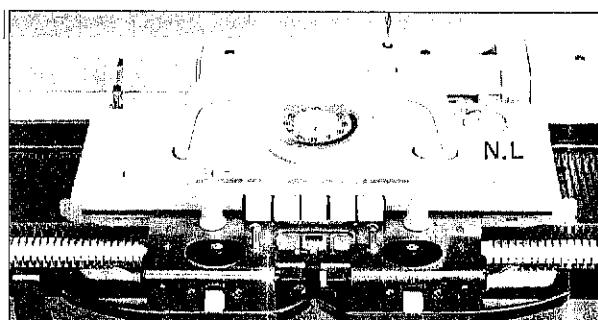
Make sure that the yarn is in the YARN FEEDER "A" exactly. If not, you cannot knit.



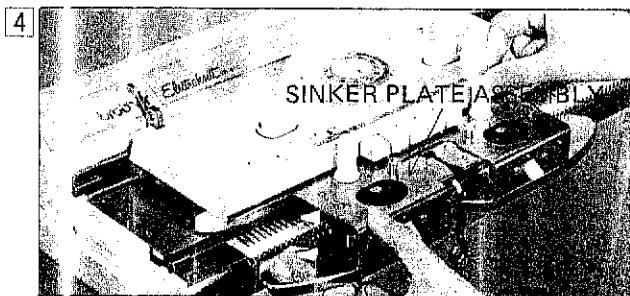
Make sure that the K CARRIAGE is set on the needle bed correctly.

### **4-1. WHEN YOU CANNOT CAST-ON WELL.**

**(WHEN THE NEEDLES DO NOT CATCH THE YARN)**

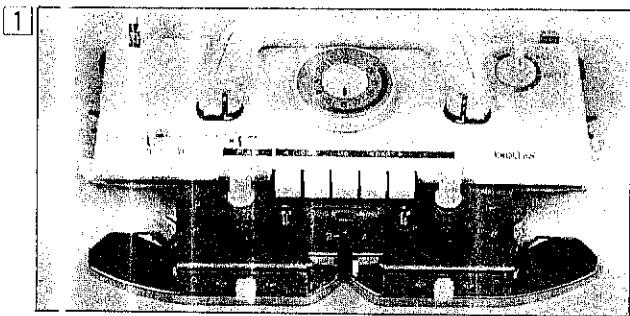


Make sure that the CHANGE KNOB is set to position N-L.



Make sure that the SINKER PLATE ASSEMBLY is set on the K CARRIAGE correctly.

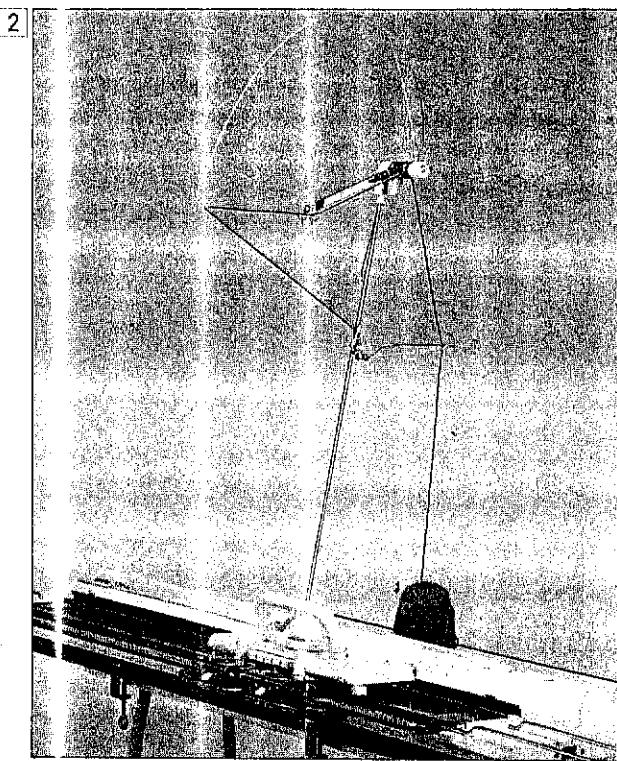
### **4-2. WHEN THE K CARRIAGE IS HARD TO PUSH.**



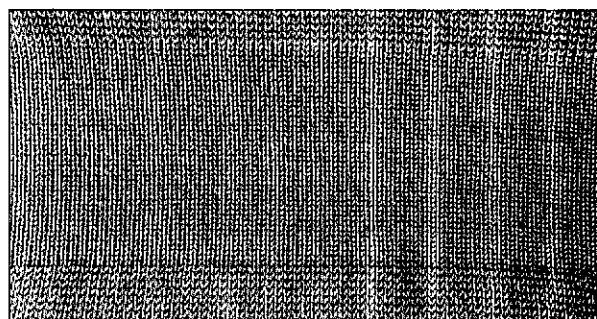
Make sure that the TENSION DIAL is adjusted according to the thickness of the yarn. We cannot show you which tension dial number you should use, because there are various kind of yarn.

Find the proper number yourself by referring to the table.

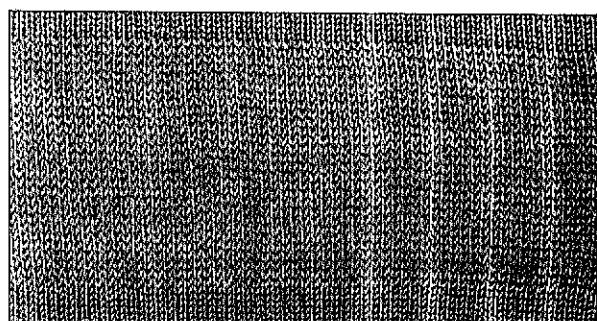
Type of yarn	Tension dial
Fine yarn	1 ~ 5
Medium yarn	5 ~ 7
Thick yarn	7 ~ 10



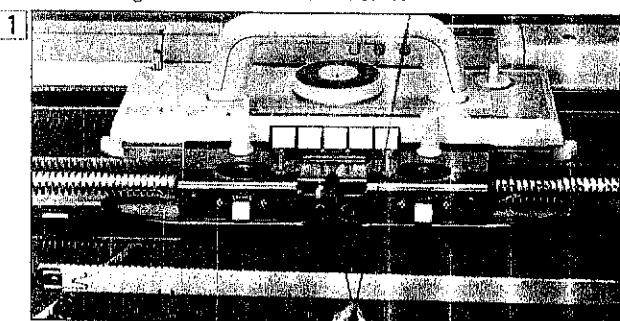
Make sure that you thread the yarn into the YARN TENSION UNIT correctly and that the yarn comes out smoothly.



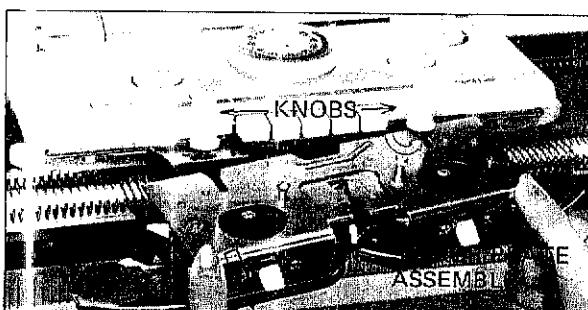
Comparison of the knitting.  
1). TENSION DIAL is tight.



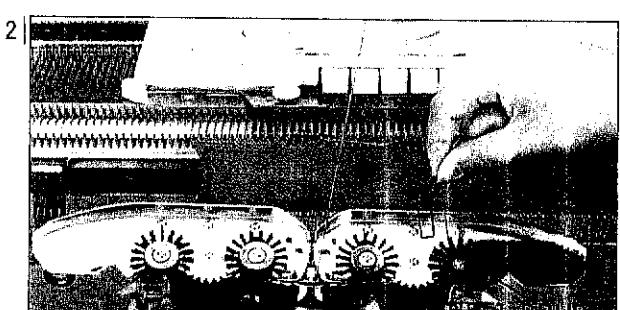
2). TENSION DIAL is loose.  
When the stitches are too tight or too loose, adjust the TENSION DIAL to a higher or lower number and get the correct stitch size.



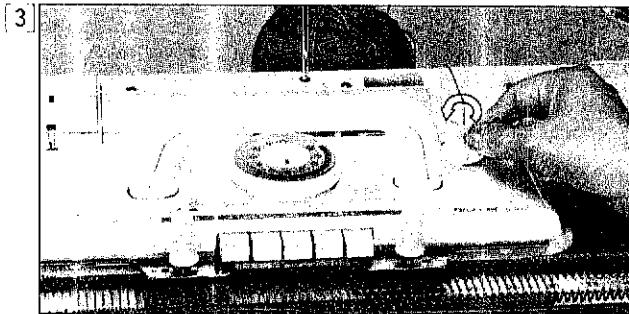
Take the yarn out of the YARN FEEDER "A".



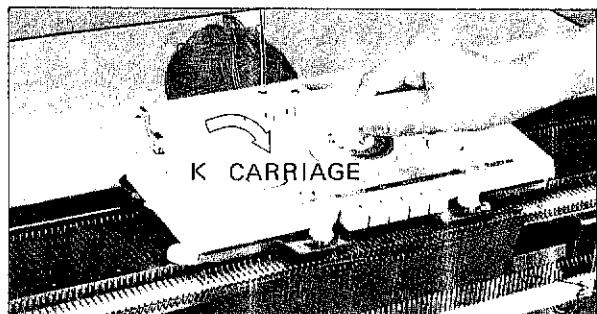
Loosen the KNOBS and remove the SINKER PLATE ASSEMBLY from the K CARRIAGE.



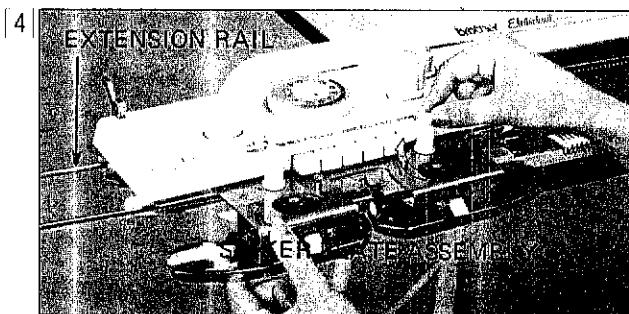
Turn over the SINKER PLATE ASSEMBLY. If the yarn has wrapped around the WHEEL BRUSH, remove it from the BRUSH.



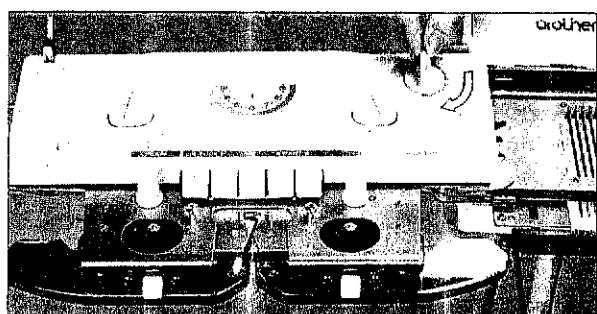
Set the CHANGE KNOB to position CR. This will release the K CARRIAGE.



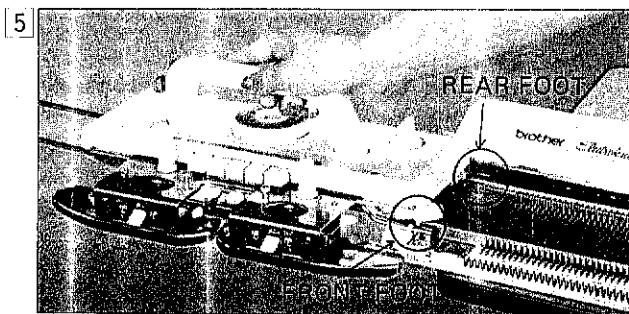
Lift the K CARRIAGE up toward you to remove it.



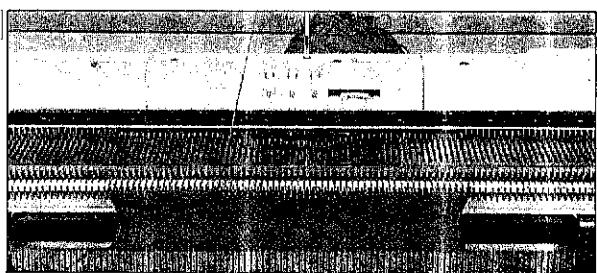
Place the K CARRIAGE on the EXTENSION RAIL and set the SINKER PLATE ASSEMBLY on the K carriage.



Return the CHANGE KNOB to position N-L.

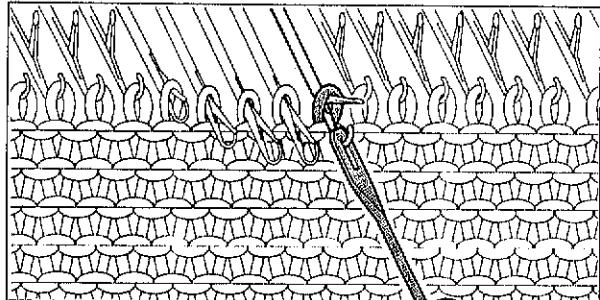


Make certain the K CARRIAGE is set on the NEEDLE BED correctly.

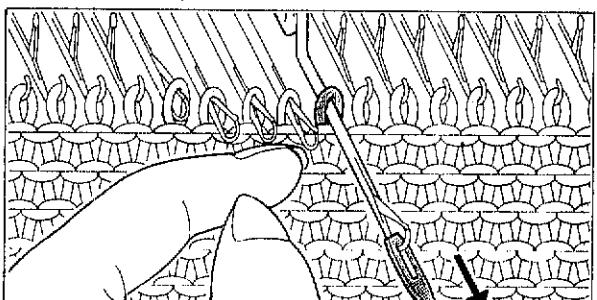


Unravel a row of knitting.

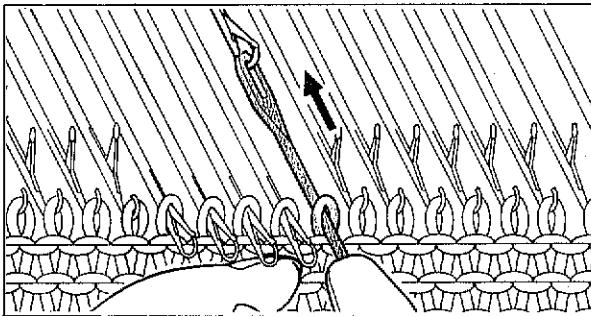
- 1). Using a TRANSFER TOOL transfer each stitch on the stem of a needle to the hook of the needle so that the stitches will not drop off.  
(This method is illustrated in the following four (4) steps.)



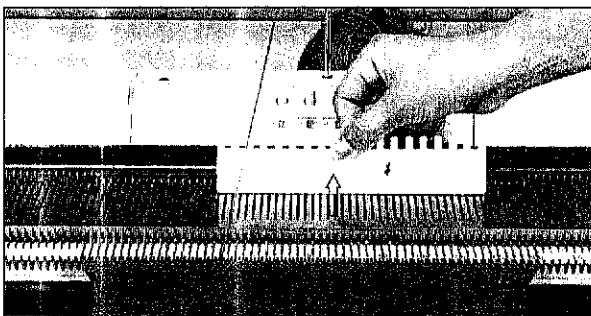
- 2). Place the EYE of the TRANSFER TOOL onto the hook of the needle.



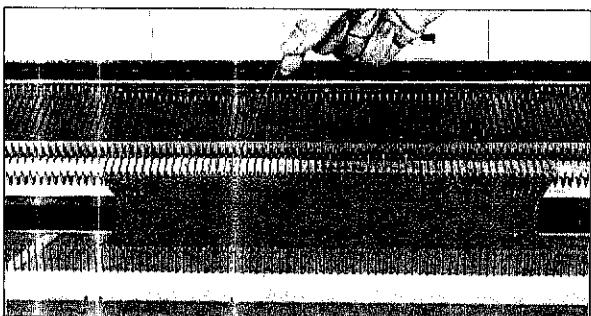
- 3). Hold the TRANSFER TOOL parallel with the needle and pull it toward you.



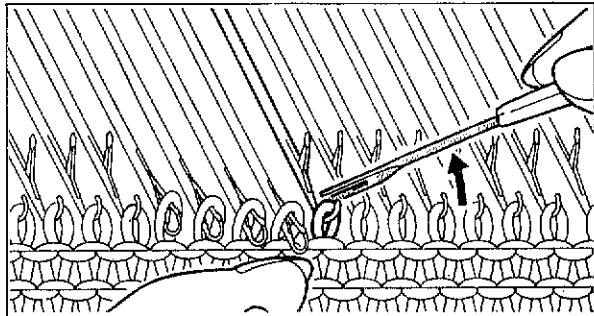
4). Push the TRANSFER TOOL toward the machine until the stitch is on the transfer tool.



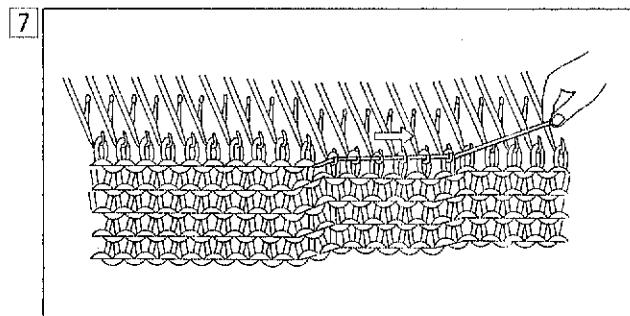
6). After transferring each stitch to the hook of a needle, bring back all the needles to position B by using the 1/1 NEEDLE PUSHER.



2). Pull the yarn up to unravel the knitting.  
The stitches will come off the needles and the stitches from the row below will slip onto the needle.

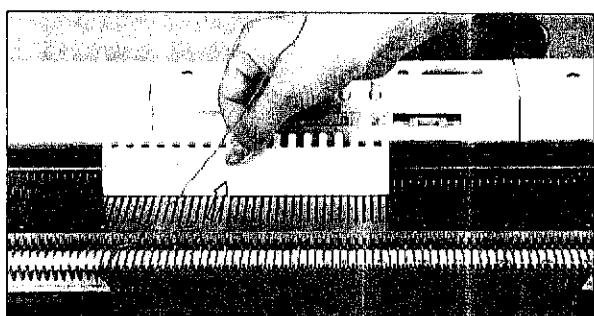


5). Transfer the stitch on the TRANSFER TOOL to the HOOK of the needle.

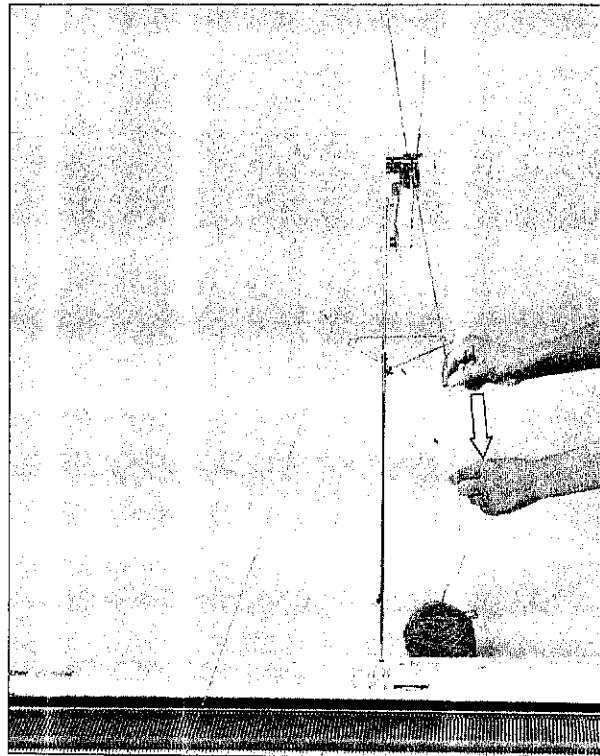


Unravelling a row of the knitting.

1). Hold the yarn parallel with GATE PEGS, and pull the yarn slightly sideways.



3). After unravelling the knitting, make sure that the stitches are in the hooks of the needles. Using the 1/1 NEEDLE PUSHER, return the needles to position B.

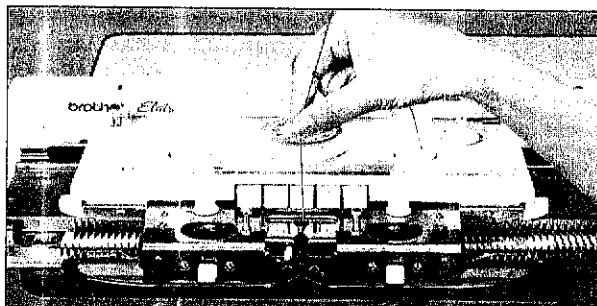


4). Pull the unravelled yarn down from behind the REAR YARN GUIDE to take up the slack.  
When unravelling several rows of knitting, repeat steps 1) - 4). Unravel the knitting as the yarn comes toward K CARRIAGE side.

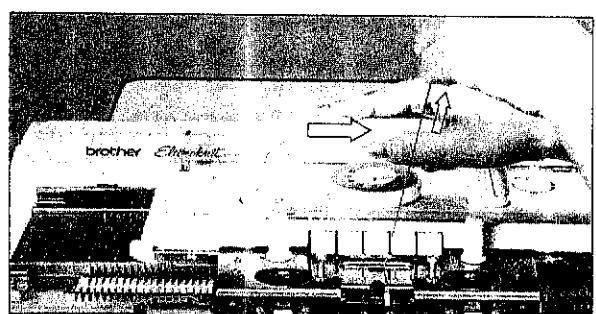
**8** Start knitting again.

1). If the yarn is now on the opposite side of the knitting from the K CARRIAGE, you may move the K CARRIAGE across the needles without knitting by pressing both "PART" buttons and setting the H.C.L. to H.

Make certain that all needles are in position B before going across with the K CARRIAGE.



2). Insert the unravelled yarn into the YARN FEEDER "A".

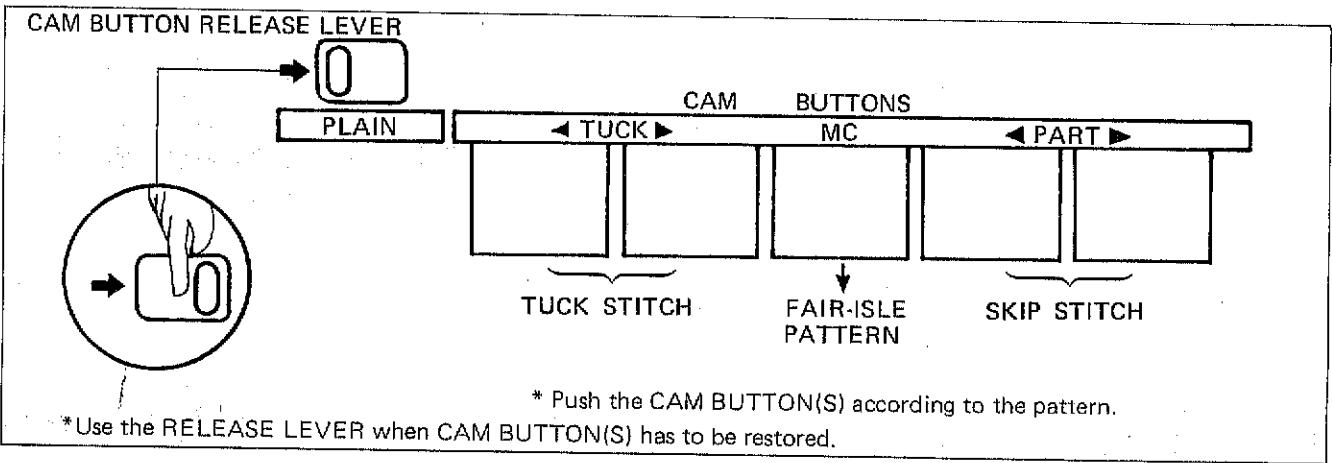
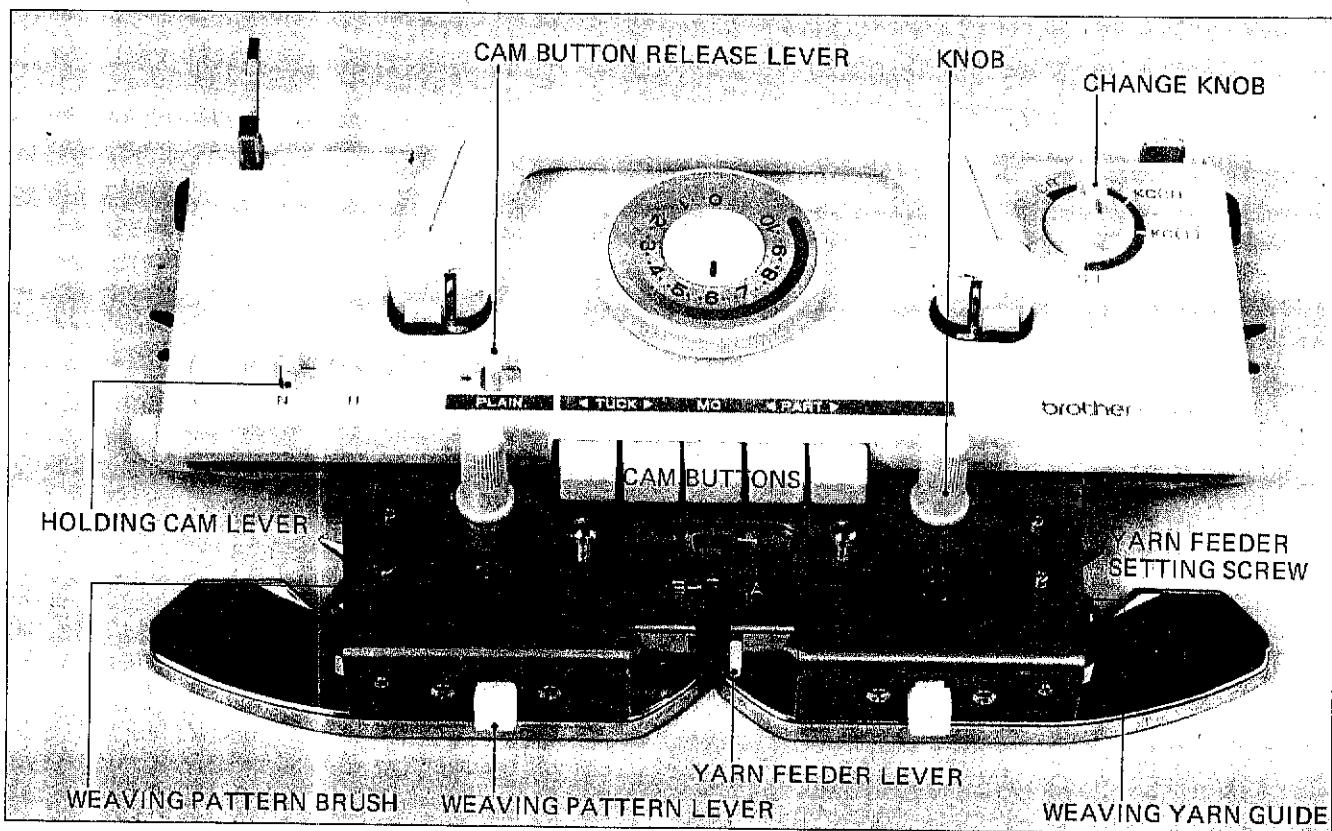
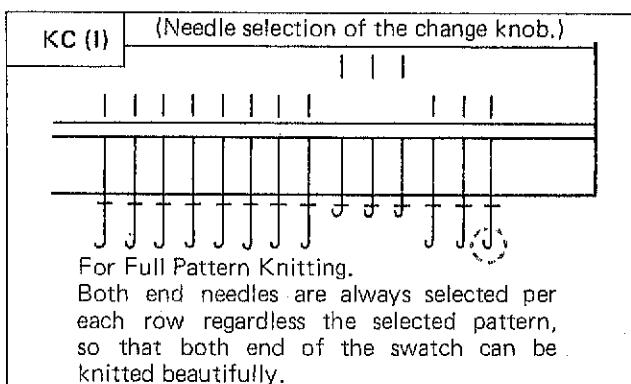
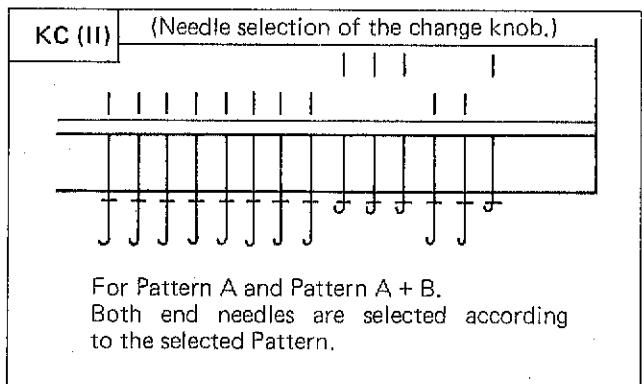


3). Operate the K CARRIAGE pulling the yarn up slightly to remove any slack.

## 5. BASIC OPERATION PRACTICE II (PATTERN KNITTING)

### 5-1 BASIC KNOWLEDGE OF PATTERN KNITTING

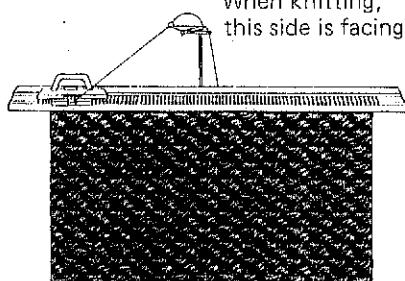
#### 5-1-1 K CARRIAGE



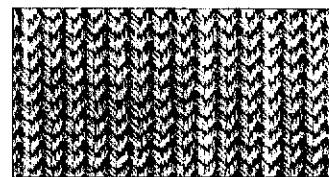
## 5-1-2 COMPARISON OF SWATCH

### 1. Plain Knitting

When knitting,  
this side is facing you.



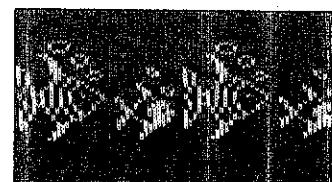
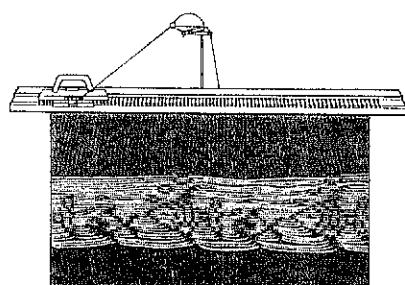
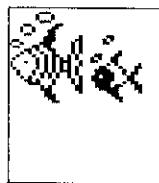
When knitting,  
this side is away from you.



### 2. Pattern Knitting

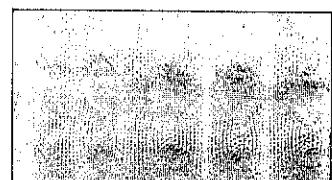
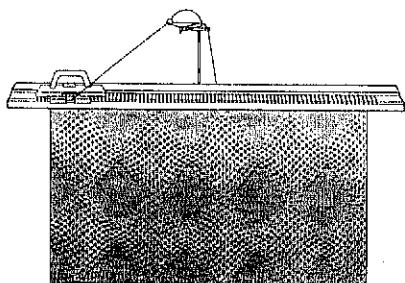
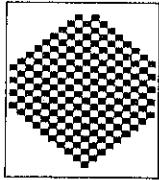
CARD No. 4-17

Fair-isle  
Pattern



CARD No. 1-6

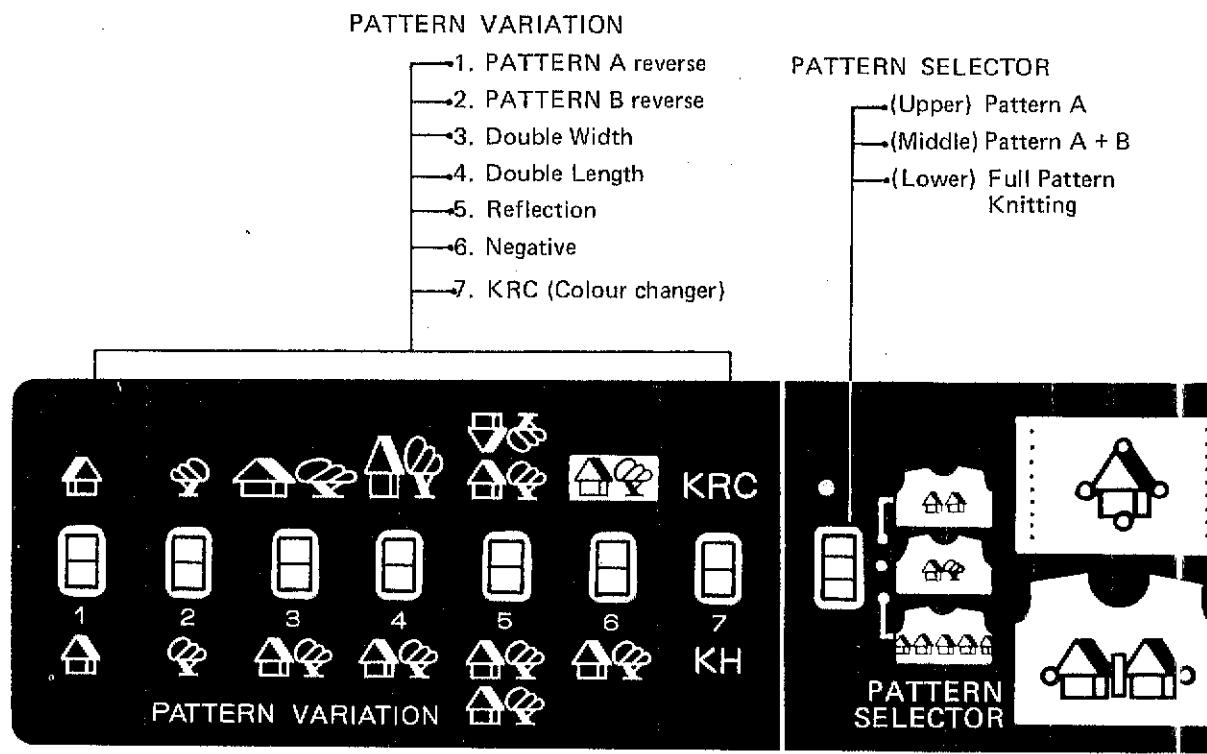
Tuck  
Stitch  
Pattern

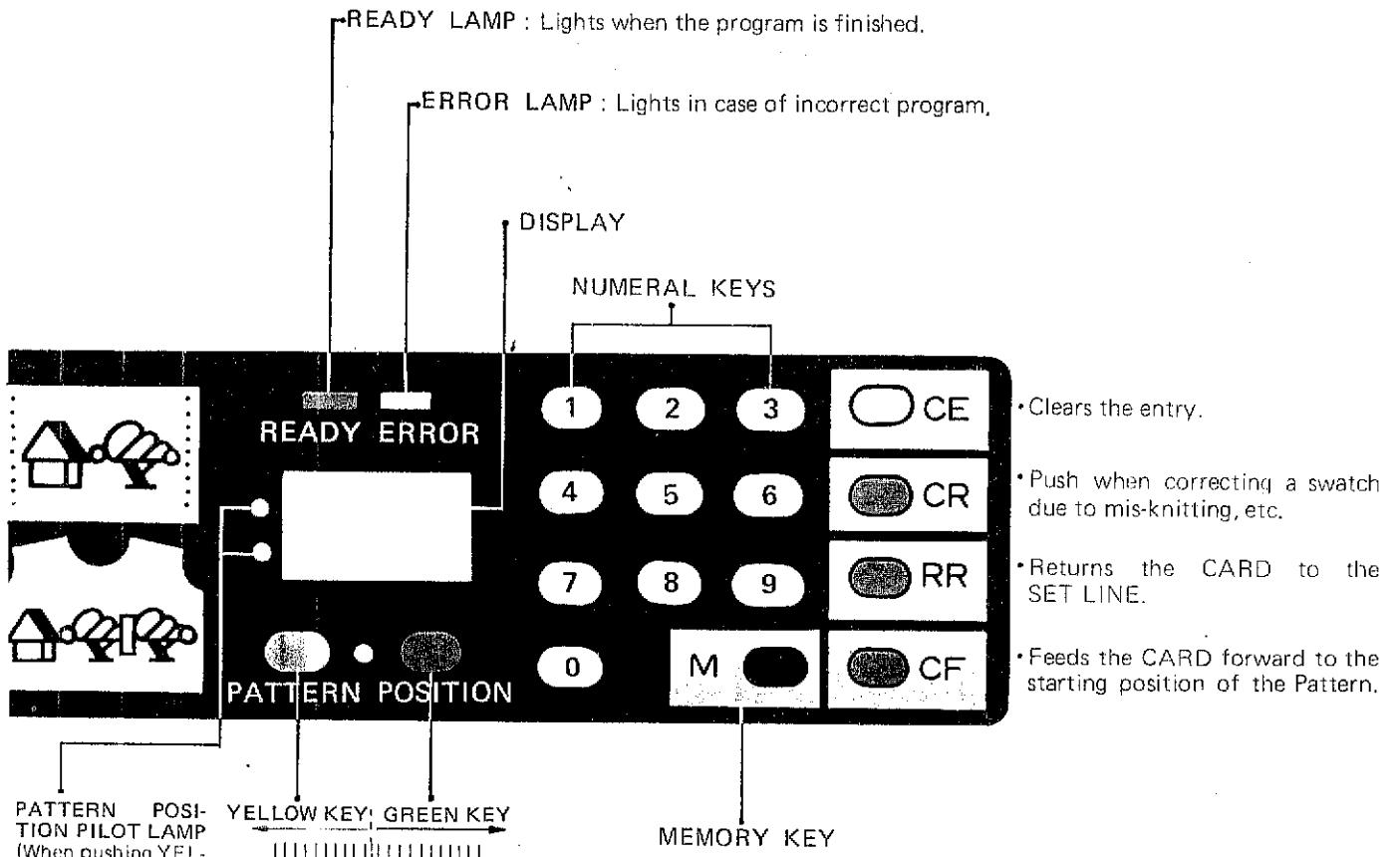


In the Pattern Knitting, swatch varies with the type of  
yarns and patterns.

Some patterns have more effective reverse side rather than  
the right side, such as Tuck Stitch Pattern. So, please  
choose which side is better as the right side to wear, accord-  
ing to the selected Pattern.

### 5-1-3 PATTERN CASE





PATTERN POSITION PILOT LAMP  
(When pushing YELLOW KEY, the yellow lamp lights. It is the same with the GREEN KEY.)

YELLOW    
GREEN

Use the YELLOW KEY when you enter the figure of needle position at the left side from the center, and use the GREEN KEY at the right side from the center.

READY LAMP : Lights when the program is finished.

ERROR LAMP : Lights in case of incorrect program,

#### DISPLAY

#### NUMERAL KEYS

1	2	3	CE
4	5	6	CR
7	8	9	RR
0	M		CF

- Clears the entry.

- Push when correcting a swatch due to mis-knitting, etc.

- Returns the CARD to the SET LINE.

- Feeds the CARD forward to the starting position of the Pattern.

#### MEMORY KEY

Push after entering a figure ~ Entered figure is memorized by pushing the key and the pilot lamp shows the next step.

## 5-1-4 PATTERN SELECTOR

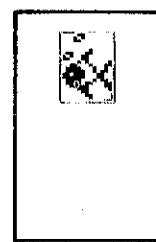


### How to select a Pattern

Select a Pattern whatever you like. You can select not only one pattern (ex. 1 or 2) but also 2 or 3 patterns as one pattern (ex. 3).



ex. 1



ex. 2

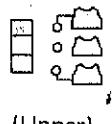


ex. 3

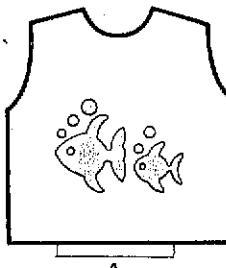
### How to knit a Pattern

Selected Pattern can be knitted in the three ways by PATTERN SELECTOR Switch as below.

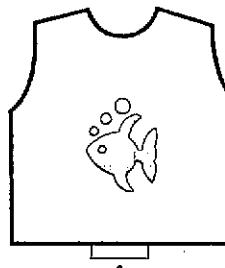
#### 1. Pattern A



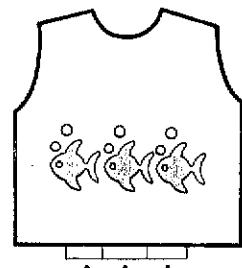
(Upper)



A



A



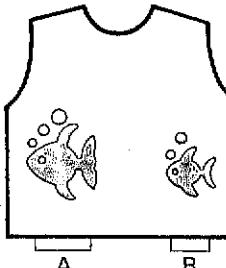
A A A

Optional numbers of Pattern are knitted in any position in a line.

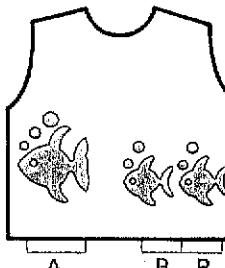
#### 2. Pattern A+B



(Middle)



A

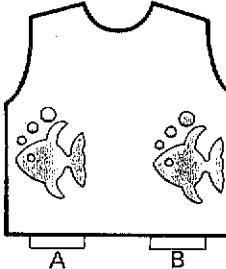


A

B

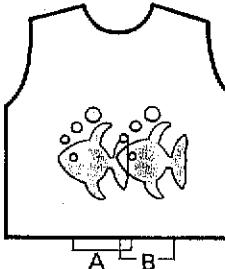
B

Two Patterns which are shown side by side on a CARD are selected and optional numbers of each Pattern can be knitted in any position respectively.



A

B



A

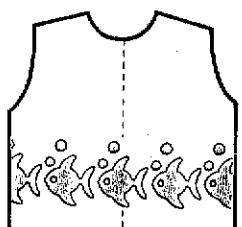
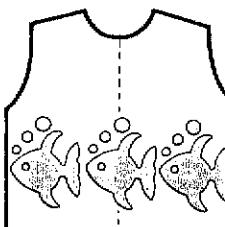
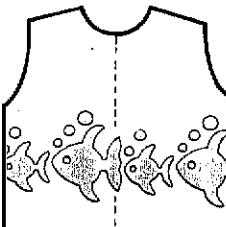
B

Also, same Pattern can be selected two times and they can be knitted in any position in a line respectively.

#### 3. Full Pattern knitting



(Lower)

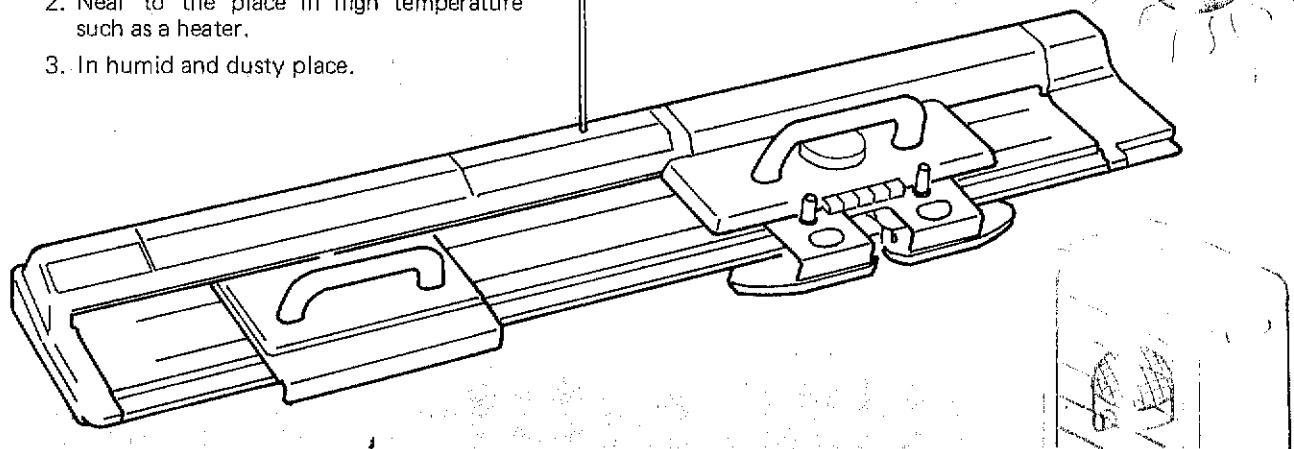


A selected Pattern is knitted repeatedly. The center of a Pattern is always placed at the needle number "green 1" position.

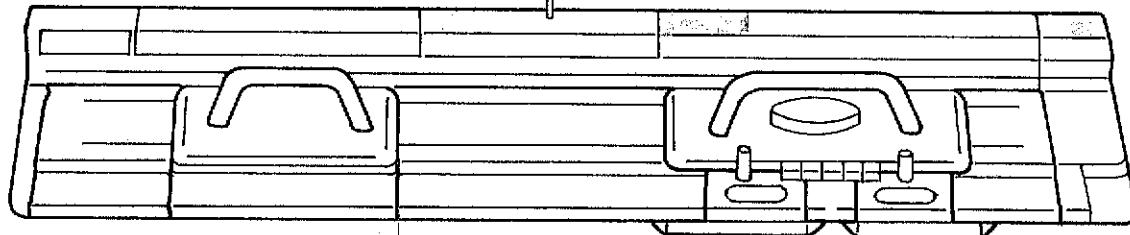
## 5-1-5 CAUTION

Do not use or leave the machine in the following conditions.

1. In direct or strong sunlight.
2. Near to the place in high temperature such as a heater.
3. In humid and dusty place.



The following colored portions of the machine may heat after long use. But it is not necessary to worry about it as long as the machine is operated normally.



## 5-1-6 PATTERN CARD

L WINDOW :  
use for Lace Knitting

FEEDING  
PERFORATION

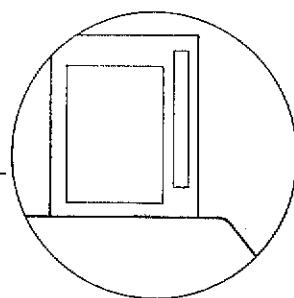
MEMO WINDOW

The PATTERN CARD  
has to be set at the  
SET LINE.

SET LINE

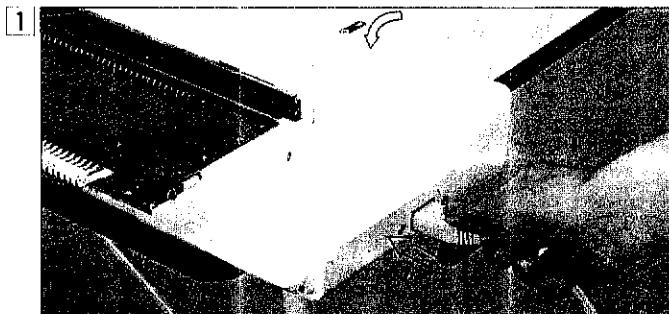
- Do not fold PATTERN CARDS.
- The actual pattern size on the swatch is different from the size on PATTERN CARD according to the yarn and tension.
- Do not soil PATTERN CARDS with water, oil, etc.

For example, when the second color yarn has to be changed to another color yarn at the 20th row, fill in one of the blanks at no. 20, so that you can find easily from where the yarn should be changed.

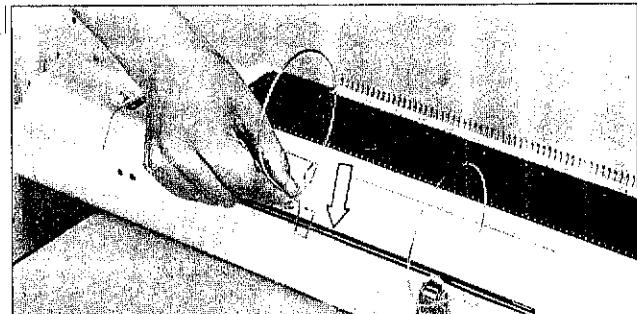


The PATTERN CARD  
has to be set at this  
line.

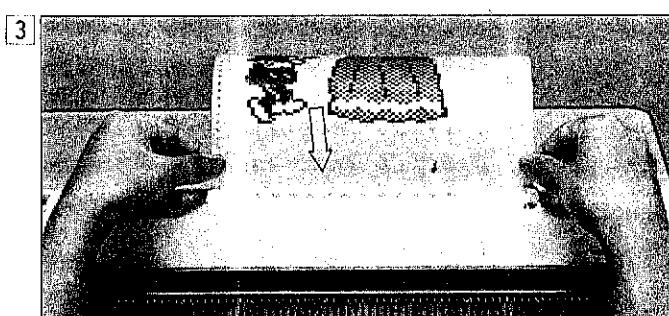
## 5-2 PREPARATION FOR PATTERN KNITTING



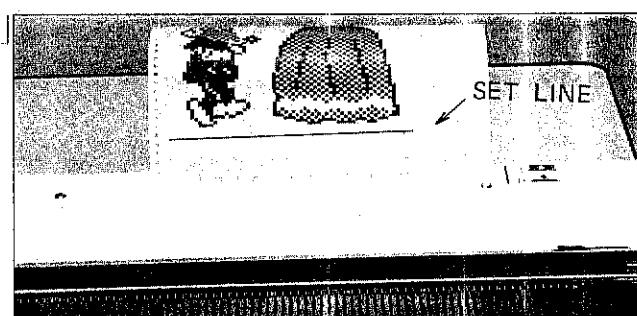
Turn off the POWER SWITCH, and plug the cord into the inlet.



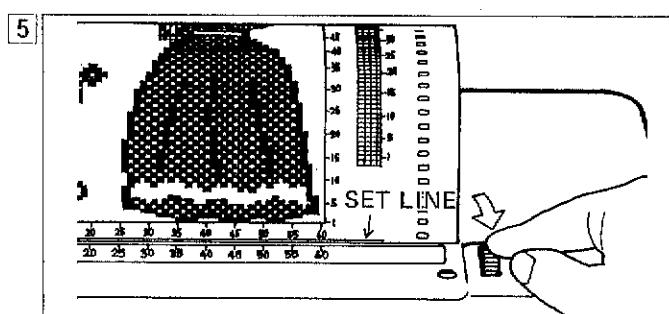
Insert the PATTERN CARD GUIDE.



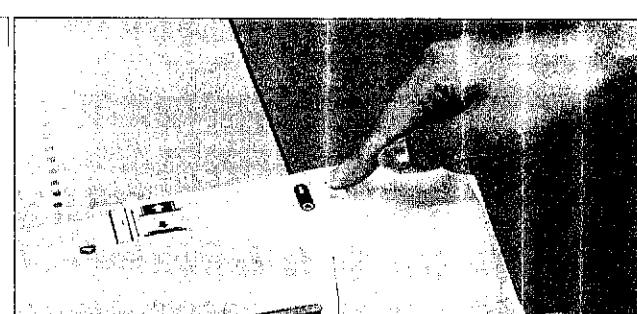
Insert the PATTERN CARD into the CARD INLET in a straight line with the figure facing you.



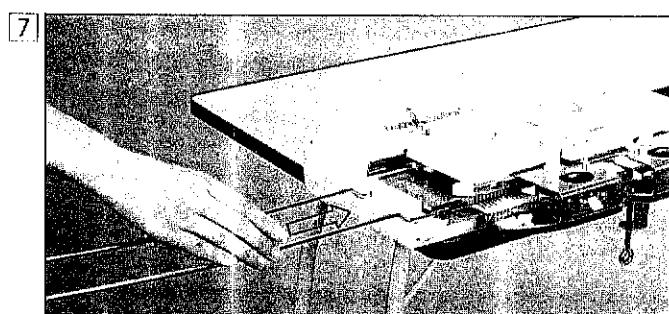
Make sure that the SET LINE is parallel to the CARD INLET.



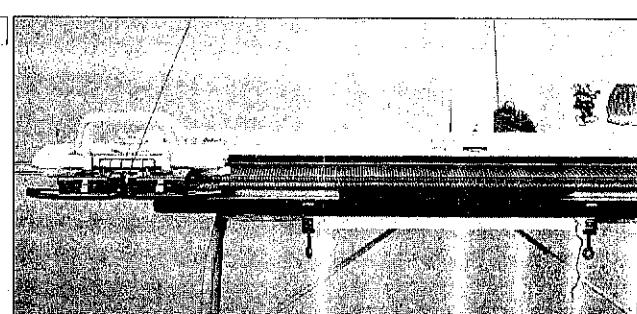
Turn the CARD FEEDING DIAL toward you and set it at the SET LINE.



