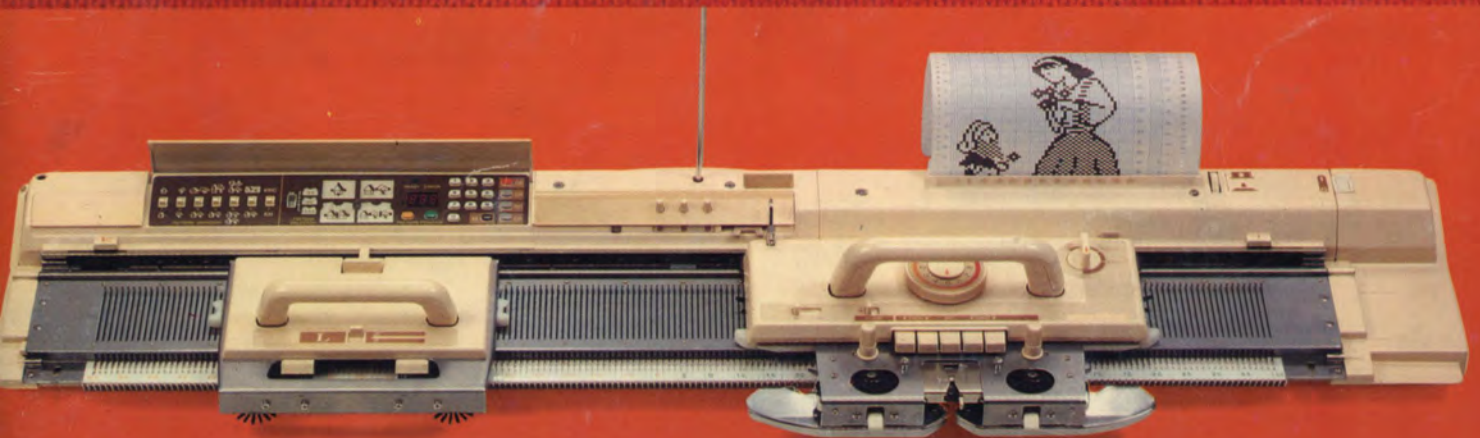


INSTRUCTION MANUAL



KH-910



887-m-1 lights
 m-2 lights
 m-3 lights
 m-4 lights

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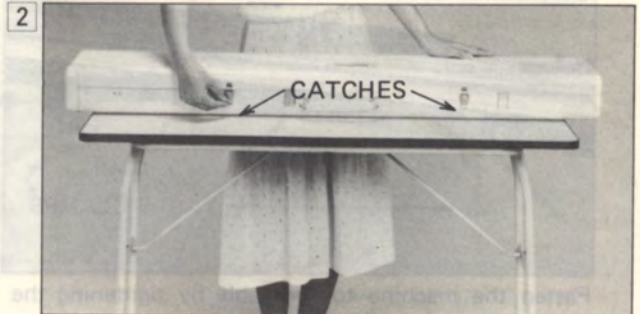
1 LESSON

1. HOW TO USE KNITTING MACHINE

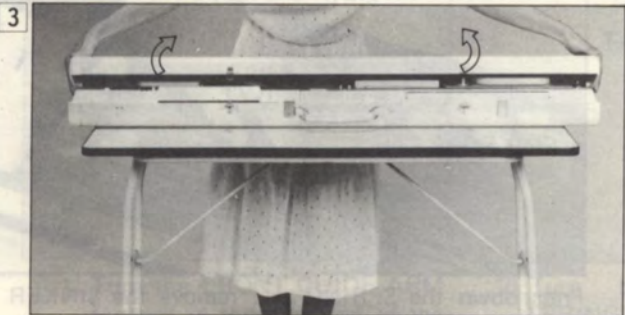
1-1. SETTING UP KNITTING MACHINE



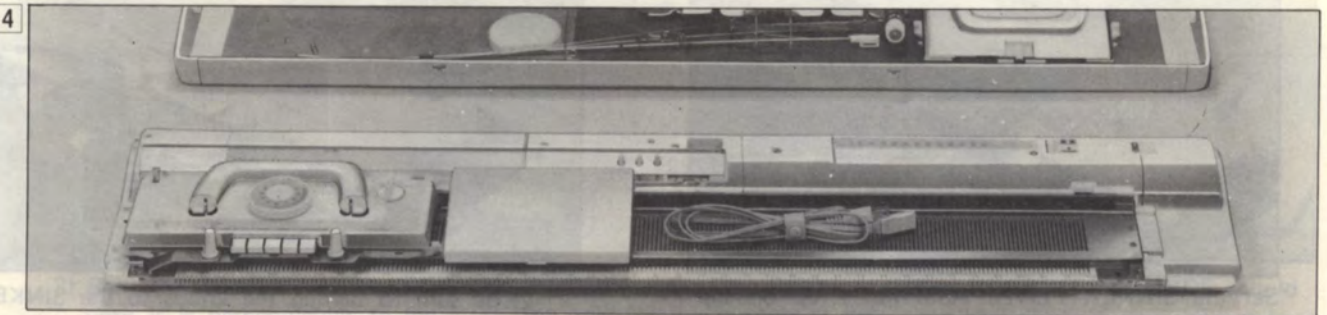
Place the machine on a firm table, with the CARRYING CASE HANDLE away from you.



Unlock the CATCHES on either side of handle.



Lift 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.

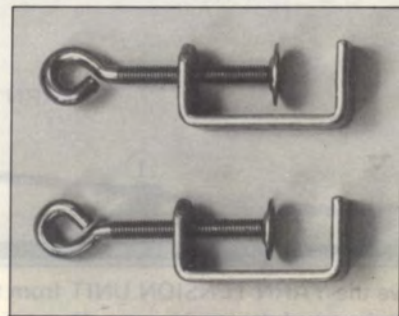
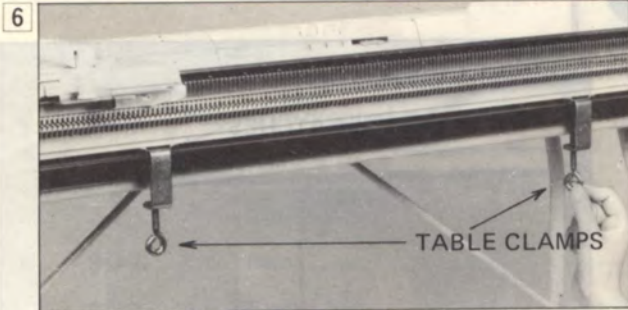
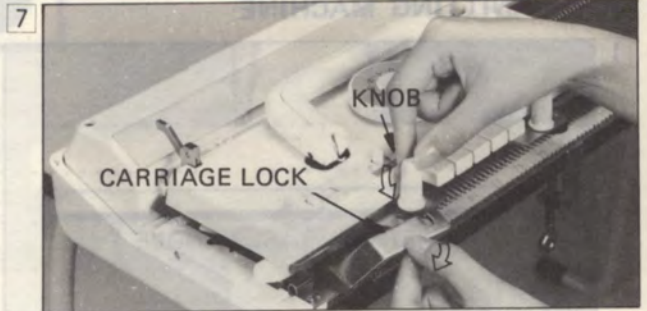


TABLE CLAMPS.



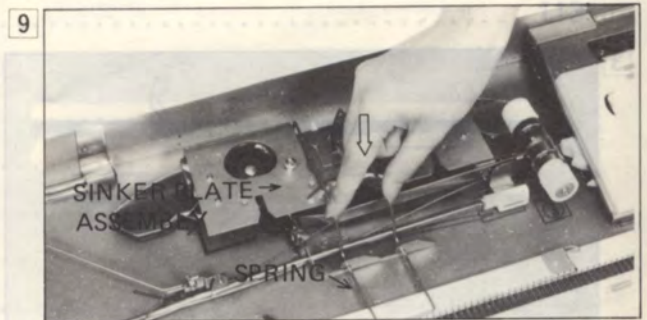
Fasten the machine to the table by tightening the TABLE CLAMP SCREWS.



Loosen the KNOB and remove the CARRIAGE LOCK.



Pull the CARRIAGE HANDLE up towards you.



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

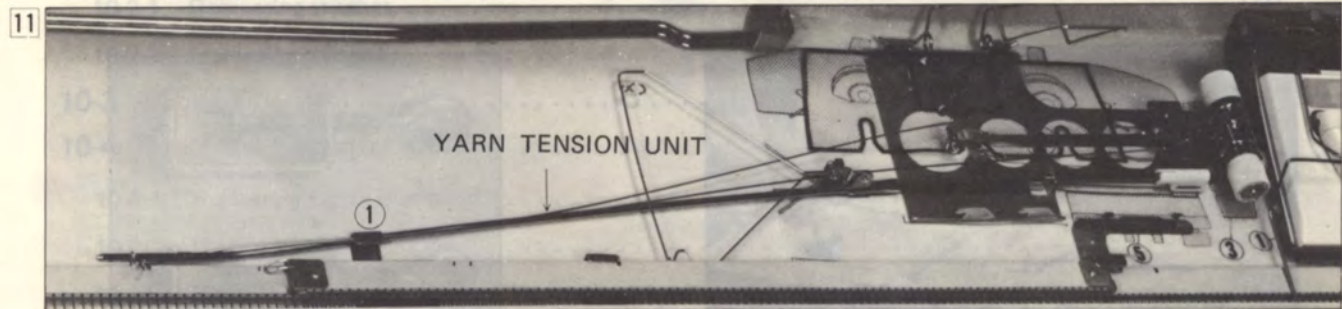


Set the SINKER PLATE ASSEMBLY up on the K CARRIAGE.

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 fits securely.

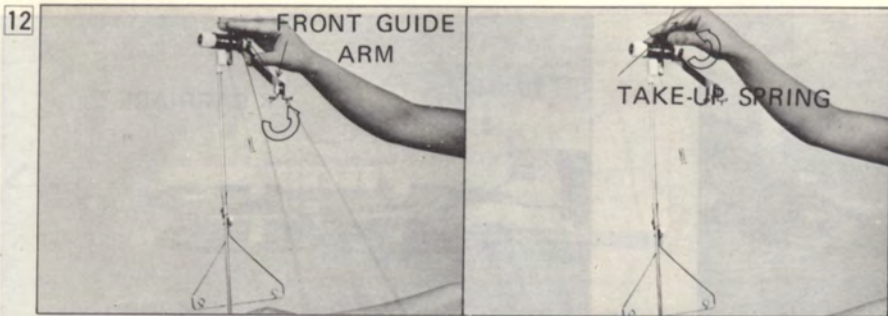


Remove the YARN TENSION UNIT from the carrying case.

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

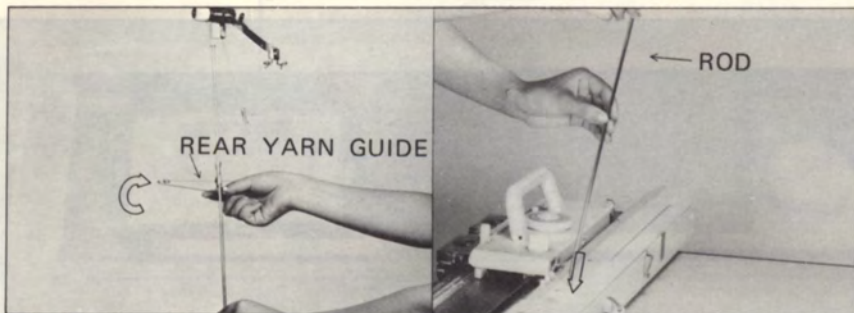
YARN TENSION UNIT

Setting up the YARN TENSION UNIT.



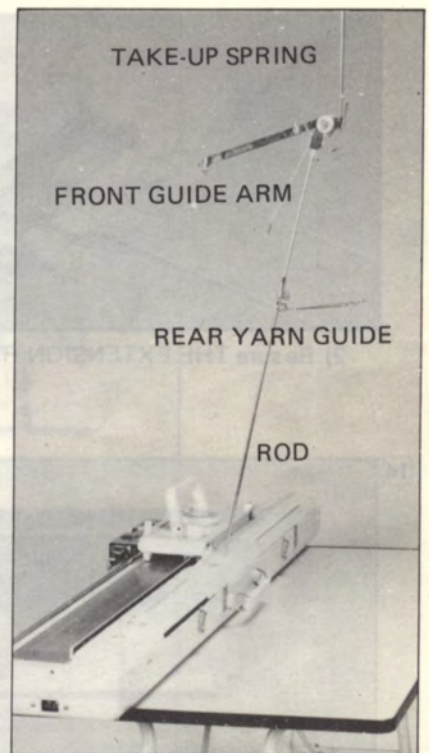
1). Turn the FRONT GUIDE ARM forward in the direction of the arrow.

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

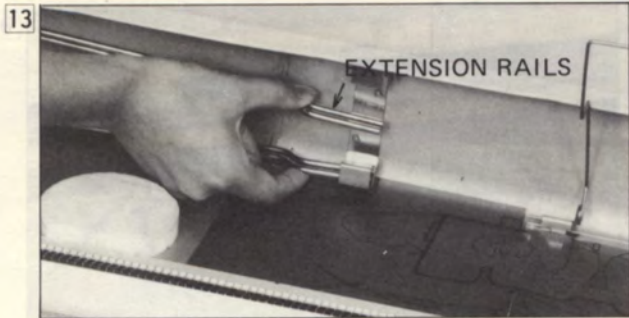


3). Raise the REAR YARN GUIDE until it is perpendicular to the rod.

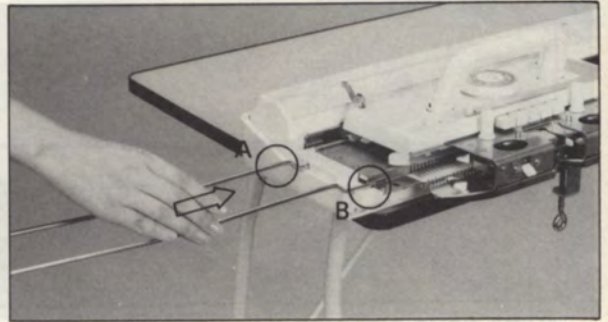
4). Insert the end of the ROD into the hole for this purpose at the center of the machine.



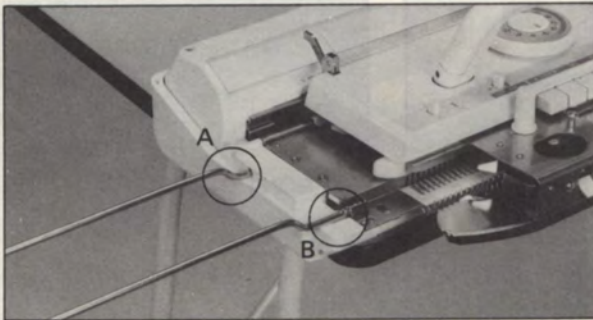
The REAR YARN GUIDE should lean backwards.



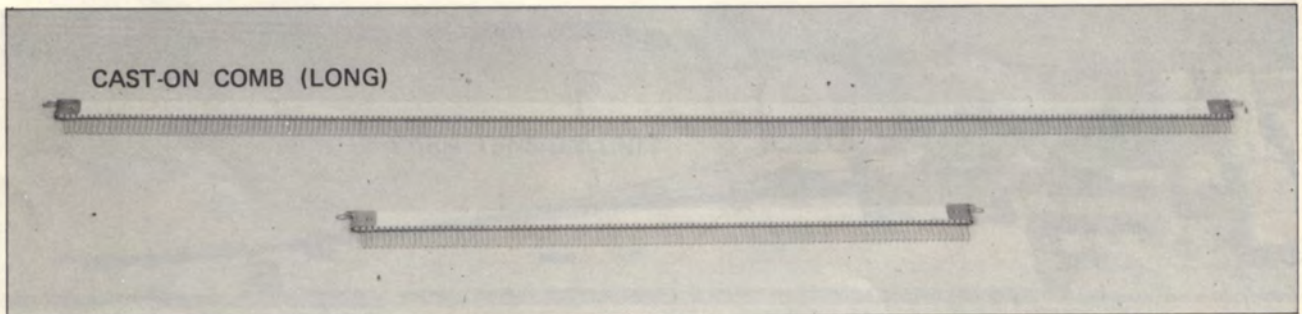
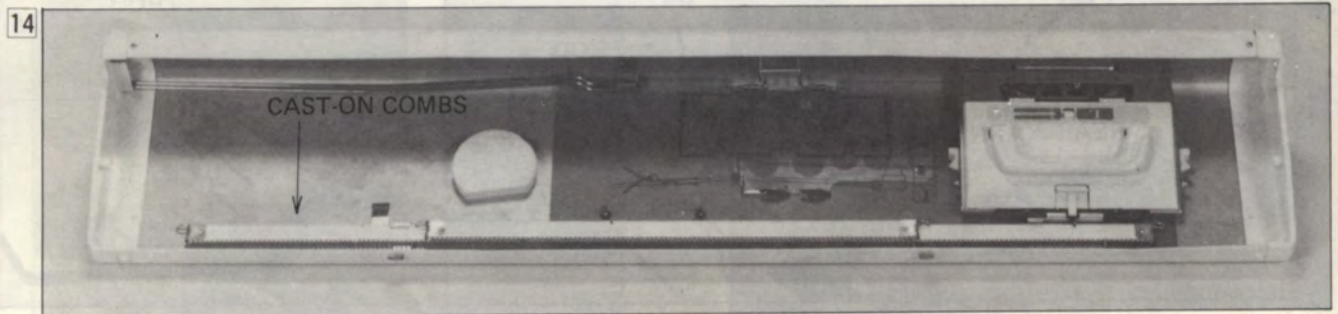
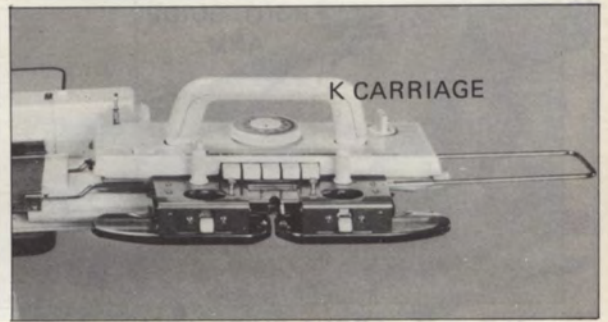
Remove the EXTENSION RAILS from the carrying case and set them up on both sides of the machine.



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

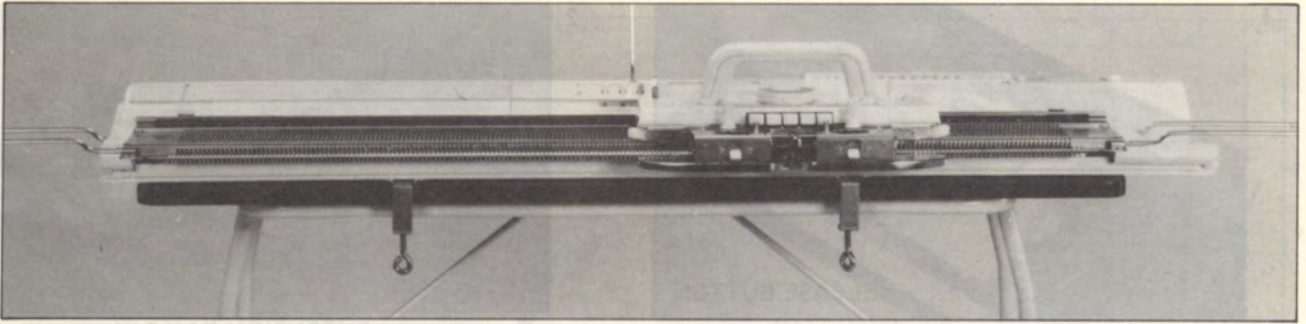


2). Be sure THE EXTENSION RAILS secure to prevent the K CARRIAGE from dropping off.

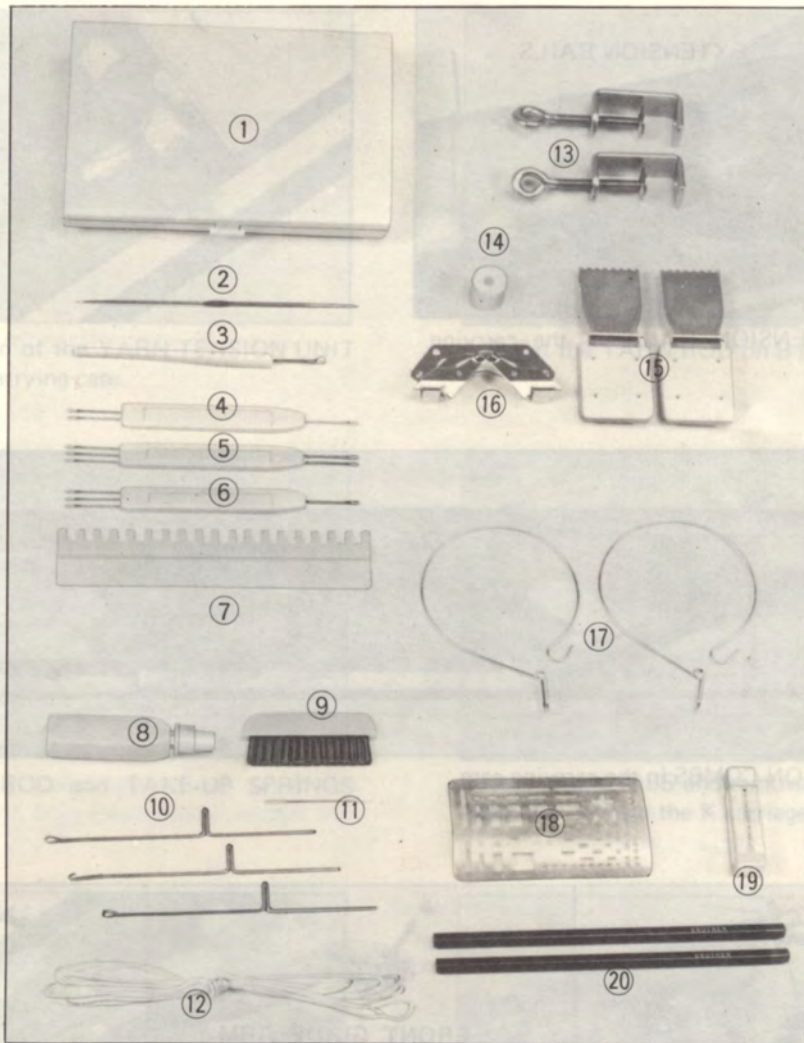


Remove the YARN TENSION UNIT from the carrying case.
 1) Take it out of the carrying case in the order of 1, 2 and 3, indicated.

15



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



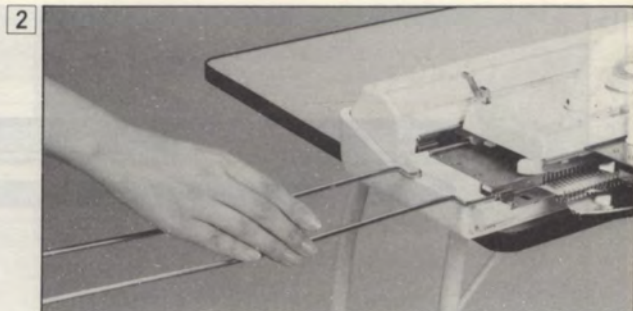
The following parts are included in the accessory box.

- | | | |
|---------------------------------|------------------------------|----------------------------------|
| 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.) | |

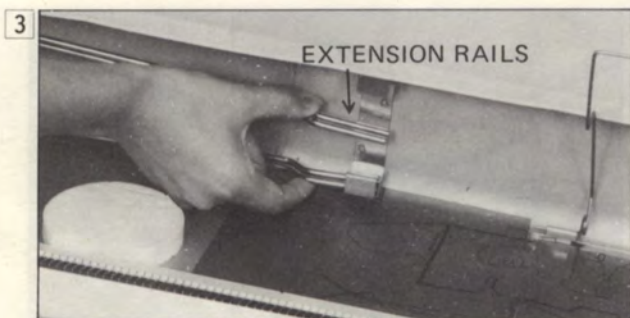
1-2. REPLACING KNITTING MACHINE IN CARRYING CASE



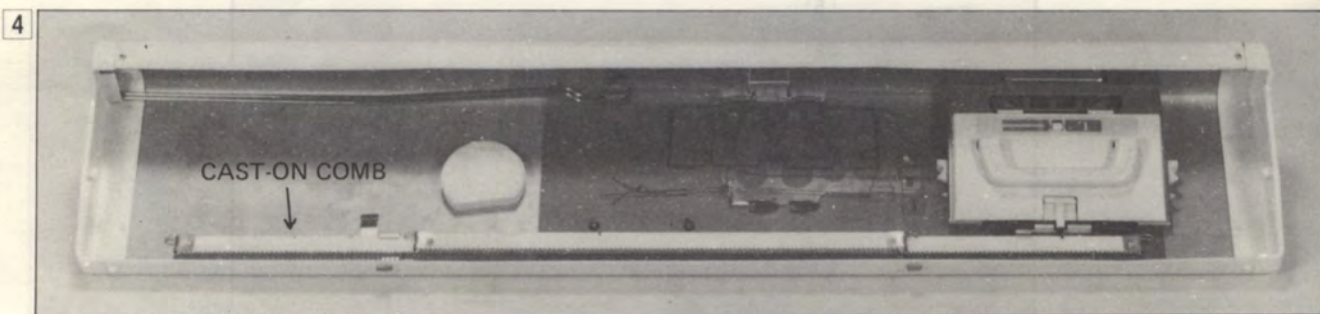
Push the release button and replace the L CARRIAGE in the carrying case.



To remove the EXTENSION RAILS lift up and pull.



Replace the EXTENSION RAILS in the carrying case.



Replace the CAST-ON COMBS in the carrying case.



Pull up the YARN TENSION UNIT to remove.

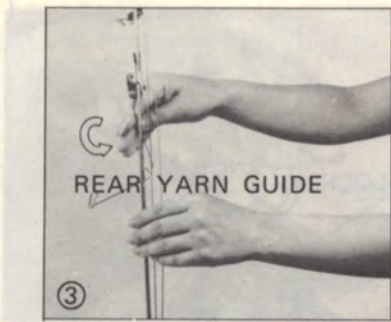
Fold up the YARN TENSION UNIT as shown in figures ①, ②, and ③.

1). FRONT GUIDE ARM.

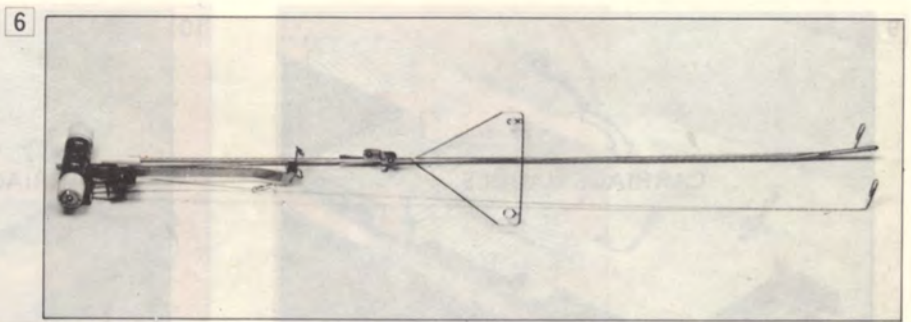
2). TAKE-UP SPRINGS.

2. IMPORTANT POINTS TO REMEMBER BEFORE STARTING TO KNIT

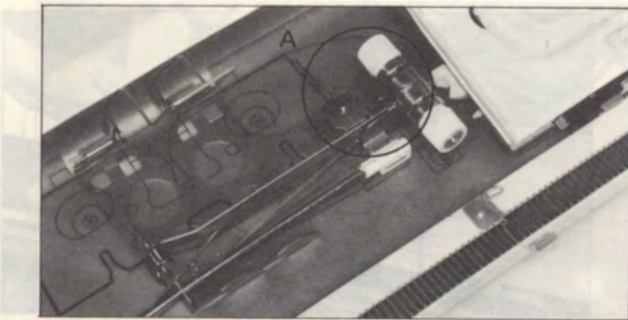
2-1. PREPARATION OF YARN



3) REAR YARN GUIDE.



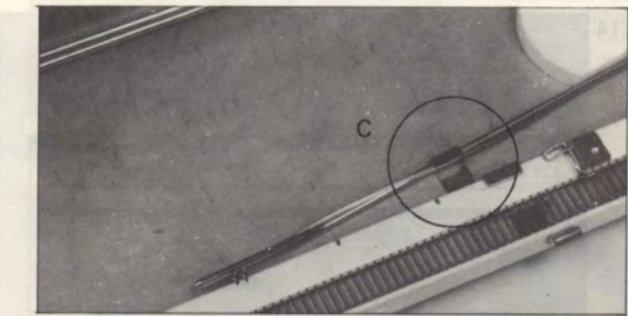
Replace the YARN TENSION UNIT in the carrying case.



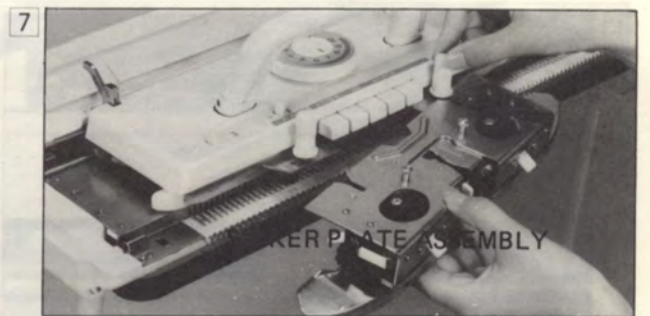
1). Set the A position of the YARN TENSION UNIT on the figure in carrying case.



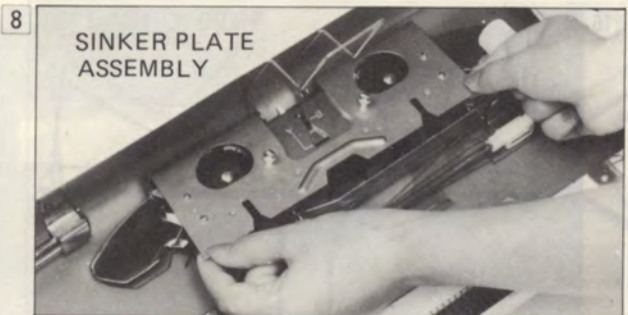
2). Set the YARN ROD on B position.



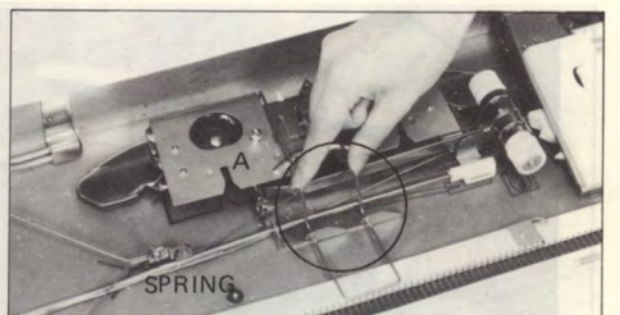
3). Set the YARN ROD and TAKE-UP SPRINGS on C position.



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

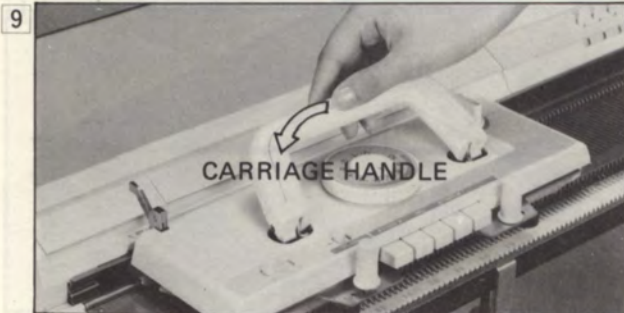


1). Replace it on the corresponding drawing in the carrying case.

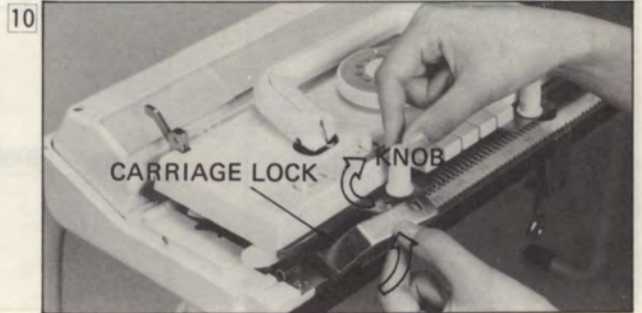


2). Set the SPRING on A position.

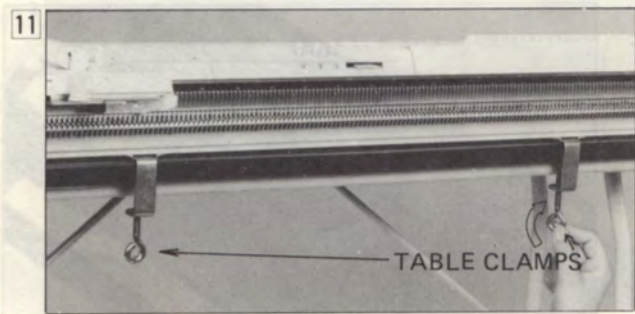
1-2. REPLACING KNITTING MACHINE
IN CARRYING CASE



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



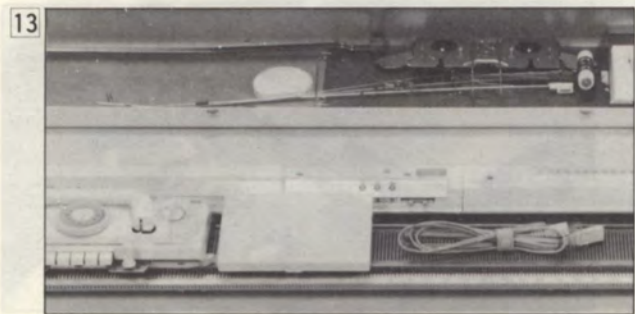
10 Insert the CARRIAGE LOCK in the hole at the left edge of the machine and lock the K CARRIAGE in position.



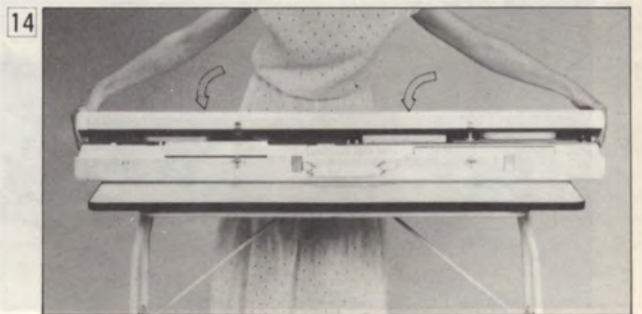
11 Release the two TABLE CLAMPS.



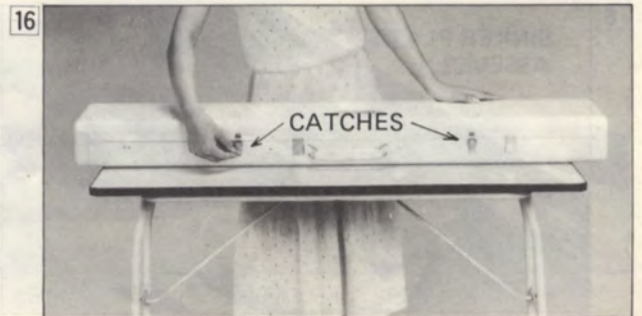
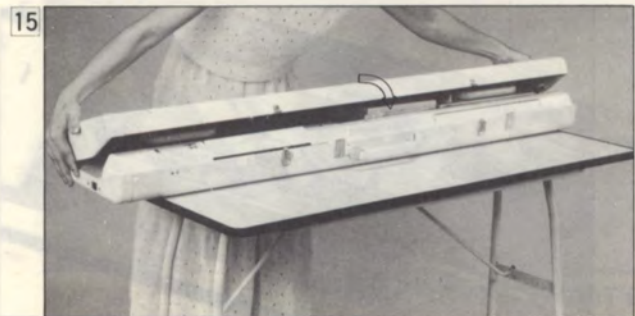
12 Replace all accessories in the accessory box.



13 After replacing all knitting machine accessories.



14 Hold the UPPER CASE and close as shown in the following three photos.

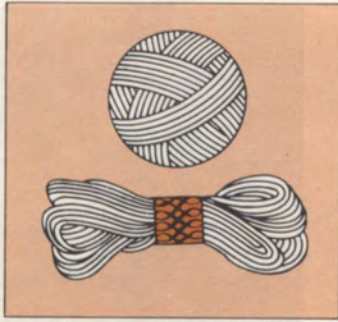


16 Lock the two CATCHES on either side of the handle.

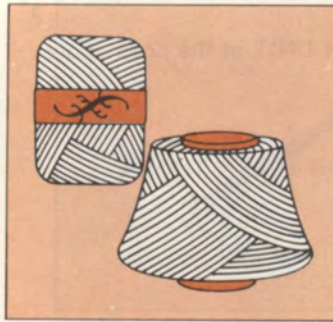
2. IMPORTANT POINTS TO REMEMBER BEFORE STARTING TO KNIT

2-1. PREPARATION OF YARN

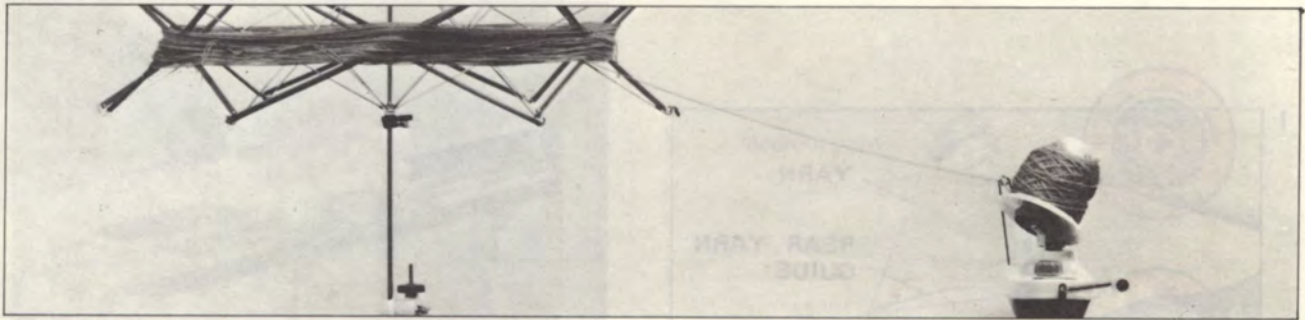
For a beginner, it would be best to use new yarn.



Using a SKEIN HOLDER and WOOL WINDER rewind all yarn shown in the above illustration into a ball.

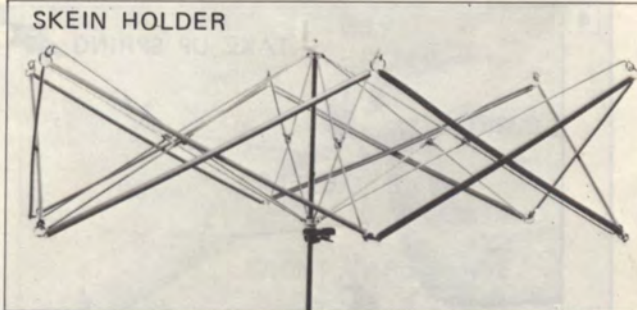


Yarn wound as shown in this illustration can be used immediately.



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

If the yarn does not come out freely, pull some yarn out of the center of the ball.



SKEIN HOLDER



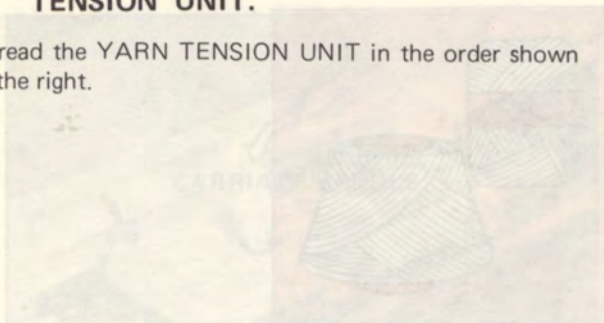
WOOL WINDER

The SKEIN HOLDER and the WOOL WINDER are available separately.

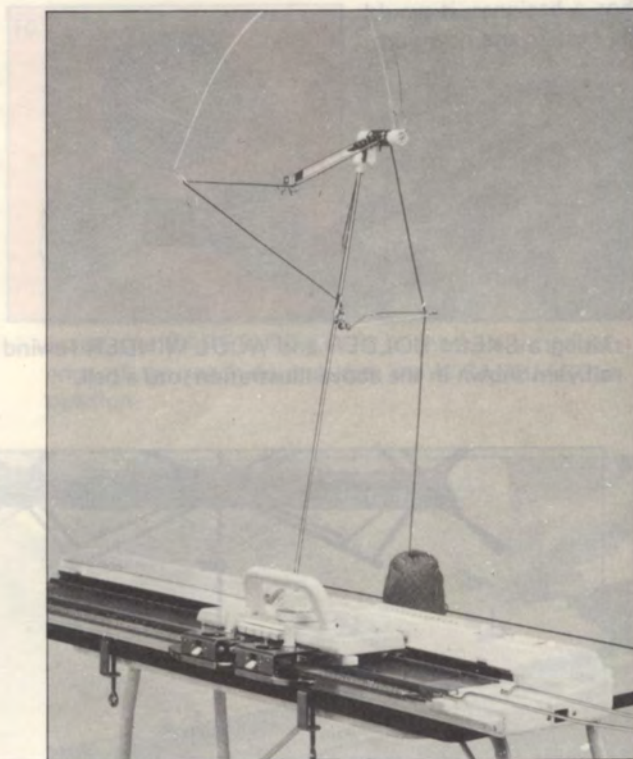
The WAX will help the yarn to slide smoothly.

2-2. THREADING THE YARN TENSION UNIT.

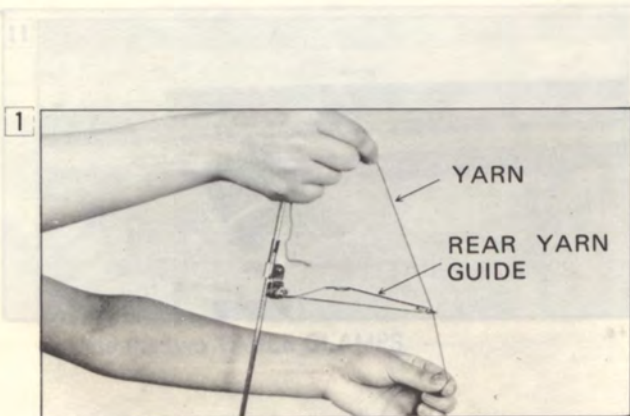
Thread the YARN TENSION UNIT in the order shown at the right.



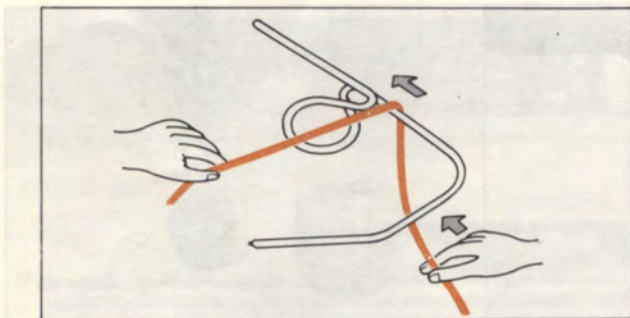
Push all needles back to ball position. Use the YARN TENSION UNIT to hold the ball of yarn in place. The YARN TENSION UNIT can be used in either direction.



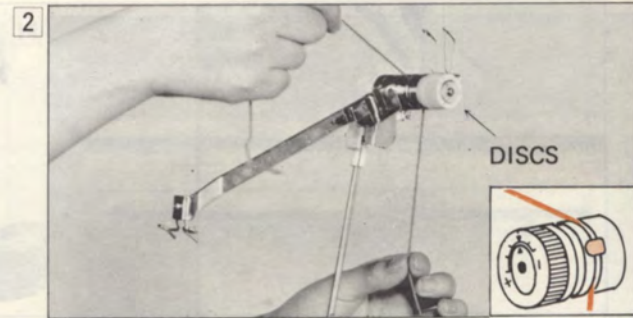
Replace all accessories in the accessory box.



YARN
REAR YARN GUIDE

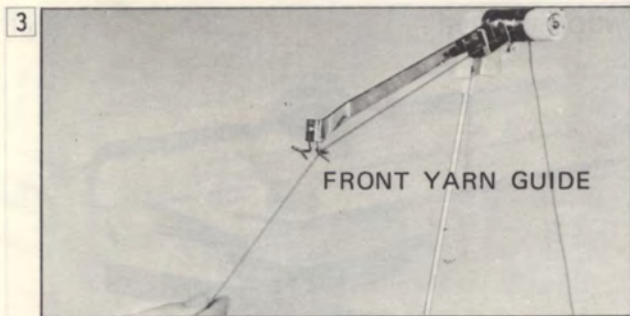


Pass the yarn from the ball through the REAR YARN GUIDE sliding the yarn through the eyelet.



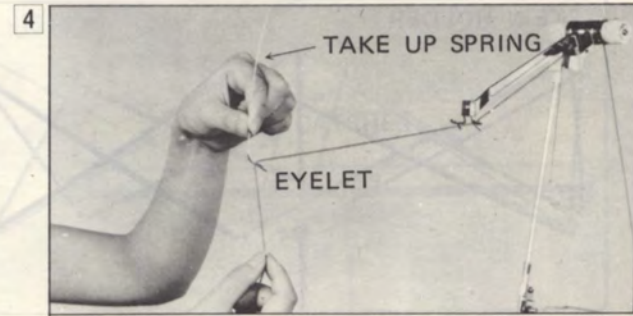
DISCS

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



FRONT YARN GUIDE

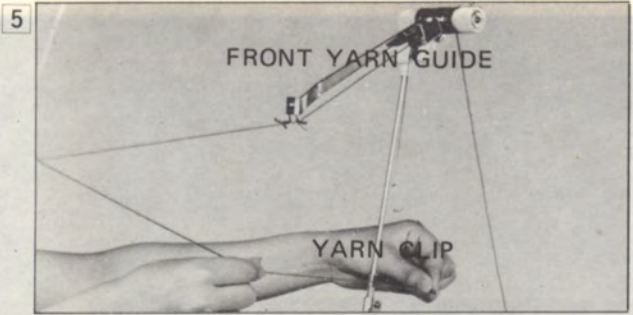
Thread the FRONT YARN GUIDE.



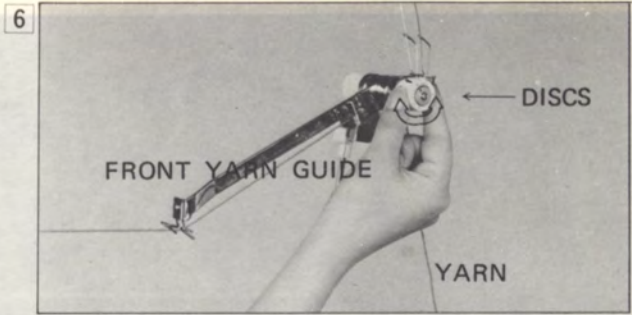
TAKE UP SPRING

EYELET

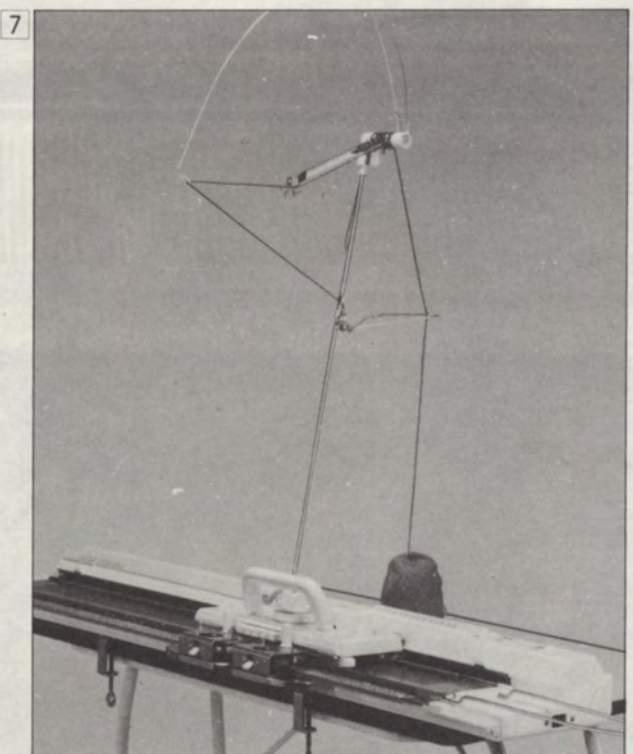
Thread the yarn into the EYELET OF THE TAKE-UP SPRING.



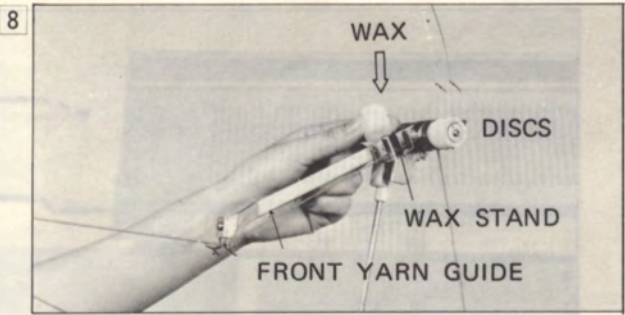
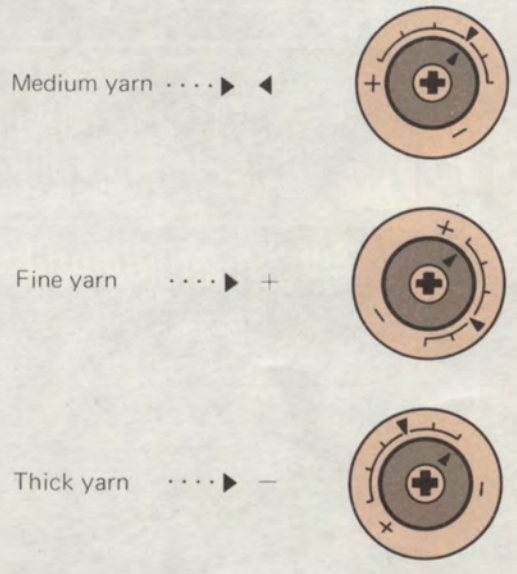
Clip the yarn under the YARN CLIP.



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



After threading the YARN TENSION UNIT.



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

The WAX will help the yarn to slide smoothly.

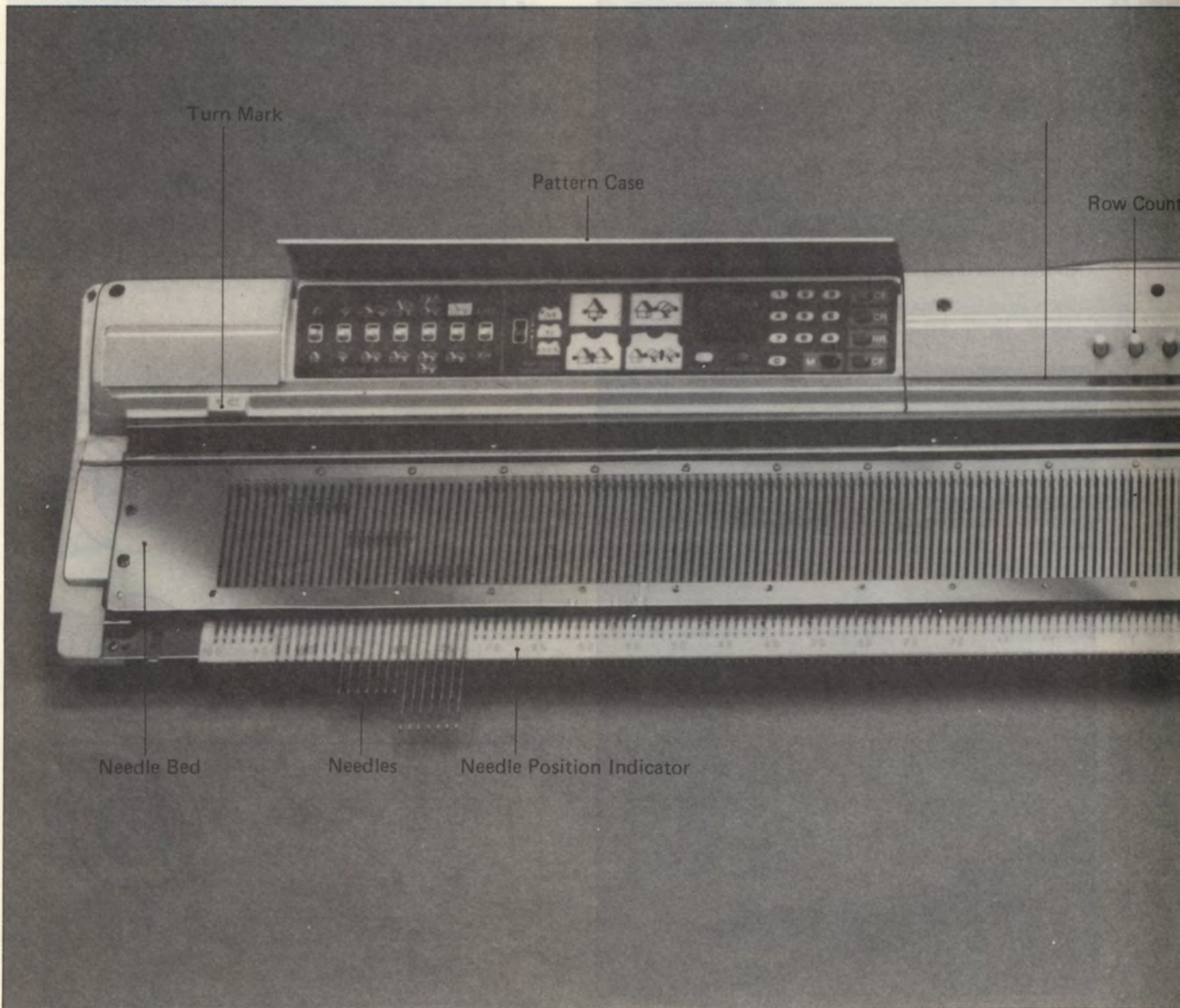
2-3-1. NEEDLE POSITION

On either side of the needle bed there appears 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 X command).
 E Holding position (The stitch will 'hold' on the needle until released. Used for shaping e.g. socks, necklines, etc.).

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

2-3. NAMES OF PARTS

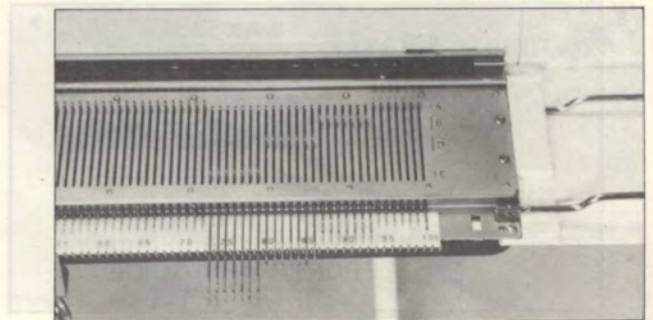


2-3-1. NEEDLE POSITION

On either side of the needle bed there appears 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).

