

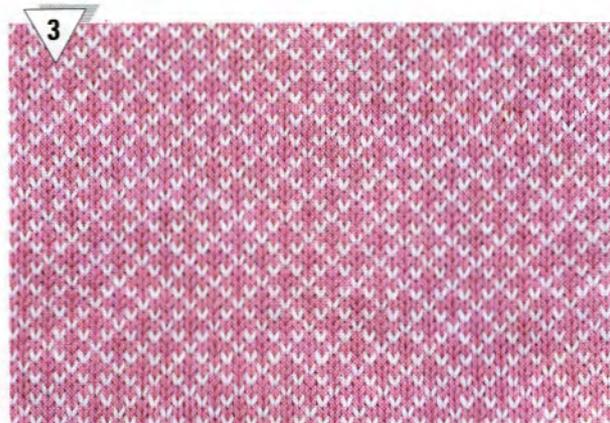
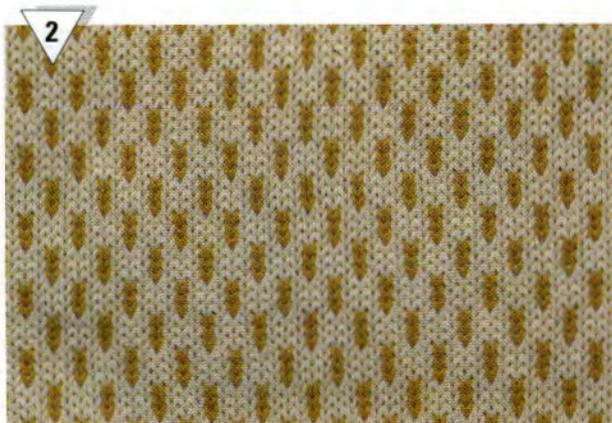
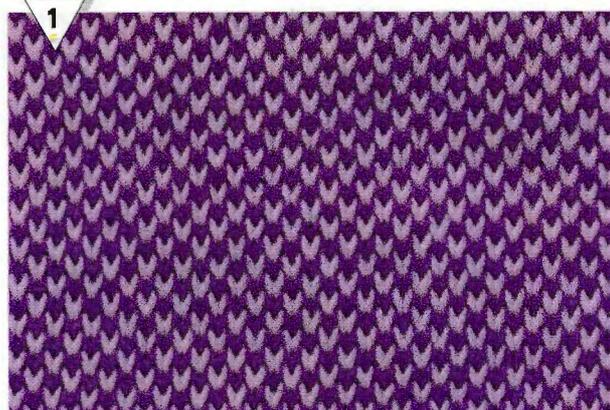
**HOW TO USE
YOUR KNITTING MACHINE**

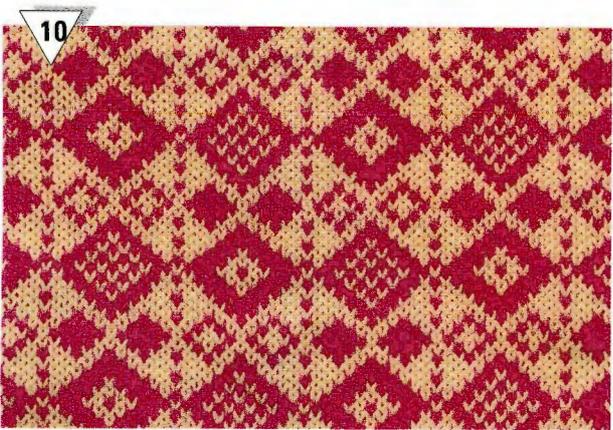
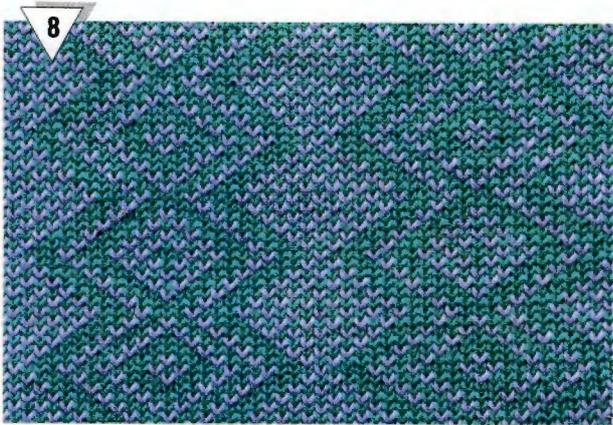
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BUILT-IN PATTERN

FAIRISLE PATTERN
(How to knit see page 64)