Turn on the POWER SWITCH. (the buzzer makes sound.)



Insert EXTENSION RAILS into the holes at the both sides of the machine.

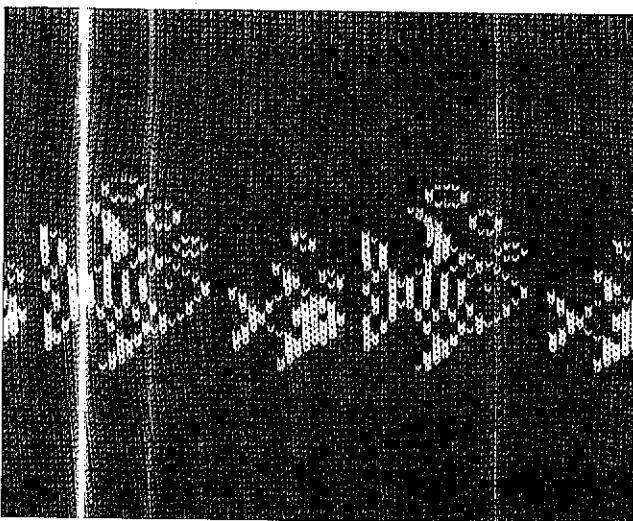


Bring forward 40 needles on either side of the center mark "0". Knit several rows of Plain Knitting at TENSION DIAL (T.D.) No. 6 with medium yarn, and put the K CARRIAGE at the left side of the machine.

## 5-3 FAIR-ISLE PATTERNS

### 5-3-1 FULL PATTERN KNITTING (The lower position of PATTERN SELECTOR)

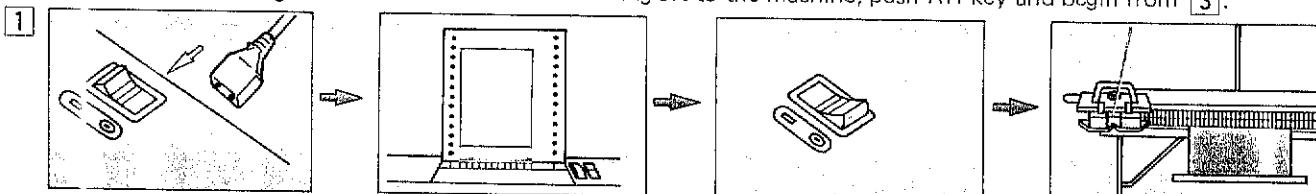
A selected pattern repeats on the swatch.



#### How to Knit Full Pattern Knitting

- \* Use No. 4-17 PATTERN CARD.
- \* Prepare two medium yarns in different color.

**Preparation** When using same CARD as the one now being set to the machine, push RR key and begin from [3].



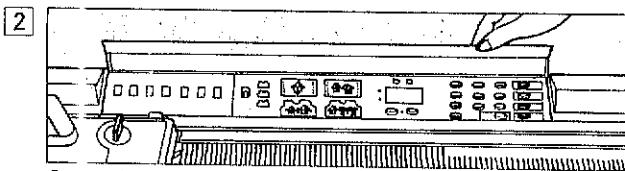
Turn off the POWER SWITCH, and plug the cord into the inlet.

Set the CARD.

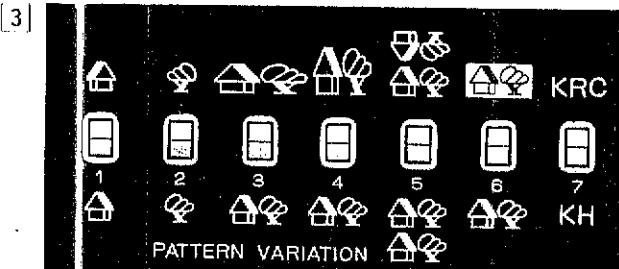
Turn on the POWER SWITCH.

Knit several rows in Plain Knitting at T.D. No. 6, and place K CARRIAGE on the left side of the machine.

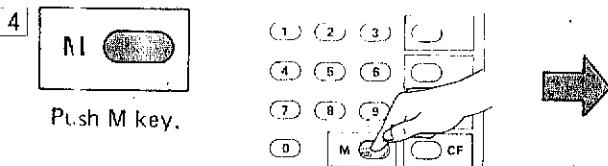
#### Pattern Programming



Open the lid.

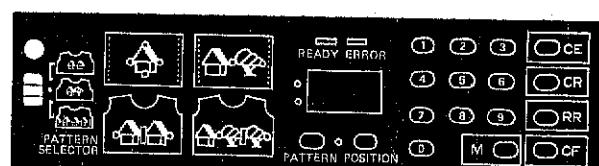


Set all PATTERN VARIATION switches to the lower position.



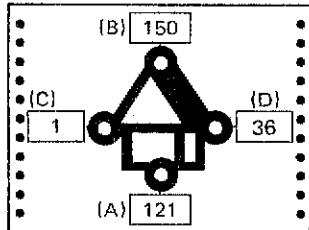
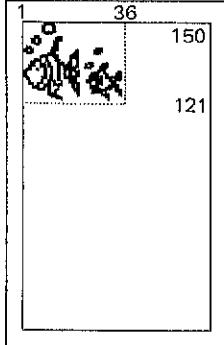
Push M key.

- ★ Set the PATTERN SELECTOR switch when PATTERN SELECTOR Lamp lights.



Set the PATTERN SELECTOR switch to the lowest position.

CARD No. 4-17

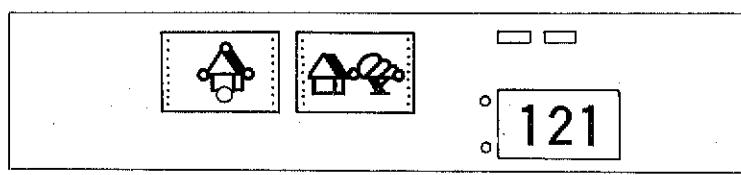


- (A) The first row of the pattern
- (B) The last row of the pattern
- (C) Left end of the pattern
- (D) Right end of the pattern

(The right end of the pattern is 34, but enter "36" for two-stitch interval between two patterns.)

5 →

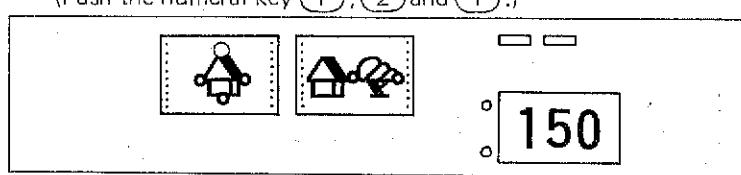
Push M key



- (A) Enter 121 which shows the first row of the pattern.  
(Push the numeral key (1), (2) and (1).)

6 →

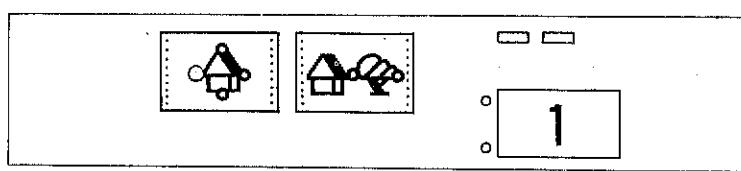
Push M key



- (B) Enter 150 which shows the last row of the pattern.

7 →

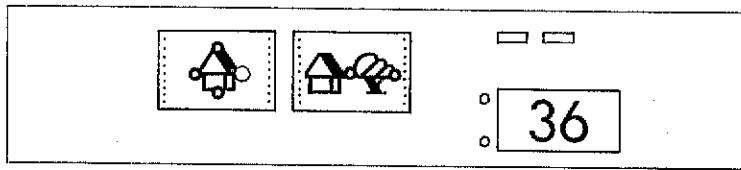
Push M key



- (C) Enter 1 which shows the left end of the pattern.

8 →

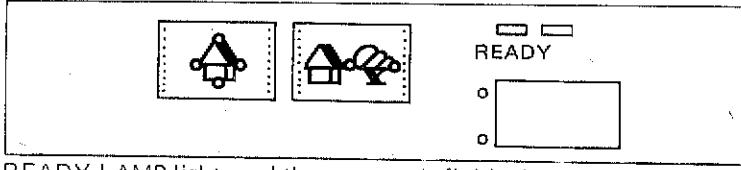
Push M key



- (D) Enter 36 which shows the right end of the pattern.

9 →

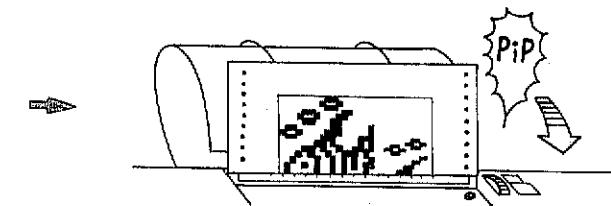
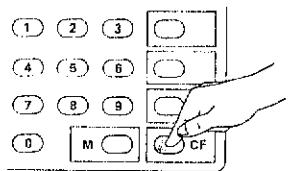
Push M key



READY LAMP lights and the program is finished.

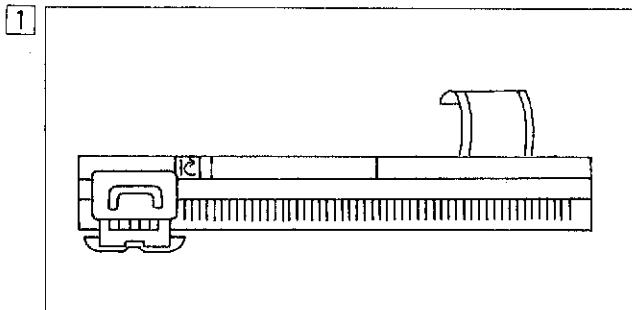
10 →

Push CF key

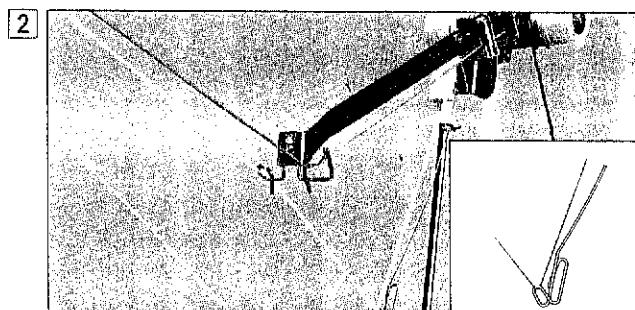


\* When entering incorrect figure, push CE key and enter correct figure again. (See P. 128 IN THE FOLLOWING CASE 10-4-1.)

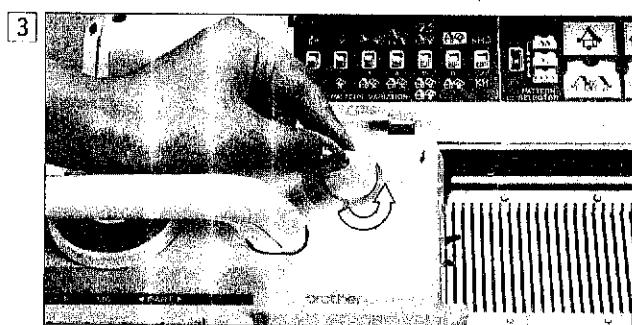
## Pattern Knitting



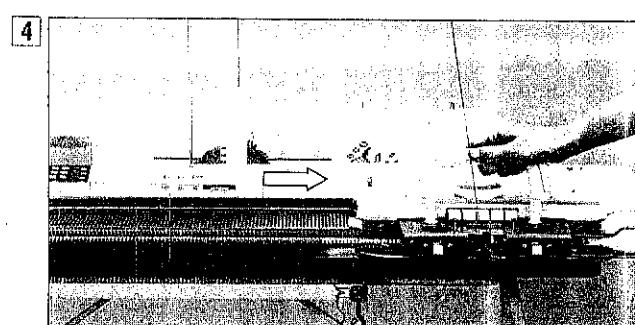
Put the K CARRIAGE at the left side of the machine.  
(Put it at the left side of "KC" mark.)



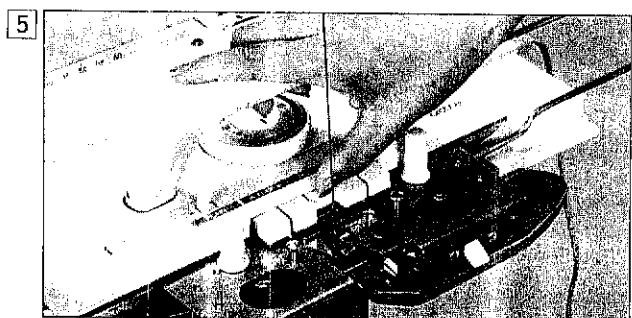
Thread the second color yarn into the YARN TENSION UNIT and clip the yarn under the YARN CLIP.



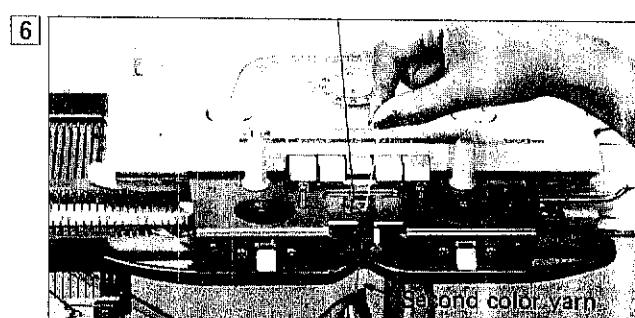
Set the CHANGE KNOB to "KC (I)" position.



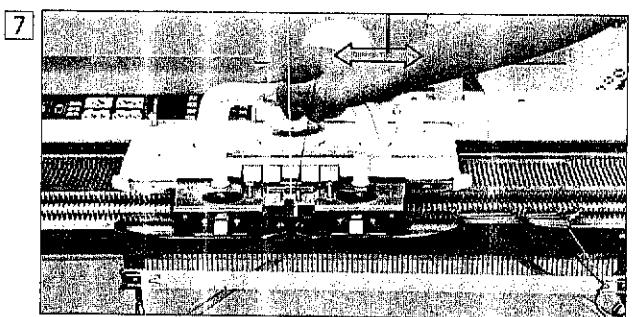
Move the K CARRIAGE from left to right. The position B needles are selected to position B and D by moving the K CARRIAGE.



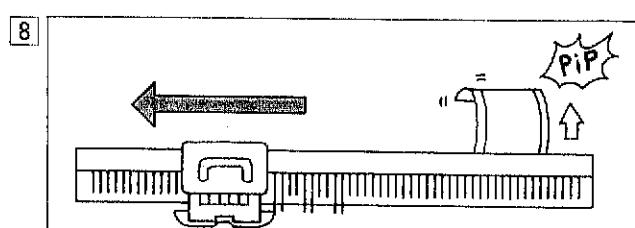
Push the "MC" button.



Thread the second color yarn into YARN FEEDER "B" without opening the YARN FEEDER LEVER. Hold the yarn under the YARN FEEDER with your left hand.



Knit one row, holding the second color yarn. Then, continue to operate the K CARRIAGE, you can enjoy Fair-isle patterns.



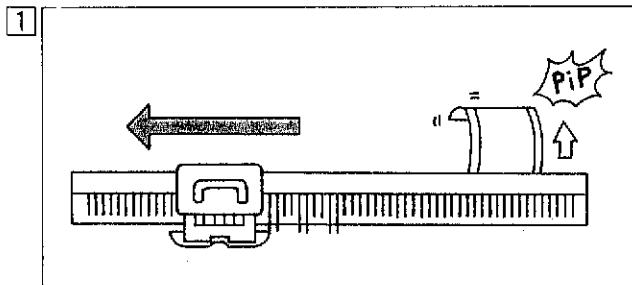
To continue Pattern Knitting

At the row BEFORE the last row of the pattern, PATTERN CARD is automatically returned to the starting position of the pattern with buzzer.  
If you are going to repeat, continue to knit.

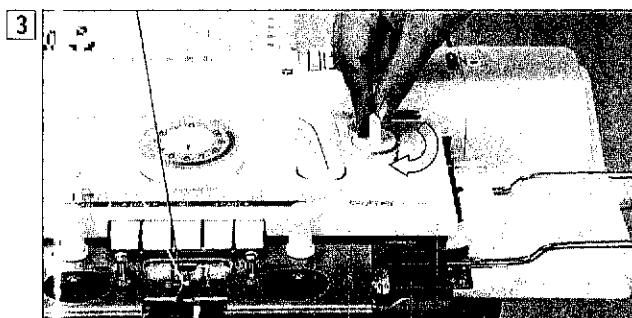
### <Caution>

Do not commence FINAL row while CARD is returning to start position.

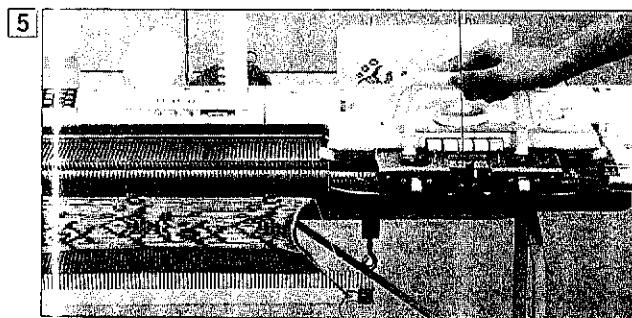
## To finish Pattern Knitting



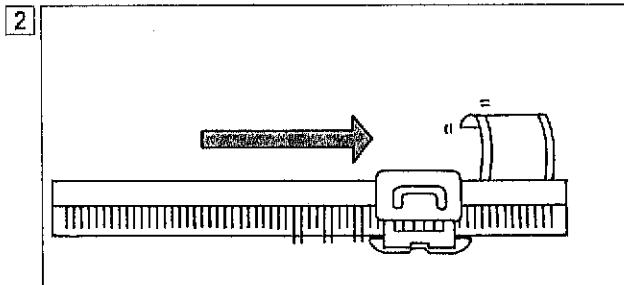
At the row before the last row of the pattern, the PATTERN CARD is automatically returned to the starting position of the Pattern with buzzer. (K CARRIAGE should be moved from right to left at that time.)



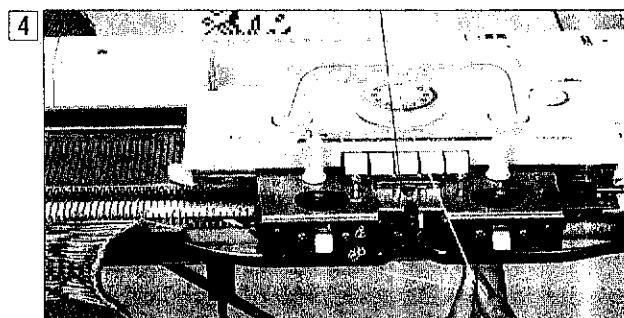
By turning the CHANGE KNOB from "KC (I)" to "N.L" position, the CAM BUTTON(S) will be restored automatically.



Knit several rows of Plain Knitting.



Move the K CARRIAGE to right as the last row.

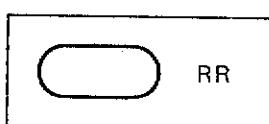


Remove the second color yarn from the YARN FEEDER B. Cut the yarn and clip it under the YARN CLIP.

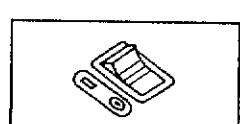
### <Caution>

- When knitting a row, K CARRIAGE has to be passed to the center of the needle bed, otherwise, PATTERN CARD will not feed. Reset as per the following points, in case that, when knitting a row, you find K CARRIAGE was not passed to the center of the needle bed at the last row.
  - Push back the selected needles (position D) to position B.
  - Push both PART buttons. Move K CARRIAGE for one row and it on the another end of needle bed.
  - Push back the selected needle to position B.
  - Move K CARRIAGE for one row.
  - Set CAM BUTTON(S) according to the pattern and begin to knit again.
- It is not necessary to put K CARRIAGE outside " | C " or " | " mark per each row.

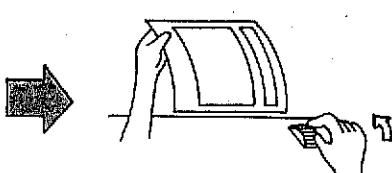
### How to remove the CARD



Push RR Key  
PATTERN CARD returns to the SET LINE.



Turn off the POWER SWITCH.

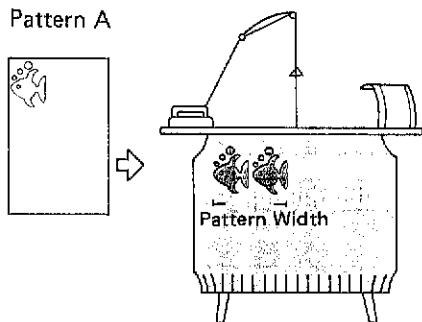


Remove the CARD with CARD FEEDING DIAL.

While the POWER SWITCH is turned on, do not feed the PATTERN CARD with FEEDING DIAL.

### 5-3-2 PATTERN A (The upper position of PATTERN SELECTOR)

- Optional numbers of selected Pattern can be knitted anywhere on the swatch.

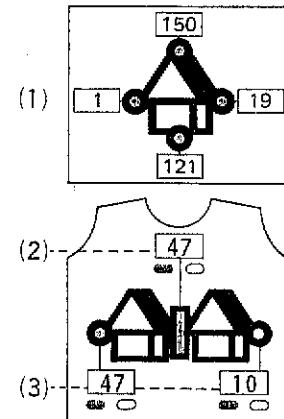


## How to program

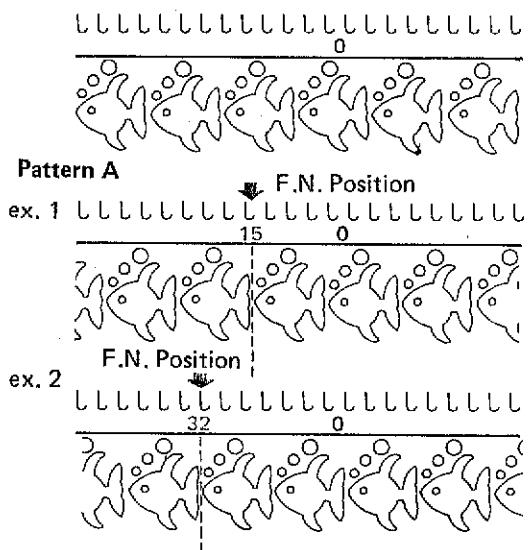
- (1) Enter the size of Pattern.
  - (2) Decide and enter the **First Needle Position of Pattern**.
  - (3) Enter the left end and right end of **Pattern Width** on the swatch.

**How to enter** – for example, Yellow 10.

- .... The color of figure at needles.
  - ①・② .... The needle number.



**First Needle Position of Pattern . . . Left end stitch of Pattern on the CARD.**



\* After this, "The First Needle Position of Pattern" will be abbreviated to "F.N. Position".

## Full Pattern Knitting

- F.N. Position is automatically set so that the center of a Pattern out of repeated Pattern is always placed at the needle number "Green 1" position.

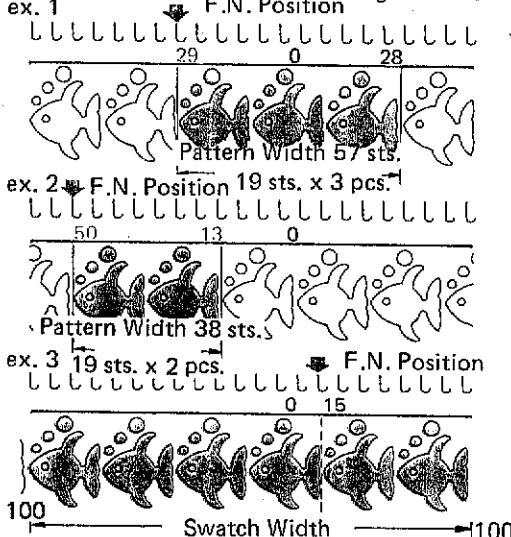
#### **Pattern A**

- F.N. Position can be selected optionally.
  - Enter the needle number of F.N. Position.
    - .. ex. 1 If you put F.N. position to Yellow 15, enter  . ①, ⑤.
    - .. ex. 2 If you put F.N. Position to Yellow 32, enter  . ③, ②.

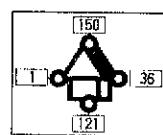
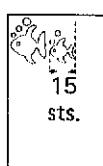
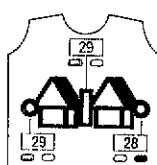
### Pattern Width

**Full Pattern Knitting** . . . Pattern repeats on the whole swatch.

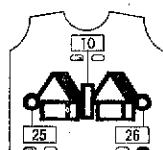
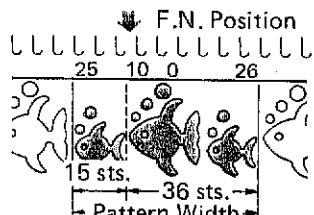
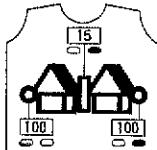
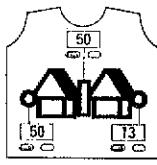
**Pattern A** . . . . . • Single Motif Pattern can be knitted.  
                           • Enter the needle number of left end and right end of Pattern width.



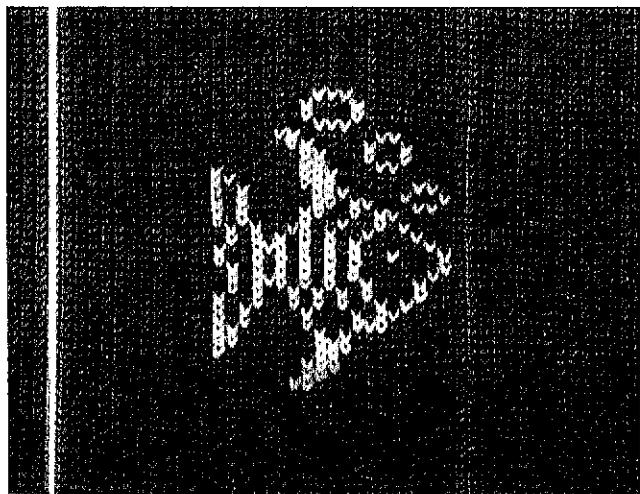
\* In this case, F.N. Position is as same as the left end of Pattern width.



- ★ By changing F.N., Position and Pattern width, you can enjoy various pattern combination.

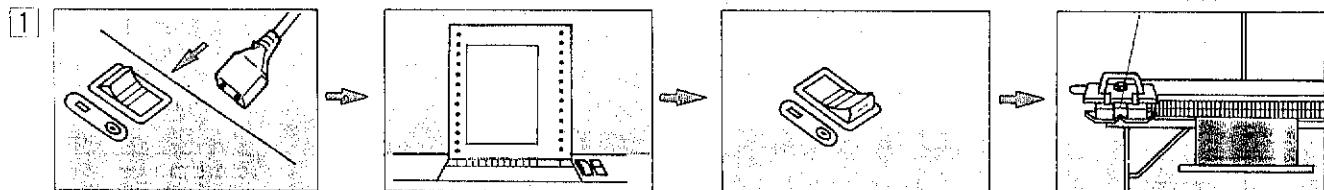


How to knit Pattern A



\* Use No. 4-17 PATTERN CARD.

**Preparation** When using same CARD at the one now being set to the machine, push RR key and begin from [3].



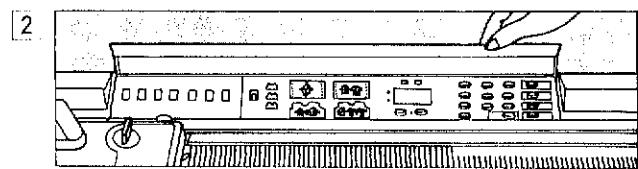
Turn off the POWER SWITCH, and Plug a cord into an inlet.

Set the CARD.

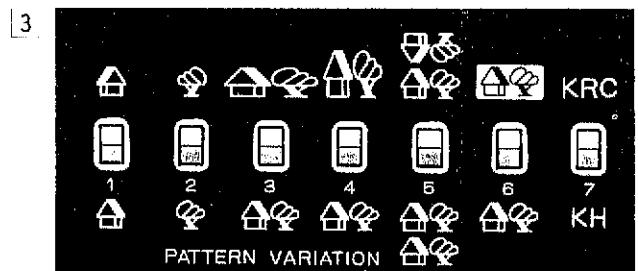
Turn on the POWER SWITCH.

Knit several rows of Plain Knitting at T.D. No. 6, and place the K CARRIAGE on the left side of the machine.

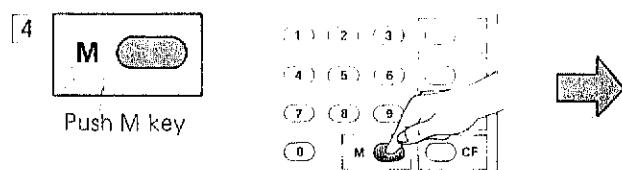
**Pattern programming**



Open the lid.

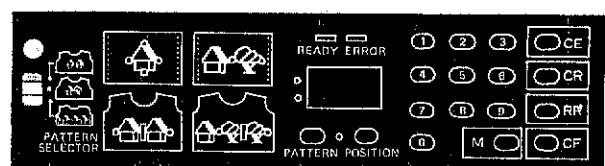


Set all PATTERN VARIATION switches to the lower position.



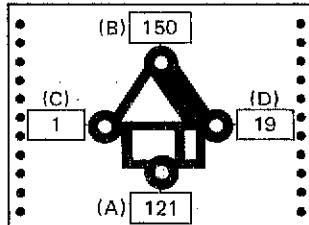
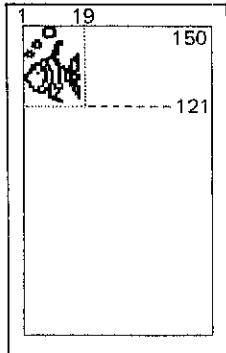
Push M key

\* Set the PATTERN SELECTOR switch when PATTERN SELECTOR Lamp lights.

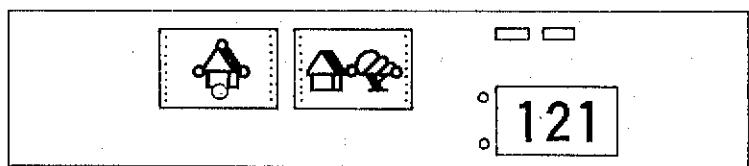
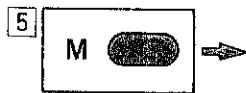


Set the PATTERN SELECTOR switch to the upper position.

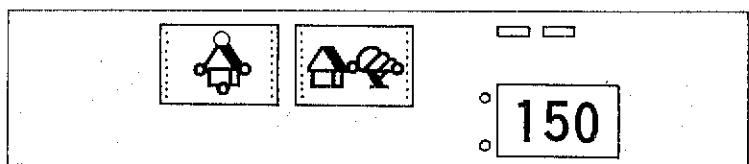
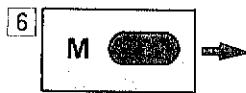
CARD No. 4-17



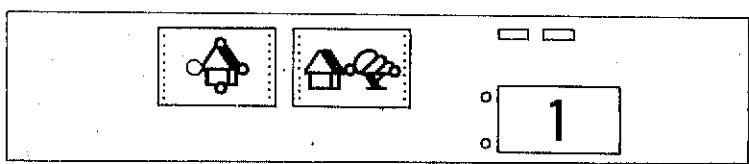
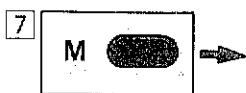
- (A) The first row of the pattern.  
 (B) The last row of the pattern.  
 (C) Left end of the pattern.  
 (D) Right end of the pattern.



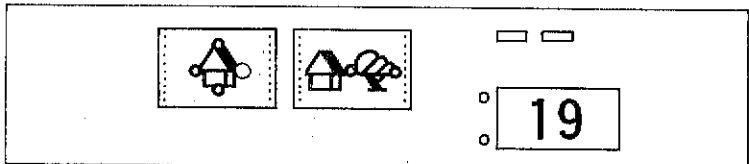
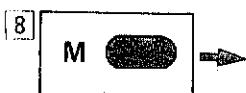
(A) Enter 121 which shows the first row of the Pattern.



(B) Enter 150 which shows the last row of the Pattern.

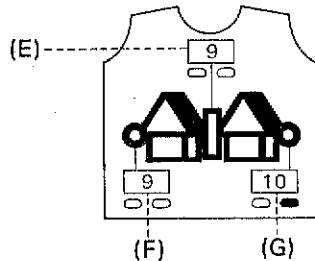
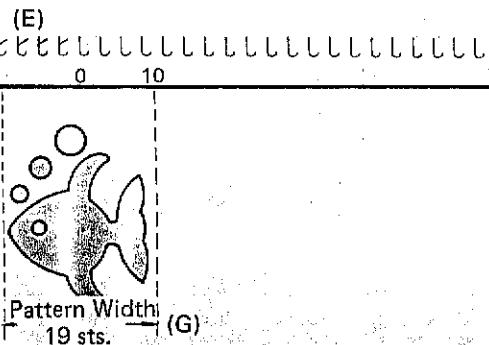


(C) Enter 1 which shows the left end of the Pattern.



(D) Enter 19 which shows the right end of the Pattern.

F.N. Position

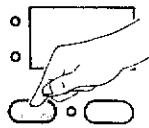
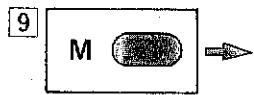


(E) First Needle Position of Pattern.

(F) Left end of Pattern Width.

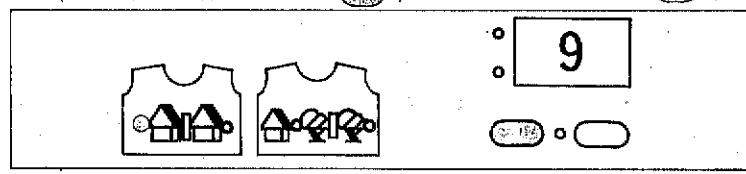
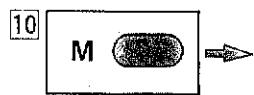
(G) Right end of Pattern Width.

(In this case, F.N. Position is as same as the left end of Pattern Width.)

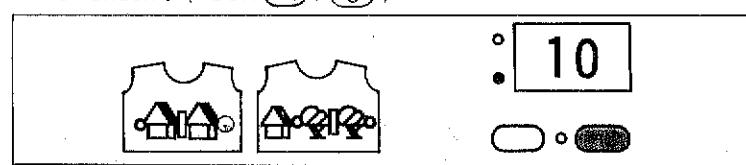
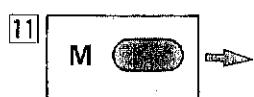


(E) Enter Yellow 9 as the F.N. Position.

(Push the YELLOW KEY ( ), then NUMERAL KEY (9).)

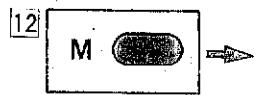


(F) Enter Yellow 9 which shows the left end of Pattern Width on swatch. (PUSH ( ) (9))

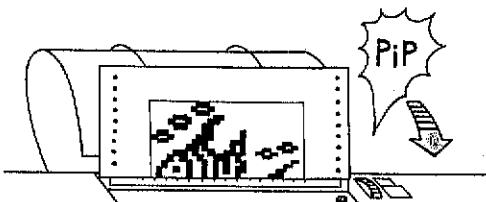
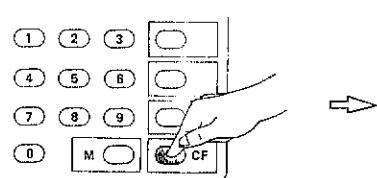
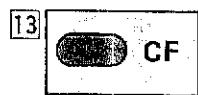


(G) Enter Green 10 which shows the right end of Pattern Width on swatch.

(Push the GREEN KEY ( ), then NUMERAL KEY (10).)



READY LAMP lights and the program is finished.



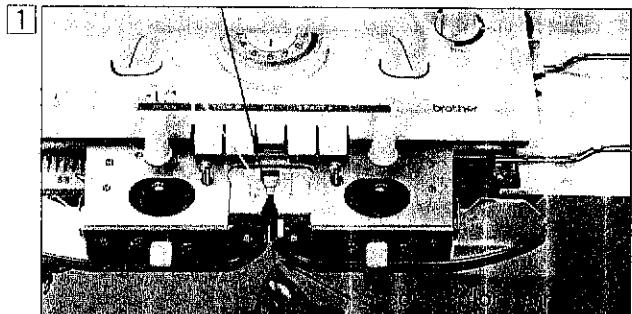
\* From the next procedure, operate in the same way as

Pattern Knitting (see P.42).

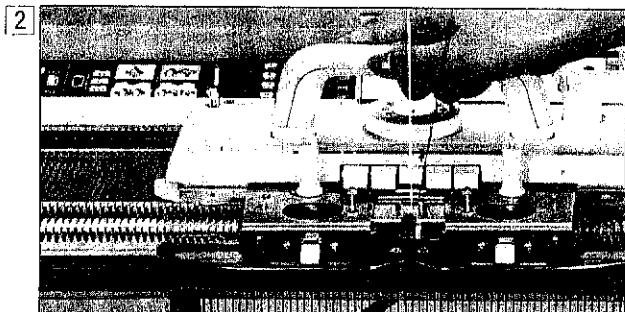
But set the CHANGE KNOB to "KC (II)" position  
(P.42- [3]).

**In order to finish single motif pattern beautifully**

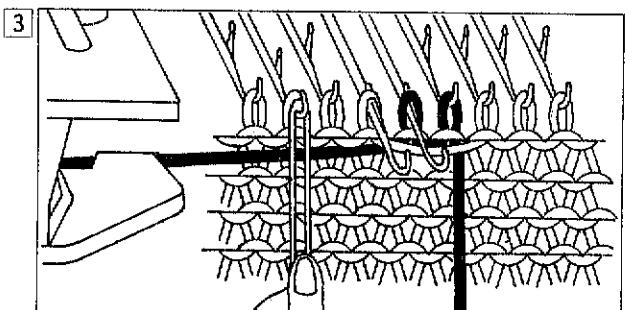
- When knitting Single Motif Patterns, the following procedure is important in order to make beautiful Patterns.
- Preparation and pattern programming are the same as Pattern A (see P.45-47).
- Please refer to Page 42- [1] ~ [5] for the operation. But set the CHANGE KNOB to "KC (II)" position (P.42- [3]).



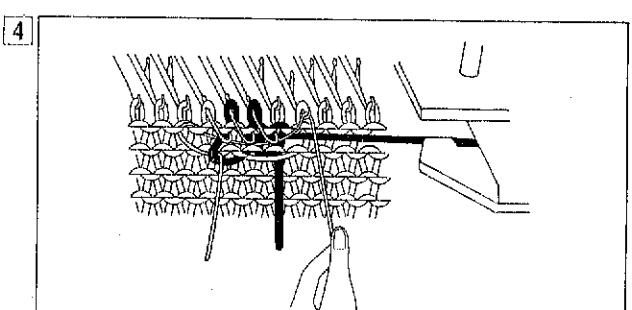
Thread the second color yarn which is clipped under the YARN CLIP into YARN FEEDER "B" without opening the YARN FEEDER LEVER. Hold the yarn under the YARN FEEDER with your left hand.



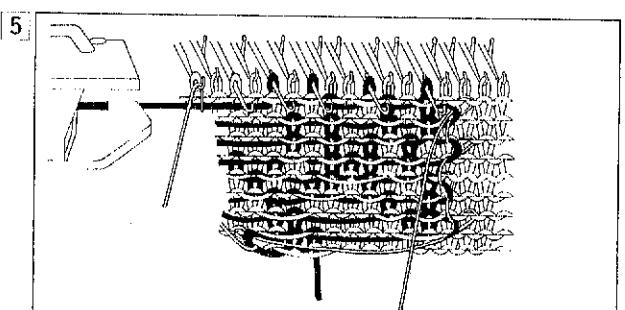
Knit one row and place K CARRIAGE on the left side of the machine.



Bring forward to position D the second needle from the end of selected needle on the K CARRIAGE side and put a separate single strand yarn into its hook. Then push the needle to position B.

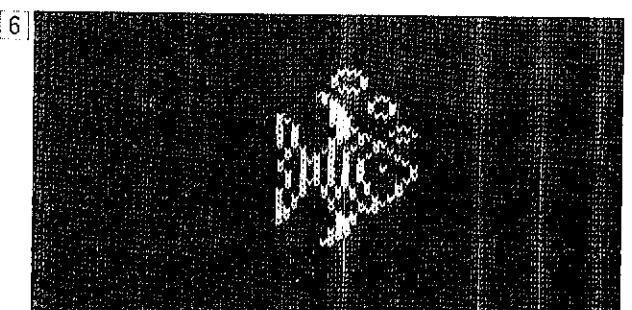


Move the K CARRIAGE from left to right and put the separate single strand yarn in the same way as the left side.



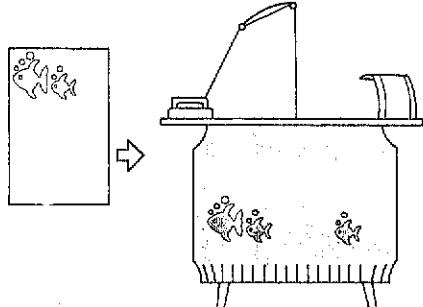
This is to stop the gap which sometimes appears between the edge of the motif and the background color.

\* It is better to use the same color as the main yarn for the separate yarn.

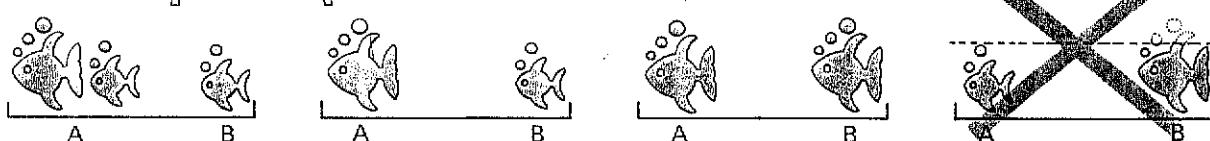


Now, Single Motif is completed.

### 5-3-3 PATTERN A + B (The middle position of PATTERN SELECTOR)



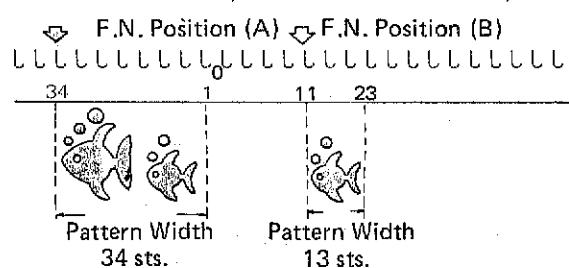
- Two Patterns shown on CARD side by side can be selected.
  - Name the longer Pattern "Pattern A" and the other "Pattern B".



\* Selected two Patterns can be knitted anywhere in a line and in any width respectively.

(ex. 1)

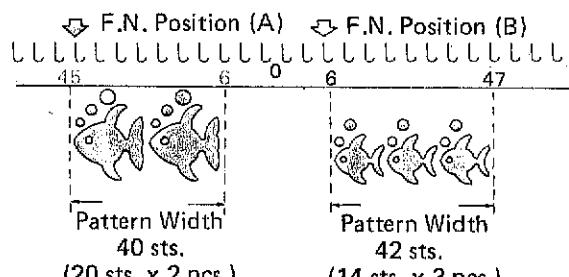
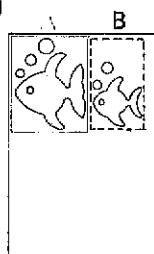
The diagram consists of two overlapping irregular shapes, one labeled 'A' and the other labeled 'B'. Shape A is the larger, irregularly shaped area, while shape B is a smaller, roughly rectangular area nested within shape A. Both shapes have some internal circular features.



**How to program . . .** Enter the following figures

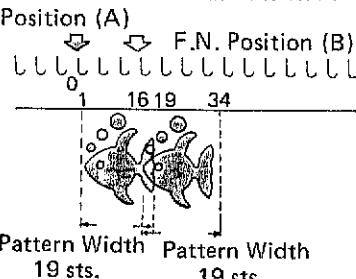
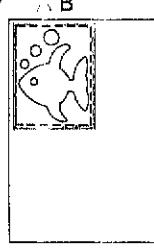
- (1) The size of Pattern A on the CARD.
  - (2) The F.N. Position of Pattern A.
  - (3) The Pattern Width on the swatch.
  - (4) The size of Pattern B on the CARD.
  - (5) The F.N. Position of Pattern B.
  - (6) The Pattern Width on the swatch.

(ex. 2)



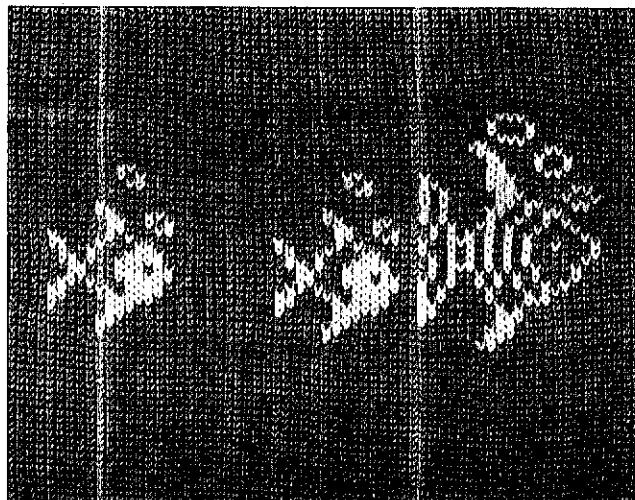
\* Pattern A can be selected two times as Pattern A + B. These Patterns can be knitted anywhere in a line.

(ex. 3) B



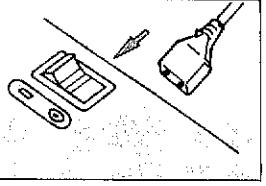
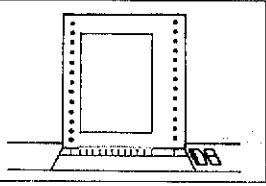
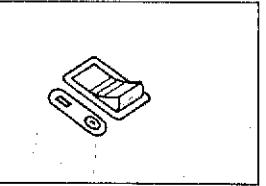
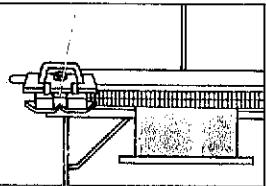
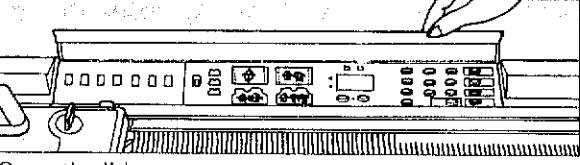
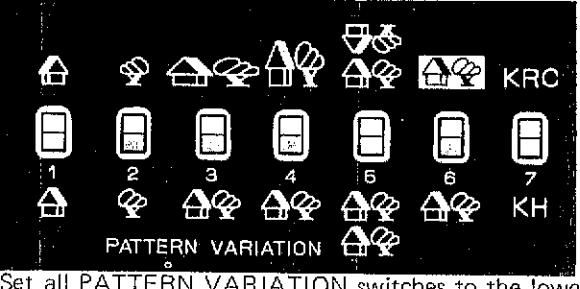
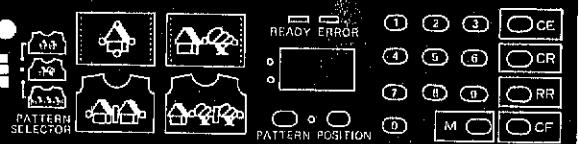
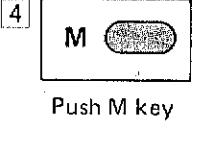
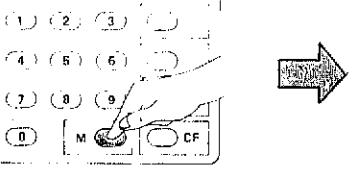
The image consists of four separate panels arranged in a 2x2 grid. Each panel features a stylized house icon with a central chimney and two circular elements on either side. Above each house is a numerical value: 150 in the top-left, 19 in the top-right, 121 in the bottom-left, and 16 in the bottom-right. In the bottom-right panel, there are also two additional smaller numerical values: 6 and 34, positioned below the main house icon.

## How to knit Pattern A + B

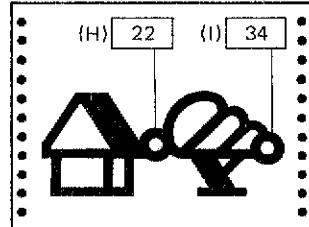
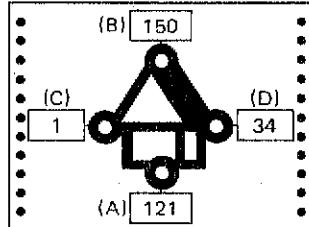
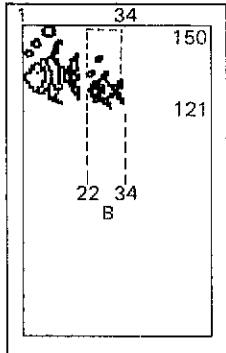


\* Use No. 4-17 PATTERN CARD.

**Preparation** When using same CARD at the one now being set to the machine, push RR key and begin from [3].

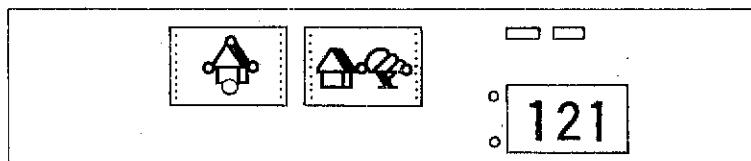
- [1]  Turn off the POWER SWITCH, and plug the cord into the inlet.  
 Set the CARD.  
 Turn on the POWER SWITCH.  
 Knit several rows in Plain Knitting at T.D. No. 6, and place the K CARRIAGE on the left side of the machine.
- [2]  Open the lid.
- [3]  Set all PATTERN VARIATION switches to the lower position.  
 ★ Set the PATTERN SELECTOR switch when PATTERN SELECTOR Lamp lights.
- [4]  Push M key  
 Set the PATTERN SELECTOR switch to the middle position.

CARD No. 4-17



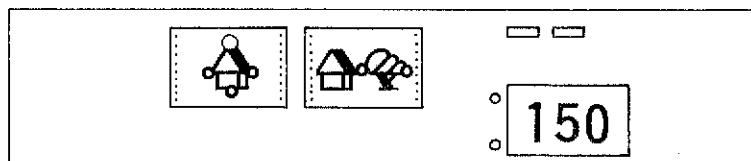
- (A) The first row of the Pattern A.
- (B) The last row of the Pattern A.
- (C) Left end of the Pattern A.
- (D) Right end of the Pattern A.
- (H) Left end of the Pattern B.
- (I) Right end of the Pattern B.

5 M →



(A) Enter 121 which shows the first row of the Pattern A.

6 M →



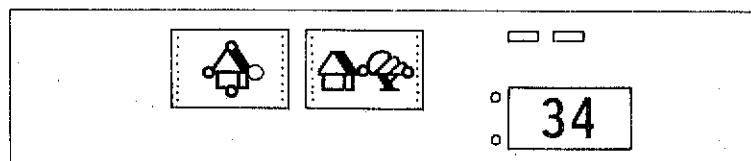
(B) Enter 150 which shows the last row of the Pattern A.

7 M →

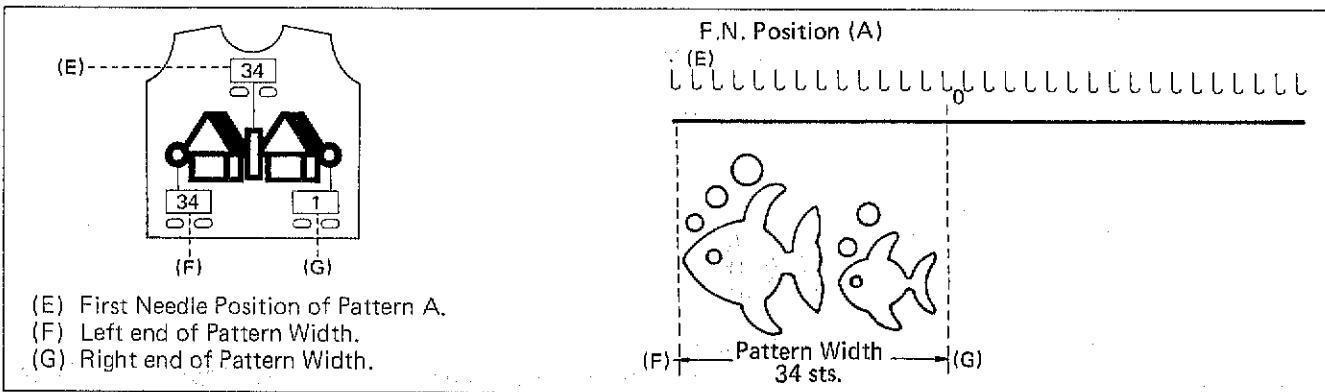


(C) Enter 1 which shows the left end of the Pattern A.