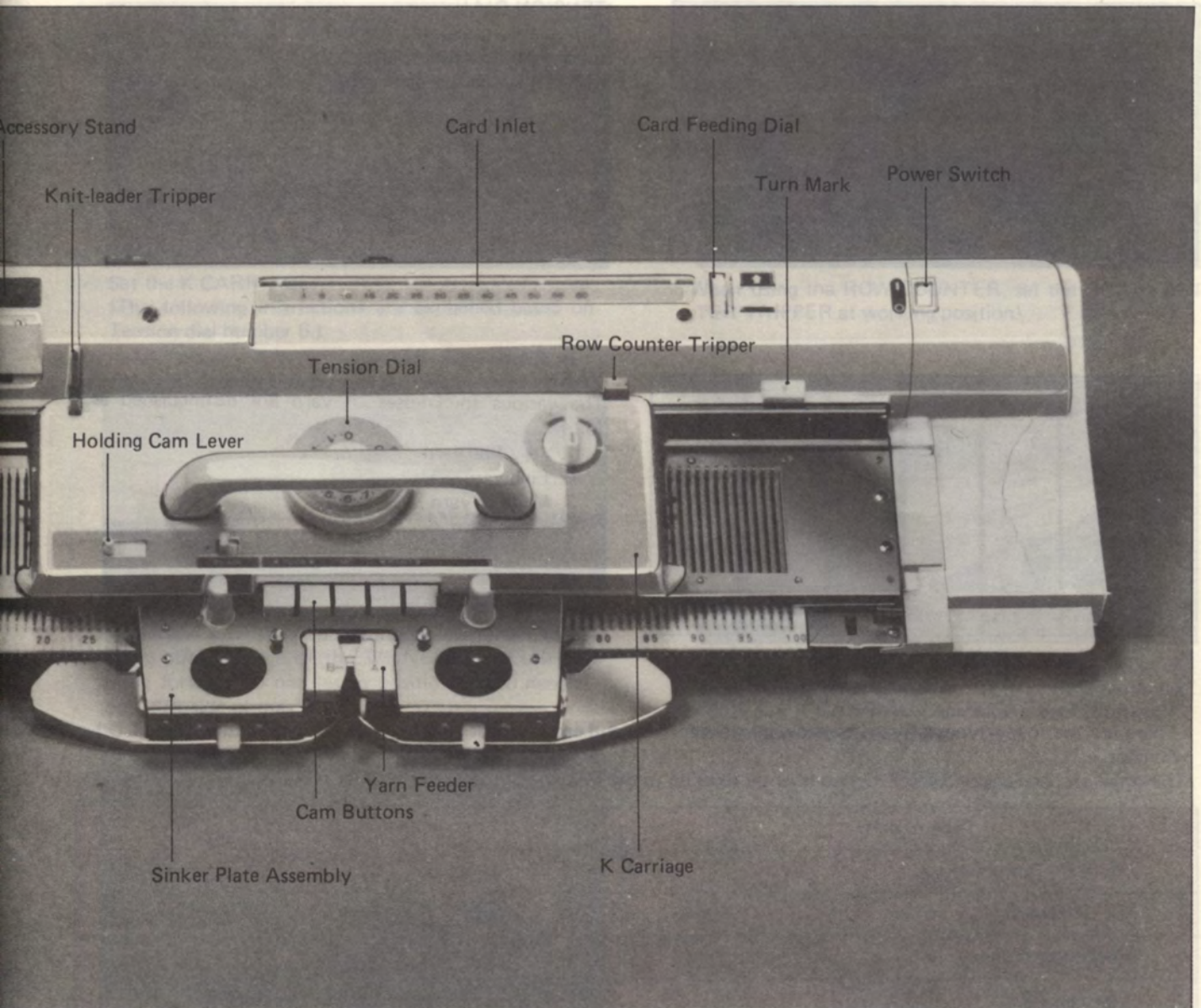
When you fold up the machine, return the needles to position A.



3. BASIC OPERATION PRACTICE I (PLAIN KNITTING)

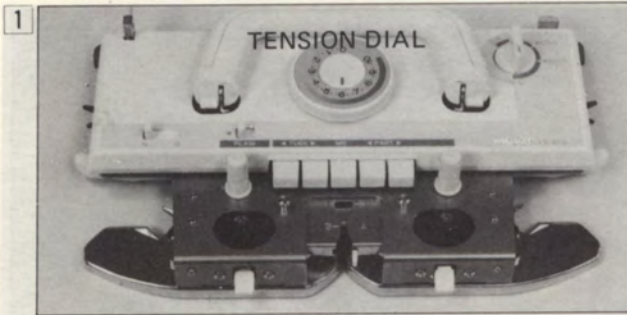
3-1. PLAIN KNITTING.

3-4. RELATION BETWEEN THE TENSION DIAL AND YARN



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

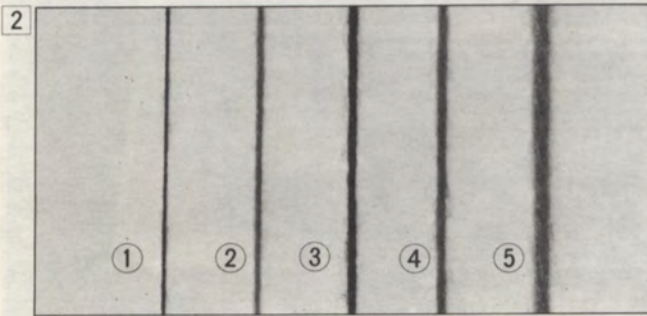
2-4. RELATION BETWEEN THE TENSION DIAL AND YARN



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 are distinguished as follows.

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.

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 or bulky yarn use every other or every third needle.

A, B, D and F

A - Nonworking position

B - Working position (Used for general work)

D - Pattern Knitting position (Selected Needles are brought to the position by the A control)

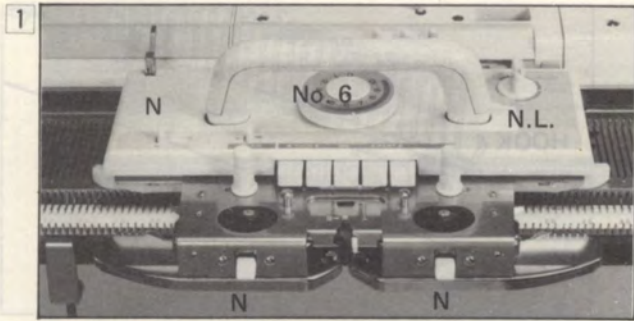
F - Holding position (The stock will hold on the needle with release. Used for shaping a neck, opening dart).

When you load up the machine, insert the needles to position A.

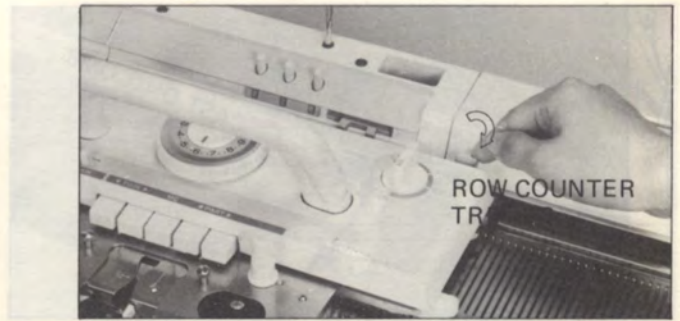


3. BASIC OPERATION PRACTICE I (PLAIN KNITTING)

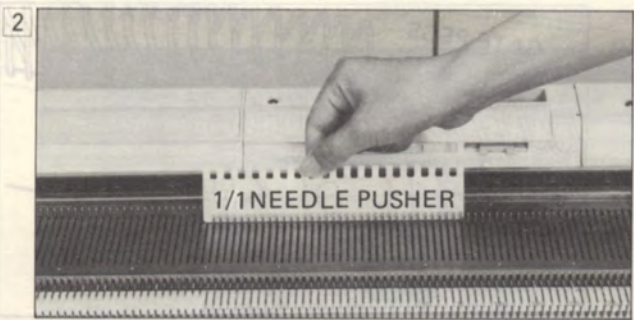
3-1. PLAIN KNITTING.



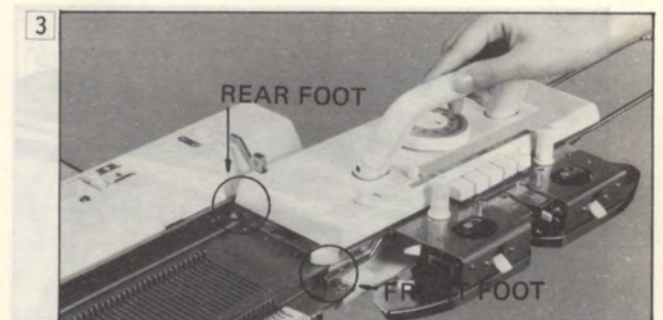
1 Set the K CARRIAGE. (The following instructions are explained based on Tension dial number 6.)



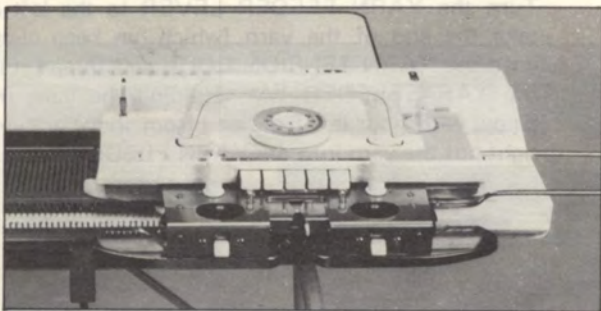
2 When using the ROW COUNTER, set the ROW COUNTER TRIPPER at working position.



3 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".)



4 See 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 needles into position B.



5 Move the K CARRIAGE to right side of the machine.



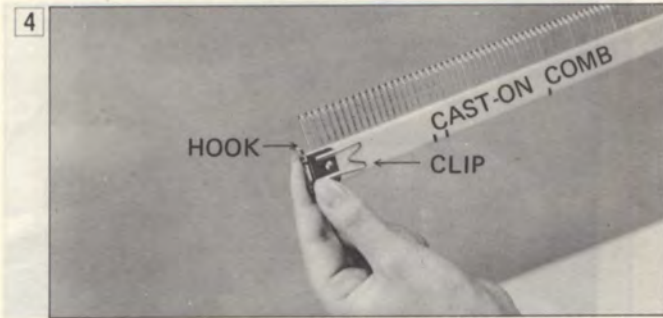
6 Always move the K CARRIAGE across until you hear "CLICK" at the end of a row.

7 Continue to operate the K CARRIAGE back and forth. This is called PLAIN KNITTING.

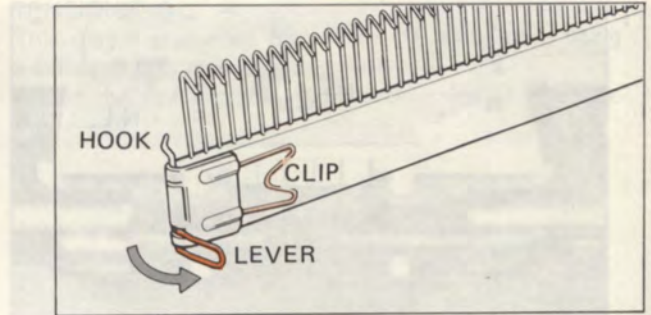


2-4. RELATION BETWEEN THE TENSION DIAL AND YARN

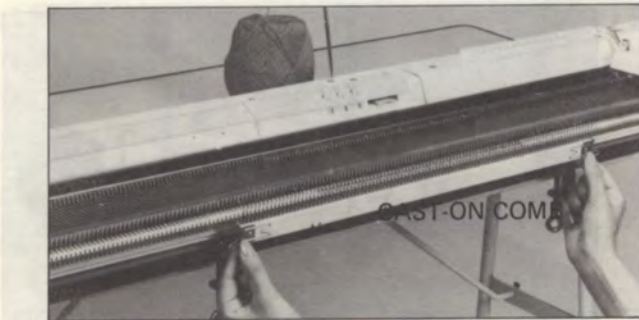
3-1. PLAIN KNITTING



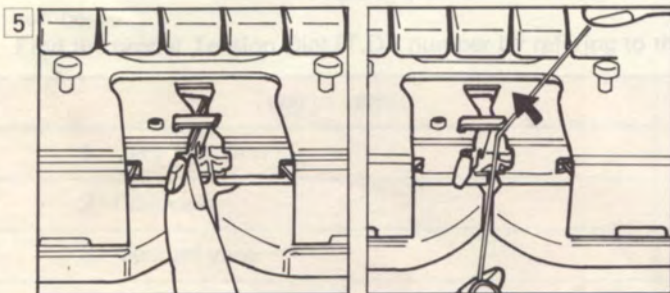
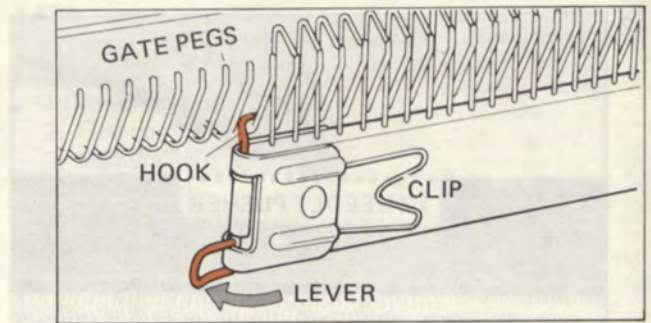
To cast on, hang the CAST-ON COMB on the GATE PEGS of the machine.



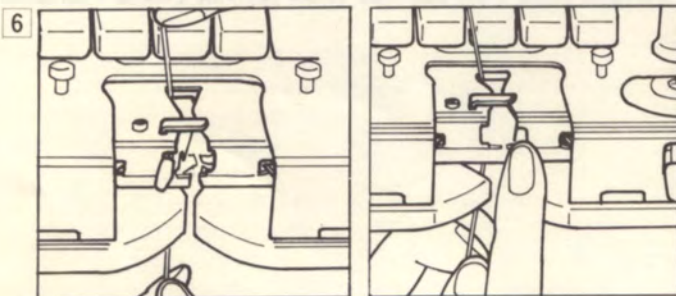
1). Hold the CAST-ON COMB, with the clip facing you, and turn levers at both sides in your direction.



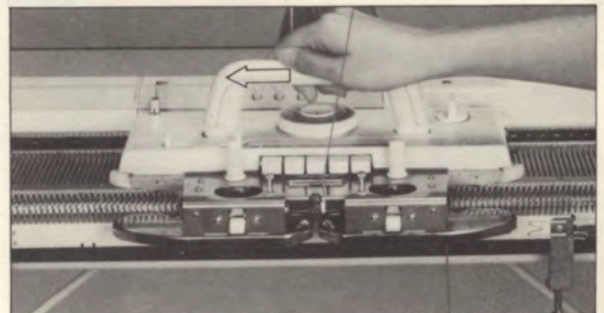
2). Place both HOOKS on the GATE PEGS as shown in the following illustrations.



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



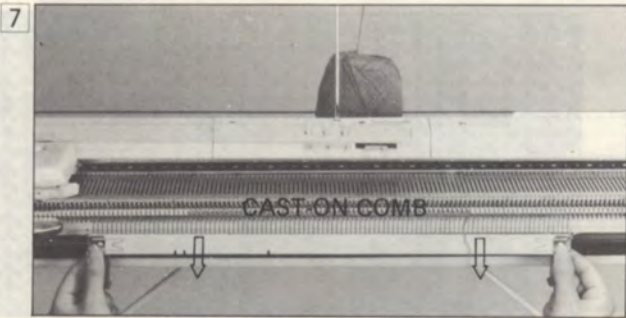
Hold the end of the yarn with your left hand under the YARN FEEDER "A". Close the YARN FEEDER LEVER.



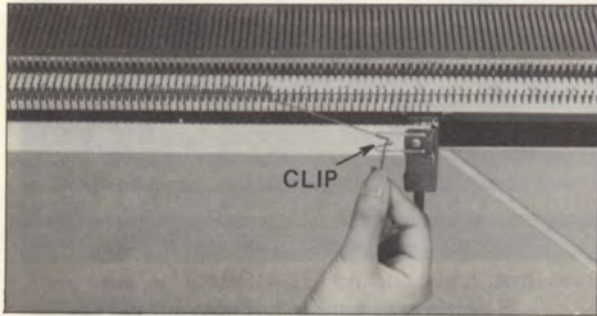
Move the K CARRIAGE to the left, holding the end of the yarn with your left hand. (When moving the K CARRIAGE, keep your left hand at the right edge of the knitting).

3.3. HOW TO CAST ON A FINISHED EDGE.

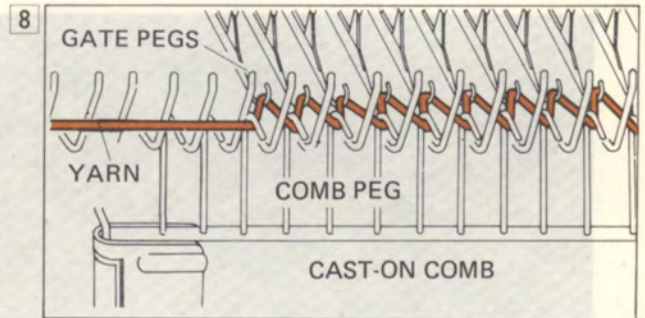
3.3-1. USING HAND METHOD



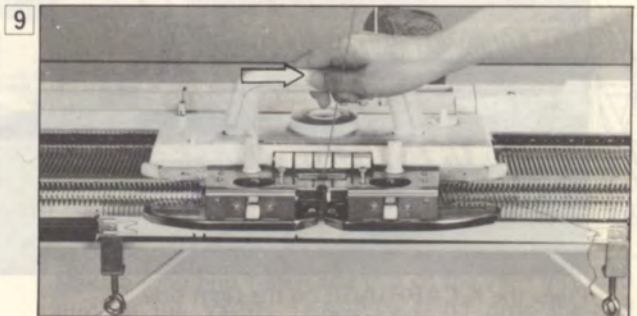
Remove the CAST-ON COMB from the GATE PEGS. Lower the CAST-ON COMB by turning the levers at both sides (at the same time) towards you. Make certain that the COMB PEGS catch the yarn between each GATE PEG.



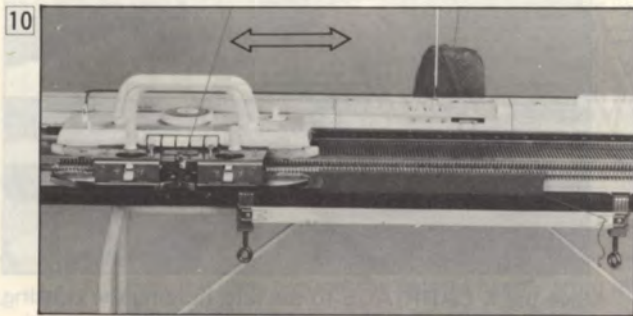
Clip the right end of the yarn as shown above.



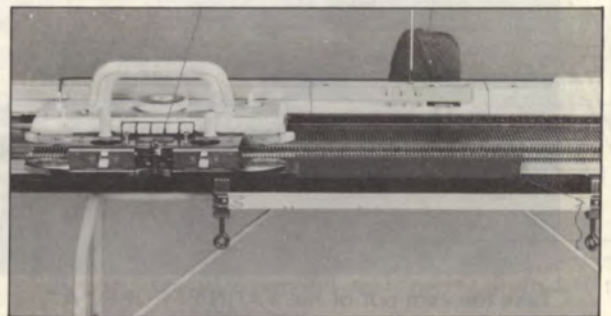
Release the yarn between the COMB and the K CARRIAGE, so that it may go under the last COMB PEG, adjacent to the end needle and above the rest.



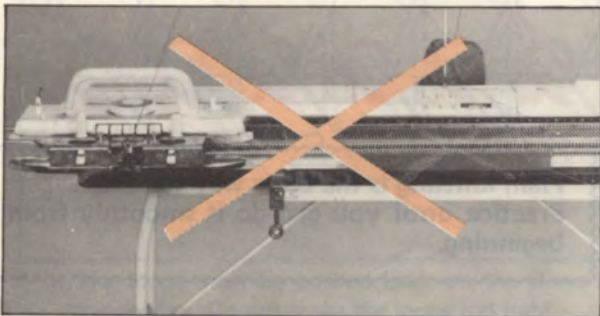
Move the K CARRIAGE to the right SLOWLY.



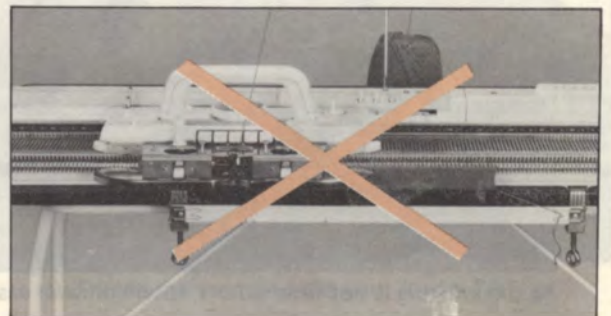
Continue to operate the K CARRIAGE back and forth. This is called PLAIN KNITTING.



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



Do not move K CARRIAGE too far beyond the knitting.



Do not reverse K CARRIAGE in the middle of a row.



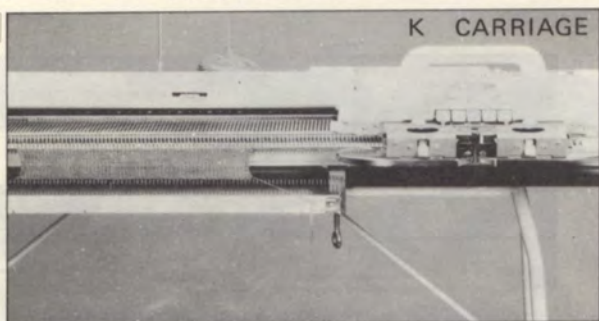
The purl side.
This side is facing you, when knitting.



The plain side.
This side is away from you, when knitting.

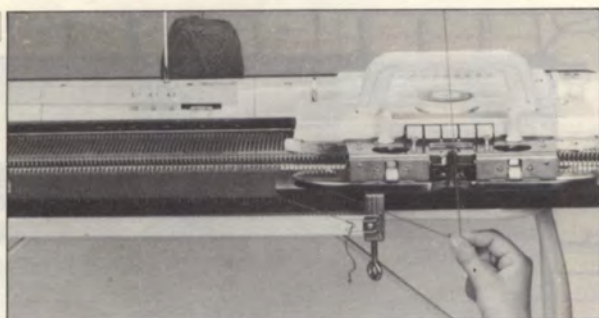
3-2. HOW TO REMOVE KNITTING FROM THE MACHINE.

1

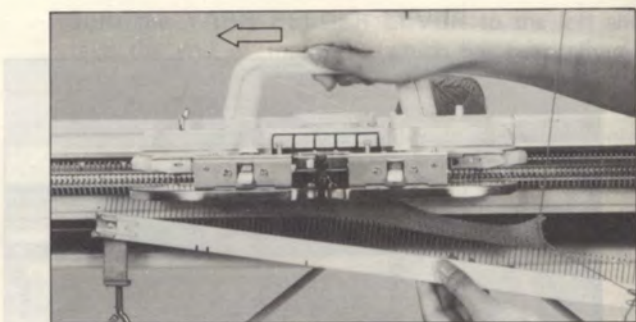


Place the K CARRIAGE on the right side.

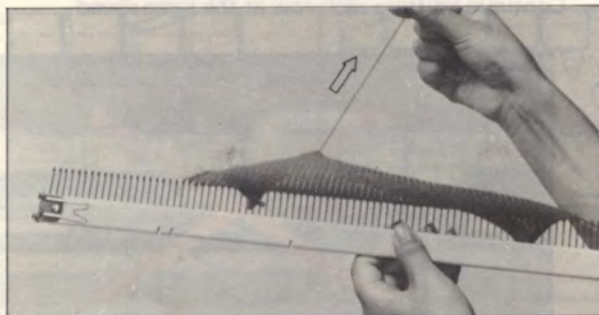
2



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



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



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

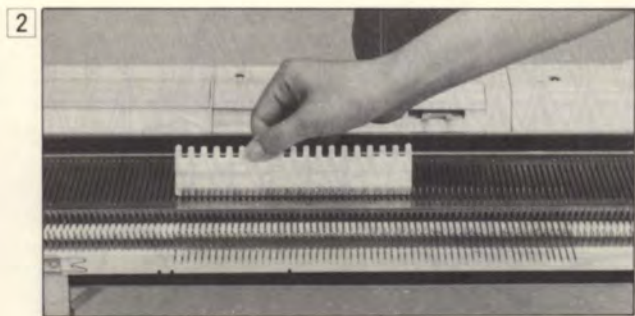
**Plain knitting is the basic way to knit.
Practice until you can do it smoothly from the beginning.**

3-3. HOW TO CAST ON A FINISHED EDGE.

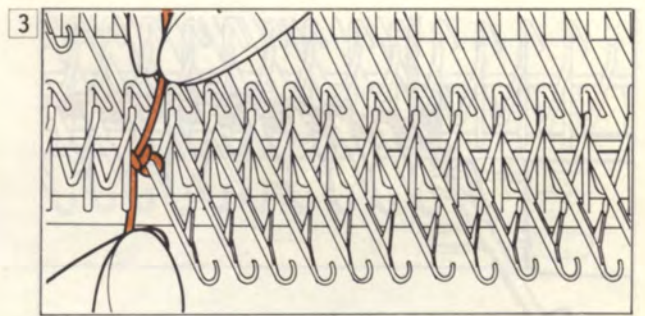
3-3-1. USING HAND METHOD



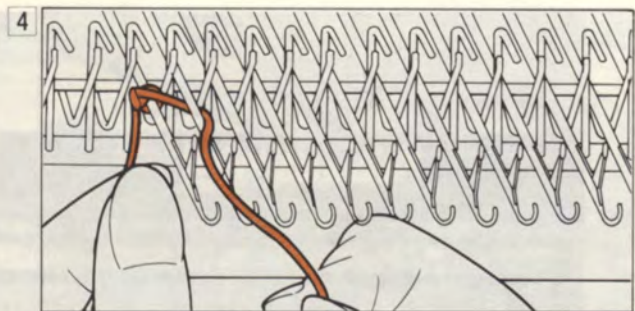
1 Hang the CAST-ON COMB onto the GATE PEGS.



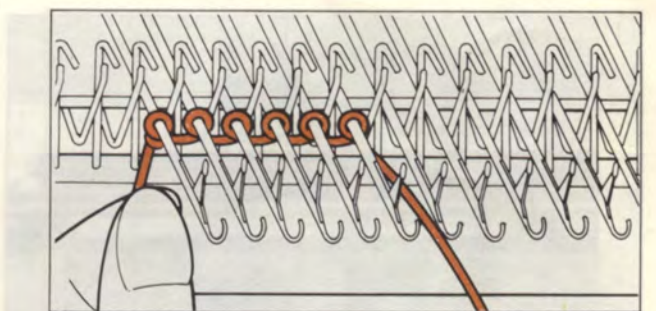
2 Place the K CARRIAGE on the right and bring forward all the required needles to position E.



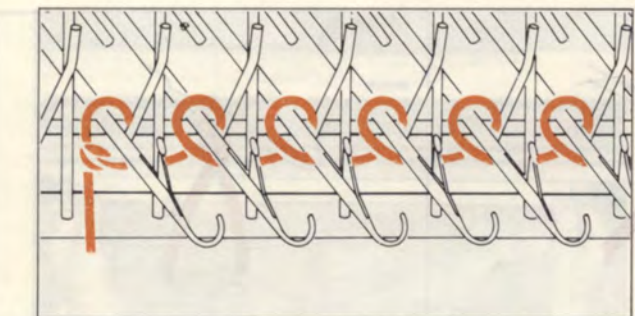
3 Make a loop and fasten the end of the yarn threaded through the YARN TENSION UNIT onto the end needle on the left.



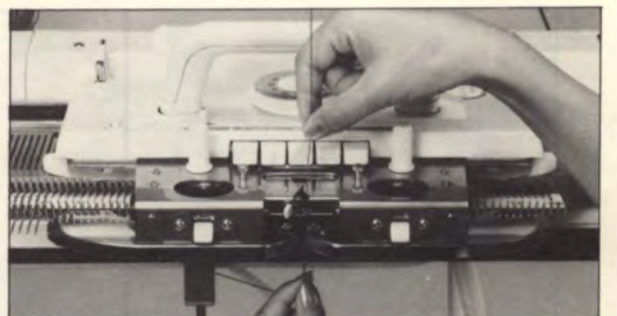
1). Loop the yarn around the second needle from left, counterclockwise.



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

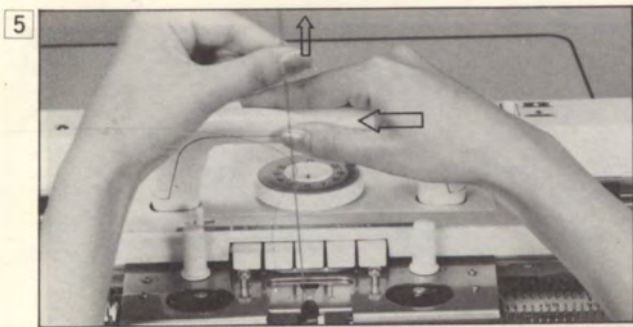


3). The loops must be pushed back on the stems of the needles. Do not make the loops too tight.

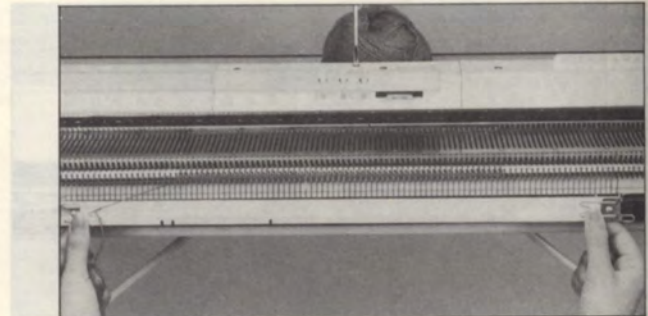


4). Thread the yarn into the yarn feeder "A"

3-3. HOW TO CAST ON A FINISHED EDGE.
3-3-1. USING HAND METHOD



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



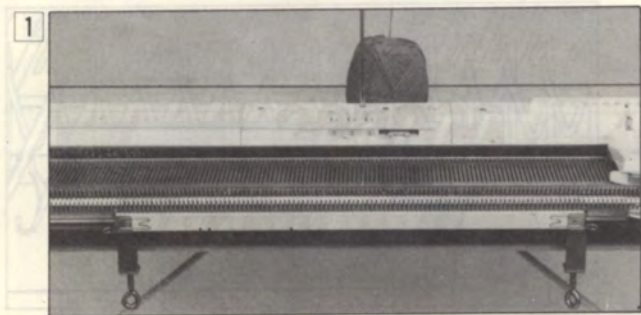
2 Release the CAST-ON COMB. Continue to operate the K CARRIAGE. This is plain knitting.

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

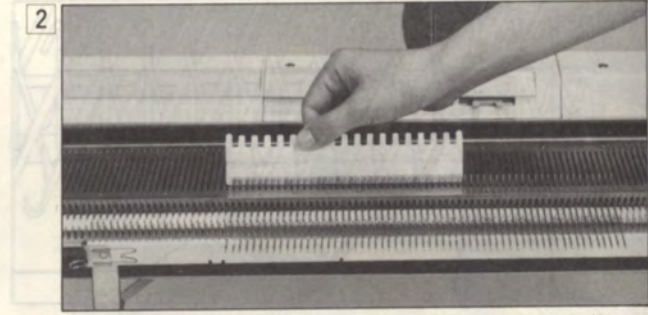


3 Place the K CARRIAGE on the right and bring forward all the required needles to position E.

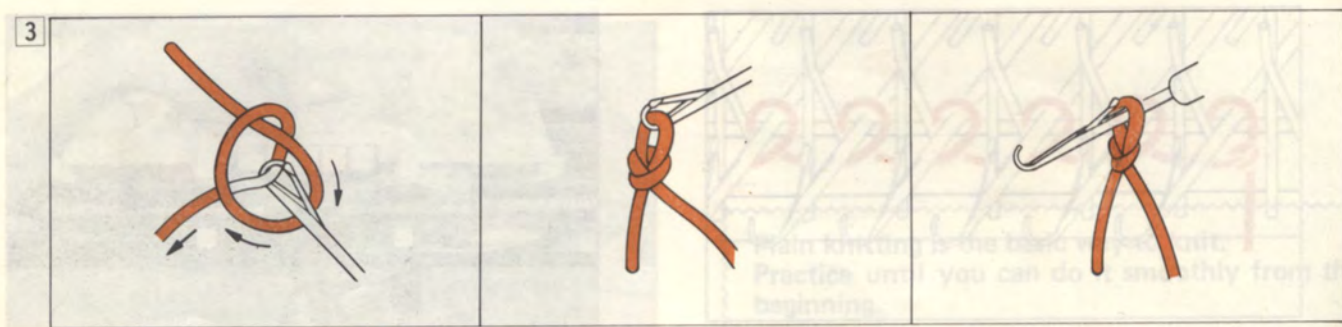
3-3-2. USING LATCH TOOL METHOD



1 Hang the CAST-ON COMB onto the GATE PEGS.



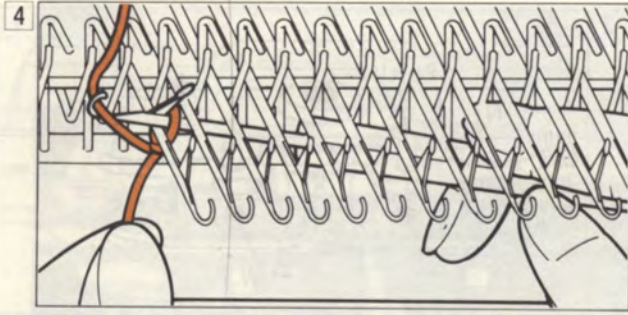
2 Place the K CARRIAGE on the right and bring all the required needles forward to position E.



3 Make chain stitch by using the latch tool.

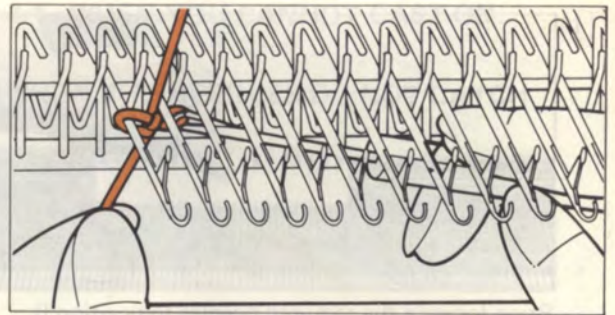
4. KNOWLEDGE OF PLAIN KNITTING

3-3 USING WEAVING PATTERN LEVER AND YARN FEEDER

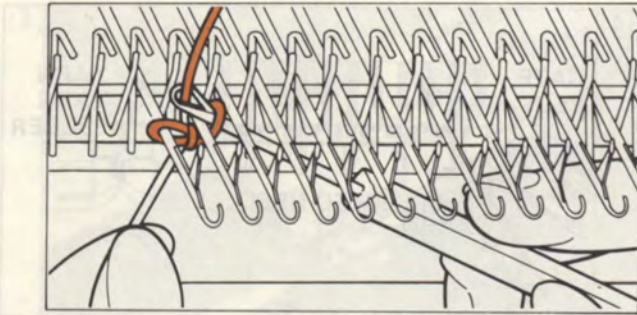


With the loop behind the latch, put the LATCH TOOL between the left needle and the second needle and make a stitch.

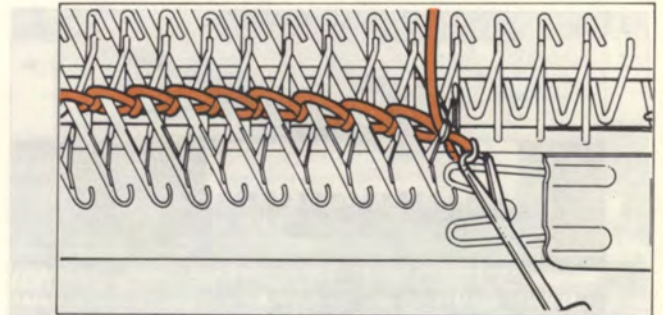
1). Push the LATCH TOOL up and hook the yarn.



2). Pull the LATCH TOOL through the loop on the stem of the latch tool. This makes a stitch.



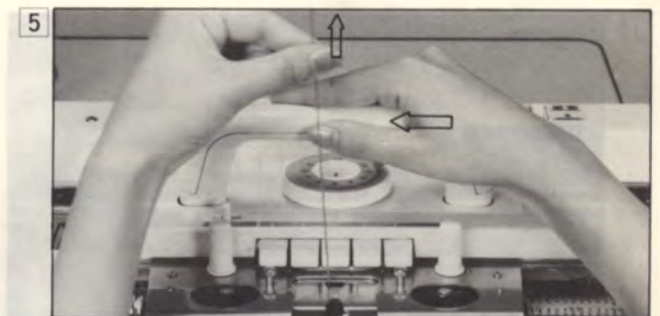
3). Repeat until the last needle on the right. Do not make a stitch.



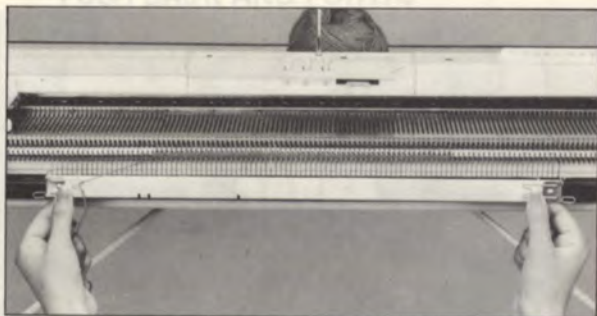
Put transfer the yarn to the needle hook.



Thread the yarn into the YARN FEEDER "A".



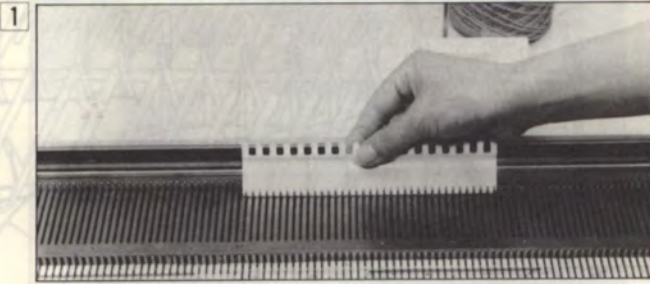
Move the K CARRIAGE to the left lifting the yarn up slightly.



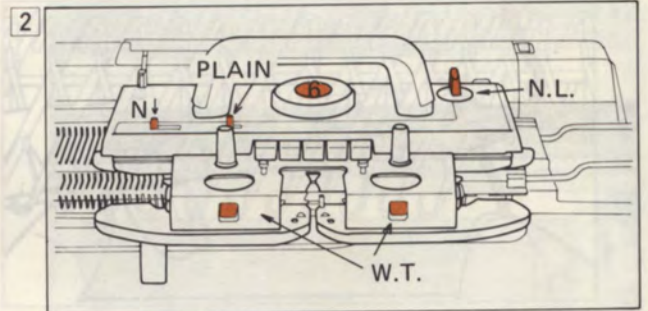
Release the CAST-ON COMB.
Continue to operate the K CARRIAGE.
This is plain knitting.



3-3-3. USING WEAVING PATTERN LEVER AND 1/1 NEEDLE PUSHER.



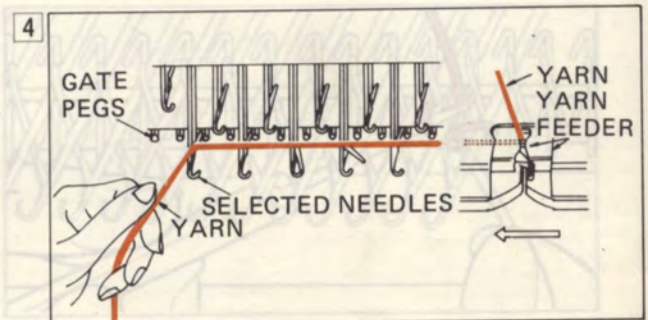
Bring forward the required needles to position B.



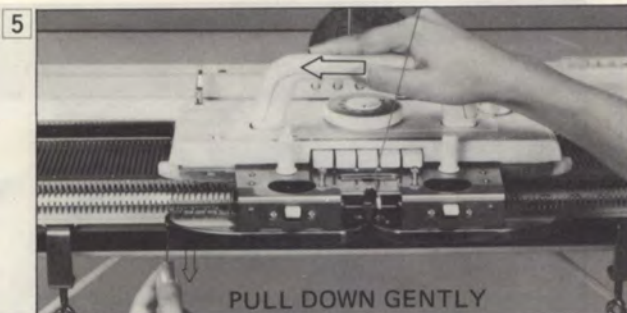
Set the K CARRIAGE as shown above and move it to the right side of the machine.



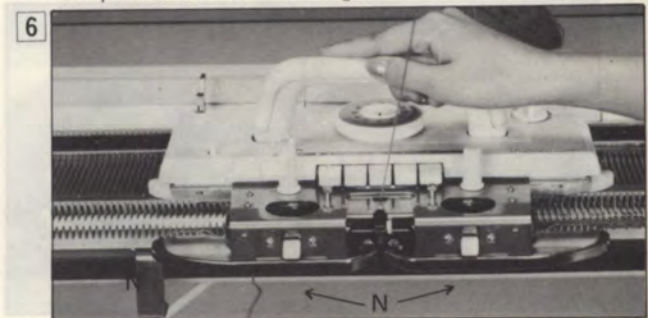
Using 1/1 NEEDLE PUSHER, bring forward every other needle to position D.



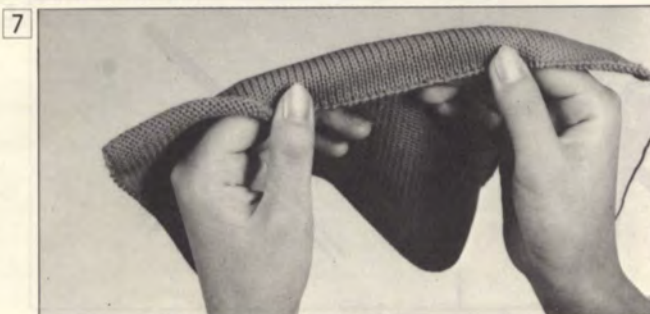
Thread the yarn into the yarn feeder "A". Holding the end of the yarn in your left hand, lay the yarn over the selected needles as shown. Hold the end of the yarn as shown in the figure.



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



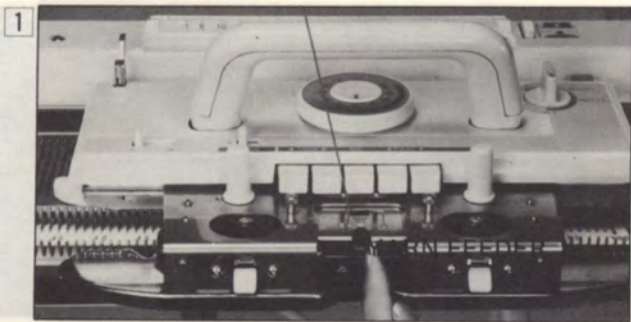
Return the Weaving Pattern Lever to N, and after knitting a few rows, release yarn which was held in left hand.



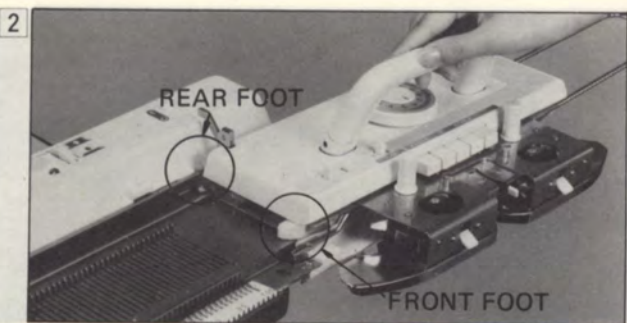
This is plain knitting with a finished edge.



4. KNOWLEDGE OF PLAIN KNITTING



1 Make sure that the yarn is in the YARN FEEDER "A", you will be unable to knit unless it is.

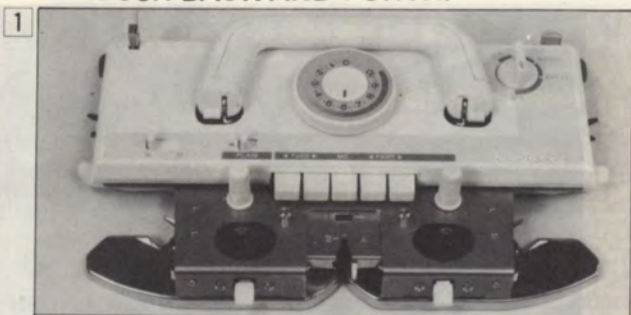


2 Make sure that the K CARRIAGE is placed on the needle bed correctly.



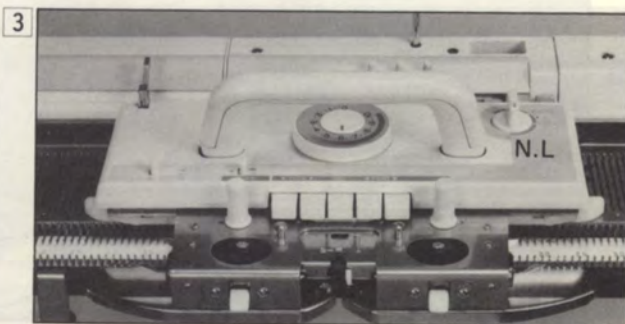
4 Make sure that the SINKER PLATE ASSEMBLY is correctly placed on the K CARRIAGE.

4-2. WHEN THE K CARRIAGE IS HARD TO PUSH BACK AND FORTH.



4-1. WHEN YOU CANNOT CAST ON.

(WHEN THE NEEDLES DO NOT CATCH THE YARN)



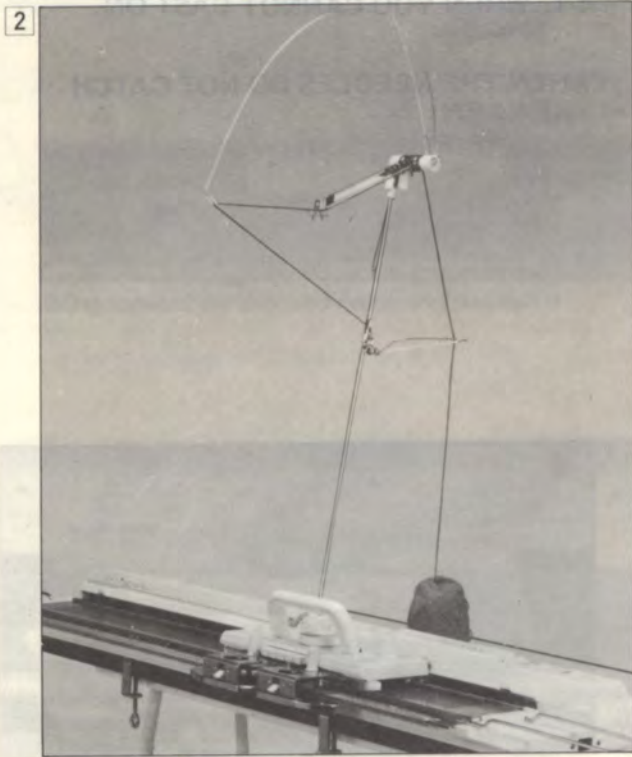
3 Make sure that the CHANGE KNOB is set at N-L. position.

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 kinds 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

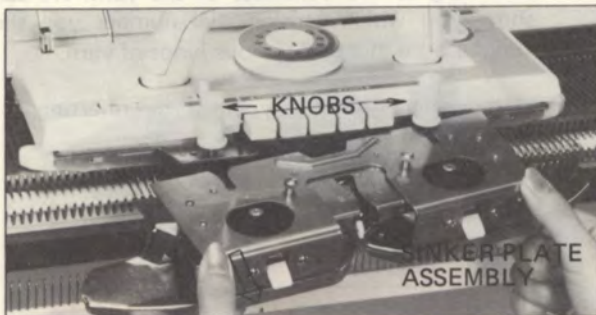
3-3-3. USING WEAVING PATTERN LEVER AND 1/4 NEEDLE PUSHER.



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

4-3. WHEN THE K CARRIAGE JAMS UP.

Do not move the K CARRIAGE by force. Remove the K CARRIAGE and start knitting again from the beginning of the row.



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



Knitting Comparison

1). TENSION DIAL is tight.

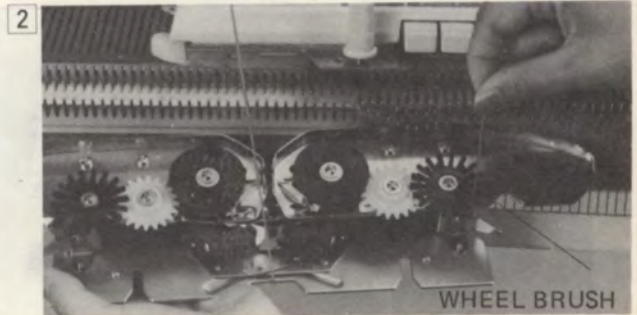


2). TENSION DIAL is loose.

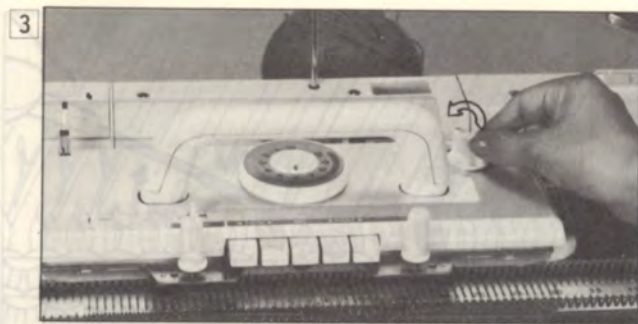
When the stitches are too tight or too loose, adjust the TENSION DIAL to a higher or lower number to get the correct stitch size.



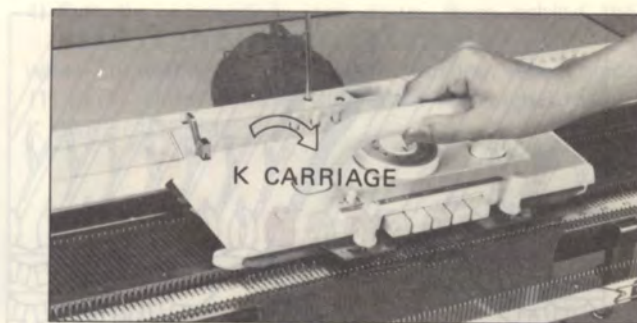
Take the yarn out of YARN FEEDER "A".



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



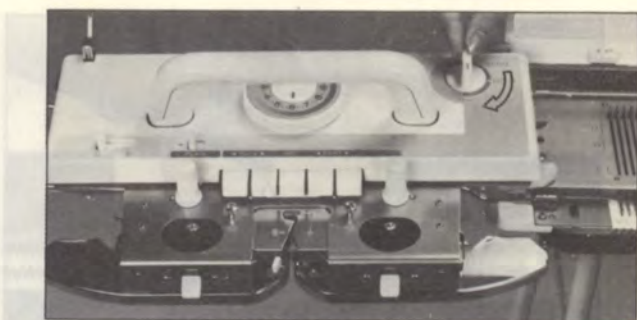
3 Set the CHANGE KNOB to position CR. This will release the K CARRIAGE.



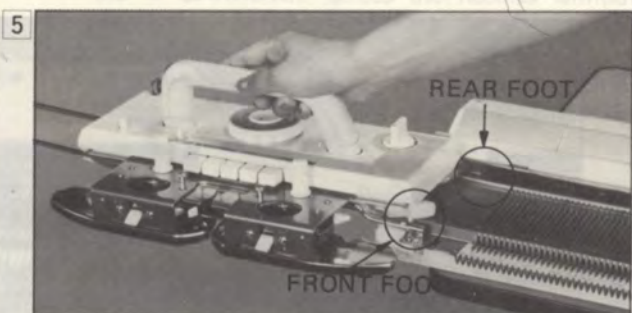
Lift the K CARRIAGE up towards you to remove it.



4 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.

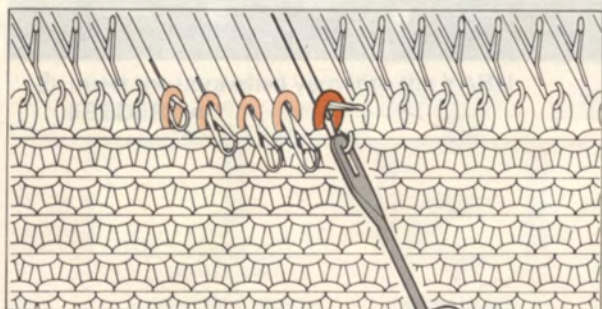


5 Make certain the K CARRIAGE is placed on the NEEDLE BED correctly.

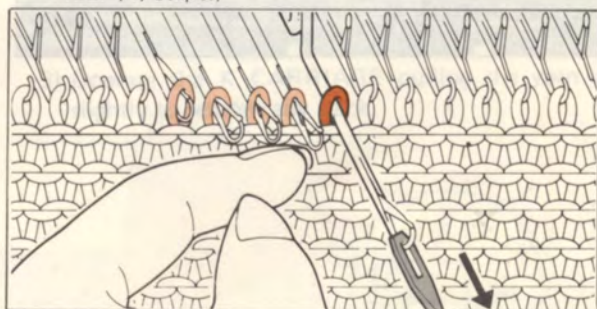


Unravel a row of knitting.

- 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.)



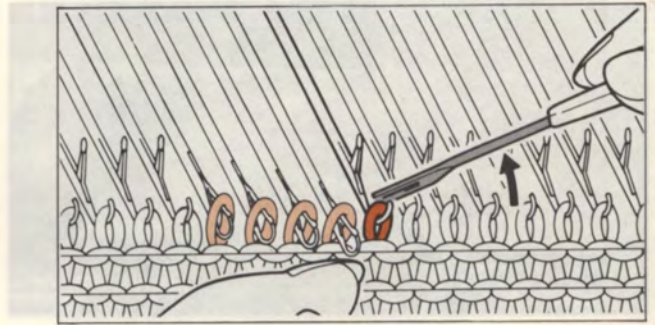
- 2). Place the EYE of the TRANSFER TOOL onto the hook of the needle.



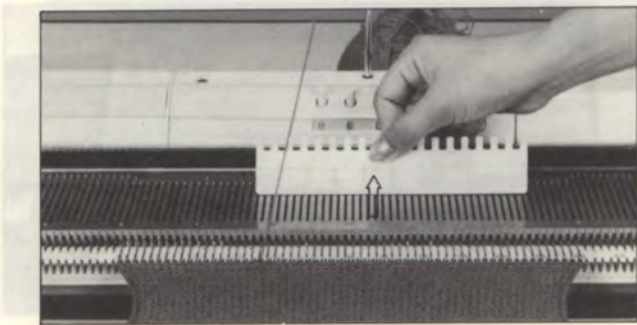
- 3). Hold the TRANSFER TOOL parallel with the needle and pull it toward you.