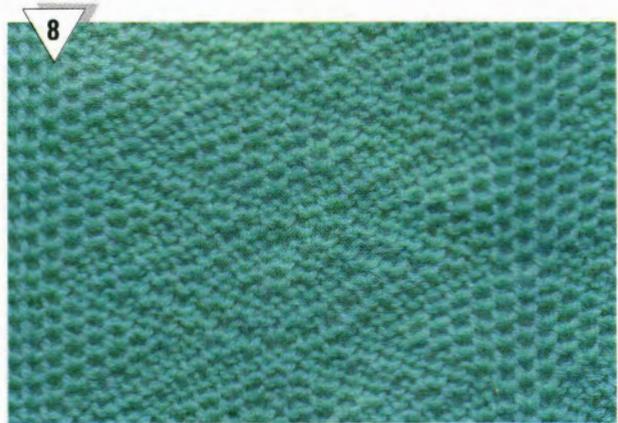
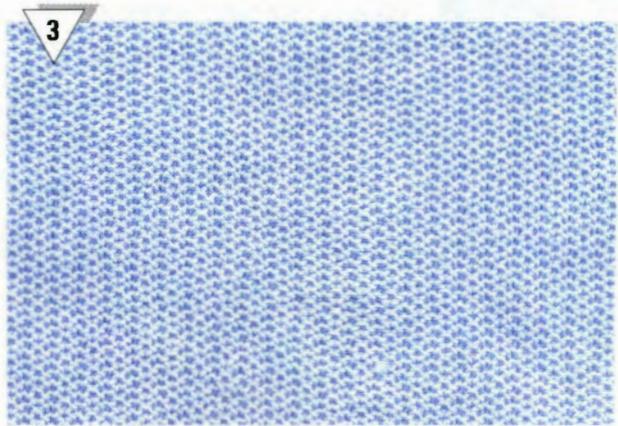
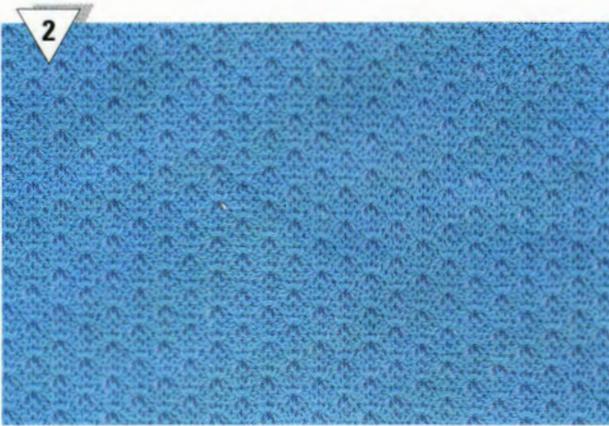
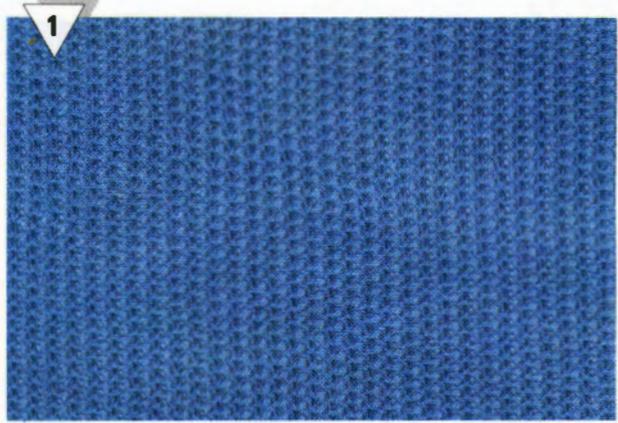




POINT (See page 66)

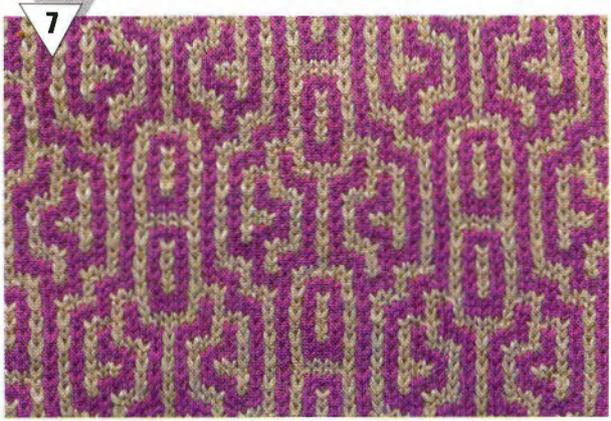
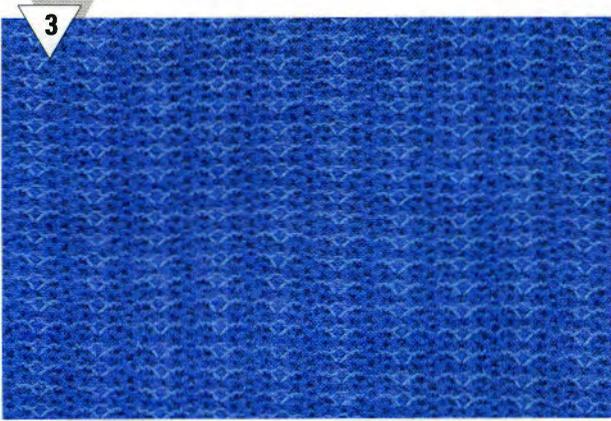