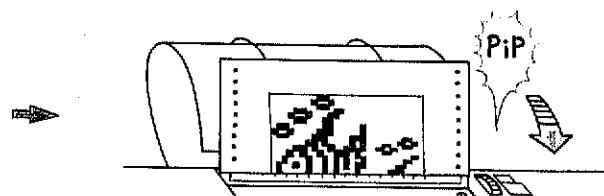
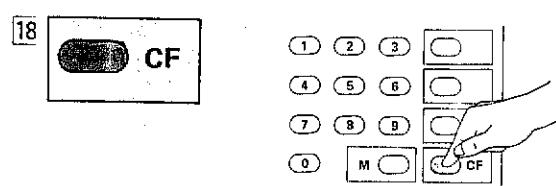
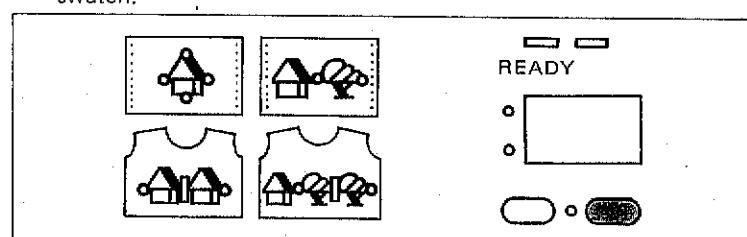
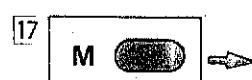
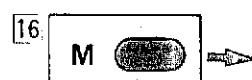
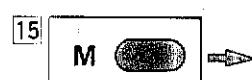
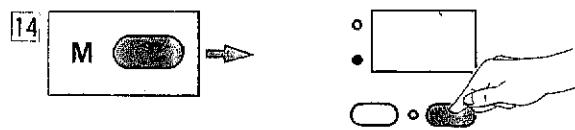
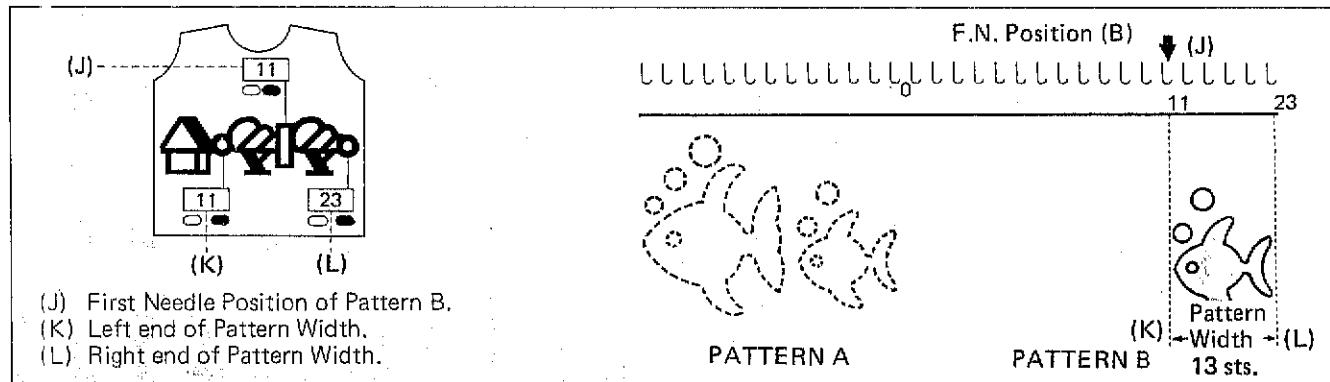
8 M →



(D) Enter 34 which shows the right end of the Pattern A.



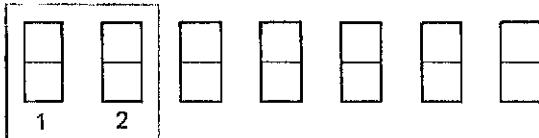
- 9.
- 
- (E) Enter Yellow 34 as the F.N. Position (A).
- 10.
- 
- (F) Enter Yellow 34 which shows the left end of Pattern Width on swatch.
- 11.
- 
- (G) Enter Yellow 1 which shows the right end of Pattern Width on swatch.
- 12.
- 
- (H) Enter 22 which shows the left end of the Pattern B.  
(See p. 51, Figure)
- 13.
- 
- (I) Enter 34 which shows the right end of the Pattern B.



\* From the next procedure, operate in the same way as Pattern Knitting (see P.42).  
 But set the CHANGE KNOB to "KC (II)" position (P.42- [3]).

## 5-4 PATTERN VARIATION (How to program is same as previous except No. 3 Switch (see P.56-2)

As for the combination of Pattern Variations with Pattern Knittings, see the list of page 61.



### 5-4-1 PATTERN A · PATTERN B REVERSE (No. 1 & 2 Switches)

The reverse side. (When knitting this side is facing you.)

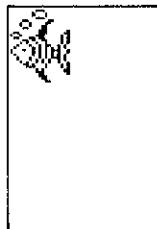
All switches – lower position.



For all Patterns.

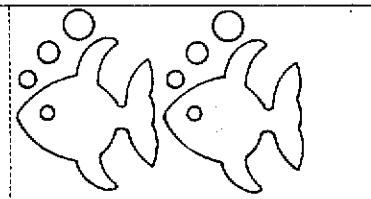
- Pattern is made on the swatch in the opposite direction from the Pattern on the CARD.

#### PATTERN CARD

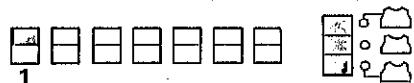


↓ F.N. Position

LLLLLLLLLLLLLLLLLLLL



#### Pattern A Reverse (No. 1 Switch)



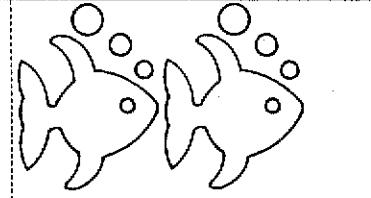
For all Patterns.

- Pattern is made on the swatch in the same direction as the Pattern on the CARD.  
This switch is very useful to knit a letter.
- In this case, the F.N. Position is changed from the left end of the Pattern on the CARD to the right end.



↓ F.N. Position

LLLLLLLLLLLLLLLLLLLL

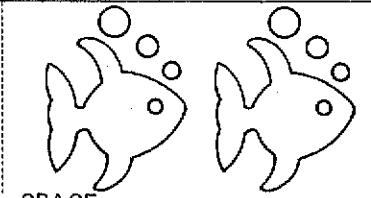


- In order to space Patterns, program the Pattern size including the room on the CARD.



↓ F.N. Position

LLLLLLLLLLLLLLLLLLLL



SPACE

#### Pattern B Revers (No. 2 Swtich)



Only for Pattern A + B

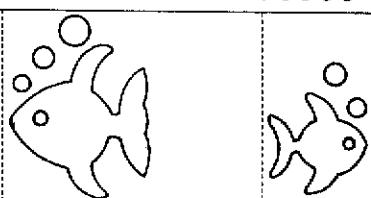
- Only Pattern B is placed in the same direction as the Pattern on the CARD.



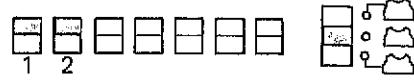
↓ F.N. Position (A)

↓ F.N. Position (B)

LLLLLLLLLLLLLLLLLLLL



#### Pattern A & B Reverse (No. 1 & 2 Switches)



Only for Pattern A + B

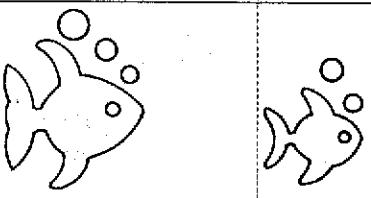
- Both Patterns are made on the swatch in the same direction as the Pattern on the CARD.



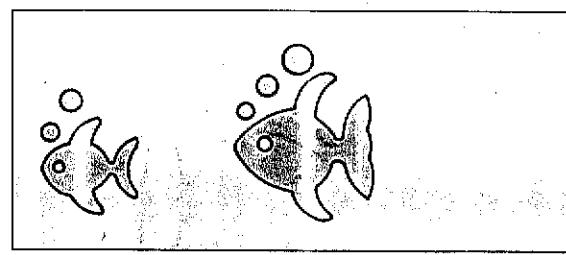
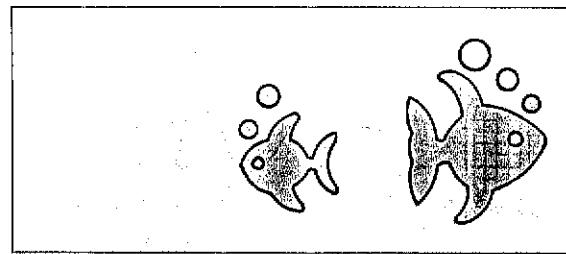
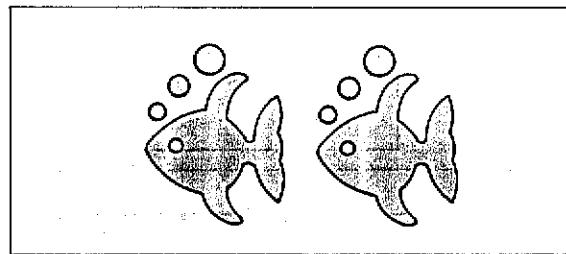
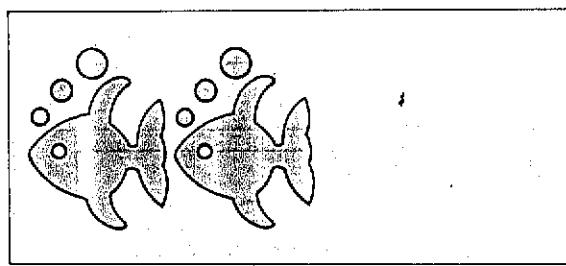
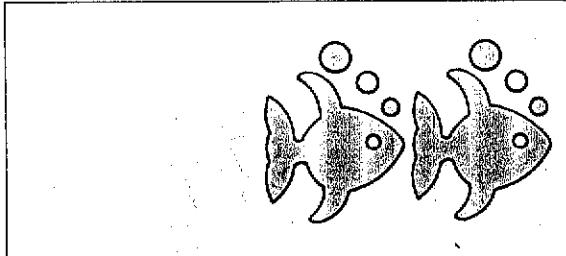
↓ F.N. Position (A)

↓ F.N. Position (B)

LLLLLLLLLLLLLLLLLLLL

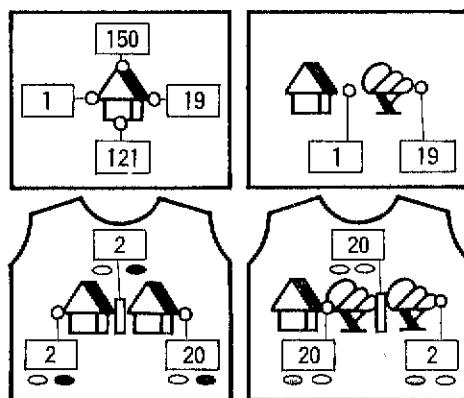
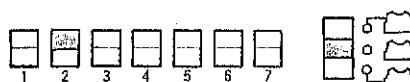
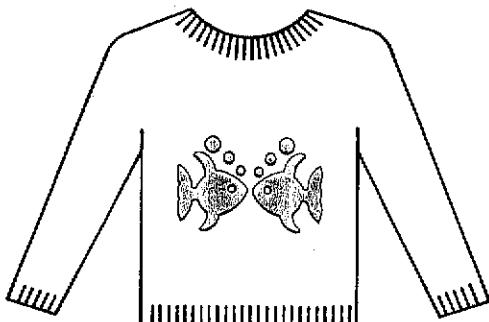


1st  
The right side. (When knitting, this side is away from you.)

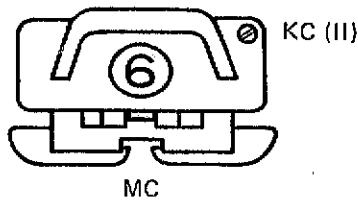


### EXERCISE

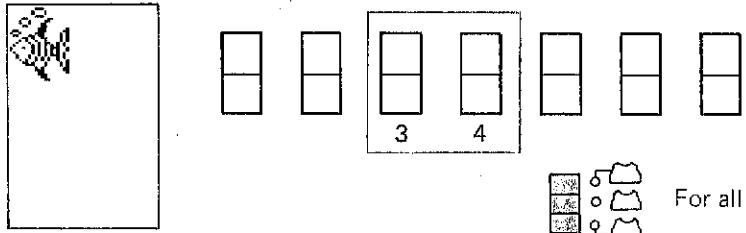
- Mirror-image Pattern can be knitted by using Pattern-Reverse Switch.
- Use the identical Pattern for Pattern A and B.



YARN : MEDIUM

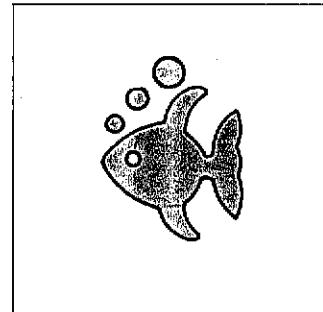


#### 5-4-2 DOUBLE WIDTH & DOUBLE LENGTH (NO. 3 & 4 SWITCHES)



For all Patterns.

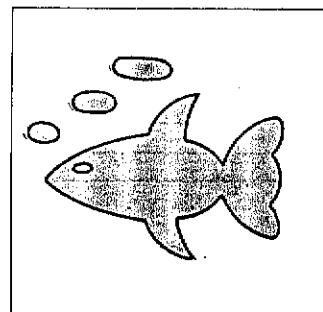
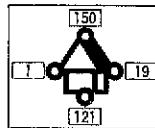
1. All switches – lower position.



2. Double Width (No. 3 Switch)



(ex.)

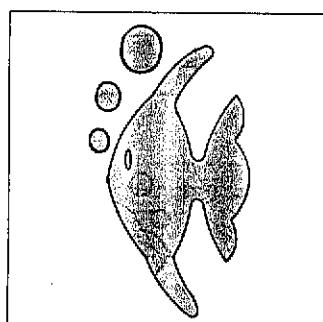


3. Double Length (No. 4 Switch)



Pattern is knitted in double length.

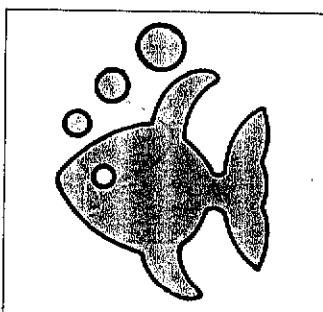
\* When knitting a DOUBLE LENGTH pattern in multi-color, change a yarn to a different color yarn after knitting until the first blank window lower side of a change mark comes at the CARD INLET and KNITTING ONE MORE ROW.



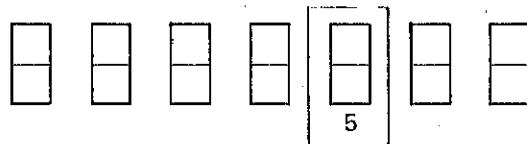
4. Double Width-Length (No. 3 & 4 Switches)



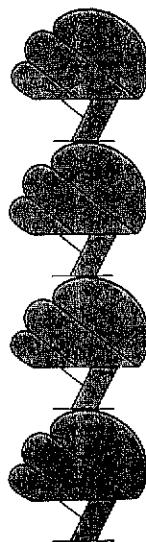
Pattern is knitted in double width and double length.



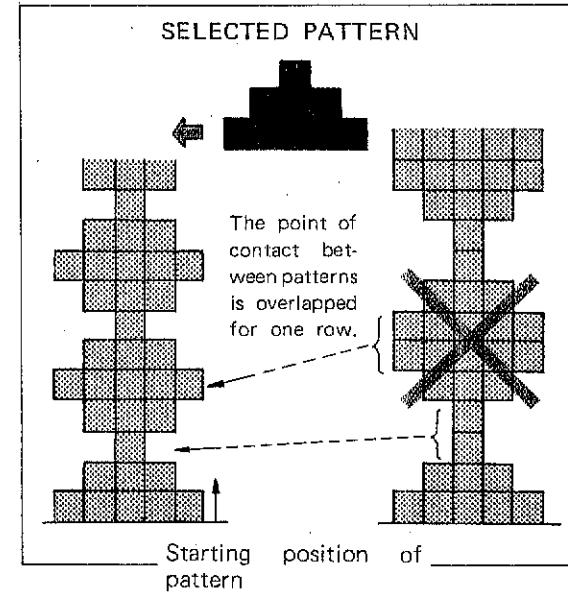
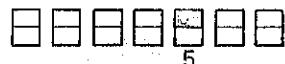
### 5-4-3 REFLECTION (No. 5 Switch)



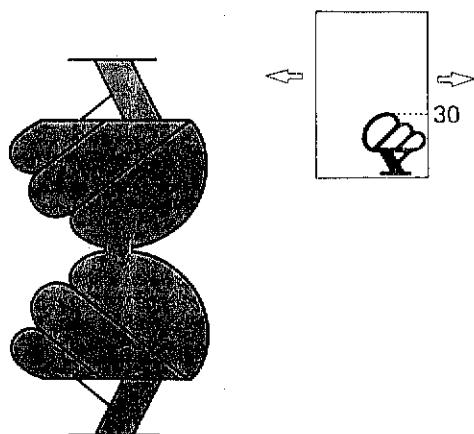
1. All switches—lower position



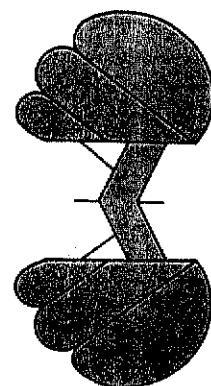
2. Reflection (No. 5 Switch)



ex. 1 Reflection



ex. 2 True Reflection

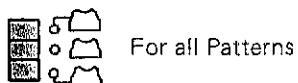
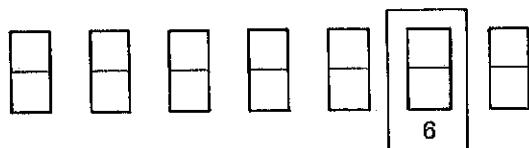


How to Program



(The last row number of Pattern on the CARD.)

#### 5-4-4 NEGATIVE (NO. 6 SWITCH)



1. All switches – lower position.



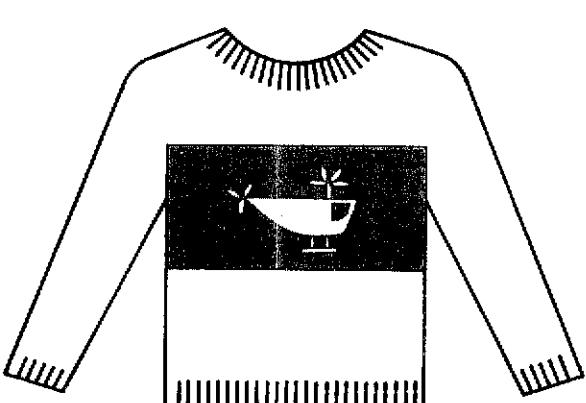
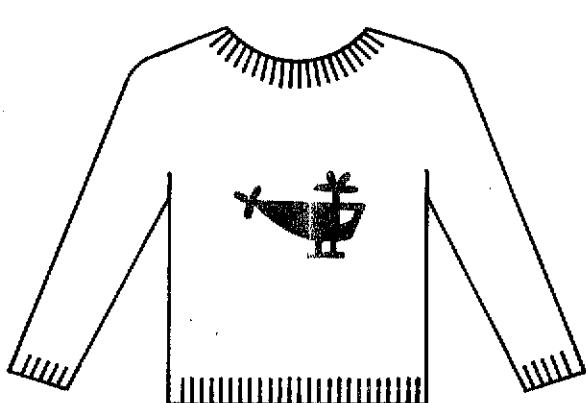
2. Negative (No. 6 Switch)



Only painted portion on the CARD is knitted by the second color yarn.  
(Needles corresponding to painted portion on the CARD are selected to D position.)



The painted portion on the CARD are knitted by the main color yarn.  
(Needles corresponding to painted portion on the CARD are placed to B position.)

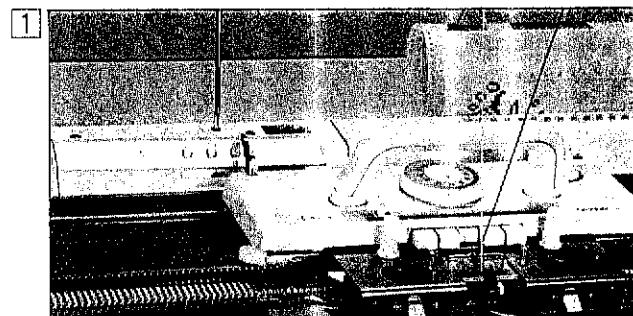


#### <IMPORTANT>

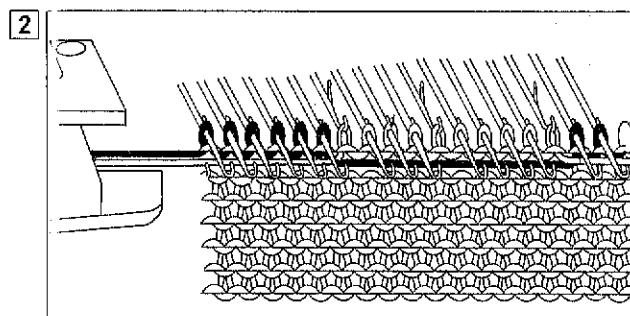
When knitting Tuck Stitch and Skip Stitch Patterns, set No. 6 switch to upper position definitely.

Also, when using the COLOR CHANGER for knitter which is separate accessory, set No. 6 Switch to upper position. In this case, color combination of Pattern is same as the CARD (not negative).

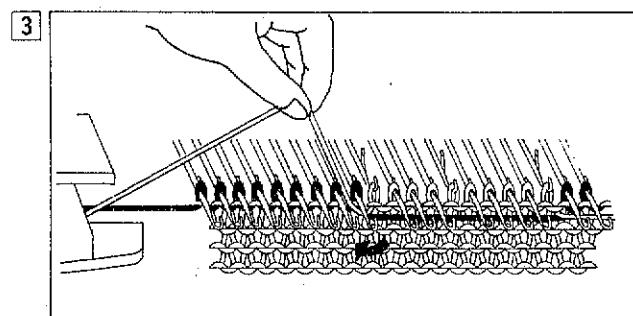
When knitting Pattern A and A + B with No. 6 Switch, the following procedure is important in order to make Pattern beautifully.



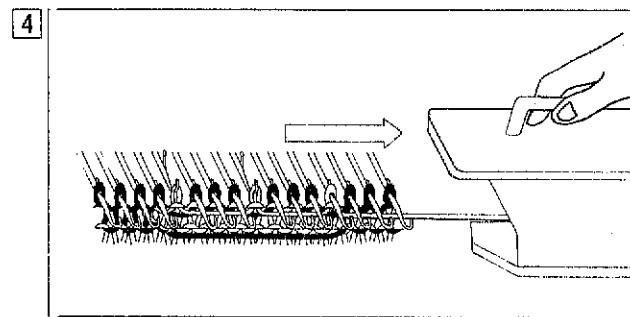
Knit first row of Single Motif Pattern.  
(without COLOR CHANGER . . . .  
CARRIAGE moves to left.  
with COLOR CHANGER . . . .  
CARRIAGE moves to right.)



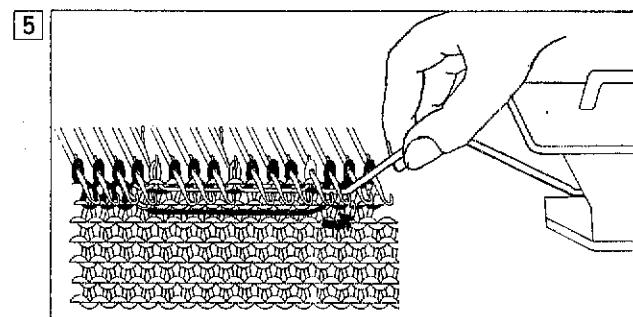
The main color yarn is knitted by position B needles and the yarn traverses under the position D needles.



Pass the main color yarn under the adjacent position D needle only.

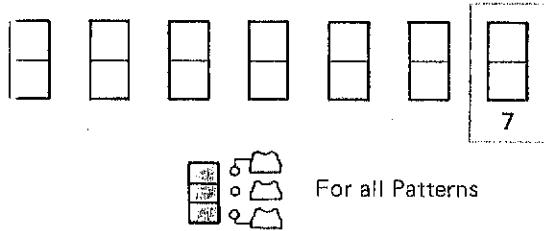


Knit one row.



Do as item 3.  
Repeat this way till the finish knitting the Pattern.

#### 5-4-5 KRC (No. 7 Switch)



\* When you attach the KRC (COLOR CHANGER for RIBBING ATTACHMENT which is separate accessory), set No. 7 Switch to upper position.

\* Refer to KRC instruction book also.

- (Double fair-isle) —— CARD No. 1 ~ 7 can be used.
1. After knitting several rows for the welt, put K carriage on the left side.
  2. Set the change knob to "KC 1 or 2" and knit one row using main yarn.
  3. Push PART buttons at the same time.
  4. Move the K carriage to left until the clink. Then change the yarn to contrast yarn.
  5. Knit two rows and change the yarn to the main yarn. Then, knit two rows and change the yarn to the contrast yarn.
  6. Repeat 5.

(Multi-color Rib) —— for Rabbit (No. 5) and Pineapple (No. 6) patterns. Same operation as Double fair-isle.  
NOTE: Change the contrast yarn to another one when "■" mark comes at the card inlet.

#### 5-4-6 COMBINATION LIST OF PATTERN VARIATION (UPPER POSITION)

Patterns marked (◎) in the following column are knitted by setting PATTERN VARIATION Switches to upper position.  
Enjoy pattern knitting by combination of PATTERN VARIATION Switches.

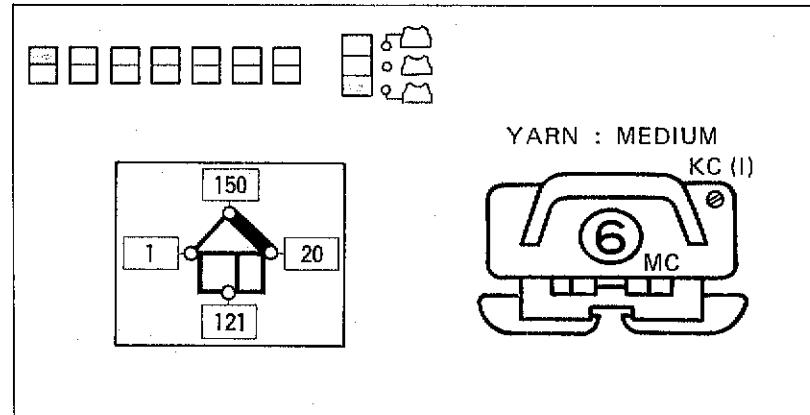
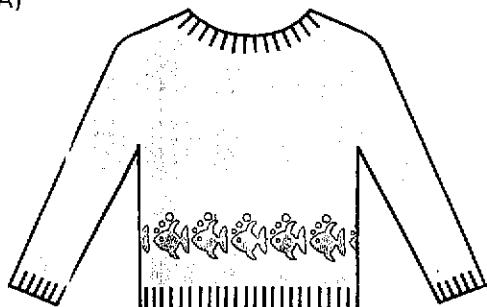
Patterns VARIATION	Fair-isle Pattern	Tuck Stitch Pattern	Skip Stitch Pattern	Weaving Pattern	Plating-tuck stitch Pattern	Multi-Color Rib Pattern
1 Pattern A Reverse	◎	◎	◎	◎	◎	◎
2 Pattern B Reverse	◎	◎	◎	◎	◎	◎
3 Double Width	◎	—	—	◎	—	◎
4 Double Length	◎	◎	◎	◎	—	—
5 Reflection	◎	◎	◎	◎	—	◎
6 Negative	◎	◎	◎	◎	◎	◎
7 KRC	—	—	—	—	—	◎

\* When knitting Lace Pattern, all PATTERN VARIATION Switches are set to lower position.

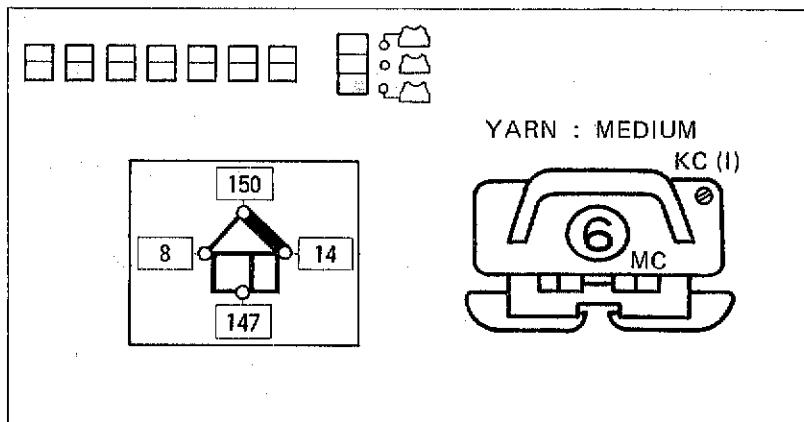
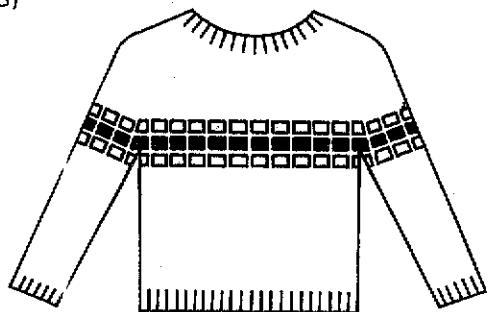
5-4-7 EXERCISE FOR PATTERN VARIATION

\* Use No. 4-17 PATTERN CARD.

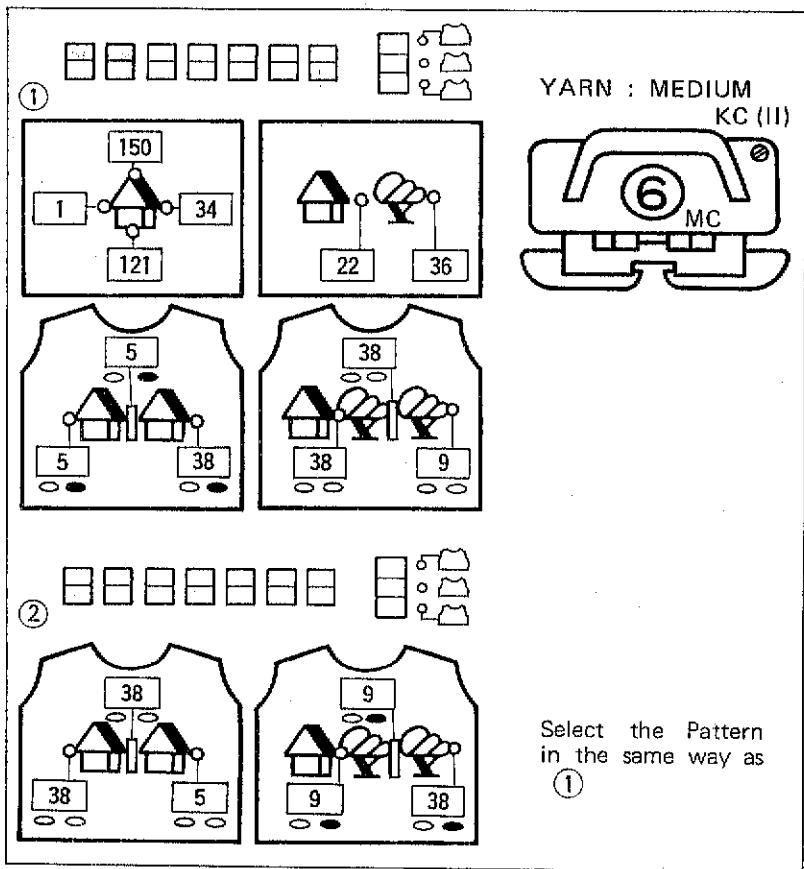
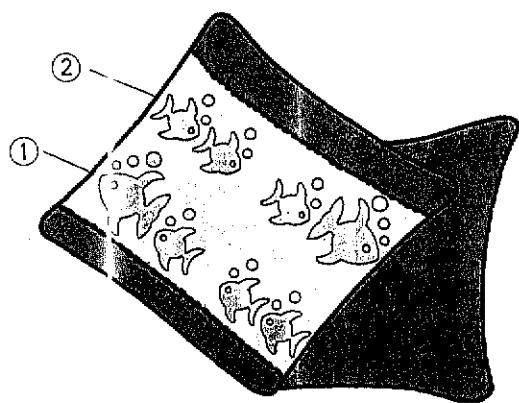
(A)



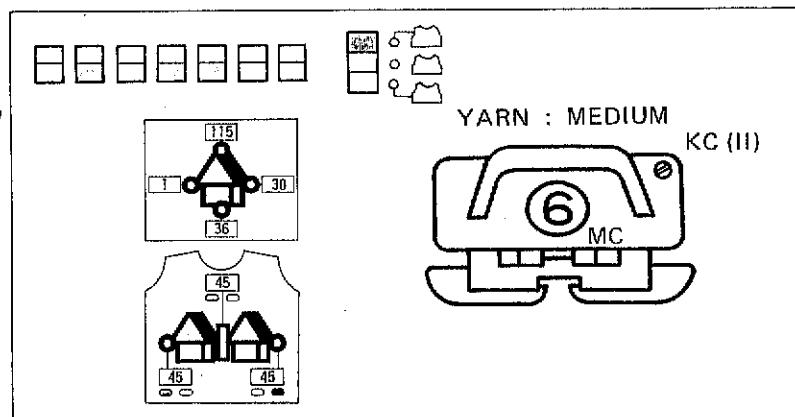
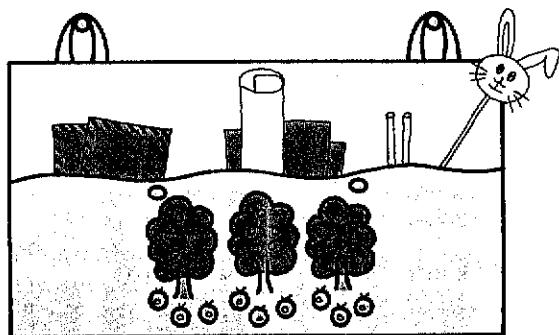
(B)



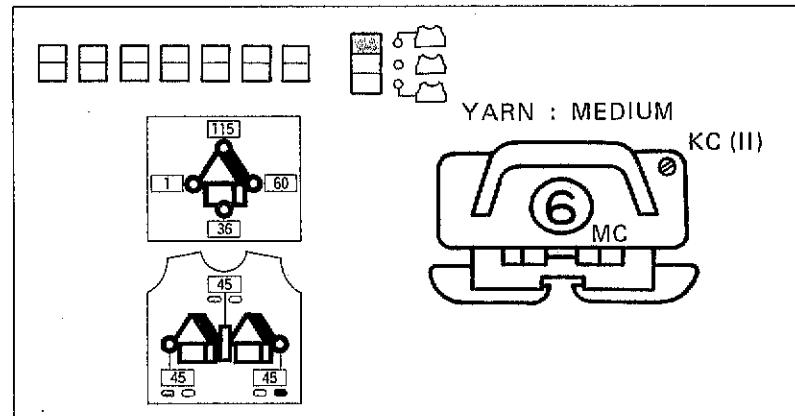
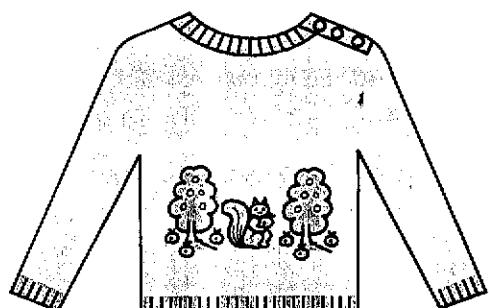
(C)



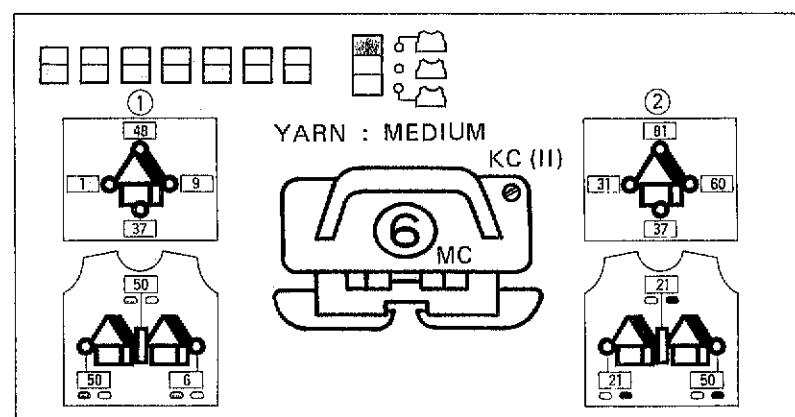
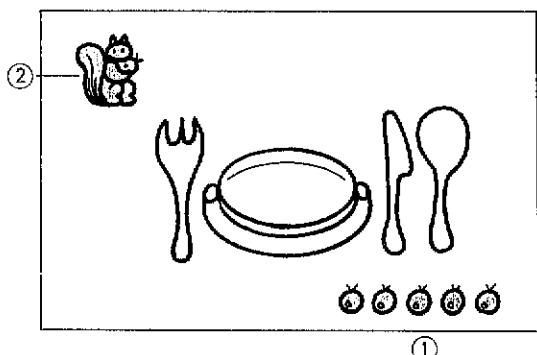
\* Use No. 3-13 PATTERN CARD.  
(A)



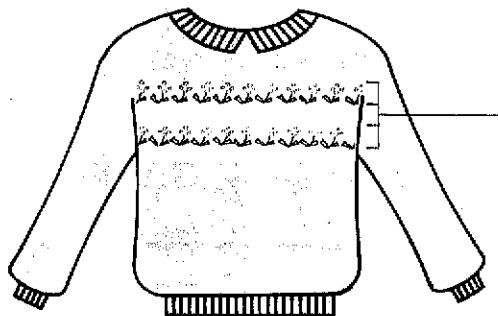
(B)



(C)



(A) \* Use No. 5-19 PATTERN CARD.



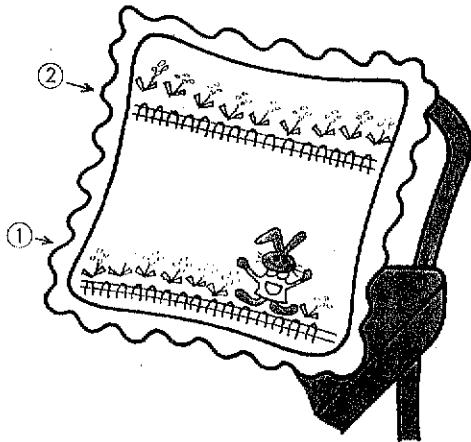
PATTERN KNITTING  
PLAIN  
PATTERN KNITTING

YARN : MEDIUM

When a same pattern is knitted in two rows as the left figure, ....

1. Enter the necessary figure.
2. Knit the first pattern.
3. After finishing the first Pattern, set the CHANGE KNOB to N.L. POSITION and knit the necessary rows of Plain Knitting, and then, put K CARRIAGE to the left side of the machine.
4. Push RR key ... The CARD returns to the SET LINE.
5. Push CF key ... The CARD feeds to the starting position of the Pattern.
6. Move K CARRIAGE to the position outside the "IC" mark, if not.
7. Set the CHANGE KNOB to KC (I) position and move K CARRIAGE to right.
8. Push MC button and thread the second color yarn into YARN FEEDER "B". Begin to knit again.

(B)



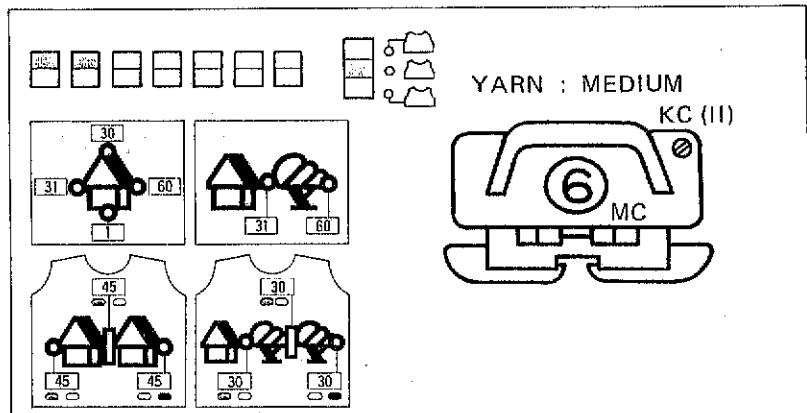
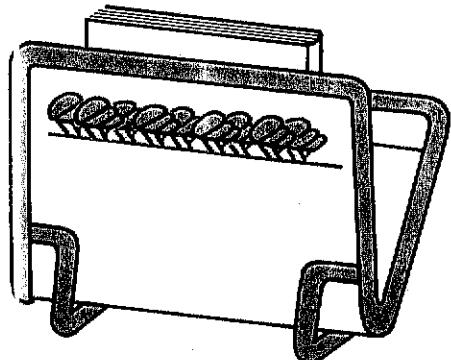
YARN : MEDIUM

①

②

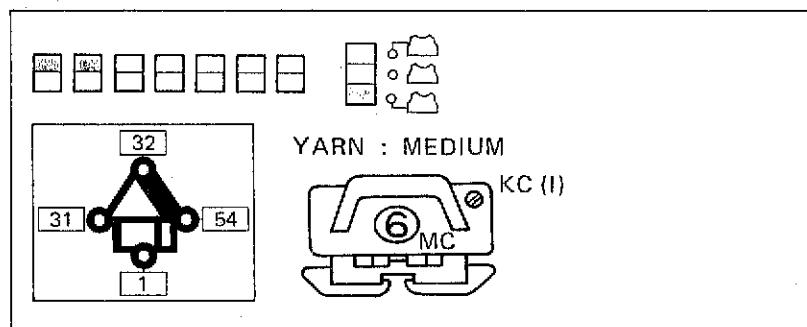
Diagram showing two different pattern card sets (① and ②) with their respective button settings and garment previews.

\* Use No. 3-12 PATTERN CARD.

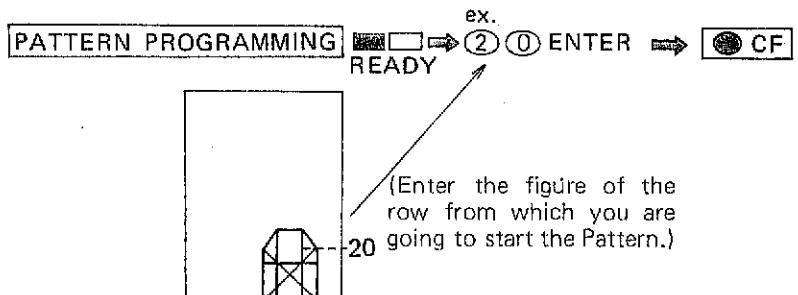


- Patterns can be partially overlapped each other, using PATTERN A + B.
- Select the identical Pattern for Pattern A and Pattern B.
- Program the Pattern B so that the left side and F.N. Position of Pattern B overlap Pattern A partially.

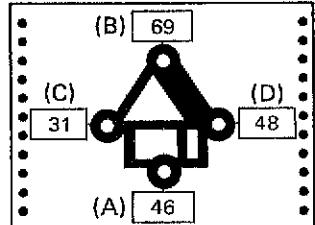
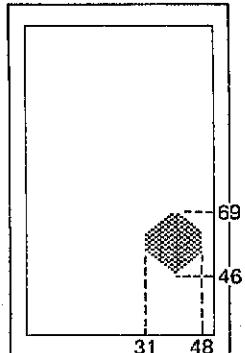
\* Use No. 1-5 PATTERN CARD.



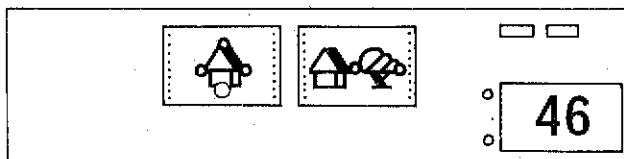
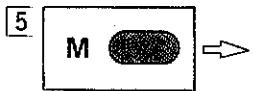
When you begin to knit from the middle of programmed Pattern, ...  
(For example, in order to align the Pattern of bodice and sleeves.)



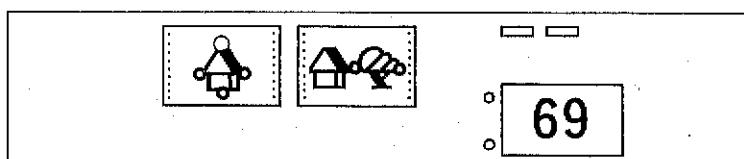
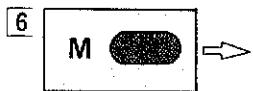
CARD No. 1-6



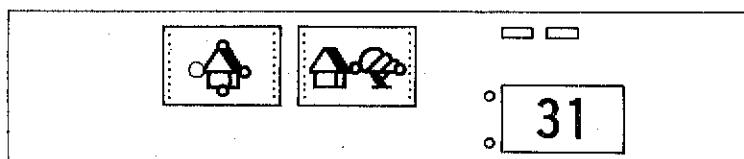
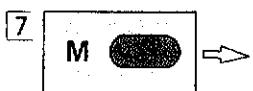
- (A) The first row of the pattern.
- (B) The last row of the pattern.
- (C) Left end of the pattern.
- (D) Right end of the pattern.



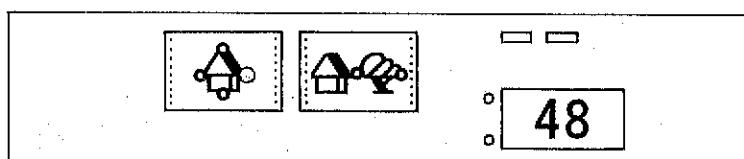
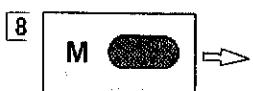
(A) Enter 46 which shows the first row of the Pattern.



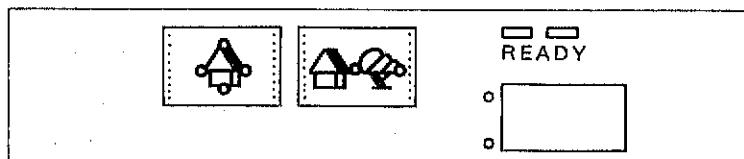
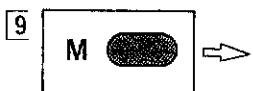
(B) Enter 69 which shows the last row of the Pattern.



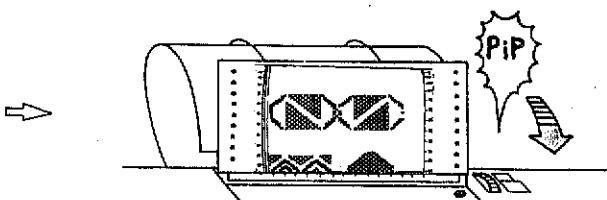
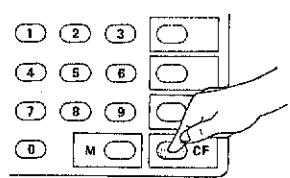
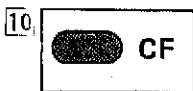
(C) Enter 31 which shows the left end of the Pattern.



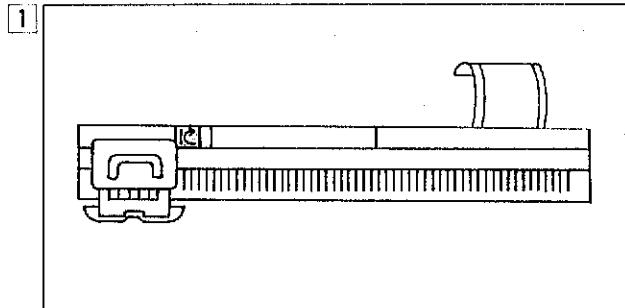
(D) Enter 48 which shows the right end of the Pattern.



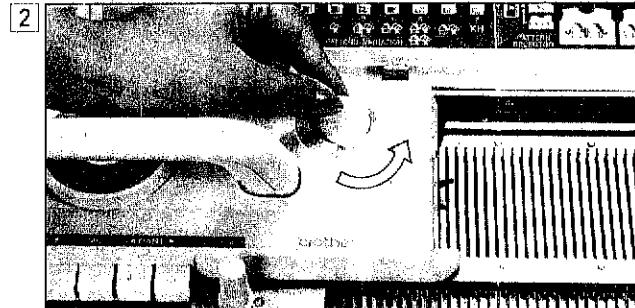
READY LAMP lights and the program is finished.



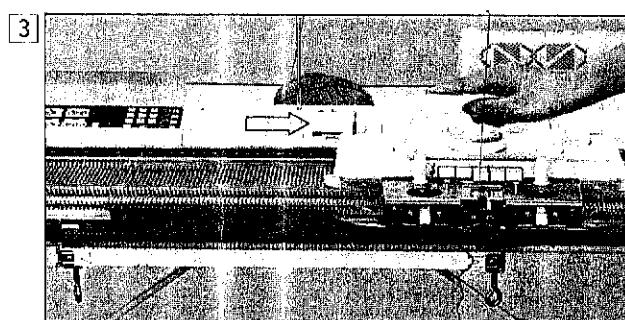
## Pattern Knitting



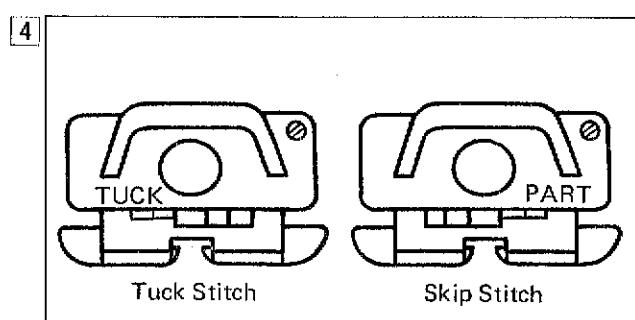
Put the K CARRIAGE at the left side of the machine.  
(Put it at the left side of " | C " mark.)



Set the CHANGE KNOB to "KC (I)" position.



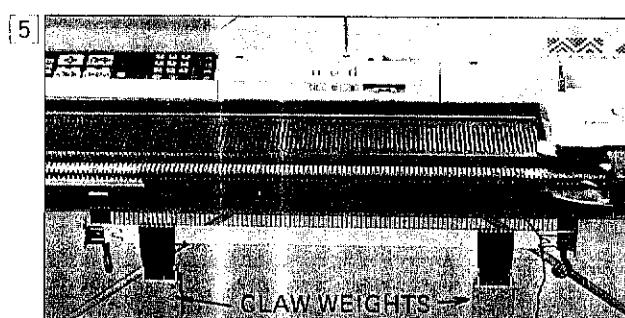
Move the K CARRIAGE from left to right. Selected needles are brought to D position.



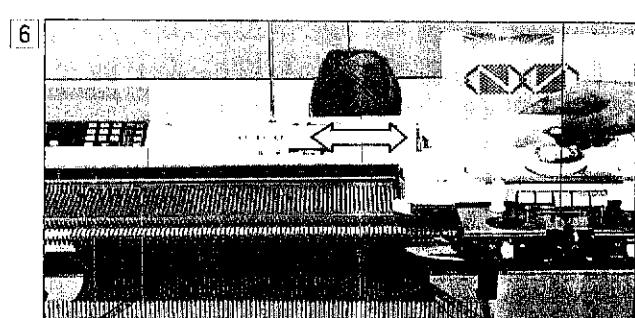
Tuck Stitch

Skip Stitch

Push the CAM BUTTONS according to the Pattern you are going to knit.