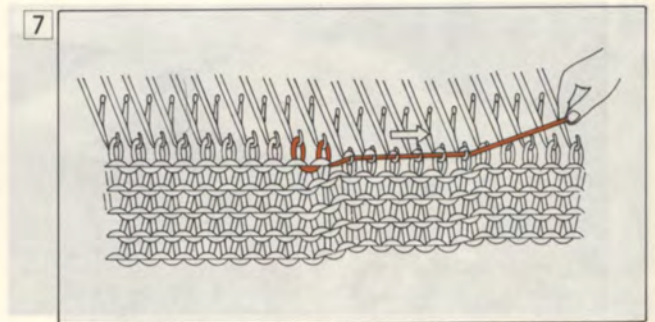
4). Push the TRANSFER TOOL toward the machine until the stitch is on the transfer tool.



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

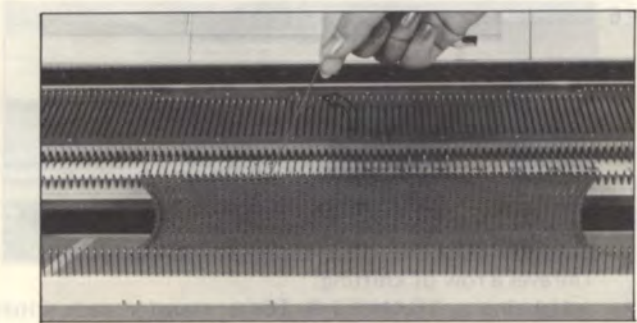


6). After transferring each stitch to the hook of a needle, bring back all the needles to position B by using the 1/1 NEEDLE PUSHER.

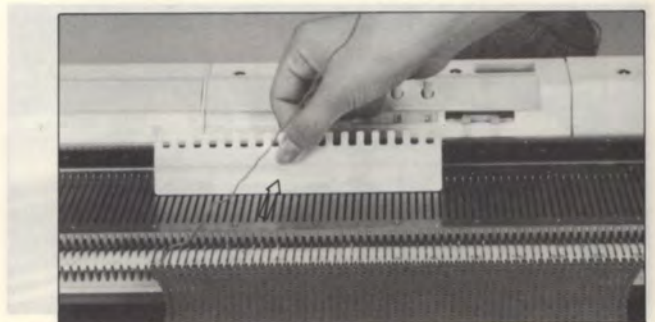


Unravelling a row of knitting.

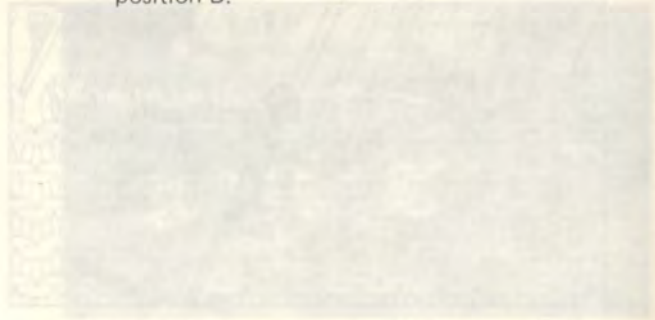
1). Hold the yarn parallel with GATE PEGS, and pull the yarn slightly sideways.



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.

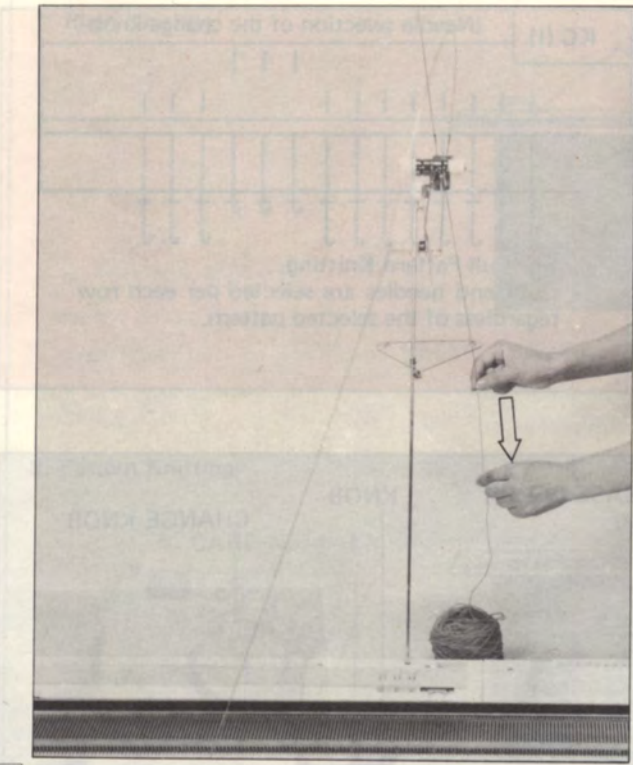


3). After unravelling the knitting, make sure that the stitches are in the hooks of the needles. Using the 1/1 NEEDLE PUSHER, return the needles to position B.



5-1-3 SWATCH COMPARISON

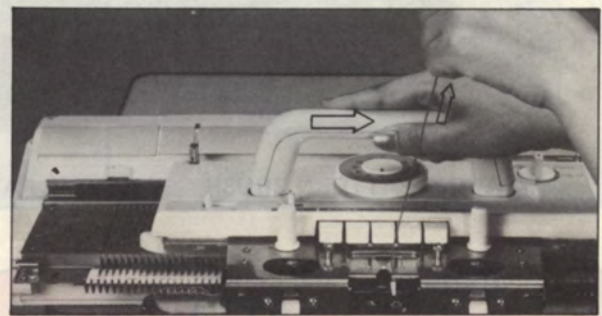
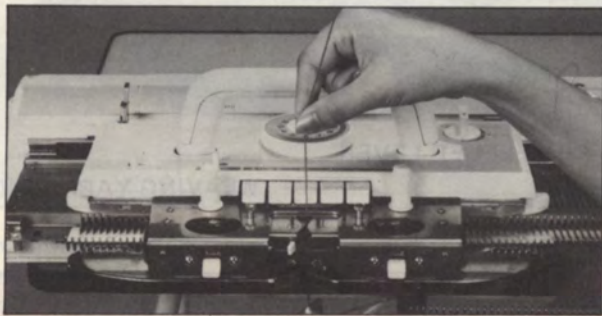
5-1 BASIC KNOWLEDGE OF PATTERN KNITTING



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) to (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 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.



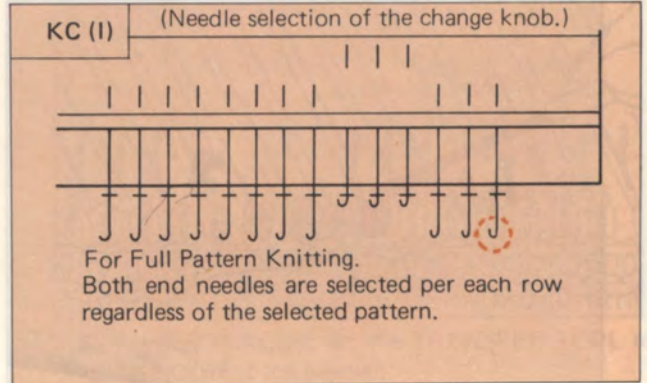
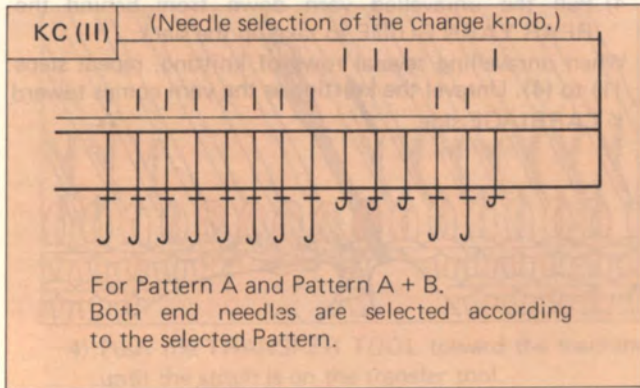
2). Insert the unravelled yarn into the YARN FEEDER "A".

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

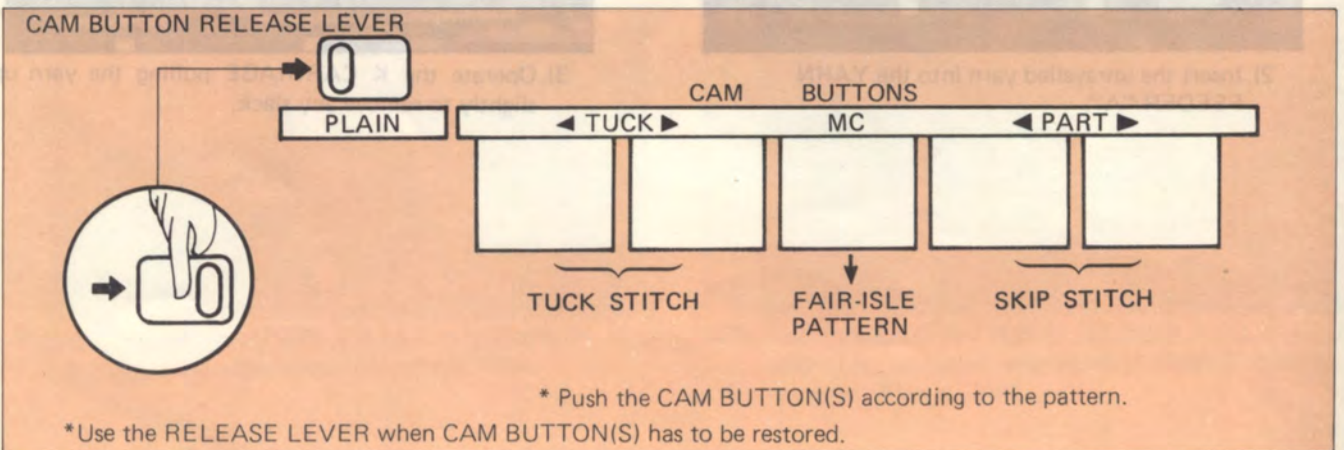
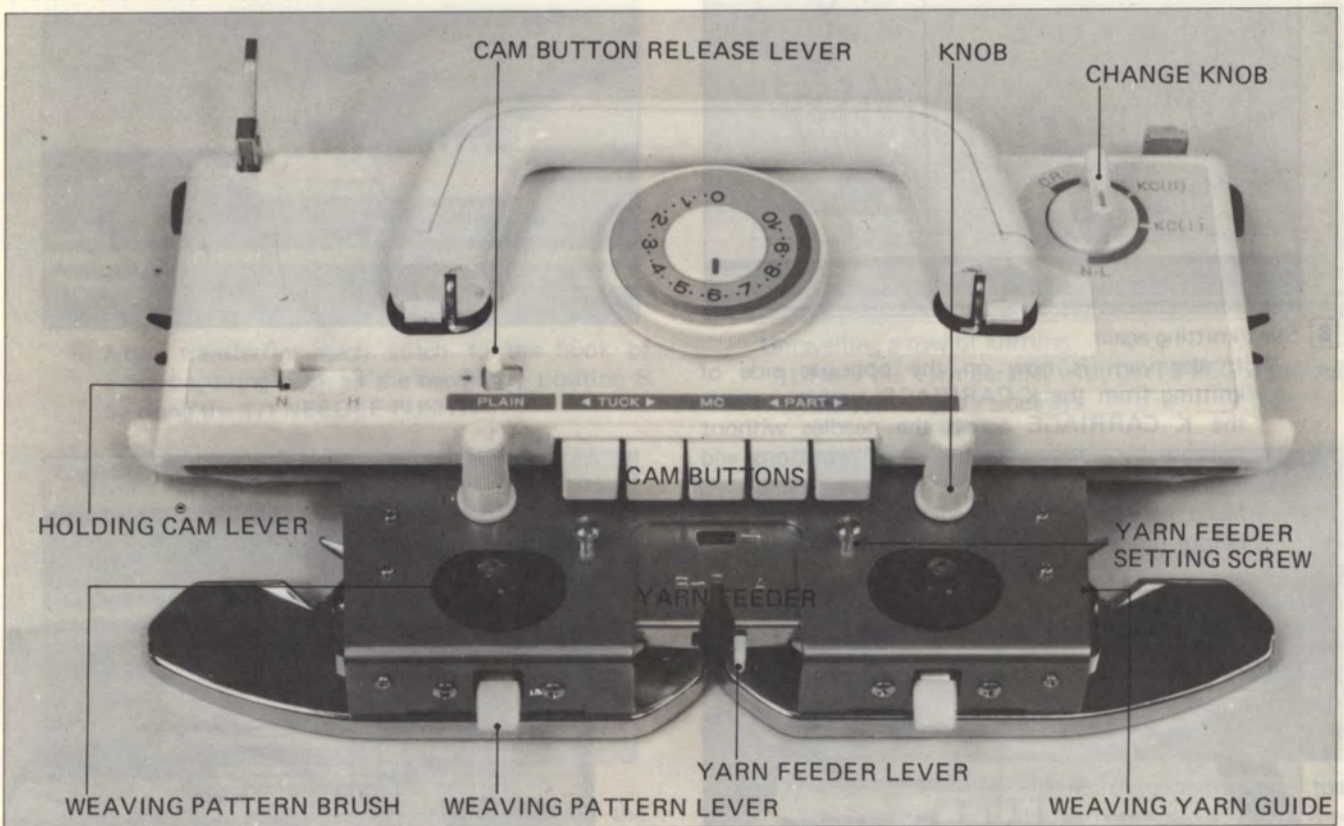


5-1 BASIC KNOWLEDGE OF PATTERN KNITTING

5-1-1 CHANGE KNOB SETTING

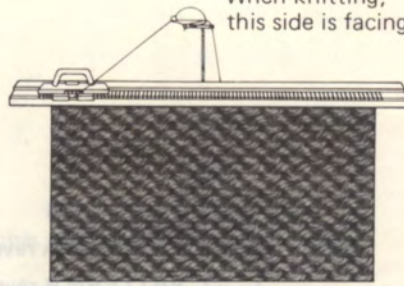


5-1-2 NAMES OF PARTS



5-1-3 SWATCH COMPARISON

1. Plain Knitting



When knitting,
this side is facing you.

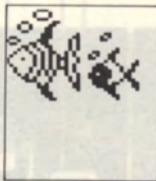
When knitting,
this side is away from you.



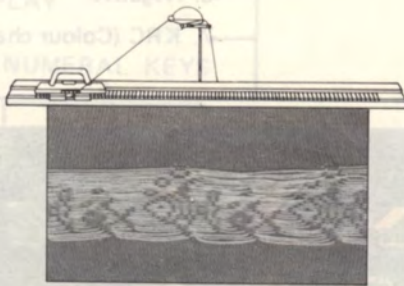
5-1-4 PATTERN CASE

2. Pattern Knitting

CARD No. 4-17



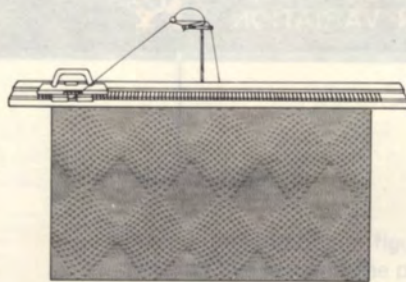
Fair-isle
Pattern



CARD No. 1-6



Tuck
Stitch
Pattern



In pattern knitting a swatch varies with the type of yarn and pattern that is used.

Some patterns have a more effective reverse side rather than the right side, such as the Tuck Stitch Pattern.

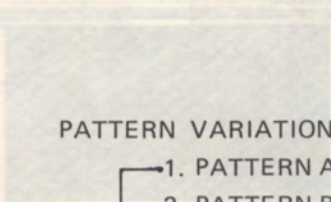
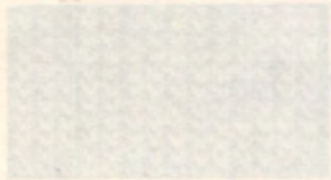
Choose which side is better for your purpose.

5-1 BASIC KNOWLEDGE OF PATTERN KNITTING

5-1-3 SWATCH COMPARISON

5-1-1 CHANGE KNOB SETTING

5-1-4 PATTERN CASE



PATTERN VARIATION

- 1. PATTERN A reverse
- 2. PATTERN B reverse
- 3. Double Width
- 4. Double Length
- 5. Reflection
- 6. Negative
- 7. KRC (Colour changer)

PATTERN SELECTOR

- (Upper) Pattern A
- (Middle) Pattern A + B
- (Lower) Full Pattern Knitting

5-1-2 NAMES OF PARTS

1 2 3 4 5 6 7
PATTERN VARIATION

KRC

1 2 3 4 5 6 7
PATTERN SELECTOR

KH

(Upper) Pattern A
(Middle) Pattern A + B
(Lower) Full Pattern Knitting

PATTERN SELECTOR

How to select a pattern

Select one pattern (ex. 1 or 2). Also more than one pattern can be selected in any one pattern (ex. 3).

READY LAMP : Lights when the program is finished.

ERROR LAMP : Lights in case of incorrect program.

DISPLAY

NUMERAL KEYS

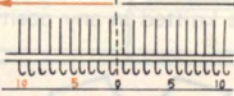
READY ERROR

PATTERN POSITION

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

- Clears the entry.
- Push when correcting a swatch due to error while knitting, etc.
- Returns the CARD to the SET LINE.
- Feeds the CARD forward to the starting position of the Pattern.

YELLOW KEY GREEN KEY



MEMORY KEY

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

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

YELLOW ●
GREEN ●

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



3. Full Pattern Knitting



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

5-1-4 PATTERN SELECTOR



How to select a pattern

Select one pattern (ex. 1 or 2). Also more than one pattern can be selected as one pattern (ex. 3).



ex. 1



ex. 2

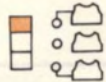


ex. 3

How to knit a pattern

Selected patterns can be knitted in three ways by using PATTERN SELECTOR Switch as shown below.

1. Pattern A



(Upper)



A



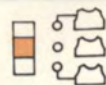
A



A A A

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

2. Pattern A+B



(Middle)



A

B



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

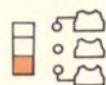


A

B

Also, same pattern can be selected twice and they can be knitted in any position in a line respectively.

3. Full Pattern knitting



(Lower)



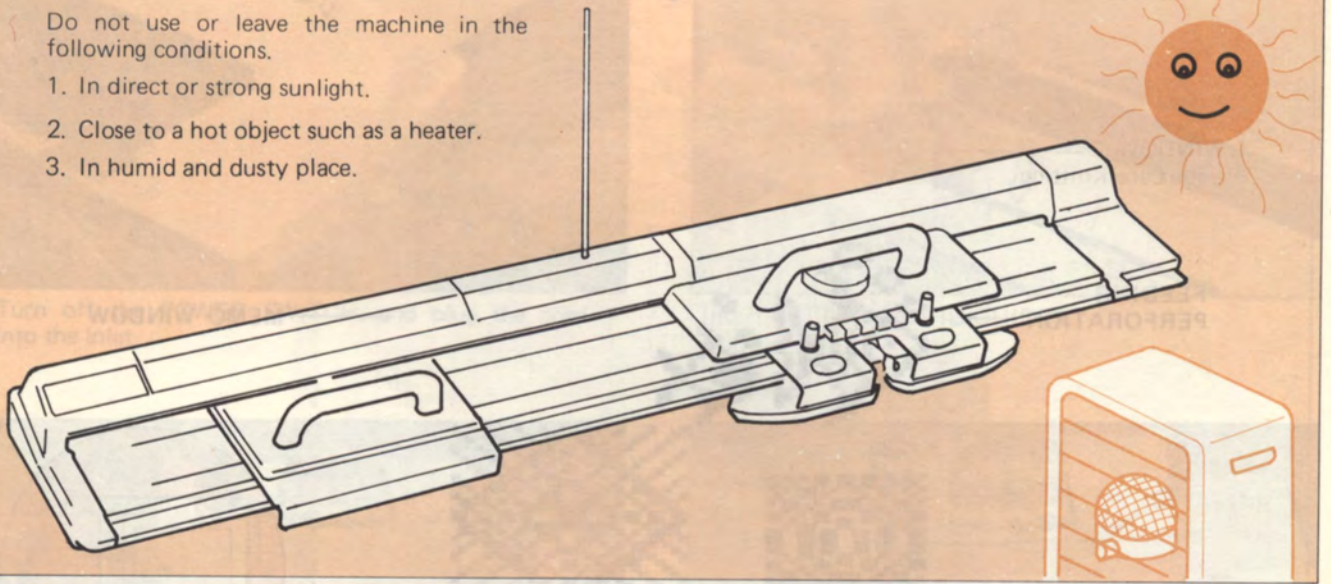
A selected pattern can be knitted repeatedly. The center of a Pattern is always placed at the needle number "green 1" position.

5-1-6 CAUTION NOTION FOR PATTERN KNITTING

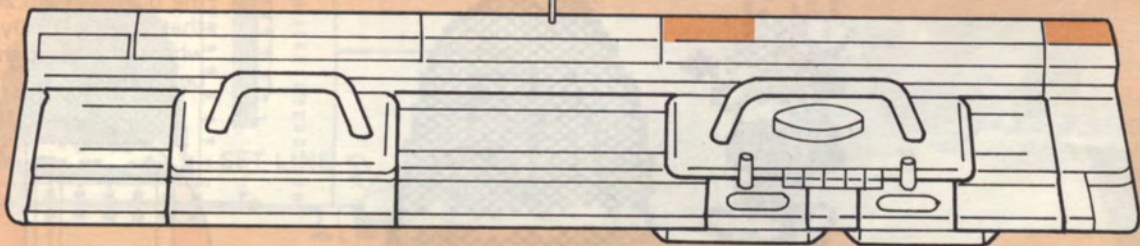
2-1-8 PATTERN CARD

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

1. In direct or strong sunlight.
2. Close to a hot object such as a heater.
3. In humid and dusty place.



The illustrated 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.



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. 5 with medium yarn, and move the K CARRIAGE to the left side of the machine.

5-1-4 PATTERN SELECTOR

5-1-6 PATTERN CARD

How to select a pattern

Select one pattern for 1 or 2. Also note that one pattern can be used for 1 or 2.

CAUTION 5-1-2

L WINDOW :
use for Lace Knitting

FEEDING PERFORATION

MEMO WINDOW

SET LINE

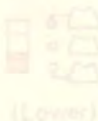
To set the CARD, check whether the CARD goes into the machine horizontally.

- 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 easily find where the yarn should be changed.

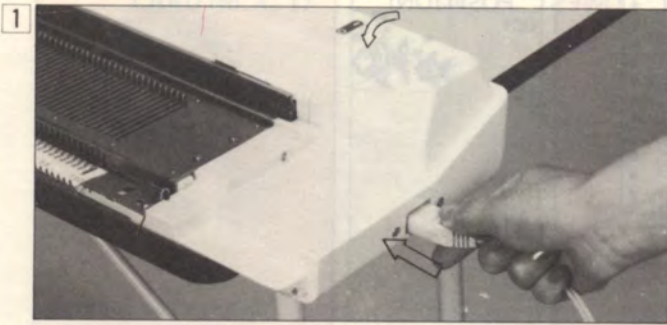
The PATTERN CARD has to be set at the SET LINE.

3. Full Pattern knitting

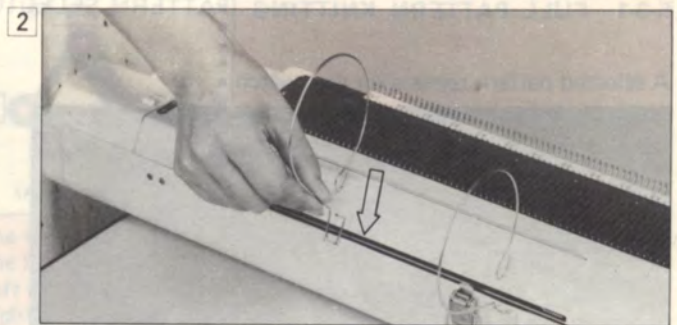


A selected pattern can be knitted repeatedly. The center of a pattern is always placed at the needle number (arrow) position.

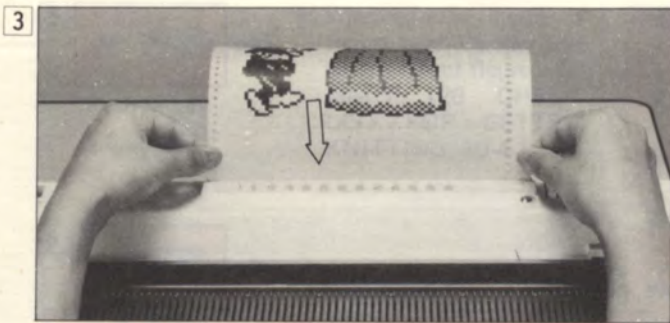
5-2 PREPARATION FOR PATTERN KNITTING



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



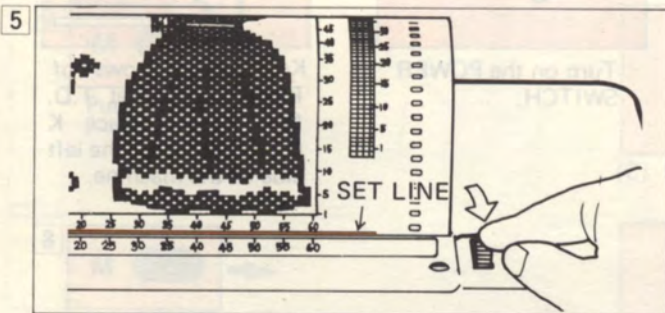
Insert PATTERN CARD GUIDES.



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



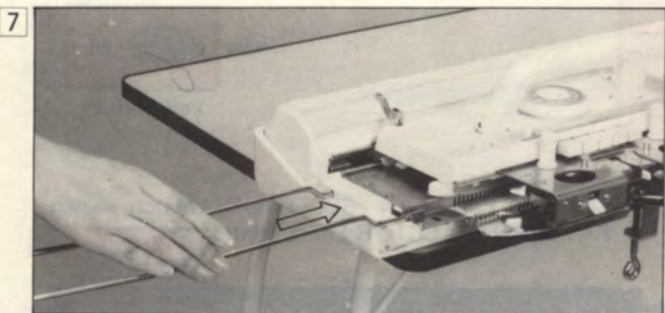
Make sure that the SET LINE is parallel to the CARD INLET.



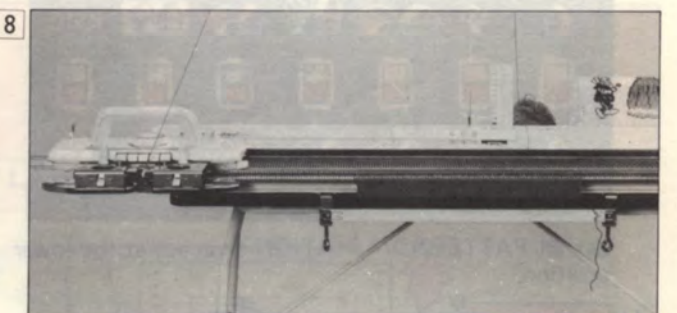
Turn the CARD FEEDING DIAL toward you and set it at the SET LINE of the pattern card.



Turn on POWER SWITCH. (a buzzer sounds.)



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 move the K CARRIAGE to the left side of the machine.

5-3 FAIR-ISLE PATTERNS

5-3-1 FULL PATTERN KNITTING (PATTERN SELECTOR : LOWEST POSITION)

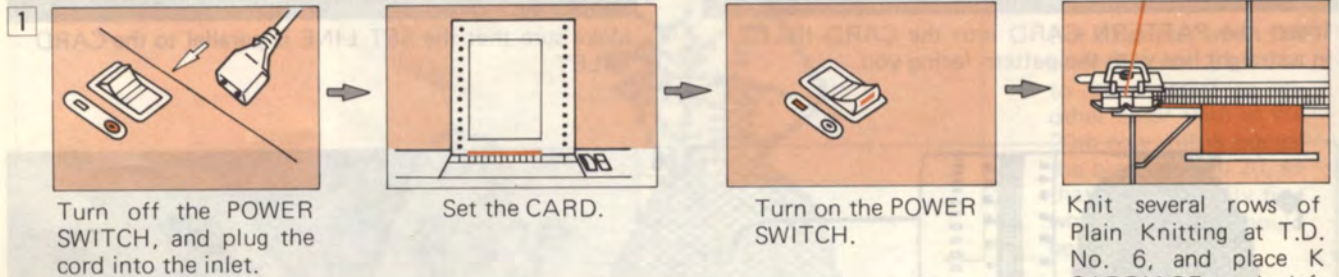
A selected pattern repeats on the swatch.



How to Knit Full Pattern Knitting

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

Preparation When using same CARD as the one mentioned above, push RR key and begin from **3**.



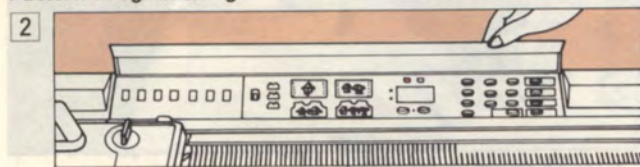
1 Turn off the POWER SWITCH, and plug the cord into the inlet.

2 Set the CARD.

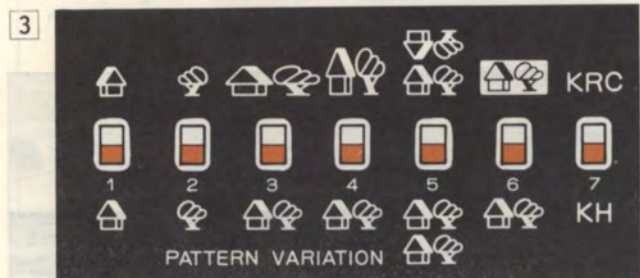
3 Turn on the POWER SWITCH.

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

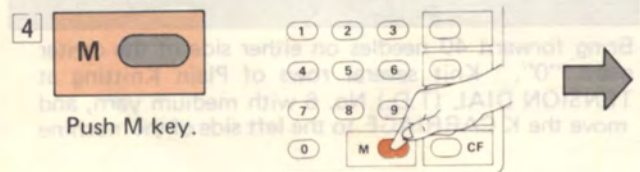
Pattern Programming



2 Open the lid.

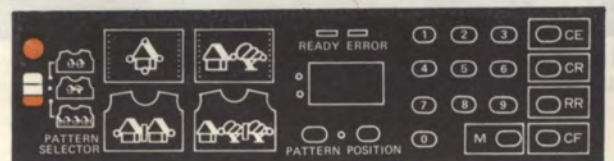


3 Set all PATTERN VARIATION switches at the lower position.



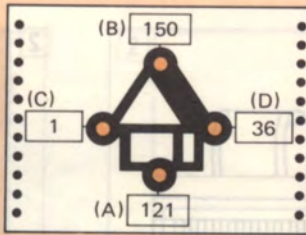
4 Push M key.

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



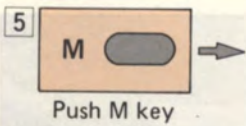
Set the PATTERN SELECTOR switch at the lowest position.

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

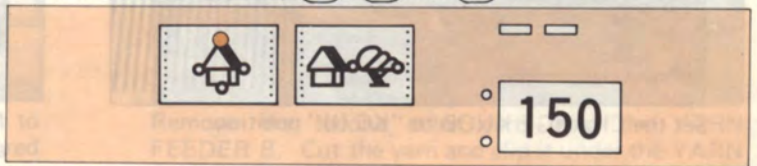
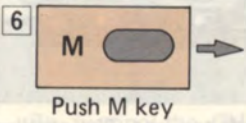
(The right end of the pattern is 34, but enter "36" for a two-stitch interval between two patterns.)



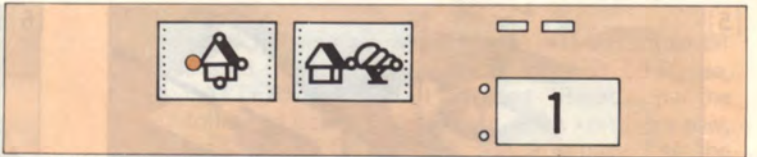
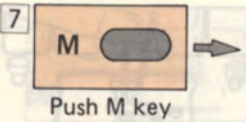
★ When entering incorrect figure, push CE key and enter correct figure.
(See P. 128 CHECK LIST FOR BETTER KNITTING 10-4-1.)



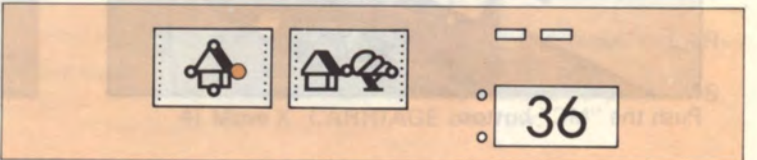
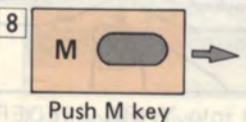
(A) Enter 121 which shows the first row of the pattern.
(Push the numeral key (1), (2) and (1).)



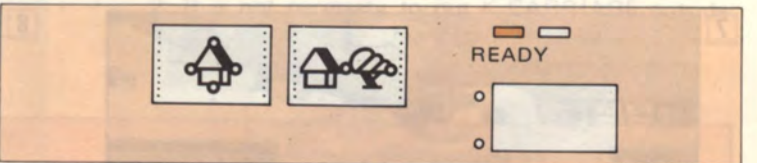
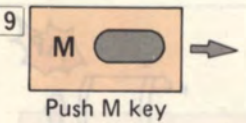
(B) Enter 150 which shows the last row of the pattern.



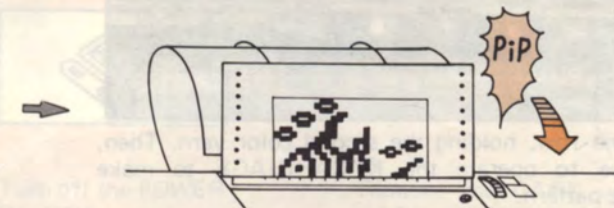
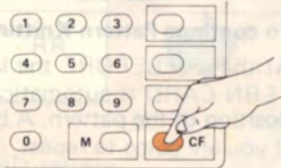
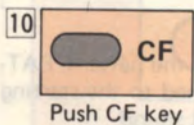
(C) Enter 1 which shows the left end of the pattern.



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

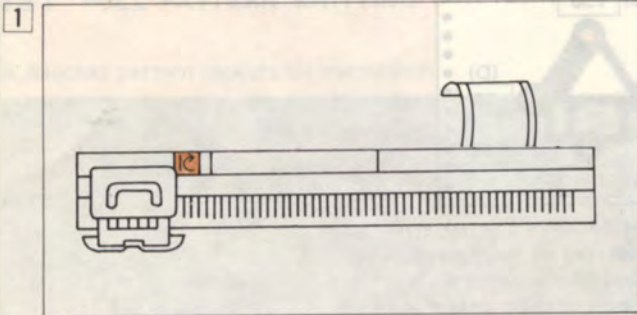


READY LAMP lights and the program is finished.



The CARD feeds forward to the starting position.

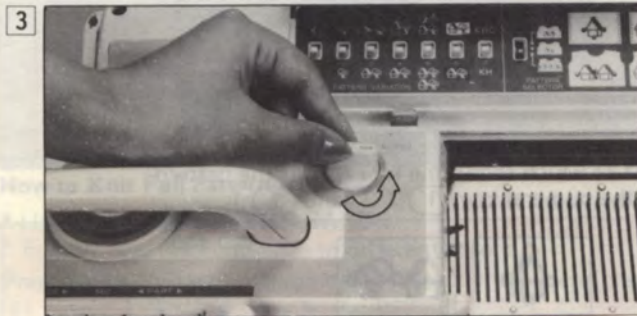
Pattern Knitting



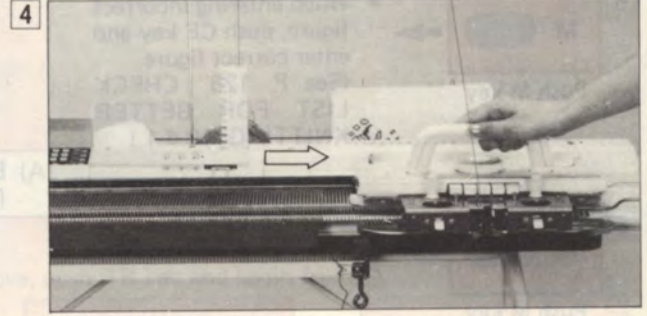
Place the K CARRIAGE at the left side of the "IC" mark on the left side of knitting machine.



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



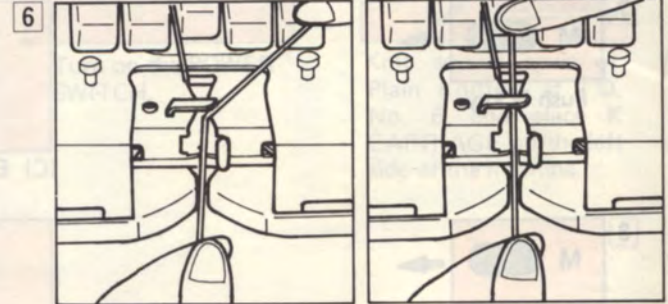
Set the CHANGE KNOB to "KC (I)" position.



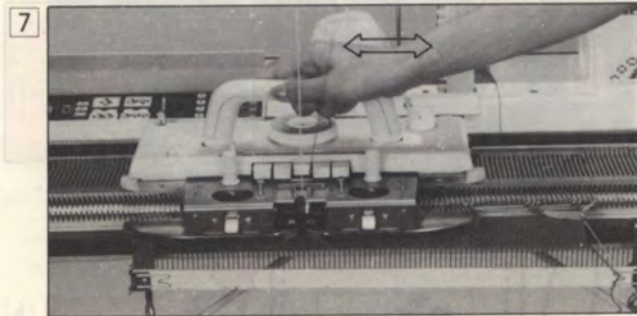
Move the K CARRIAGE from left to right. The needles are selected to position B and D by moving the K CARRIAGE.



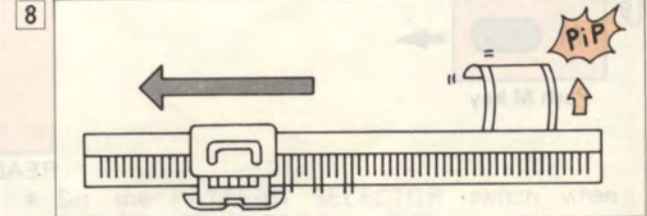
Push the "MC" button.



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 to make Fair-isle pattern.



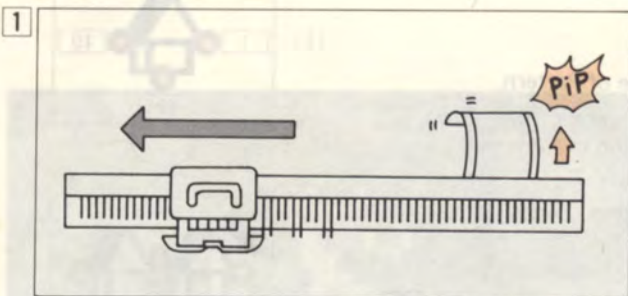
To continue Pattern Knitting

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

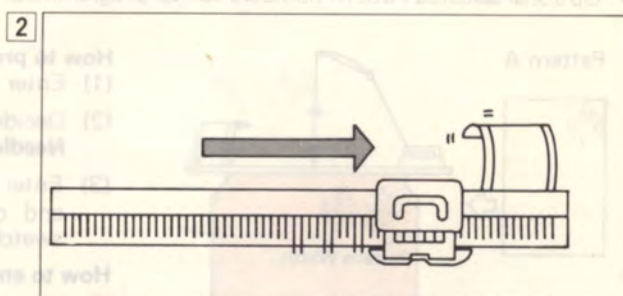
<Caution>

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

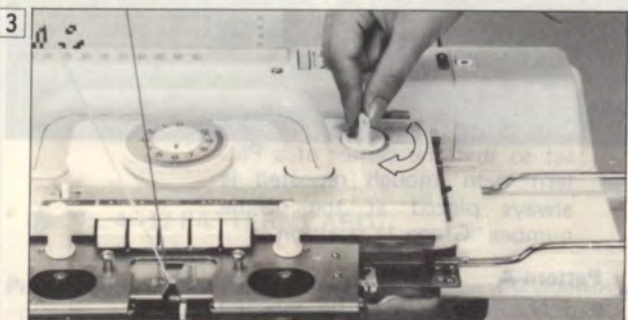
To finish Pattern Knitting



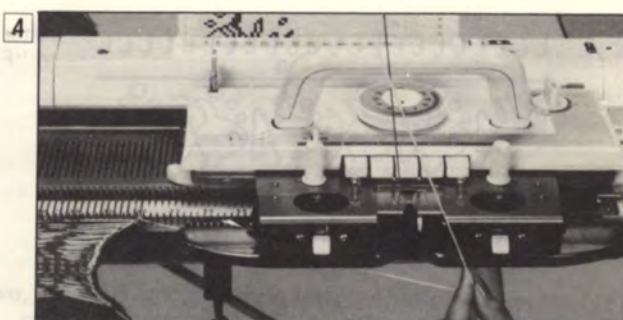
At the row before the last row of the pattern, the PATTERN CARD is automatically returned to the starting position of the Pattern. A buzzer will sound. (K CARRIAGE should be moved from right to left at that time.)



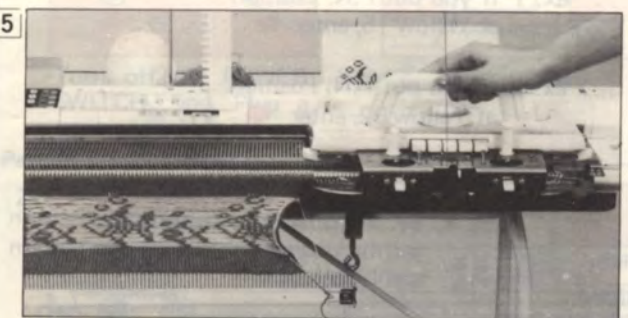
Move the K CARRIAGE to right as for the last row.



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



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

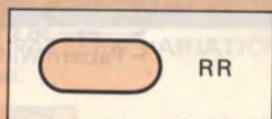


Knit several rows of Plain Knitting.

<Caution>

- When knitting a row the K CARRIAGE must 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 from position D to position B.
 - Push both PART buttons, and move K CARRIAGE one row to other end.
 - Push back the selected needles to position B.
 - Move K CARRIAGE one row.
- Set CAM BUTTON(S) according to the pattern and begin to knit again.
- It is not necessary to put K CARRIAGE outside " | <" or " | " mark for each row.

How to remove the CARD



Push RR Key
PATTERN CARD returns
to the SET LINE.



Turn off the POWER
SWITCH.



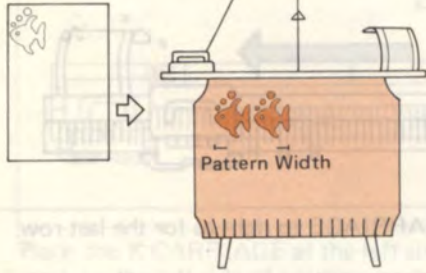
Remove the CARD with
CARD FEEDING DIAL.

While the POWER SWITCH is turned on, it is not possible to feed the PATTERN CARD by using CARD FEEDING DIAL.

5-3-2 PATTERN A (PATTERN SELECTOR : UPPER POSITION)

- Optional selected Pattern numbers can be programmed.

Pattern A

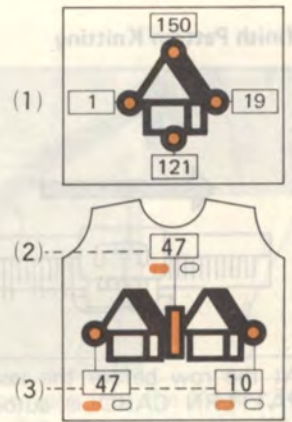


How to program

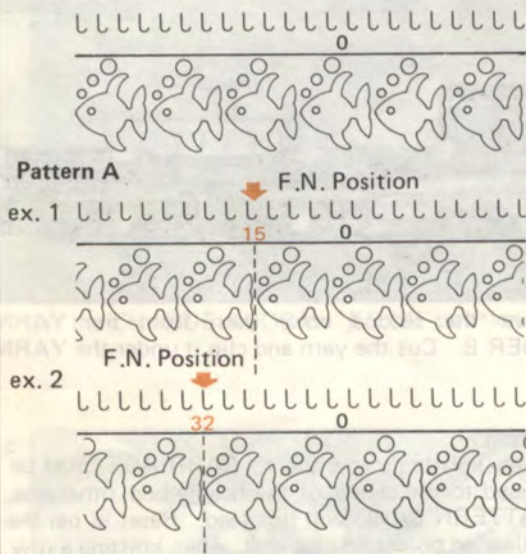
- (1) Enter the size of Pattern.
- (2) Decide and enter the **First Needle Position of Pattern**.
- (3) Enter the left end and right end of **Pattern Width** of the swatch.

How to enter

- Needle position: Left side from center.
- 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 even though repeated 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 at Yellow 15, enter ● . ① . ⑤ .

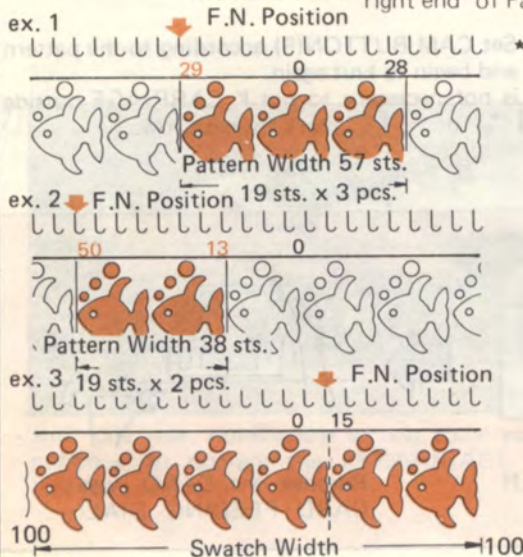
... ex. 2 If you put F.N. Position at Yellow 32, enter ● . ③ . ② .

Pattern Width

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

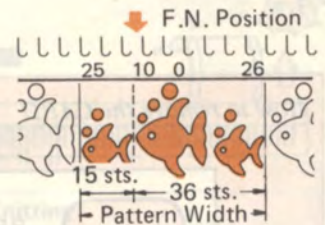
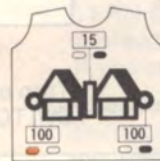
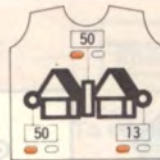
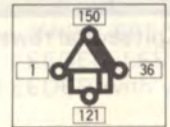
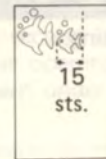
Pattern A

- 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 same as the left end of Pattern width.

★ By changing F.N. Position and Pattern width, you can obtain various pattern combinations.

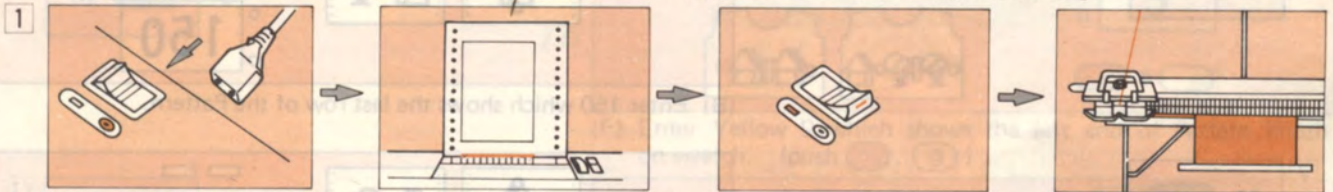


How to knit Pattern A



* Use No. 4-17 PATTERN CARD.

Preparation When using same CARD as the one mentioned above, push RR key and begin from **3**



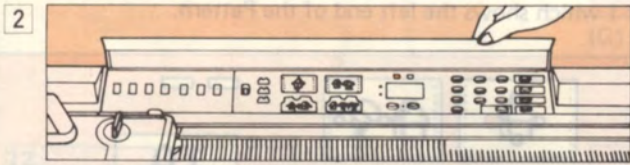
1 Turn off the POWER SWITCH, and Plug a cord into an inlet.

Set the CARD.

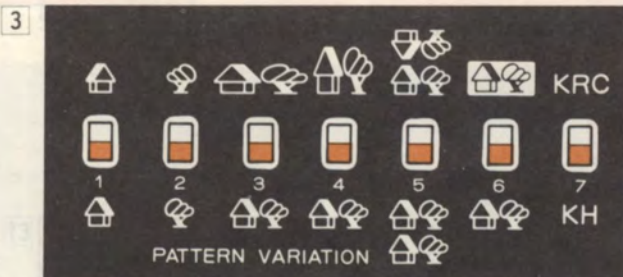
Turn on the POWER SWITCH.

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

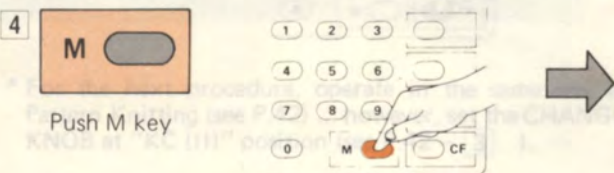
Pattern programming



Open the lid.



Set all PATTERN VARIATION switches at the lower position.



Push M key

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

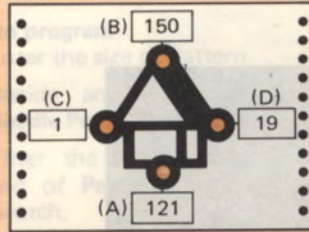


Set the PATTERN SELECTOR switch at the upper position.

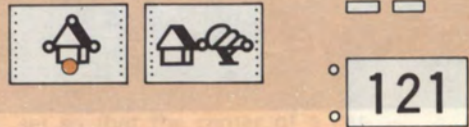
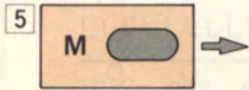
5-32 PATTERN A (PATTERN SELECTOR - UPPER POSITION)

• Optional selected Pattern numbers can be programmed.

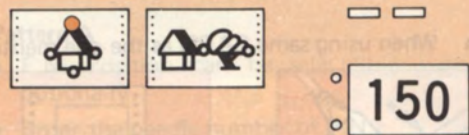
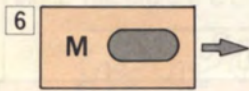
CARD No. 4-17



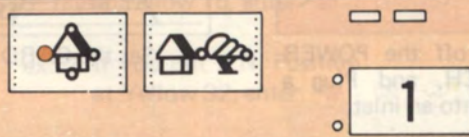
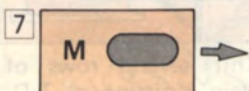
- (A) The first row of the pattern.
- (B) The last row of the pattern.
- (C) Left end of the pattern.
- (D) Right end of the pattern.



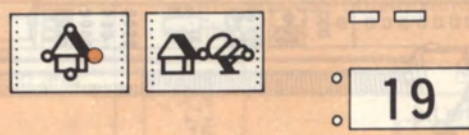
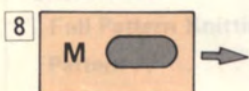
(A) Enter 121 which shows the first row of the Pattern.



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



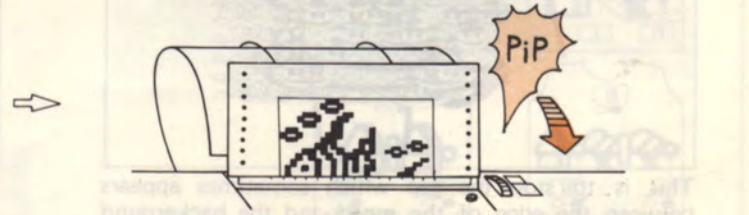
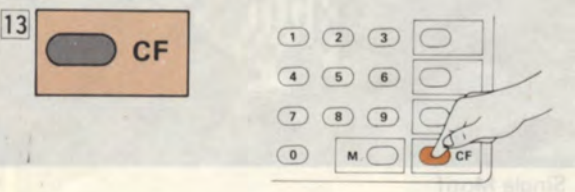
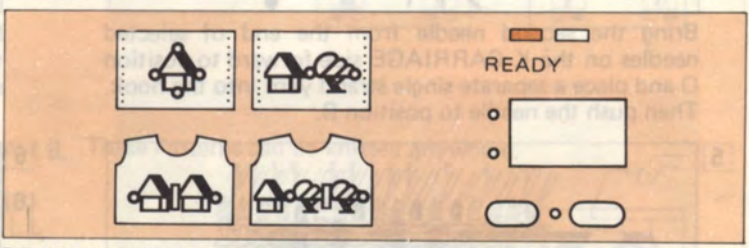
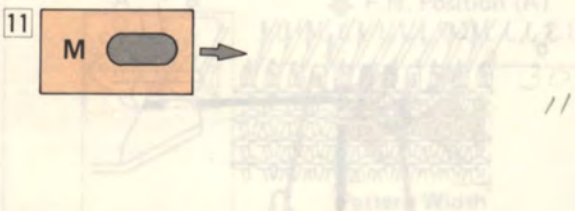
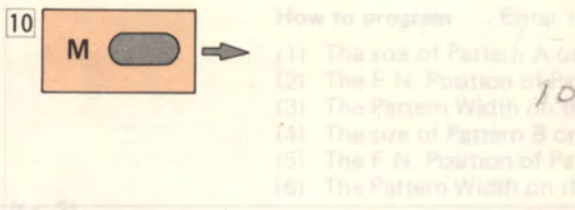
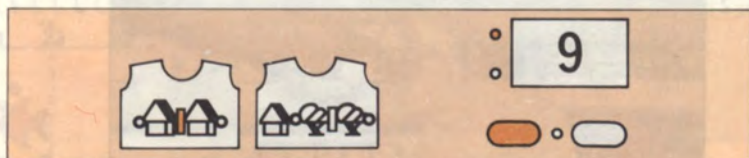
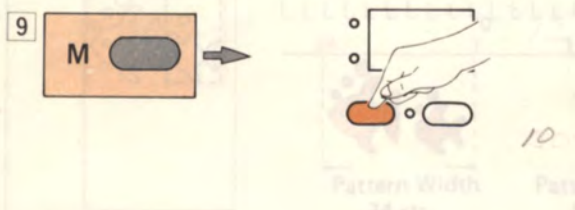
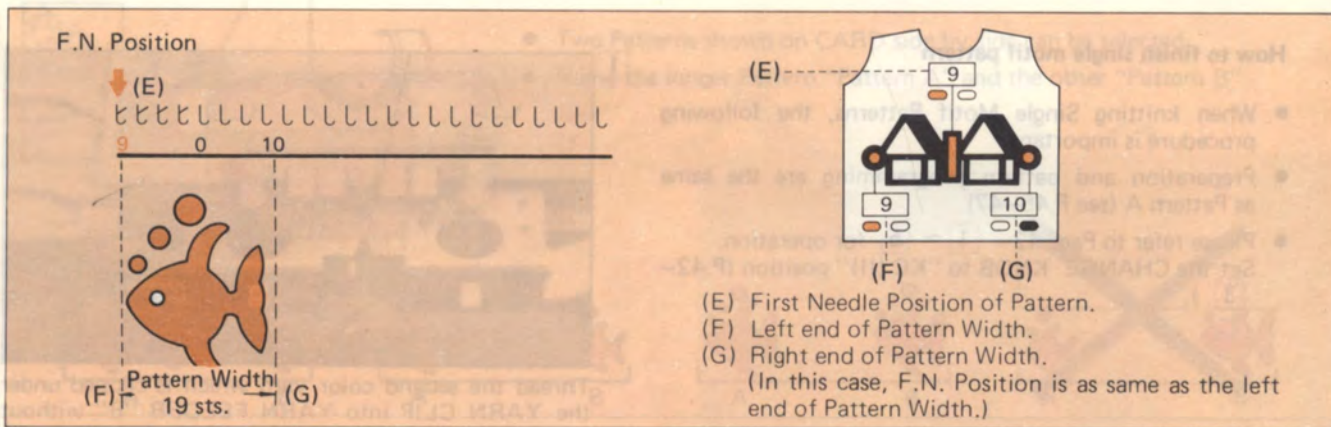
(C) Enter 1 which shows the left end of the Pattern.