TUCK STITCH PATTERN
(How to knit see page 68)

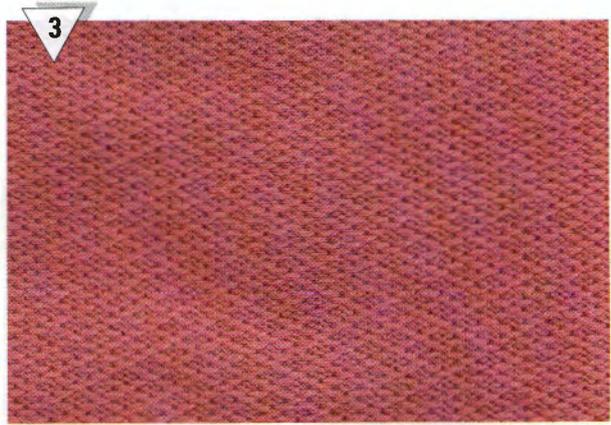
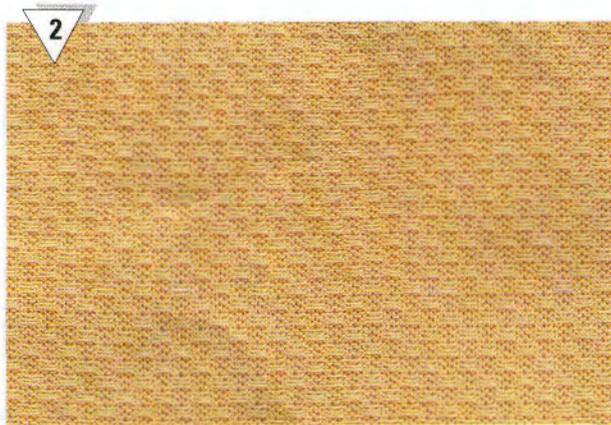
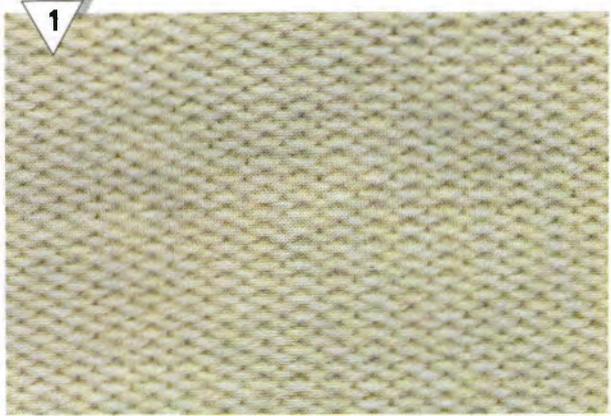


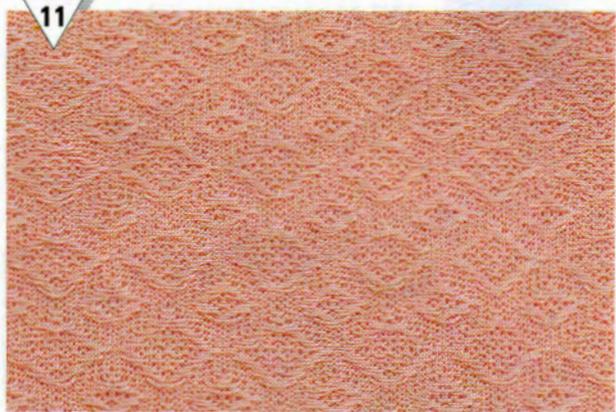
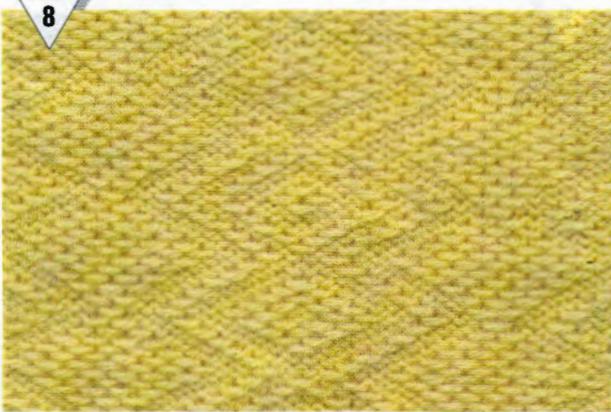
MULTI-COLOUR TUCK STITCH PATTERN
(How to knit see page 70)