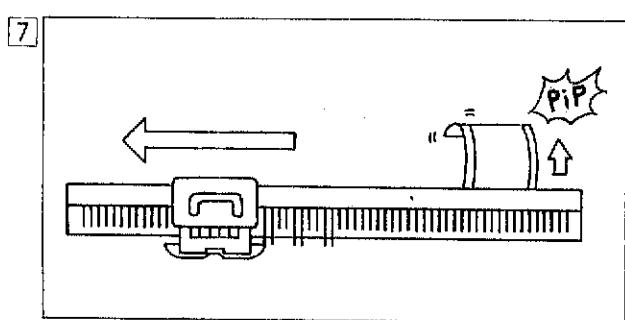


Hang the CLAW WEIGHTS onto the CAST-ON COMB.



Move the K CARRIAGE to left, and continue to operate the K CARRIAGE, you can enjoy Tuck or Skip Stitch Pattern.

Pattern card goes forward for every other row because of No. 4 switch.

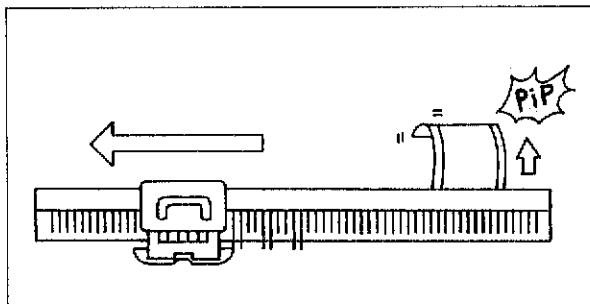


### To continue Pattern Knitting

At the row before the last row of the Pattern, PATTERN CARD is automatically returned to the starting position of the Pattern with buzzer.  
If you are going to repeat, continue to knit.

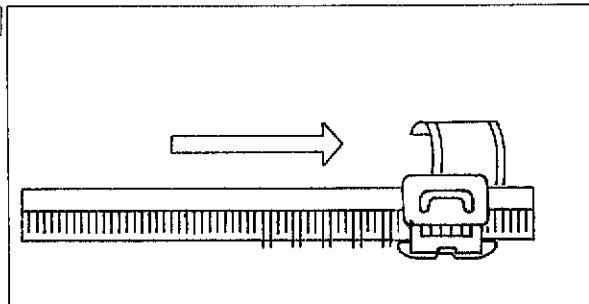
## To finish Pattern Knitting

[1]



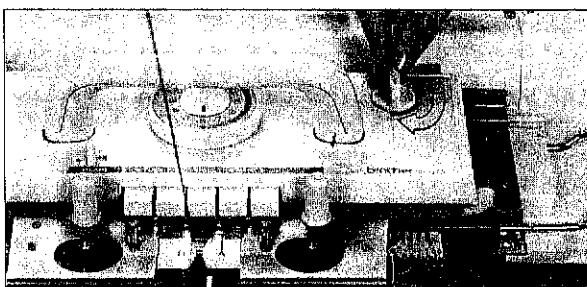
At the row before the last row of the Pattern, the PATTERN CARD is automatically returned to the starting position of the PATTERN with buzzer. (K CARRIAGE should be moved from right to left at that time.)

[2]



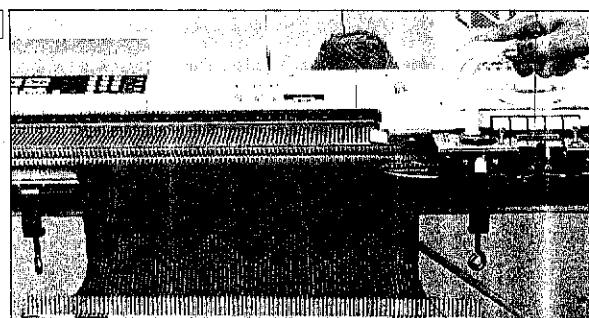
Move K CARRIAGE to right as the last row.

[3]



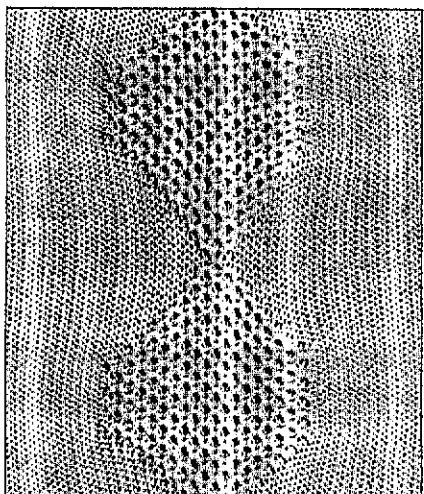
By turning the CHANGE KNOB from "KC (!)" to "N.L." position, the CAM BUTTONS will be restored automatically.

[4]



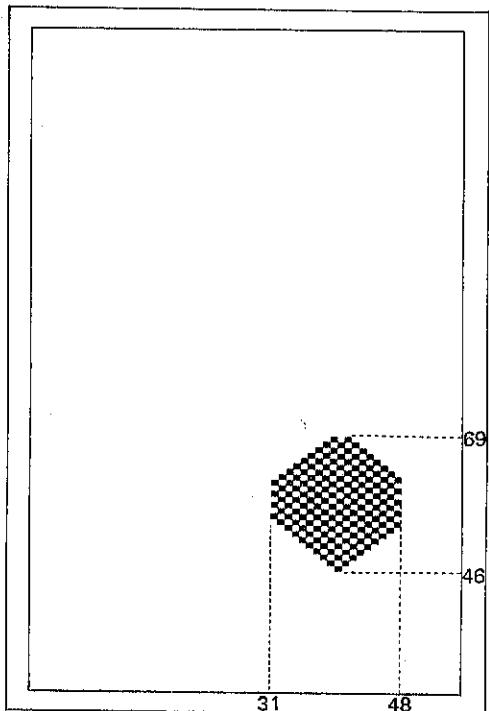
Knit several rows of Plain Knitting.

## How to knit Pattern A

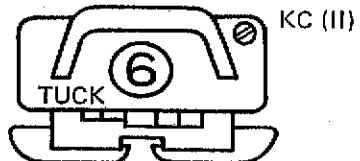
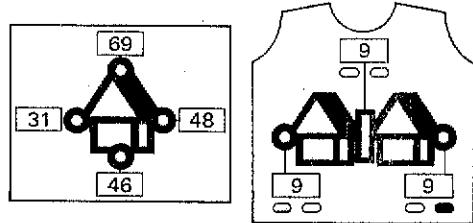
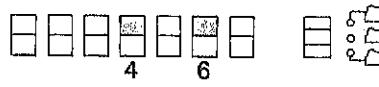


\* Setting the PATTERN SELECTOR switch to the upper position, you can enjoy Single Motif Patterns in Tuck Stitch Pattern.

CARD No. 1-6



- Program for the Pattern and set the K CARRIAGE as shown in the following figure.

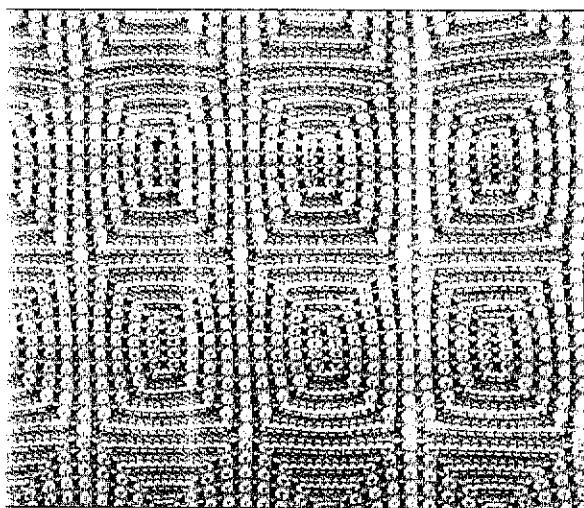


- Refer to the instructions for the operation on page 68-69.
- The swatch in the above picture is the Single Motif Pattern in Tuck Stitch and a Pattern is repeated two times.

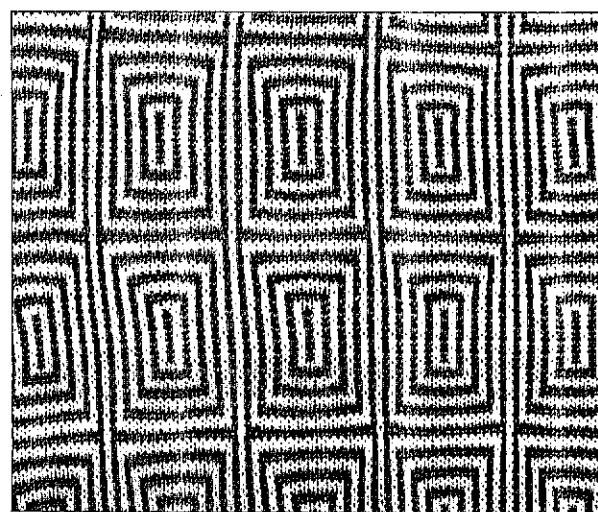
## 5-6 MULTI-COLOR TUCK & SKIP STITCH PATTERNS

- Preparation and Pattern Programming are the same as Tuck and Skip Stitch Patterns (see P.66-67).

TUCK STITCH PATTERN  
CARD No. 1-6  
T.D. No. 6

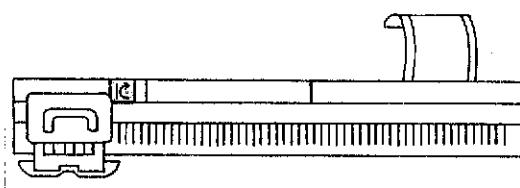


SKIP STITCH PATTERN  
CARD No. 1-6  
T.D. No. 6



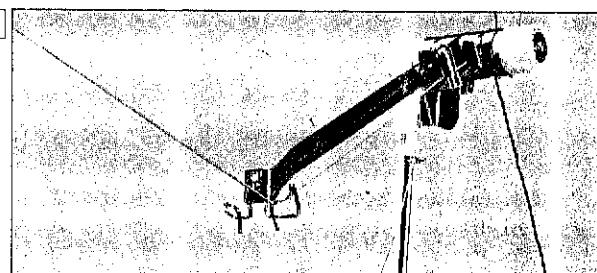
### Pattern Knitting

[1]



Put the K CARRIAGE at the left side of the machine.  
(Put it at the left side of " |<" mark.)

[2]



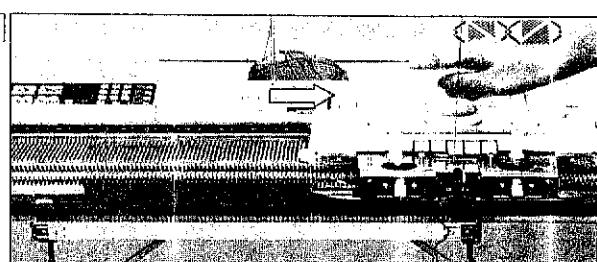
Thread the second color yarn into the YARN TENSION UNIT and clip it under the YARN CLIP.

[3]

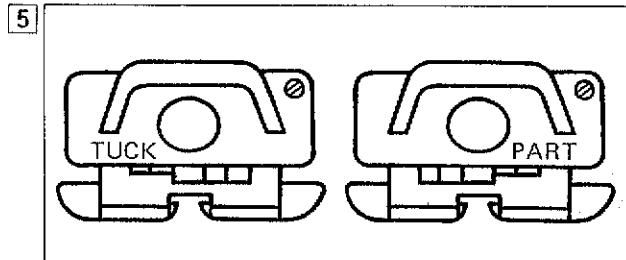


Set the CHANGE KNOB to "KC (I)" position.

[4]

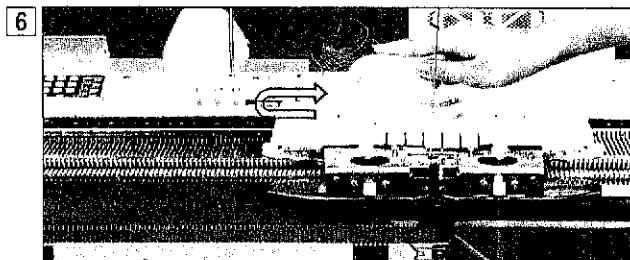


Move K CARRIAGE from left to right. The position B needles are selected to the positions B and D.

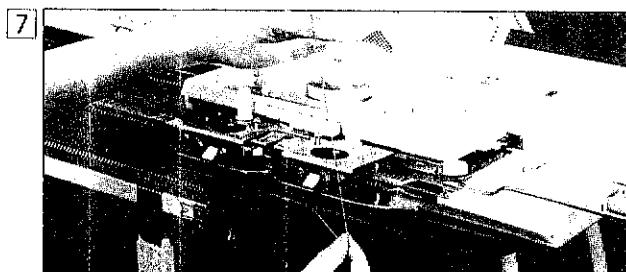


Multi-Color Tuck Stitch Patterns  
Push both "TUCK" buttons at the same time.

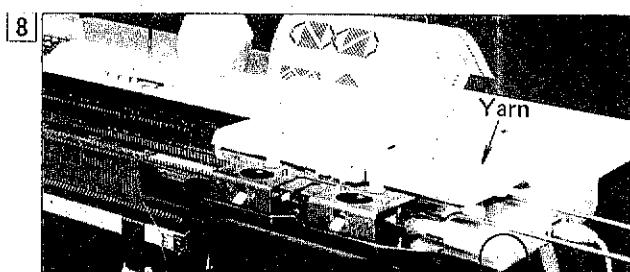
Multi-Color Skip Stitch Patterns  
Push both "PART" buttons at the same time.



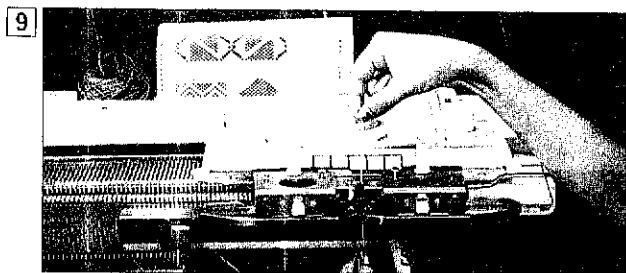
Operate the K CARRIAGE and knit two rows.



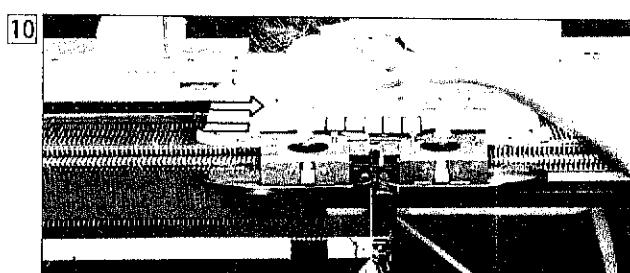
Change the yarn in the YARN FEEDER "A" to the second color yarn for two color patterns. K CARRIAGE is on the right side of the machine. Pull out the yarn in the YARN FEEDER "A". It is easier to remove the yarn by moving the K CARRIAGE to the right.



Hook the yarn taken from the YARN FEEDER "A" on the edge of the machine to hold it.



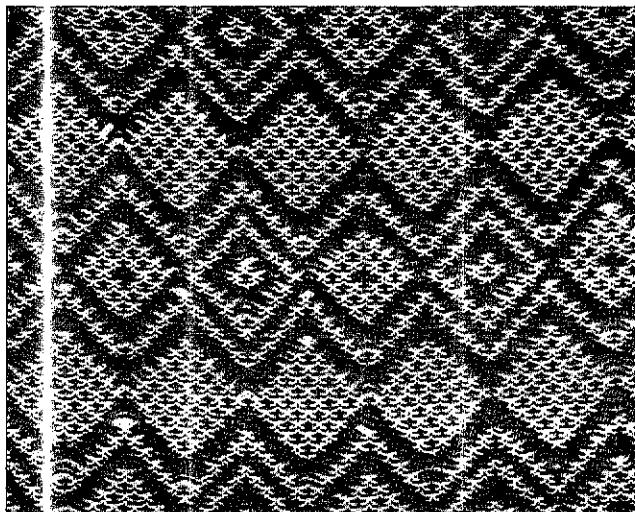
Then, thread the second color yarn which was clipped under the YARN CLIP into the YARN FEEDER "A". And close the YARN FEEDER LEVER.



Knit two rows holding the end of the second color yarn under the YARN FEEDER with your left hand.

Change the yarn in the YARN FEEDER "A" every two rows in the same way. You can enjoy Two Color Tuck Stitch or Two Color Skip Stitch Patterns.

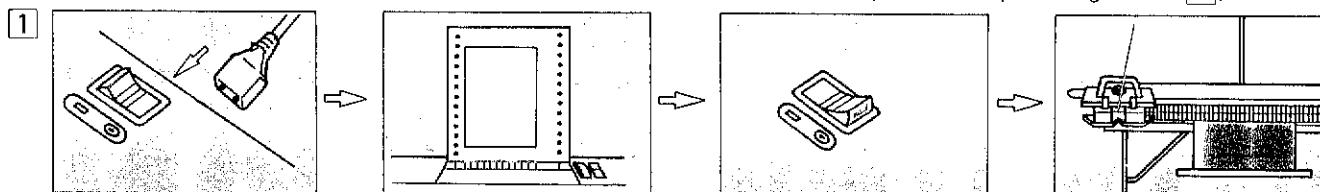
## 5-7 WEAVING PATTERNS



### How to knit Full Pattern Knitting

- \* For Weaving Pattern Knitting, prepare second color yarn. It is effective that medium yarn is used for the main color yarn and thick yarn for the second color.
- \* Use No. 1-2 PATTERN CARD.

**Preparation** When using same CARD at the one now being set to the machine, push RR key and begin from [3].



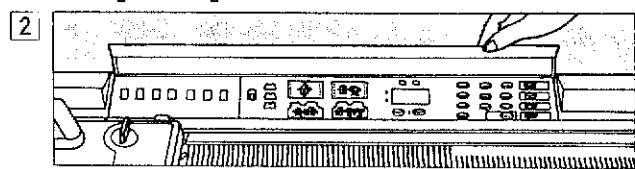
Turn off the POWER SWITCH, and plug the cord into the inlet.

Set the CARD.

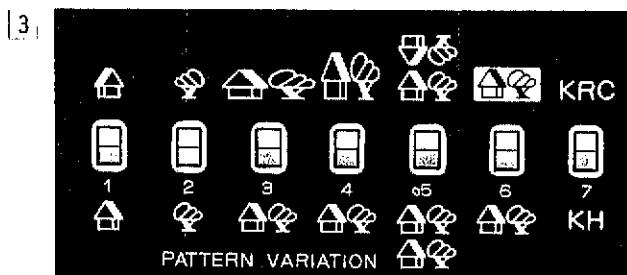
Turn on the POWER SWITCH.

Knit several rows in Plain Knitting at T.D. No. 6, and place the K CARRIAGE on the left side of the machine.

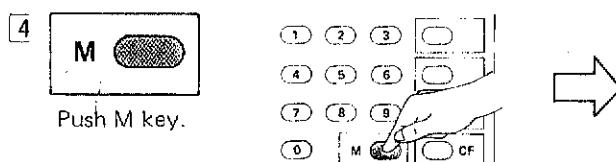
### Pattern Programming



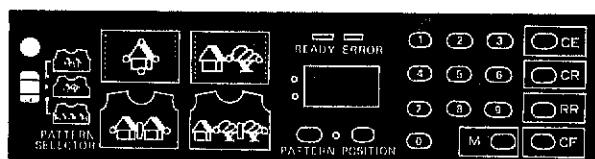
Open the lid.



Set all PATTERN VARIATION switches to the lower position.

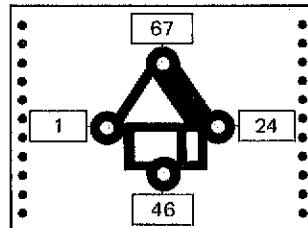
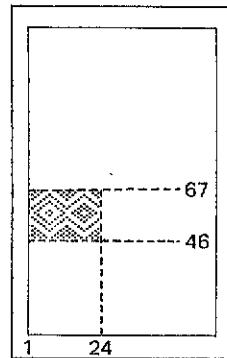


Push M key.

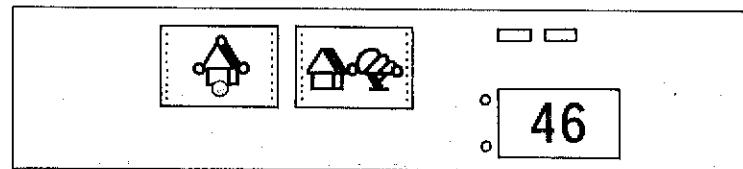
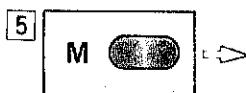


Set the PATTERN SELECTOR switch to the lowest position.

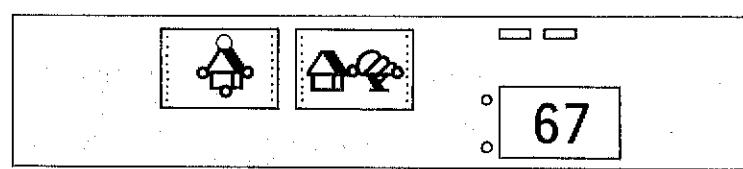
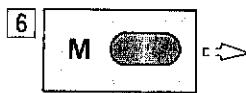
CARD No 1-2



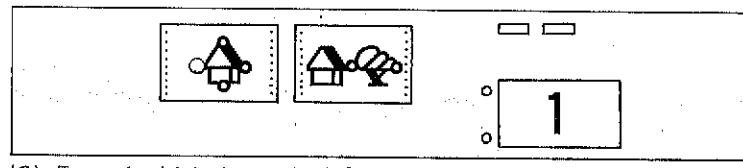
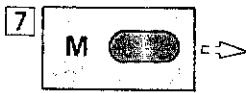
- (A) The first row of the pattern.  
 (B) The last row of the pattern.  
 (C) Left end of the pattern.  
 (D) Right end of the pattern.



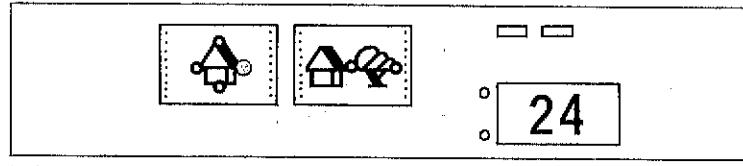
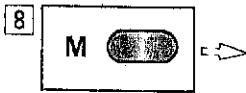
(A) Enter 46 which shows the first row of the pattern.



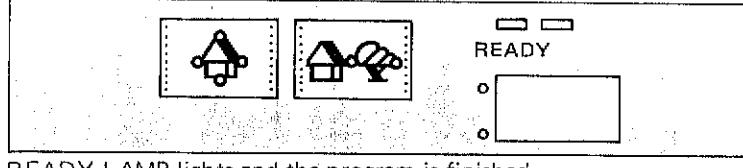
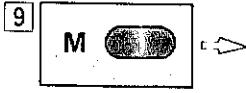
(B) Enter 67 which shows the last row of the Pattern.



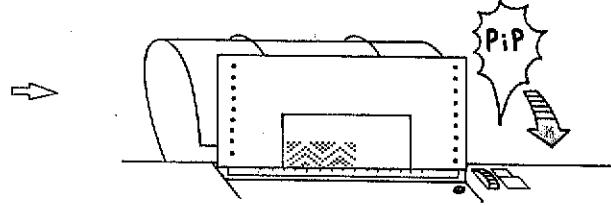
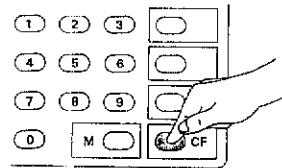
(C) Enter 1 which shows the left end of the Pattern.



(D) Enter 24 which shows the right end of the Pattern.

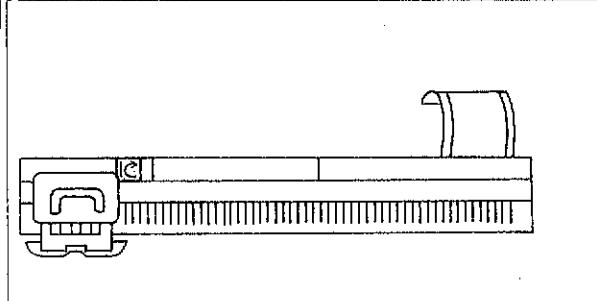


READY LAMP lights and the program is finished.



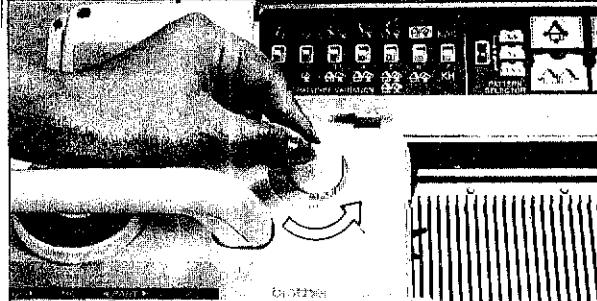
## Pattern Knitting

1



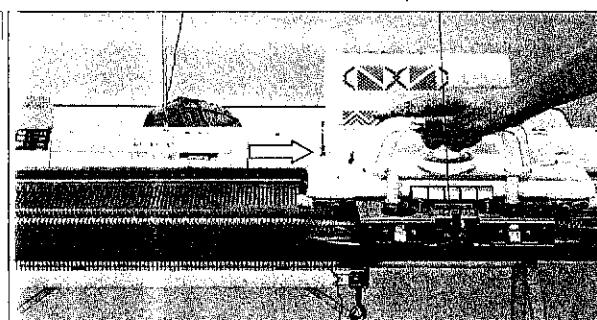
Put the K CARRIAGE at the left side of the machine.  
Put it at the left side of "KC (1)" mark.)

2



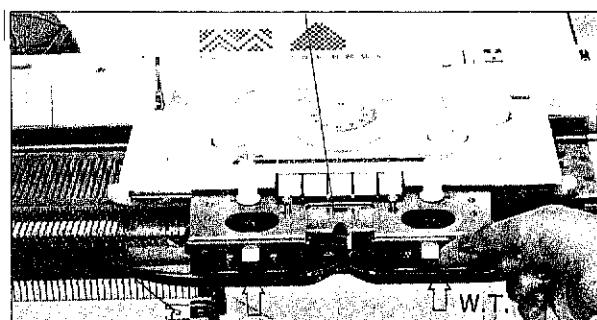
Set the CHANGE KNOB to "KC (1)" position.

3



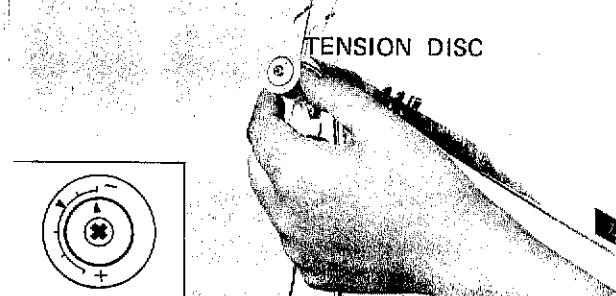
Move the K CARRIAGE from left to right. Selected needles are brought to position D.

4



Set the WEAVING PATTERN LEVER to W.T.

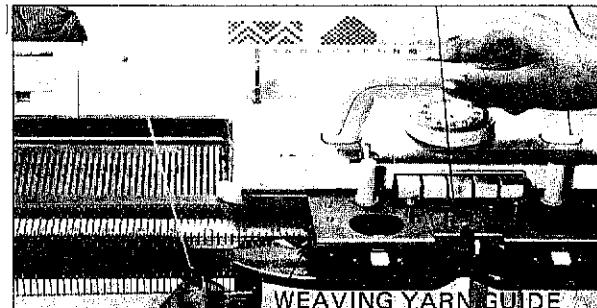
5



Thread the Weaving yarn into the YARN TENSION UNIT and clip it under the YARN CLIP. Adjust the TENSION DISC.

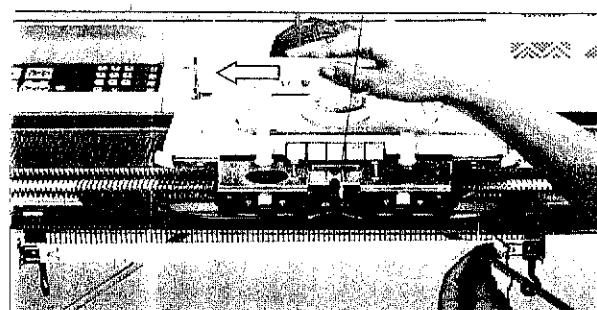
When using a thick yarn, set the "—" mark to the "▲" mark.

6



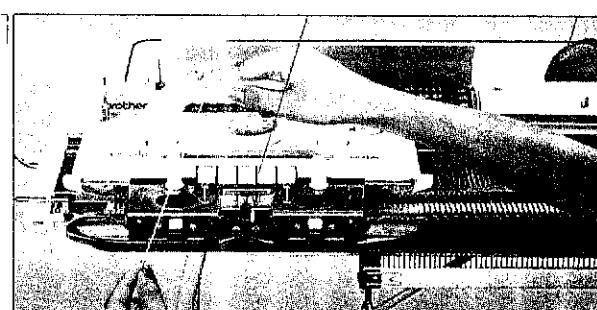
Make sure that the Weaving yarn is in the left WEAVING YARN GUIDE.

7

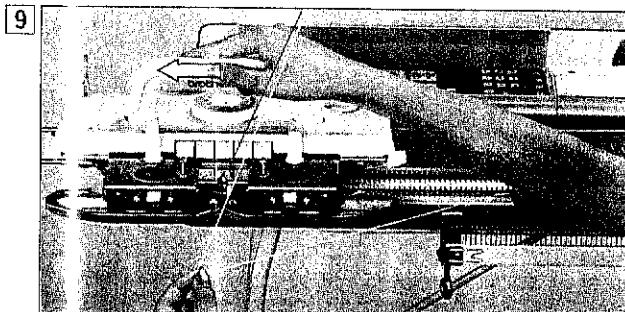


Move the K CARRIAGE to left holding the end of the Weaving yarn with your left hand.

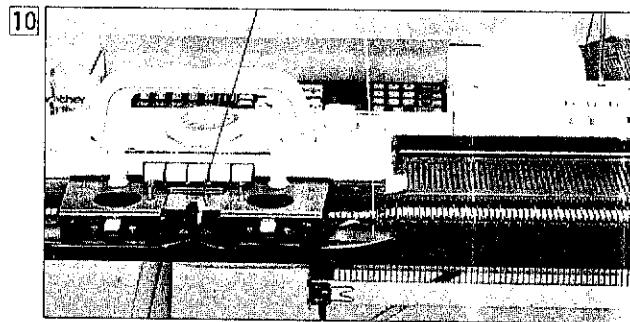
8



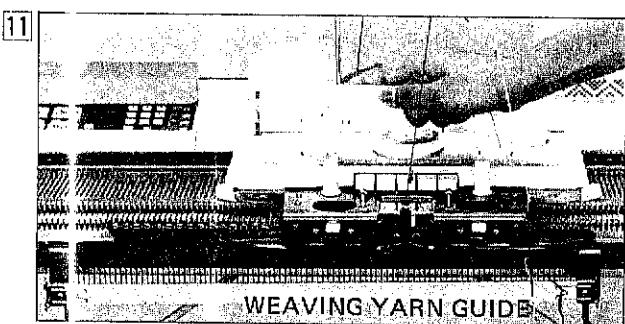
Remove the Weaving yarn in the left WEAVING YARN GUIDE.



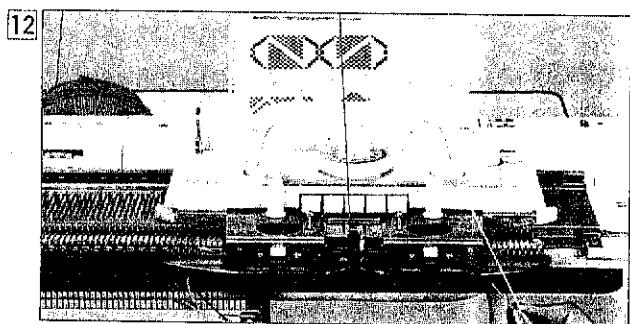
When transferring the Weaving yarn, move the K CARRIAGE slightly to the left, so that the Weaving yarn can remove easily.



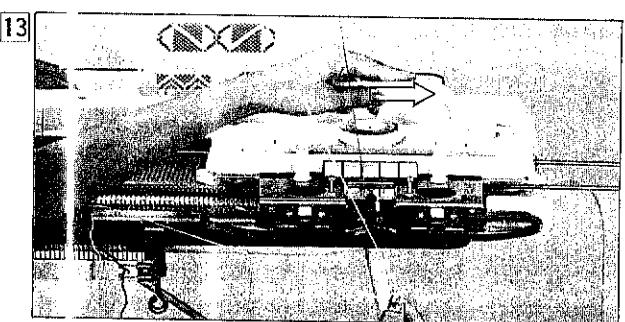
Transfer the weaving yarn under the K CARRIAGE to the right WEAVING YARN GUIDE.



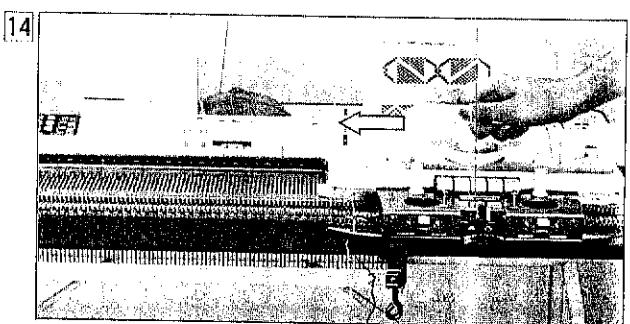
Move the K CARRIAGE to right making sure that the weaving yarn is in the right WEAVING YARN GUIDE.



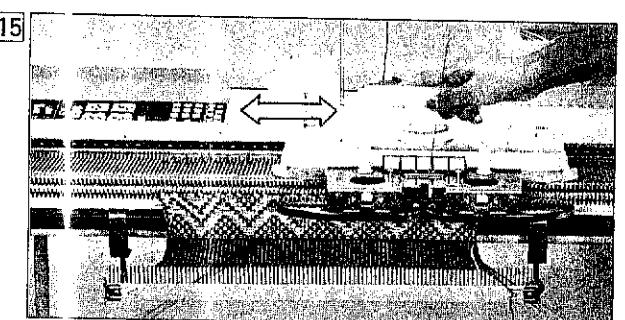
Remove the weaving yarn in the right WEAVING YARN GUIDE.



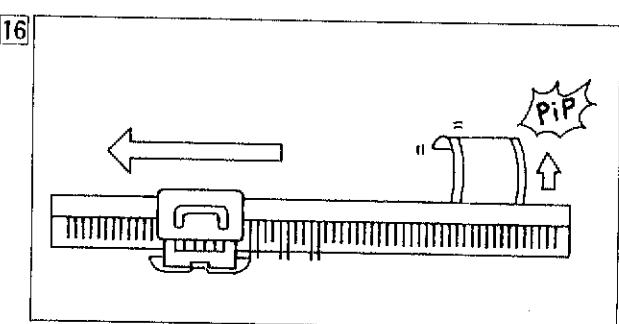
Move the K CARRIAGE slightly to the right and transfer the weaving yarn under the K CARRIAGE and to the left WEAVING YARN GUIDE.



Move the K CARRIAGE to left making sure that the weaving yarn is in the left WEAVING YARN GUIDE.



Repeat the procedures from 8-14. Then you can enjoy the Weaving Patterns.

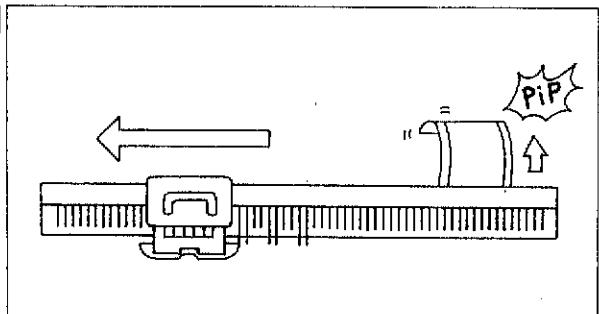


#### To continue Pattern Knitting

At the row before the last row of the Pattern, PATTERN CARD is automatically returned to the first position of the Pattern with buzzer. If you are going to repeat, continue to knit.

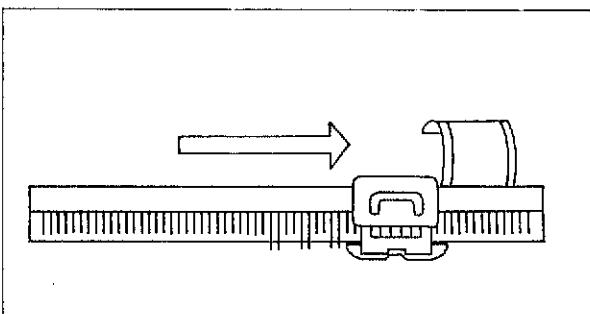
## To finish Pattern Knitting

1



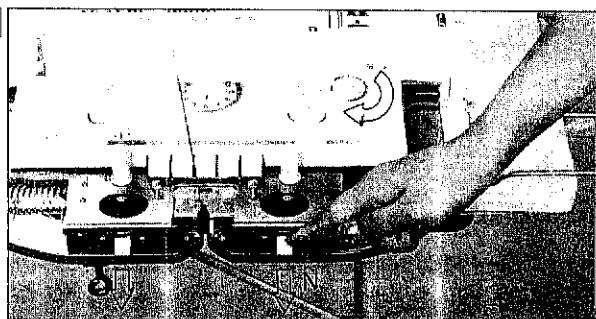
At the row before the last row of the Pattern, the PATTERN CARD is automatically returned to the starting position of the Pattern with buzzer. (K CARRIAGE should be moved from right to left at that time.)

2



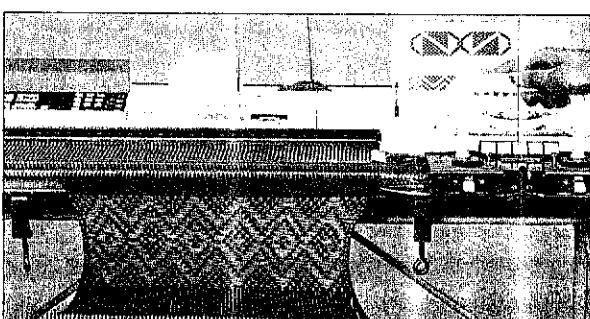
Move K CARRIAGE to right as the last row.

3



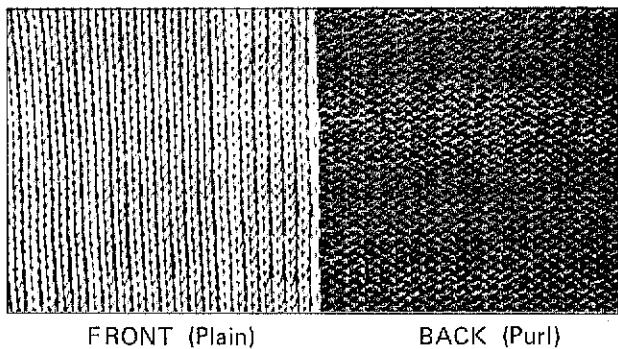
Turn the CHANGE KNOB from "KC (I)" to "N.L." position and set the WEAVING PATTERN LEVER to position N.

4



Knit several rows of Plain Knitting.

## 5-8 PLATING YARN KNITTING



With the PLATING YARN FEEDER it is possible to use two yarns to knit a reversible fabric with different colors on the front and back side.

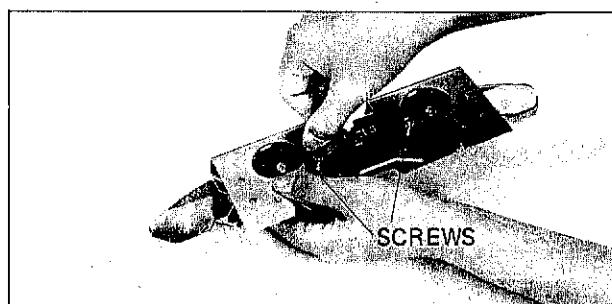
The main yarn will appear on the front (plain) side of the fabric and plating yarn will appear on the back (purl) side of the fabric.

Suggested Tension Dial (T.D.) number is as follows.

Main Yarn	Plating Yarn	Suggested T.D. Number
Fine yarn	Fine yarn	6 ~ 7
Fine yarn	Very fine yarn	5 ~ 6
Very fine yarn	Fine yarn	5 ~ 6
Very fine yarn	Very fine yarn	4 ~ 5

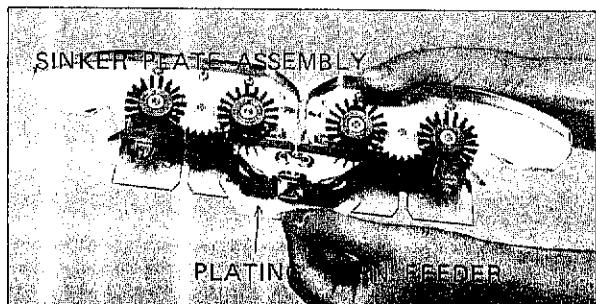
Preparation for Plating yarn knitting and how to knit.

1

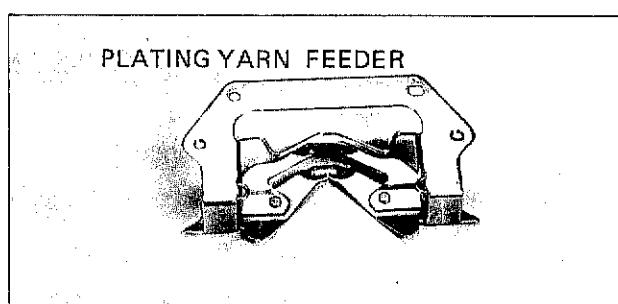


Change the yarn feeder to the PLATING YARN FEEDER.

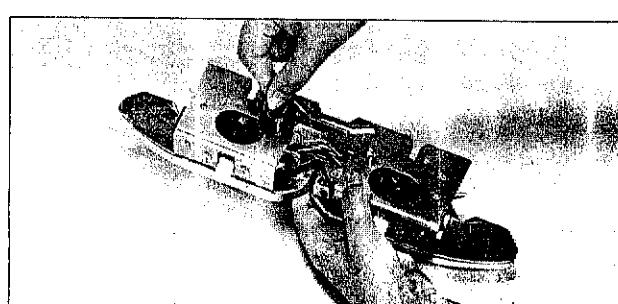
1). Loosen the two screws and remove the YARN FEEDER from Sinker plate assembly.



3). Set the PLATING YARN FEEDER to the Sinker plate assembly as shown in the figure.

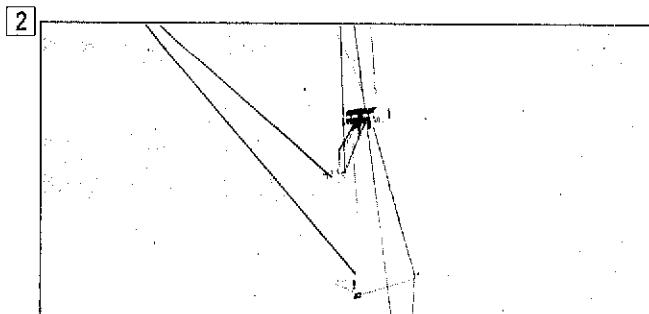


2). Take the PLATING YARN FEEDER out of the accessory box.

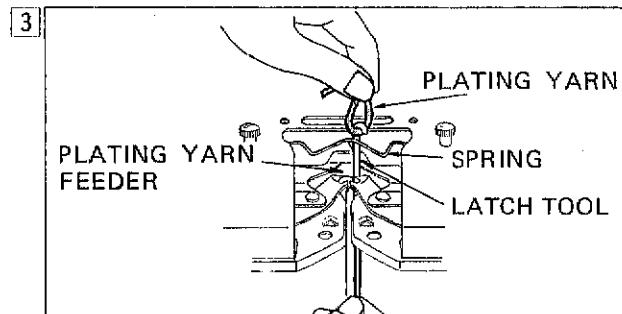


4). Then fasten the two screws.

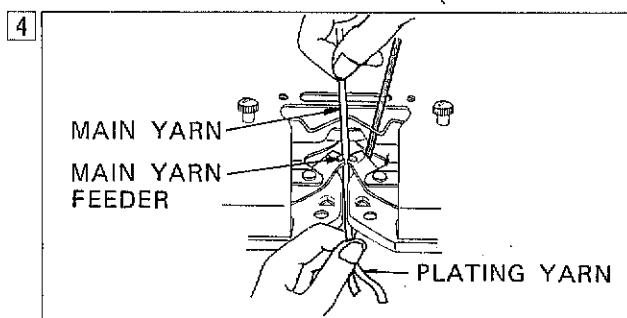
\*When changing yarn feeders, please check that the latch brushes (oblong brushes inside sinker plate) are not trapped by the feeder.



Thread the main and plating yarns in to the YARN TENSION UNIT, and clip them under the yarn clip.

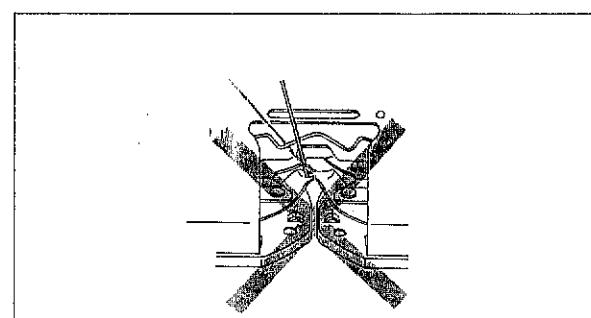


Thread the plating yarn into the plating yarn feeder with Latch tool. Pass the plating yarn behind the yarn feeder spring and thread it into the plating yarn feeder.

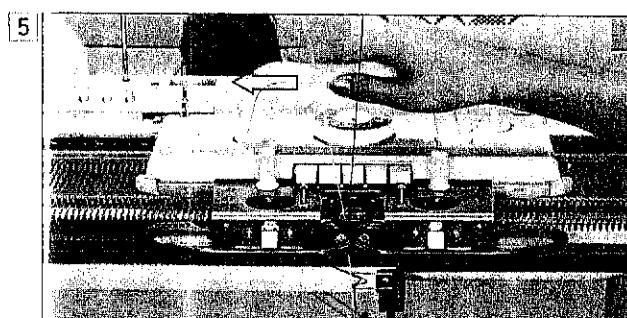


Hold the plating yarn under the yarn feeder with your left hand.

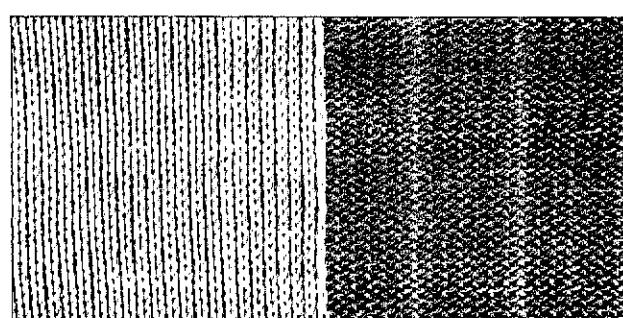
Thread the main yarn into the main yarn feeder.



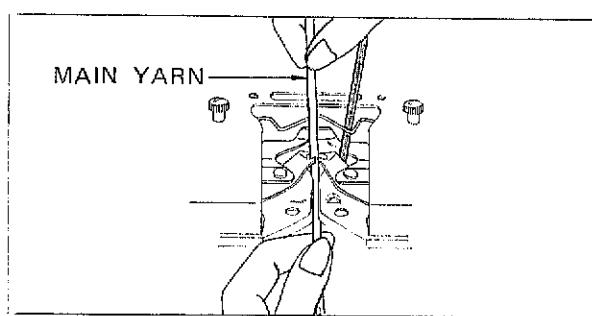
Make sure that the yarns do not cross each other.



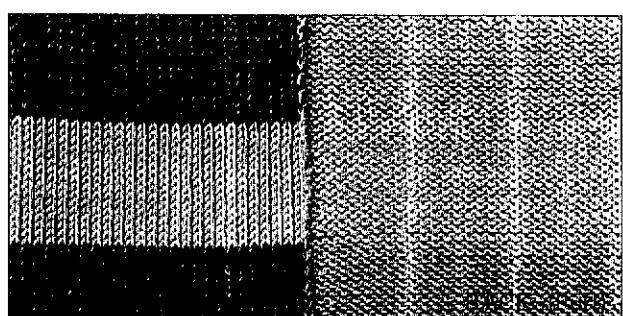
Move the K CARRIAGE to left. (Keep your left hand at the right side of the knitting.)



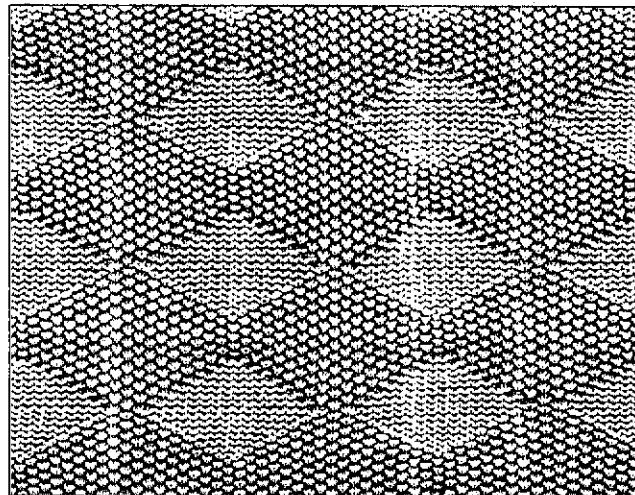
Continue to operate the K CARRIAGE, you can enjoy plating yarn knitting.



By changing the main yarn, the color of fabric will be changed.

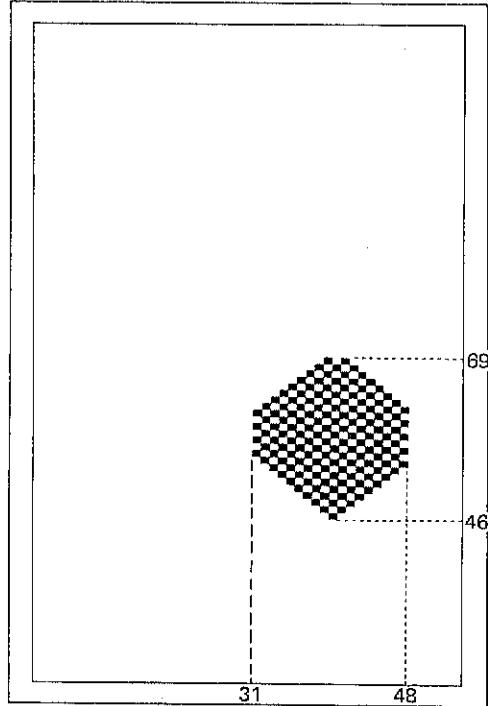


## 5-9 PLATING-TUCK STITCH PATTERN

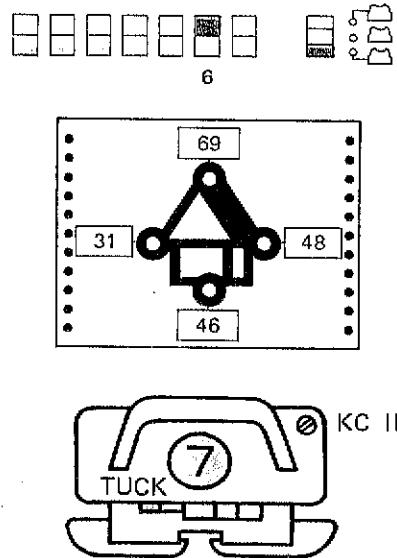


Using PATTERN CARD for Tuck Stitch Patterns (CARD No. 1-1 ~ 2-11) with Plating Yarn knitting, you can also enjoy Plating-Tuck Stitch Pattern.

CARD No. 1-6



Program for the Pattern and set the K CARRIAGE as shown in the following figure.