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

Center Motif

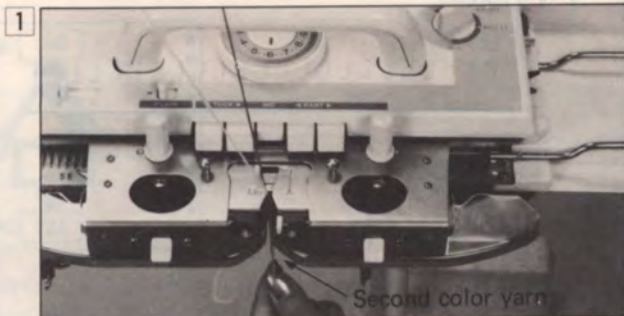
533 PATTERN A + B PATTERN SELECTOR, MIDDLE POSITION



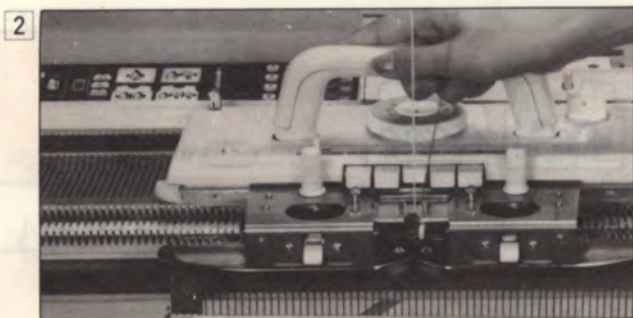
* For the next procedure, operate in the same way as Pattern Knitting (see P.42) ... however, set the CHANGE KNOB at "KC (II)" position (see P.42 - 3).

How to finish single motif pattern

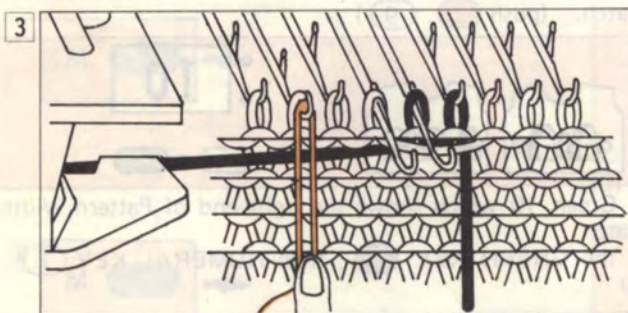
- When knitting Single Motif Patterns, the following procedure is important.
- Preparation and pattern programming are the same as Pattern A (see P.45-47).
- Please refer to Page 42— 1 ~ 5 for operation. Set the CHANGE KNOB to "KC (II)" position (P.42-3).



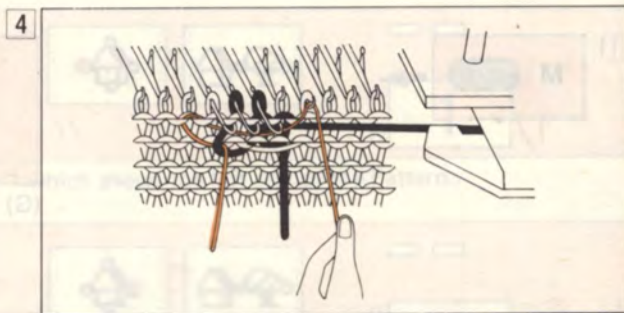
Thread the second color yarn which is clipped under the YARN CLIP into YARN FEEDER "B" without opening the YARN FEEDER LEVER. Hold the yarn under the YARN FEEDER with your left hand.



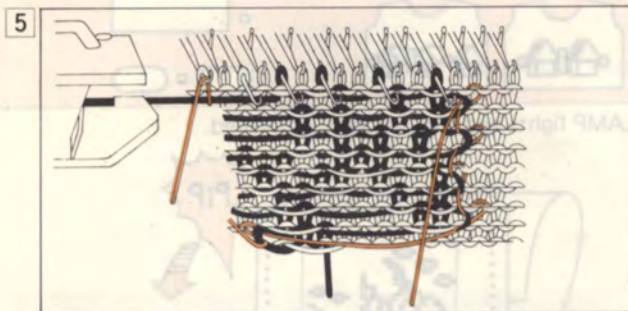
Knit one row and move K CARRIAGE to the left side of the machine.



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



Move the K CARRIAGE from left to right and place the separate single strand yarn into the hook in the same way as on the left side.



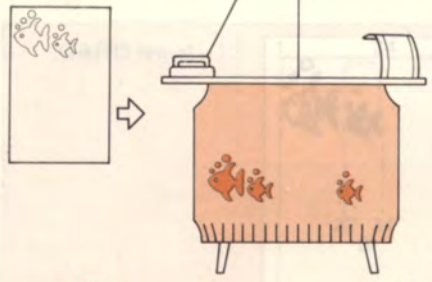
This is to stop the gap which sometimes appears between the edge of the motif and the background color.

* Use the same color yarn as used for background.

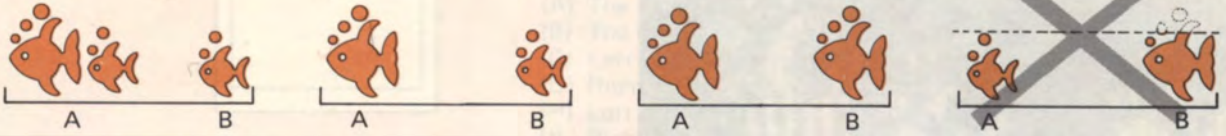


Single Motif

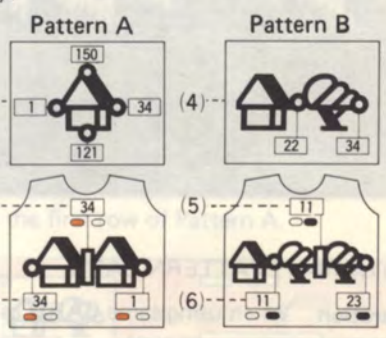
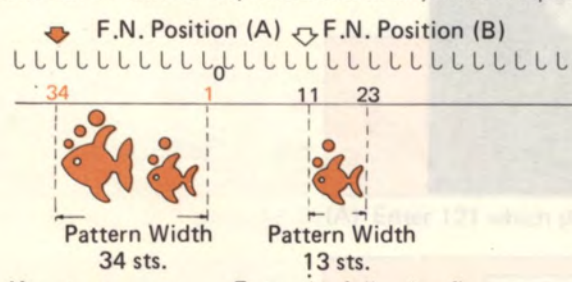
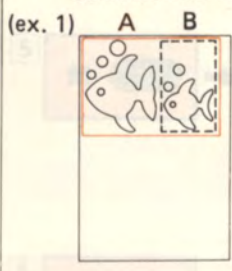
5-3-3 PATTERN A + B (PATTERN SELECTOR : MIDDLE POSITION)



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

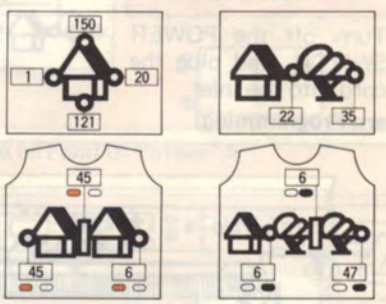
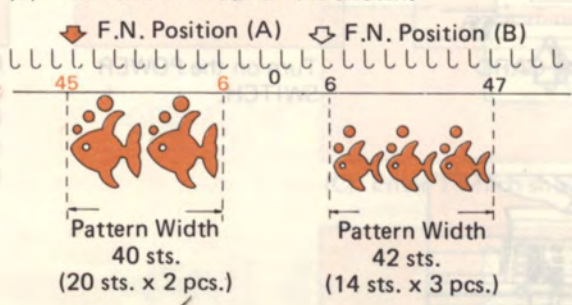
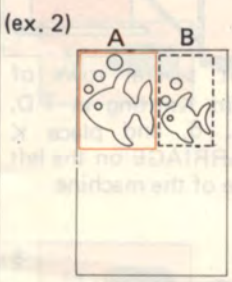


* Selected two Patterns can be knitted anywhere and in any width respectively.

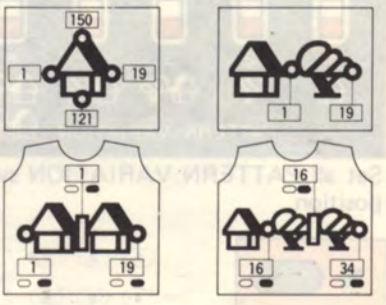
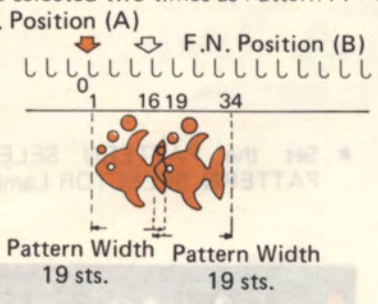
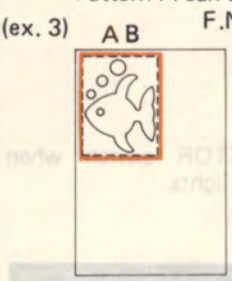


How to program . . . Enter the following figures

- (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.



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

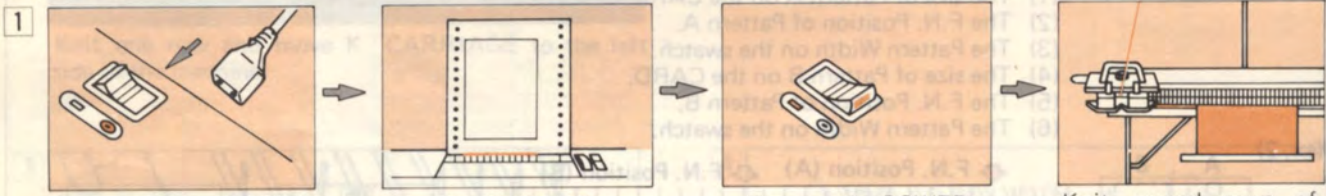


How to knit Pattern A + B



* Use No. 4-17 PATTERN CARD.

Preparation When using same CARD as the one mentioned above, push RR key and begin from **3**.



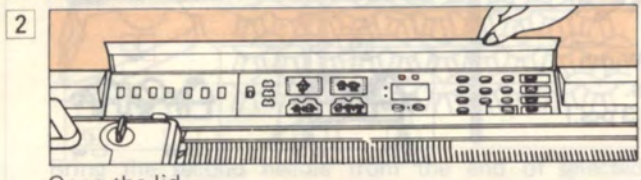
Turn off the POWER SWITCH, and plug the cord into the inlet.

Set the CARD.

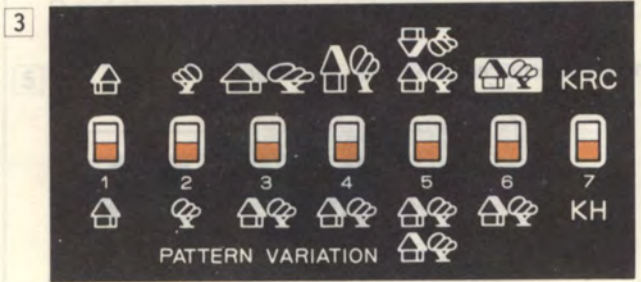
Turn on the POWER SWITCH.

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

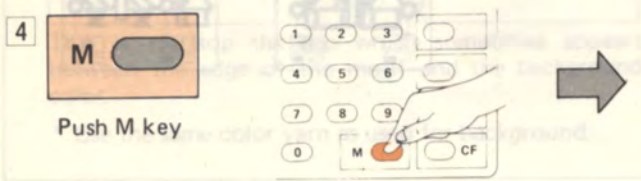
(Pattern Programming)



Open the lid.

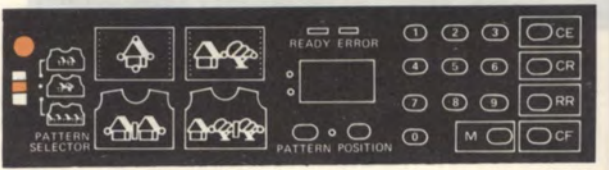


Set all PATTERN VARIATION switches at the lower position.



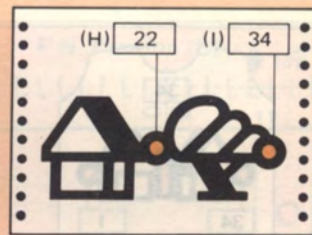
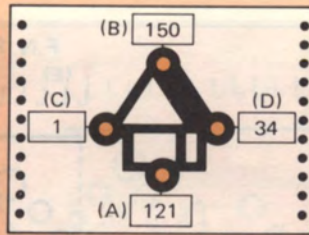
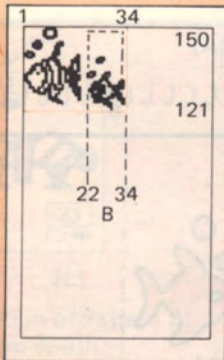
Push M key

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



Set the PATTERN SELECTOR switch at the middle position.

CARD No. 4-17



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

5

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

6

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

7

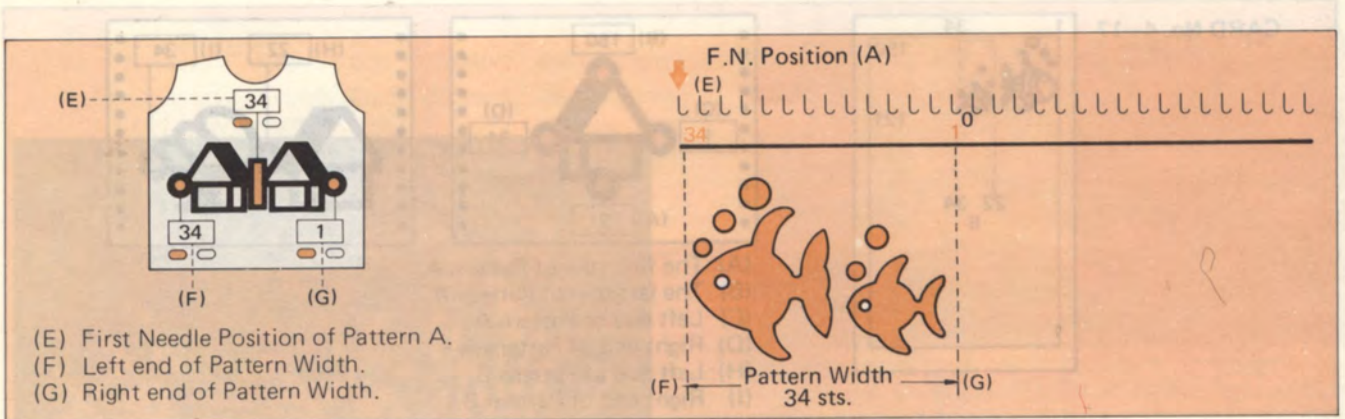
(C) Enter 1 which shows the left end of Pattern A.

8

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

The CARD feeds forward to the starting position

How to knit Pattern A + B



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 switch.

11

(G) Enter Yellow 1 which shows the right end of Pattern Width on switch.

12

(H) Enter 22 which shows the left end of Pattern B.
 (See p. 51.)

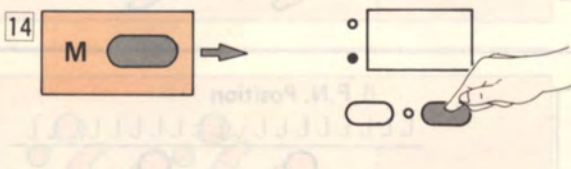
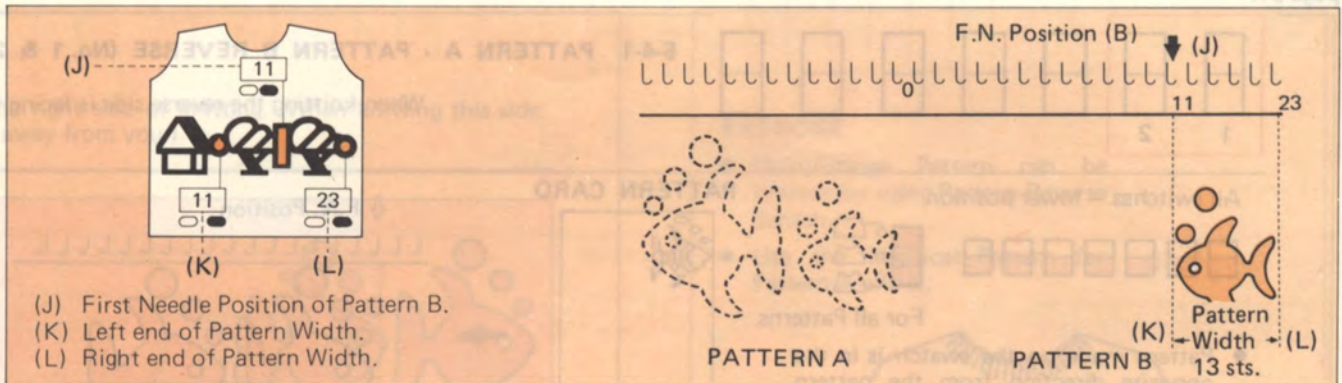
13

(I) Enter 34 which shows the right end of Pattern B.

Set all PATTERN VARIATION switches at the lower position.

14

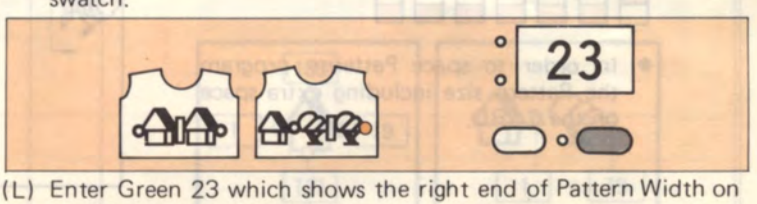
Set the PATTERN SELECTOR switch at the middle position.



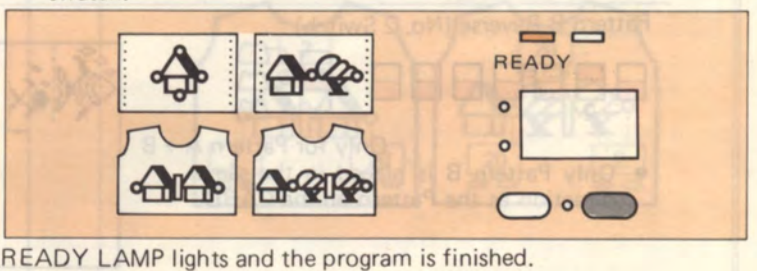
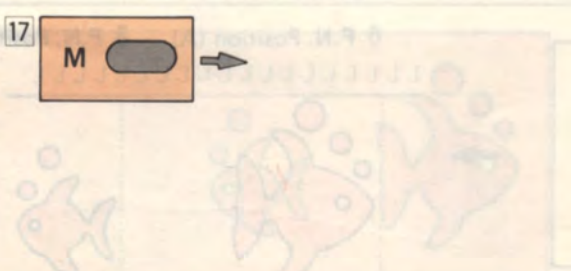
(J) Enter Green 11 as the F.N. Position (B).



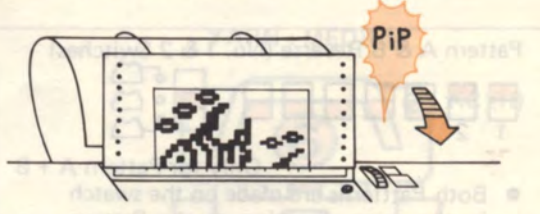
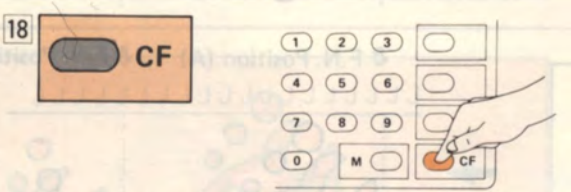
(K) Enter Green 11 which shows the left end of Pattern Width on swatch.



(L) Enter Green 23 which shows the right end of Pattern Width on swatch.



READY LAMP lights and the program is finished.

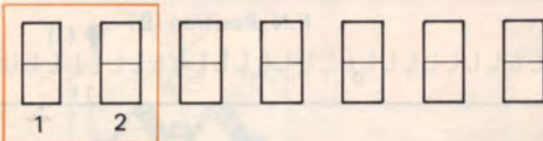


The CARD feeds forward to the starting position.

* For the next procedure, operate in the same way as Pattern Knitting (see P.42) ... however, set the CHANGE KNOB at "KC (11)" position (see P.42- 3).

5-4 PATTERN VARIATION (Programming is the same as for previous pattern except use No.3 Switch (see P.5

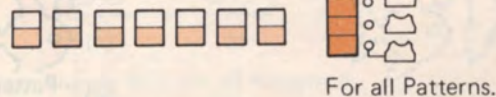
For combination of Pattern Variations, see the list on page 61.



5-4-1 PATTERN A · PATTERN B REVERSE (No. 1 & 2 Switch

When knitting the reverse side is facing you.

All switches – lower position.



For all Patterns.

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

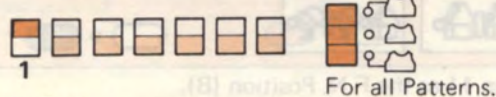
PATTERN CARD



↓ F.N. Position

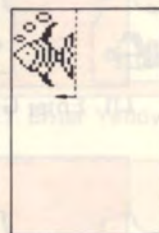


Pattern A Reverse (No. 1 Switch)



For all Patterns.

- Pattern made on the swatch is 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 the Pattern size including extra space on the CARD.



↓ F.N. Position



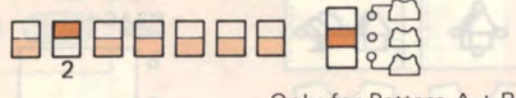
- In order to space Patterns, program the Pattern size including extra space on the CARD.



↓ F.N. Position



Pattern B Reverse (No. 2 Switch)



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)



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

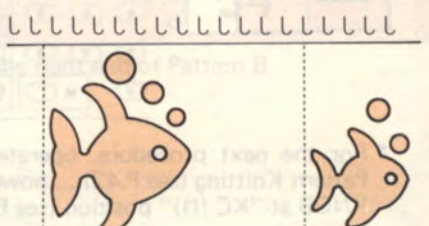


Only for Pattern A + B

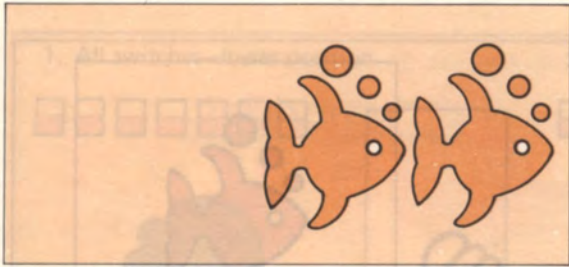
- Both Patterns are made on the swatch in the same direction as the Pattern on the CARD.



↓ F.N. Position (A) ↓ F.N. Position (B)

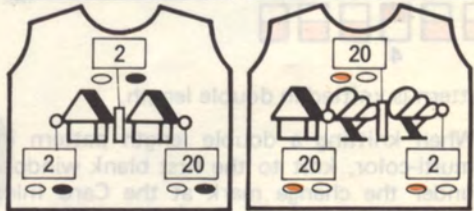
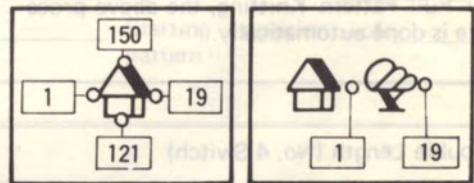
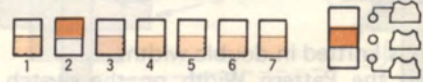


The right side of knitting. (When knitting this side is away from you.)



EXERCISE

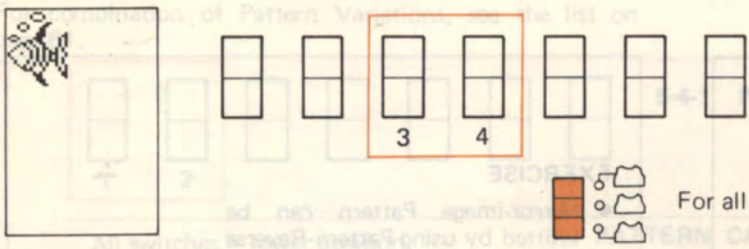
- Mirror-image Pattern can be knitted by using Pattern-Reverse Switch.
- Use the identical Pattern for Pattern A and B.



YARN : MEDIUM



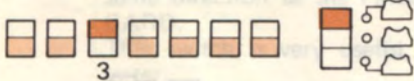
5-4-2 DOUBLE WIDTH & DOUBLE LENGTH (NO. 3 & 4 SWITCHES)



1. All switches – lower position.



2. Double Width (No. 3 Switch)

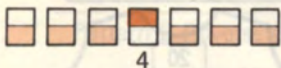


Pattern is knitted in double width.
 Program the Pattern Width on the switch to double width.
 The F.N. Position is changed.
 For Full Pattern Knitting, the above procedure is done automatically.

(ex.)

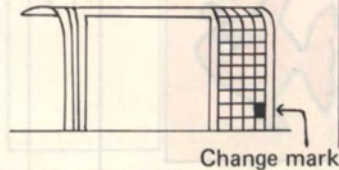


3. Double Length (No. 4 Switch)

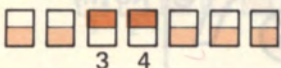


Pattern is knitted in double length.

* When knitting a double length pattern in multi-color, knit to the first blank window under the change mark at the Card Inlet and knit one more row.
 Change yarn to a different color and continue to knit pattern.



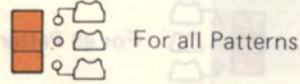
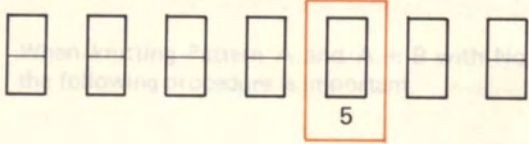
4. Double Width-Length (No. 3 & 4 Switches)



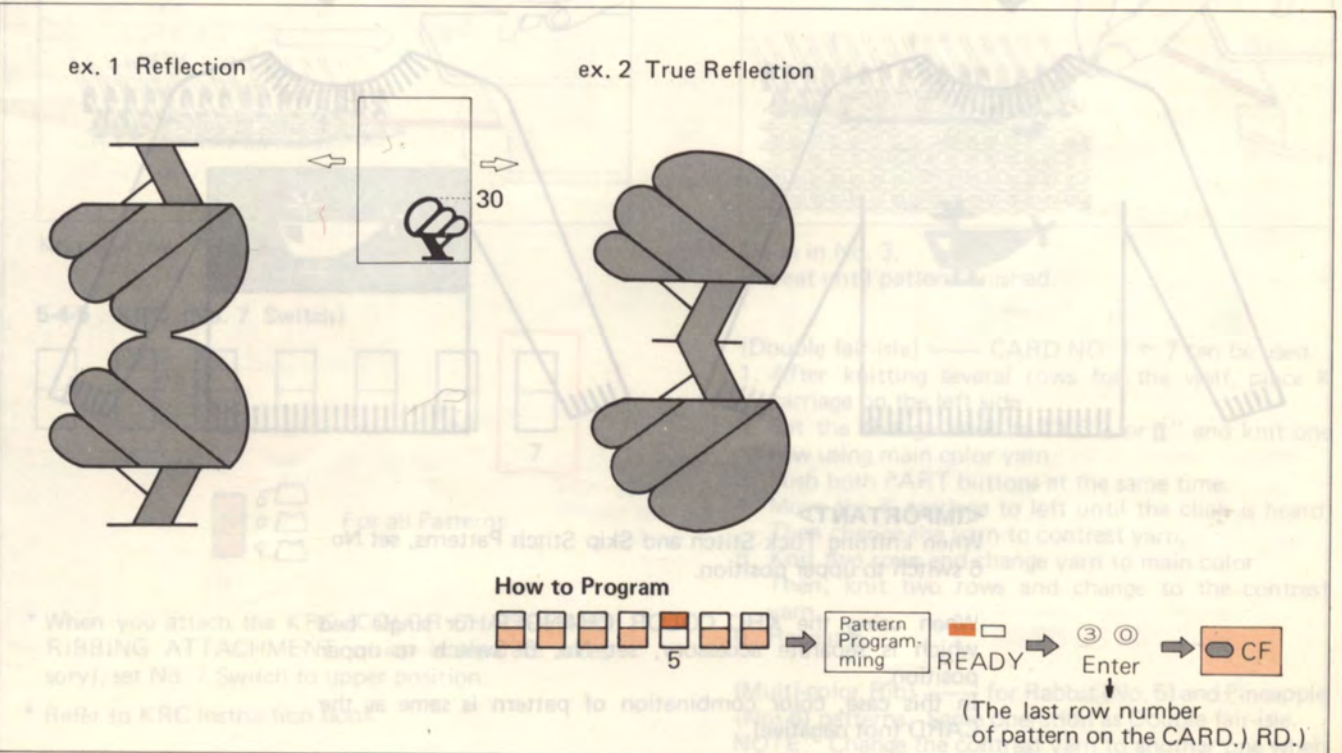
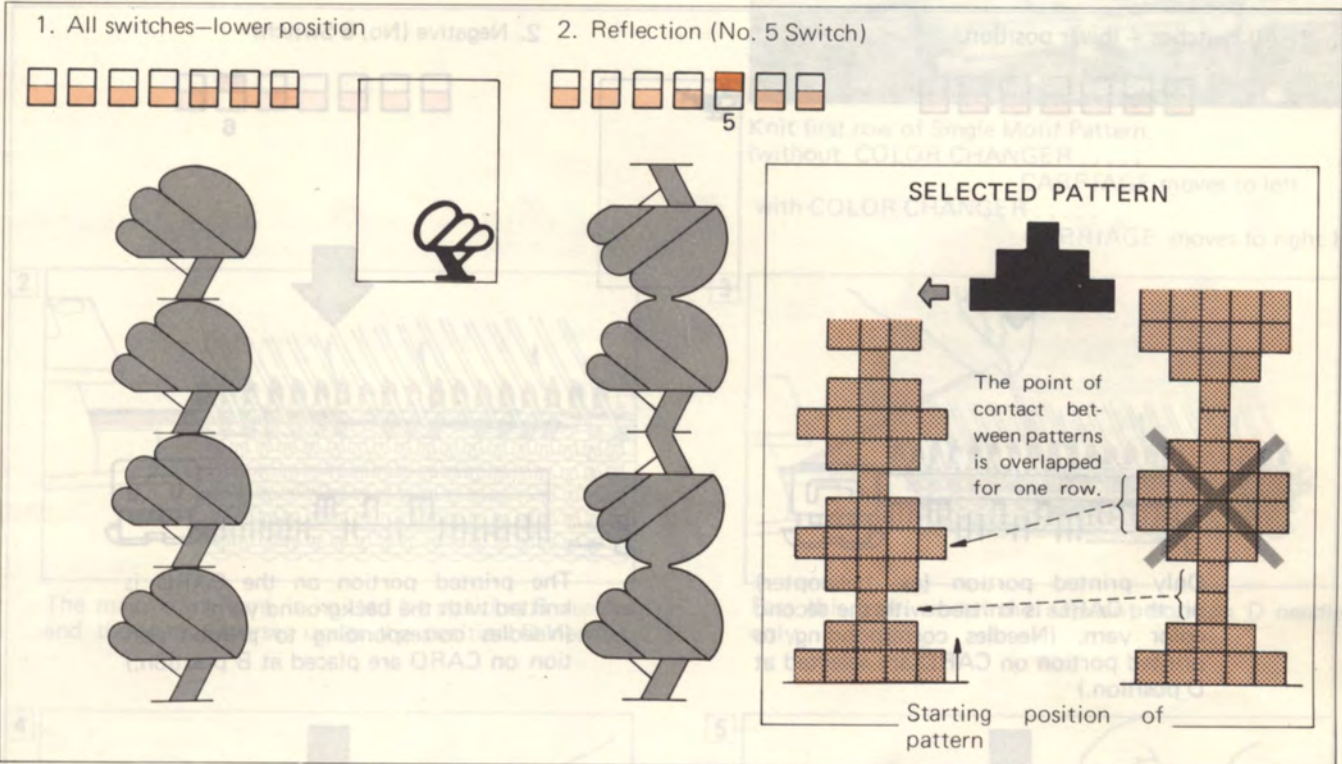
Pattern is knitted in double width and double length.



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



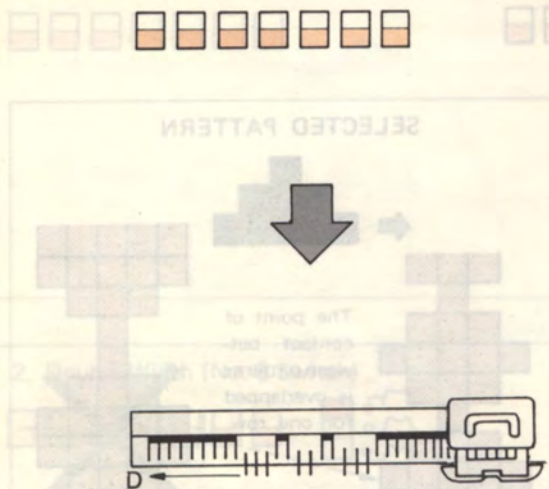
2-4-4 NEGATIVE (NO. 8 SWITCH)



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

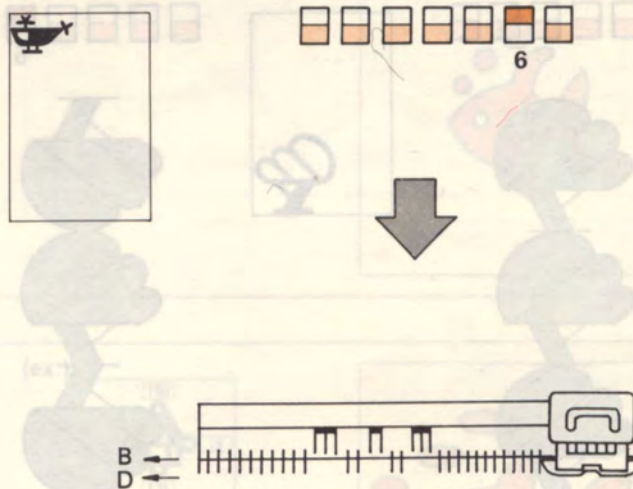


1. All switches – lower position.



Only printed portion (ex. helicopter) on the CARD is knitted with the second color yarn. (Needles corresponding to printed portion on CARD are selected at D position.)

2. Negative (No. 6 Switch)



The printed portion on the CARD is knitted with the background yarn. (Needles corresponding to printed portion on CARD are placed at B position.)



<IMPORTANT>

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

When using the KHC COLOR CHANGER for single bed 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).

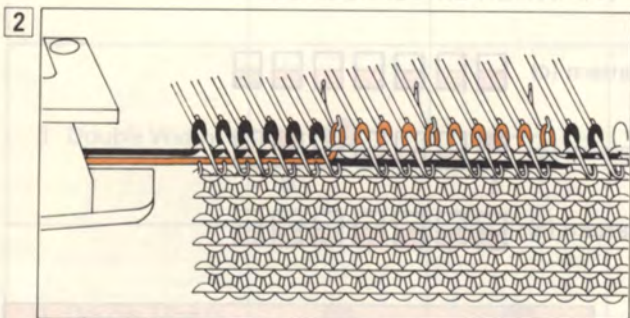
5-4-4 LIST OF PATTERN VARIATION COMBINATIONS (UPPER POSITION)

When knitting Pattern A and A + B with No. 6 Switch, the following procedure is important.

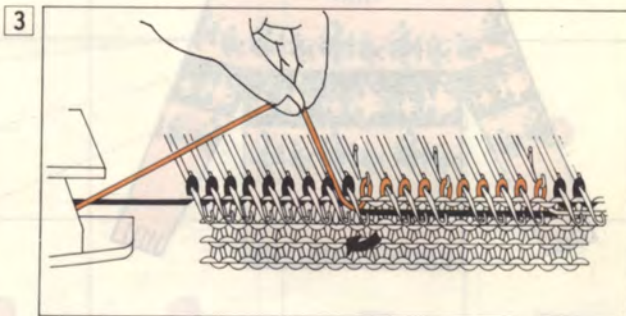
Pattern	Carriage	Part	Color
VARIATION			
1			
2			
3			
4			
5			
6			
7			
8			
9			
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11			
12			
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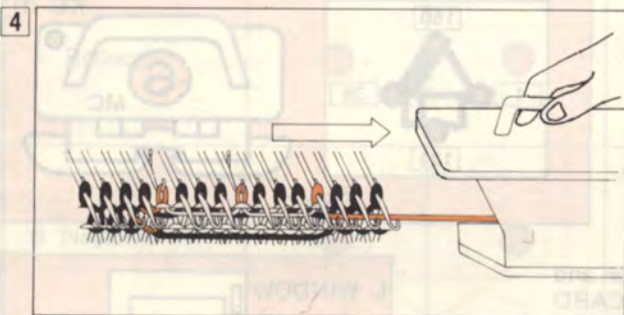
1 Knit first row of Single Motif Pattern.
(without COLOR CHANGER
CARRIAGE moves to left.
with COLOR CHANGER
CARRIAGE moves to right.)



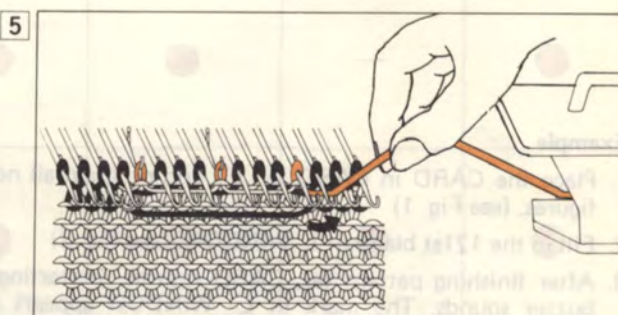
2 The main color yarn is knitted by position B needles and the yarn traverses under the position D needles.



3 Pass this yarn under the adjacent position D needle only.

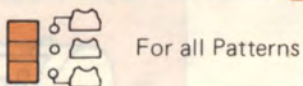
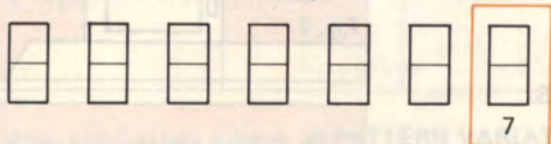


4 Knit one row.



5 Do as in No. 3.
Repeat until pattern finished.

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.

(Double fair-isle) ——— CARD NO. 1 ~ 7 can be used.

1. After knitting several rows for the welt, place K carriage on the left side.
2. Set the change knob to "KC I or II" and knit one row using main color yarn.
3. Push both PART buttons at the same time.
4. Move the K carriage to left until the click is heard. Then change the yarn to contrast yarn.
5. Knit two rows and change yarn to main color. Then, knit two rows and change 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.

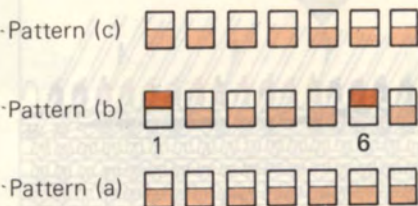
NOTE: Change the contrast yarn to another one when "■" mark shows at the card inlet.

How to change PATTERN VARIATION Switch while pattern knitting

- PATTERN VARIATION can be freely changed while pattern knitting.
- PATTERN VARIATION can be freely changed even in the middle of a selected Pattern except when using KRC (No. 7) switch.

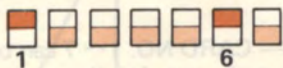


When knitting pattern shown on left, set the PATTERN VARIATION SWITCHES as follows.



Example

1. Place the CARD in CARD INLET and program all necessary figures. (see Fig. 1)
2. Fill in the 121st blank of L WINDOW. (see Fig. 2)
3. After finishing pattern (a), CARD returns to starting position and buzzer sounds. The mark in L WINDOW appears at the CARD INLET. (see Fig. 3)
4. Set No. 1 & 6 Switches to upper position.



5. Enter 121 and push CF key.
6. The next row needles are selected as per VARIATION SWITCHES. (Pattern reverse and negative)
7. After finishing Pattern (b), CARD returns to starting position and buzzer sounds. The mark in L WINDOW appears at the CARD INLET. (see Fig. 3) Reset No. 1 & 6 Switches to lower position.



8. Enter 121 and push CF key.
9. The next row needles are selected as per VARIATION SWITCHES. (normal) Continue to Knit Pattern (c).

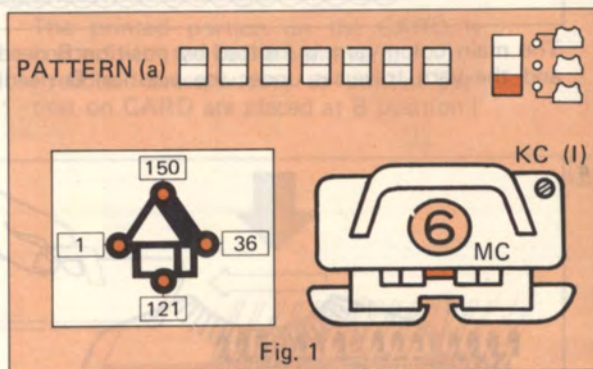


Fig. 1

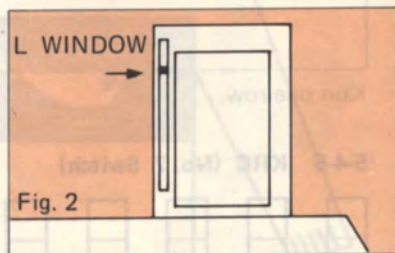


Fig. 2



Fig. 3

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

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

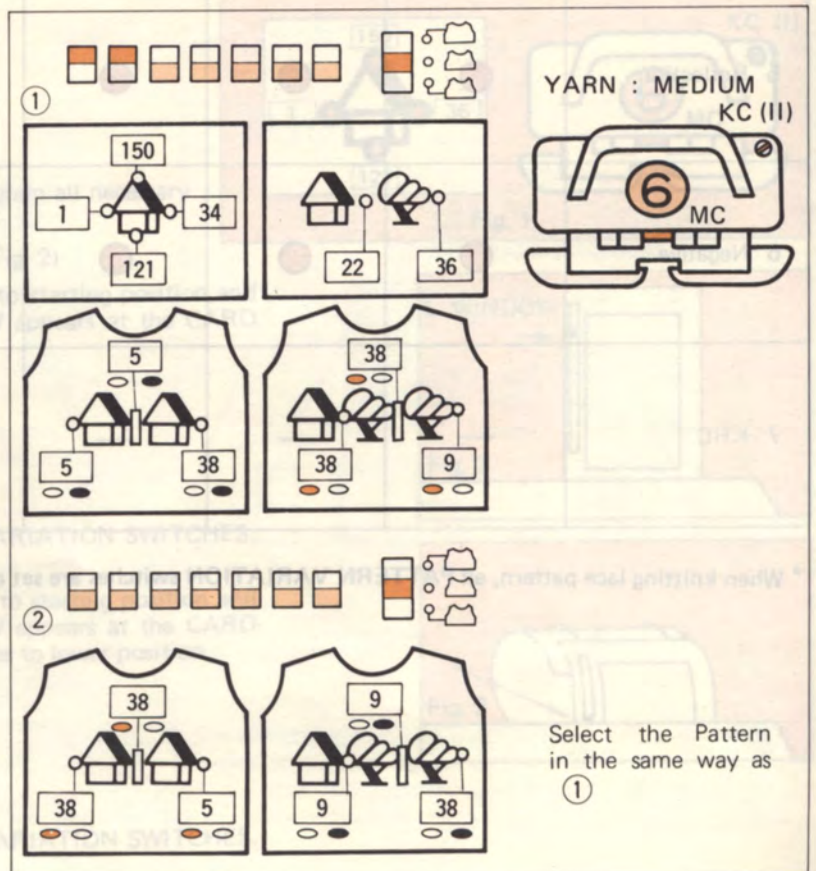
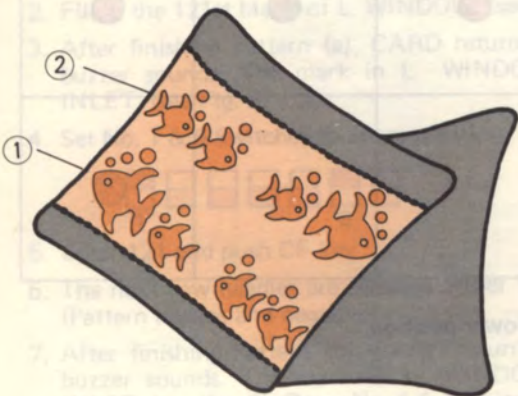
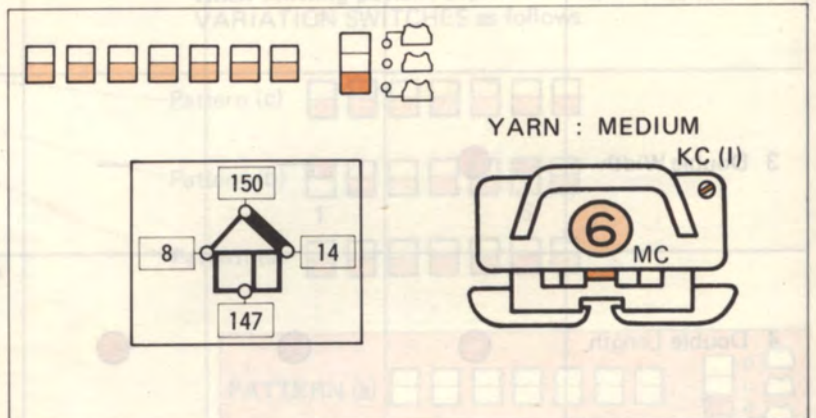
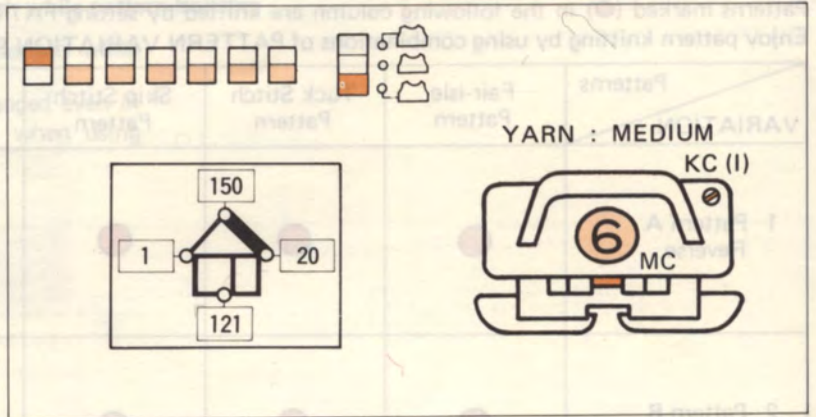
VARIATION \ Patterns	Fair-isle Pattern	Tuck Stitch Pattern	Skip Stitch Pattern	Weaving Pattern	Plating-tuck stitch Pattern	Multi-Color Rib Pattern
1 Pattern A Reverse	●	●	●	●	●	●
2 Pattern B Reverse	●	●	●	●	●	●
3 Double Width	●	—	—	●	—	●
4 Double Length	●	●	●	●	—	—
5 Reflection	●	●	●	●	—	●
6 Negative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

* When knitting lace pattern, all PATTERN VARIATION switches are set at lower position.



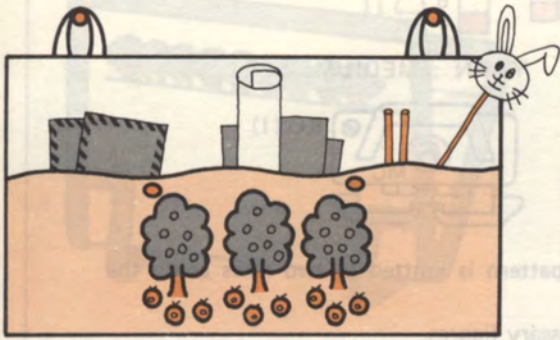
5-4-7 EXERCISE FOR PATTERN VARIATION

* Use No. 4-17 PATTERN CARD.



* Use No. 3-13 PATTERN CARD.

(A)



YARN : MEDIUM KC (II)

MC

Diagram (A) shows a row of 11 needles with 10 needles set to 6 and 1 needle set to 1. Below it is a schematic of a sweater with a yoke width of 115, a yoke depth of 30, and a body width of 45. A schematic of a 6-needle carriage is also shown.

(B)

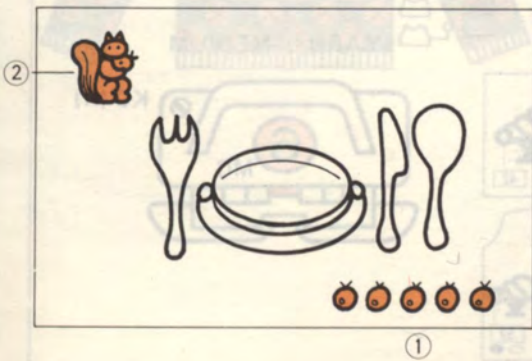


YARN : MEDIUM KC (II)

MC

Diagram (B) shows a row of 11 needles with 10 needles set to 6 and 1 needle set to 1. Below it is a schematic of a sweater with a yoke width of 115, a yoke depth of 60, and a body width of 45. A schematic of a 6-needle carriage is also shown.

(C)



YARN : MEDIUM KC (II)

MC

Diagram (C) shows a row of 11 needles with 10 needles set to 6 and 1 needle set to 1. Below it is a schematic of a sweater with a yoke width of 48, a yoke depth of 9, and a body width of 50. A schematic of a 6-needle carriage is also shown.

6-4-7 EXERCISE FOR PATTERN VARIATION

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



PATTERN KNITTING
PLAIN
PATTERN KNITTING

YARN : MEDIUM

KC (I)

When the same pattern is knitted in two rows as on the left,

1. Enter the necessary figures.
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. Then, place K CARRIAGE on 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 " 1 2 " mark, if it is not there already.
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)



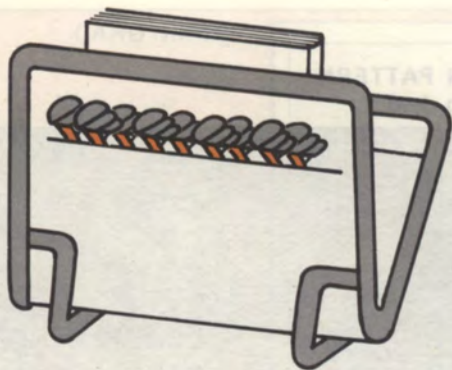
YARN : MEDIUM

KC (II)

1. Enter the necessary figures.
2. Knit the first pattern.

Select the Pattern in the same way as 1

* Use No. 3-12 PATTERN CARD.



YARN : MEDIUM
KC (II)

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

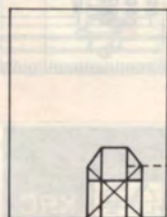
* Use No. 1-5 PATTERN CARD.



YARN : MEDIUM
KC (I)

When knitting from the middle of a programmed Pattern do the following.
(For example, to align the Pattern for bodice and sleeves.)

PATTERN PROGRAMMING READY → ex. ② ① ENTER → CF



(Enter the figure of the row at which you are going to start the pattern.)

5-5 TUCK & SKIP STITCH PATTERNS

Full Pattern Knitting (PATTERN SELECTOR : LOWER POSITION)

TUCK STITCH PATTERN
CARD No. 1-6



SKIP STITCH PATTERN
CARD No. 1-6



How to knit Full Pattern Knitting

* Use No. 1-6 PATTERN CARD.

Preparation When using same CARD as the one mentioned above, push RR key and begin from **3**.



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

2 Set the CARD.

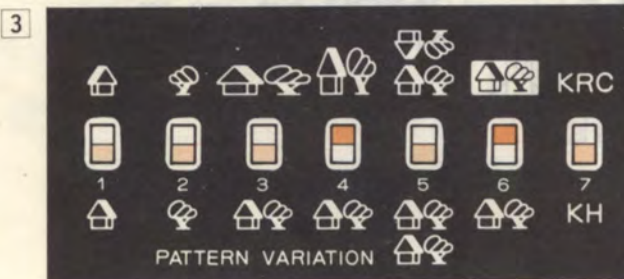
3 Turn on the POWER SWITCH.

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

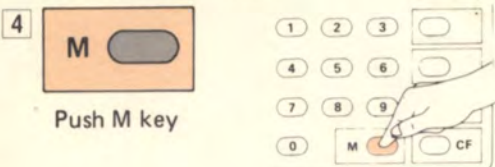
Pattern Programming



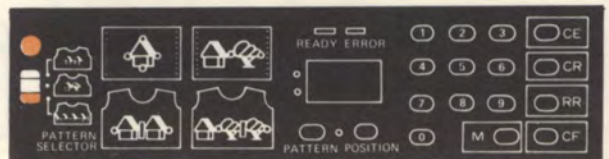
2 Open the lid.



3 Set the PATTERN VARIATION switches No. 4 and 6 to the upper position. (Switch No. 6 always is set at the upper position.)



4 Push M key



Set the PATTERN SELECTOR switch at the lowest position.

CARD No. 1-6

(A) 46 (B) 69 (C) 31 (D) 48

(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.

5 M →

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

6 M →

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

7 M →

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

8 M →

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

9 M →

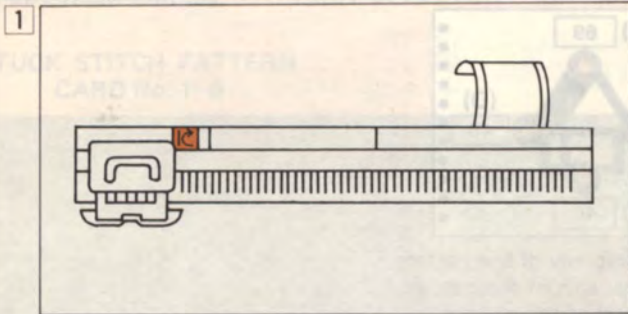
READY LAMP lights and the program is finished.

10 CF

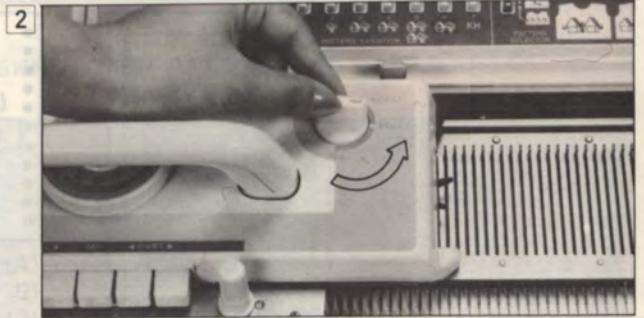
The CARD feeds forward to starting position of pattern.