SKIP STITCH PATTERN
(How to knit see page 71)

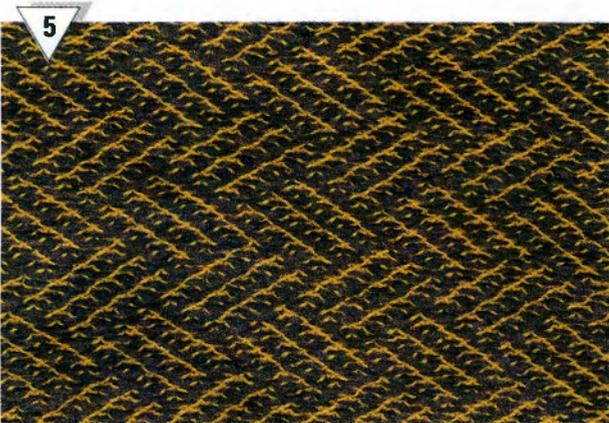
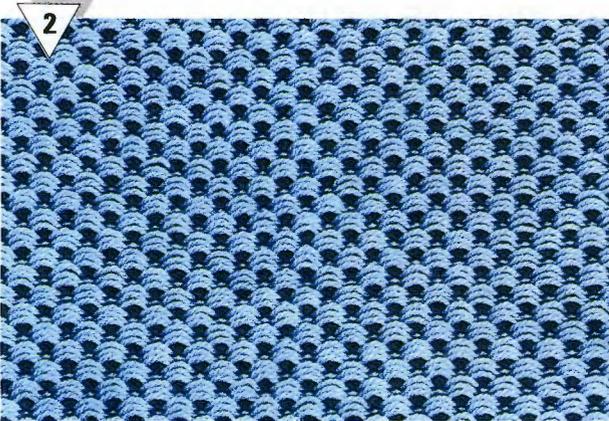
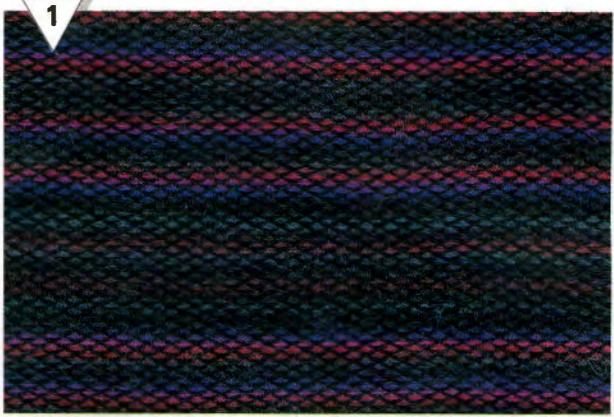




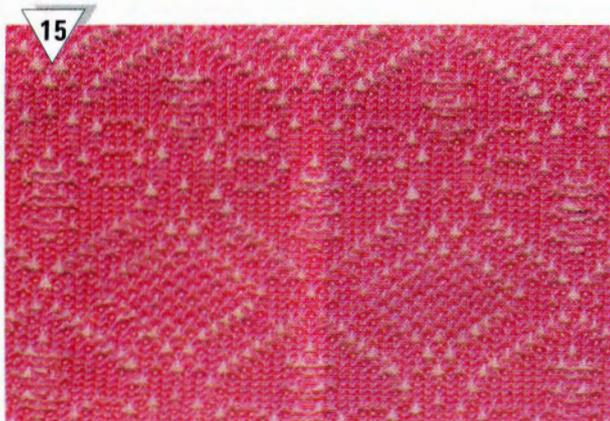
**MULTI-COLOUR SKIP
STITCH PATTERN**
(How to knit see page 72)



WEAVING PATTERN
(How to knit see page 73)