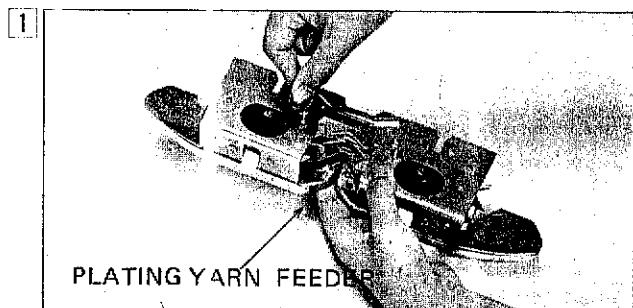


The operation is same as Tuck Stitch Patterns (see P.68 ~ 69) and Plating Yarn Knitting (see P.78 ~ 79).

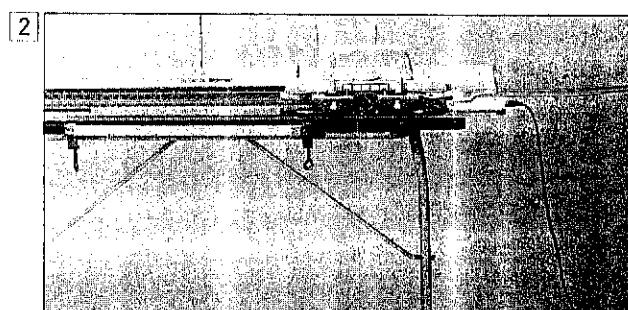
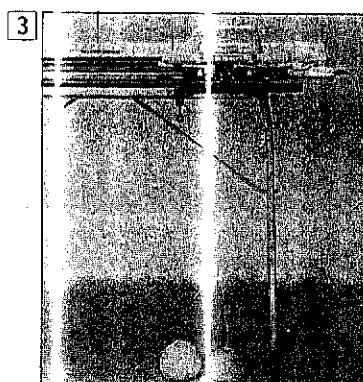
## 5-10 INTARSIA KNITTING

PATTERN CARDS are not used for the intarsia knitting.

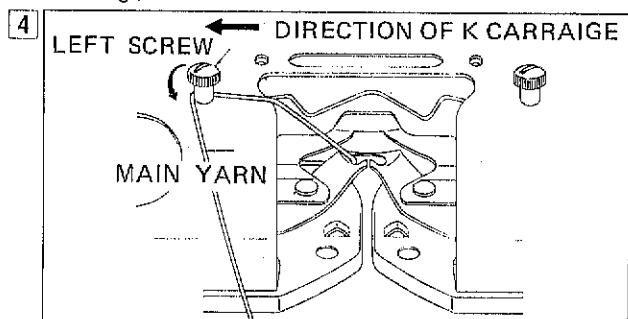
In Intarsia knitting, yarn does not traverse at the back. And you can knit multi-color of yarn in the one row.



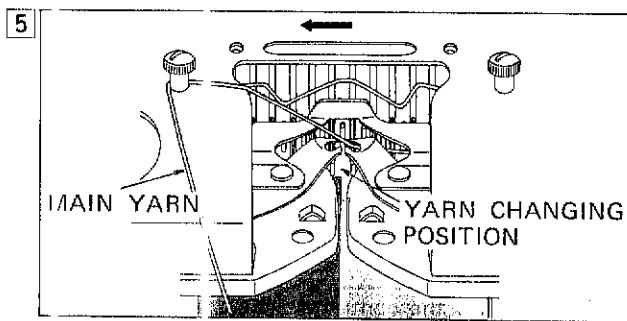
Change the yarn feeder to the PLATING YARN FEEDER.



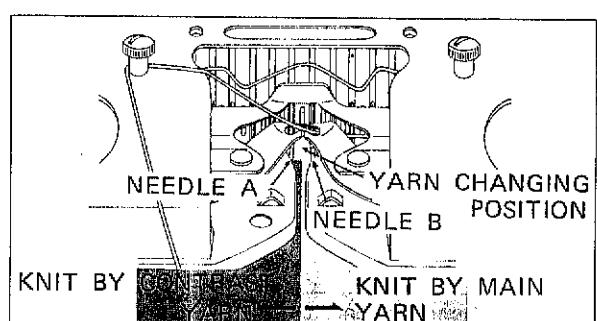
Knit several rows of plain knitting and place the K CARRIAGE on the right side of the machine. Take the yarn out of the YARN TENSION UNIT. (The yarn tension unit is not used for the intarsia knitting.)



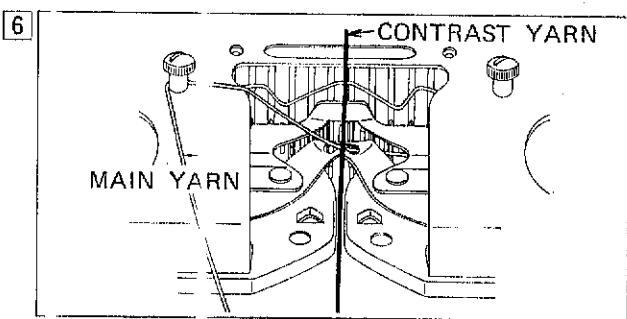
Hang the main yarn on the left SCREW as shown in the figure, and pull the yarn gently to give a slight tension. Then move the K CARRIAGE to left.



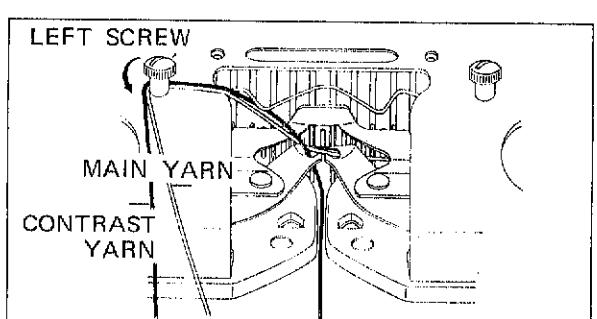
- 1). Stop the K CARRIAGE at the position where you are going to change the color of yarn.

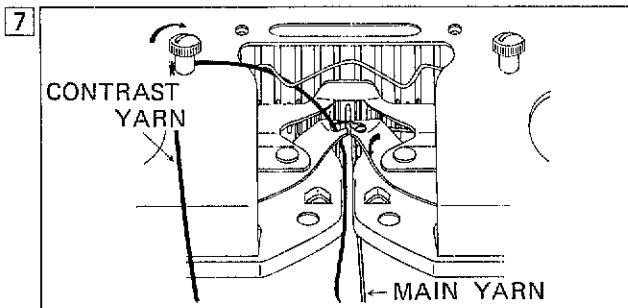


- 2). The yarn changing position is just center between two needles.

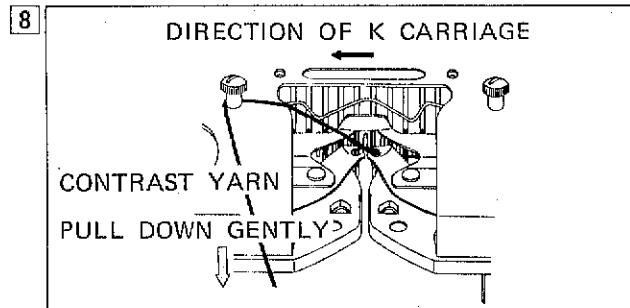


Thread the contrast yarn into the main yarn feeder and hang it on the left SCREW as shown in the figure.

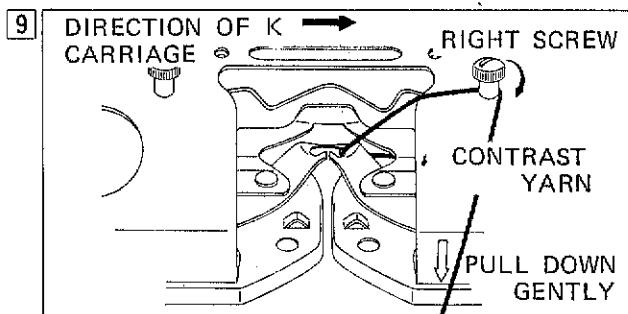




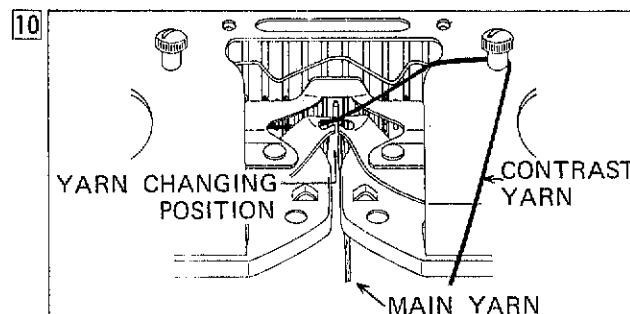
Remove the main yarn from yarn feeder and let it hang down.



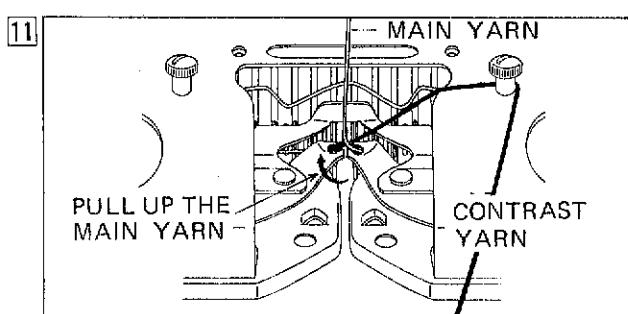
Pull the contrast yarn gently and move the K CARRIAGE to left. (Do not pull the yarn too tightly.) When you are going to knit using more than one color in one row, repeat steps 6 - 8.



After knitting one row, hang the contrast yarn on the right SCREW as shown in the figure. Pull the contrast yarn gently and move the K CARRIAGE to right.

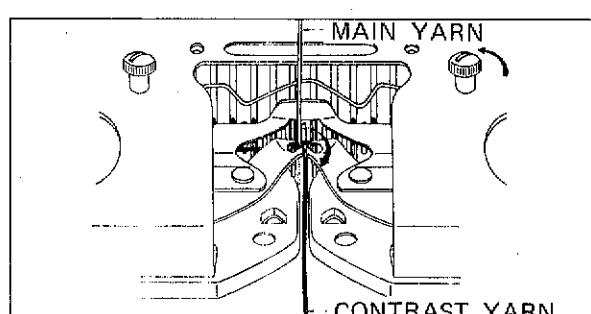


Stop the K CARRIAGE at the position where you are going to change the color of yarn. The changing position is just center between two needles.

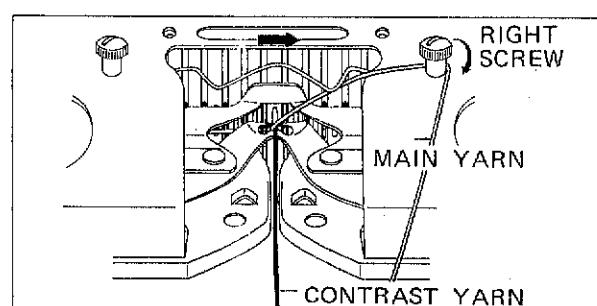


Cross the main and contrast yarn at the changing position to avoid making a hole on the knitting.

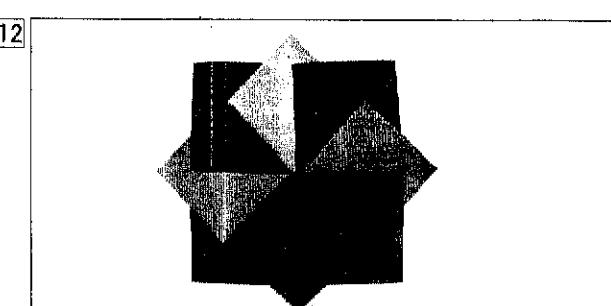
1). Pull up the main yarn as shown in the figure.



2). Remove the contrast yarn from yarn feeder and let it hang down as shown in the figure.



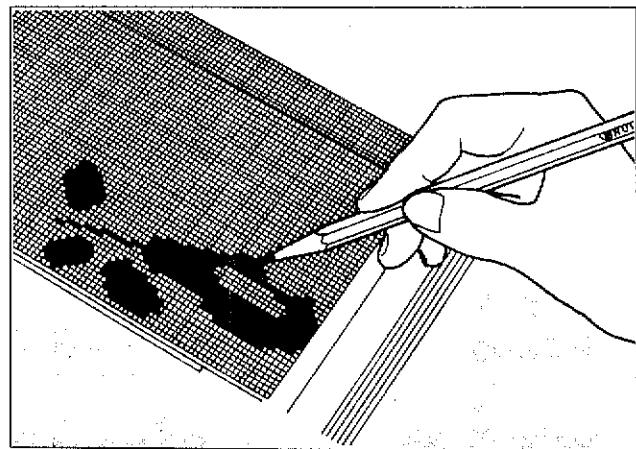
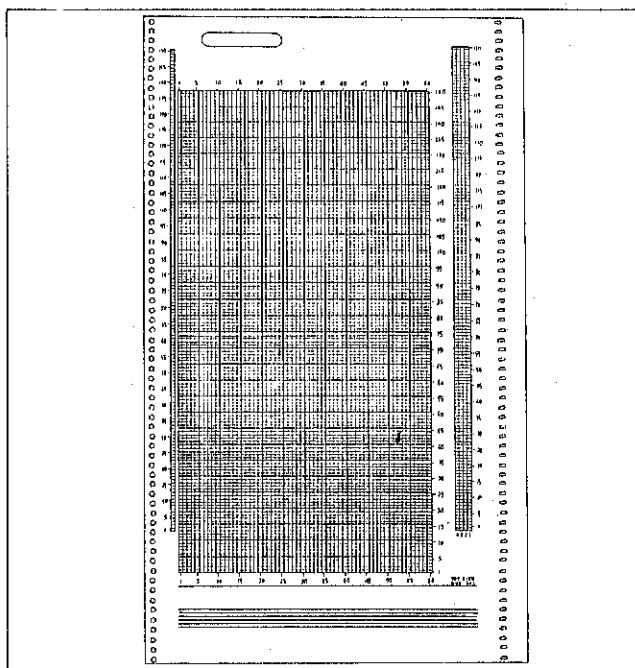
3). Hang the main yarn on the right SCREW, and move the K CARRIAGE to right.



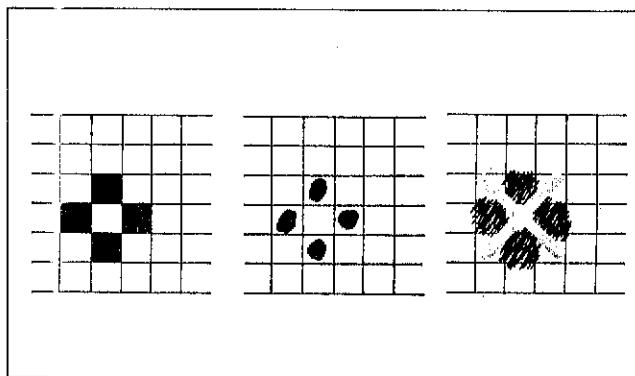
Repeat these steps in each row, now intarsia knitting is completed.

## 5-11 HOW TO MAKE YOUR OWN PATTERN, USING BLANK CARDS.

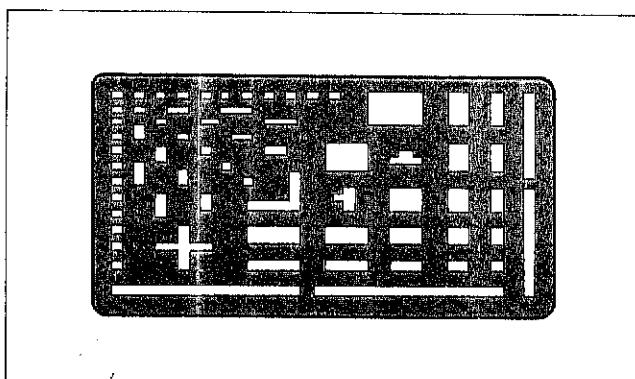
You can make Patterns on the BLANK CARD selected from the Pattern Book, various magazines, etc., and also can make your own Patterns.



- Use the accessory PENCIL only, when you fill in the blanks of PATTERN CARDS.
- Draw Patterns on the card face.
- When you correct the Pattern on the CARD, erase it with the accessory ERASER.



TEMPLATE



- When drawing patterns, do not protrude beyond the next blanks.
- TEMPLATE is useful when you fill in blanks and partially erase Patterns.

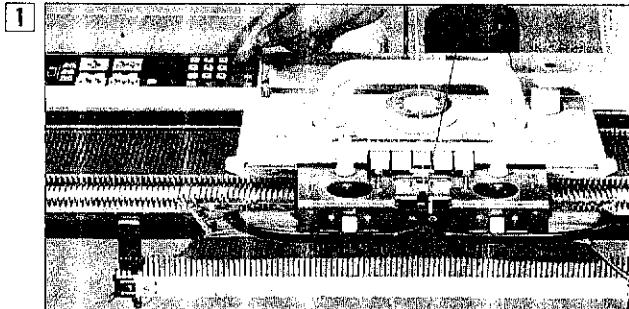
## 6. KNOWLEDGE OF PATTERN KNITTING

### 6-1 HOW TO CORRECT MISTAKES IN PATTERN KNITTING.

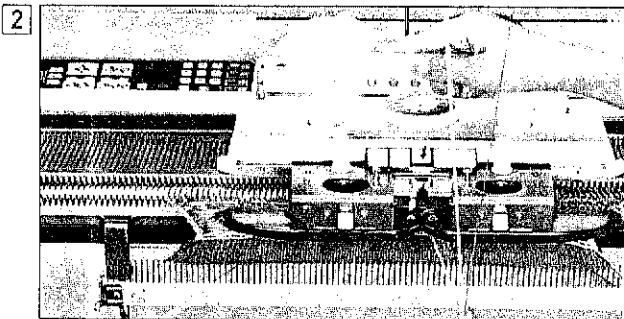
#### 6-1-1 IF THE K CARRIAGE SHOULD JAM.

Do not move the K CARRIAGE by force.

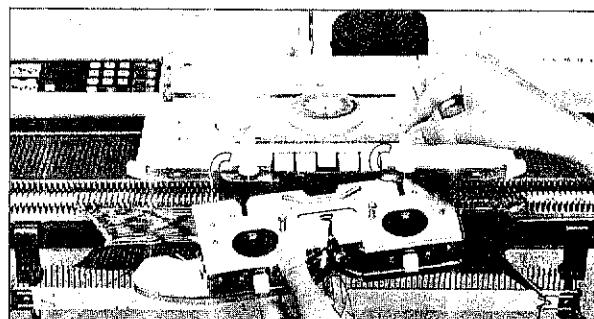
Remove it, then start knitting again from the beginning of the row.



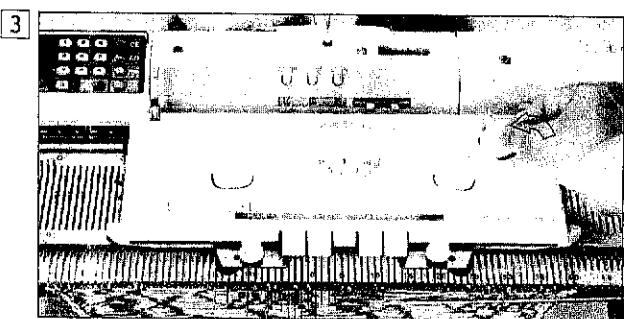
Push CR key.



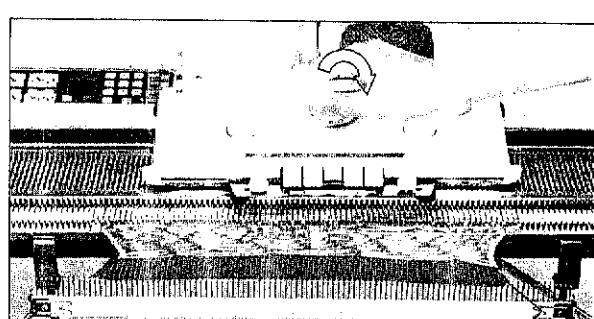
- 1). Take the yarn out of the YARN FEEDER. When knitting Fair-isle patterns or Weaving patterns, take the second color yarn out of the YARN FEEDER, too.



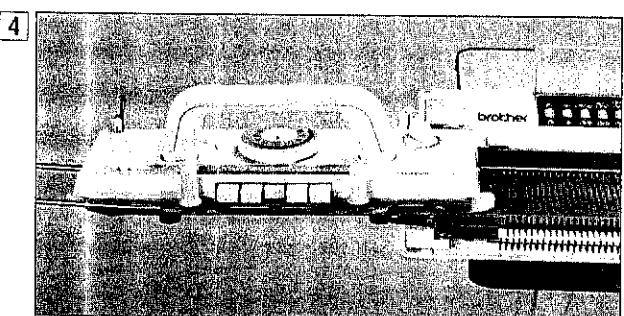
- 2). Loosen the KNOBS and remove the SINKER PLATE ASSEMBLY from the K CARRIAGE.



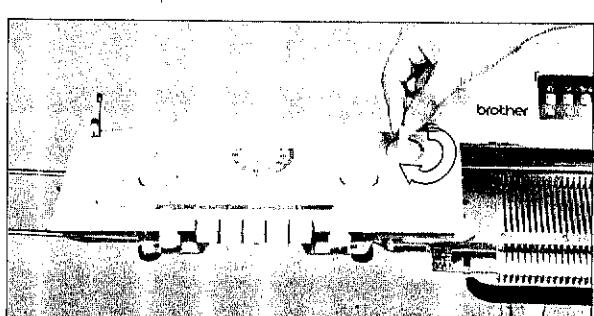
Set the CHANGE KNOB to position CR to release the K CARRIAGE from the machine.



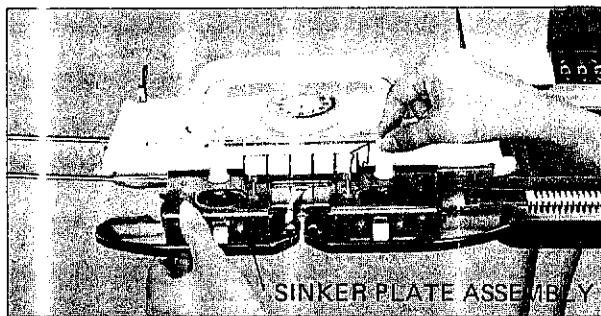
Lift up the K CARRIAGE to remove.



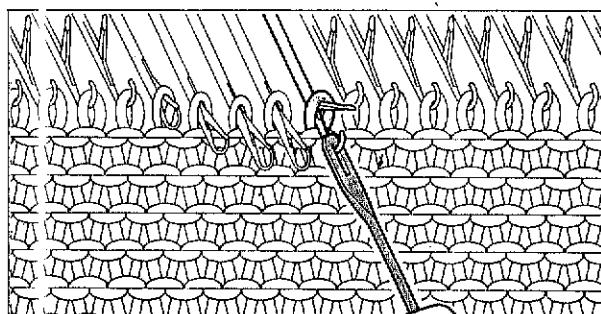
Place the K CARRIAGE on the end of the machine.



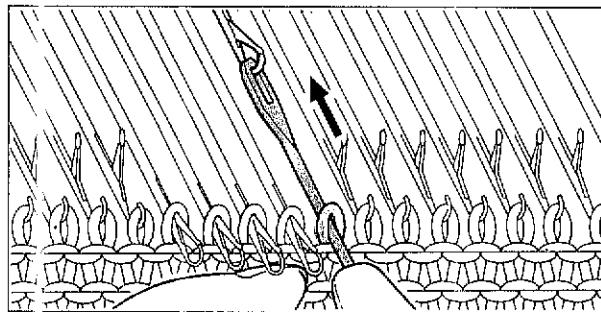
- 1). Set the CHANGE KNOB to position N.L. The CAM BUTTONS will be restored automatically.



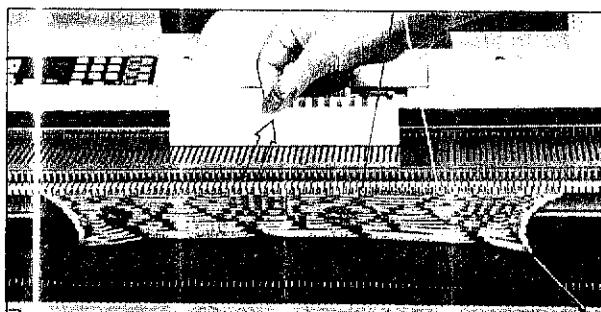
- 2). Return the SINKER PLATE ASSEMBLY to the K CARRIAGE.



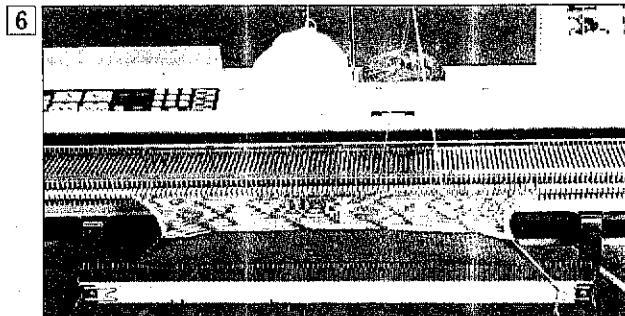
- 2). Place the EYE of the TRANSFER TOOL into the HOOK of the needle.



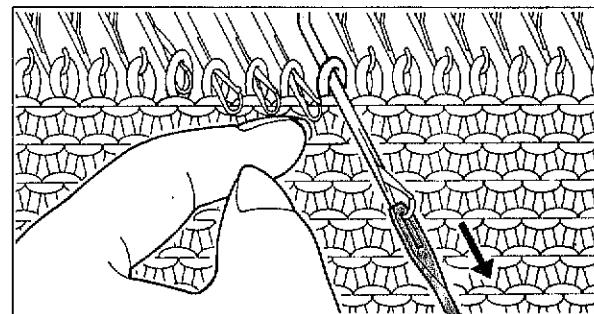
- 4). Push the TRANSFER TOOL toward the machine until the stitch is on the stem of the transfer tool.



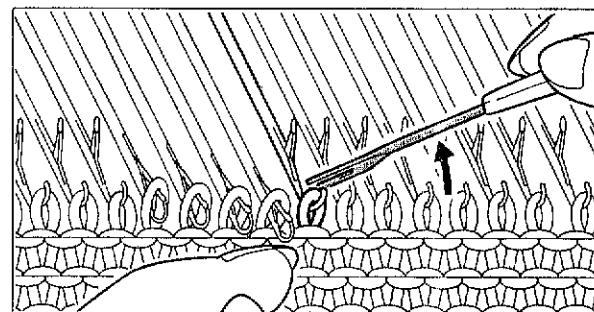
- 6). After transferring each stitch to the hook of a needle, bring back the needles to position B by using the 1/1 NEEDLE PUSHER.



- 1). Unravel a row of knitting. If some stitches stay on the stem of the needles, using the TRANSFER TOOL, transfer the stitches to the HOOK of the needle so that they will not drop.

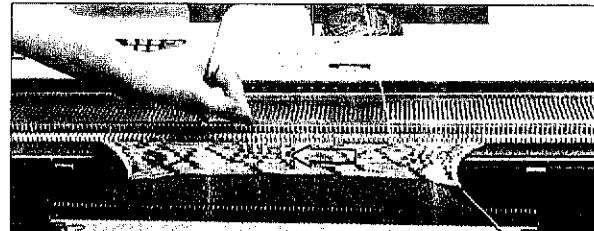


- 3). Hold the TRANSFER TOOL parallel with the needle and pull it toward you.

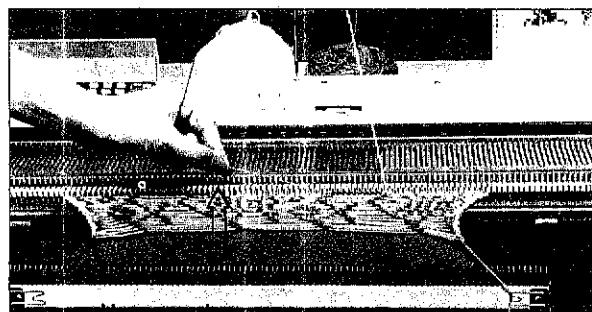


- 5). Transfer the stitch on the TRANSFER TOOL to the HOOK of the needle.

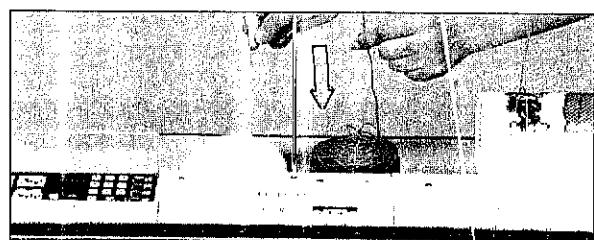
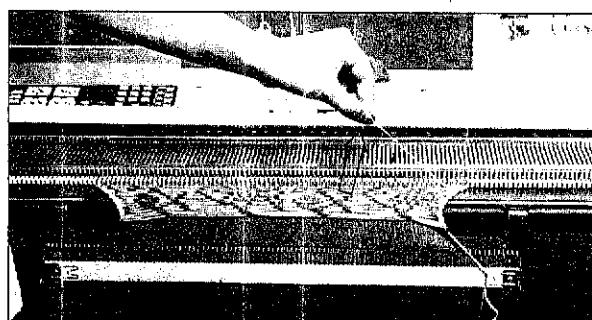
- 7) Unravelling a row of knitting.  
When knitting Fair-isle patterns or Weaving patterns, unravel the second color yarn, too.



- 1). Hold the main yarn parallel with the GATE PEGS.



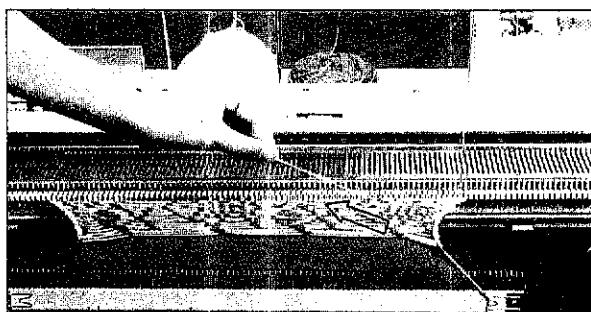
- 2). Pull the main yarn slightly sideways and up to unravel the swatch.



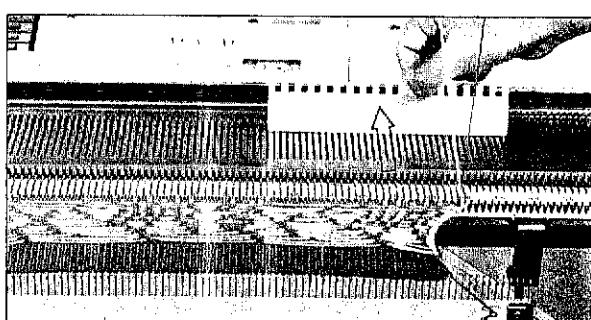
- 4). Pull the unraveled yarn down from under the REAR YARN GUIDE to take up the slack.

When unravelling several rows of swatch, repeat the procedure [7 - 1). ~ 4).

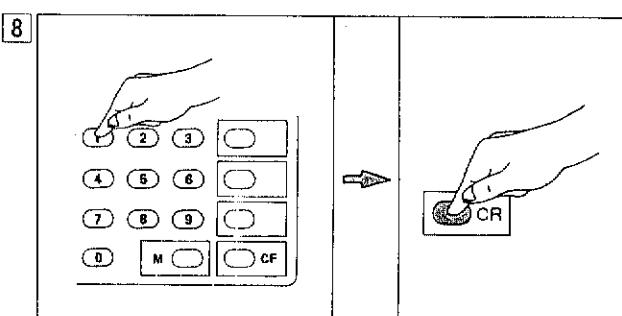
Go back the row counter for unraveled row.



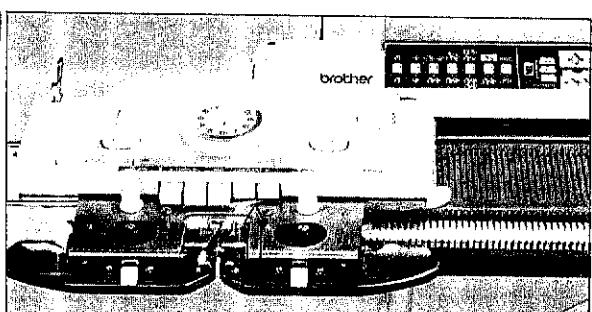
Unravel the second color yarn in the same way as the main yarn.



- 3). After unravelling the swatch, make sure that the stitches are on the hooks of the needles and return the needles to position B by using the 1/1 NEEDLE PUSHER.



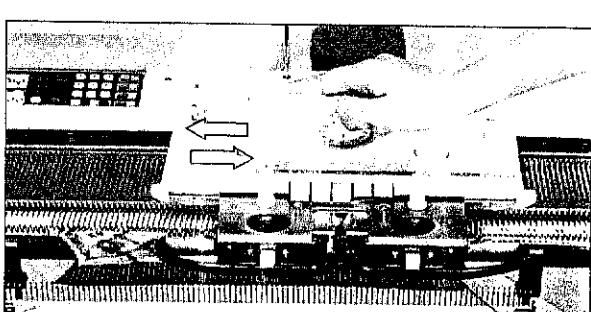
Enter the figure for unraveled row, and push CR Key.



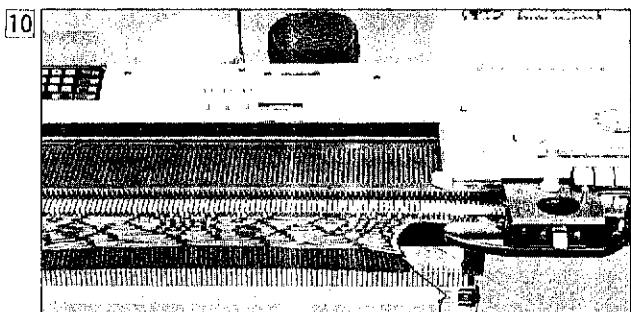
To select the needles, depress both "PART" buttons and set the CHANGE KNOB to KC.

\* When the CHANGE KNOB is set to KC (I), only both end needles are sometimes selected after moving K CARRIAGE for one row.

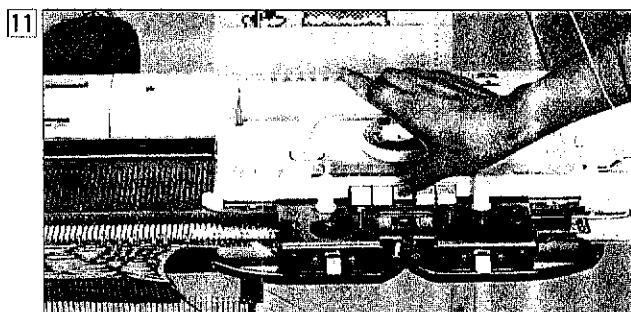
In this case, push back both end needles to position B by hand.



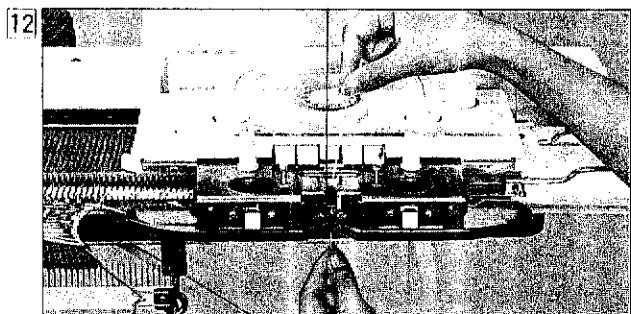
At this time, the yarn is not in the yarn feeder. After placing K Carriage outside " | < " or " | " mark, operate K Carriage till the needles will be selected.



Position B needles are selected.

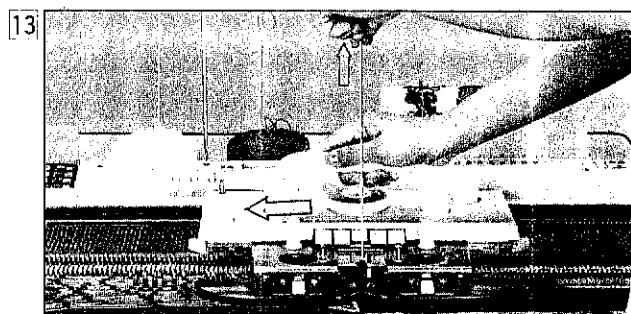


Push a cam button according to the pattern you are going to knit.



Thread the yarn in the YARN FEEDER and start knitting again.

When knitting Fair-isle patterns or Weaving patterns, do not forget to thread the second yarn.



Operate the K CARRIAGE pulling the yarn slightly up.

**6-1-2 If you operate K CARRIAGE too many, repeat the procedure [6] ~ [11].**

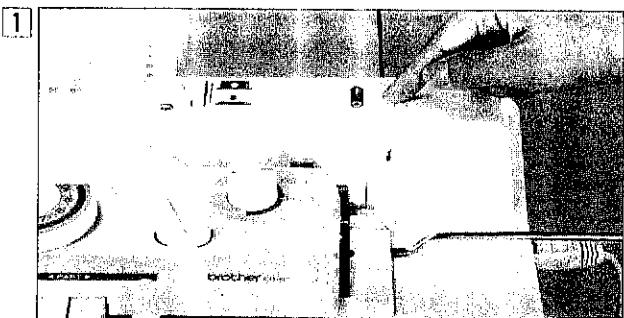
**6-1-3 If the selected needles are pushed back by mistake, . . .**

- 1). Enter 0 and push "CR" key.
- 2). Bring back the needles to position B, and take the yarn out of YARN FEEDER.
- 3). Repeat the procedure [9] ~ [11].

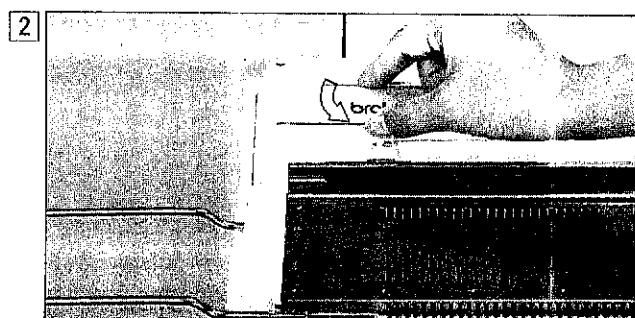
## **6-3 WHEN THE BATTERIES EXPIRE, THE NUMBER "888" GOES ON AND OFF IN THE DISPLAY .....**

- Two dry batteries are installed for the protection of the memory.
- The battery life is approximately one year.
- When the batteries expire, the number "888" goes on and off in the display, exchange the old batteries for new ones.
- Please use the ALKALINE BATTERY only.  
(Do not use the MANGANIC BATTERY.)
- Please put the batteries into the VINYL BAG provided and stow them in the machine.

### **6-3-1 HOW TO EXCHANGE THE BATTERIES.**



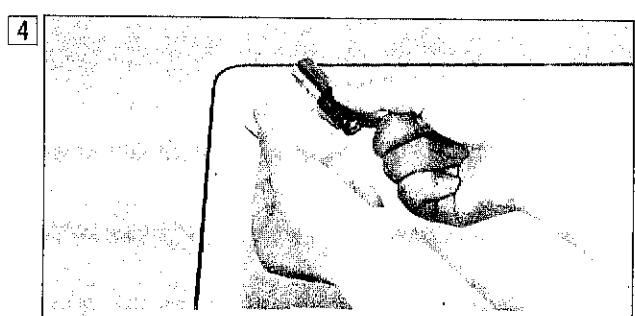
Turn off the POWER SWITCH.



Take off the battery lid which is the left side of PATTERN CASE. (Lift this side of the cover a little bit and draw it on this side.)



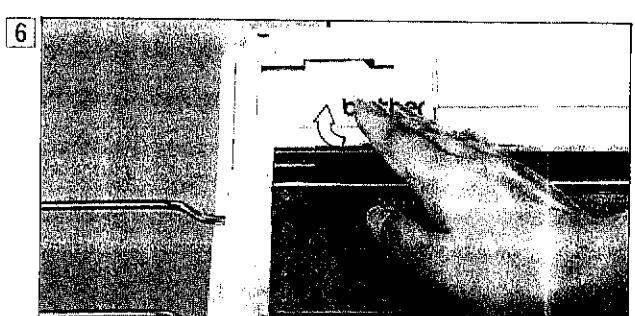
Remove the connecting cord from the battery box.



Exchange batteries.



Connect the cord and stow it.



Put on the lid.

After setting new batteries, check them as per the followings...

1. Set the PATTERN SELECTOR Switch to the lowest position.



2. Turn on the POWER SWITCH.



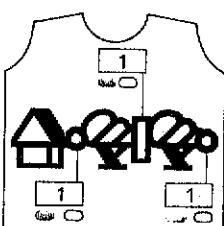
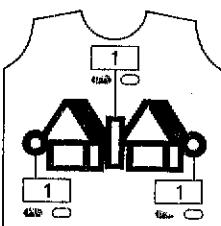
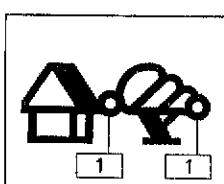
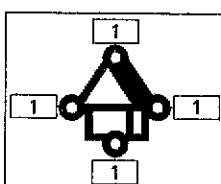
3. Push M key.



4. Set PATTERN SELECTOR Switch to middle position.



5. Enter the following figure, until READY LAMP lights.



## 7. BASIC OPERATION PRACTICE III (LACE PATTERN KNITTING)

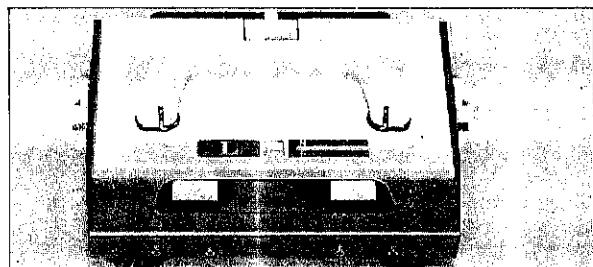
### 7-1 PREPARATION FOR LACE PATTERN KNITTING

#### L CARRIAGE

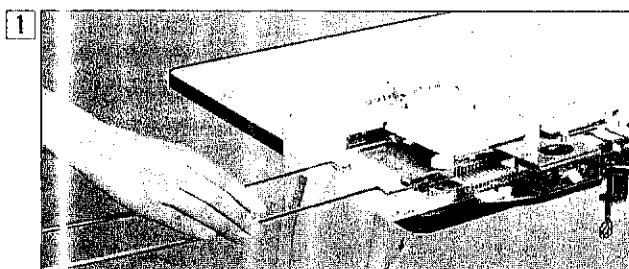
You can select the needles and transfer the stitches automatically by using the L CARRIAGE.

#### LACE CHANGE LEVER

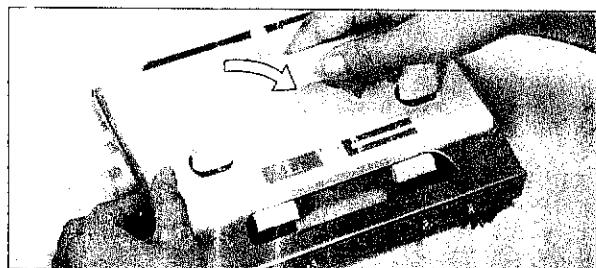
N .... Normal lace pattern knitting.  
F .... Fine-lace pattern knitting.



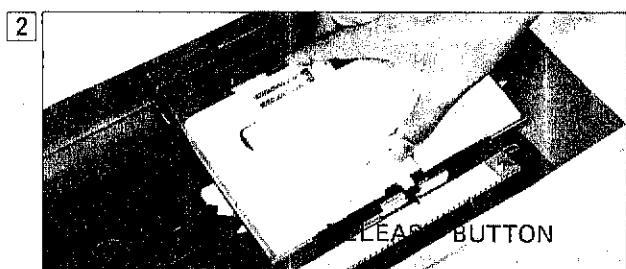
#### How to set the L CARRIAGE



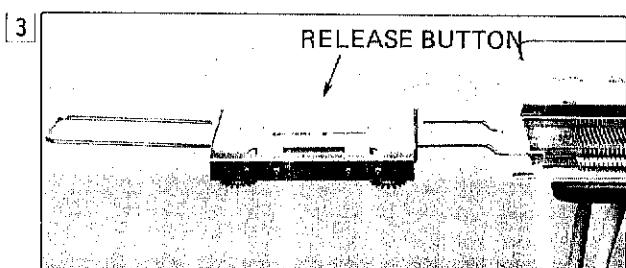
Insert the EXTENSION RAILS into the holes (A and B) at the both side of the machine to avoid dropping of the L CARRIAGE.



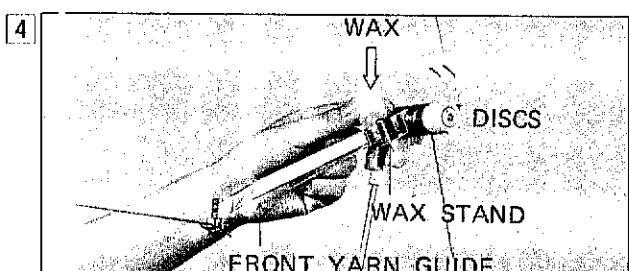
2) Then set up the L CARRIAGE HANDLE.



1) Push the RELEASE BUTTON to remove the L CARRIAGE.

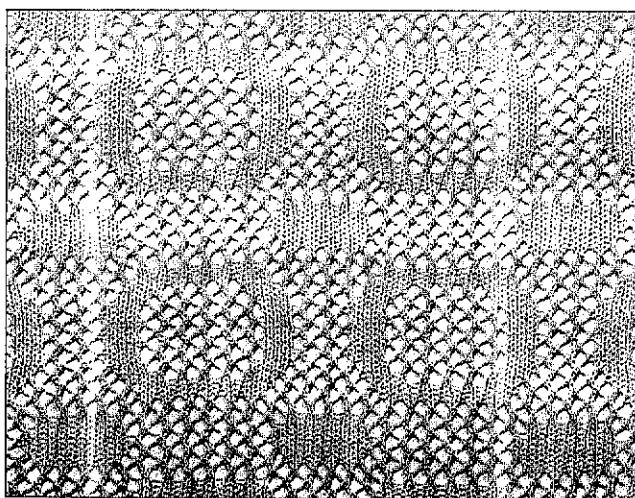


Push the RELEASE BUTTON and place the L CARRIAGE securely on the left side EXTENSION RAIL.

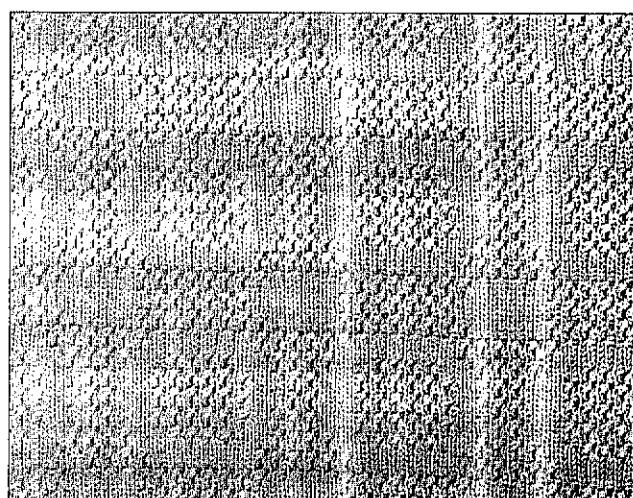


When you start LACE Pattern Knitting, set the WAX on the special stand.

## 7-2 FULL PATTERN KNITTING (The lower position of PATTERN SELECTOR)



Normal lace Pattern knitting

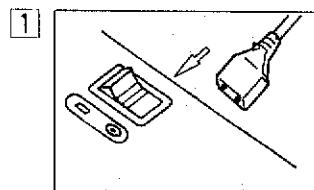


Fine-lace Pattern knitting

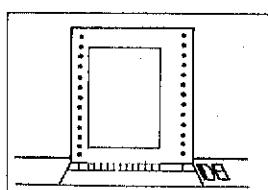
### How to knit Full Pattern Knitting

\* Use No. 8-30 PATTERN CARD.

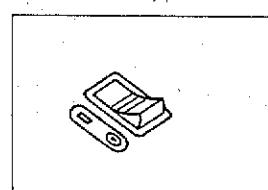
**Preparation** When using same CARD at the one now being set to the machine, push RR key and begin from [3].



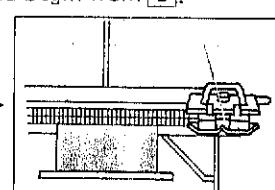
Turn off the POWER SWITCH, and plug the cord into the inlet.



Set the CARD.

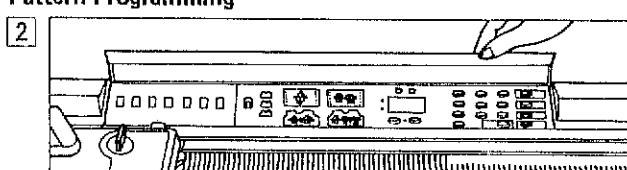


Turn on the POWER SWITCH.

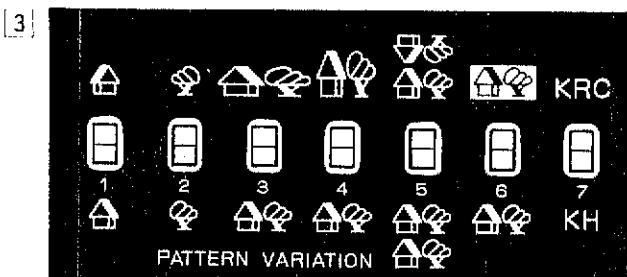


Knit several rows in Plain Knitting at T.D. No. 6, and place K CARRIAGE on the right side of the machine.

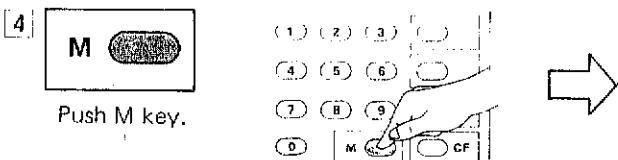
### Pattern Programming



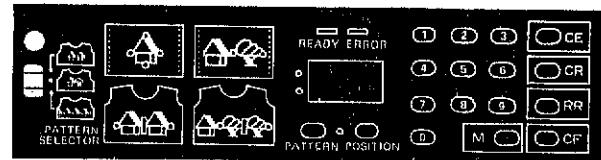
Open the lid.



Set all PATTERN VARIATION Switches to the lower position.

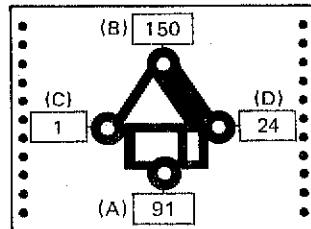
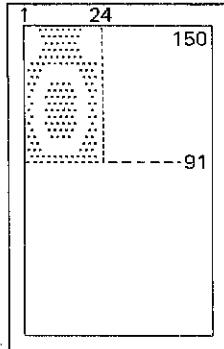


Push M key.

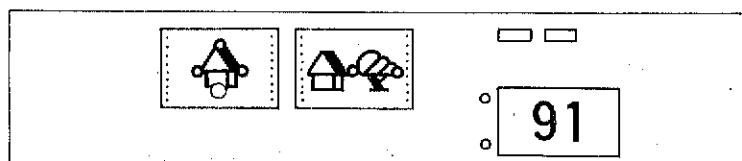
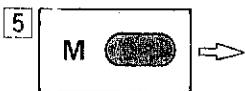


Set the PATTERN SELECTOR switch to the lowest position.

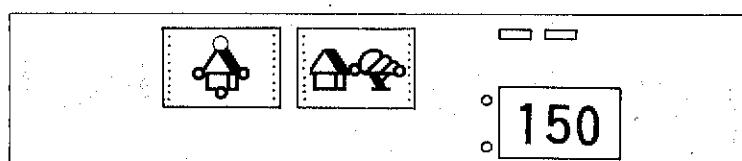
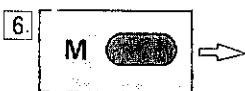
CARD No. 8-30



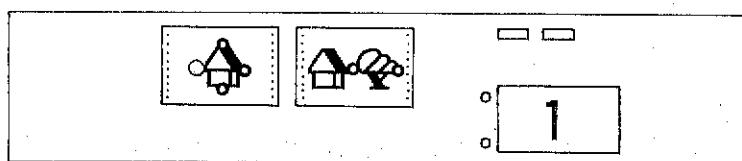
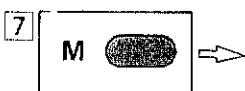
- (A) The first row of the pattern.  
(B) The last row of the pattern.  
(When knitting lace pattern, enter the more two figure than pattern length for two-row intervals.)  
(C) Left end of the pattern.  
(D) Right end of the pattern.