5-5 TUCK & SKIP STITCH PATTERNS

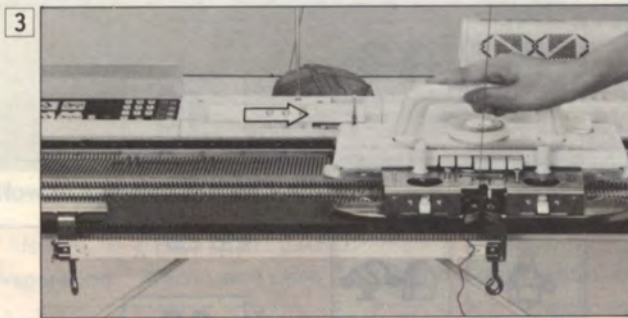
Pattern Knitting



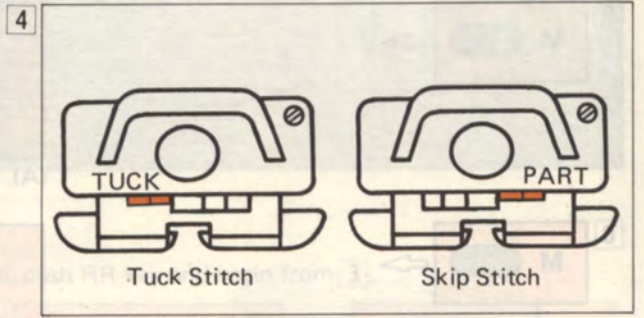
1 Place the K CARRIAGE at the left side of the "KC (I)" mark on the left side of knitting machine.



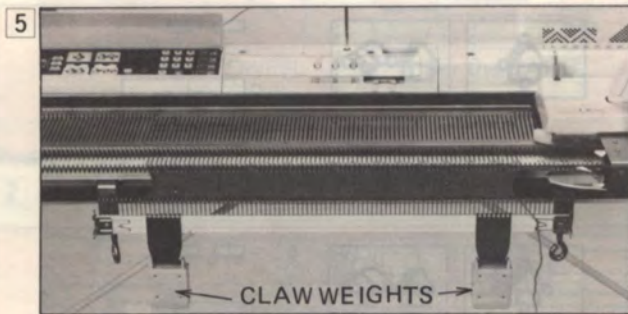
2 Set the CHANGE KNOB to "KC (I)" position.



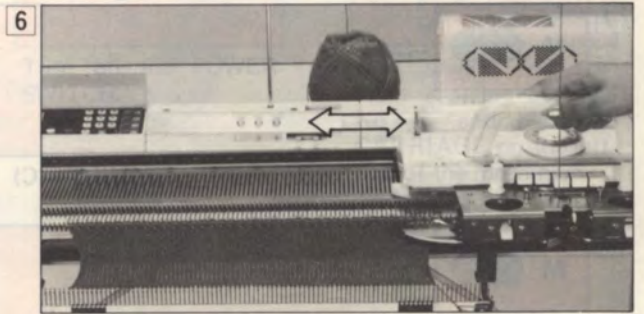
3 Move the K CARRIAGE from left to right. Selected needles are brought to D position.



4 Push the CAM BUTTONS according to the Pattern.



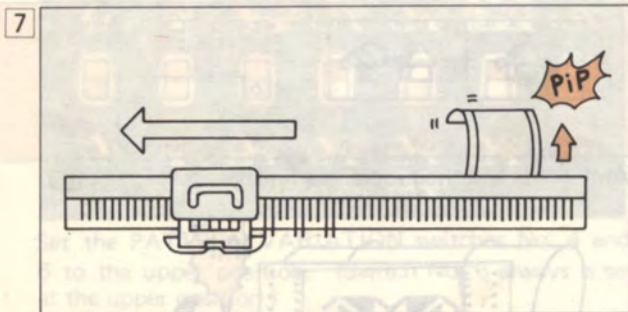
5 Hang the CLAW WEIGHTS on to the CAST-ON COMB.



6 Move the K CARRIAGE to left and continue to operate. You can Knit Tuck or Skip Stitch Pattern.

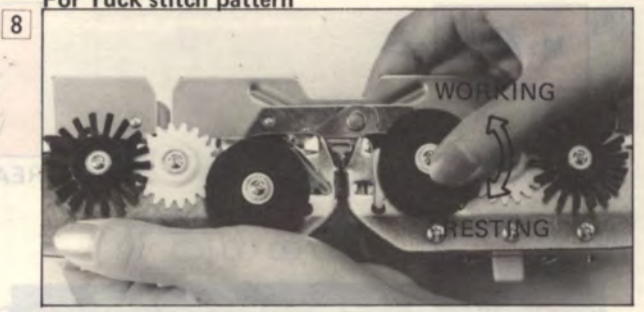
Pattern card goes forward every other row because of use of No. 4 switch.

For Tuck stitch pattern



To continue Pattern Knitting

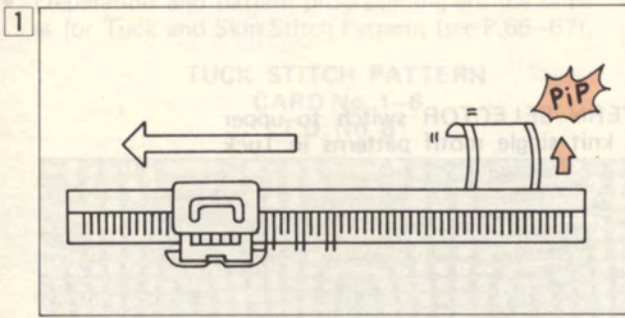
At the row before the last row of pattern, PATTERN CARD is automatically returned to starting position of the Pattern with buzzer sounding. If repeating pattern, continue to knit.



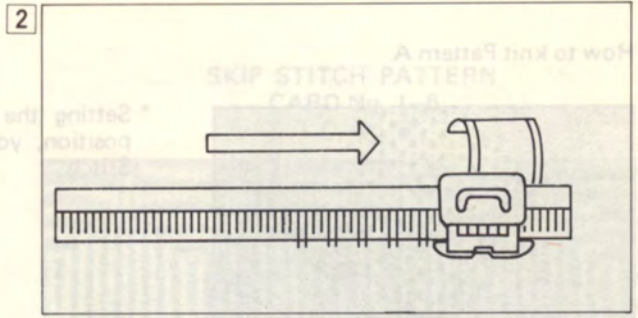
Push both RUBBER WHEELS and place them to the working position.

After knitting the Tuck Stitch Pattern, return both RUBBER WHEELS to the resting position.

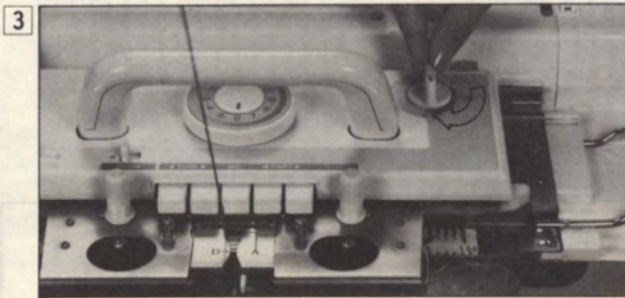
To finish Pattern Knitting TUCK & SKIP STITCH PATTERNS



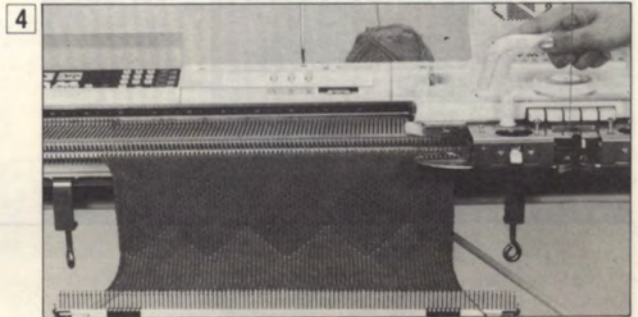
At the row before the last row of the pattern, the PATTERN CARD is automatically returned to the starting position of the PATTERN. A buzzer will sound. (K CARRIAGE should be moved from right to left at that time.)



Move K CARRIAGE to right as for the last row.



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



Knit several rows of Plain Knitting.

Program for the pattern and set the K CARRIAGE as follows.

Place the K CARRIAGE at the left end of the needle bed and mark as follows.

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

Knit the first row of the pattern in Tuck Stitch and pattern is repeated twice.

CARD No. 7-6

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

Knit the first row of the pattern in Tuck Stitch and pattern is repeated twice.

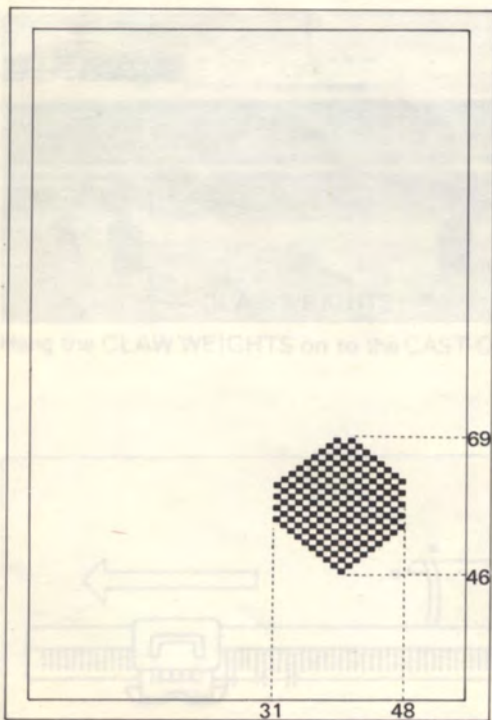
Pattern Knitting

How to knit Pattern A

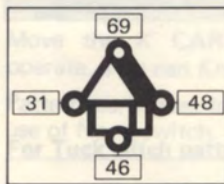
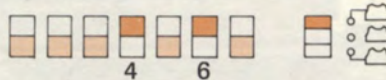


* Setting the PATTERN SELECTOR switch to upper position, you can knit single motif patterns in Tuck Stitch.

CARD No. 1-6



- Program for the pattern and set the K CARRIAGE as follows:



- Refer to instructions for operation on pages 68-69.

- The swatch in the above picture is the Single Motif Pattern in Tuck Stitch and pattern is repeated twice.

5-6 MULTI-COLOR TUCK & SKIP STITCH PATTERNS

- Preparation and pattern programming are the same as for Tuck and Skip Stitch Patterns (see P.66-67).

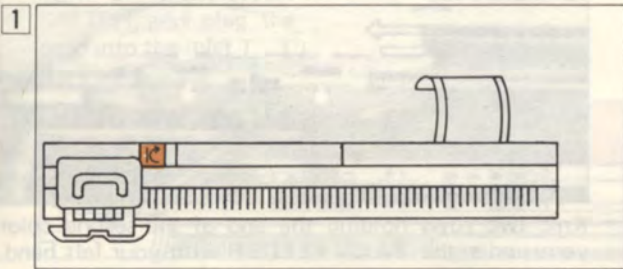
TUCK STITCH PATTERN
CARD No. 1-6
T.D. No. 6



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



Pattern Knitting



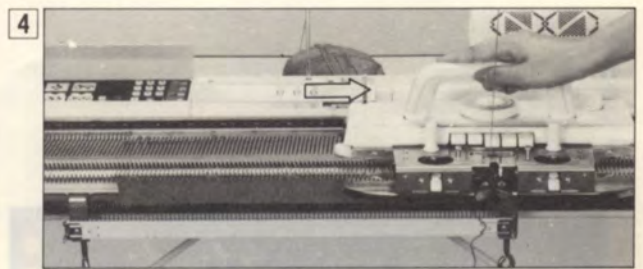
1 Place the K CARRIAGE at the left side of the "K" mark on the left side of knitting machine.



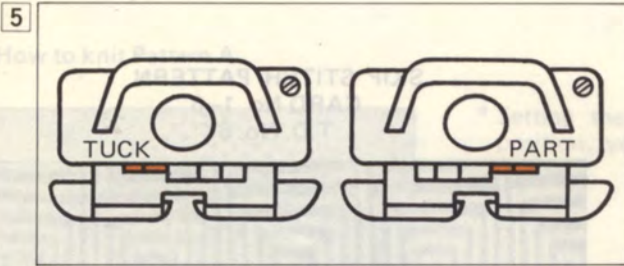
2 Thread the second color yarn into the YARN TENSION UNIT and clip it under the YARN CLIP.



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



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

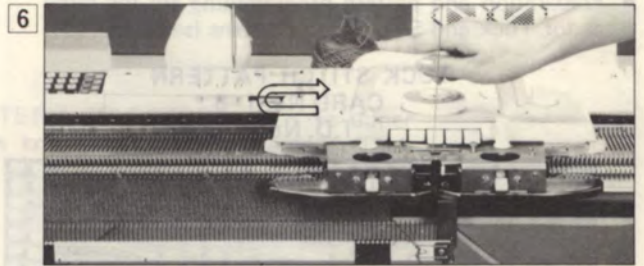


Multi-Color Tuck Stitch Patterns

... Push both "TUCK" buttons at the same time.
Place both RUBBER WHEELS to the working position.

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" with 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" 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 as above.

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.

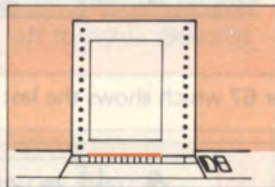
* Use No. 1-2 PATTERN CARD.

Preparation When using same CARD as the one mentioned above, push RR key and begin from **3**.

1



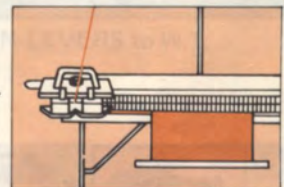
Turn off the POWER SWITCH, and plug the cord into the inlet.



Set the CARD.



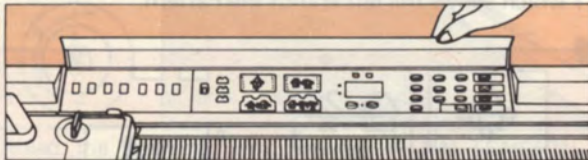
Turn on the POWER SWITCH.



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

Pattern Programming

2

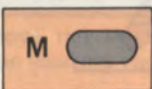


3

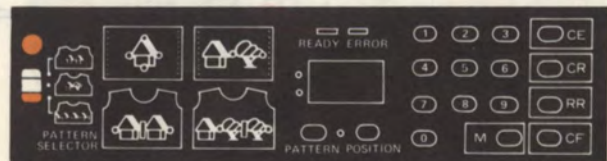
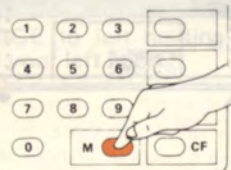


Set all PATTERN VARIATION switches at the lower position.

4



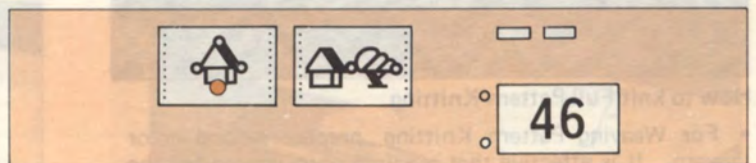
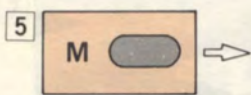
Push M key.



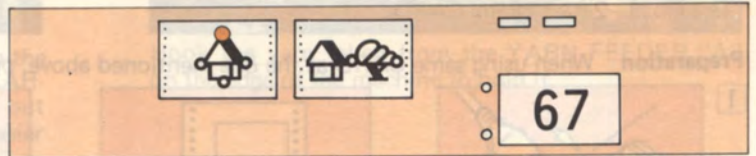
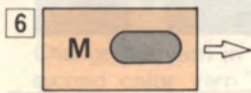
Set the PATTERN SELECTOR switch at the lowest position.

CARD No. 1-2

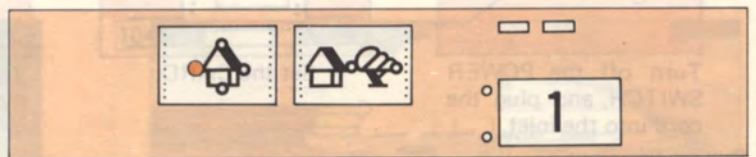
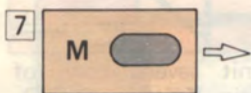
(A) The first row of the pattern.
 (B) The last row of the pattern.
 (C) Left end of the pattern.
 (D) Right end of the pattern.



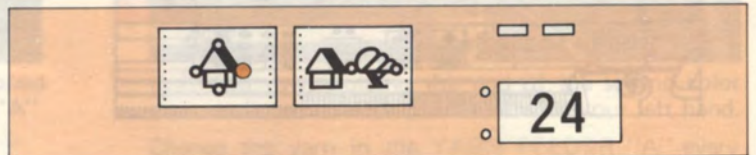
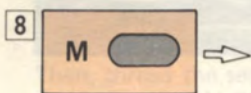
(A) Enter 46 which shows the first row of the pattern.



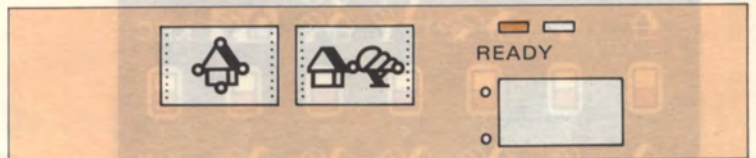
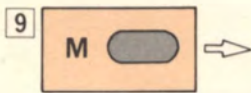
(B) Enter 67 which shows the last row of the Pattern.



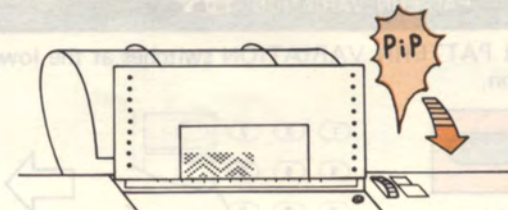
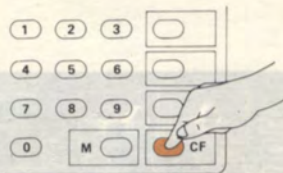
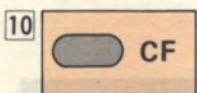
(C) Enter 1 which shows the left end of the Pattern.



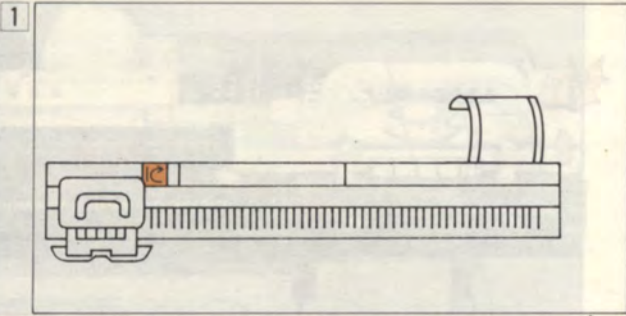
(D) Enter 24 which shows the right end of the Pattern.



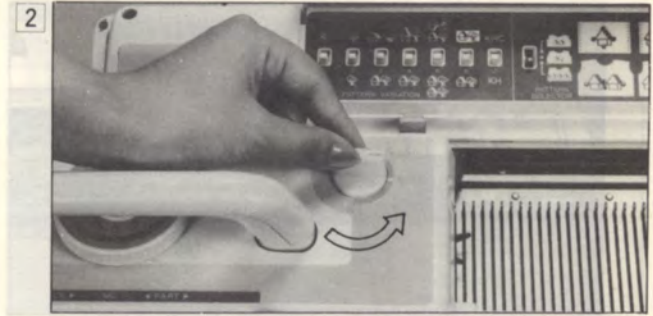
READY LAMP lights and the program is finished.



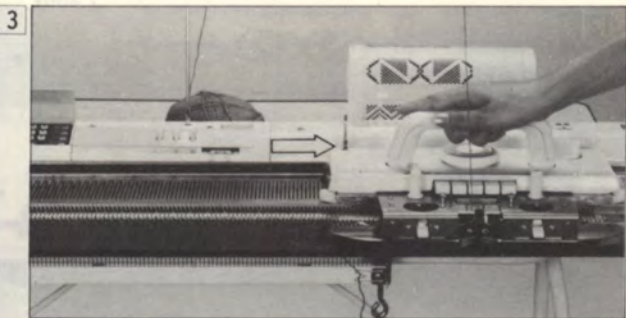
Pattern Knitting



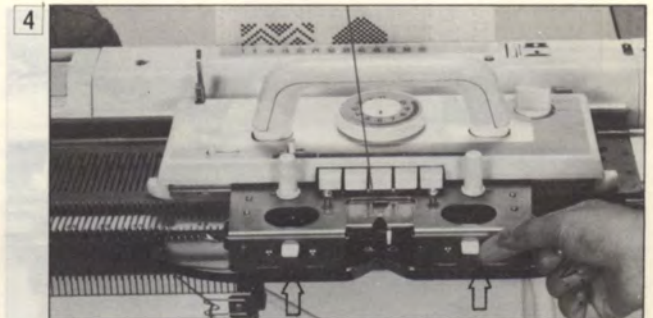
1 Place the K CARRIAGE at the left side of the "C" mark on the left side of knitting machine.



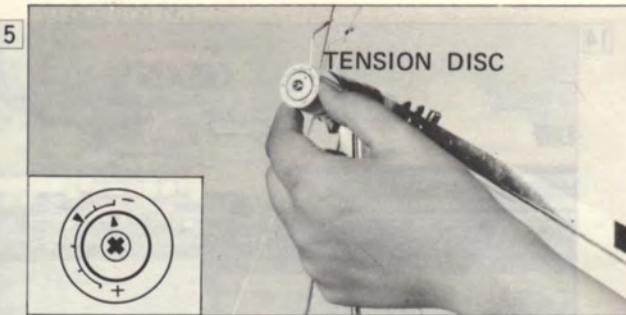
2 Set the CHANGE KNOB to "KC (I)" position.



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



4 Set the WEAVING PATTERN LEVERS to W.T.

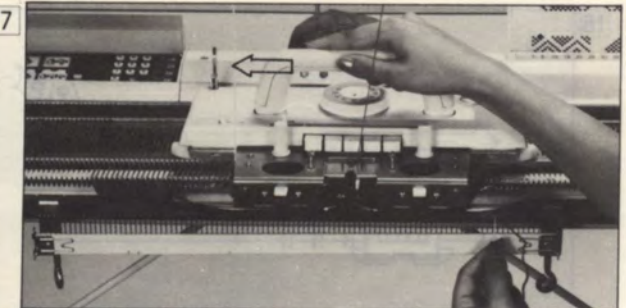


5 Thread the Weaving yarn into the YARN TENSION UNIT and clip it under the YARN CLIP. Adjust the TENSION DISC.

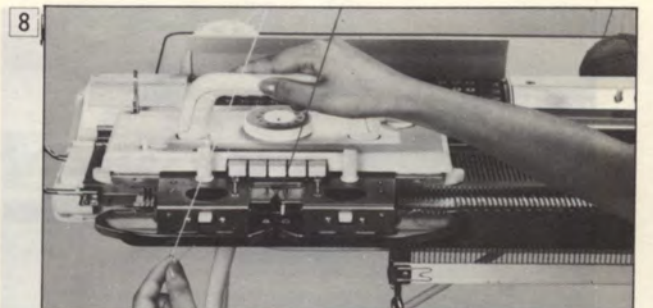
When using thick yarn, set the "-" mark to the "▲".



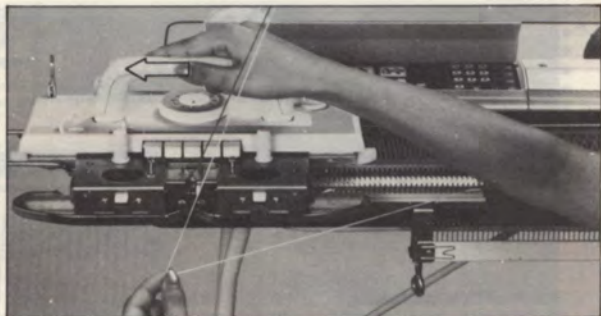
6 Make sure that the weaving yarn is in the left WEAVING YARN GUIDE.



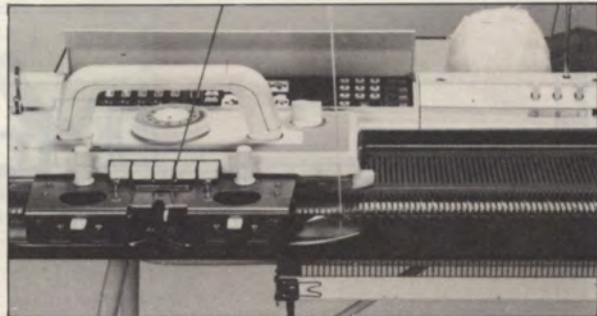
7 Move the K CARRIAGE to left holding the end of the weaving yarn with your left hand.



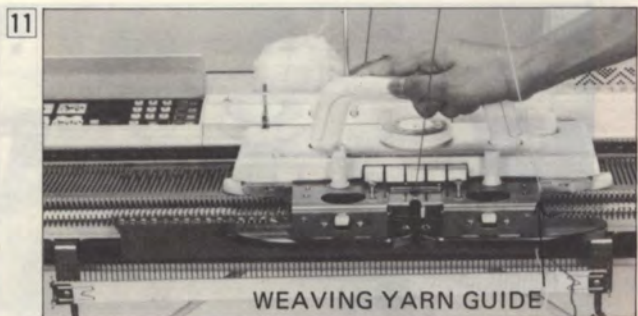
8 Remove the weaving yarn from the left WEAVING YARN GUIDE.



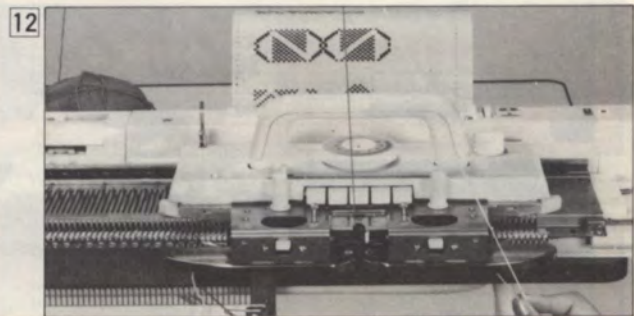
When transferring the weaving yarn, move the K CARRIAGE slightly to the left, so that the Weaving yarn can be removed easily.



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

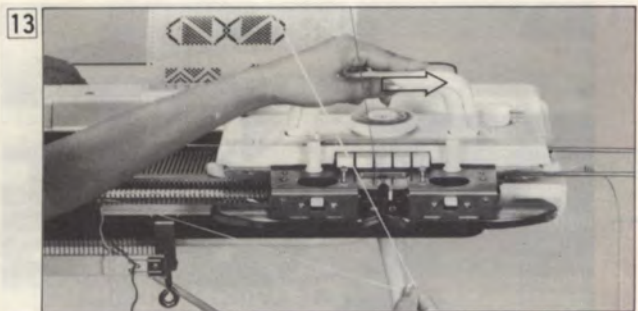


11 Move the K CARRIAGE to right making sure that the weaving yarn is in the right WEAVING YARN GUIDE.

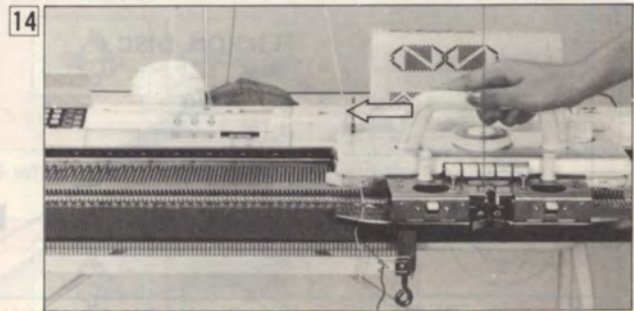


12 Remove the weaving yarn from the right WEAVING

(11) Enter 67 which shows the last row of the Pattern

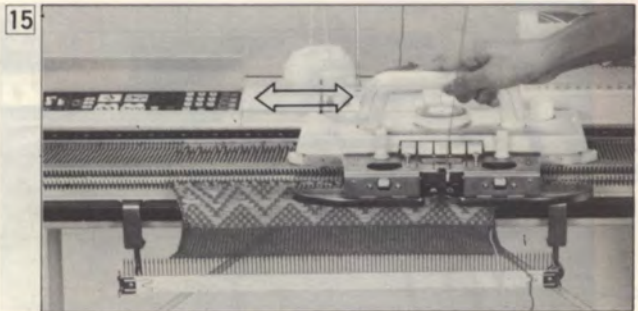


13 Move the K CARRIAGE slightly to the right and transfer the weaving yarn under the K CARRIAGE and to the left WEAVING YARN GUIDE.

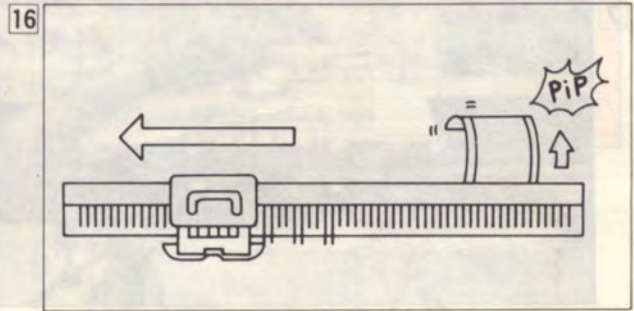


14 Move the K CARRIAGE to left making sure that the weaving yarn is in the left WEAVING YARN GUIDE.

(10) Enter 24



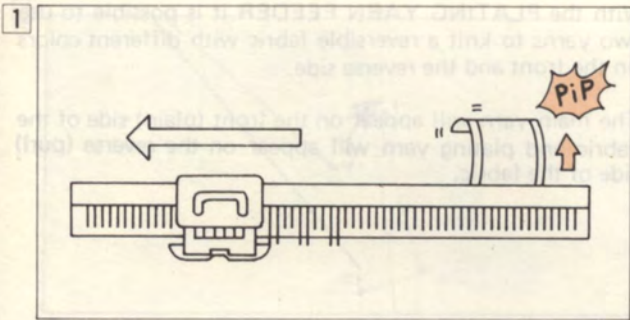
Repeat procedures from 8 - 14. This is weaving.



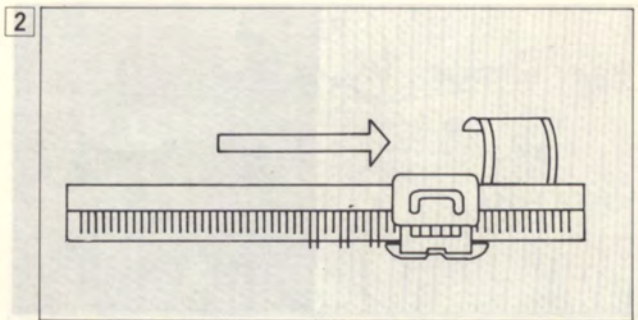
To continue Pattern Knitting

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

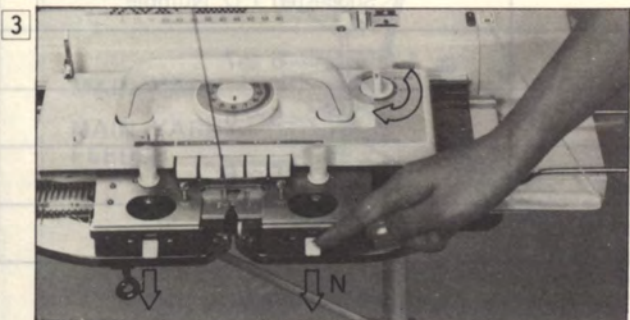
To finish Pattern Knitting



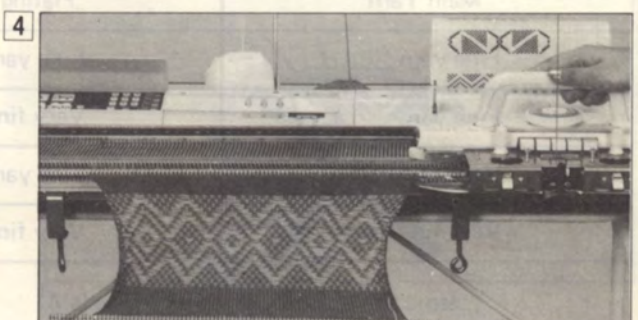
At the row before the last row of the pattern, the PATTERN CARD is automatically returned to starting position of the Pattern with buzzer sounding. (K CARRIAGE should be moved from right to left at that time.)



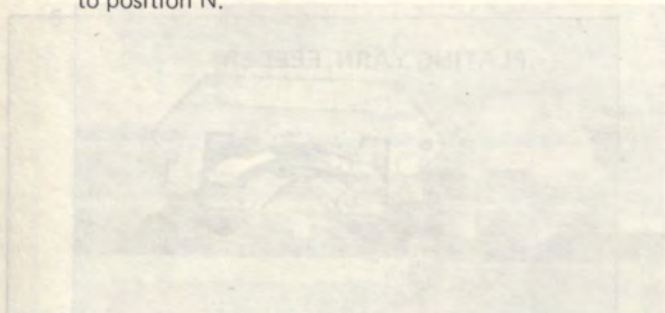
Move K CARRIAGE to right as for the last row.



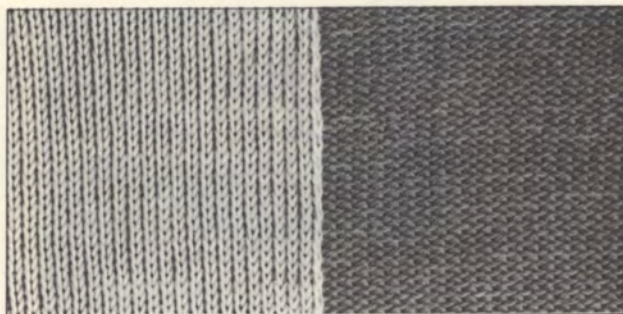
Turn the CHANGE KNOB from "KC (I)" to "N.L." position and set the WEAVING PATTERN LEVERS to position N.



Knit several rows of Plain Knitting.



5-8 PLATING YARN KNITTING



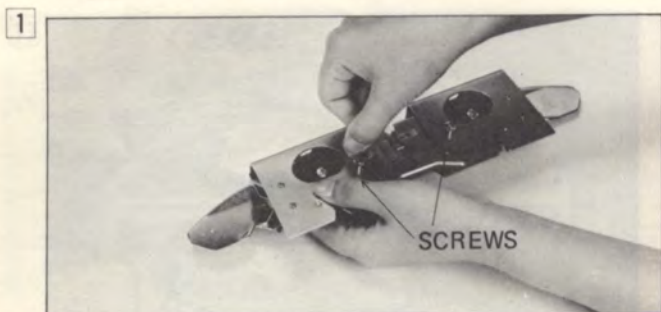
FRONT (Plain)

REVERSE (Purl)

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

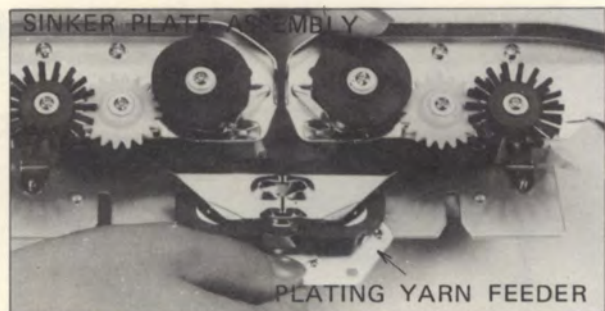
Main Yarn	Plating Yarn	Suggested T.D. Number
Fine yarn	Fine yarn	6 ~ 7
Fine yarn	Very fine yarn	5 ~ 6
Very fine yarn	Fine yarn	5 ~ 6
Very fine yarn	Very fine yarn	4 ~ 5

Preparation for Plating yarn knitting and how to knit.



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 above.

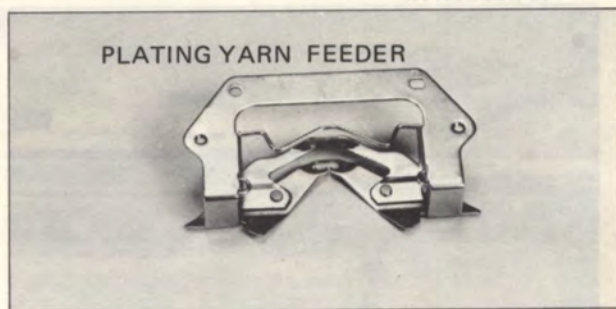
*When changing yarn feeders, check that the latch brushes (oblong brushes inside sinker plate) are not trapped by the feeder.

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

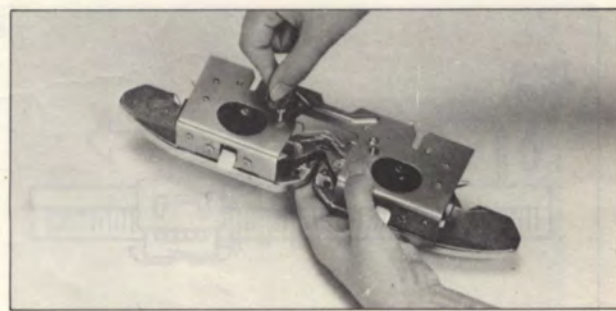
The main yarn will appear on the front (plain) side of the fabric and plating yarn will appear on the reverse (purl) side of the fabric.



PLATING YARN FEEDER

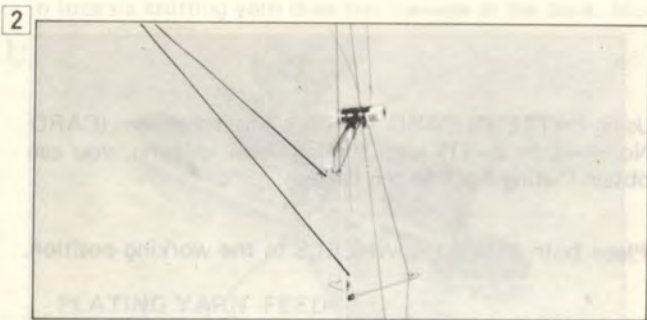


- 2). Take the PLATING YARN FEEDER out of the accessory box.

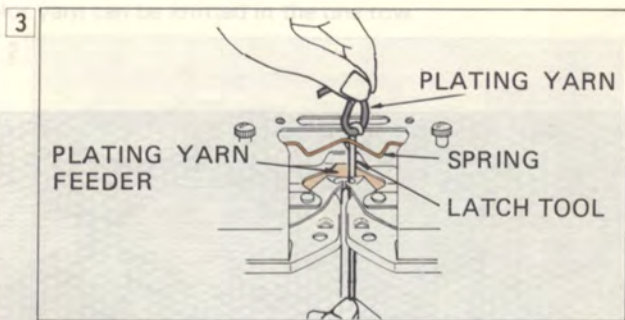


- 4). Then fasten the two screws.

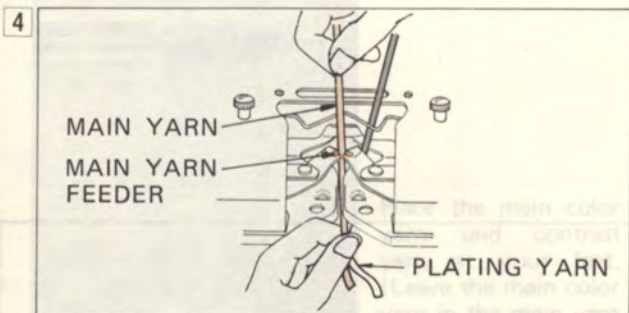
5-10 INTARSIA KNITTING



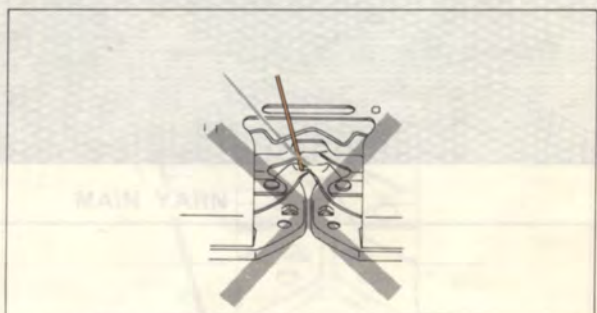
Thread the main and plating yarns into the YARN TENSION UNIT, and clip them under the yarn clip.



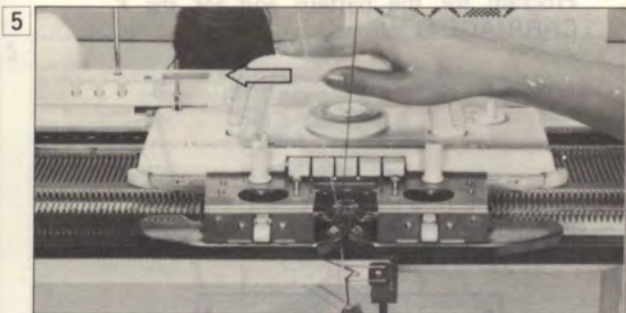
Thread the plating yarn into the plating yarn feeder with Latch tool. Pass the plating yarn behind the yarn feeder spring and thread it into the plating yarn feeder.



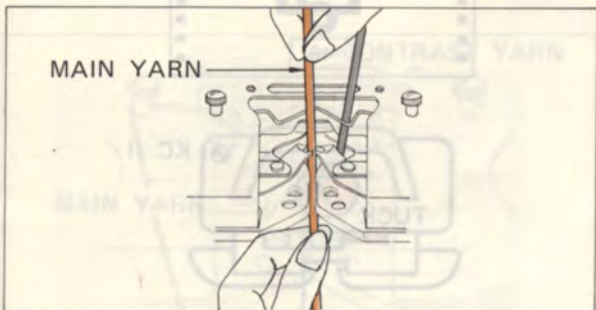
Hold the plating yarn under the yarn feeder with your left hand. Thread the main yarn into the main yarn feeder.



Make sure that two yarns do not cross.



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



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



FRONT (Plain)

REVERSE (Purl)

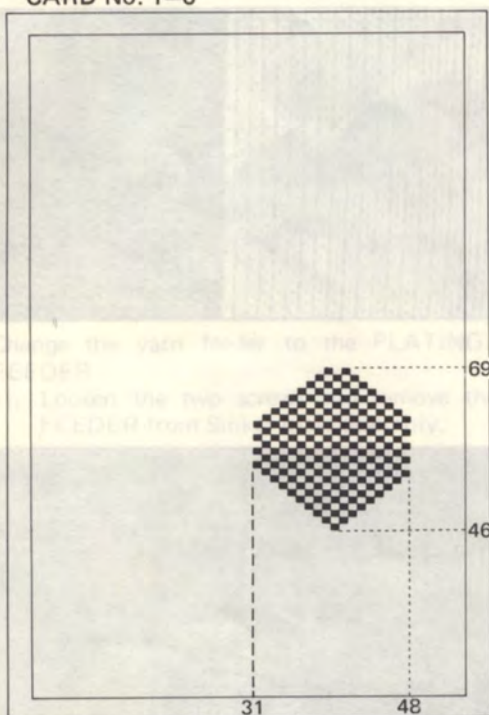
5-9 PLATING-TUCK STITCH PATTERN



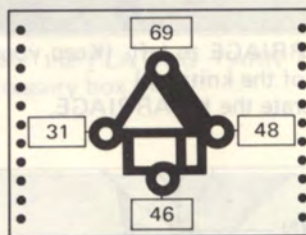
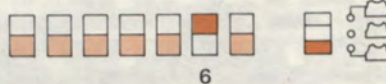
Using PATTERN CARD for Tuck Stitch Patterns (CARD No. 1-1 ~ 2-11) with Plating Yarn knitting, you can obtain Plating-Tuck Stitch Pattern.

Place both RUBBER WHEELS to the working position.

CARD No. 1-6



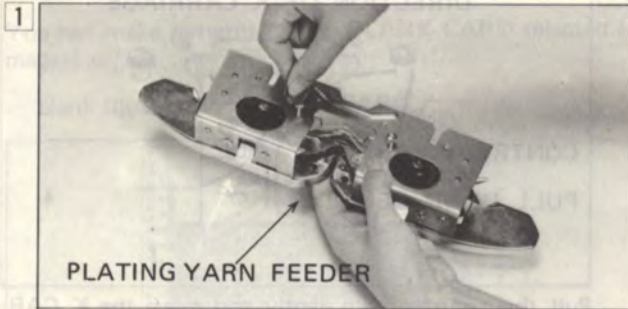
Program for the pattern and set the K CARRIAGE as follows:



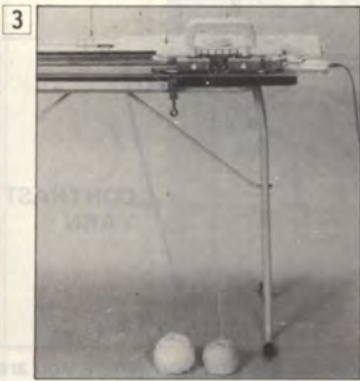
The operation is the same as for Tuck Stitch Patterns (see P.68 ~ 69) and Plating Yarn Knitting (see P.78 ~ 79).

5-10 INTARSIA KNITTING

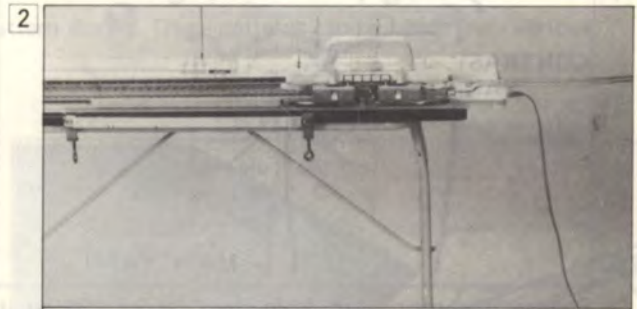
PATTERN CARDS are not used for the intarsia knitting. In Intarsia knitting yarn does not traverse at the back. Multi-color yarn can be knitted in the one row.



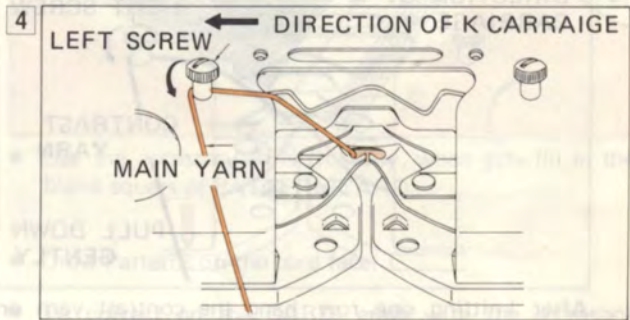
Change the yarn feeder to the **PLATING YARN FEEDER**.



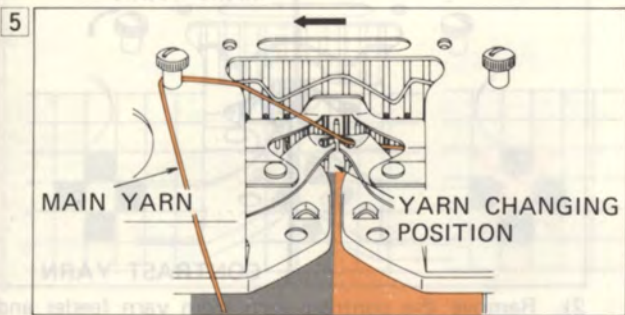
Place the main color yarn and contrast yarn at your feet. (Leave the main color yarn in the main yarn feeder).



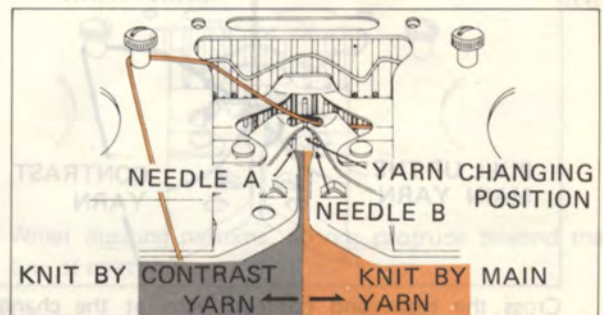
Knit several rows of plain knitting and place the **K CARRIAGE** on the right side of the machine. Take the yarn out of the **YARN TENSION UNIT**. (The yarn tension unit is not used for the intarsia knitting.)



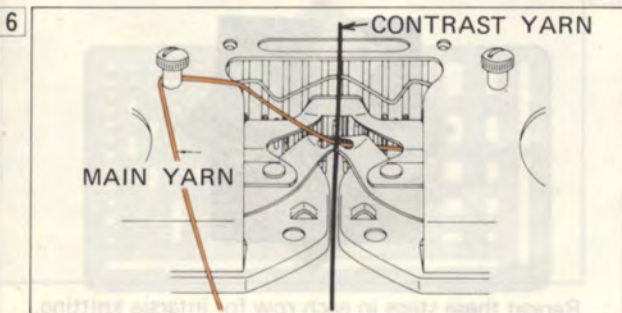
Hang the main color yarn on the **LEFT SCREW** as shown above, and pull it gently to give slight tension. Then move the **K CARRIAGE** to left.



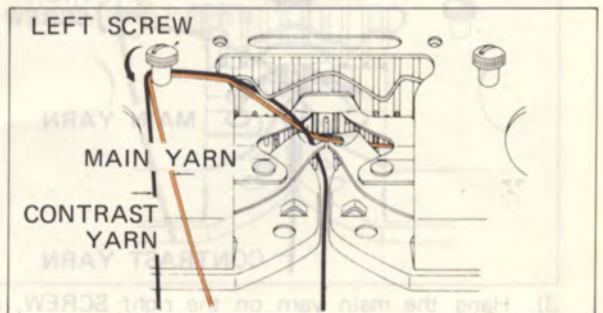
1). Stop the **K CARRIAGE** at the position where the color of yarn will be changed.



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

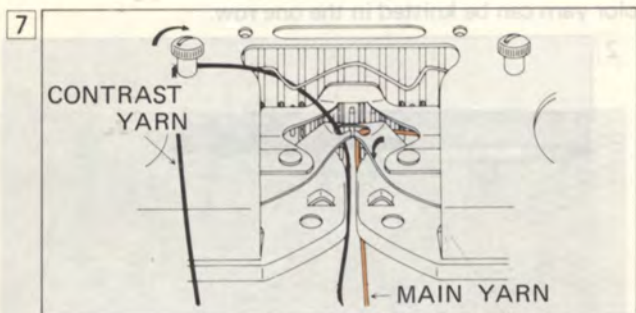


Thread the contrast yarn into the main yarn feeder and hang it on the **LEFT SCREW** as shown above.

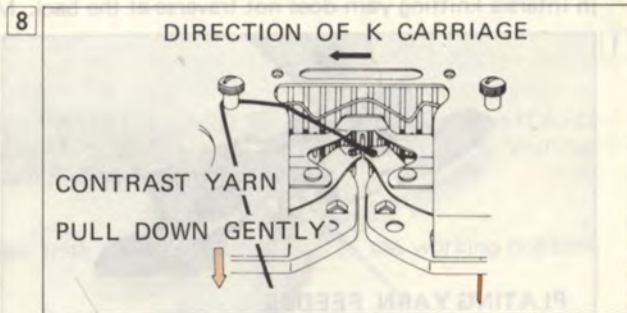


56 PLATING TUCK STITCH PATTERN

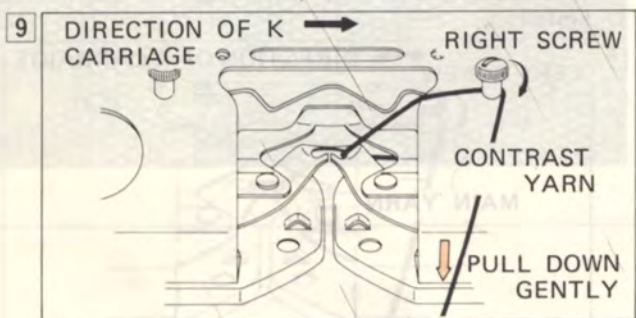
5-10 INTARSIA KNITTING



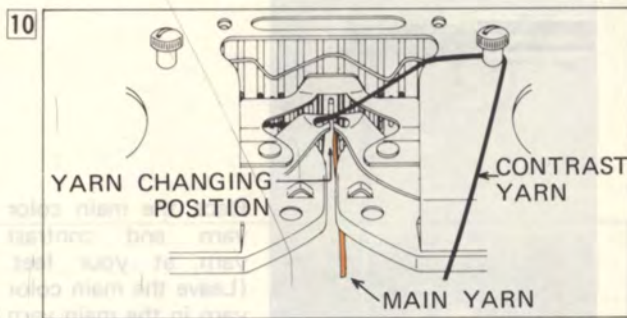
Remove the main yarn from yarn feeder and let it hang down.



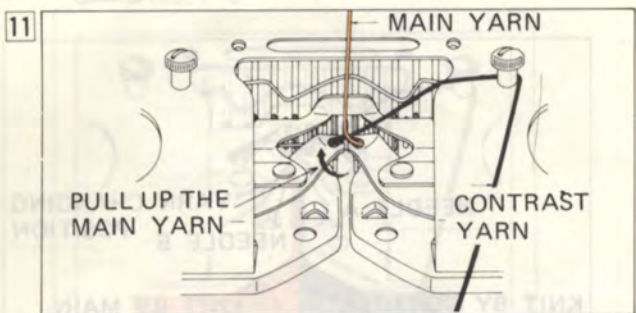
Pull the contrast yarn gently and move the K CARRIAGE to left. (Do not pull the yarn too tightly.) When you are going to knit using more than one color in one row, repeat steps 6 - 8



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

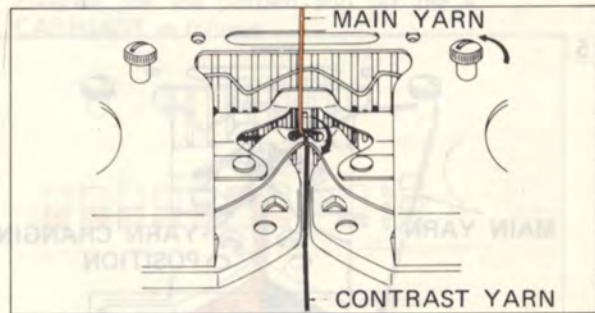


Stop the K CARRIAGE at the position where you are going to change the color of yarn. The changing position is the center between two needles.

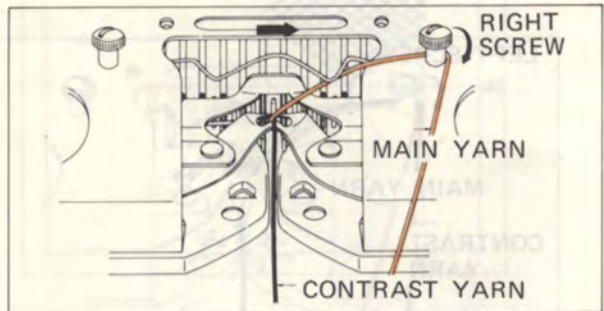


Cross the main and contrast yarn at the changing position to avoid making a hole in the knitting.

1). Pull up the main yarn as shown above.