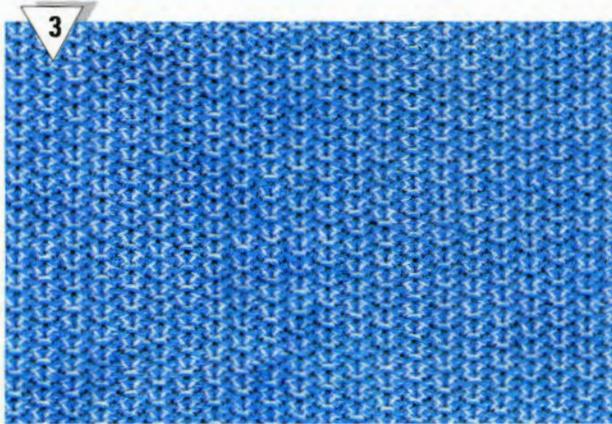
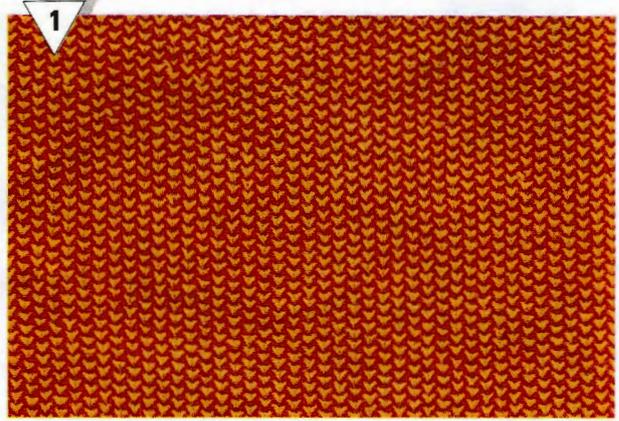


THREAD LACE PATTERN
(How to knit see page 76)

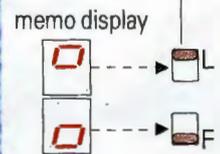
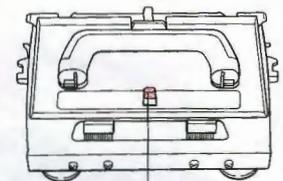
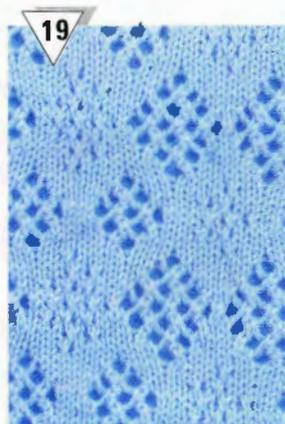
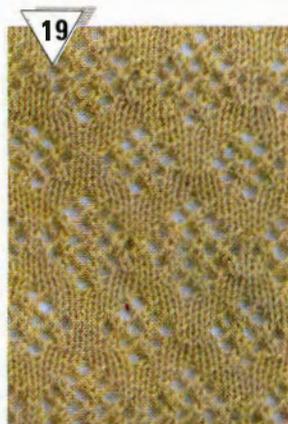


POINT   (See page 78)

PLATED TUCK STITCH PATTERN
 (How to knit see page 84)



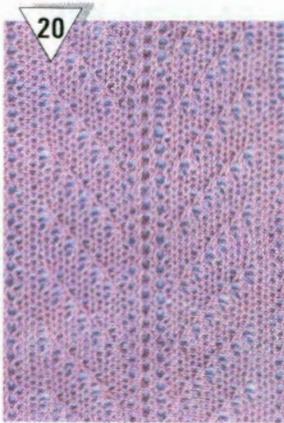
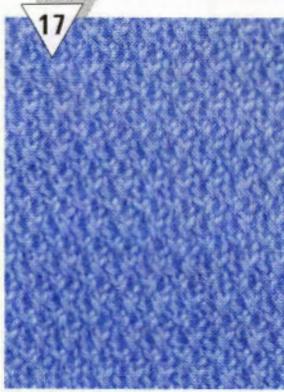
LACE PATTERN
 ♣ These patterns are knitted with L carriage (option).



< lace and fine-lace >
 mixed

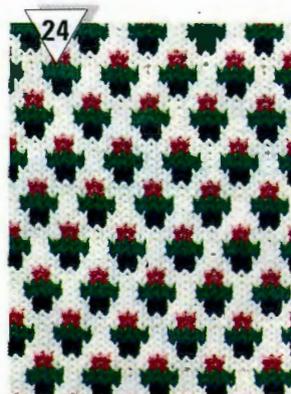
FINE-LACE PATTERN

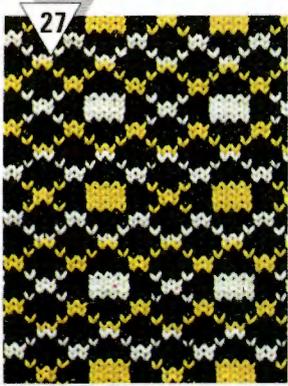
♣ These patterns are knitted with L carriage (option).