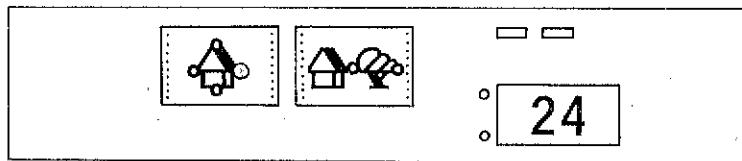
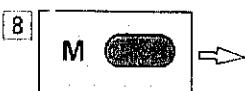
(A) Enter 91 which shows the first row of the pattern.



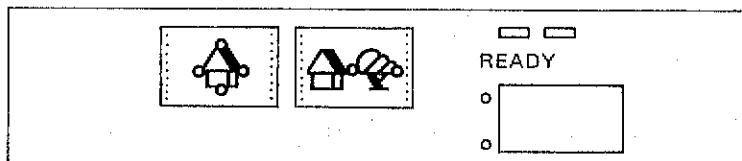
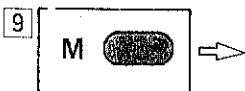
(B) Enter 150 which shows the last row of the pattern.



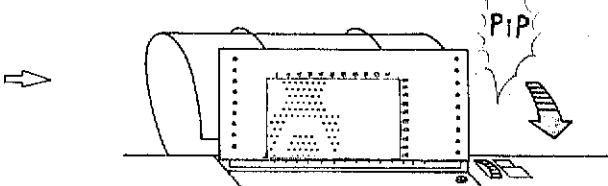
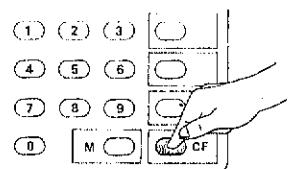
(C) Enter 1 which shows the left end of the pattern.



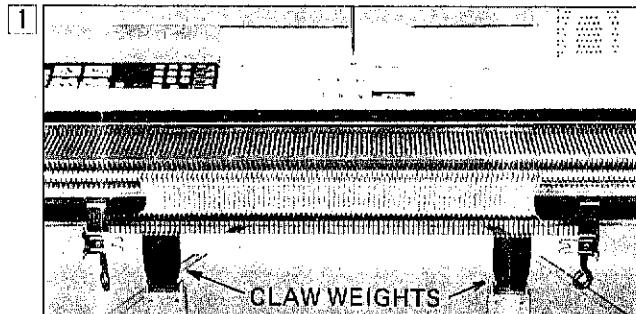
(D) Enter 24 which shows the right end of the pattern.



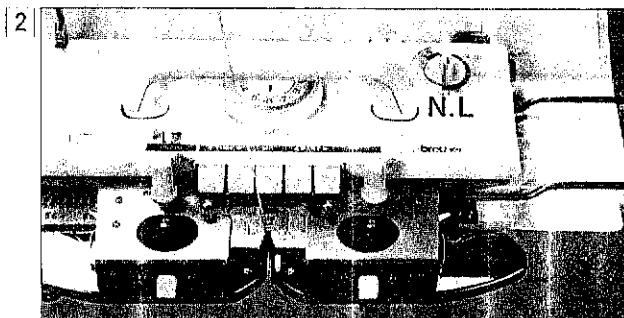
READY LAMP lights and the program is finished.



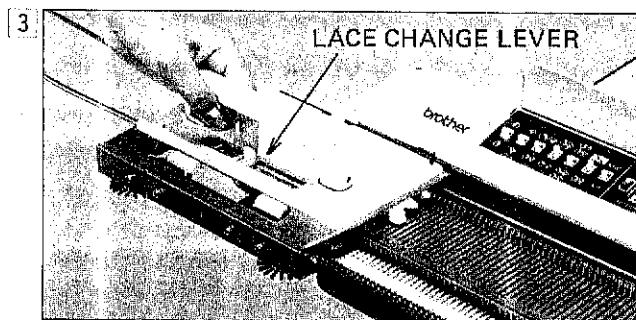
Patten Knitting



Hang the CLAW WEIGHTS onto the CAST-ON COMB.

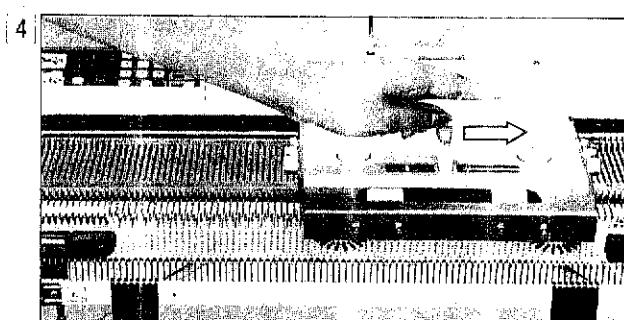


Make sure that the CHANGE KNOB of the K CARRIAGE is set to position N.L.

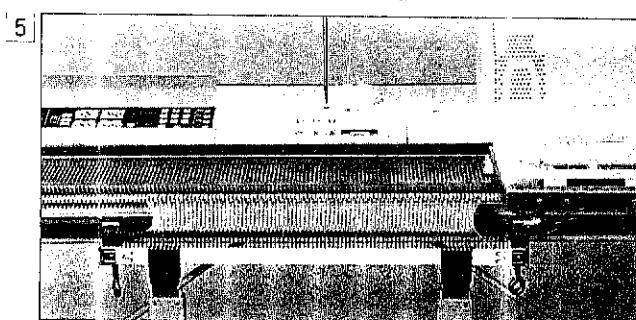


Set the LACE CHANGE LEVER to position N or F according to the pattern you are going to knit.

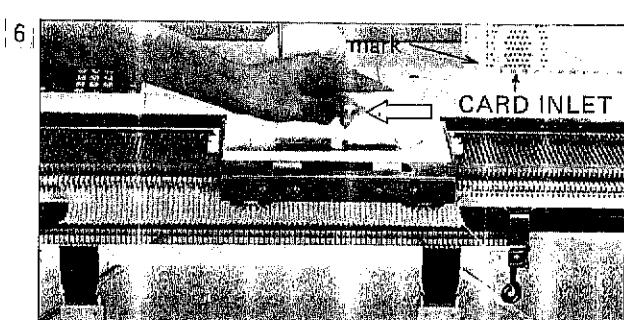
N ..... Normal lace pattern knitting.  
F ..... Fine-lace pattern knitting.



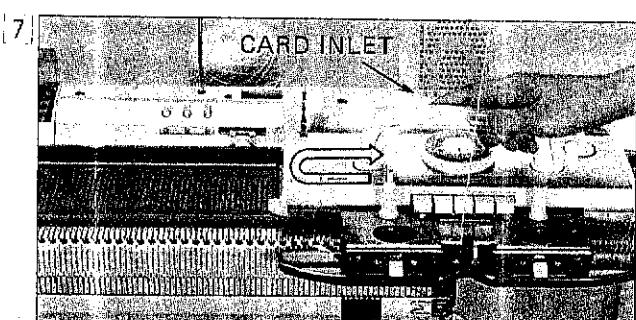
Make sure that the L CARRIAGE is placed outside of the " | " mark. Move the L CARRIAGE to right.



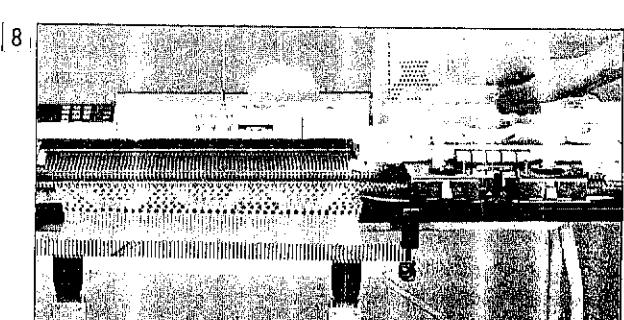
Position B needles are selected by L CARRIAGE.



Move L CARRIAGE to left. A mark (■) in the L WINDOW comes at the CARD INLET.

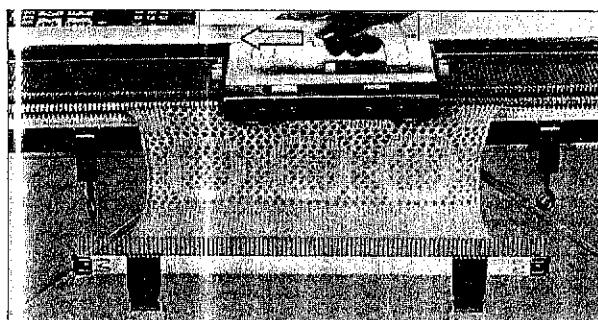


When a mark (■) in the L WINDOW comes at the CARD INLET, knit two rows by K CARRIAGE. (CARD does not feed at that time.)



Operate L CARRIAGE till the next mark (■) in the L WINDOW comes at the CARD INLET. Repeat to operate K and L CARRIAGES according to the mark.

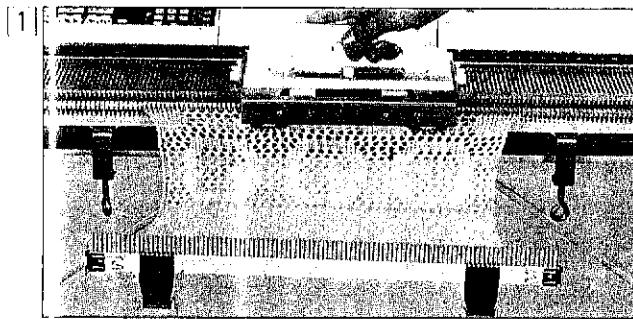
### To continue Lace Knitting



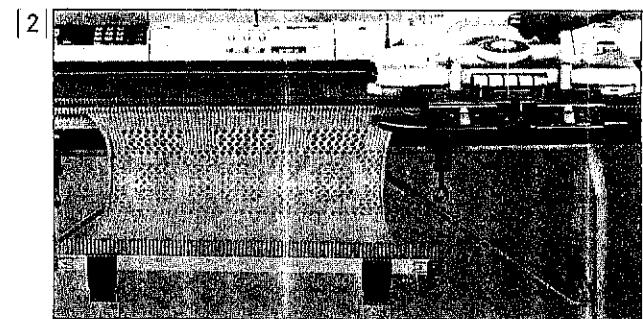
At the last row of the Pattern, PATTERN CARD is automatically returned to the first position of the Pattern with buzzer.

(If you are going to repeat, continue to operate CARRIAGES according to the mark.)

### To finish Lace Knitting



At the last row of the Pattern, PATTERN CARD is automatically returned to the first position of the Pattern with buzzer. L CARRIAGE should be moved from right to left at that time.

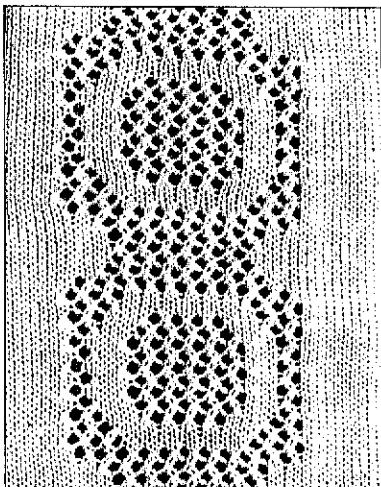


Knit several rows in Plain Knitting.

#### <IMPORTANT>

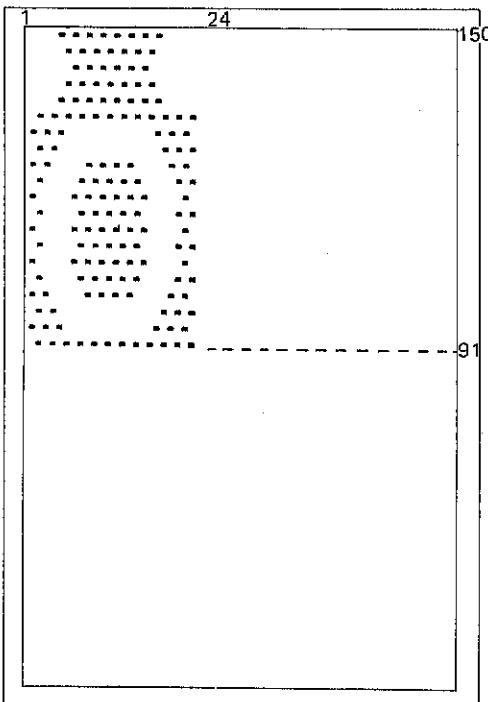
- In Lace Knitting, not only Full Pattern Knitting but also PATTERN A or A + B knitting can be made. As for programming for Lace PATTERN A, see page 96.
- When using L CARRIAGE, bear the following points in your mind.
  1. All PATTERN VARIATION Switches should be placed to lower position.
  2. When entering the size, refer to the PATTERN BOOK, attached accessory, page 26 ~ 28 , so that Lace Patterns can be knitted in good condition.
  3. When knitting PATTERN A + B in Lace, do not overlap Pattern A and B even partially.

### 7-3 PATTERN A (The upper position of PATTERN SELECTOR)

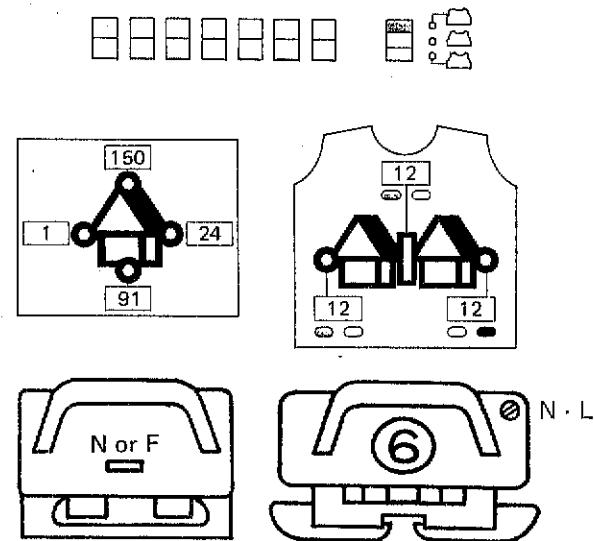


Setting the PATTERN SELECTOR Switch to the upper position, you can enjoy Single Motif Patterns in Lace or Fine Lace Patterns.

CARD No. 8-30



Program for the Pattern and set CARTRIAGES as shown in the following figure.



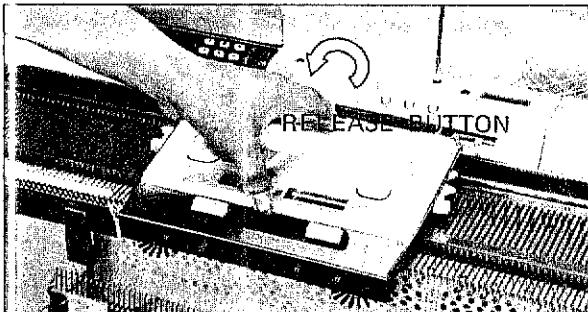
- Refer to instructions for the operation on page 94-95.
- The swatch in the above picture is the Single Motif Pattern in Lace Pattern and a Pattern is repeated many times vertically.

## 8. KNOWLEDGE OF LACE PATTERN KNITTING

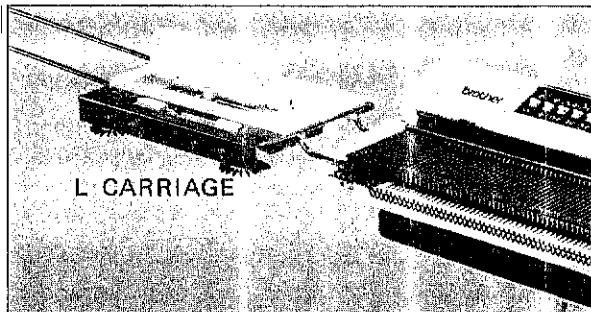
### 8-1 IF THE L CARRIAGE SHOULD JAM

Do not move the L CARRIAGE by force. Remove it, then start knitting again.

[1]



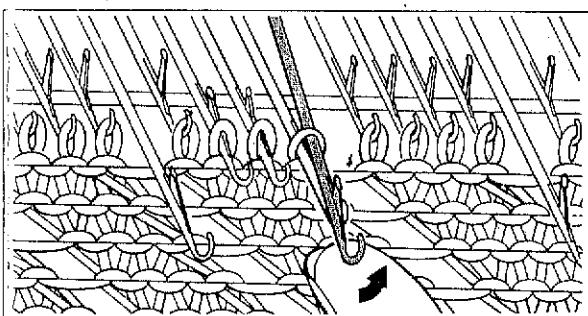
[2]



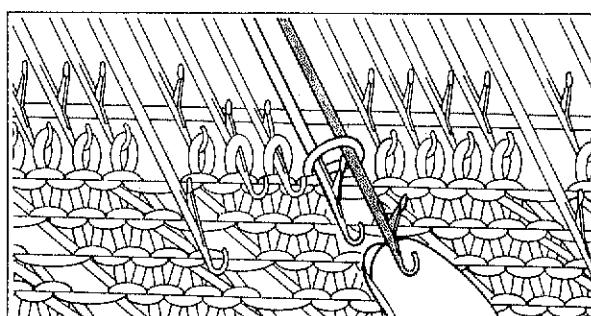
Push the RELEASE BUTTON toward you to remove the L CARRIAGE.

If the L CARRIAGE is caught on the needles, take care in removing it.

[3]

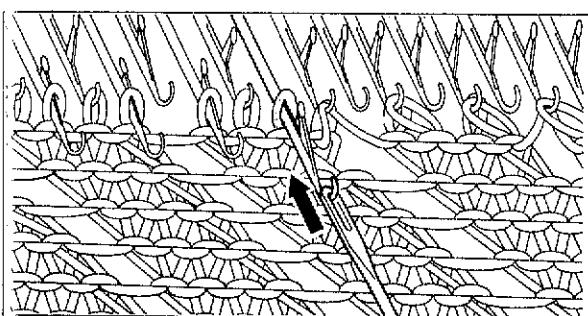


- 1). If you see the needles caught with each other, separate them by lifting their tips as shown in the figure.



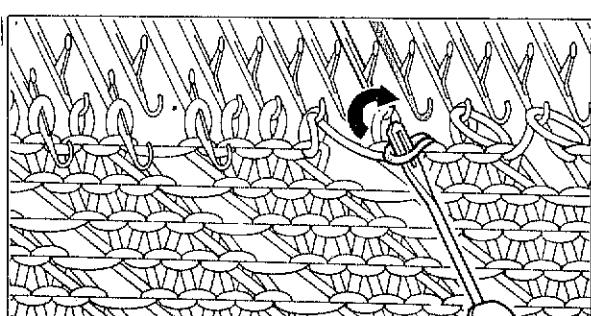
2).

[4]

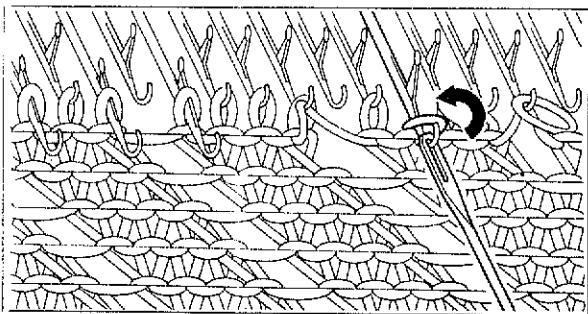


If the stitches are on the stem, transfer the stitches to the hooks of the needles by using the TRANSFER TOOL.

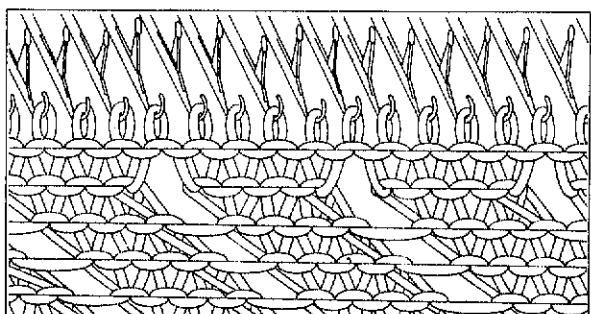
[5]



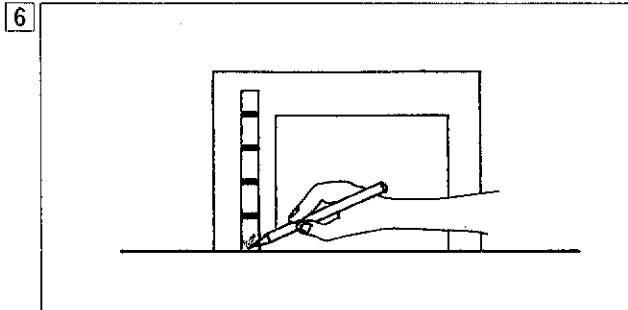
- 1). Return the transferred stitches to the adjacent needles by using the TRANSFER TOOL as shown in the figure.



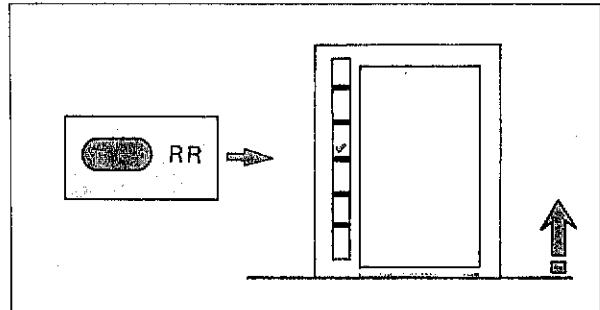
2).



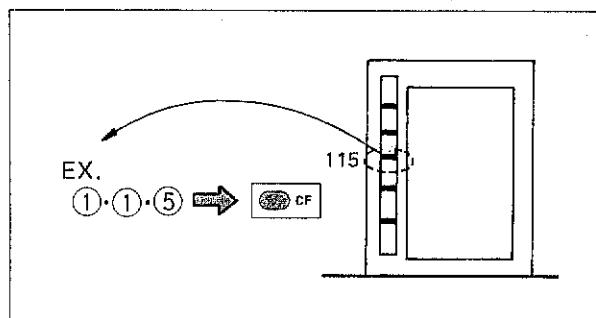
- 3). Return all the needles to position B.



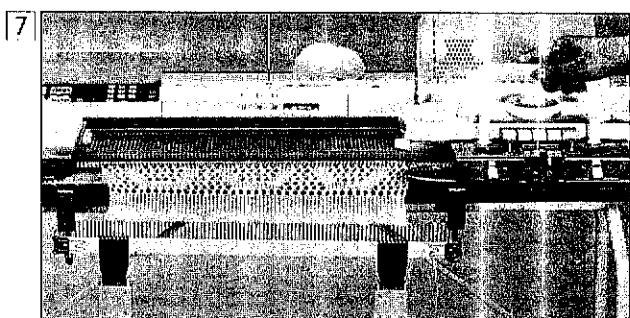
- 1). Mark "v", in the L WINDOW at the CARD INLET.



- 2). Push RR key — CARD returns to the set line.



- 3). Enter the row number of the latest mark (■) in the L WINDOW below your checking mark (v), and push CF key.



Operate the L CARRIAGE and the K CARRIAGE according to the marks (■) in the L WINDOW.

## 8-2 If you operate L CARRIAGE for one row too many,

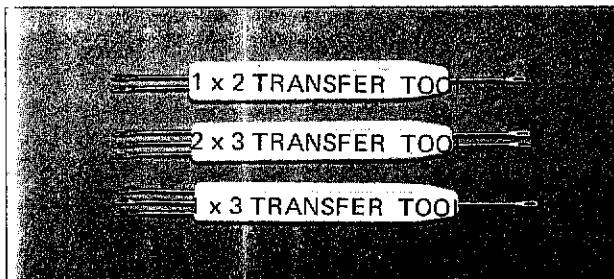
1. Set all selected needles (position D) to position B.
2. Move L CARRIAGE to the left side and put it outside "I<" mark. (When L CARRIAGE moves from right to left, needles are sometimes selected. Even if so, you can leave as they are.)
3. Enter 2 and push CR key.
4. Knit two rows by K CARRIAGE.
5. Operate the L CARRIAGE and the K CARRIAGE according to the marks (■) in the L WINDOW.

## 8-3 If the selected needles are pushed back by mistakes,

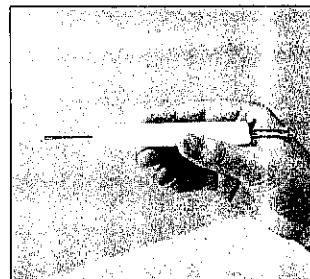
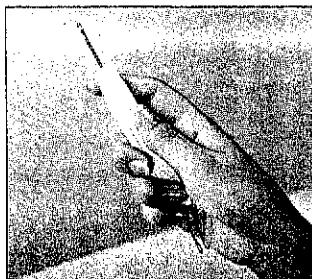
1. Bring back all needles to position B.
2. Enter 1 and push CR key.
3. Operate the L CARRIAGE till the needles are selected.
4. Operate the L CARRIAGE and the K CARRIAGE according to the mark (■) in the L WINDOW.

## 9-1. HOW TO USE THE TRANSFER TOOL AND THE LATCH TOOL

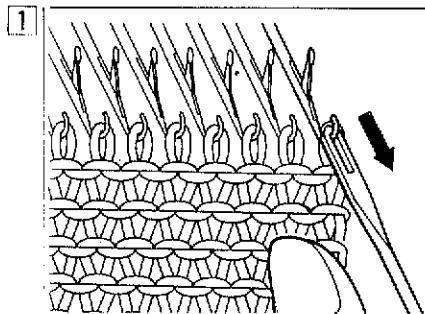
## 9-1-1. TRANSFER TOOLS



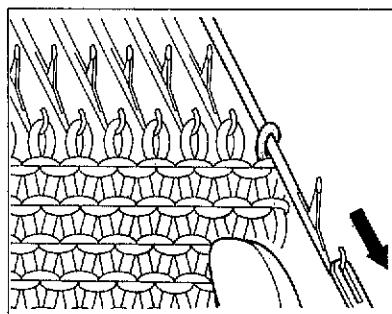
How to hold the transfer tool.



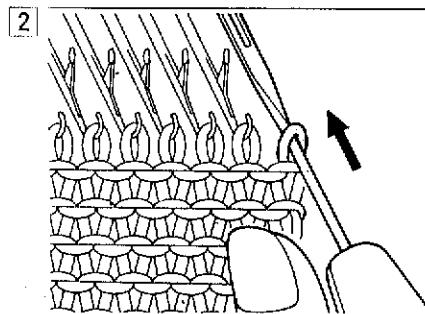
(Decreasing stitches with Transfer Tool.)



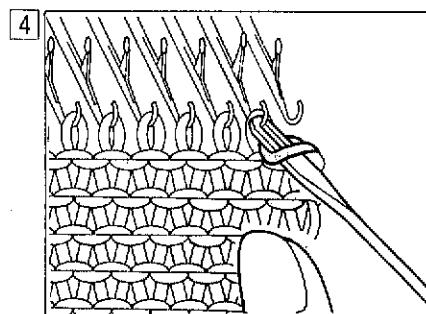
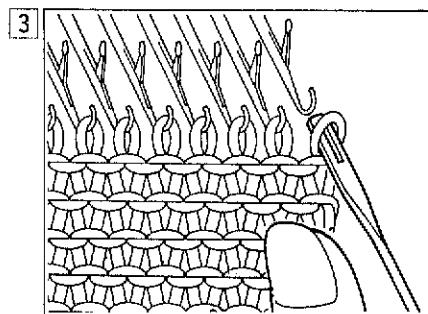
Hook the eye of the TRANSFER TOOL on the hook of the needle and pull it toward you.



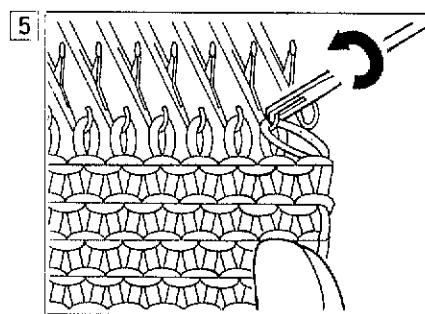
Hold your other hand against the knitting so that it will not be brought forward. The stitch in the hook of the needle will slide behind the latch and onto the stem of the needle.



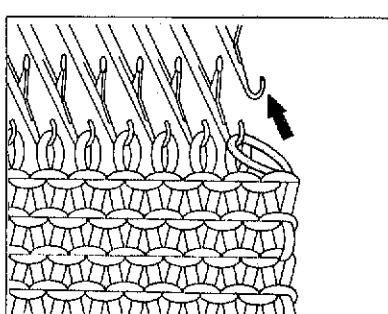
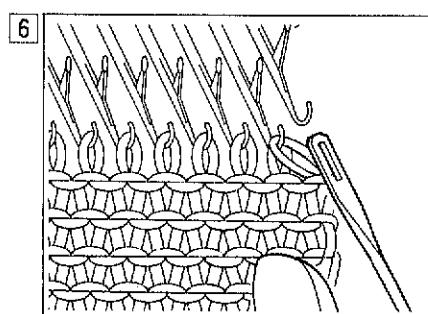
Remove the TRANSFER TOOL from the hook of the needle taking care not to drop the stitch from the TRANSFER TOOL.



Transfer the stitch from the transfer tool onto the hook of the needle.

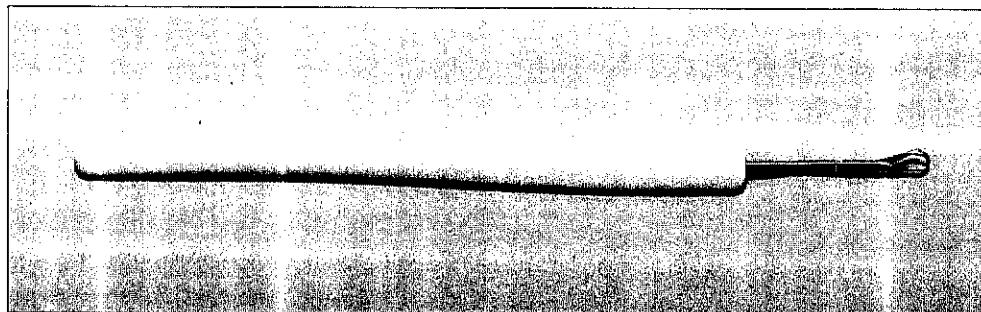


Remove the transfer tool from the hook of the needle and return the empty needle to position A.



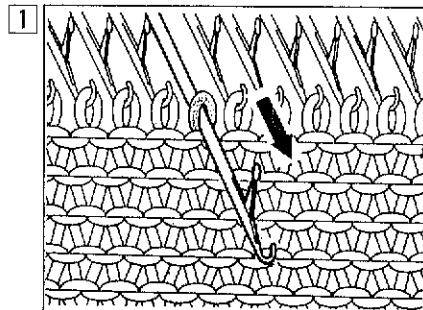
Remove the transfer tool from the hook of the needle and return the empty needle to position A.

## 9-1-2. LATCH TOOL.

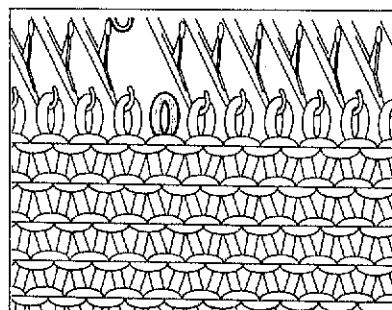


How to hold the latch tool.

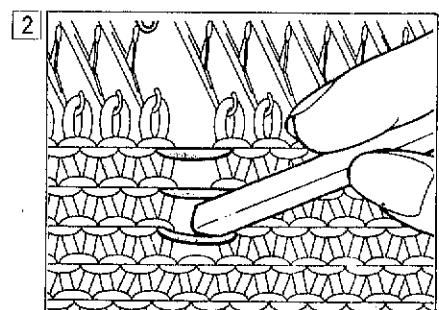
(Ribbing with the Latch Tool.)



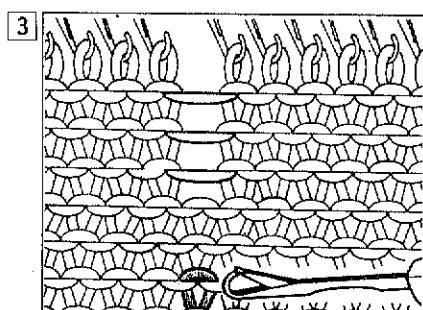
Bring one needle forward to position E by hand and return it to position A.



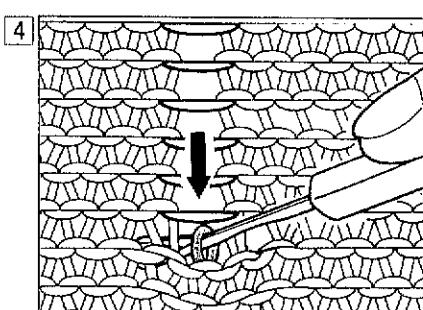
One stitch has been dropped from the hook of the needle.



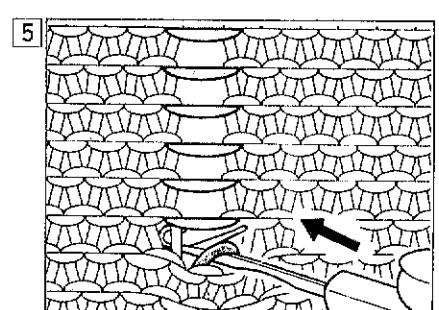
Using the tip of your LATCH TOOL, unravel your knitting.



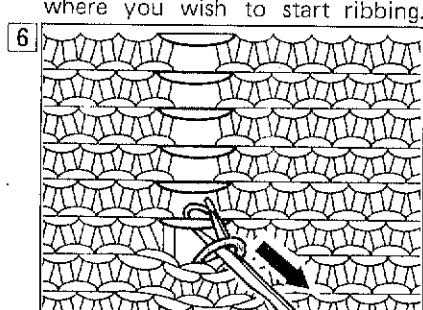
Drop the stitch in the line you wish to rib to a few rows above where you are to start ribbing. Then place the LATCH TOOL in the stitch where you wish to start ribbing.



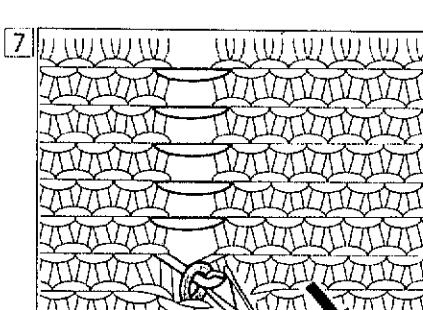
Depress the LATCH TOOL to drop the last few stitches. The stitch is on the stem of the latch tool.



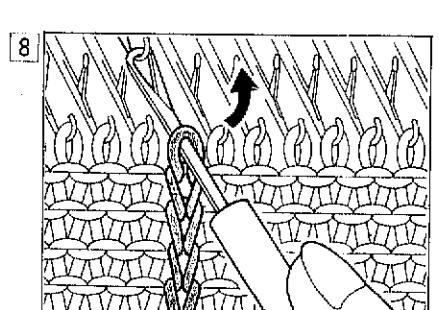
Hold the knitting firmly. Push the LATCH TOOL away from you until the stitch on the latch tool is behind the latch.



Catch the next parallel thread with the hook of the latch tool and pull the LATCH TOOL toward you.



The latch will close with the new yarn in the hook. Pull this new yarn through the stitch on the stem of the latch tool to form a new stitch. Do not pull the latch tool strongly.

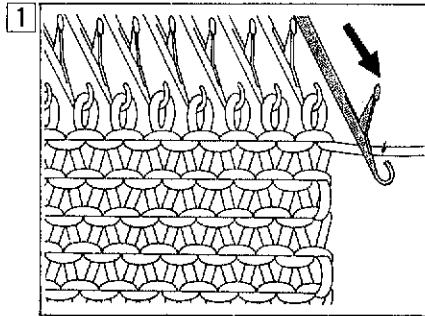


Repeat this until you reach the top, and hook the last stitch on the hook of the needle.

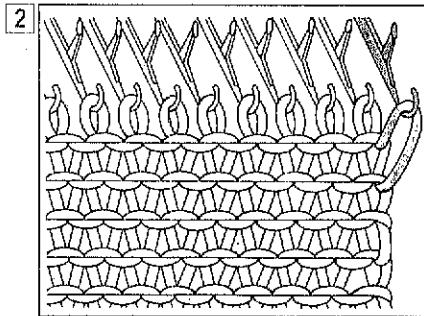
9-2. INCREASING AND DECREASING STITCHES  
PICKING UP DROPPED STITCHES

9-2-1. INCREASING STITCHES

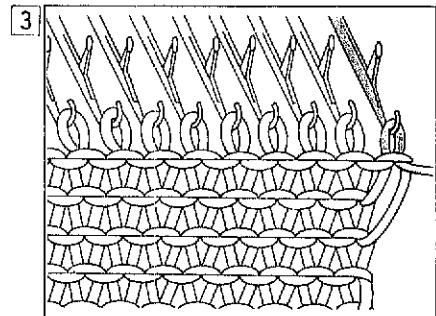
9-2-1-1. Increasing one stitch at either edge of the knitting.  
Simple method.



On the K carriage side, push one needle into working position B from position A.

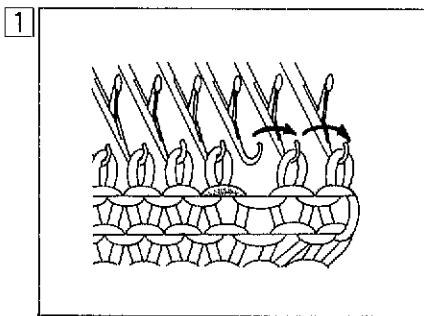


Operate the K carriage and knit one row. The empty needle will pick up the yarn.

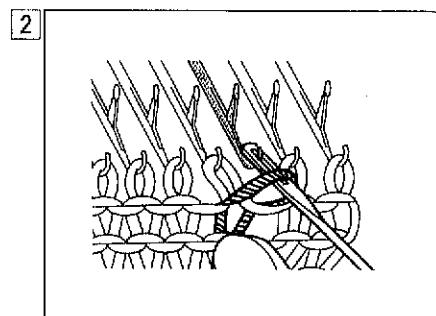


Knit another row.  
You have increased one stitch.

9-2-1-2. Increasing one stitch at either edge of the knitting. Full fashioned method.

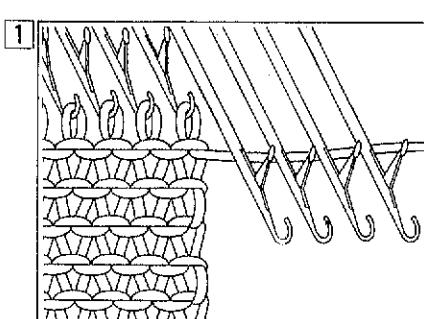


Using the 1 x 2 TRANSFER TOOL move the stitches out one needle so that the third needle from the end becomes empty.

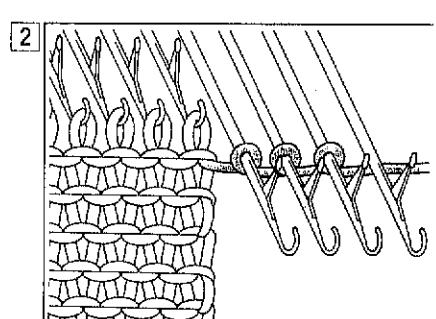


To fill in the empty needle pick up the purl side of either adjacent stitch on the lower row.

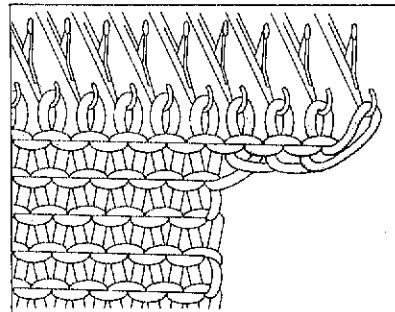
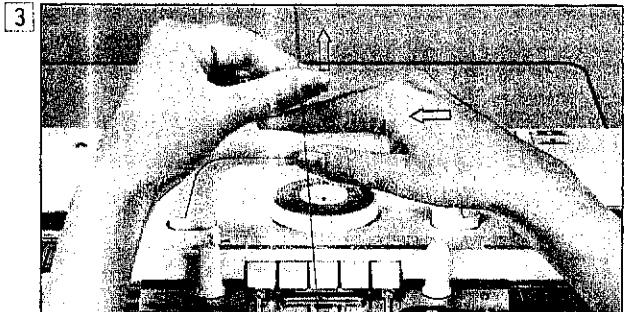
9-2-1-3. Increasing several stitches at either edge of the knitting.



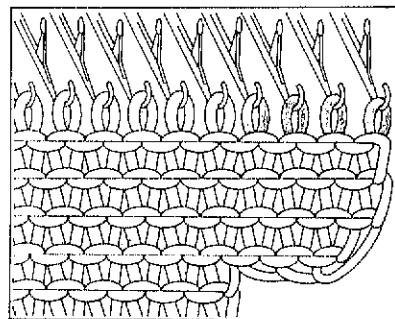
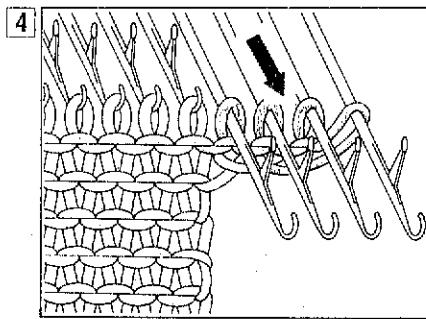
On the K carriage side, push the needles to be increased, to position E from A.



Wind the yarn loosely around the stems of each needle pushed to position E.



Pull up any slack between the K CARRIAGE and the end stitches and knit one row.

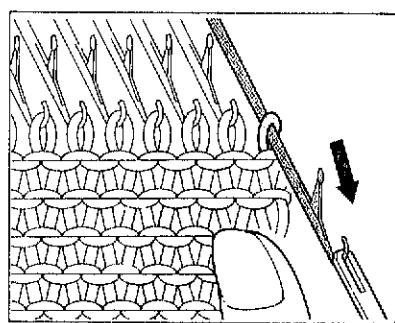
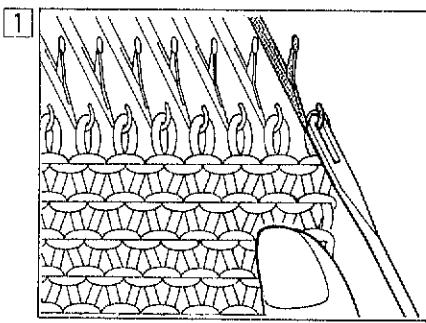


Push the needles with the increased stitches to position E and knit one row.

Repeat this two of three rows, and then continue to knit.

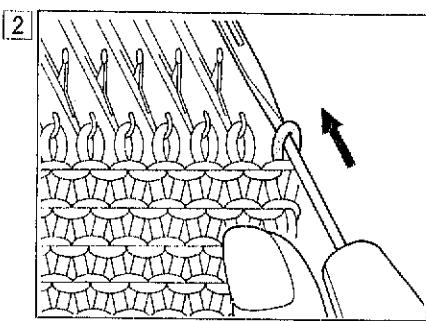
## 9-2-2. DECREASING STITCHES.

### 9-2-2-1. Decreasing one stitch at either edge of the knitting. Simple method.

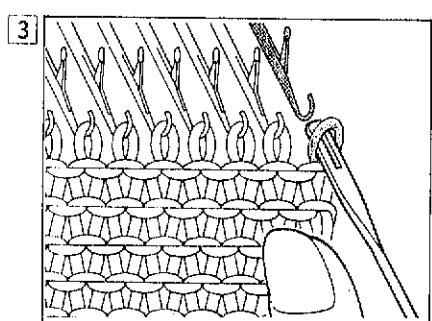


Hook the EYE of the TRANSFER TOOL on the hook of the needle, then pull it toward you.

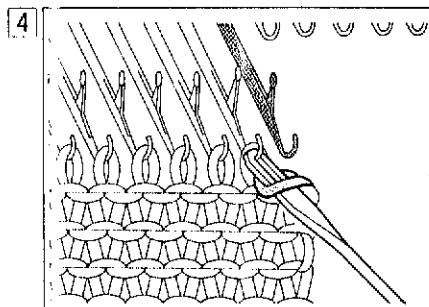
Hold your other hand against the knitting so that it is not brought forward.



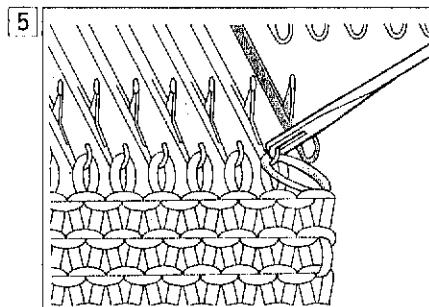
Hold the TRANSFER TOOL parallel with the needles and push it all the way back. Then the stitch will be transferred to the TRANSFER TOOL.



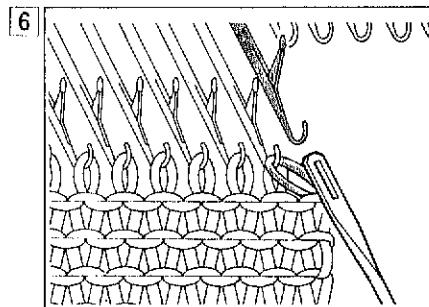
Remove the TRANSFER TOOL from the hook of the needle taking care not to drop the stitch from the TRANSFER TOOL.



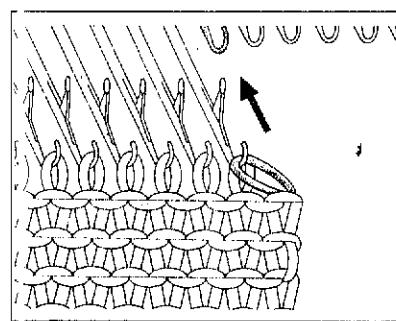
Hook the transfer tool on the hook of the adjacent needle.



Transfer the stitch from the TRANSFER TOOL to the hook of the needle.



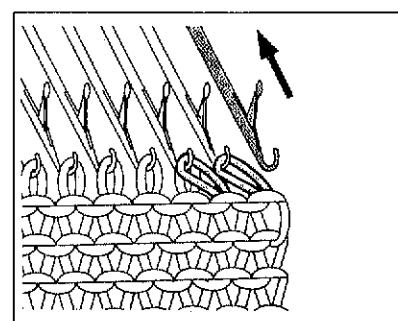
Remove the TRANSFER TOOL from the hook of the needle.



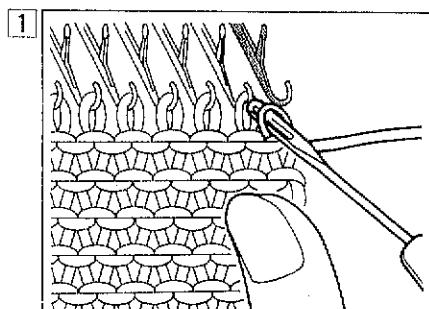
Return the empty needle to position A. Then you have decreased one stitch.

#### 9-2-2-2. Decreasing one stitch at either edge of the knitting. Full fashioned method.

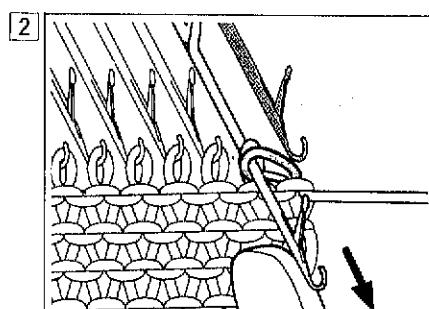
Use the 1 x 2 TRANSFER TOOL to transfer two stitches at the end to the inside needles, and place empty needle out of action to position A.



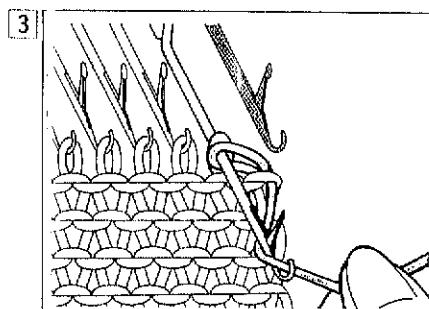
#### 9-2-2-3. Decreasing several stitches at either side of the knitting.



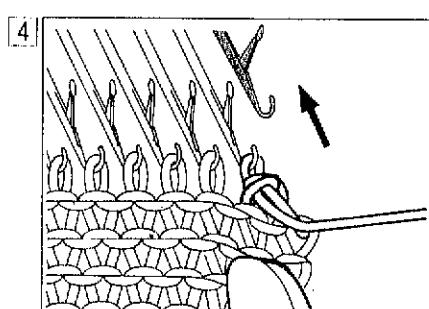
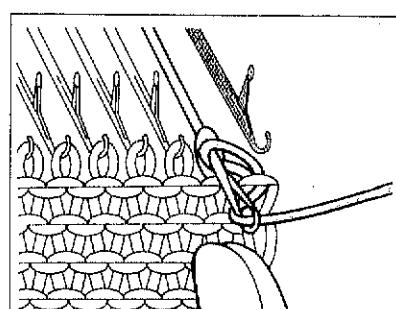
On the same side as the K CARRIAGE, transfer the end stitch to the 2nd needle.



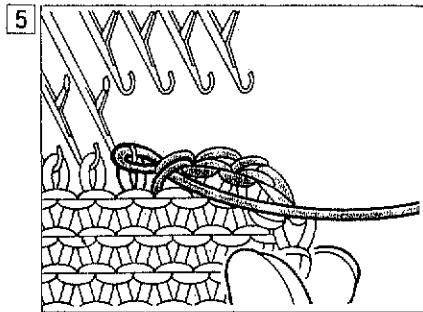
Bring forward the needle with the two stitches so that the stitches fall behind the needle latch.



Place the yarn in the needle hook, in front of the latch and push the needle back manually to form a single stitch.



Return the empty needle to position A.



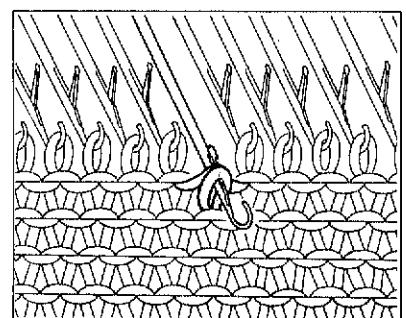
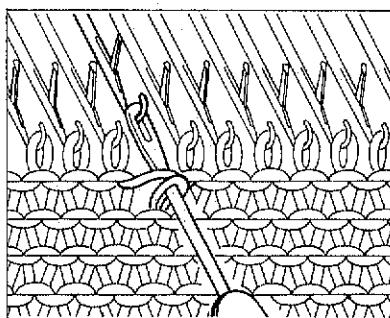
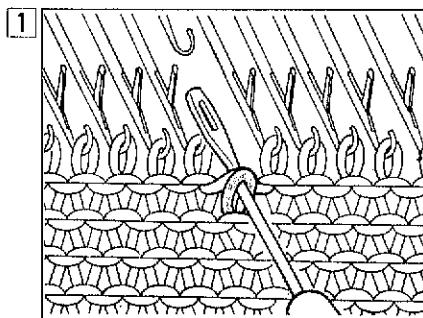
Repeat this process for each stitch. Take care not to make the stitches too tight.

When you reach the last stitch, hang the last stitch on the adjacent needle. (Two stitches are on the hook of the needle.)

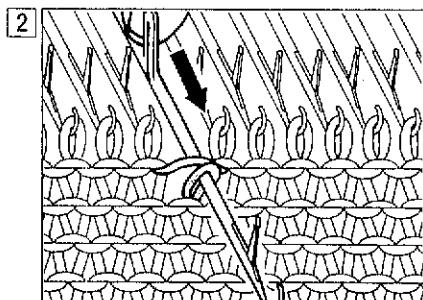
Then operate the K CARRIAGE.

### 9-2-3. PICKING UP DROPPED STITCHES

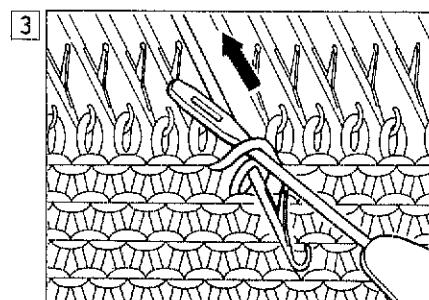
#### 9-2-3-1. Repairing a dropped stitch.