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



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

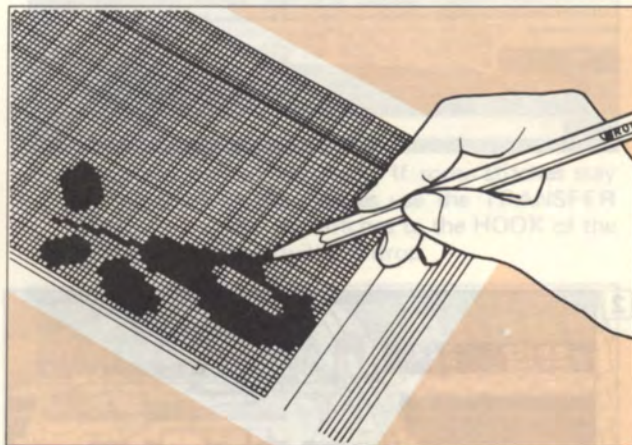
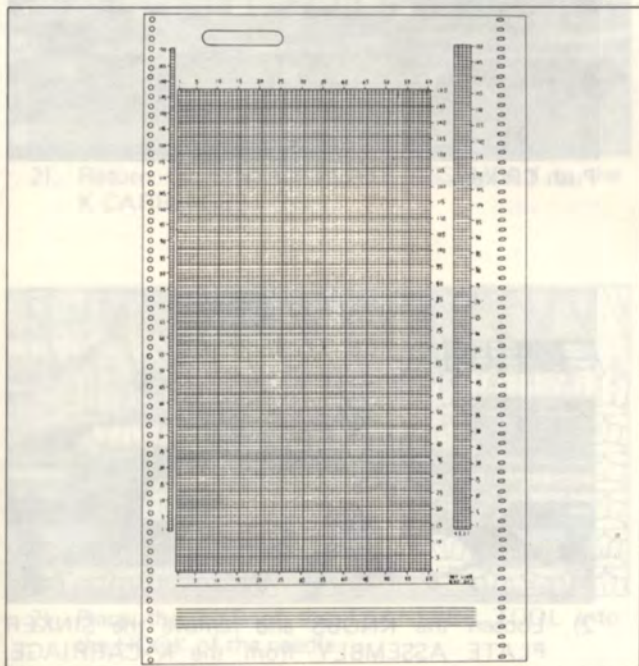


Repeat these steps in each row for intarsia knitting.

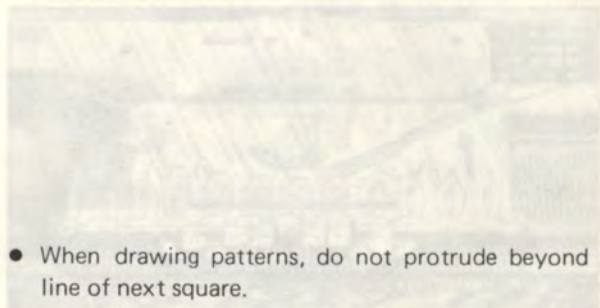
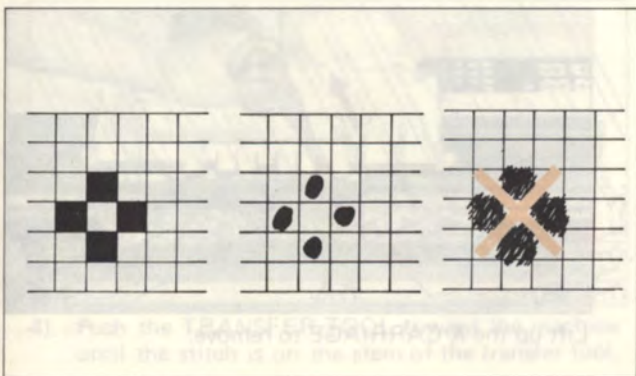
5-11 HOW TO MAKE YOUR OWN PATTERNS USING BLANK CARDS.

You can make patterns on the BLANK CARD selected from Pattern Books. These patterns can be taken from various magazines, etc.

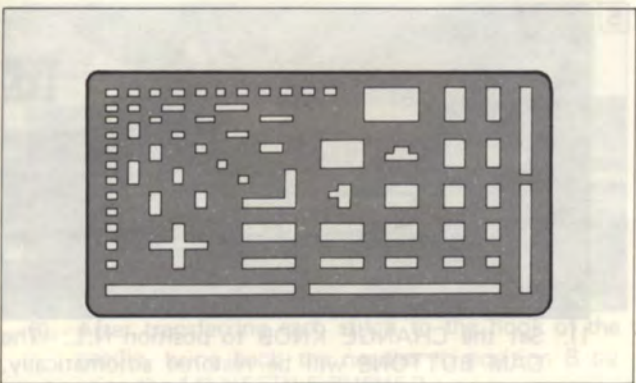
blank squares of PATTERN CARD.



- Use the accessory PENCIL only, when you fill in the blank squares of PATTERN CARD.
- Draw Patterns on the card face.
- To correct on the CARD, erase with the accessory ERASER. Do not press ERASER strongly to protect the card face.



- When drawing patterns, do not protrude beyond the line of next square.



- TEMPLATE is useful when you fill in blanks and partially erase Patterns.

6. KNOWLEDGE OF PATTERN KNITTING

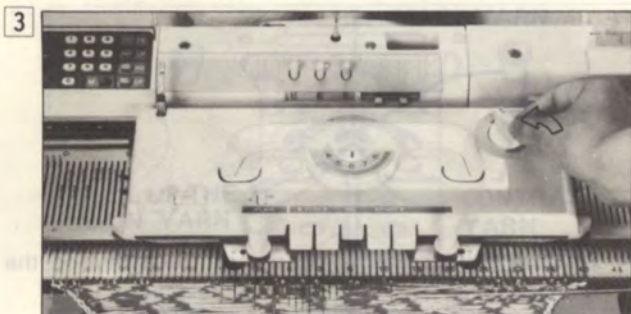
6-1 HOW TO CORRECT MISTAKES IN PATTERN KNITTING.

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

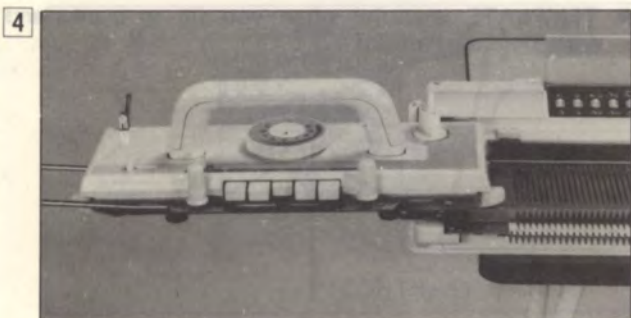
Do not move the K CARRIAGE by force. Remove it, then start knitting again from the beginning of the row.



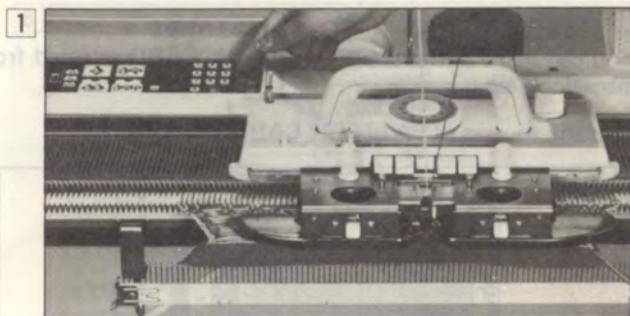
1). Take the yarn out of the YARN FEEDER. When knitting Fair-isle patterns or Weaving patterns, take the second color yarn out of the YARN FEEDER, also.



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



4) Place the K CARRIAGE at the outside of " | ↩ " or " | " mark.



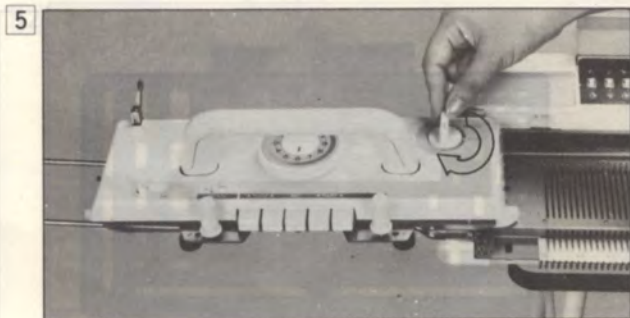
1) Push CR key.



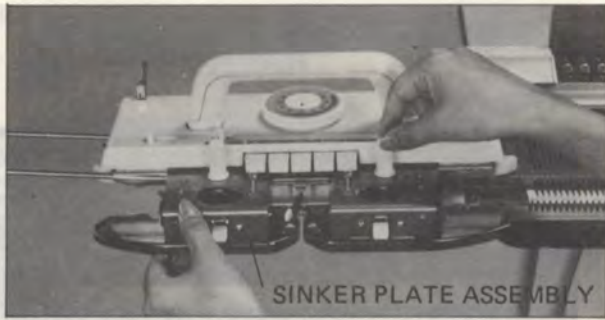
2). Loosen the KNOBS and remove the SINKER PLATE ASSEMBLY from the K CARRIAGE.



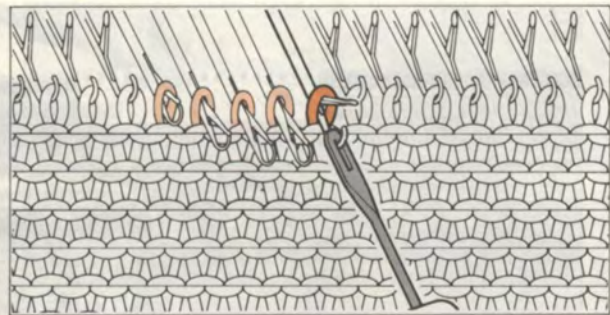
Lift up the K CARRIAGE to remove.



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



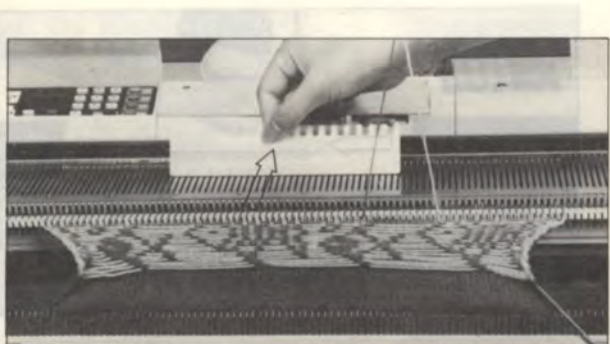
2). Return the SINKER PLATE ASSEMBLY to the K CARRIAGE.



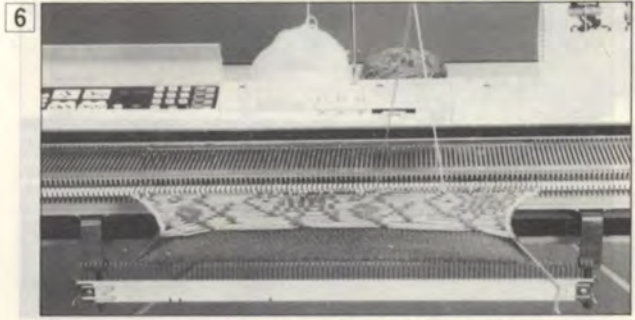
2). Place the EYE of the TRANSFER TOOL into the HOOK of the needle.



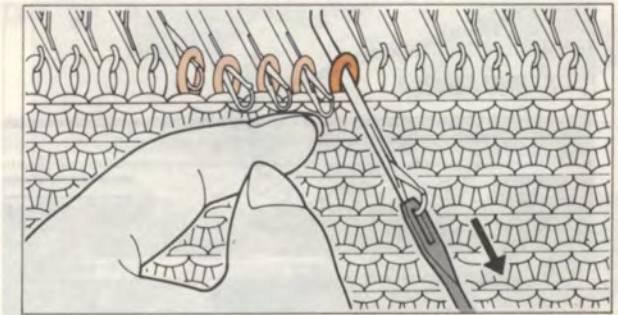
4). Push the TRANSFER TOOL toward the machine until the stitch is on the stem of the transfer tool.



6). After transferring each stitch to the hook of the 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 use the TRANSFER TOOL to 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.

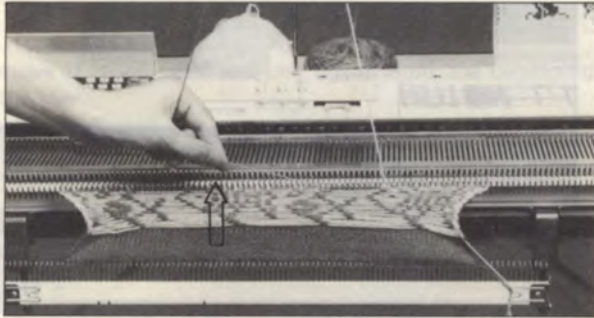


1). Hold the main yarn parallel with the GATE PEGS.

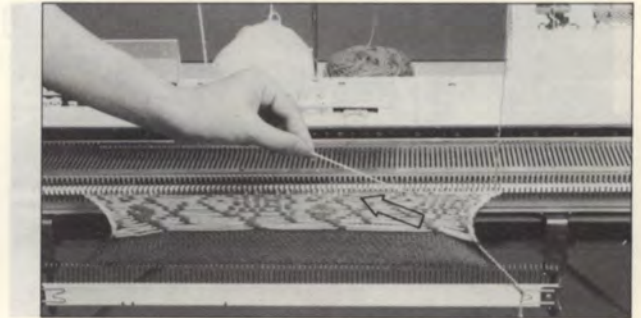
6. KNOWLEDGE OF PATTERN KNITTING

6-1 HOW TO CORRECT MISTAKES IN PATTERN KNITTING

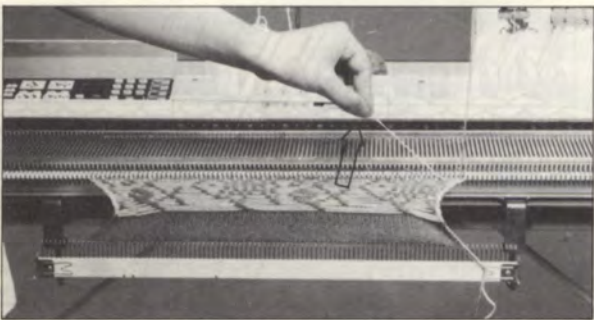
6-1-1 IF THE K CARRIAGE SHOULD JAM



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



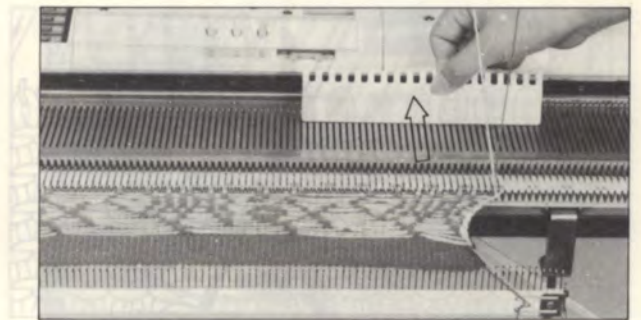
Unravel the second color yarn in the same way as the main yarn.



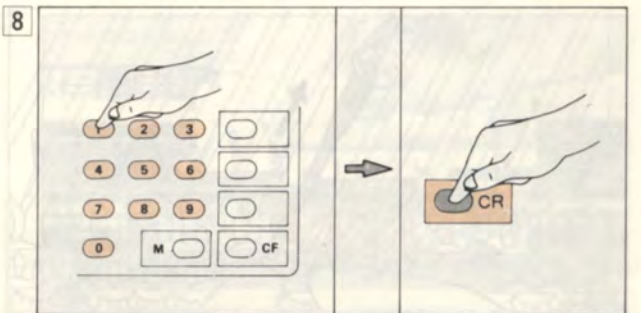
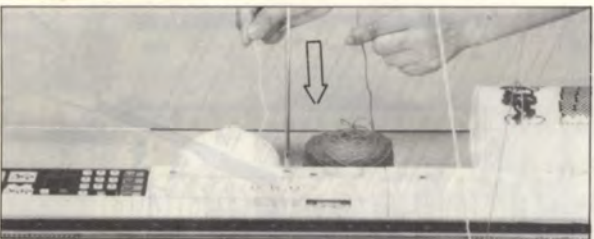
4). Pull the unraveled yarn down from under the REAR YARN GUIDE to take up the slack.

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

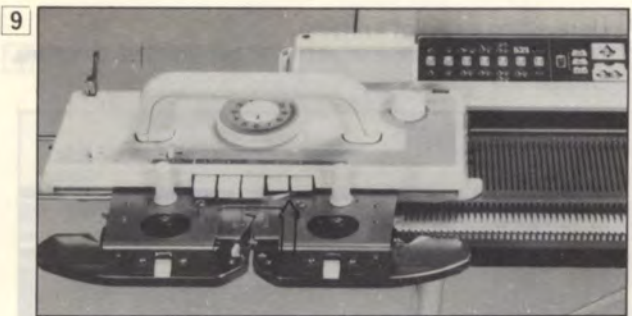
Put back the row counter for unraveled row.



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.



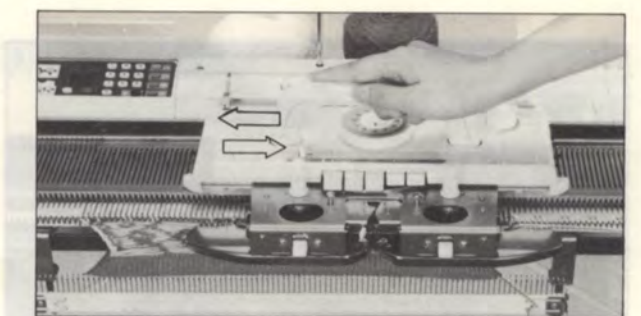
To select the needles, depress both "PART" buttons and set the CHANGE KNOB to KC.

At this time, the yarn is not in the yarn feeder.

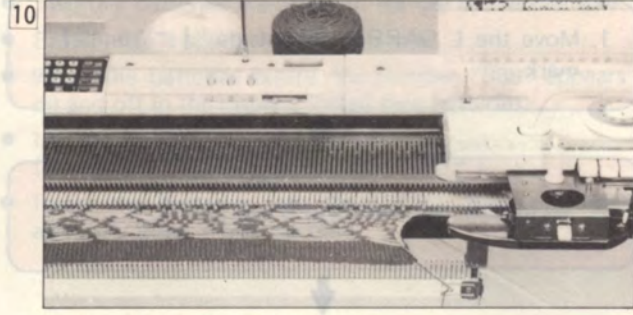
Make sure the K carriage is place outside " | c " or " | " mark, then move the K carriage until the needles will be selected.

When the K carriage is on the opposite side of the yarn, needles will be selected after one row, and when the K carriage is at the side of the yarn, needles will be selected after two rows.

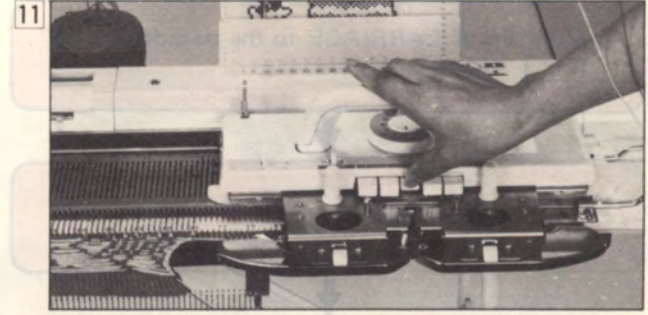
In the latter case, if you are setting change knob at KC (I), push back both end needles to position B by hand after first row, then move the K carriage for one more row.



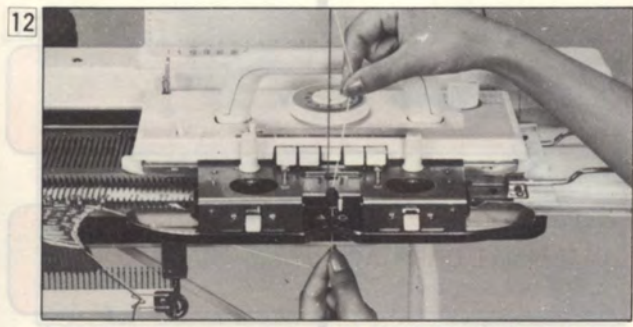
6-2-1 If the electric power is cut off when the K CARRIAGE is knitting on a swatch, RIAGE is knitting on a swatch.



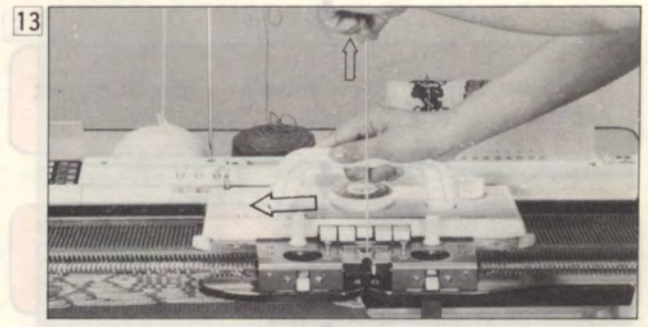
10 Position B needles are selected.



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



12 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.



13 Operate the K CARRIAGE by slightly pulling up the yarn.

6-1-2 If you operate K CARRIAGE for too many times, repeat procedure 6 - 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 procedure 9 ~ 11).



6 Connect the card and start it



Put back the lid

IF ELECTRIC POWER IS CUT OFF WHILE PATTERN KNITTING.

After replacing batteries, make the following check:

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



2. Turn on the POWER SWITCH.



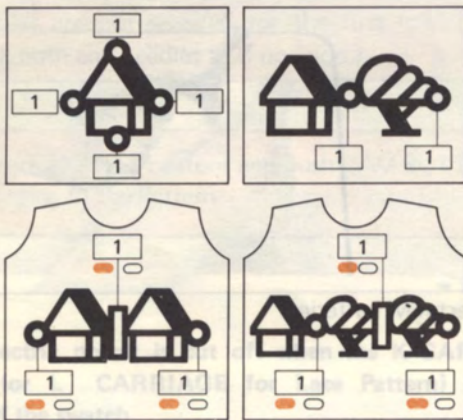
3. Push M key.



4. Set the PATTERN SELECTOR Switch to middle position.



5. Enter the following figures, until READY LAMP lights up.



7. BASIC OPERATION PRACTICE III (LACE PATTERN KNITTING)

7-1 PREPARATION FOR LACE PATTERN KNITTING

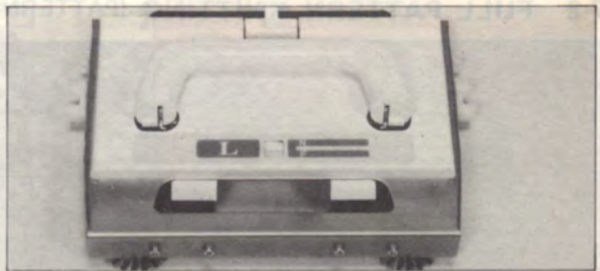
L CARRIAGE

Select the needles and transfer stitches automatically by using the L CARRIAGE.

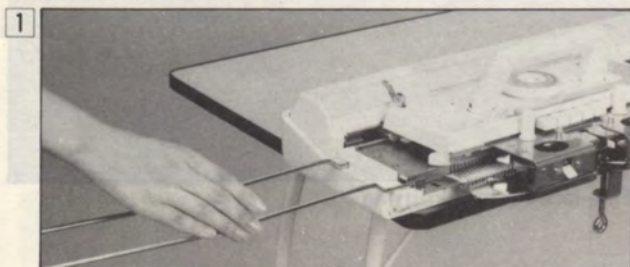
LACE CHANGE LEVER

N Normal lace pattern knitting.

F Fine-lace pattern knitting.



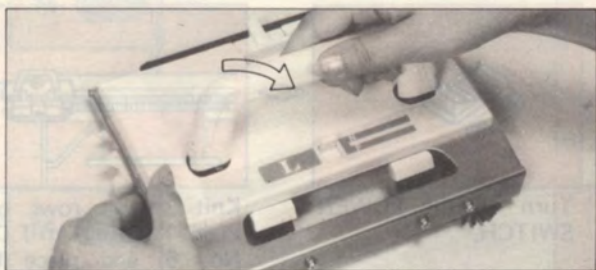
How to set the L CARRIAGE



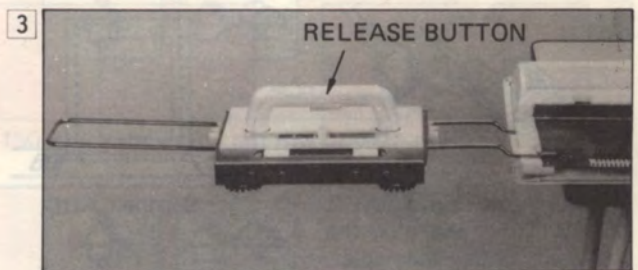
1) Insert the EXTENSION RAILS into the holes (A and B) at both sides of the machine to avoid dropping the L CARRIAGE off.



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



3) Then pull up the L CARRIAGE HANDLE.



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



5) When you start LACE Pattern Knitting, place the WAX on the special stand.

7-1 PREPARATION FOR FACE PATTERN KNITTING

7-2 FULL PATTERN KNITTING (PATTERN SELECTOR : LOWER POSITION)



Normal lace Pattern knitting

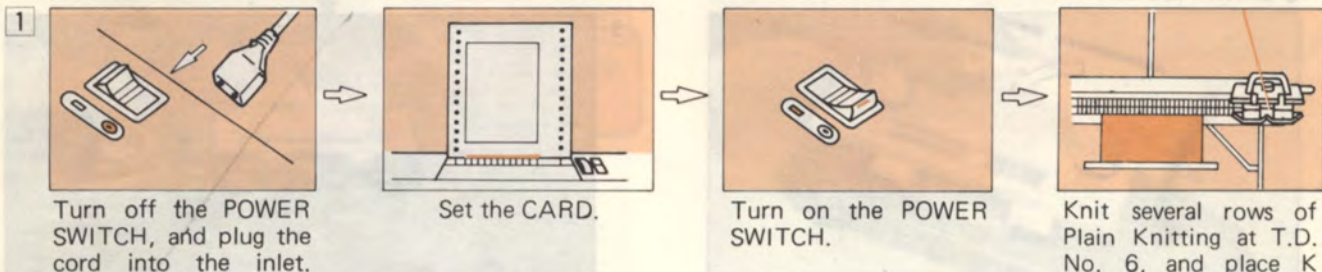


Fine-lace Pattern knitting

How to knit Full Pattern Knitting

* Use No. 8-30 PATTERN CARD.

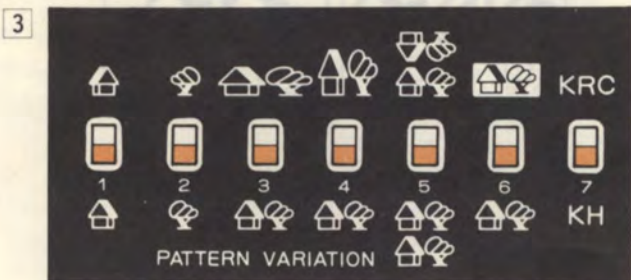
Preparation When using same CARD as the one mentioned above, push RR key and begin from 3.



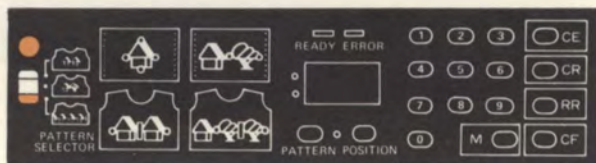
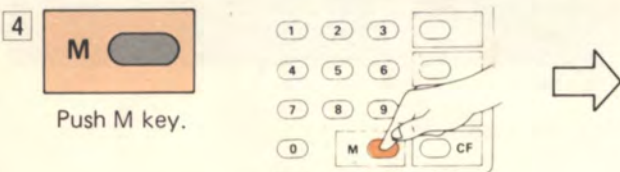
Pattern Programming



Open the lid.

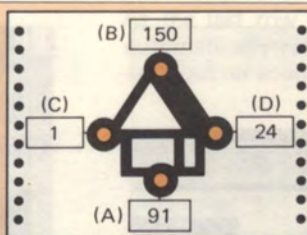
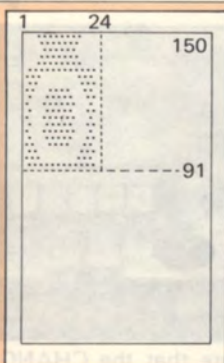


Set all PATTERN VARIATION Switches at the lower position.



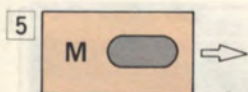
Set the PATTERN SELECTOR switch at the lowest position.

CARD No. 8-30

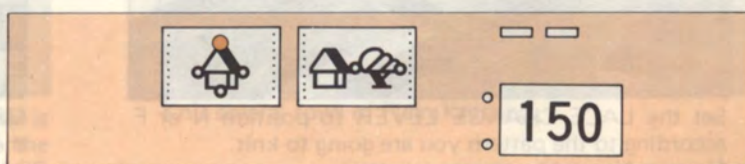
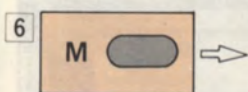


- (A) The first row of the pattern.
- (B) The last row of the pattern.
(When knitting lace pattern, enter two more digits than pattern length for a two-row interval.)
- (C) Left end of the pattern.
- (D) Right end of the pattern.

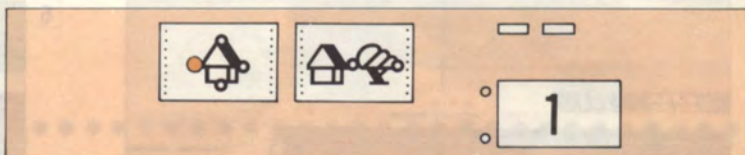
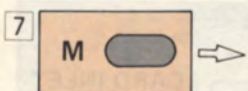
To finish Lace Knitting



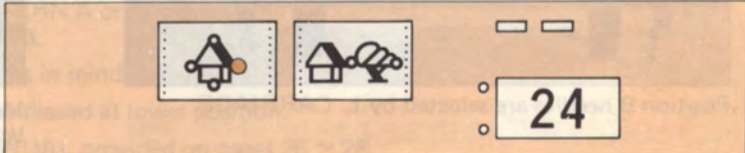
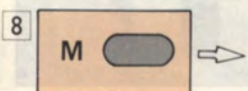
(A) Enter 91 which shows the first row of the pattern.



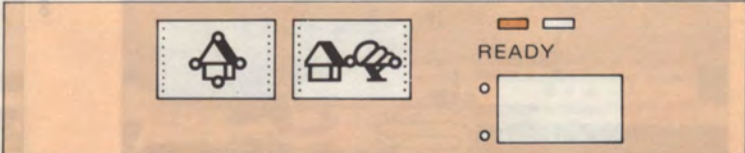
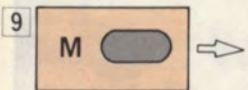
(B) Enter 150 which shows the last row of the pattern.



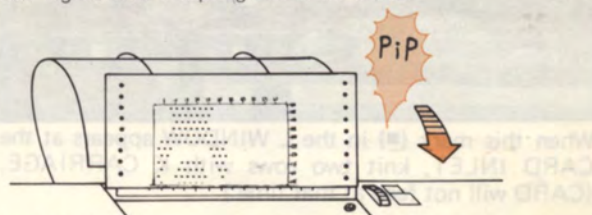
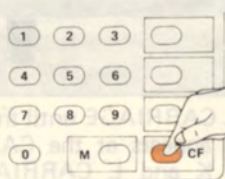
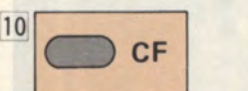
(C) Enter 1 which shows the left end of the pattern.



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

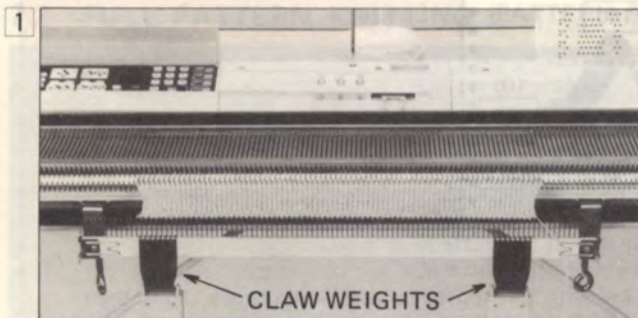


READY LAMP lights and the program is finished.

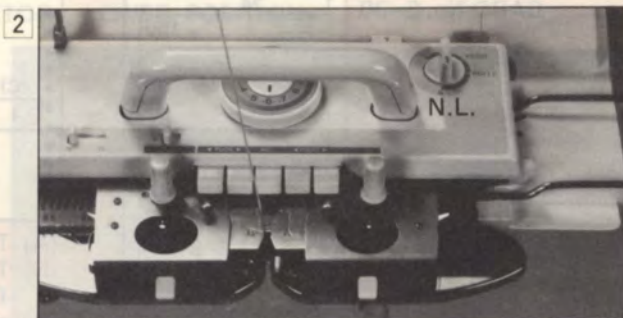


The CARD feeds forward to starting position of pattern.

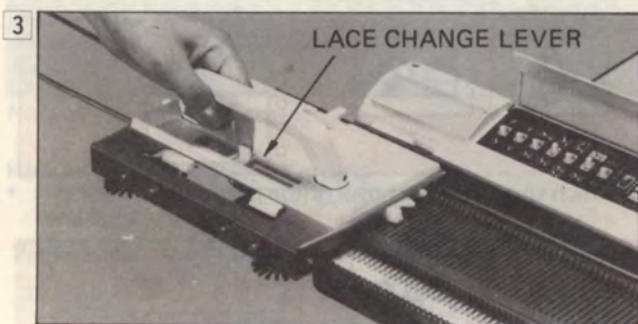
Pattern Knitting



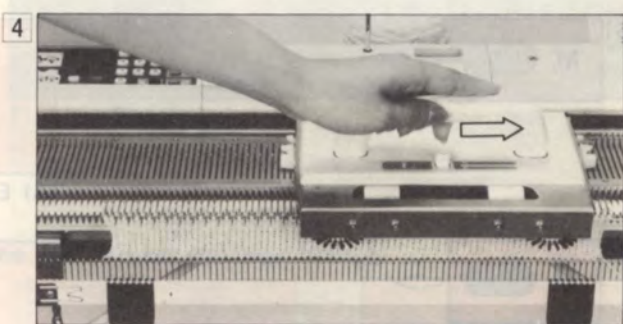
Hang the CLAW WEIGHTS onto the CAST-ON COMB.



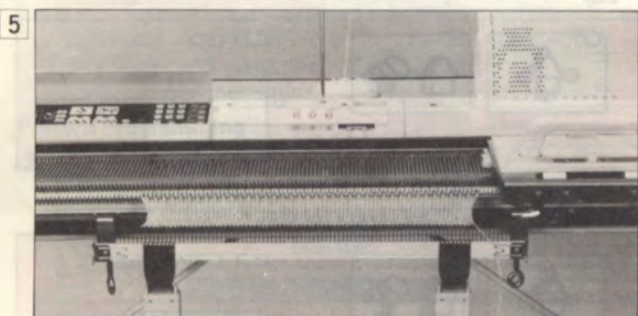
Make sure that the CHANGE KNOB of the K CARRIAGE is set to position N.L.



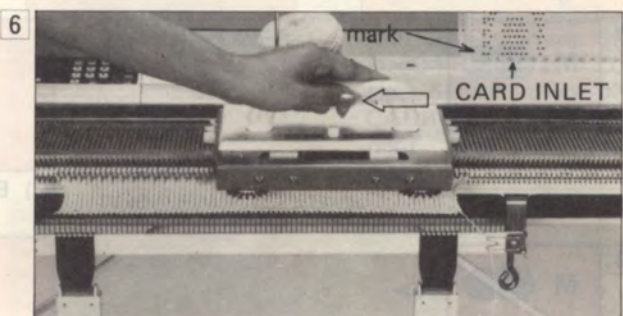
Set the LACE CHANGE LEVER to position N or F according to the pattern you are going to knit.
N Normal lace pattern knitting.
F Fine-lace pattern knitting.



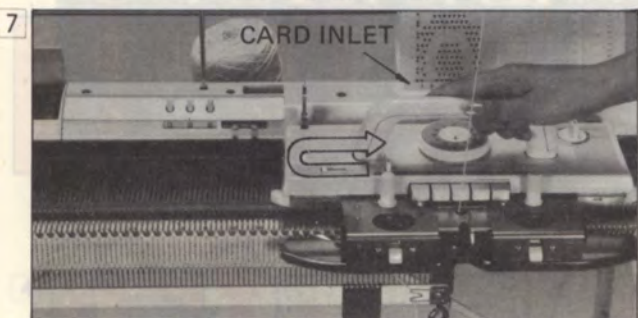
Make sure that the L CARRIAGE is placed outside of the " | ◀ " mark. Move the L CARRIAGE to right.



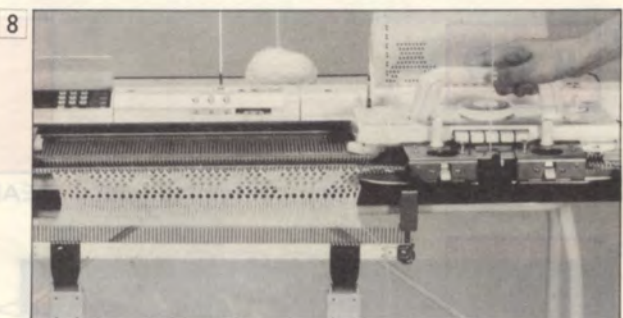
Position B needles are selected by L CARRIAGE.



Move L CARRIAGE to left. The mark (■) in the L WINDOW will appear at the CARD INLET.



When this mark (■) in the L WINDOW appears at the CARD INLET, knit two rows with K CARRIAGE. (CARD will not feed at that time.)

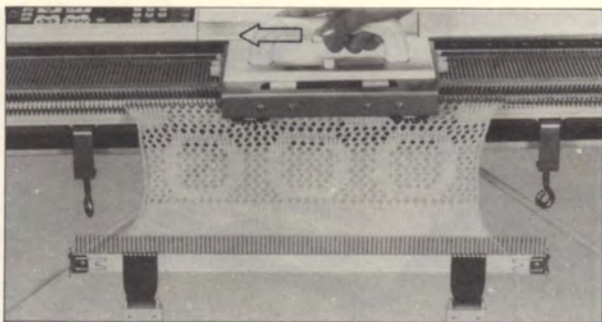


Operate L CARRIAGE until the next mark (■) in the L WINDOW appears at the CARD INLET. Repeat by operating K and L CARRIAGES according to the mark shown.

B. KNOWLEDGE OF LACE PATTERN KNITTING

B-1 IF THE L CARRIAGE SHOULD JAM

To continue Lace Knitting



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

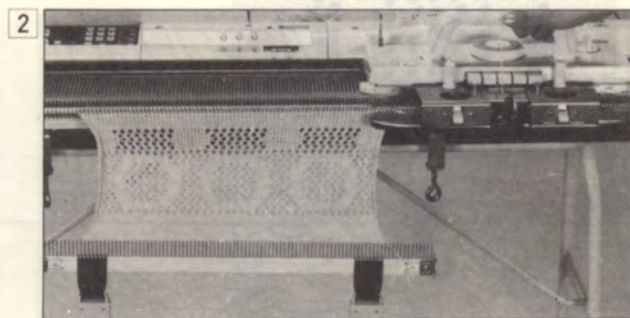
(If you are going to repeat pattern, continue to operate CARRIAGES accordingly.)

Push the RELEASE BUTTON towards you to return the L CARRIAGE.

To finish Lace Knitting



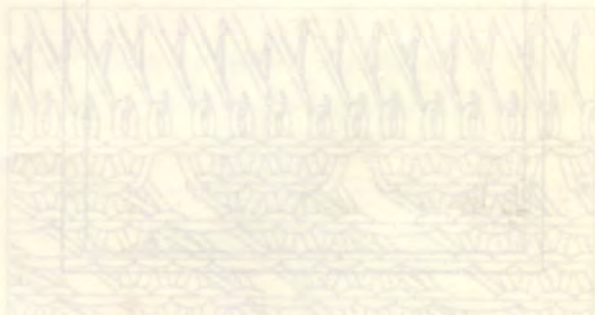
At the last row of the pattern, the PATTERN CARD is automatically returned to the first position of the pattern with buzzer sounding. The L CARRIAGE should be moved from right to left at that time.



Knit several rows of Plain Knitting.

<IMPORTANT>

- For Lace Knitting, Full Pattern Knitting and PATTERN A or A + B knitting can be used. For programming for Lace PATTERN A, see page 96.
- When using L CARRIAGE, bear the following points in mind.
 1. All PATTERN VARIATION Switches should be placed at lower position.
 2. When entering size, refer to the PATTERN MANUAL provided on pages 26 ~ 28.
 3. When knitting PATTERN A + B in lace, do not overlap Pattern A and B.

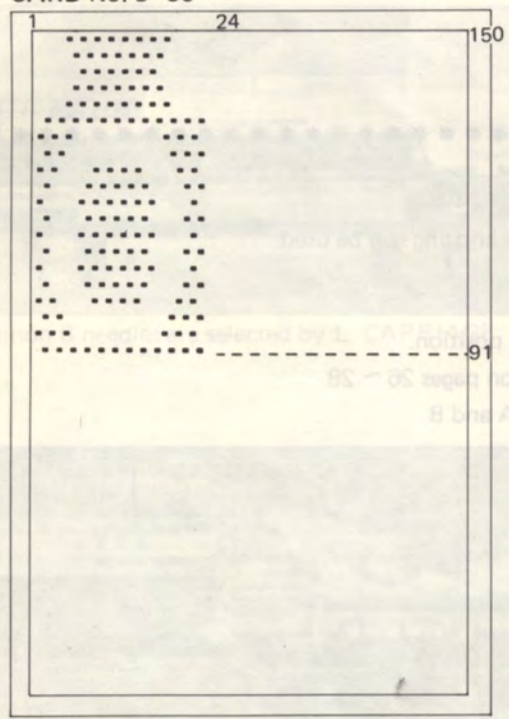


7-3 PATTERN A (PATTERN SELECTOR : UPPER POSITION)

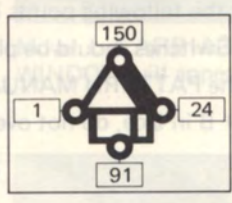
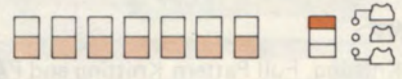


Setting the PATTERN SELECTOR Switch to the upper position, you can enjoy Single Motif Patterns in Lace or Fine Lace Patterns.

CARD No. 8-30



Program for the pattern and set CARRIAGES as follows:



- Refer to instructions for operation on pages 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

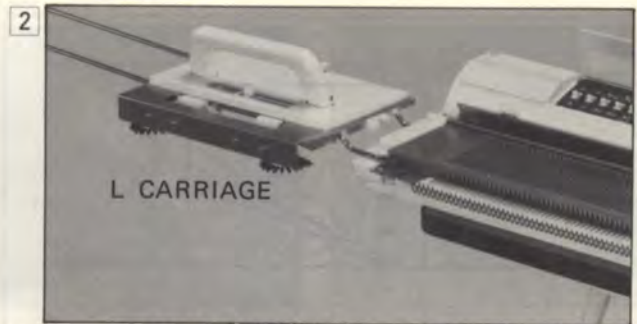
8-1 IF THE L CARRIAGE SHOULD JAM

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

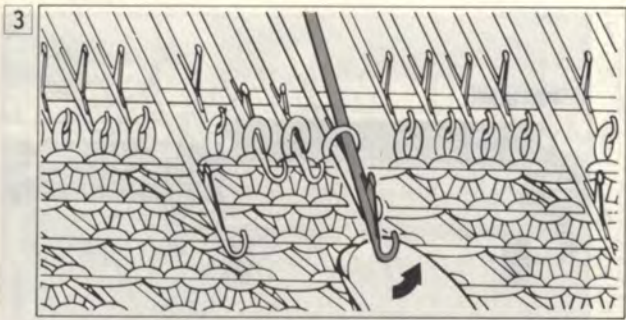


Push the **RELEASE BUTTON** toward you to remove the **L CARRIAGE**.

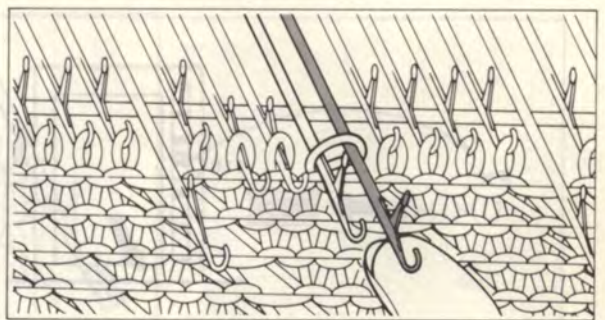
If the **L CARRIAGE** is caught on the needles, take care in removing it.



Push the **RELEASE BUTTON** and place the **L CARRIAGE** firmly on the left **EXTENSION RAIL**.



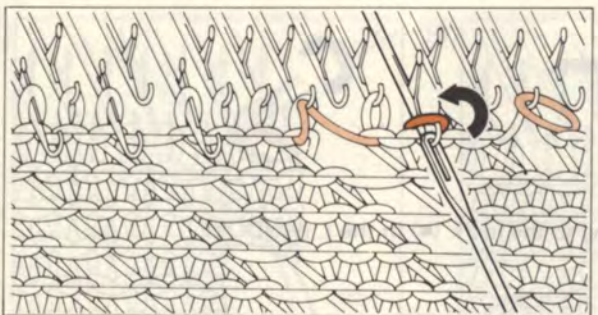
1). If needles get caught with each other, separate them by lifting tips as shown above.



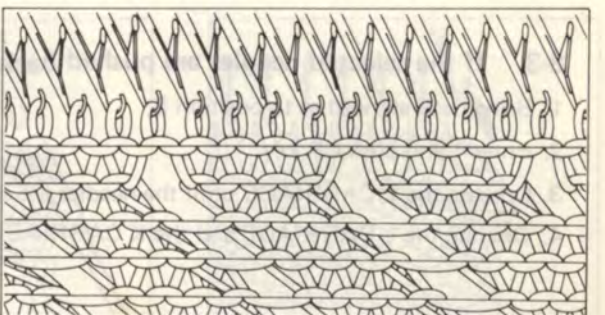
If the stitches are on the stem, transfer the stitches to the hooks of the needles by using the **TRANSFER TOOL**.



1). Return the transferred stitches to the adjacent needles by using the **TRANSFER TOOL** as shown above



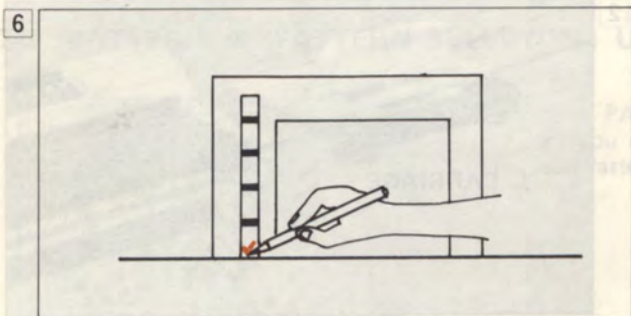
2). Return the L CARRIAGE to the original position.



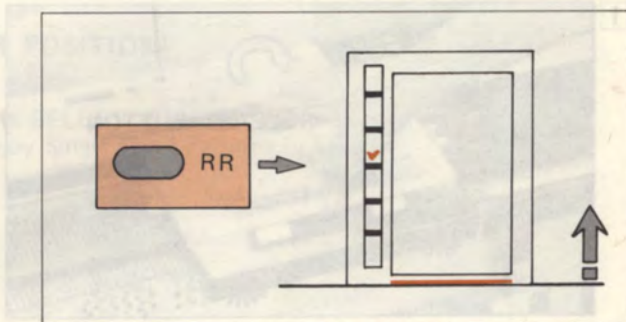
3). Return all the needles to position B.

8-1 IF THE L CARRIAGE SHOULD JAM

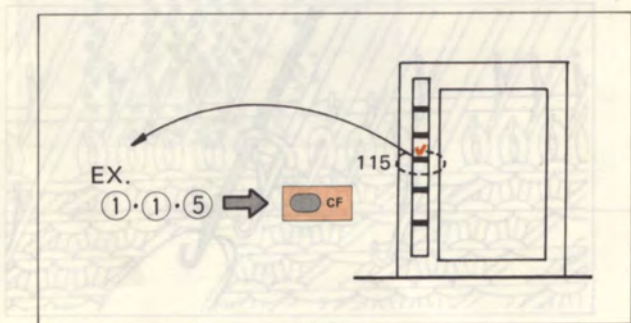
Do not move the L CARRIAGE by force. Remove it and then start knitting again.



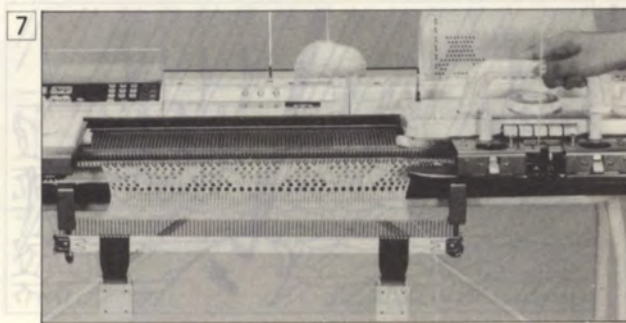
1). Mark "v", in the L WINDOW at the CARD IN-LET.



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 extra row.

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. If so, you can leave them as they are.)
3. Enter 2 and push CR key.
4. Knit two rows by using 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 mistake.

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

3 LESSON

9. MAKING A GARMENT

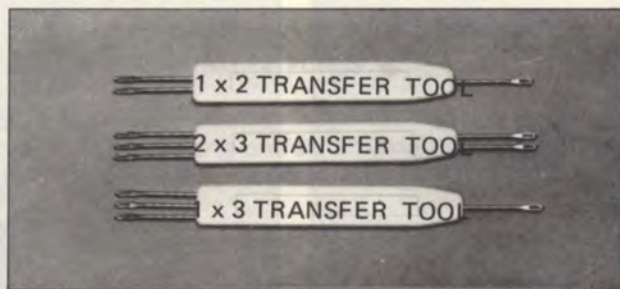
9-1. HOW TO USE THE TRANSFER TOOL AND THE LATCH TOOL

9-2. INCREASING AND DECREASING STITCHES

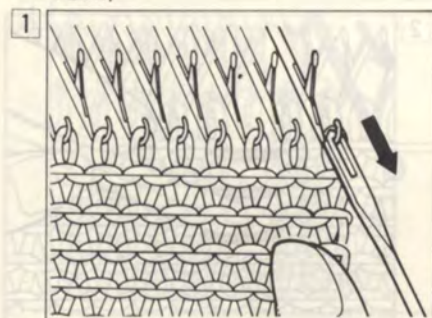
9-1-1. TRANSFER TOOLS

How to hold the transfer tool.

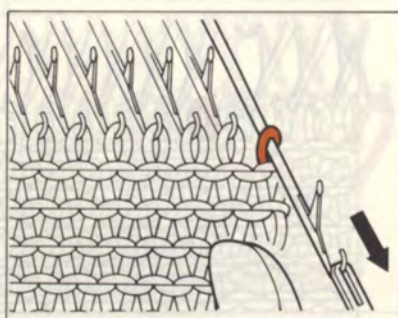
How to hold the latch tool.



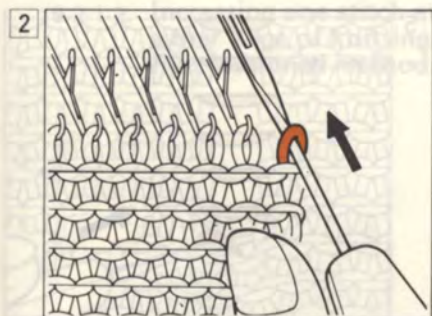
(Decreasing stitches with Transfer Tool.)



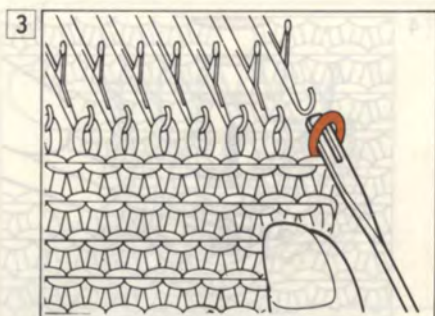
1 Hook the eye of the TRANSFER TOOL on the hook of the needle and pull it toward you.



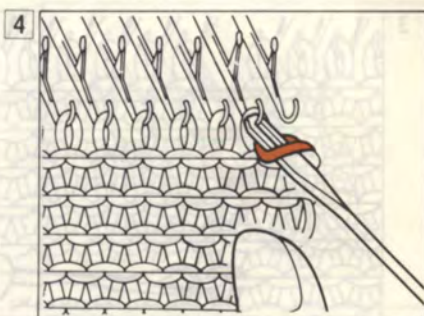
2 Hold the knitting in other hand so that it will not be brought forward. The stitch in the hook of the needle will slide behind the latch and onto the stem of the needle.



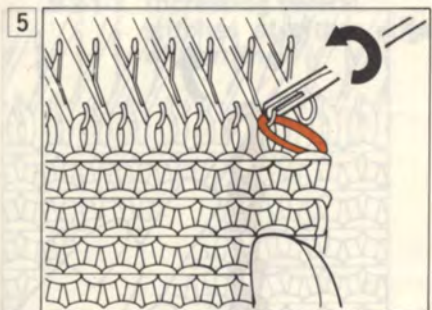
3 Hold the transfer tool parallel with the needle and push it all the way back until the stitch is transferred onto the TRANSFER TOOL.



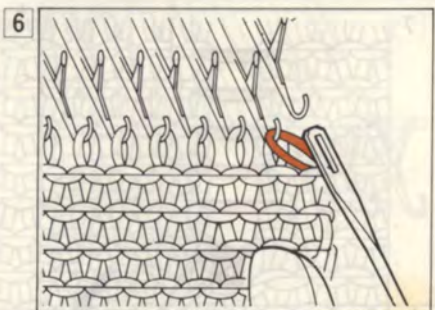
4 Remove the TRANSFER TOOL from the hook of the needle taking care not to drop the stitch from the TRANSFER TOOL.



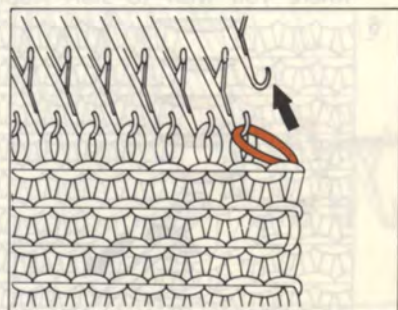
5 Hook the transfer tool onto the hook of the adjacent needle.



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



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

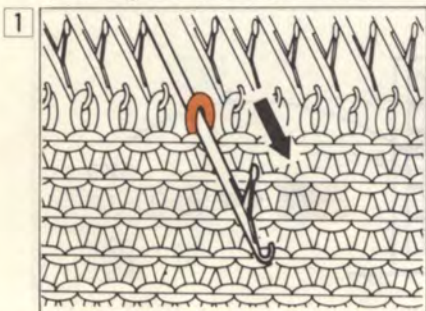


9-1-2. LATCH TOOL.