ORIGINAL PATTERN FOR COLOUR CHANGER KHC

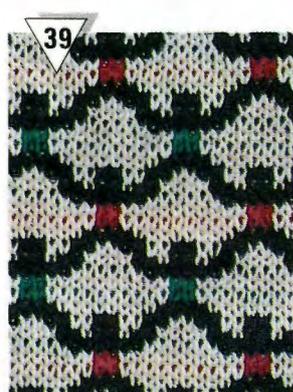
♣ The single bed colour changer (KHC) is an optional accessory.





ORIGINAL PATTERN FOR COLOUR CHANGER KRC

♣ The double bed colour changer (KRC) is an optional accessory.

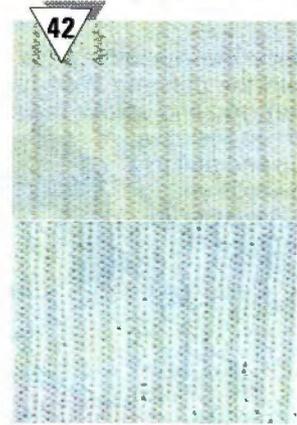


ORIGINAL PATTERN FOR G CARRIAGE

♣ The G carriage is an optional accessory.



1 x 1 rib



2 x 1 rib



2 x 2 rib



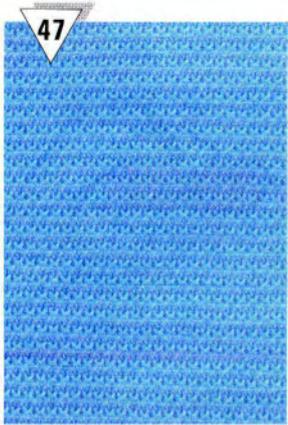
3 x 3 rib



4 x 4 rib



6 x 6 rib



47



48



49



50

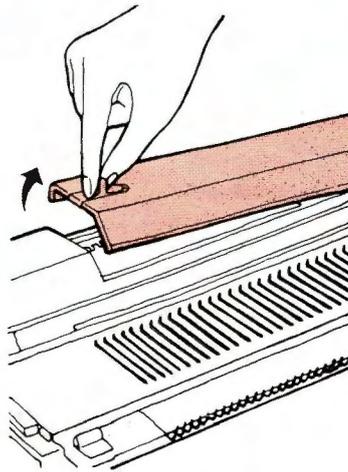
HOW TO USE YOUR KNITTING MACHINE

SETTING UP YOUR KNITTING MACHINE

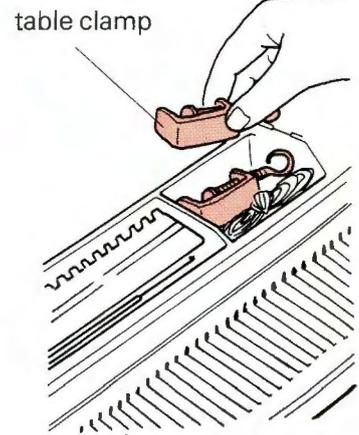
- 1 Place the machine on a firm table, with the carrying case handle away from you and unlock the catches. Lift up the case top and pull it towards you to release the lid.



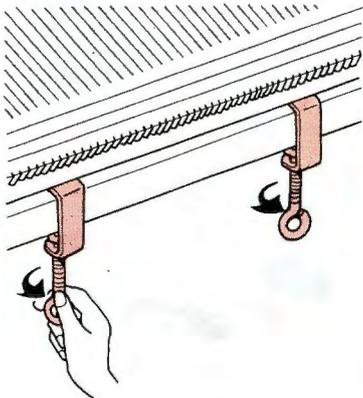
- 2 Open the accessory box.



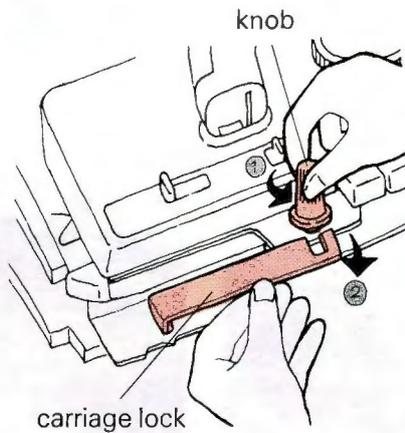
- 3 Take the two table clamps out of the accessory box.



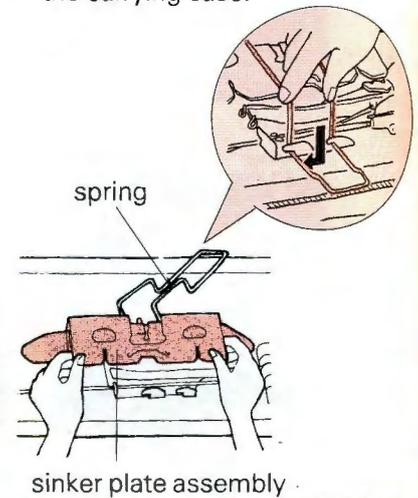
- 4 Fasten the machine to the table with the table clamps.