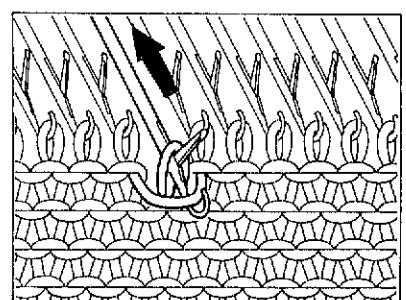
Using a TRANSFER TOOL, pick up the stitch (the row below the dropped stitch) and the unknitted yarn and put both of them on the empty needle.



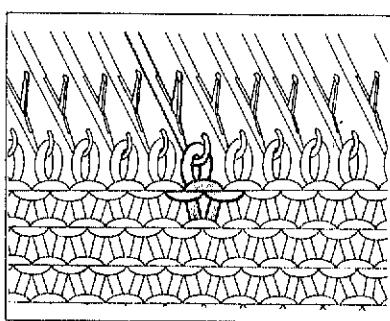
Push the needle to position E. Stitch and unknitted yarn are now behind the latch.



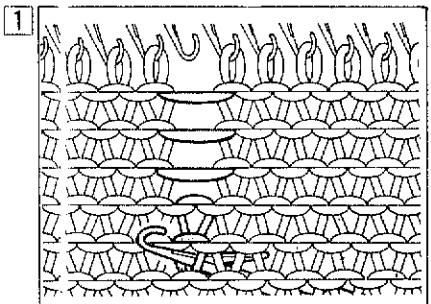
Push the needle back until stitch is just behind the latch. Using a TRANSFER TOOL, catch the unknitted yarn into the hook of the needle.



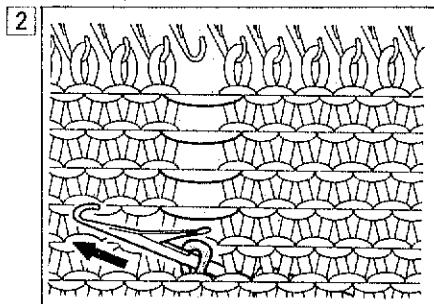
Then return the needle to position B pulling the yarn in the hook through the stitch on the stem of the the needle. The stitch has now been reknitted.



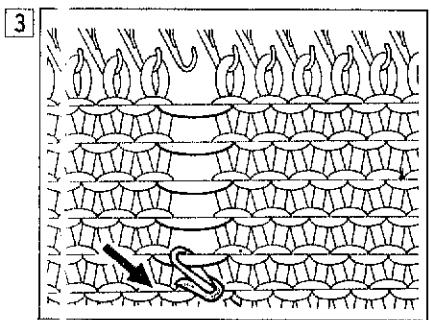
9-2-3-2. Repairing a stitch that has dropped several rows.



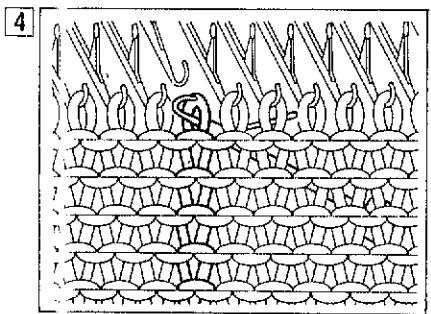
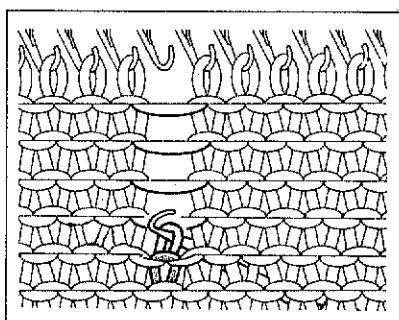
Insert the latch tool from behind your knitting through the last stitch that has not dropped.



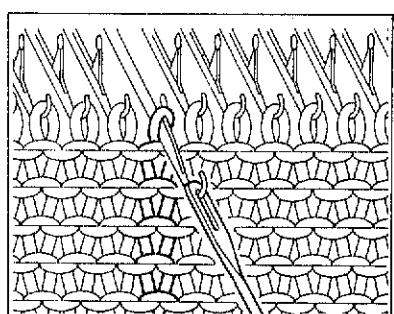
Push the latch tool towards you pulling slightly down on your knitting so that the stitch comes behind the latch.



Catch the next cross thread into the hook and pull back the LATCH TOOL through the stitch on the stem. There is now one stitch.

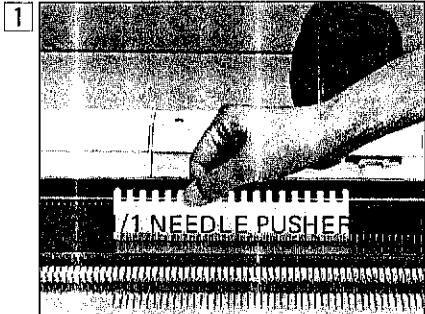


Repeat this until you reach the top. Pull the last stitch rather tight to make a bigger loop. Insert the transfer tool into the loop from the front. Carefully remove this stitch from the latch tool and place it on the hook of the needle with your transfer tool.

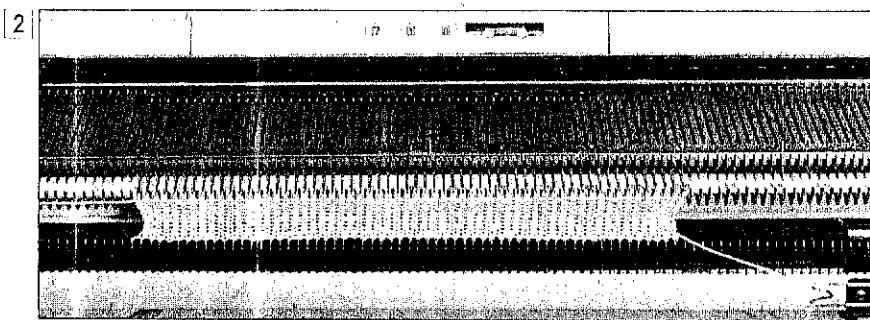


## 9-3. HOW TO MAKE A HEM

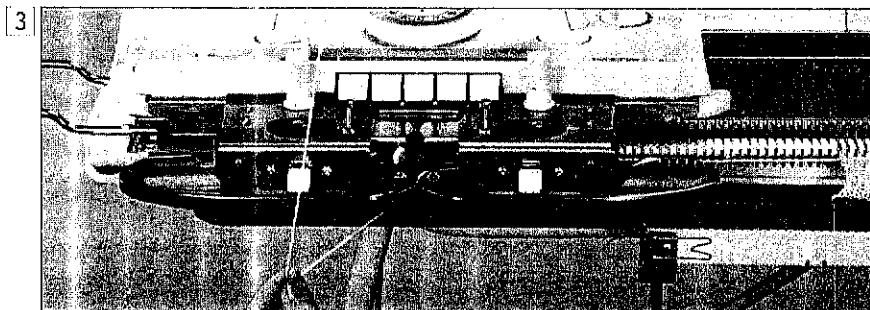
### 9-3-1. PLAIN HEM



Using the 1/1 NEEDLE PUSHER bring forward to position B the required number of needles, after selecting an equal number of needles on either side of the center "0".



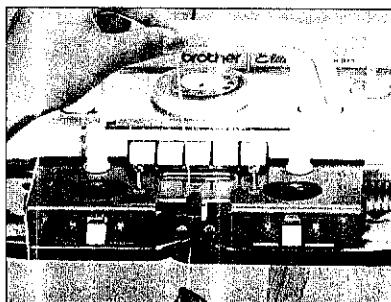
Knit about ten rows in plain knitting with waste yarn and put the K CARRIAGE on the left side of the machine.



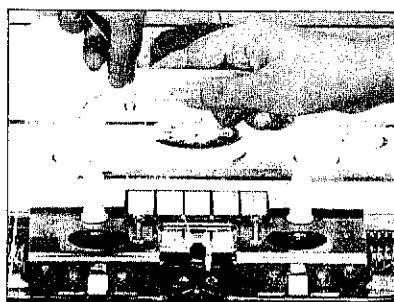
Pull the waste yarn out of the YARN FEEDER "A". Remove the CAST-ON THREAD from the accessory box.



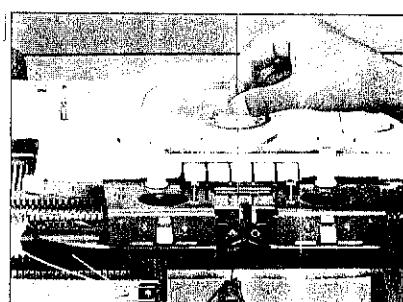
CAST-ON THREAD



Thread the CAST-ON THREAD into YARN FEEDER "A".

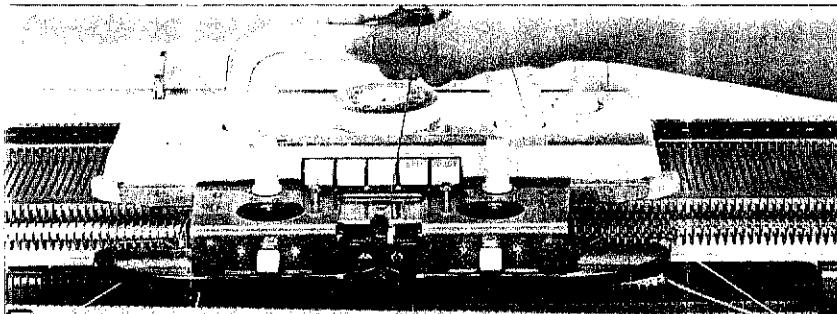


Move the K CARRIAGE to the right holding the CAST-ON THREAD with your left hand.



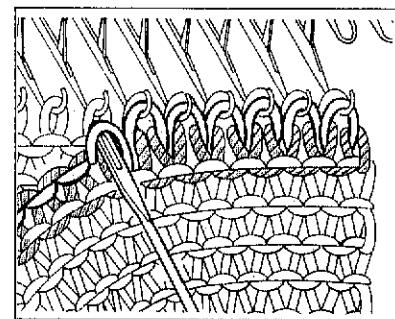
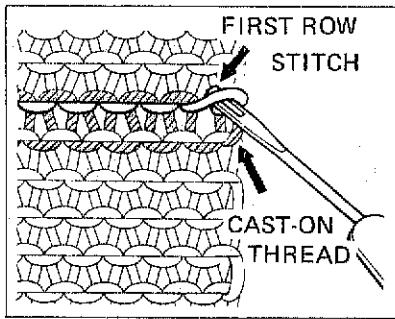
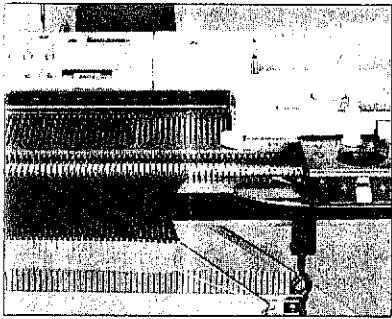
Pull the CAST-ON THREAD out of the YARN FEEDER "A" and thread the regular knitting yarn into YARN FEEDER "A". Set the ROW COUNTER at "0".

5



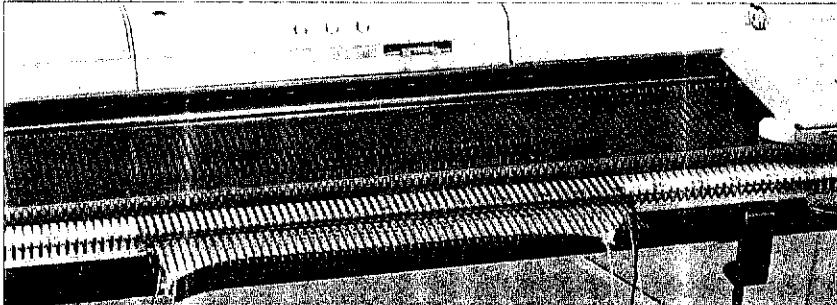
Knit in plain knitting with the yarn. For the first row, move the K CARRIAGE holding the yarn under the YARN FEEDER "A" with your left hand at the right edge of the knitting. Knit the number of rows required for double the length of the hem. Remove the CAST-ON COMB from the knitting.

6



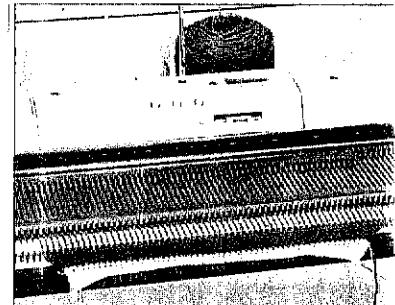
Pick up the first stitch of the first row where it meets the CAST-ON THREAD. Insert the TRANSFER TOOL. Hook the stitch onto the first needle. Repeat across the row.

7



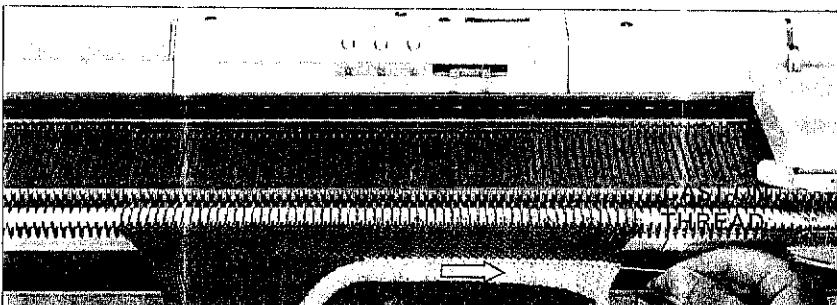
After picking up all the stitches, bring all the needles forward to position E. (There will be one less stitch to be picked up than there are needles.)

8



Operate the K carriage and continue to knit in plain knitting.

9



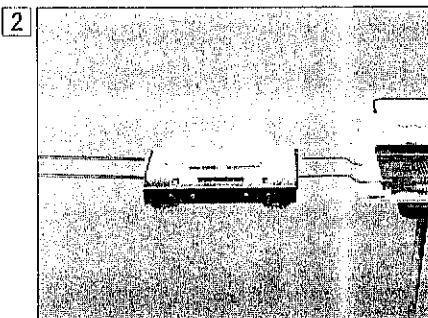
After knitting several rows, pull out the CAST-ON THREAD. Then the part knitted with the waste yarn is removed and the PLAIN HEM is made.



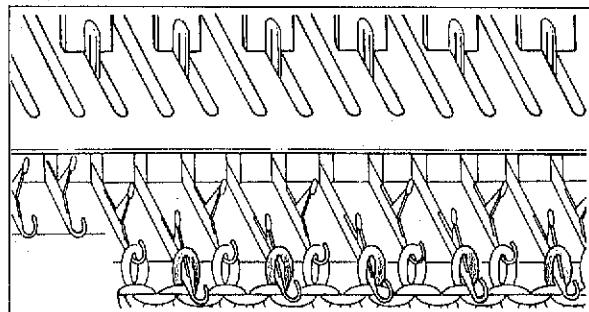
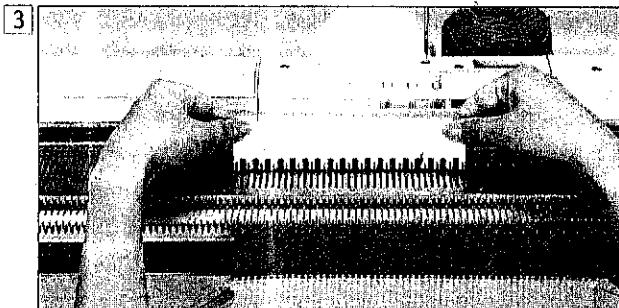
PLAIN HEM

### 9-3-2. PICOT HEM

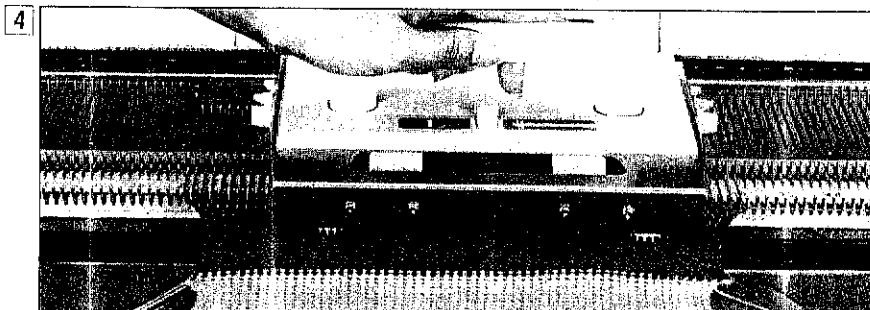
- [1] After knitting with waste yarn and CAST-ON THREAD, knit up to half the depth of the hem. (The K CARRIAGE is on the right side of the machine.)



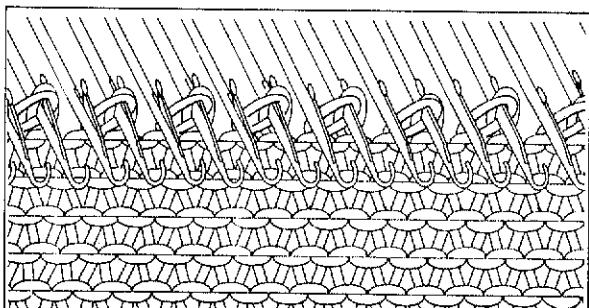
Place the L CARRIAGE on the left side EXTENSION RAIL.



Starting with the second needle from either end, bring forward every alternate needle to position D by using the 1/1 NEEDLE PUSHER. End needles must remain in position B.



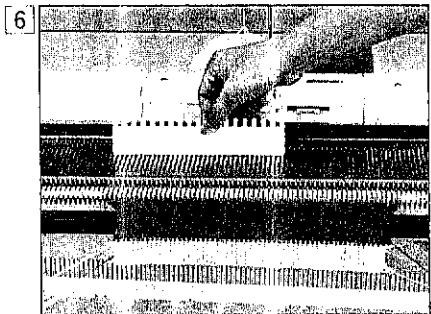
Move the L CARRIAGE to right.



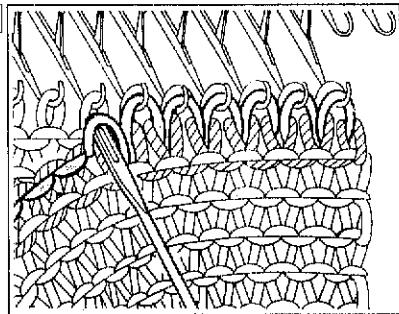
Every second stitch has now been transferred to the adjacent needle.



Remove the L CARRIAGE from the machine by pushing the RELEASE BUTTON.

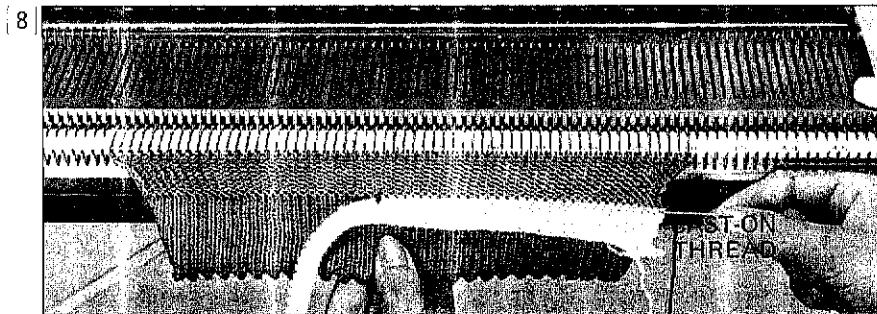


6

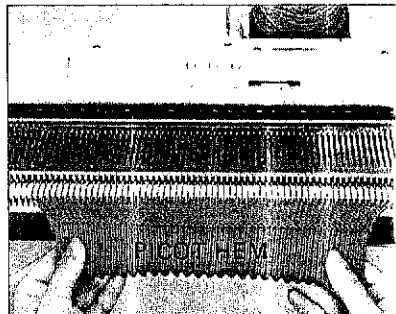


7

Knit the other half of the hem and pick up the stitches in the same way as for the plain hem. After picking all the stitches up, bring the needles to position E.

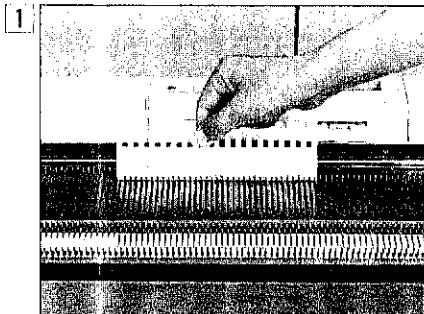


8

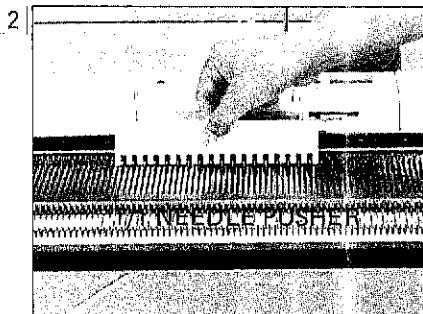


After knitting several rows, pull out the CAST-ON THREAD. The part knitted with waste yarn is removed. Then you have made a PICOT HEM.

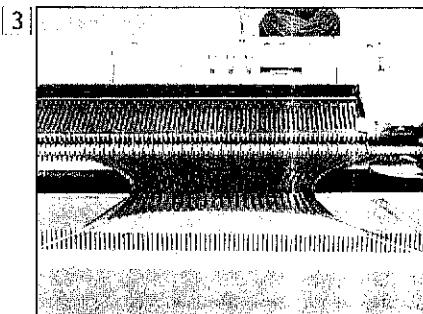
### 9-3-3. 1 x 1 ELASTIC HEM



Bring forward the needles required to position B by using the 1/1 NEEDLE PUSHER.

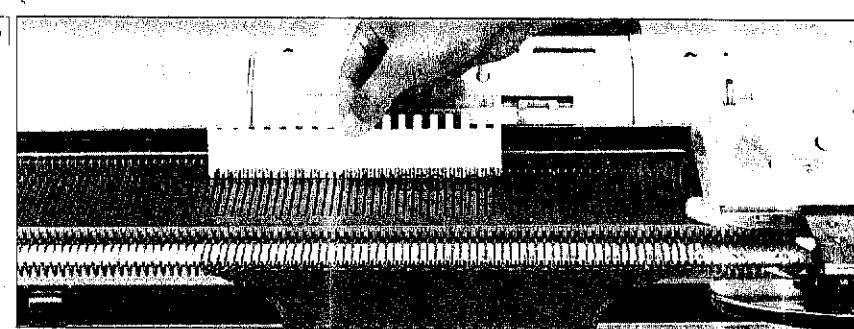


Return every other needle to position A by using 1/1 NEEDLE PUSHER.

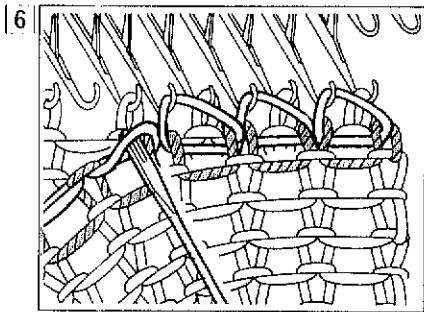


Knit with the waste yarn in the same way as for plain hem. Then knit one row with CAST-ON THREAD and change the yarn.

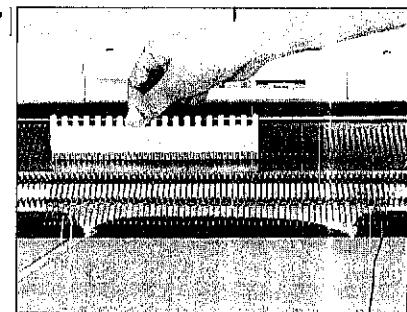
- [4] Knit the number of rows required for double the length of the hem in plain knitting with the yarn.



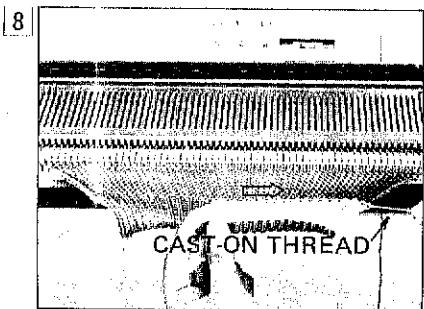
Bring forward the needles in position A to position B.



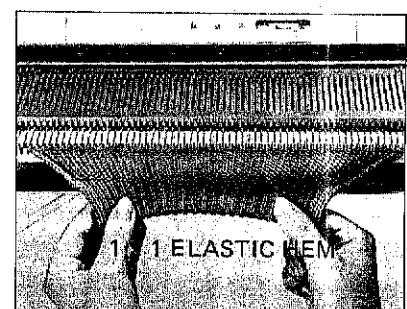
Pick up the stitches in the same way as for the plain hem and hook them onto the empty needles.



After picking up all the stitches, bring the needles to position E. Knit one row.



After knitting several rows, pull out the CAST-ON THREAD. The part knitted with the waste yarn is removed. Now 1 x 1 ELASTIC HEM is completed.



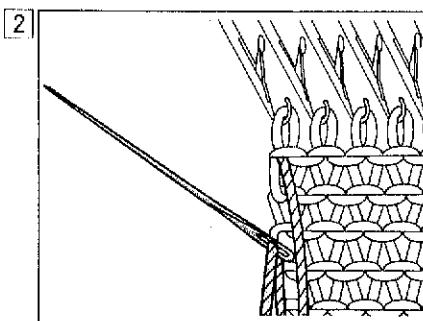
## 9-4. BINDING OFF AND BUTTON HOLE

### 9-4-1. BINDING OFF USING THE TAPESTRY NEEDLE

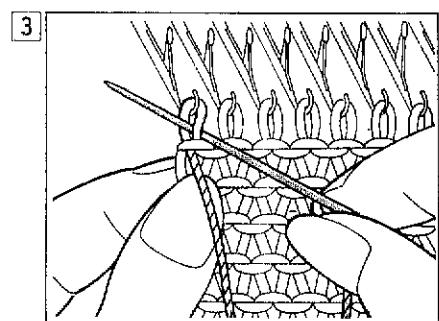
After finishing the knitting, bind off last row taking care not to unravel the knitting.

#### 9-4-1-1. When the yarn is on the left side

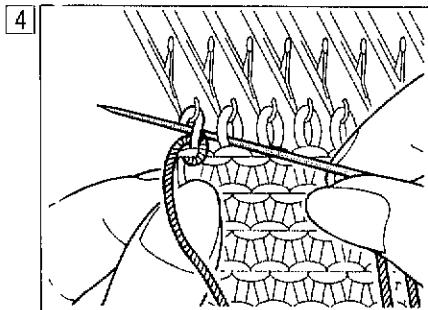
- [1] Pull the yarn out of the YARN FEEDER. Cut the yarn leaving a length of three times the width of the knitting.



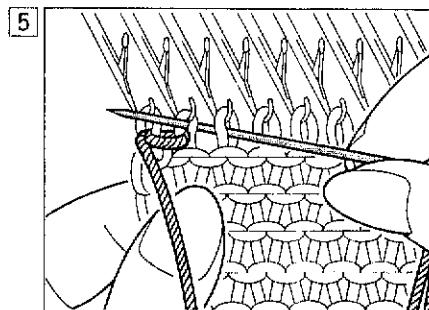
Thread the yarn into the TAPESTRY NEEDLE.



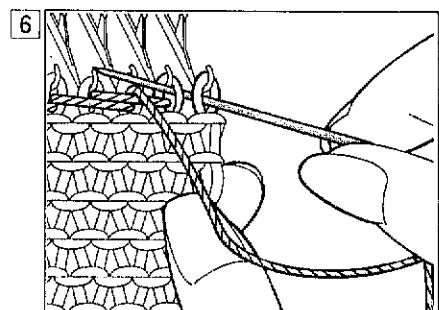
Pass the TAPESTRY NEEDLE through the left side stitch.



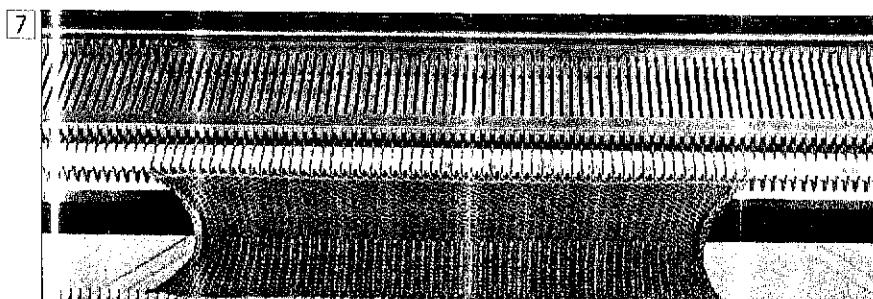
Insert the tapestry needle into the second stitch from left and pass it back through the left side stitch.



Insert the tapestry needle into the third stitch from left and pass it back through the second stitch from left.

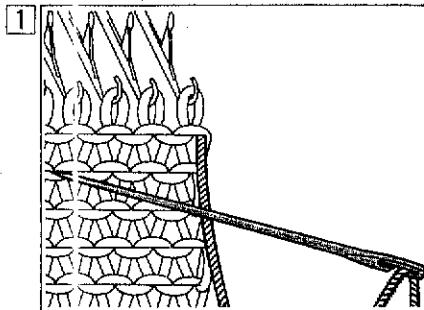


Repeat this until you reach to the right side of the knitting.



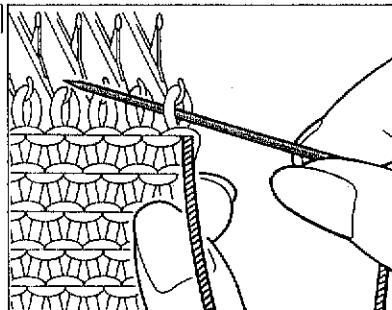
Now, the binding off is completed and piece can be removed from the machine.

#### 9.4.1.2 When the yarn is on the right side

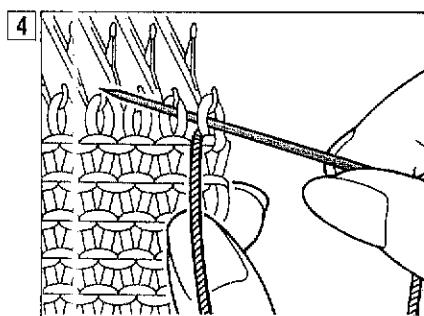


Pull the yarn out of the YARN-FEEDER. Cut the yarn leaving a length of three times the width of the knitting.

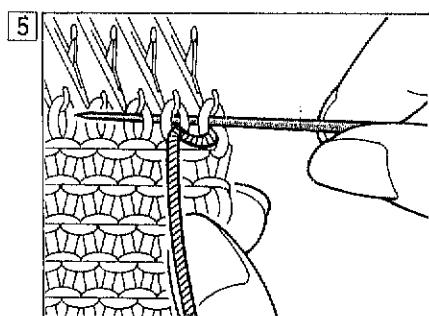
- 1 Thread the yarn into the TAPESTRY NEEDLE.



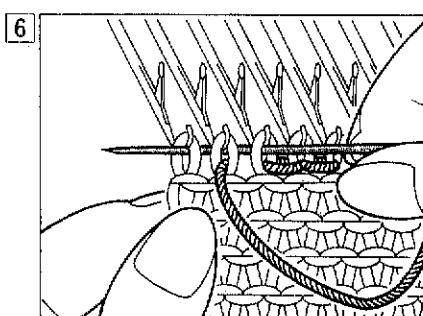
Pass the TAPESTRY NEEDLE through the right side stitch.



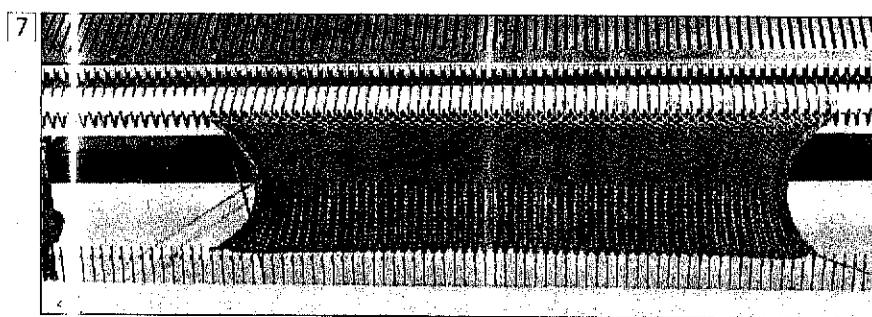
Insert the TAPESTRY NEEDLE into the right stitch and pass it through the second stitch from right.



Insert the TAPESTRY NEEDLE into right side stitch and pass it through the third from right in the figure, making sure you pass the tapestry needle BEHIND the second stitch and enter the third stitch from behind.

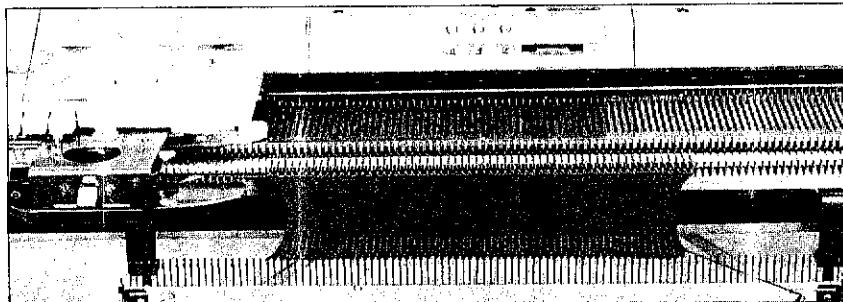


Repeat this until you reach the left side of the knitting.



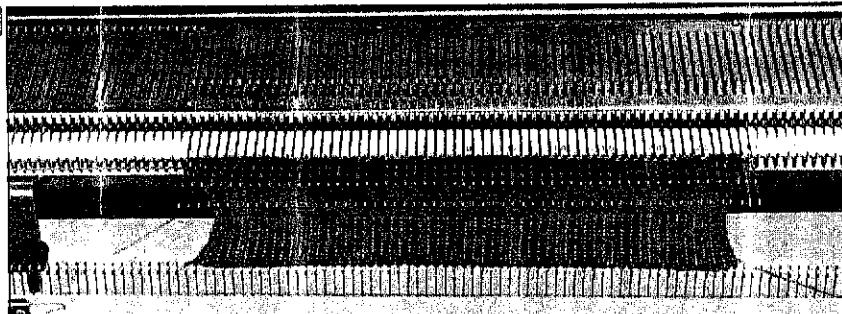
Now, the binding off is completed.

#### 9-4-2. CAST-OFF USING THE LATCH TOOL.



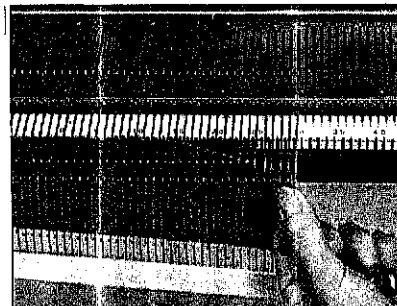
- 1 Loosen the TENSION DIAL and knit the last row. (For example, when knitting with tension dial number 4-6, set the number to 9-10.)
- 2 Place the K carriage on the left side of the machine.

3



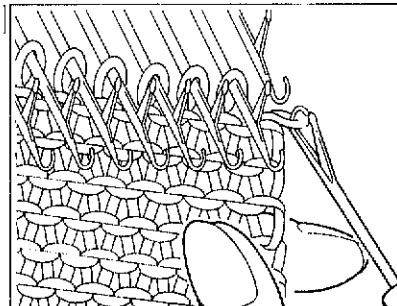
Bring the needles forward to position E.

4



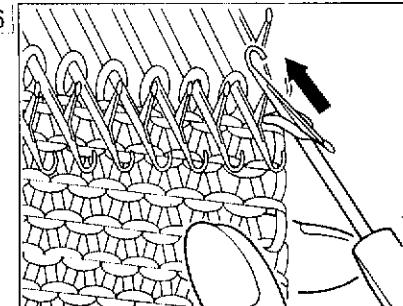
Bring the knitting toward you taking care not to drop the stitches.

5



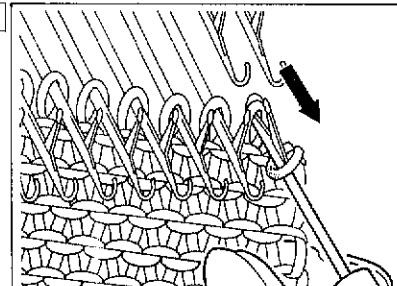
Hook the right side stitch on the hook of the LATCH TOOL.

6



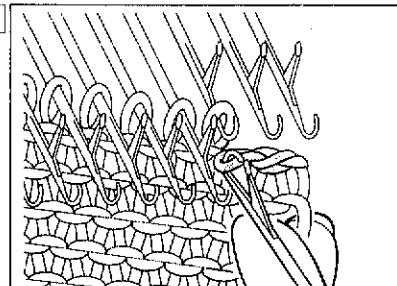
Make the stitch fall behind the latch of LATCH TOOL.

7



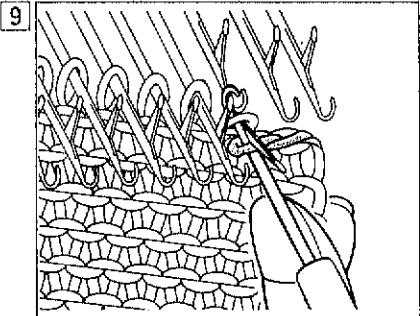
Then hook the second stitch from the right in the hook of the LATCH TOOL.

8



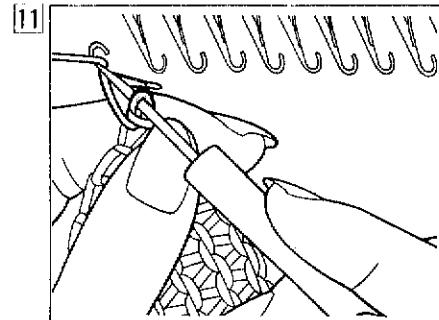
Pull the LATCH TOOL and make a new stitch (with the stitch over the latch and the stitch on the hook).

Take care not to drop the other stitches from the needles.

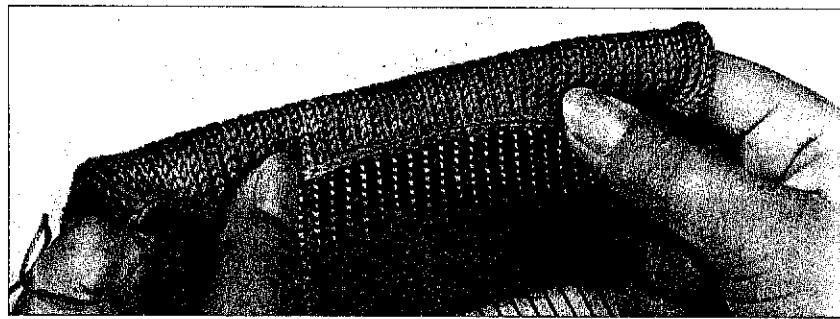


9 Make the new stitch fall behind the latch of LATCH TOOL, and hook the third stitch on the hook of the latch tool.

10 Repeat this until you reach the left side making new stitches across the row.



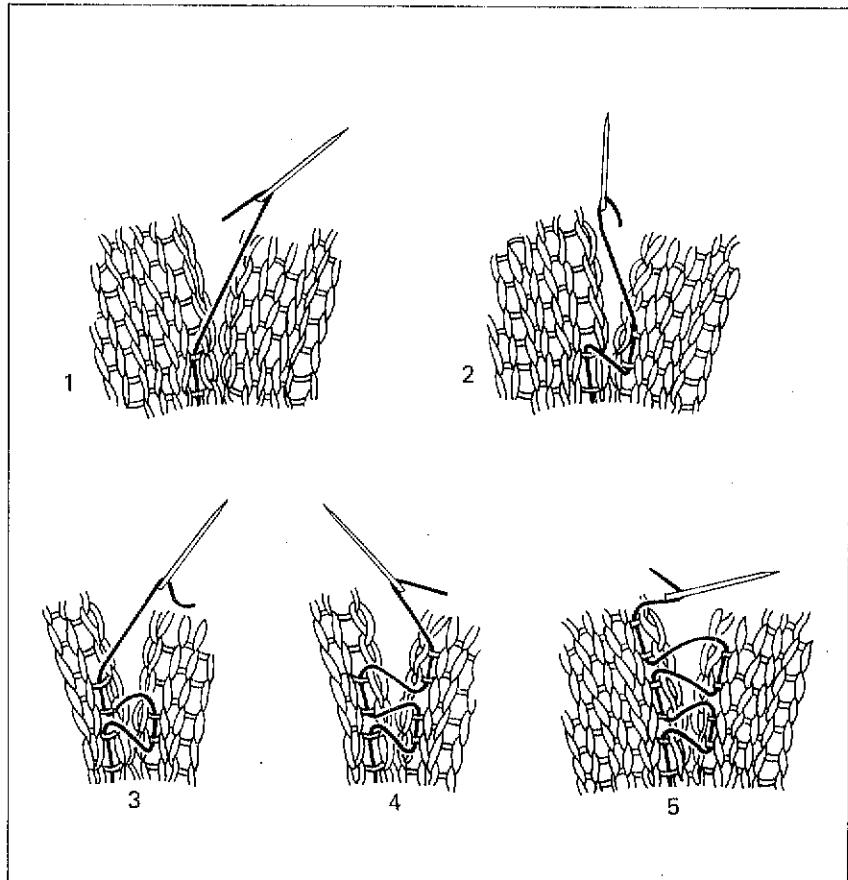
11 When you reach the last stitch, hook the end of the yarn on the hook of the LATCH TOOL and pull the end of the yarn through the stitch on the stem.



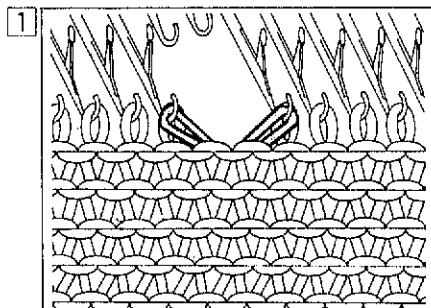
Now, the binding off is completed.

#### 9-4-3. VERTICAL SEAMING OF PLAIN STITCH.

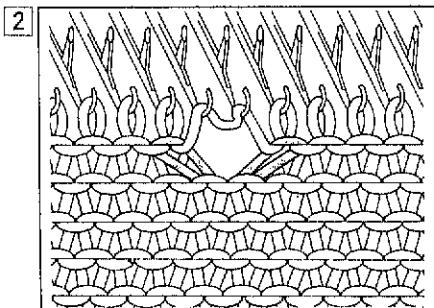
- 1 Left hand piece — Pass the tapestry needle under threads of 1st and 2nd rows, bringing tapestry needle through to upper side.
- 2 Right hand piece — Pass the tapestry needle under threads of 2nd and 3rd rows, bringing tapestry needle through to upper side.
- 3 Left hand side — Pass the tapestry needle under threads of 3rd and 4th rows, bringing tapestry needle through to upper side.
- 4 Right hand side — Pass the tapestry needle under threads of 4th and 5th through to upper side.
- 5 Continue to seam in this way.



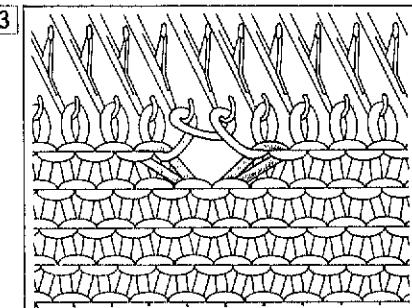
#### 9-4-4. HOW TO MAKE A BUTTON HOLE.



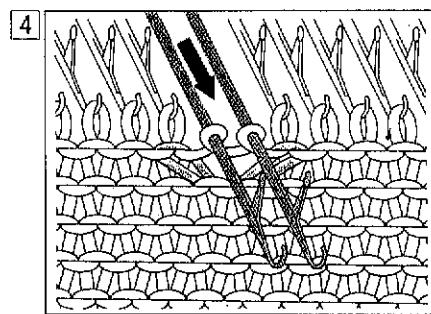
Using the 1 x 2 TRANSFER TOOL move the stitches, where you are going to make a button hole, to adjacent needles as shown in the figure.



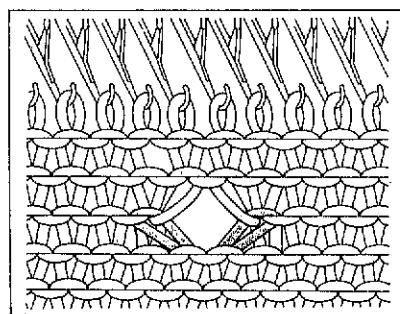
Bring back the empty needles to position B, and knit one row. The yarn will hook on the two needles.



Loop the yarn around the two needles by hand as shown in the figure.



Bring the two looped needles forward to position E and operate the K CARRIAGE.

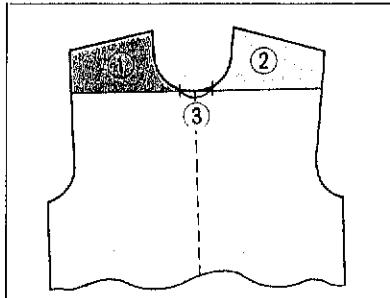


Then you have made a button hole.

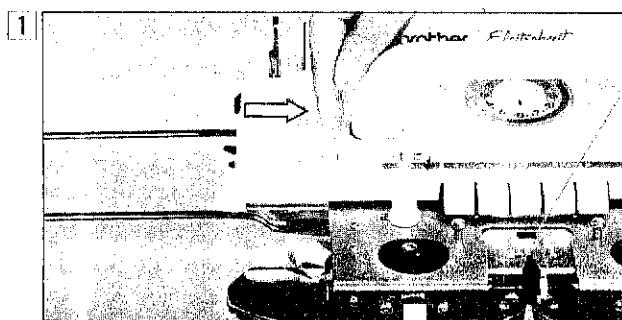
## 9-5. HOW TO SHAPE A ROUND NECK LINE

### 9-5-1. USING THE HOLDING CAM LEVER.

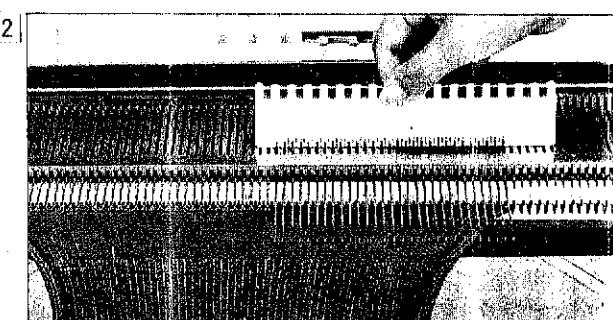
#### 9-5-1-1. Plain knitting.



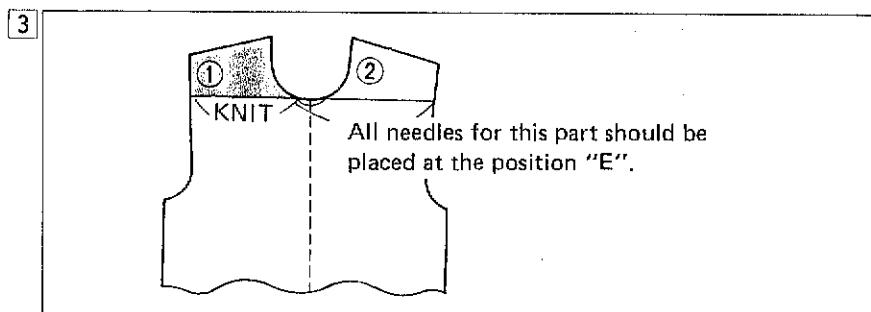
Knit the left and right side of a round neck line separately.



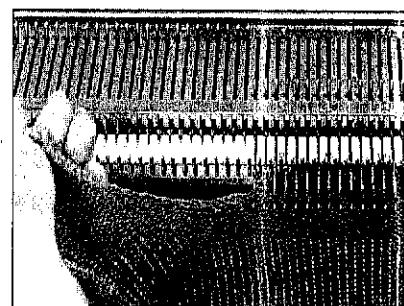
Set the HOLDING CAM LEVER of the K CARRIAGE to position H.



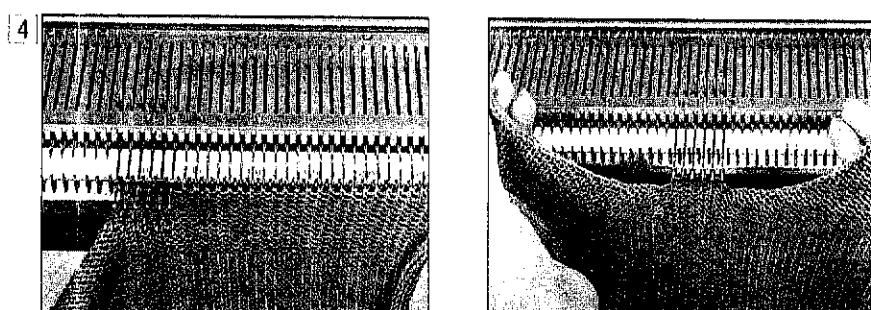
Bring forward to position E all the needles on the opposite side of the K CARRIAGE including the stitches for the center neck line and opposite shoulder. These needles will not knit.



All needles for this part should be placed at the position "E".

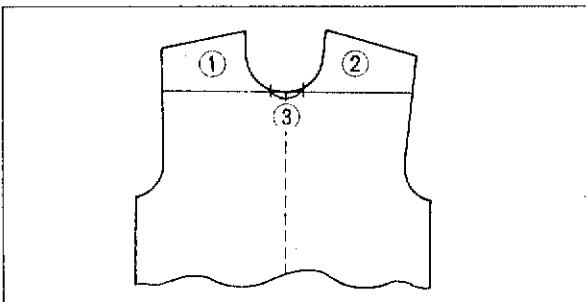


Knit part (1) according to your pattern. Decreasing at the neck edge will be done by using the Transfer Tool. Decrease in this manner until you have the required number of stitches left for the shoulder. Bind off the shoulder stitches.

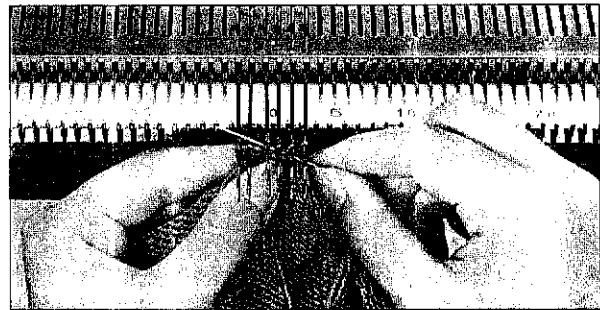


Leaving the center neck line stitches, return the rest of the needles to position B by transferring the stitches onto the hooks of the needles. Knit the other side of the neck and shoulder for part (2).

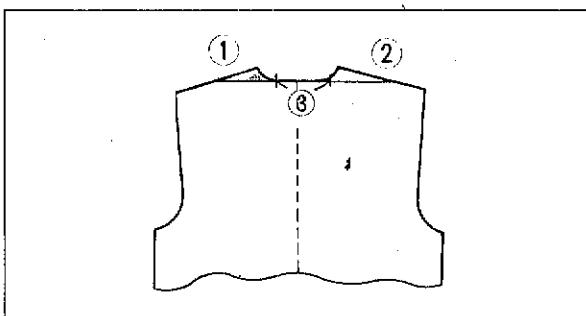
5



When parts (1) and (2) are completed, bring the needles for the neck line (3) to position B and bind off.