How to hold the latch tool.

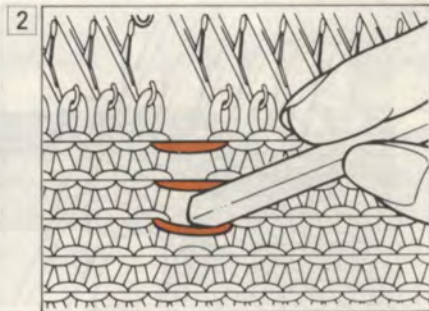
(Ribbing with the Latch Tool.)



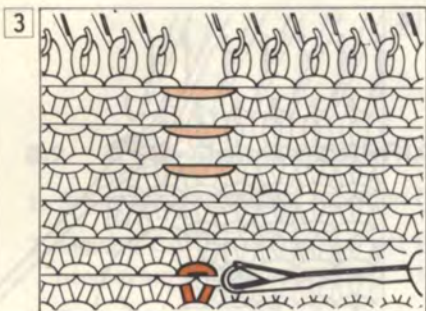
1 Bring one needle forward to position E by hand and return it to position A.



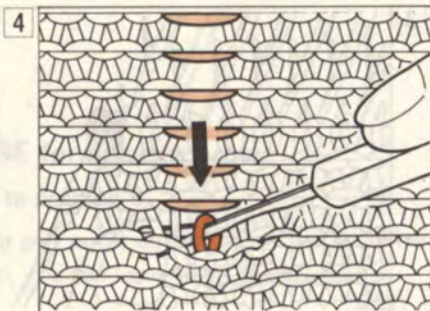
2 One stitch has been dropped from the hook of the needle.



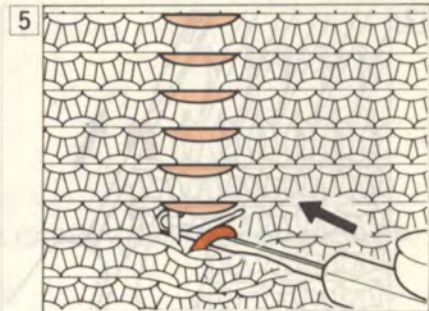
3 Using the tip of your LATCH TOOL, unravel your knitting.



4 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.



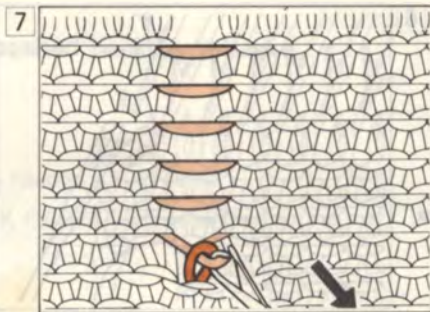
5 Depress the LATCH TOOL to drop the last few stitches. The stitch is on the stem of the latch tool.



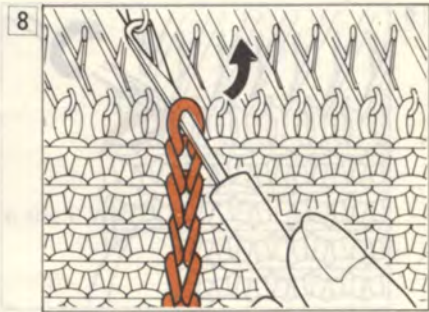
6 Hold the knitting firmly. Push the LATCH TOOL away from you until the stitch on the latch tool is behind the latch.



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



8 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.

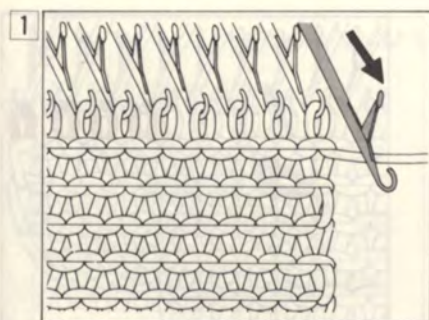


9 Repeat this until you reach the top, and hook the last stitch on the hook of the needle.

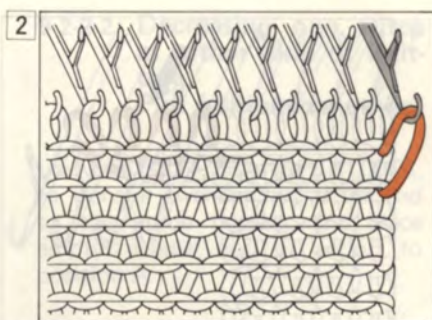
9-2. INCREASING AND DECREASING STITCHES — PICKING UP DROPPED STITCHES

9-2.1. INCREASING STITCHES

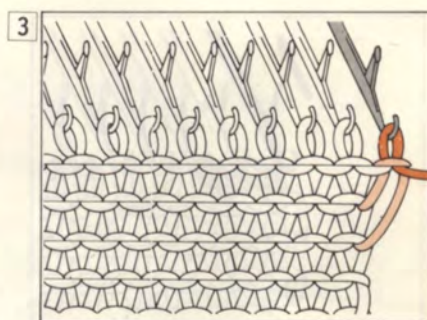
9-2-1-1. Increasing one stitch at either edge of knitting. Simple method.



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

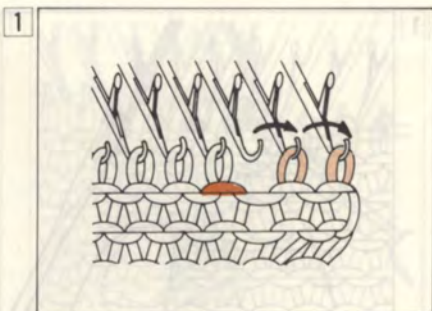


Operate the K carriage and knit one row. The free needle will pick up the yarn.

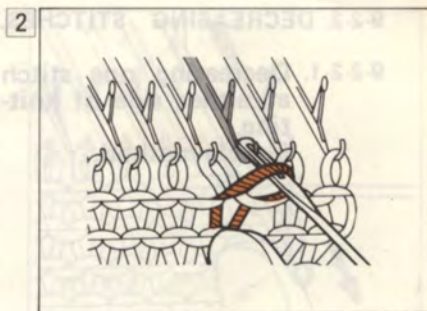


Knit another row.
You have increased one stitch.

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

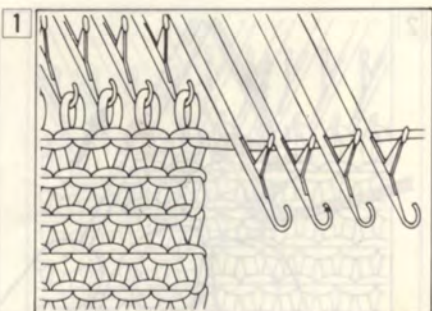


Using the 1 x 2 TRANSFER TOOL move the stitches over one needle so that the third needle from the end is free.

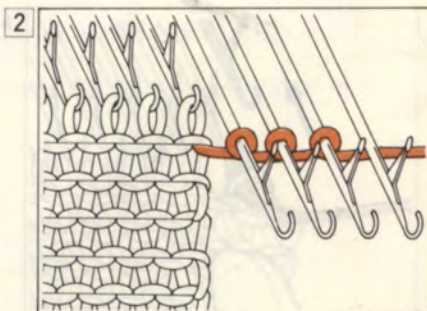


To fill in the free needle pick up the purl side of either adjacent stitch on the lower row.

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

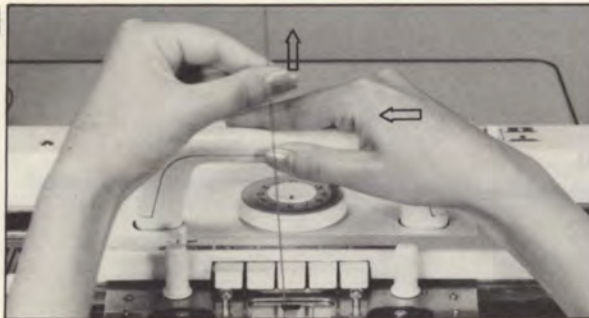


On the K carriage side, push the needles to be increased to position E from A.

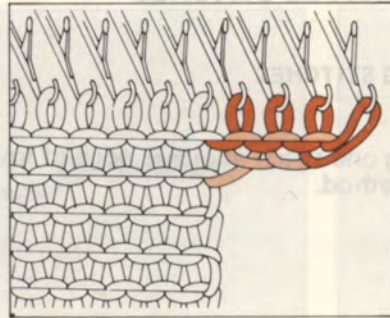


Wind the yarn loosely around the stems of each needle pushed to position E.

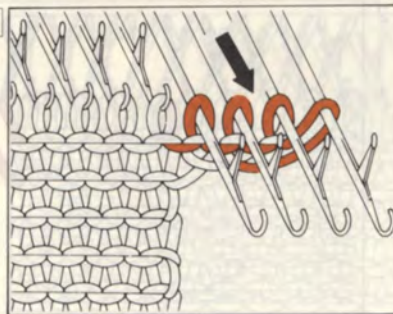
3



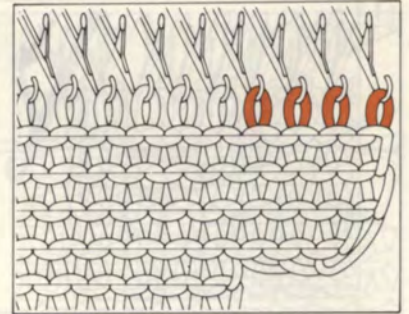
Pull up any slack between the K CARRIAGE and the end stitches and knit one row.



4



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

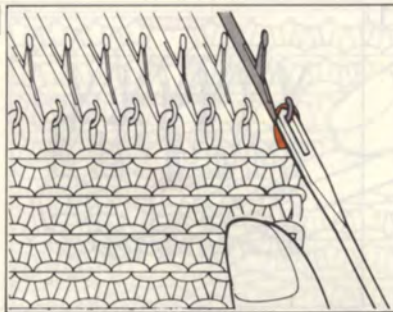


Repeat this for two or three rows and then continue to knit.

9-2.2. DECREASING STITCHES.

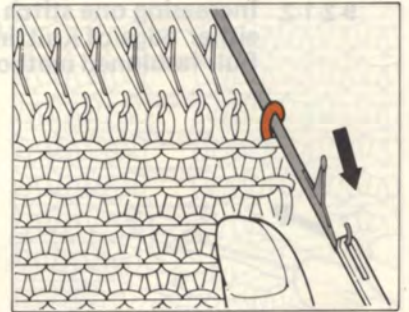
9-2-2-1. Decreasing one stitch at either side of knitting. Simple method.

1

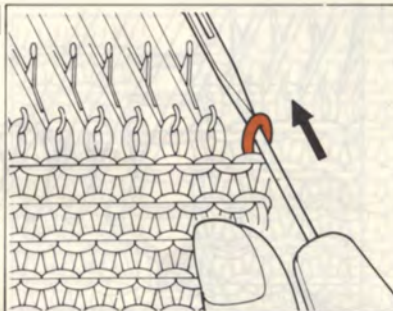


Hook the EYE of the TRANSFER TOOL on the hook of the needle, then pull it toward you.

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

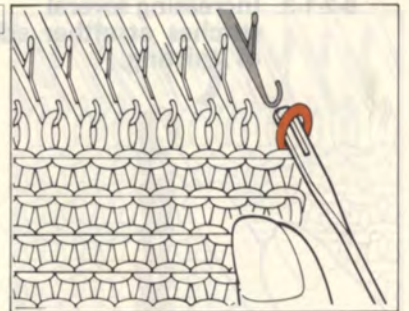


2



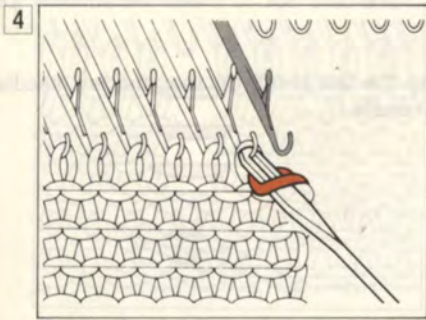
Hold the TRANSFER TOOL parallel with the needles and push it all the way back. Then the stitch will be transferred to the TRANSFER TOOL.

3

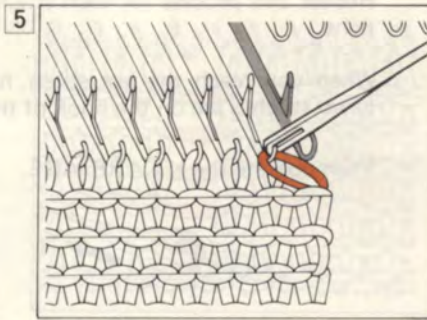


Remove the TRANSFER TOOL from the hook of the needle taking care not to drop the stitch from the TRANSFER TOOL.

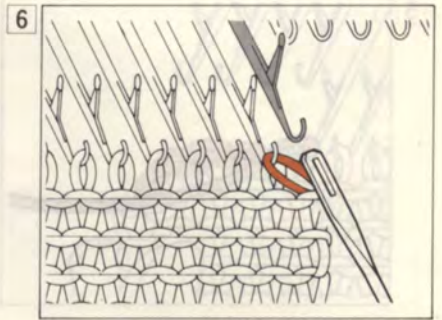
9-2-2. Repairing a stitch that has dropped several rows.



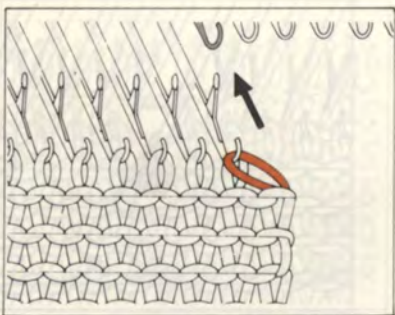
4 Hook the transfer tool on the hook of the adjacent needle.



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



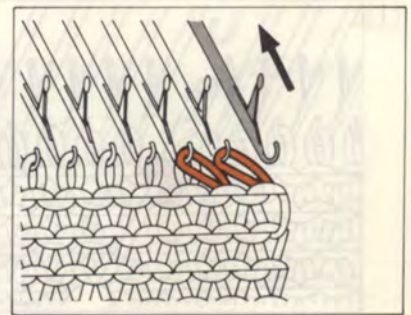
6 Remove the TRANSFER TOOL from the hook of the needle.



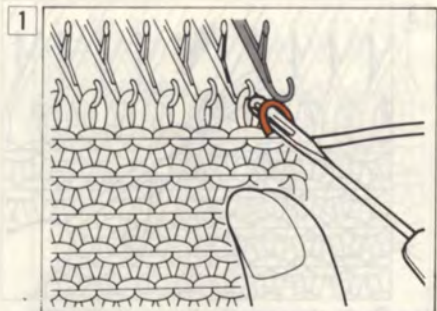
Return the empty needle to position A. One stitch has been decreased.

9-2-2.2. Decreasing one stitch at either side of knitting. Full fashioned method.

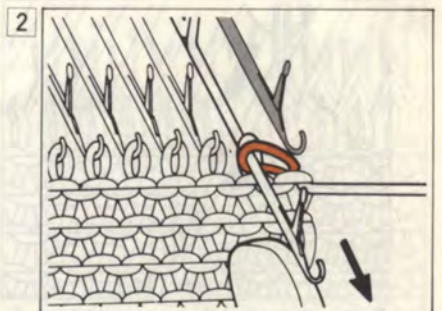
Use the 1 x 2 TRANSFER TOOL to transfer two stitches at the end to the inside needles, and place empty needle out of action to position A.



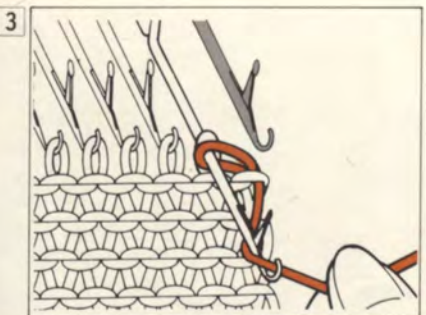
9-2-2.3. Decreasing several stitches at either side of knitting.



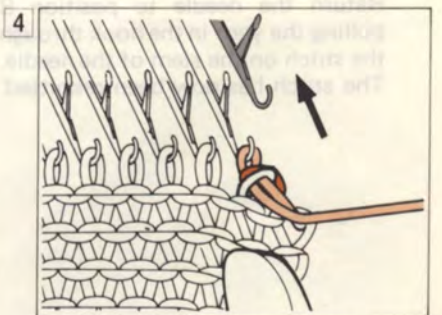
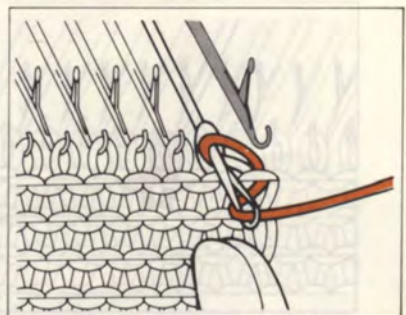
1 On the same side as the K CARRIAGE, transfer the end stitch to the 2nd needle.



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



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



4 Return the empty needle to position A.



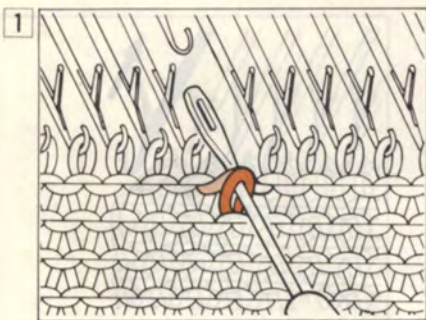
Repeat this process for each stitch. Take care not to make the stitches too tight.

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

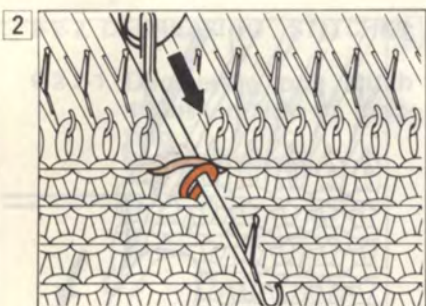
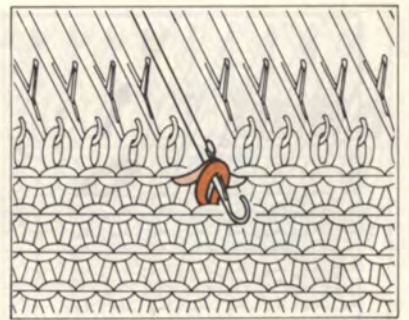
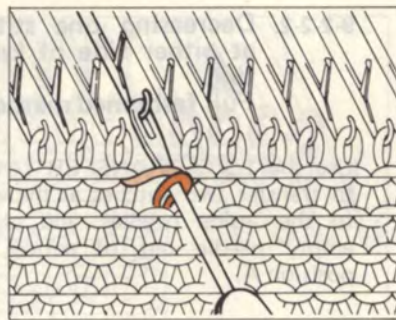
Then operate the K CARRIAGE.

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 new yarn and put both on the empty needle.



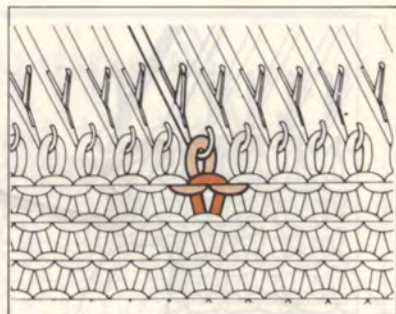
Push the needle to position E. Stitch and new yarn are now behind the latch.



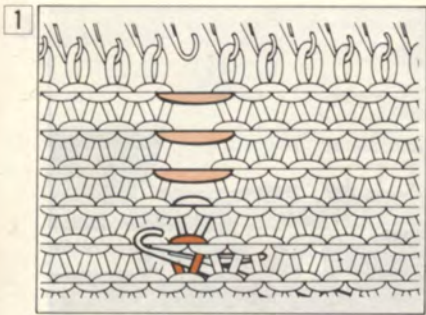
Push the needle back until stitch is just behind the latch. Using a TRANSFER TOOL, catch the new yarn into the hook of the needle.



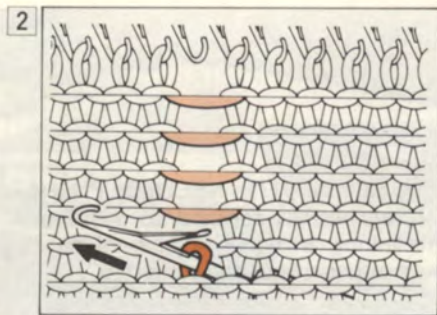
Return the needle to position B pulling the yarn in the hook through the stitch on the stem of the needle. The stitch has now been reknitted.



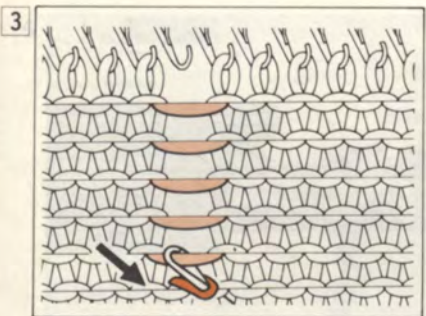
9-2-3-2. Repairing a stitch that has dropped several rows.



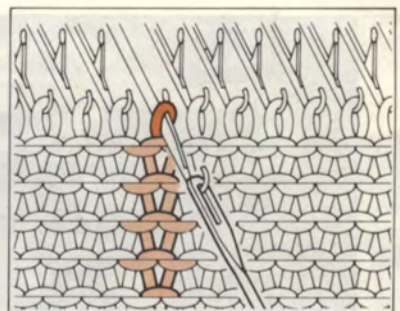
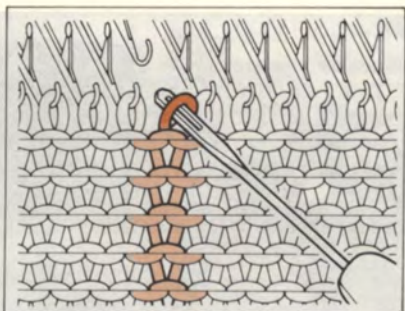
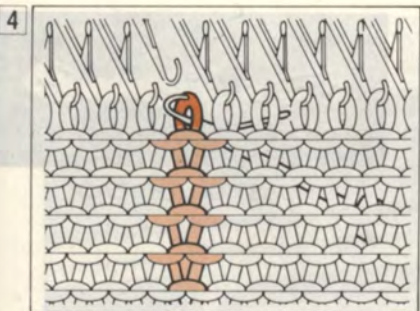
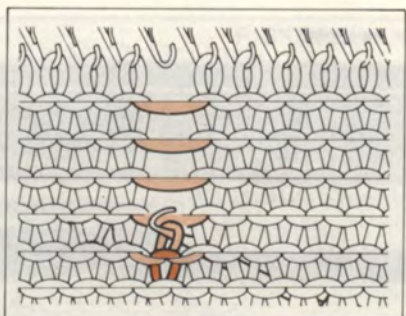
1 Insert the latch tool from behind your knitting through the last stitch that has not dropped.



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



3 Catch the next cross thread into the hook and pull back the LATCH TOOL through the stem.

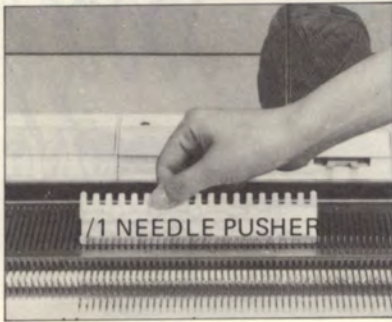


4 Repeat until you reach the top. Pull the last stitch rather tight to make a bigger loop. Insert the transfer tool into the loop from the front. Carefully remove this stitch from the latch tool and place it on the hook of the needle with your transfer tool.

9-3. HOW TO MAKE A HEM

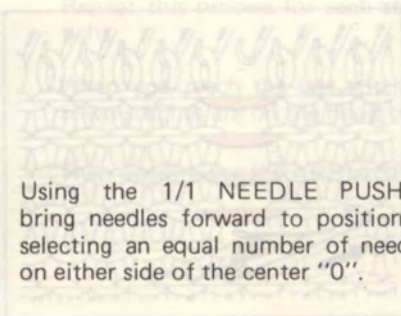
9-3-1. PLAIN HEM

1

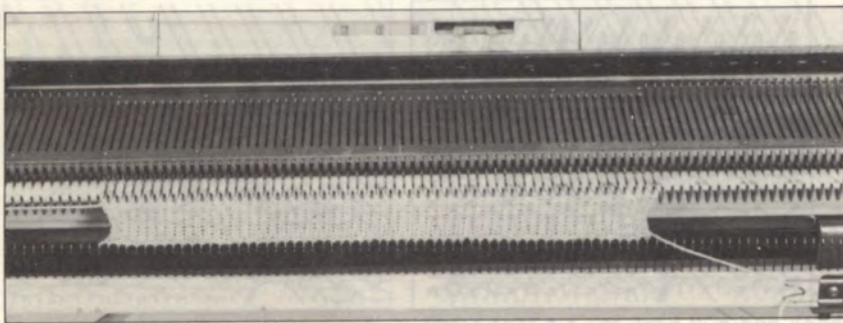


1/1 NEEDLE PUSHER

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



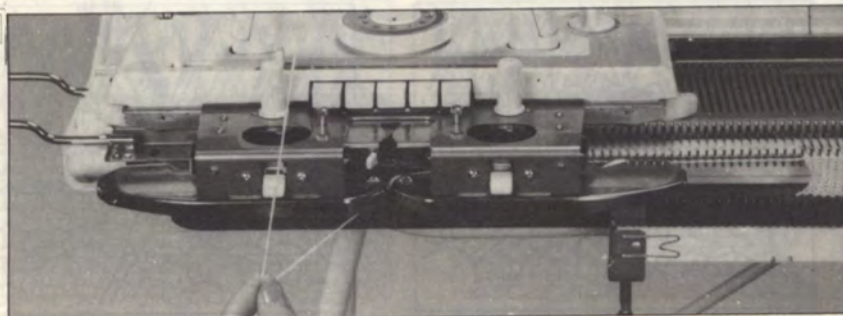
2



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



3



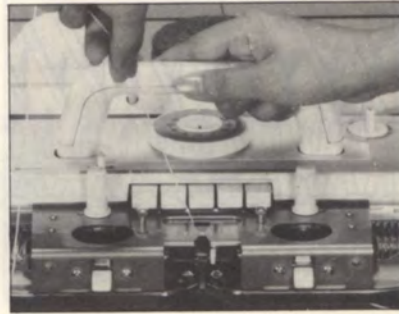
Pull the waste yarn out of the YARN FEEDER "A". Remove the CAST-ON THREAD from the accessory box.



CAST-ON THREAD

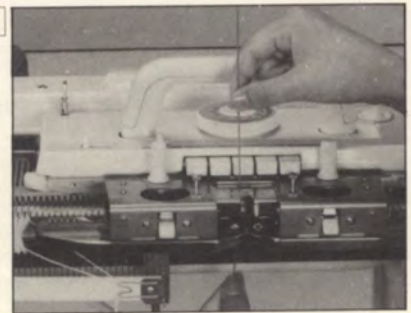


Thread the CAST-ON THREAD into YARN FEEDER "A".

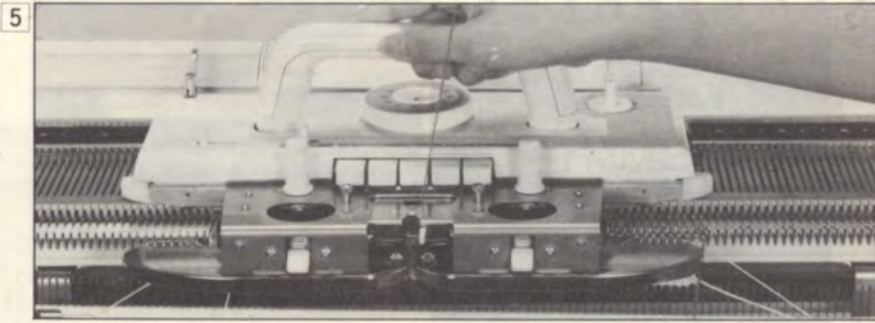


Move the K CARRIAGE to the right holding the CAST-ON THREAD with your left hand.

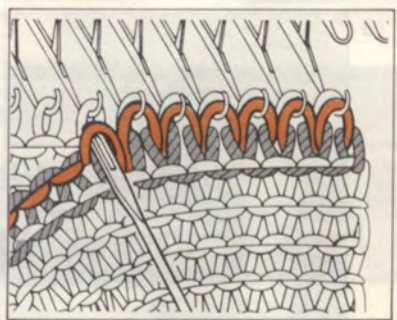
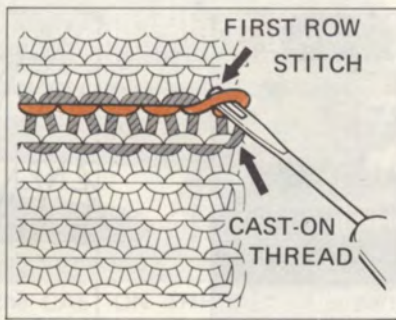
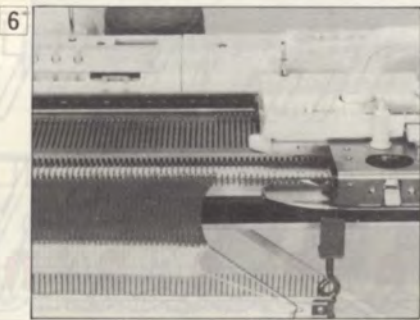
4



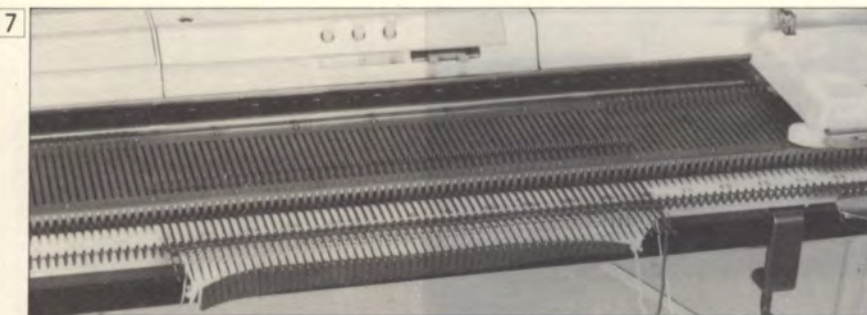
Pull the CAST-ON THREAD out of the YARN FEEDER "A" and thread the regular knitting yarn into YARN FEEDER "A". Set the ROW COUNTER at "0".



Knit using plain stitch. 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 knitting. Knit the number of rows required for double the length of the hem. Remove the CAST-ON COMB.



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



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



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



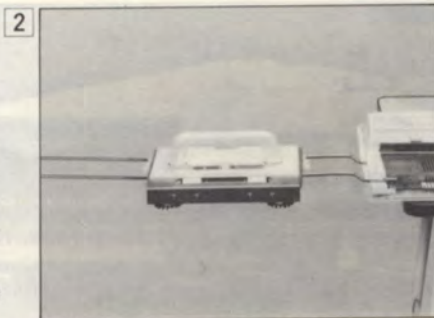
After knitting several rows, pull out the CAST-ON THREAD. The part knitted with waste yarn is removed and the PLAIN HEM is finished.



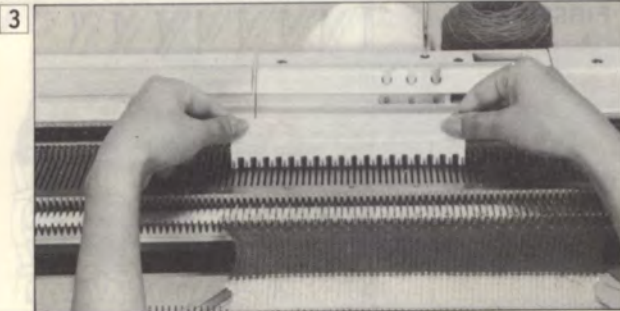
9-3. HOW TO MAKE A HEM

9-3-2. PICOT HEM

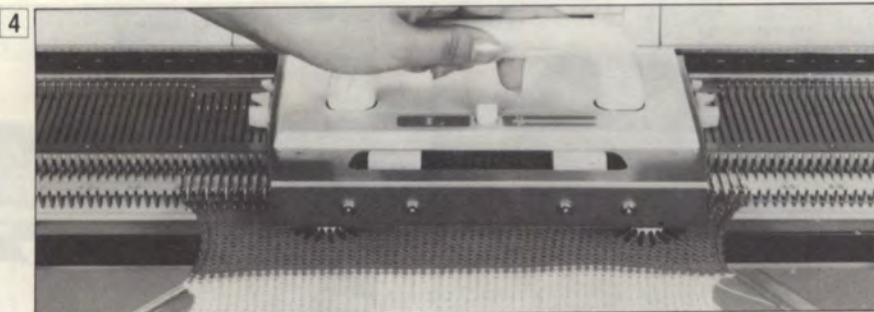
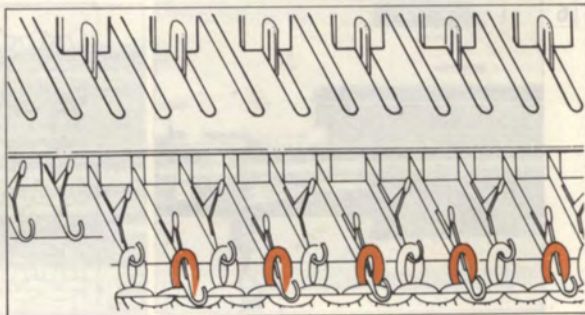
9-3-2. PICOT HEM
 After knitting with waste yarn and CAST-ON THREAD, knit up to half the depth of the hem. (The K CARRIAGE is on the right side of the machine.)



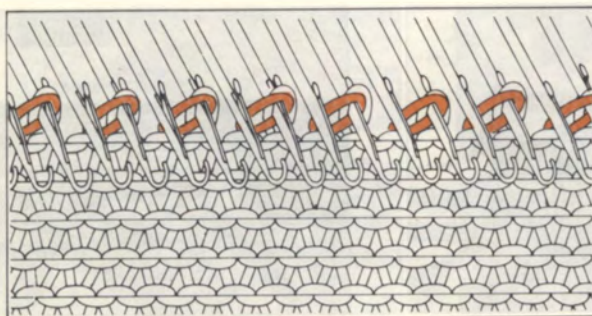
2 Place the L CARRIAGE on the left EXTENSION RAIL.



3 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.



4 Move the L CARRIAGE to right.

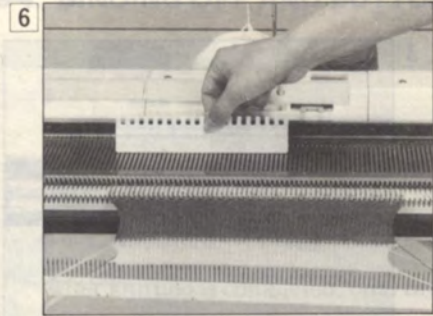


5 Every second stitch has now been transferred to the adjacent needle.

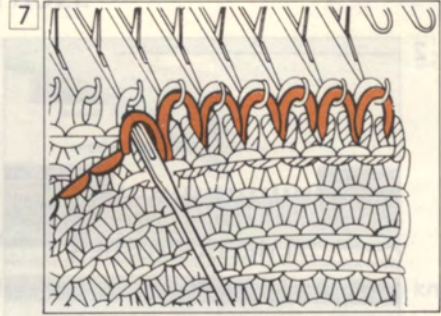


5 Remove the L CARRIAGE from the machine by pushing the RELEASE BUTTON.

6 BINDING OFF AND BUTTON HOLE

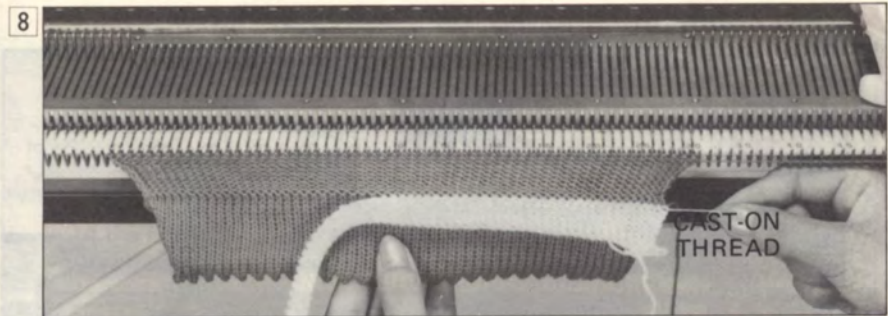


6 Return the needles to position B.



7 Return every other needle to position A by using the TAPESTRY NEEDLE PUSHER.

Knit the other half of the hem and pick up the stitches in the same way as for the plain hem. After picking up all the stitches, 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 and the PICOT HEM is finished.



9 Push the TAPESTRY NEEDLE through the left side stitch.



9 All cast-on threads will be cut. Knit with waste yarn in the same way as for plain hem. Then knit one row with CAST-ON THREAD.



10 After knitting several rows, pull out the CAST-ON THREAD. The part knitted with waste yarn is removed and the PICOT HEM is finished.



11 After knitting several rows, pull out the CAST-ON THREAD. The part knitted with waste yarn is removed and the PICOT HEM is finished.

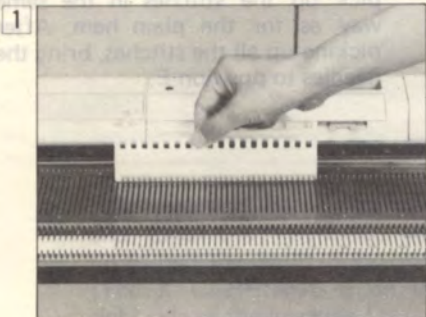


12 After knitting several rows, pull out the CAST-ON THREAD. The part knitted with waste yarn is removed and the PICOT HEM is finished.

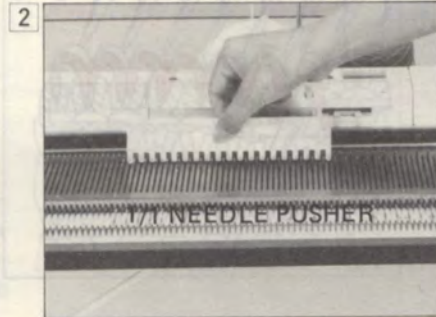


13 After knitting several rows, pull out the CAST-ON THREAD. The part knitted with waste yarn is removed and the PICOT HEM is finished.

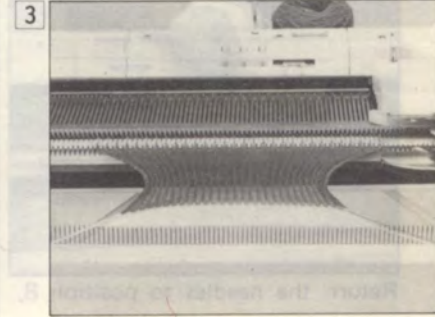
9-3-3. 1 x 1 ELASTIC HEM



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

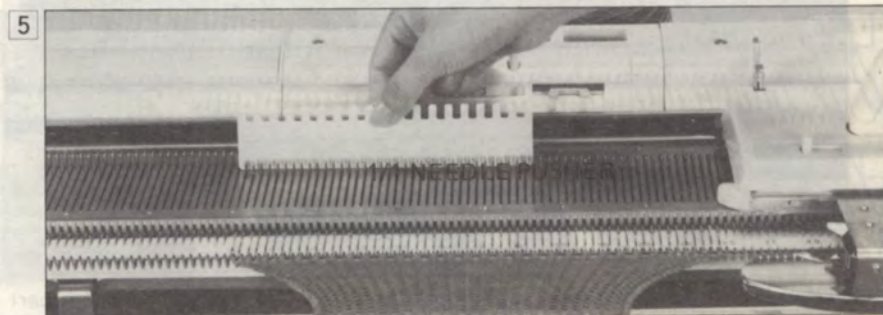


2 Return every other needle to position A by using 1/1 NEEDLE PUSHER.

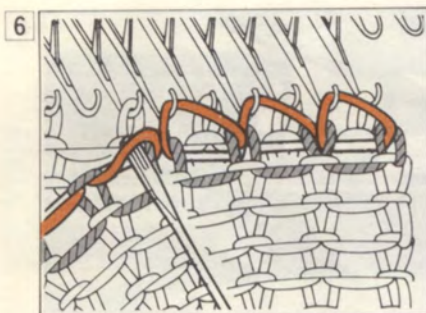


3 Knit with waste yarn in the same way as for plain hem. Then knit one row with CAST-ON THREAD and change the yarn.

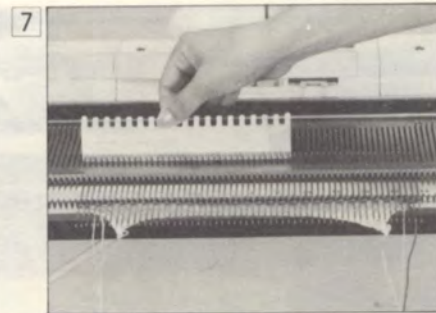
4 Knit the number of rows required for double the length of the hem in plain knitting.



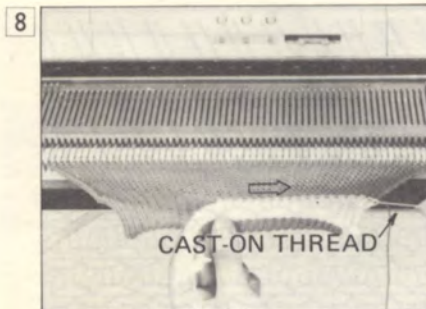
5 Bring the needles forward from position A to position B.



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



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



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



9-4. BINDING OFF AND BUTTON HOLE

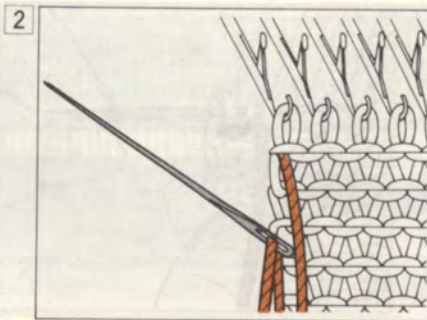
9-4-1-2 When the yarn is on the right side

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

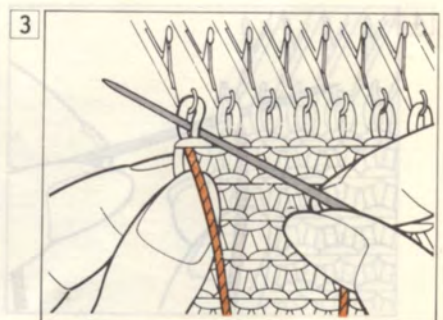
After knitting is completed, bind off last row taking care not to unravel the knitting.

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

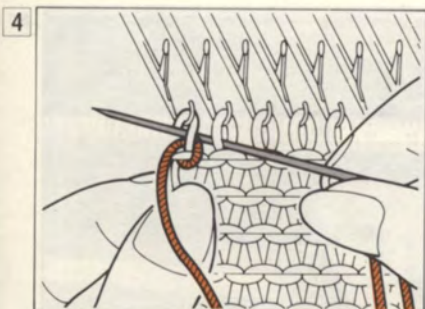
1 Pull the yarn out of the YARN FEEDER. Cut the yarn leaving a length three times the width of the knitting.



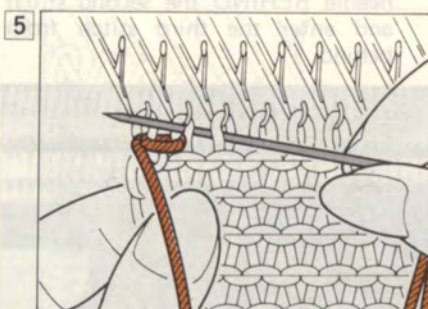
2 Thread the yarn into the TAPESTRY NEEDLE.



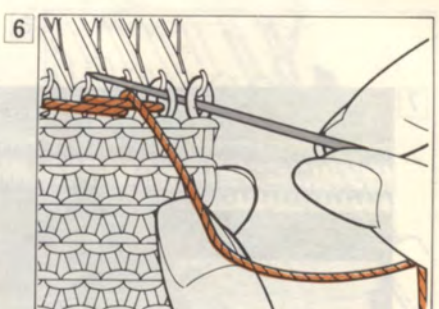
3 Pass the TAPESTRY NEEDLE through the left side stitch.



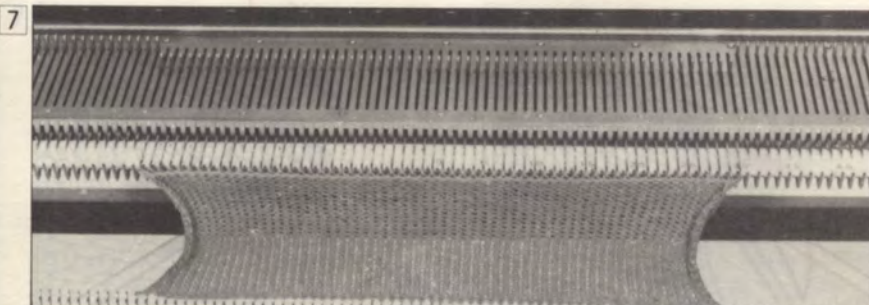
4 Insert the tapestry needle into the second stitch from left and pass it back through the left side stitch.



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

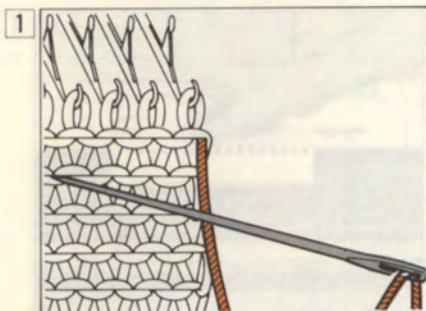


6 Repeat this until you reach the right side.



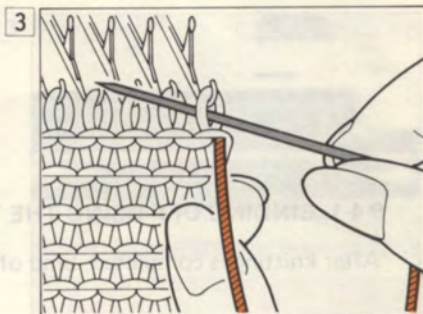
7 Now the binding off is complete and can be removed from the machine.

9-4-1-2 When the yarn is on the right side

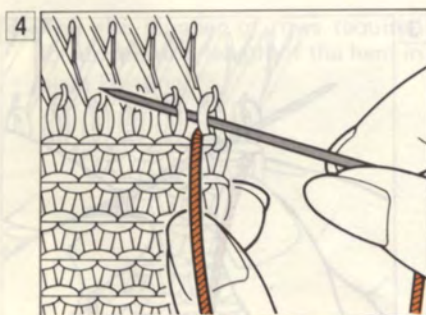


1 Pull the yarn out of the YARN-FEEDER. Cut the yarn leaving a length three times the width of the knitting.

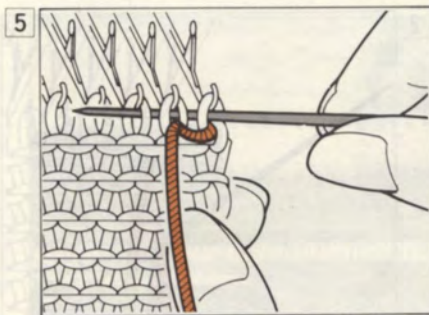
2 Thread the yarn into the TAPESTRY NEEDLE.



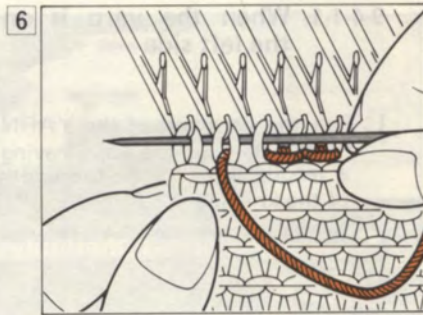
3 Pass the TAPESTRY NEEDLE through the right side stitch.



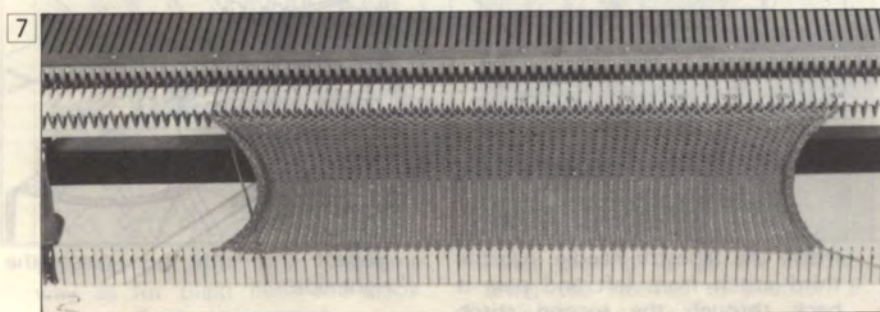
4 Insert the TAPESTRY NEEDLE into the right stitch and pass it through the second stitch from right.



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



6 Repeat this until you reach the left side.



7 The binding off is finished.



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

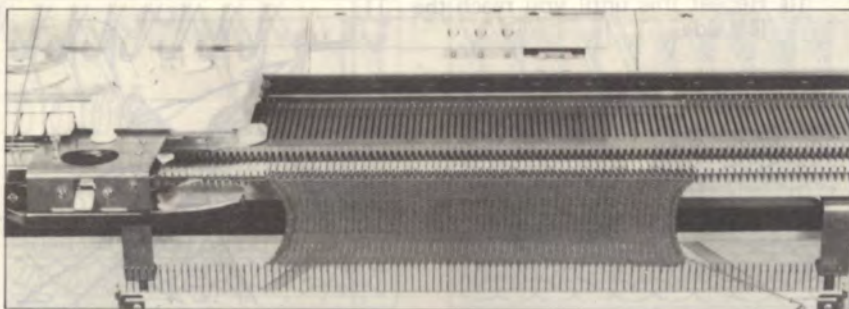


9 Insert the tapestry needle into the second stitch from left and pass it back through the left side stitch.

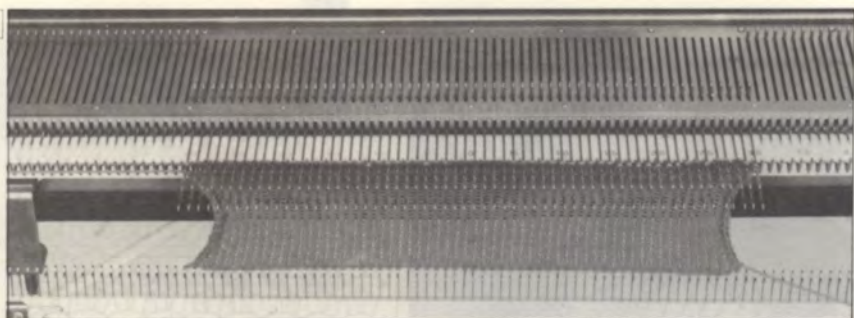


10 Insert the tapestry needle into the second stitch from left and pass it back through the left side stitch.

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



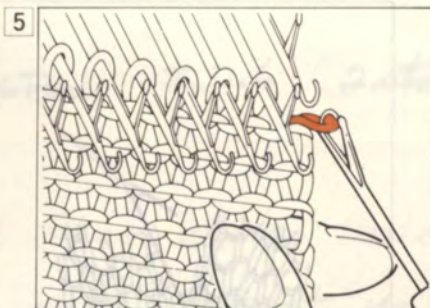
- 1 Loosen the TENSION DIAL and knit the last row. (For example, when knitting with tension dial number at 4-6, set the number to 9-10.)
- 2 Place the K carriage on the left side of the machine.



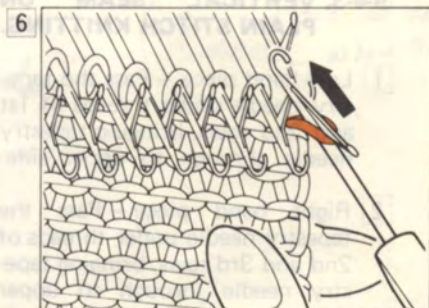
Bring the needles forward to position E.



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



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



Make the stitch fall behind the latch of LATCH TOOL.



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



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.

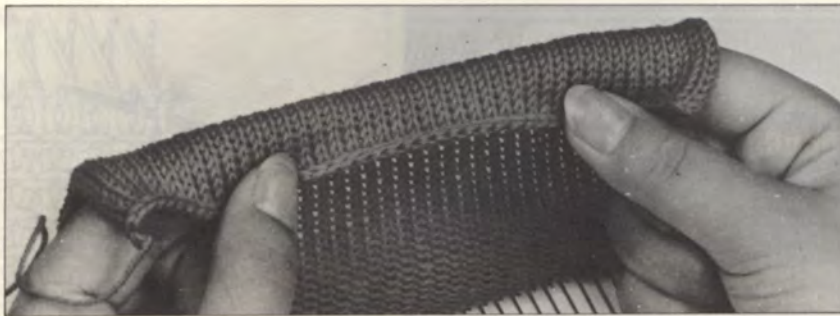


Make the new stitch fall behind the latch of LATCH TOOL, and hook on the third stitch.

10 Repeat this until you reach the left side.



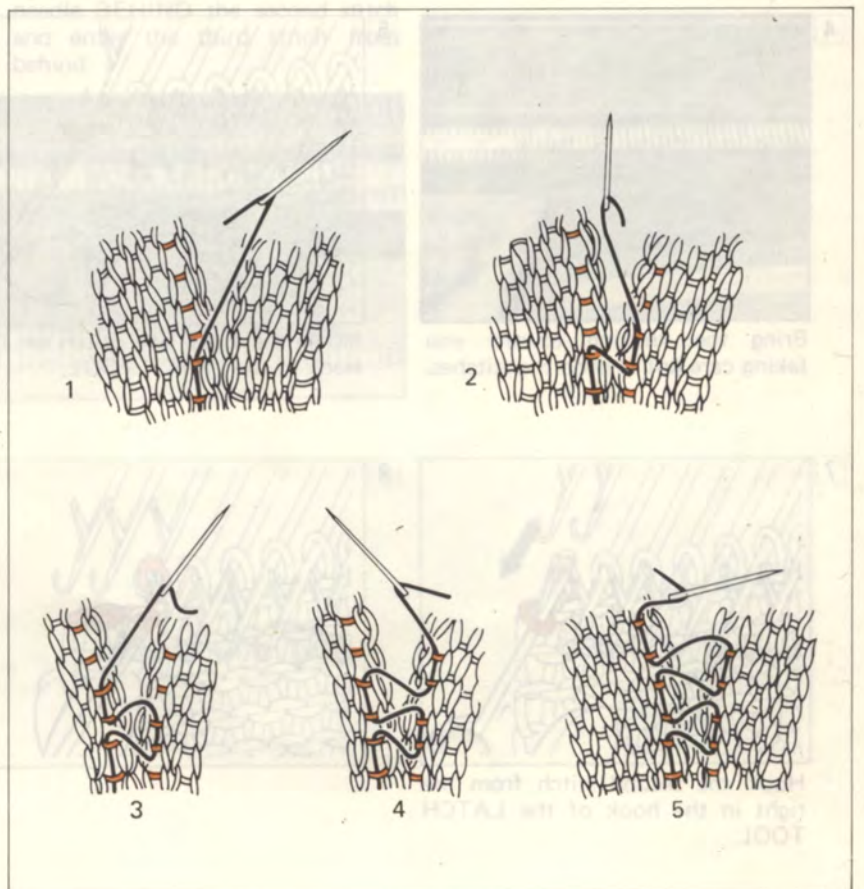
When the last stitch has been reached, hook the end of the yarn on the hook of the LATCH TOOL and pull through the stitch on the stem.