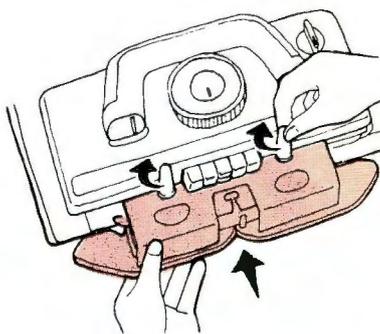
- 5 Loosen the knob and remove the carriage lock.



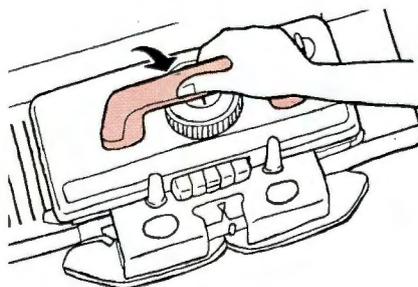
- 6 Release spring and remove the sinker plate assembly from the lid of the carrying case.



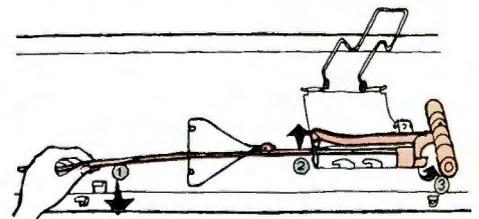
- 7 Screw the sinker plate assembly onto the K carriage.



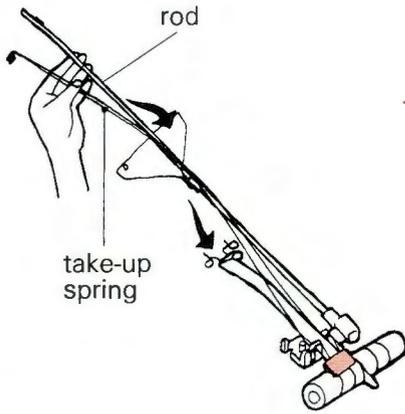
- 8 Raise the carriage handle by pulling it towards you.



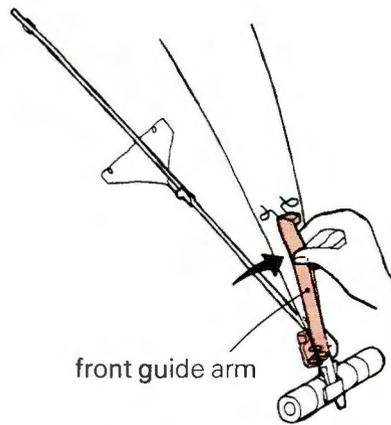
- 9 Take the yarn tension unit out of the carrying case lid in the order 1, 2, 3, as shown.



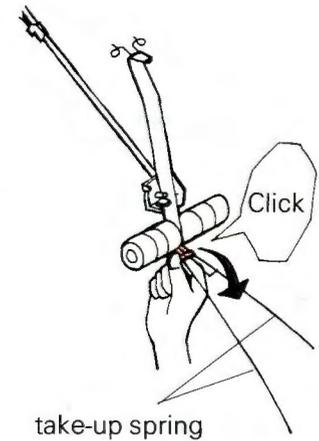
10 Unwind the take-up springs from the rod.



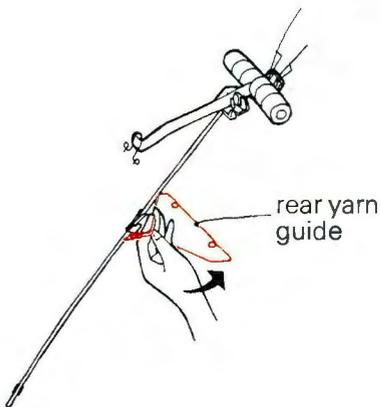
11 Lift the front guide arm in the direction of the arrow as far as it will go.



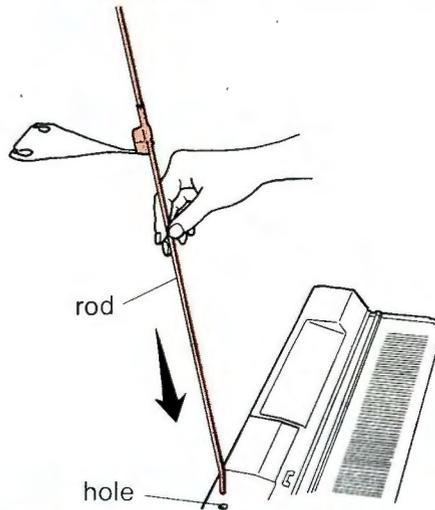
12 Turn back the take-up springs until you hear a "click".