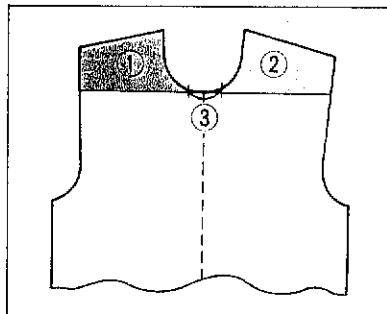


6



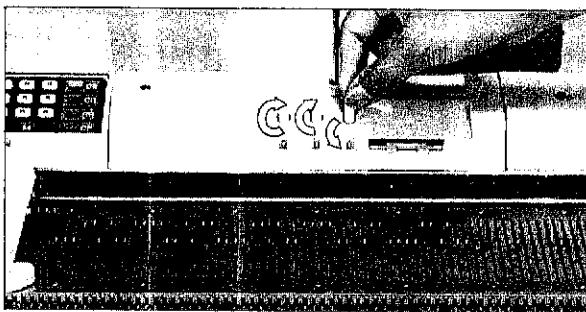
Knit the back in the same way. (Knit the left and right sides separately.)

#### 9-5-1-2. Pattern Knitting (K CARRIAGE).



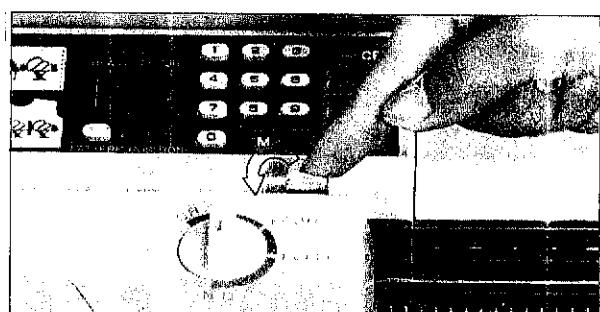
Knit the left and right side of a round neck line separately.

1



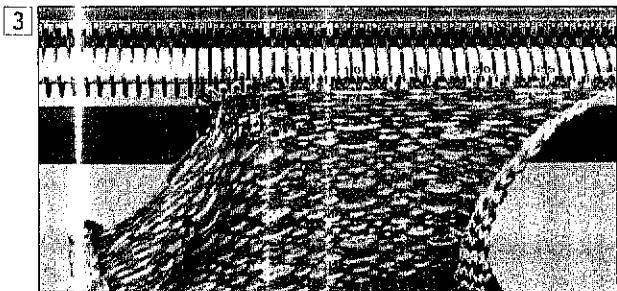
Before you start knitting the first side (1), change the figure of ROW COUNTER to 0.

2

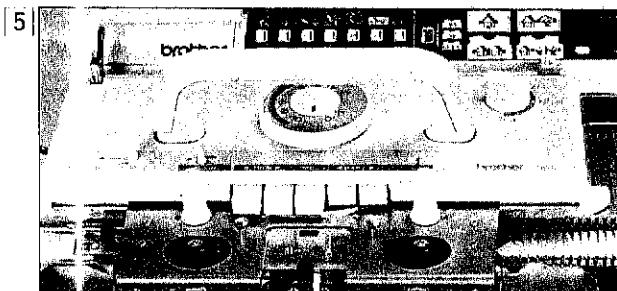


Knit the first side (1).

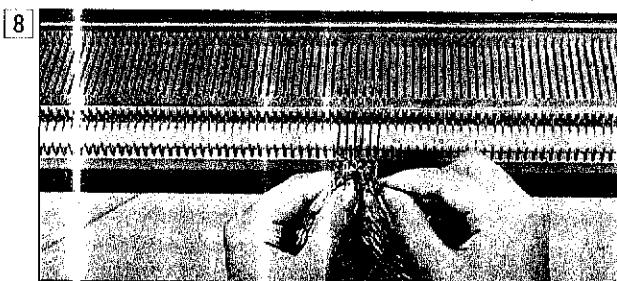
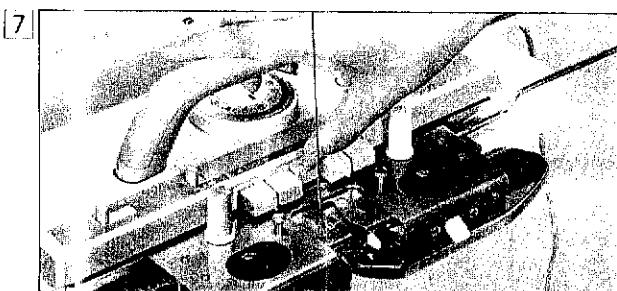
When finishing the PATTERN, set the ROW COUNTER TRIPPER to Non-working position and push CR key, then knit remaining part of the first side by Plain Knitting.



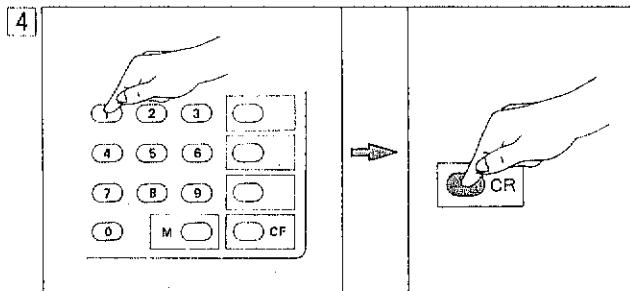
3 After Knitting the first side (1), knit the other side (2). Using a TRANSFER TOOL, place the stitches for part (2) onto the Hooks of the needles and return to position B. Leave the needles for part (3) in position E.



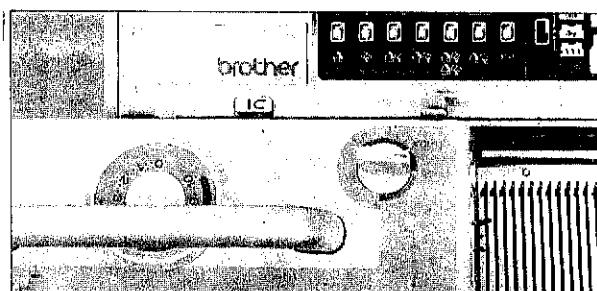
5 Push the CAM BUTTONS to "PART", and set the CHANGE KNOB to the "KC (1)". Make sure that the HOLDING CAM LEVER to "H".



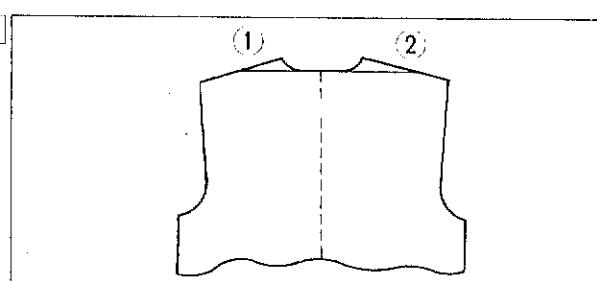
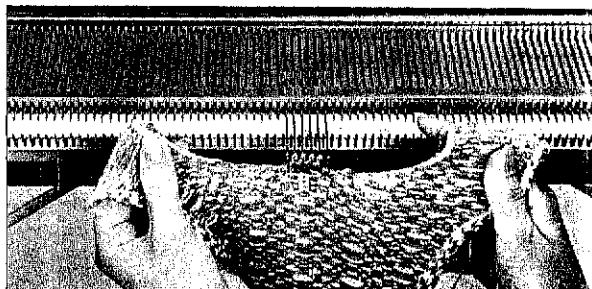
8 When parts (1) and (2) are completed, bring the needles for the neck line (3) to the position B and bind off.



Enter the figure which shows the ROW COUNTER, and push CR key.



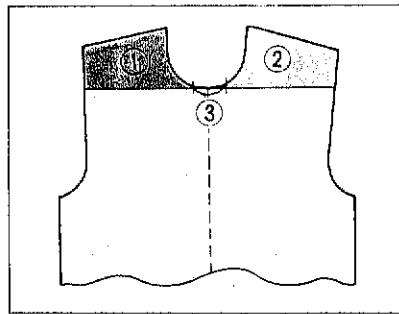
6 Place the K CARRIAGE outside of "←" or "→" mark, then move the K CARRIAGE until the needles will be selected. If the CHANGE KNOB is set to "KC (1)" and only both end needles are selected after the first row, push them back to position B by hand and move the K CARRIAGE for one more row to select the needles.



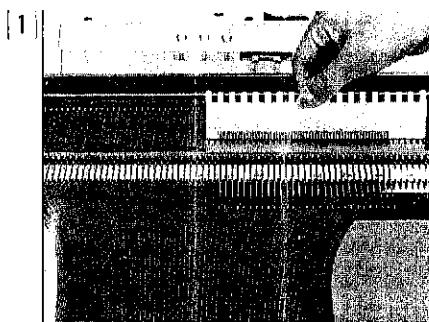
9 Knit the back in the same way.  
(Knit left and right side separately.)

## 9-5-2. USING THE CAST-ON THREAD.

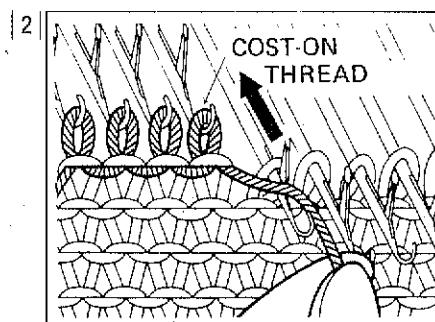
### 9-5-2-1. Plain knitting.



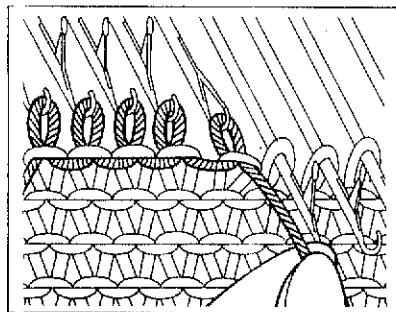
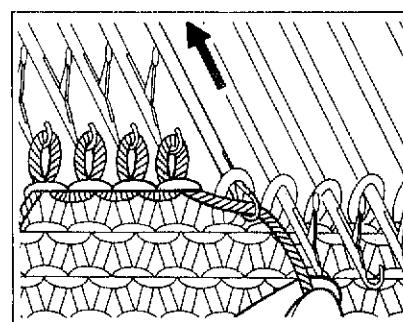
For shaping a round neck line, knit left and right side separately.



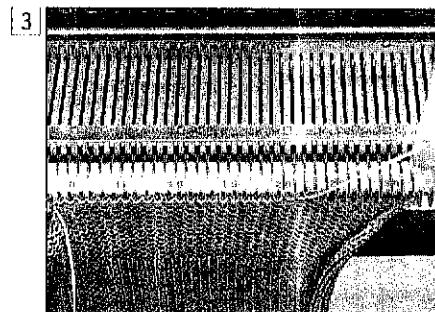
Bring forward to position E all the needles for the parts (2) and (3) on the opposite side of the K CARRIAGE, by using the 1/1 NEEDLE USHER. These needles will not knit.



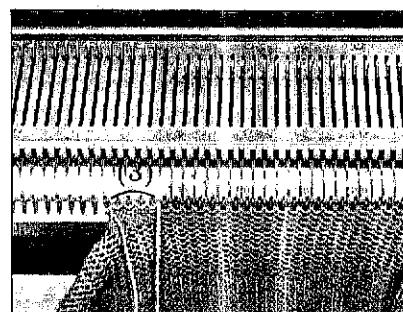
Hang the CAST-ON THREAD on the hooks of the needles in position E and bring them back to position A one by one.



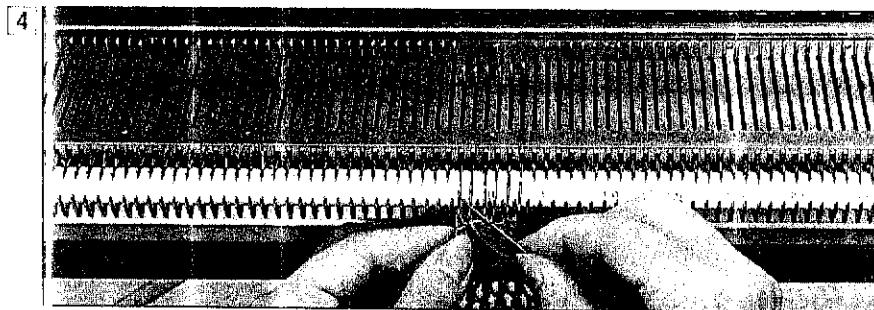
At this time, make sure that the CAST-ON THREAD is between hook and latch of the needle to avoid dropping the stitches. Knit one side in the same way as instructed before.



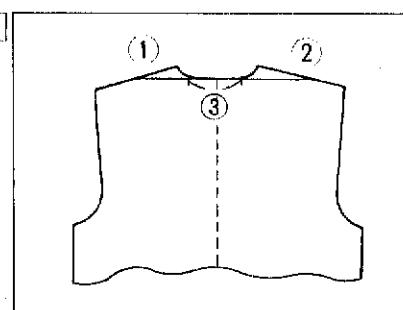
When part (1) is completed, transfer the stitches for part (2) from needles in position A to the hooks of the needles and place them in position B.



Leave the needles for part (3) as they strand.

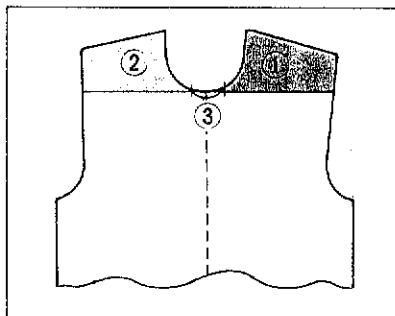


When parts (1) and (2) are completed, bring the needles for part (3) to position B and bind off.

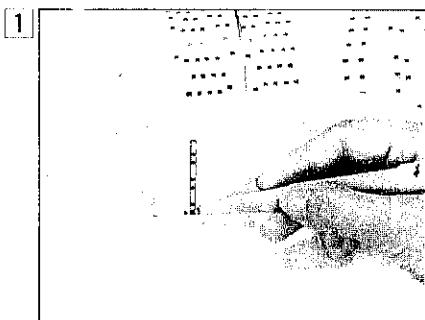


Knit the back in the same way (Knit left and right separately).

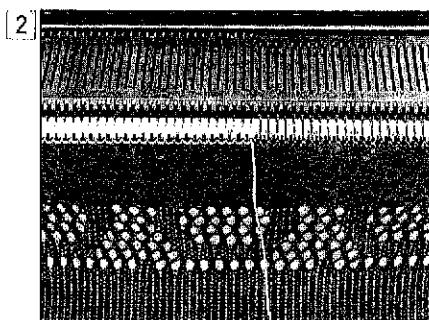
## 9-5 2-2. Pattern Knitting (L CARRIAGE)



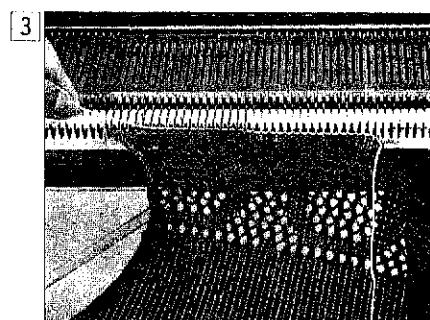
Knit the left and right side of a round neck line separately.



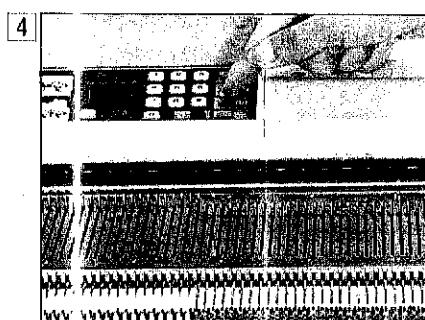
Before you start knitting the first side (1), mark beside the L Window of the PATTERN CARD.



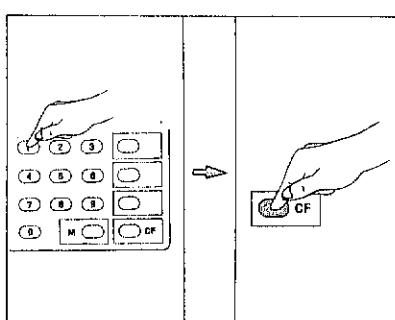
Bring back to position A all part 2 & 3 needles for the part (2) and (3) (opposite side of the K Carriage) using CAST-ON THREAD. These needles will not knit.



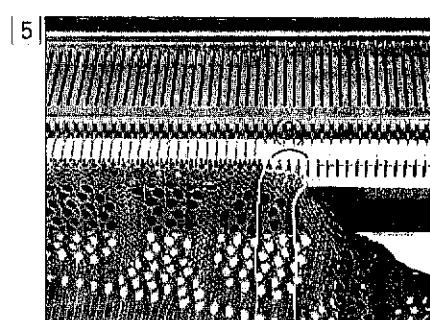
When part (1) is complete transfer the stitches for part (2) from needles in position A to the Hooks of the needles and place them to position B.



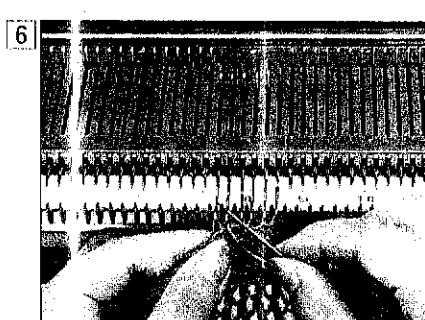
Be ore you start knitting part (2), push RR key.



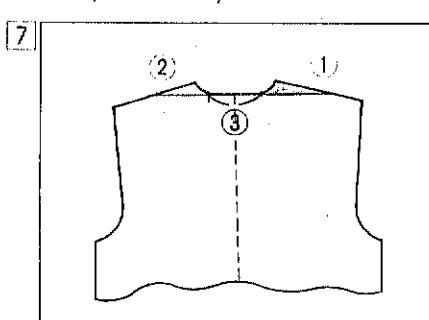
Enter the figure at the mark which is shown beside the L Window of the PATTERN CARD (see item ①) and push CF key.



Knit the part (2) (Leave the needles for the part (3) in "A" position.



Wt en parts (1) and (2) are completed, bring the needles for part (3) to position B and bind off.

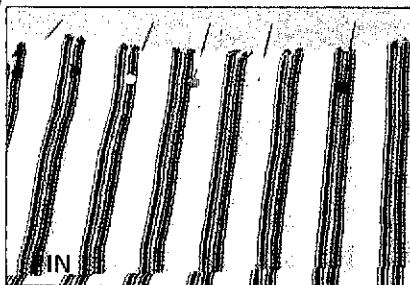


Knit the back in the same way.  
(Knit left and right side separately.)

## 9-6. SEWING PROCEDURE

### 9-6-1. BASTE THE KNITTING WITH BINDING WIRE AND/OR BASTING THREAD

1



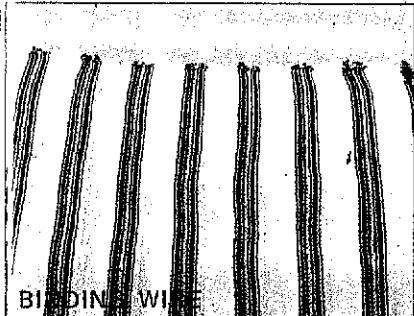
Pin the parts to be basted.

In order to produce a neat garment easily, it is recommendable to use a sewing machine for all necessary sewing.

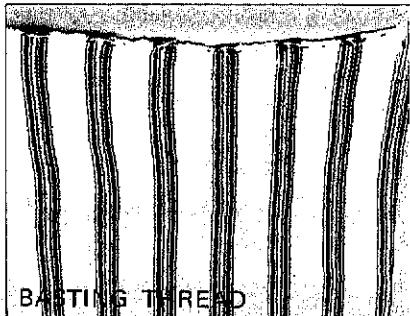
As only straight stitch sewing is necessary, any type of sewing machine can be used.

Stretchy thread of the same color as the yarn used for knitting is most suitable for sewing (or, silk thread can be also used.).

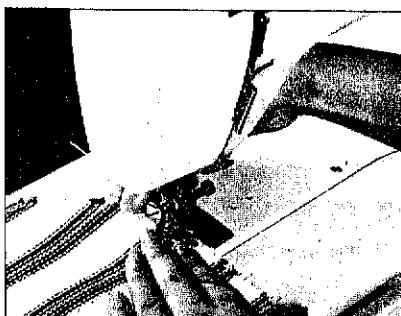
2



Baste the parts with the binding wire included with KL116 (Knit Leader) as accessory or basting thread.



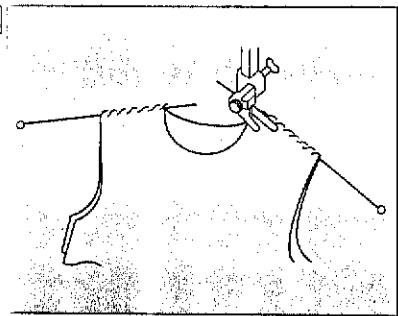
3



After basting, sew with a sewing machine. Slowly and naturally sew with a slight push along the basted edge, leaving a space of about 3-5 mm.

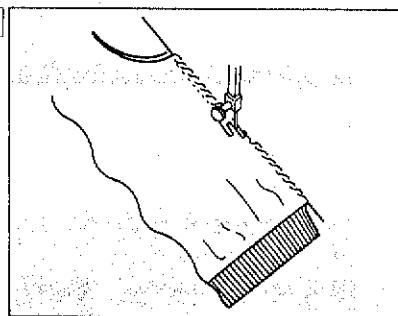
### 9-6-2. SEWING PROCEDURE

1



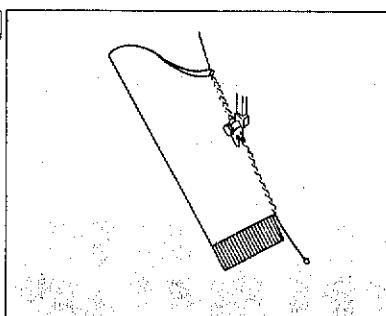
Shoulders (right and left).

2



Sides

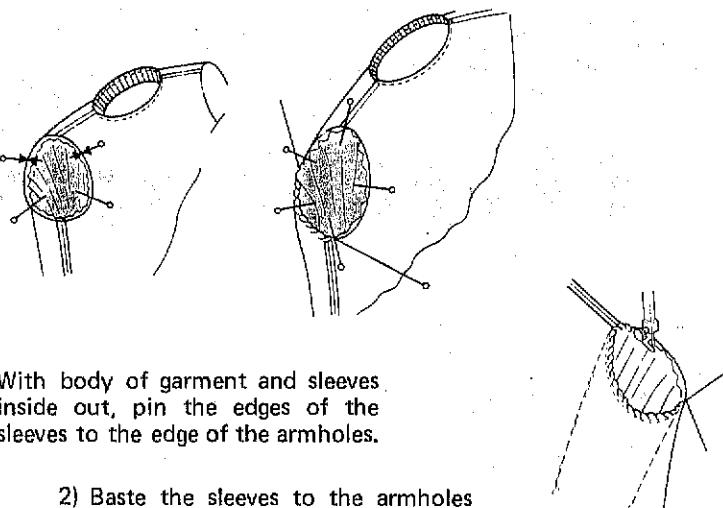
3



Sleeves

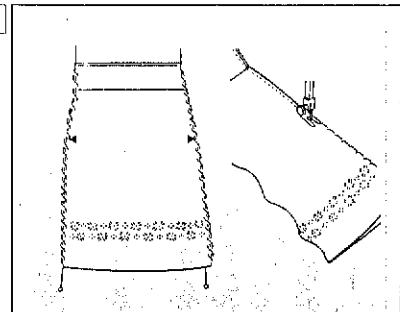
\* Sew ribbing together by hand.

4



Attach sleeves to armholes.

5



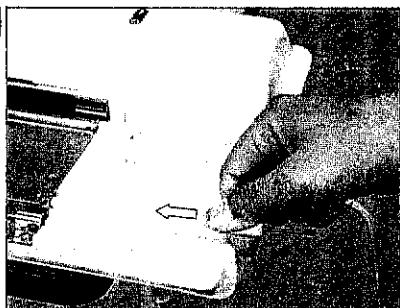
Skirt.

## 9-7. CLEANING AND MAINTENANCE

### 9-7.1. REPLACING A NEEDLE

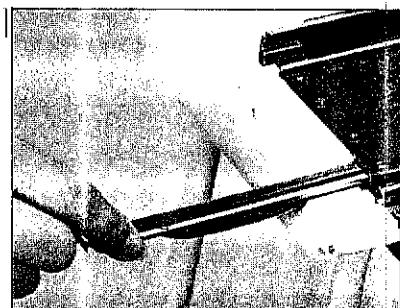
Needles with damaged latches will cause faulty knitting or dropped stitches and therefore must be changed.

1



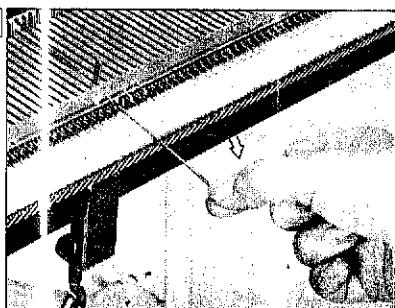
Push either side of the SPONGE BAR with the end of the LATCH TOOL until it comes out from the other end.

2



Draw it by hand from the knitter until the needle you wish to change is free.

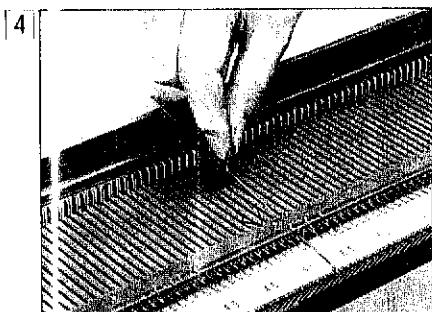
3



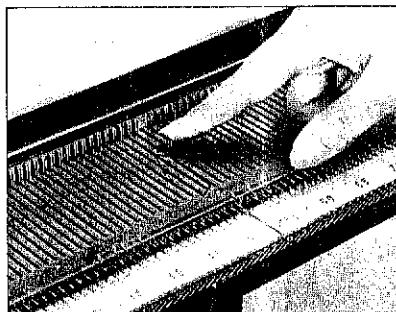
Pull the needle forward as far as it will go. Push down the hook of the needle until shank end of the needle rises clear of the needle bed.



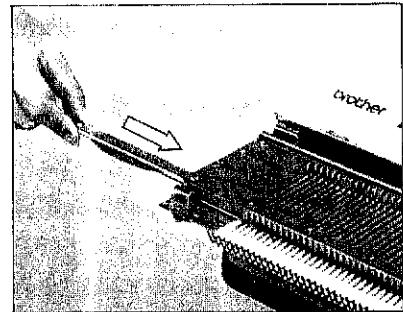
Grasp the shank end and take it out.



4 Replace it with a new needle by holding it with latch opened.



Push the Needle back to position A.



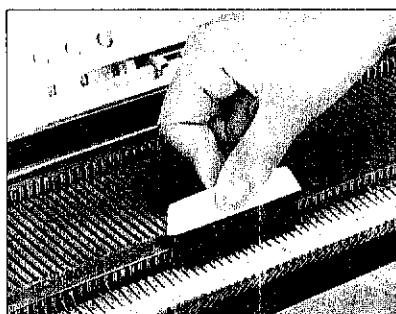
Push the SPONGE BAR back into place.

## 5-7-2. CLEANING AND MAINTENANCE

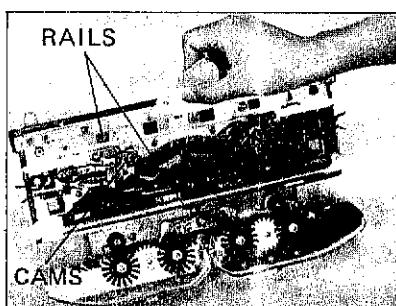
Before folding up your machine, you should clean your machine with a soft dry cloth. The metal parts should be oiled regularly.

When you use your machine after it has not been in use for a long period, wipe your machine with oiled cloth and oil it before using. Before you start knitting, knit 30 rows with waste yarn to remove old oil.

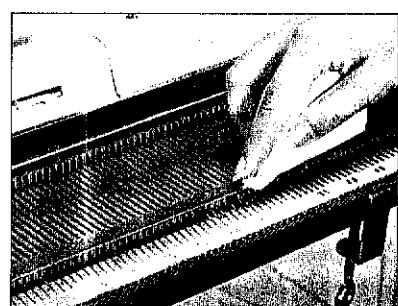
Oil the following parts lightly before knitting.



Butts of the Needles.



FRONT and REAR feet of the K CARRIAGE.  
CAMS.

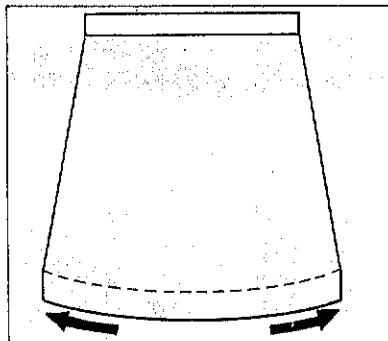


Front and REAR RAILS of the needle bed.

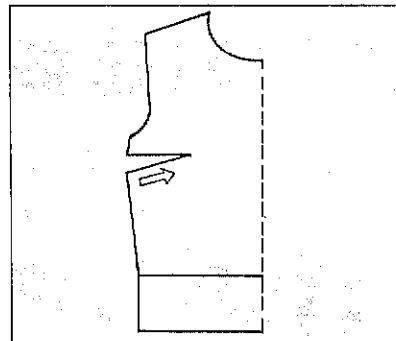
## 10. USEFUL HINTS

### 10-1. PARTIAL KNITTING (Plain Knitting & Pattern Knitting)

When you knit socks, skirts, darts, etc., do partial knitting.

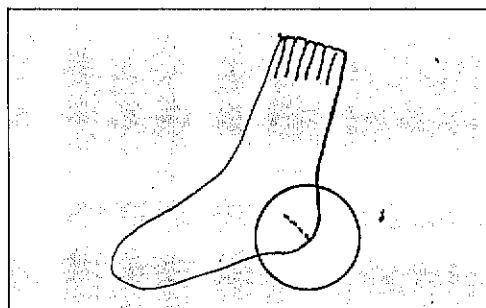


→ DECREASING STITCHES.  
→ INCREASING STITCHES,



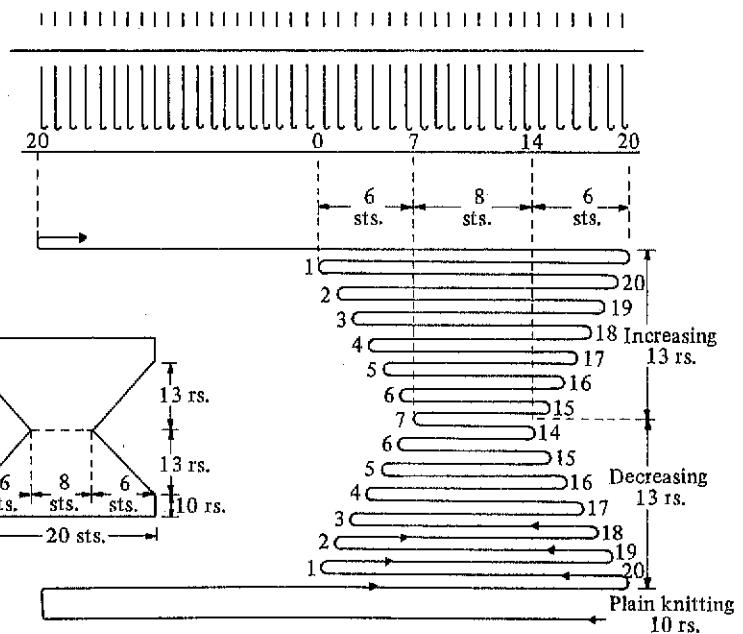
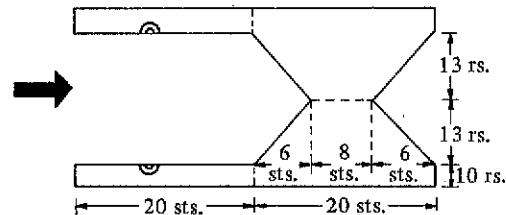
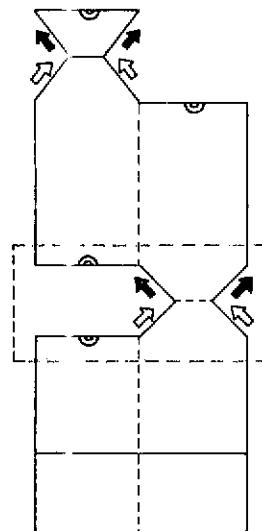
Skirt

Dart

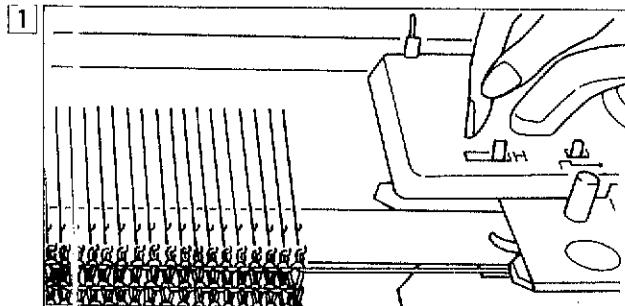


Socks

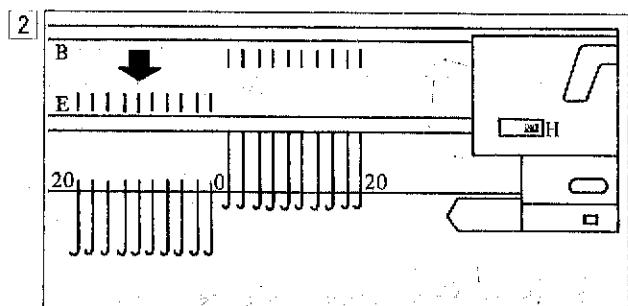
\* Let's knit the heel with Partial Knitting.



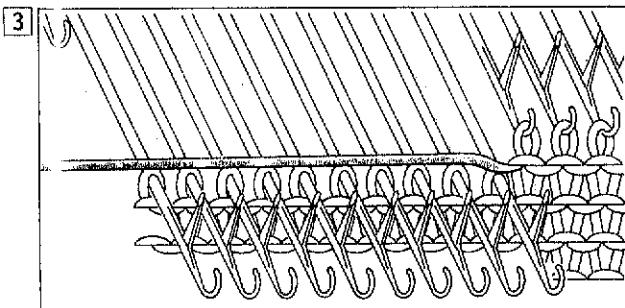
#### 10-1-1. DECREASING STITCHES



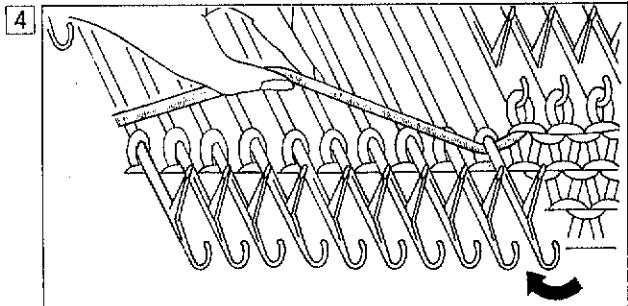
Bring forward 20 needles on either side of the center mark "0", knit 10 rows of Plain Knitting and place the K CARRIAGE on the right side of the machine. Then, set the HOLDING CAM LEVER of the K CARRIAGE to position H,



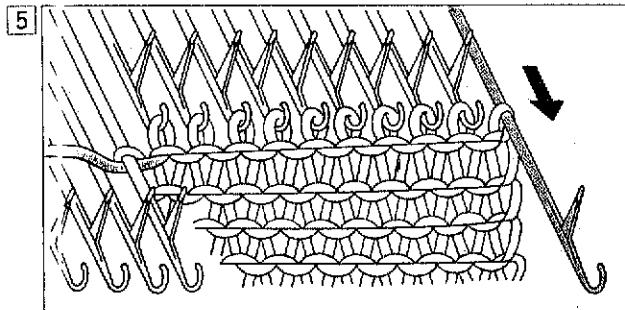
On the opposite side of the K CARRIAGE, bring forward 20 needles to position E as above figure. (These needles will not knit.)



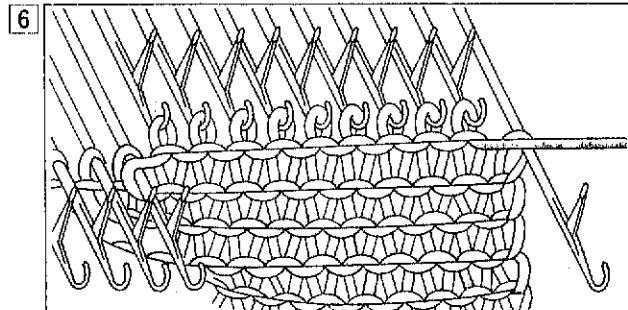
Knit one row. The yarn lies across on the stem of the position E needles at that time.



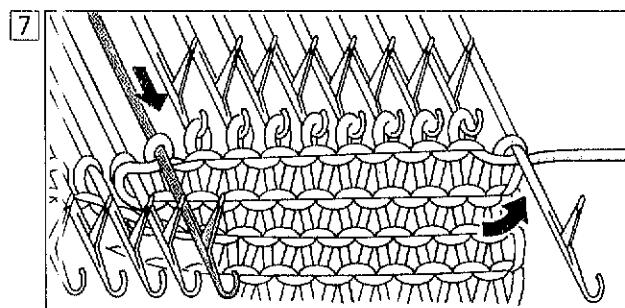
For stopping the gap which appears between stitch of position B and E, pass the yarn under the stem of the first needle at position E.



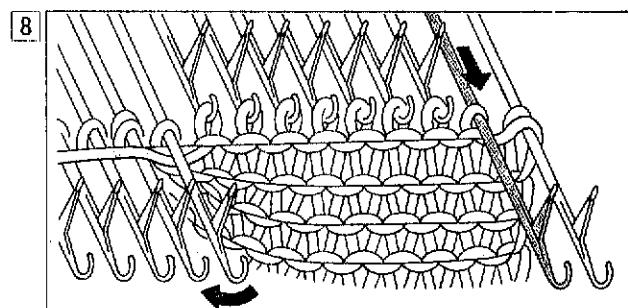
On the opposite side of the K CARRIAGE, bring forward one needle to position E by hand, which will be decreased.



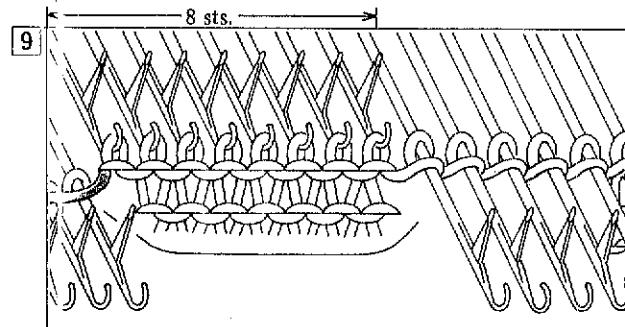
Knit one row.



Pass the yarn under the stem of the position E needle. Then, on the opposite side of the K CARRIAGE, bring forward one needle to be decreased to position E.



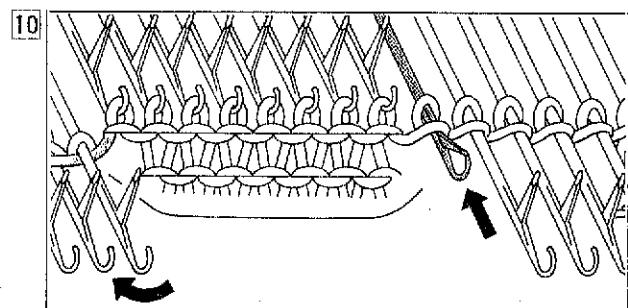
Knit one row.



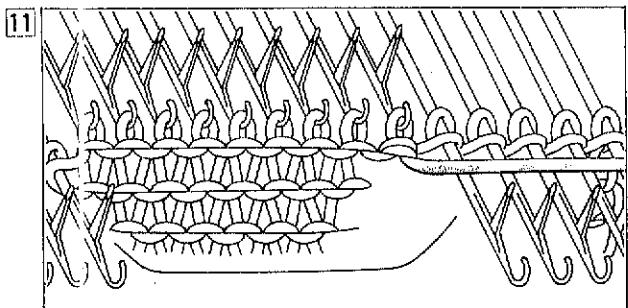
Repeat ④ ~ ⑧ until the remaining needles at position B will be 8 stitches, and knit one row as the finish.

(K CARRIAGE is on the left side of the machine at hat time.)

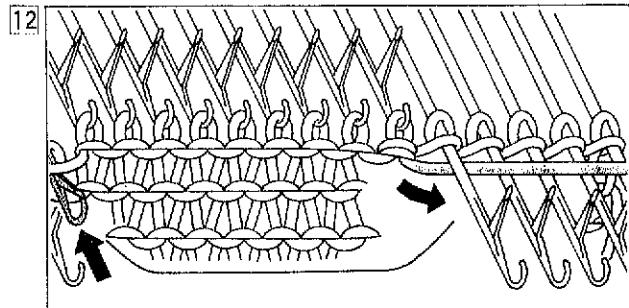
#### 10-1-2. INCREASING STITCHES.



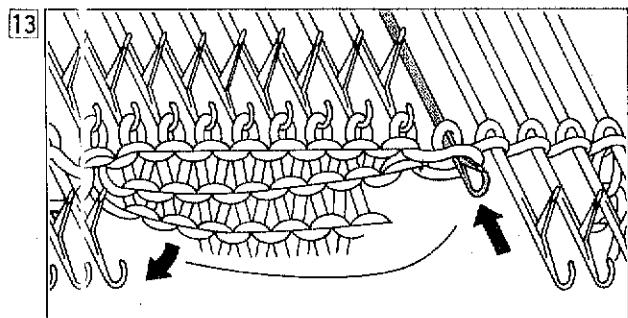
Now, start Increasing Stitches. Pass the yarn at the K CARRIAGE's side under the stem of the first needle at position E. Then, push back to position D first needle on the opposite side of the K CARRIAGE. (This stitch will be knitted.) Take care not to drop the stitch.



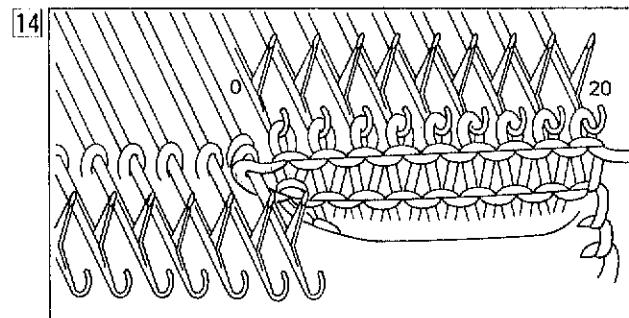
Knit one row.



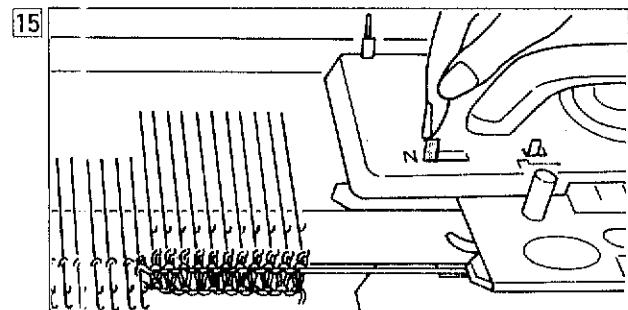
Repeat 10 but notice that the K CARRIAGE is now on the opposite side of the position of 10



Knit one row.



Repeat 10 – 13 until the needles at position B will be 20 stitches, and knit one row as the finish. (K CARRIAGE is on the right side of the machine at that time.)

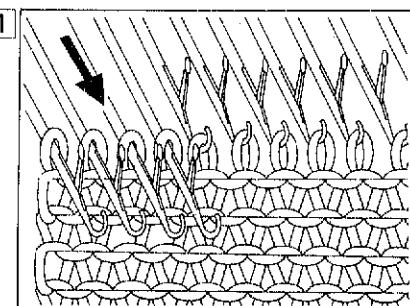


When the Partial Knitting is completed, change the HOLDING CAM LEVER to position N, and knit 10 rows of plain knitting.

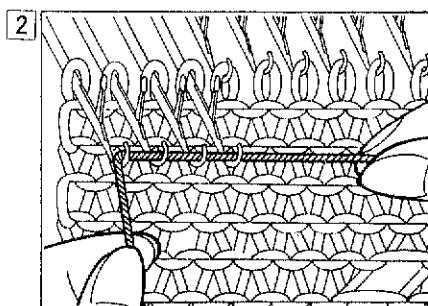
Now, the heel of the socks is completed.

## 10-2. PARTIAL KNITTING (Lace Pattern Knitting)

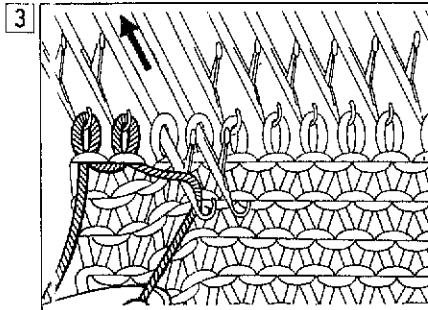
### 10-2-1. DECREASING STITCHES.



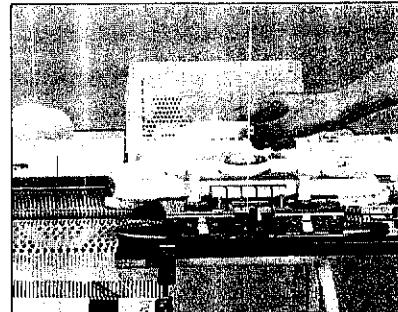
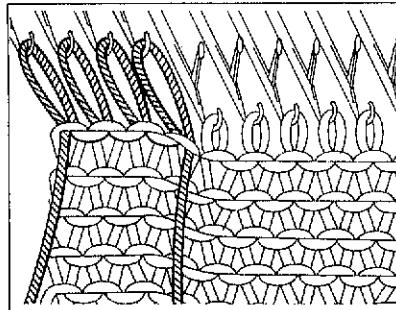
Bring forward the needles you want to decrease to position E,



Lay the CAST-ON THREAD on the hook of the needles.



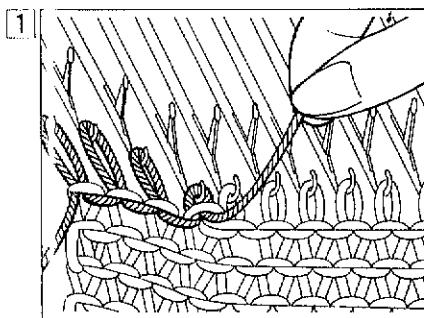
Make sure that the CAST-ON THREAD is in the hooks of the needles completely, and bring back the needles one by one to position A. At this time, take care not to drop the stitches.



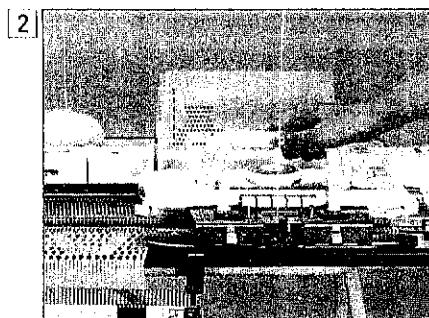
4 Operate the L CARRIAGE and the K CARRIAGE according to the direction of the arrow on the Pattern card.

5 If you want to decrease more stitches, bring back the needles to position A in the same way.

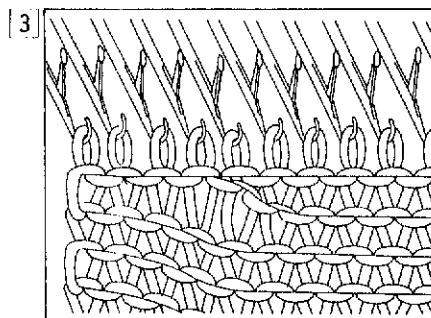
#### 10-2-2. INCREASING STITCHES.



Pull up the CAST-ON THREAD slightly to remove it from the needles on position A, transferring the stitches to the hooks of the needles. Then place the needles to position B.



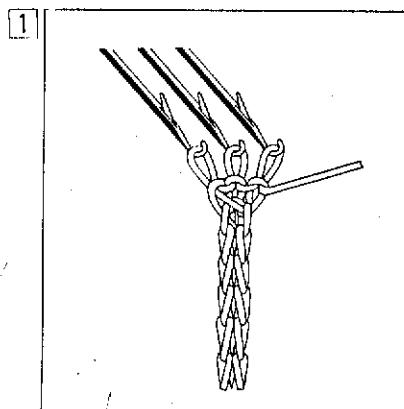
Operate the L and the K carriage according to the direction of the arrow on the Pattern card.



If you want to increase more stitches, transfer the stitches to the hooks of the needles in the same way and knit again.

You have increased stitches in partial knitting.

#### 10-3. TUBE KNITTING



- (1) Cast-on 3 or 4 needles by hand method. (See P.23)
- (2) To get fine finish, use a slightly tight tension.
- (3) Depress right PART button.
- (4) Pull down the fabric by left hand, and move the carriage by right hand.

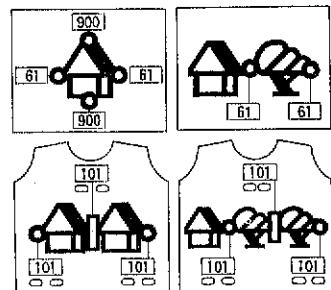
## **10-4. IN THE FOLLOWING CASE**

### **10-4-1. IN CASE OF ENTERING WRONG FIGURE.**

- A. Before pushing M key for the next step.
  - 1) Push CE key.
  - 2) Enter the correct figure again.
- B. After pushing M key for the next step.
  - 1) Push M key repeatedly till the LAMP comes back to the position where you want to correct the figure.
  - 2) Push CE key and enter the correct figure again.
- C. If ERROR LAMP lights.
  - 1) Push CE key (the ERROR LAMP goes out.)
  - 2) Enter the correct figure again.

### **10-4-2. ERROR LAMP LIGHTS IN THE FOLLOWING CASE.**

- A. When figures more than the followings are entered when programming.



- B. In case that more or less figure than the Pattern area is entered concerning Page 65 (CARD No. 1-5).
- C. In case that zero (0) or more than 900 figure is entered concerning Page 88 (6-2-4 item 2).
- D. In case that more than 900 figure is entered concerning Page 86 (item 8) and Page 87 (6-1-3 item 1).
- E. In case that zero (0) or more than 900 figure is entered concerning Page 98 (8-2, 8-3).

### **10-4-3. IF YOU WISH TO MAKE SURE OF THE FIGURE AFTER FINISHING PROGRAM.**

- 1) Push M key repeatedly till the READY LAMP lights again, and you can see the entered figure in the DISPLAY.
- 2) If you find any wrong figure while checking, push CE key at that time and enter the correct figure, then push M key till READY LAMP lights.

### **10-4-4. IF YOU SET AGAIN A CARD TO THE STARTING POSITION OF A PATTERN WHILE KNITTING.**

- 1) Push RR key : CARD returns to the SET LINE.
- 2) Push CF key : CARD feeds forward to the starting position.
- 3) Set the needles to B position.
- 4) Put K CARRIAGE outside " | ⌂ " or " | " mark and set the CHANGE KNOB to "KC (I)" or "KC (II)" position. Then, push PART BUTTONS.
- 5) Move K CARRIAGE for one row.

### **10-4-5. IF NEEDLES ARE SELECTED INCORRECTLY, CHECK ON THE FOLLOWING POINTS.**

- 1) When the CHANGE KNOB is set to KC position for Pattern Knitting, make sure K CARRIAGE stands outside " | ⌂ " or " | " mark.
- 2) Make sure K CARRIAGE returns after passing the center of needle bed.
- 3) When knitting a pattern repeatedly, make sure K CARRIAGE is operated after finishing card feeding.
- 4) Make sure CARD is set correctly, namely, -Push RR key and check the SET LINE of CARD is at the CARD INLET.
- 5) Make sure the CARD does not soil.
- 6) When making your own pattern on a BLANK CARD, make sure contour of pattern is drawn clearly.
- 7) Check whether program is made correctly.

### **10-4-6. IF THE PATTERN CARD DOES NOT FEED FORWARD TO THE STARTING POSITION OF THE PATTERN YOU SELECTED BY PUSHING THE CF KEY THOUGH THE PATTERN PROGRAM WAS MADE CORRECTLY.**

- 1) Push RR key : CARD returns to the SET LINE.
- 2) Turn off the POWER SWITCH.
- 3) Turn on the POWER SWITCH.
- 4) Push CF key : CARD feeds forward to the starting position.