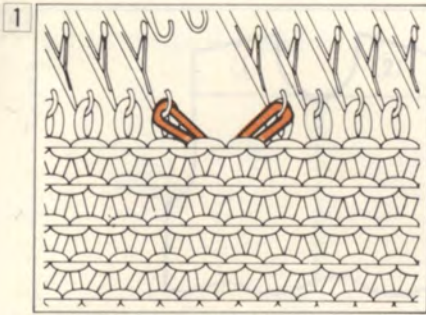
Binding off is completed.

9-4-3. VERTICAL SEAM ON PLAIN STITCH KNITTING.

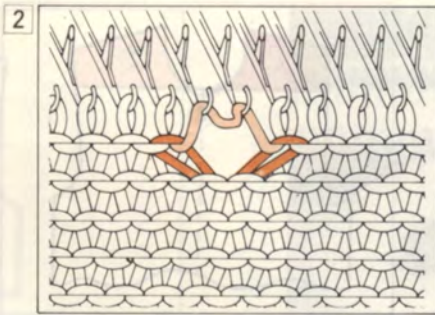
- 1 Left hand piece – Pass the tapestry needle under threads of 1st and 2nd rows, bringing tapestry needle through to upper side.
- 2 Right hand piece – Pass the tapestry needle under threads of 2nd and 3rd rows, bringing tapestry needle through to upper side.
- 3 Left hand side – Pass the tapestry needle 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 making seam until finished.



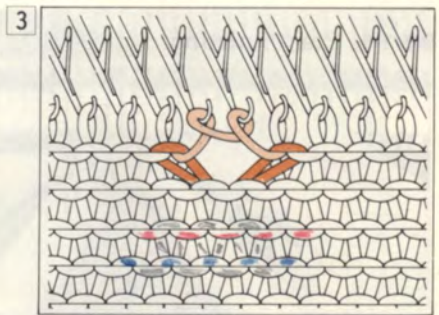
9-4.4. HOW TO MAKE A BUTTON HOLE.



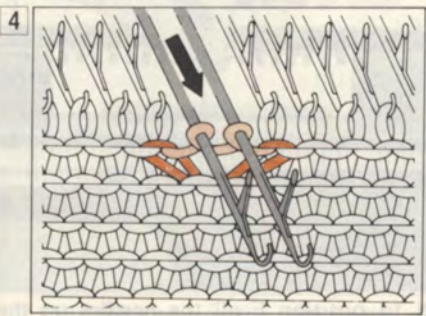
Using the 1 x 2 TRANSFER TOOL move the stitches, where you are going to make a button hole, to adjacent needles as shown above.



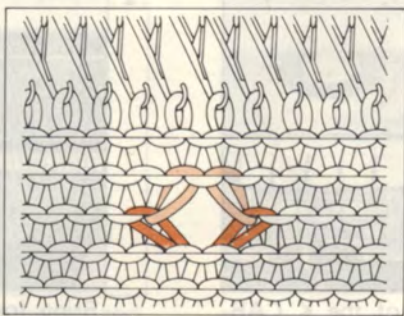
Bring back the empty needles to position B, and knit one row. The yarn will hook on the two needles.



Loop the yarn around the two needles by hand as shown above.



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



Button hole is completed.

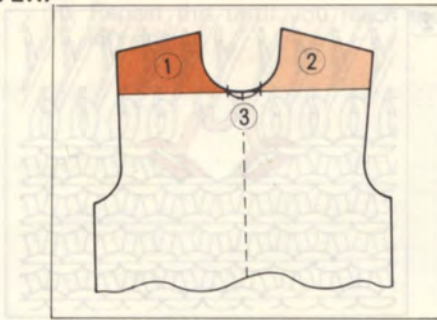
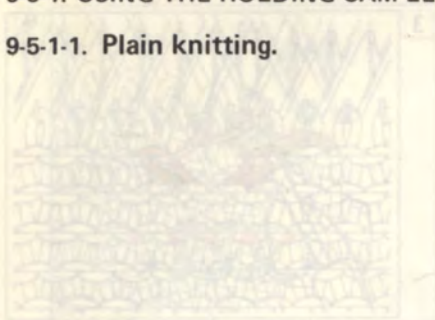
Hang 5 st on K. Bed T.D. 6 (2 strands)
 Knit 6 Rows
 Needles in Hold for Button Hole
 Knit by hand with contrast yarn on these needles
 Knit 6 Rows T.D. 6
 Knit 1 Row T.D. 10 (Turning Row)
 Knit 6 Rows T.D. 6
 * Bind off with Latch Hook 3 st from contrast row with 3 st on row 18
 * Then hang 3 st from contrast row on empty needles
 Pull out contrast yarn.
 Knit 6 Rows (last row T.D. 10)

(Borrow one at each side when Binding off)

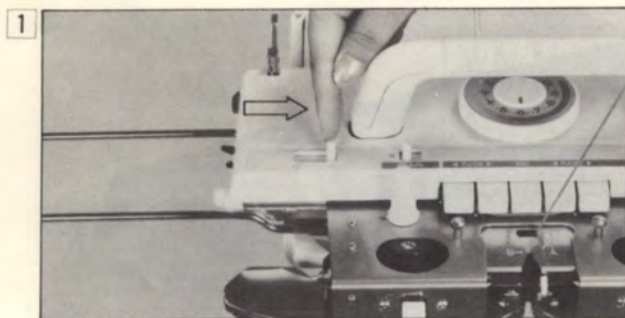
9-5. HOW TO SHAPE A ROUND NECK LINE

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

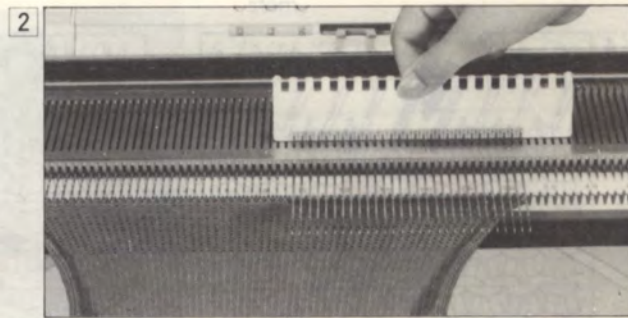
9-5-1-1. Plain knitting.



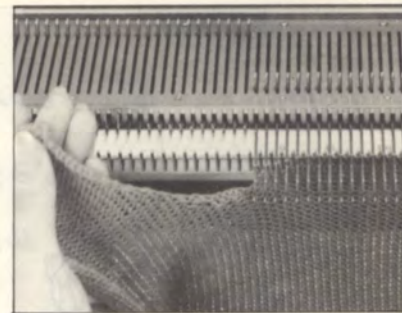
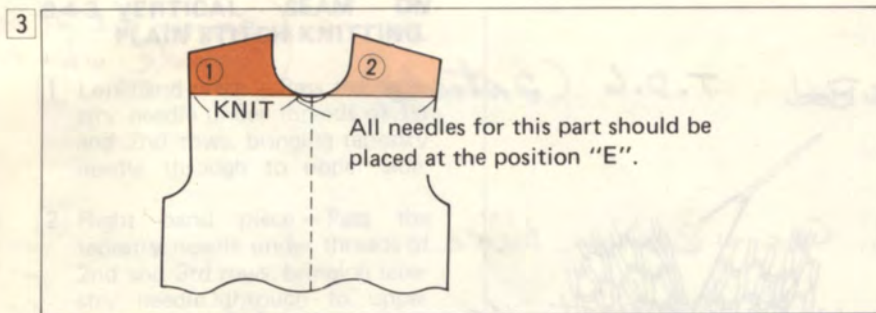
Knit left and right sides of a round neck line separately.



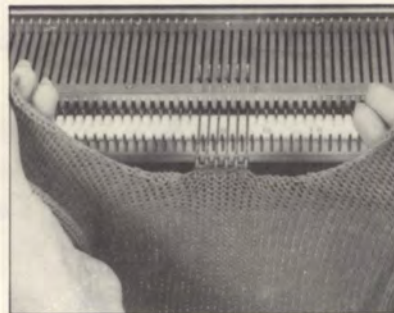
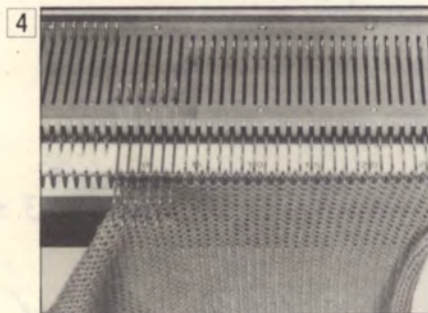
1 Set the HOLDING CAM LEVER of the K CARRIAGE at position H.



2 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.

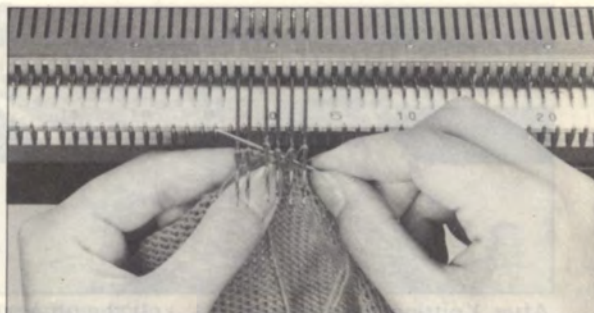
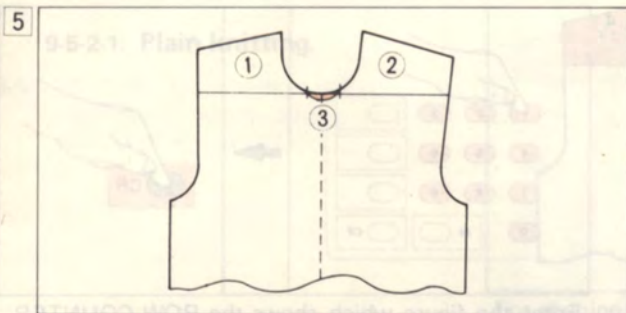


3 Knit part (1) according to your pattern. Decreasing at the neck edge will be done by using the Transfer Tool. Decrease until required number of stitches are left for the shoulder. Bind off the shoulder stitches.

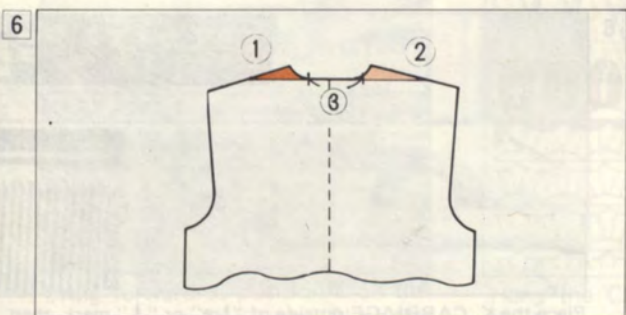


4 Leaving the center neck line stitches, return the rest of the needles to position B by transferring the stitches onto the hooks of the needles. Knit the other side of the neck and shoulder for part (2).

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

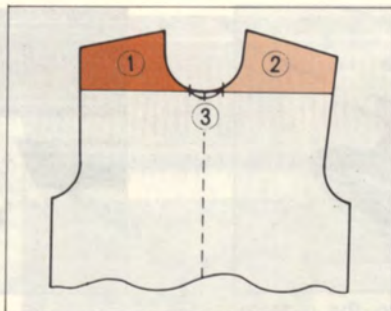


When part (1) and (2) are completed, bring the needles for the neck line (3) to position B and bind off.

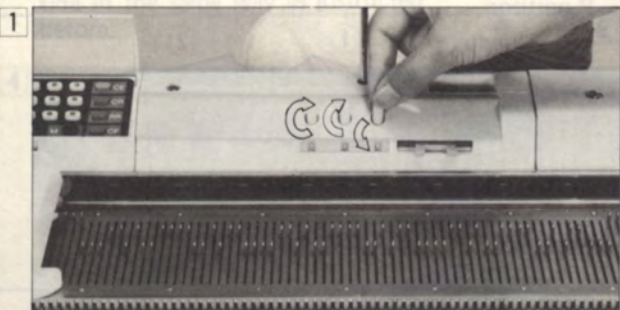


Knit the back in the same way. (Knit the left and right sides separately.)

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



Knit left and right sides of a round neck line separately.



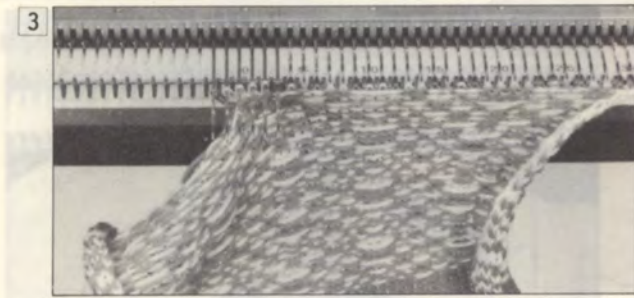
Before you start knitting the first side (1), change the figure of ROW COUNTER to 0.



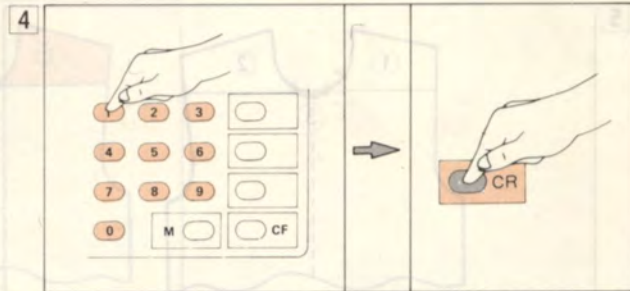
Knit the first side (1).
When finishing the PATTERN, set the ROW COUNTER TRIPPER to Non-working position and push CR key, then knit remaining part of the first side by Plain Knitting.

9-5. HOW TO SHAPE A ROUND NECK LINE

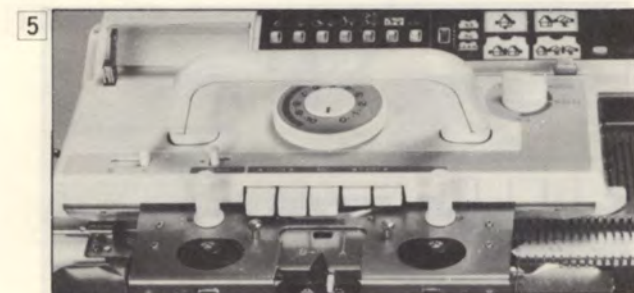
9-5-1. USING THE HOLDING CAM LEVER.



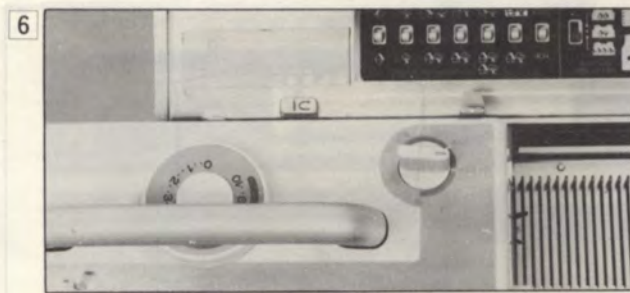
After Knitting the first side (1), knit the other side (2). Using a TRANSFER TOOL, place the stitches for part (2) onto the Hooks of the needles and return to position B. Leave the needles for part (3) in position E.



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



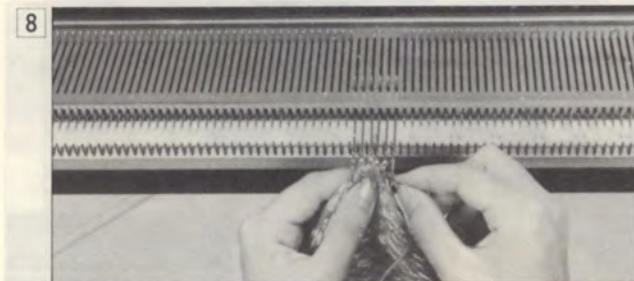
Push the CAM BUTTONS to "PART", and set the CHANGE KNOB to the "KC (1)". Make sure that the HOLDING CAM LEVER to "H"



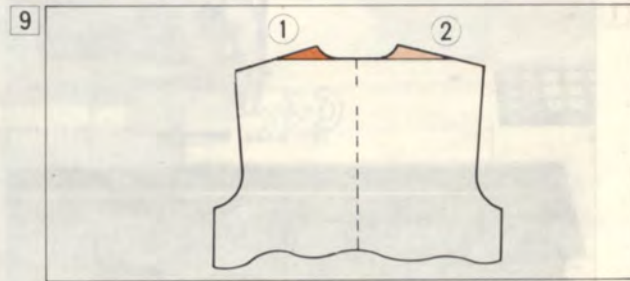
Place the K CARRIAGE outside of "I" or "I" mark, then move the K CARRIAGE until the needles will be selected. If the CHANGE KNOB is set to "KC (1)" and only both end needles are selected after the first row, push them back to position B by hand and move the K CARRIAGE for one more row to select the needles.



Set the CAM BUTTON(S) according to the pattern knitting. Thread yarn into the YARN FEEDER and knit the other side (2).



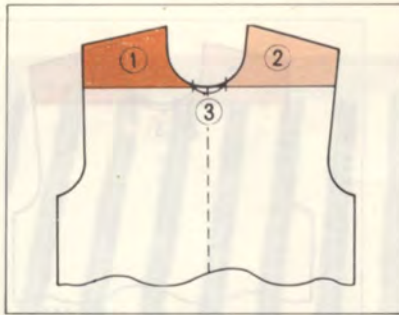
When part (1) and (2) are completed, bring the needles for the neck line (3) to position B and bind off.



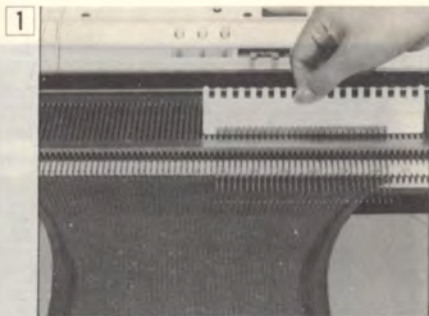
Knit the back in the same way. (Knit left and right side separately.)

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

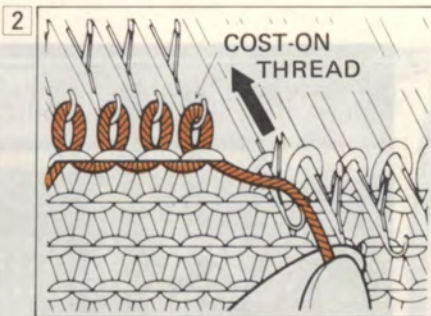
9-5-2-1. Plain knitting.



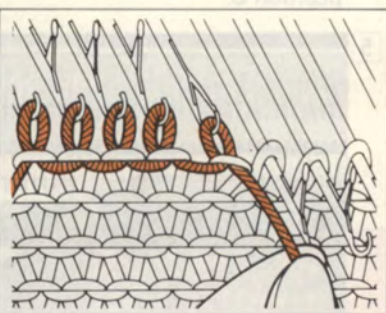
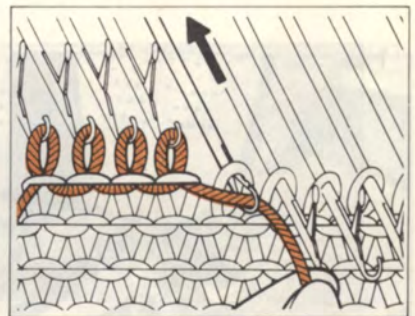
For shaping a round neck line, knit left and right sides separately.



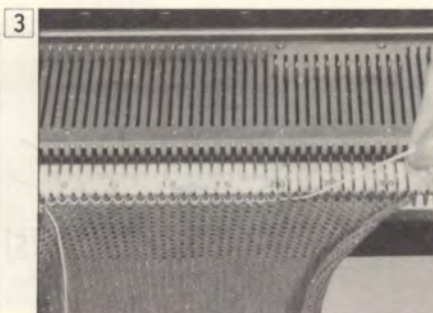
Bring forward to position E all the needles for parts (2) and (3) on the opposite side of the K CARRIAGE, by using the 1/1 NEEDLE PUSHER. These needles will not knit.



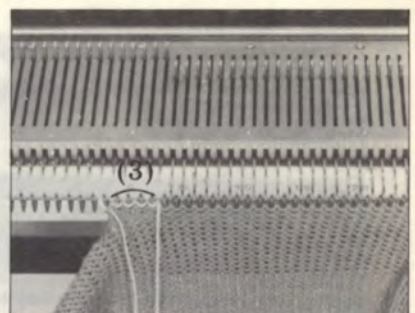
Hang the CAST-ON THREAD on the hooks of the needles in position E and bring them back to position A one by one.



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



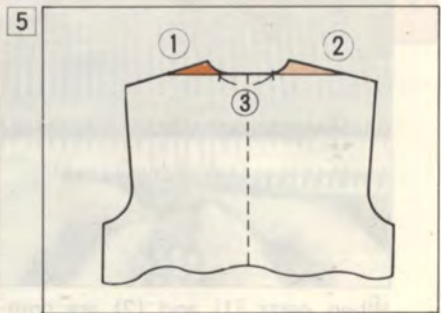
When part (1) is completed, transfer the stitches for part (2) from needles in position A to the hooks of the needles and place them in position B.



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

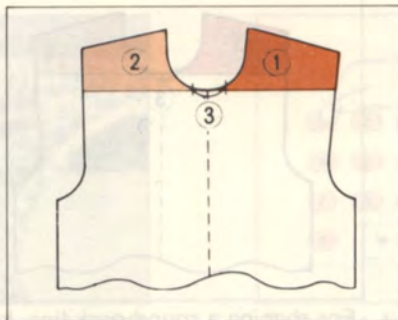


When parts (1) and (2) are completed, bring the needles for part (3) to position B and bind off.

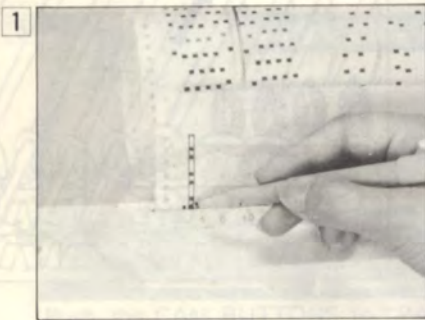


Knit the back in the same way (Knit left and right sides separately).

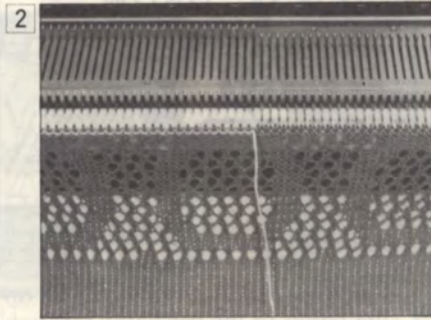
9-5-2.2. Pattern Knitting (L CARRIAGE)



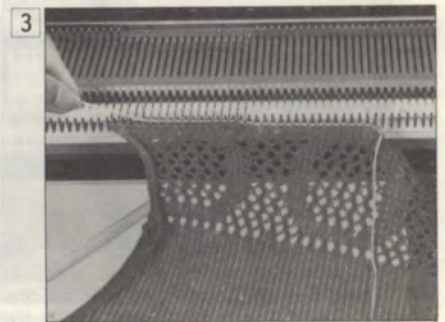
Knit left and right sides of a round neck line separately.



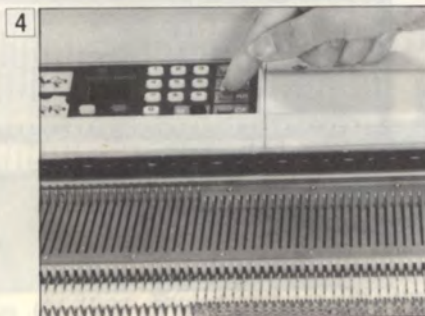
Before you start knitting the first side (1), make mark beside the L Window of the PATTERN CARD.



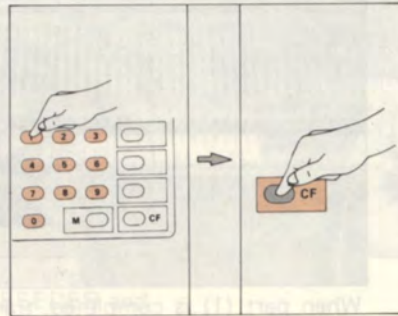
Bring back to position A all part 2 & 3 needles (opposite side of the K Carriage) using CAST-ON THREAD. These needles will not knit.



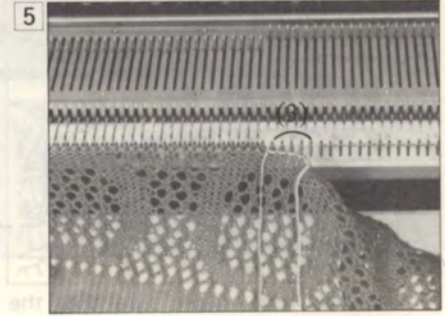
When part (1) is complete transfer the stitches for part (2) from needles in position A to the hooks of the needles and place them in position B.



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



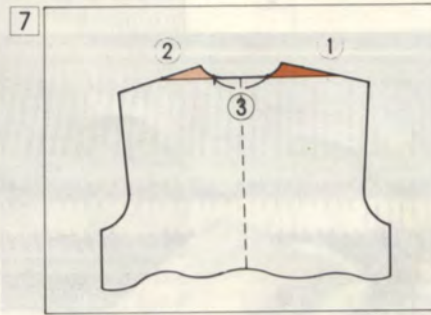
Enter the figure of the mark which is shown beside the L Window of the PATTERN CARD (see item 1) and push CF key.



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



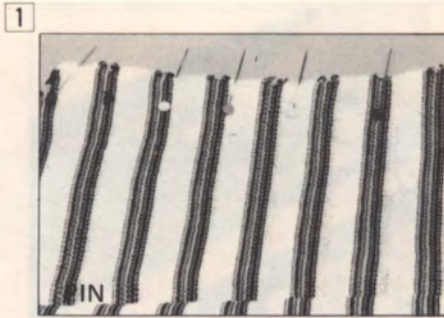
When parts (1) and (2) are completed, bring the needles for part (3) to position B and bind off.



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

9-6. SEWING PROCEDURE

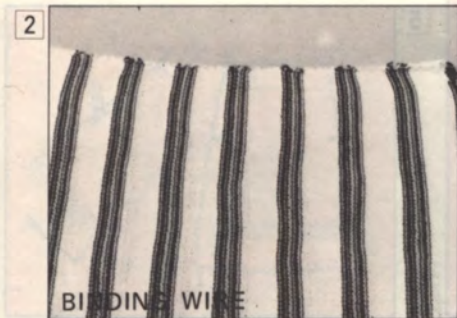
9-6-1. BASTE KNITTING WITH BINDING WIRE AND/OR BASTING THREAD



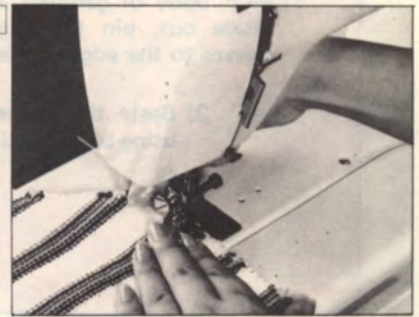
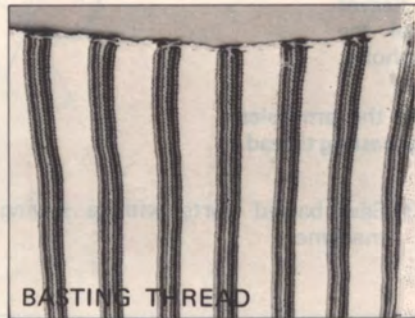
To produce a neat garment easily, use of a sewing machine is recommended.

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

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

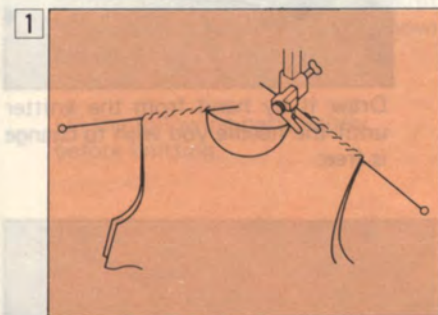


Baste the parts with the binding wire included with KL116 (Knit Leader) as accessory or basting thread.

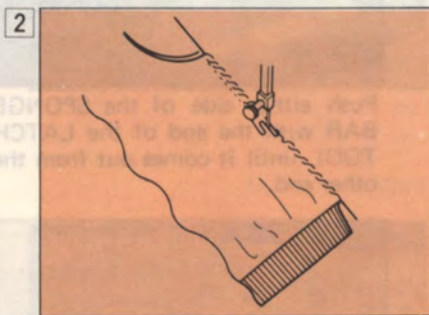


After basting, sew with sewing machine. Slowly sew lightly pushing along the basted edge. Sew about 3.5 mm from edge.

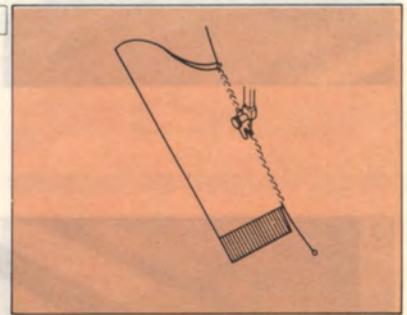
9-6-2. SEWING PROCEDURE



Shoulders (right and left).

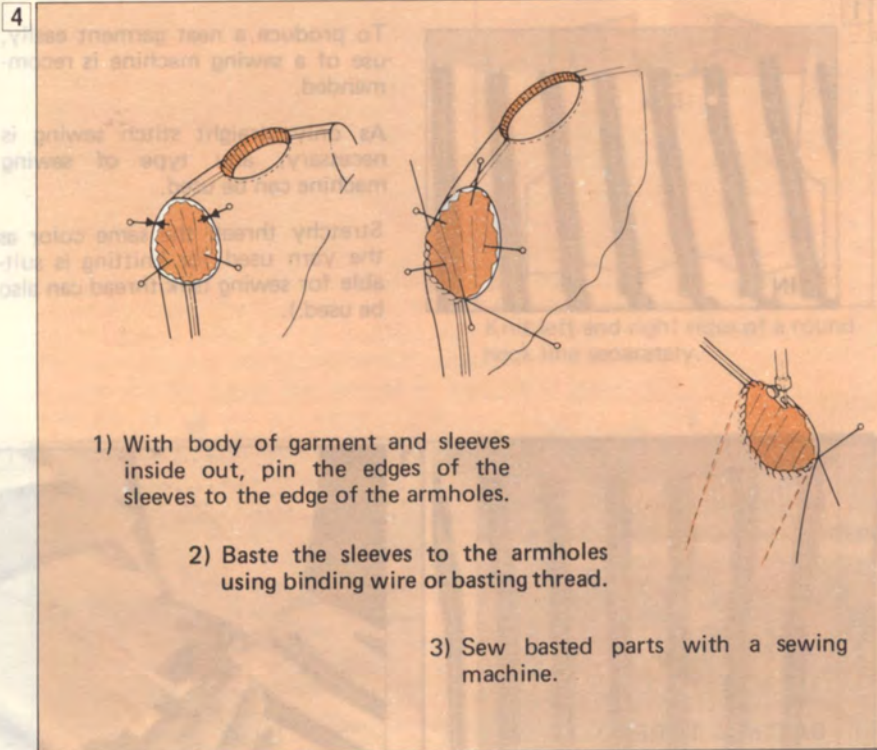


Sides



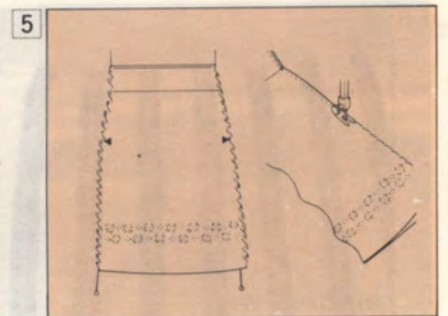
Sleeves

*Sew ribbing together by hand.



- 1) With body of garment and sleeves inside out, pin the edges of the sleeves to the edge of the armholes.
- 2) Baste the sleeves to the armholes using binding wire or basting thread.

3) Sew basted parts with a sewing machine.



5

Attach sleeves to armholes.

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.



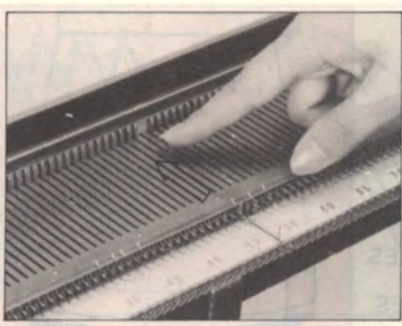
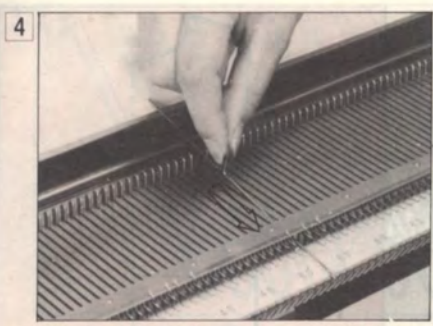
3

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.

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



4 Replace it with a new needle. Hold needle with latch open.

Push the Needle back to position A.

Push the SPONGE BAR back into place.



9-7-2. CLEANING AND MAINTENANCE

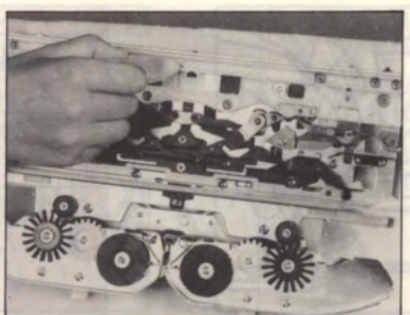
Before replacing your machine in carrying case, it should be cleaned with a soft dry cloth. Metal parts should be oiled regularly.

If machine has not been used for a long time, wipe it with oiled cloth before using. Then 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.

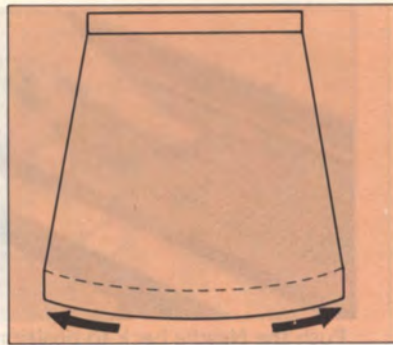
10. USEFUL HINTS

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

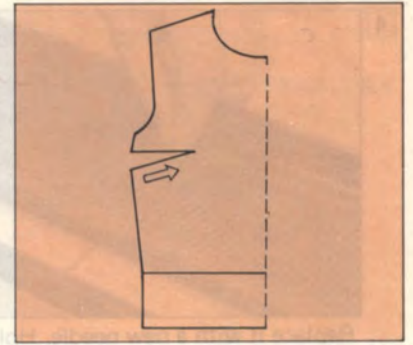
When knitting socks, skirts, darts, etc., this is called partial knitting.

⇨ DECREASING STITCHES.

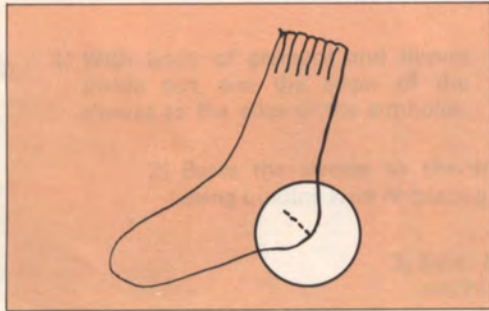
➔ INCREASING STITCHES.



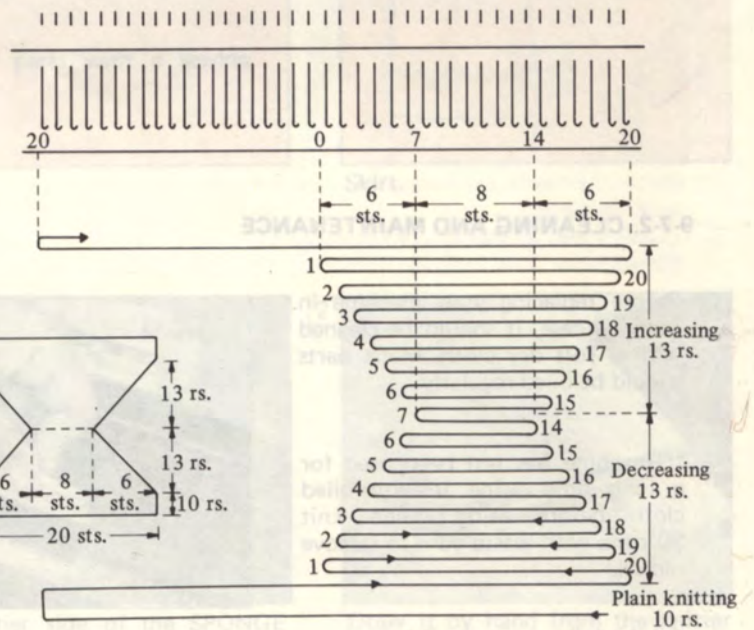
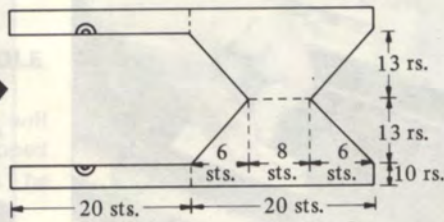
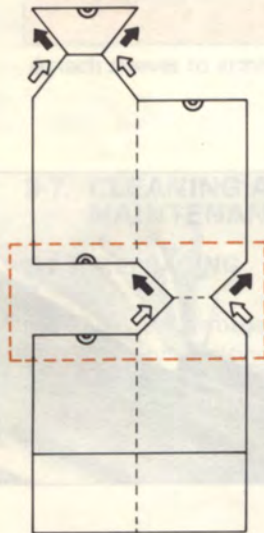
Skirt



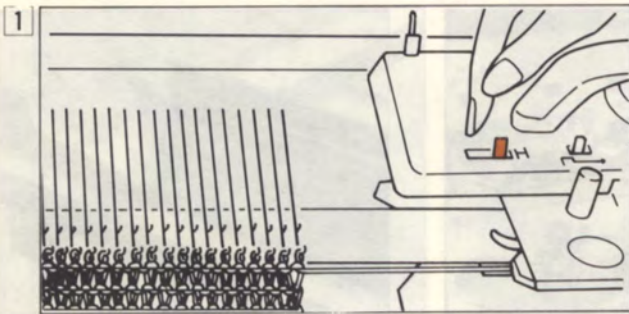
Dart



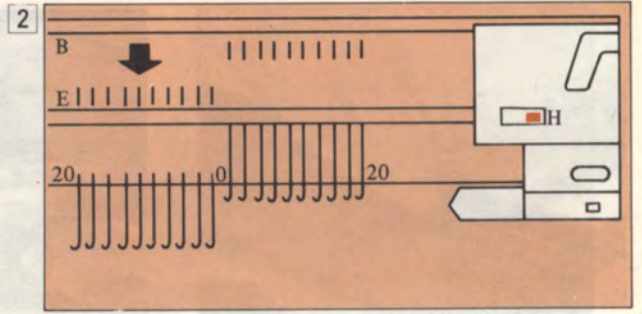
Socks
* Knit Heel with partial knitting.



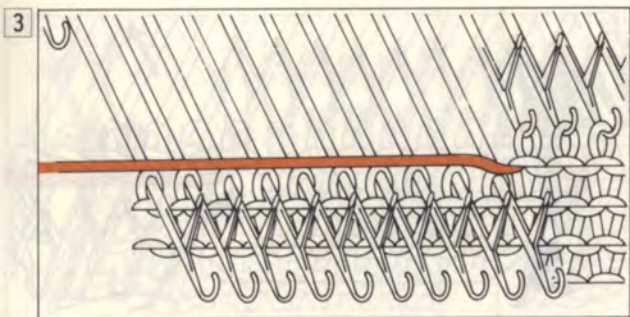
10-1-1. DECREASING STITCHES



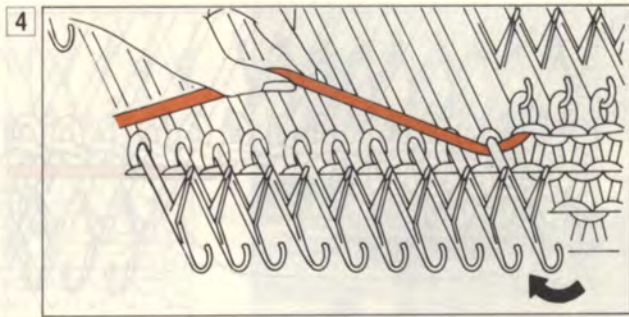
1 Bring forward 20 needles on either side of the center mark "0". Knit 10 rows of plain knitting and place the K CARRIAGE on the right side of the machine. Then, set the HOLDING CAM LEVER of the K CARRIAGE at position H.



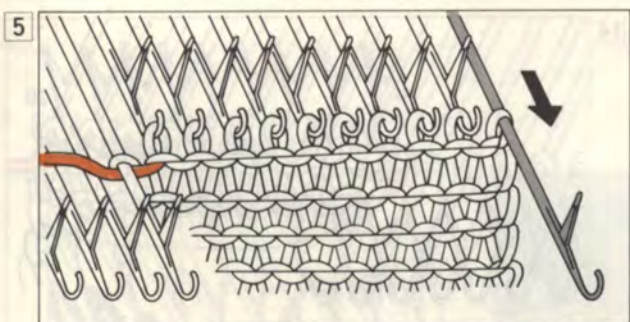
2 On the opposite side of the K CARRIAGE, bring forward 20 needles to position E as shown above. (These needles will not knit.)



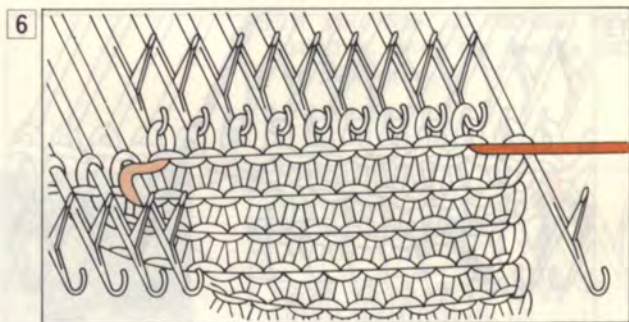
Knit one row. The yarn will lay across the stems of the position E needles.



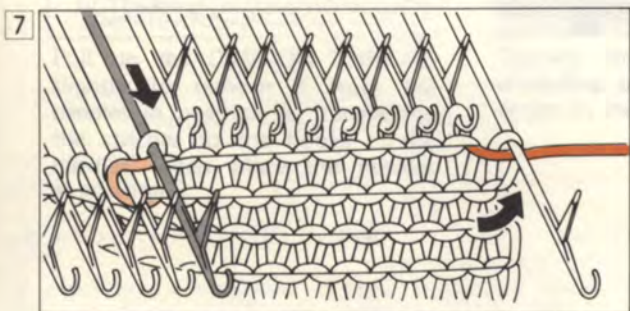
To fill the gap which appears between stitch in position B and E, pass the yarn under the stem of the first needle at position E.



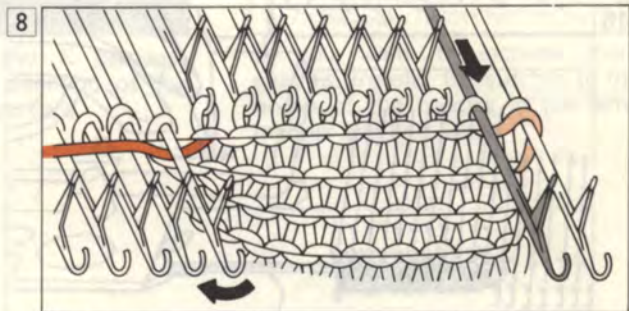
On the opposite side of the K CARRIAGE, bring forward one needle to position E by hand, which will be decreased.



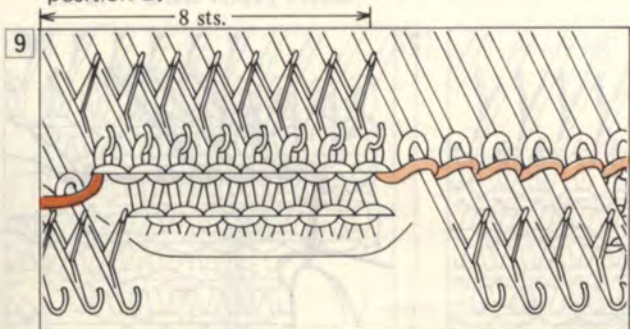
Knit one row.



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.

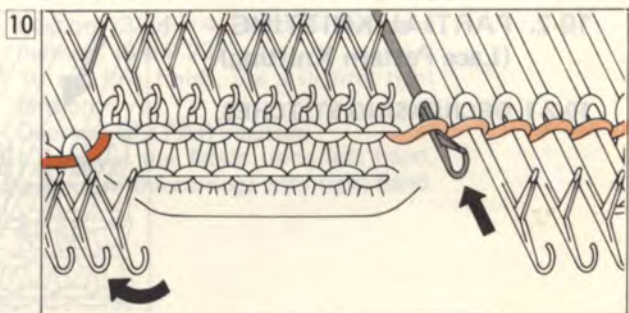


Knit one row.



Repeat 4 ~ 8 until the remaining needles at position B will be 8 stitches, and knit one row to finish.
(K CARRIAGE is on the left side of the machine.)

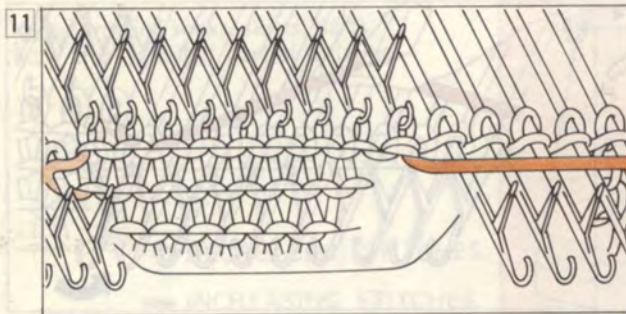
10-1-2. INCREASING STITCHES.



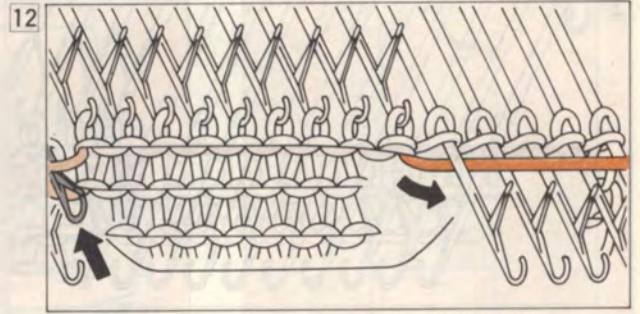
To increase stitches, pass the yarn on the side of the K CARRIAGE under the stem of the first needle at position E. Then push back first needle to position D on the opposite side of the K CARRIAGE. (This stitch will knit.) Take care not to drop the stitch.

10. USEFUL HINTS

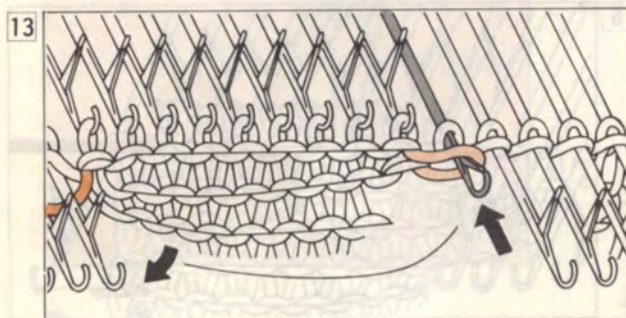
10-1. PARTIAL KNITTING (Plain Knitting & Pattern Knitting)



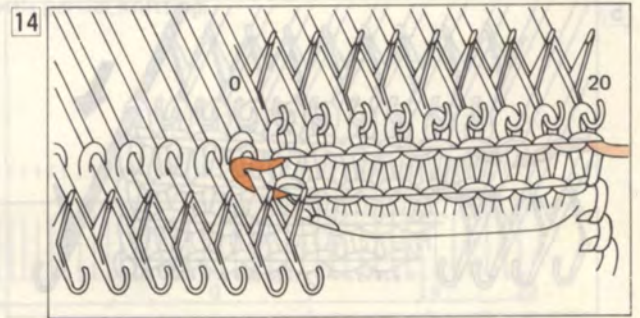
Knit one row.



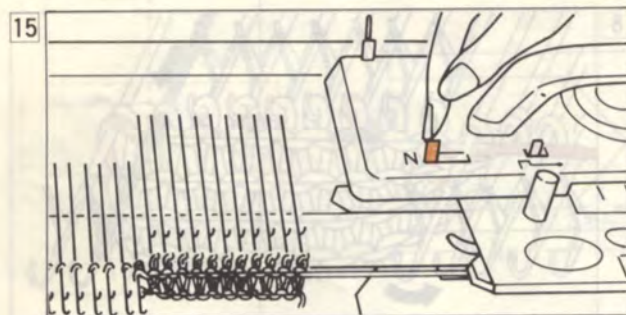
Repeat 10 note however that the K CARRIAGE is now on the opposite side of position 10



Knit one row.



Repeat 10 - 13 until the needles at position B carry 20 stitches, then knit one row to finish. (K CARRIAGE is on the right side of the machine.)

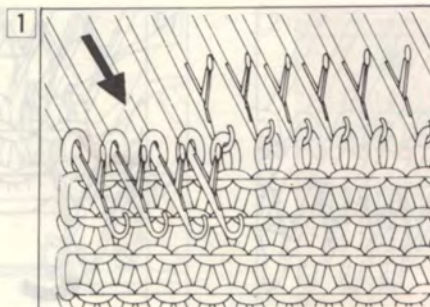


When partial knitting is completed, change the HOLDING CAM LEVER to position N, and knit 10 rows of plain knitting.

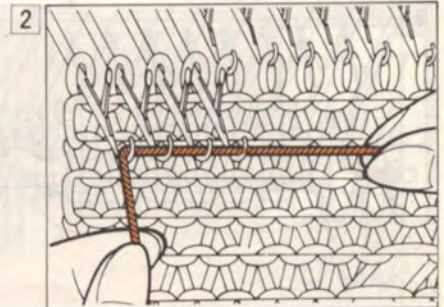
The heel of the sock is completed.

10-2. PARTIAL KNITTING (Lace Pattern Knitting)

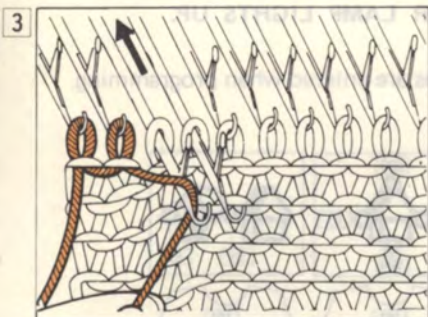
10-2-1. DECREASING STITCHES.



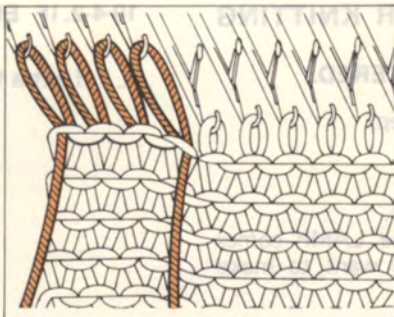
Bring forward needles you want to decrease to position E.



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



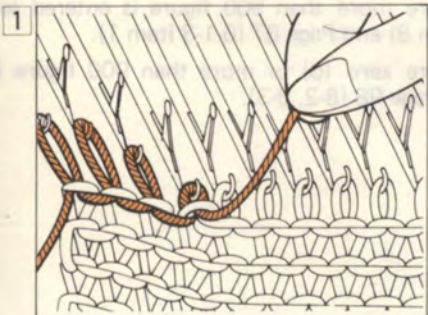
Make sure that the CAST-ON THREAD is in the hooks of the needles and bring back the needles one by one to position A. Take care not to drop the stitches.



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 the needles back to position A.

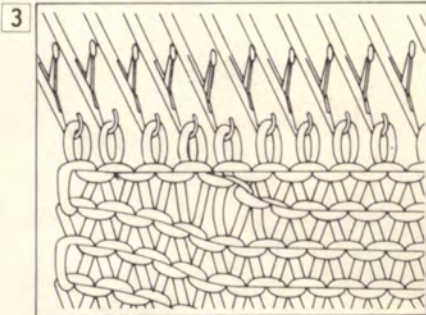
10-2-2. INCREASING STITCHES.;



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

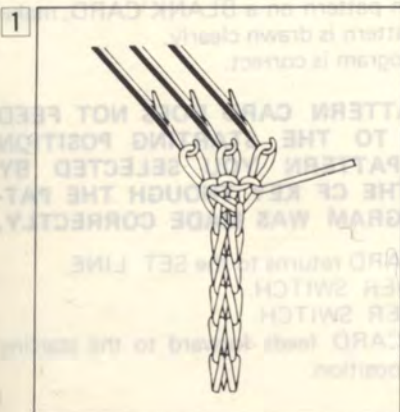


Operate the L and K carriages according to the direction of the arrow on the Pattern card.



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

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 using left hand, and move the carriage with right hand.

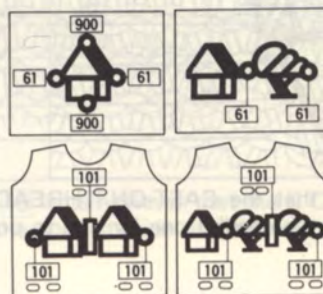
10-4. CHECK LIST FOR BETTER KNITTING

10-4-1. IF A WRONG FIGURE IS ENTERED.

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

10-4-2. IF ERROR LAMP LIGHTS UP.

- A. If extra figures are entered when programming.



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

10-4-3. IF YOU WISH TO CHECK FIGURE AFTER FINISHING PROGRAM.

- 1) Push M key repeatedly until the READY LAMP lights up. You can see the entered figure in the DISPLAY.
- 2) If you find a wrong figure while checking, push CE key and enter the correct figure, then push M key until READY LAMP lights up.

10-4-4. IF YOU WISH TO RETURN 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 " |c " or " | " mark and set the CHANGE KNOB to "KC (I)" or "KC (II)" position. Then push PART BUTTONS.
- 5) Move K CARRIAGE one row.

10-4-5. IF NEEDLES ARE SELECTED INCORRECTLY CHECK THE FOLLOWING POINTS.

- 1) When the CHANGE KNOB is set at KC position for Pattern Knitting, make sure K CARRIAGE stands outside " |c " 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 in correctly. Push RR key and check that the SET LINE of CARD is at the CARD INLET.
- 5) Make sure the CARD is not soiled.
- 6) When making own pattern on a BLANK CARD, make sure contour of pattern is drawn clearly.
- 7) Check whether program is correct.

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.



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