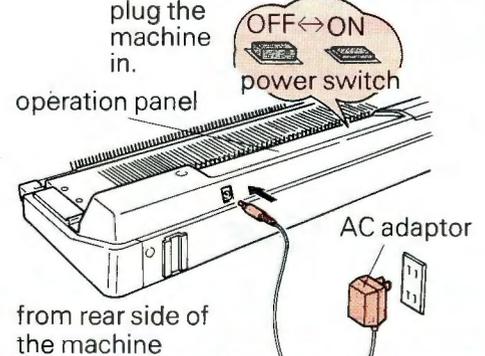
13 Raise the rear yarn guide.



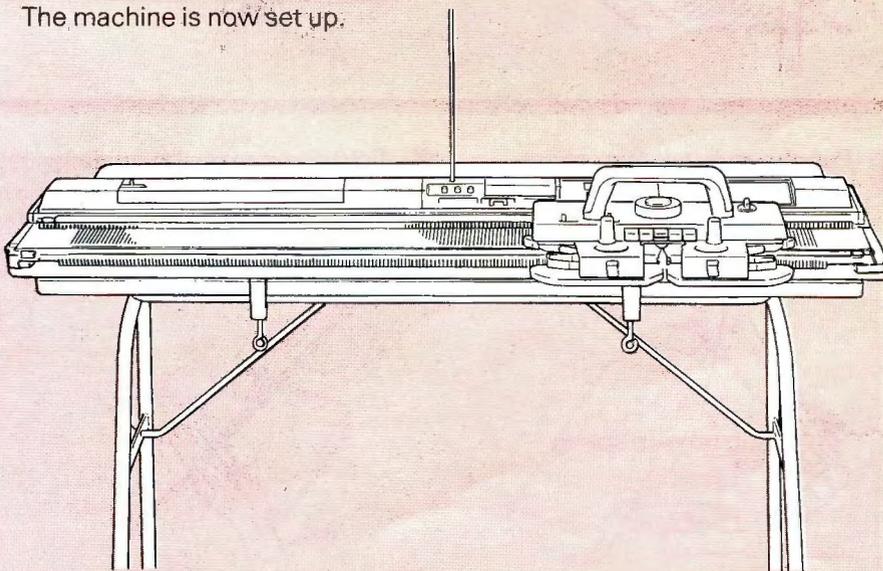
14 Insert the end of the rod into the hole at the back of the machine.



15 After turning off the power switch, plug one end of the AC adaptor into the machine, and the other into the power supply socket and switch on. When you are not programming or going to do pattern knitting (e.g. you are only using stocking stitch) you do not need to plug the machine in.



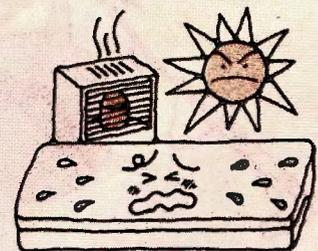
The machine is now set up.



CAUTION

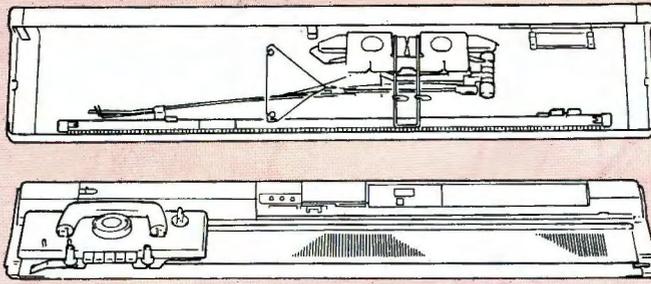
This machine is an electronic appliance which contains a micro computer, therefore do not use or leave it in the following conditions:

- In a very hot place
- In a very humid place
- In a dusty place

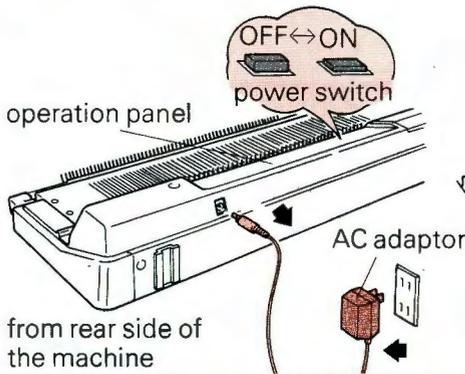


REPLACING YOUR MACHINE INTO THE CARRYING CASE

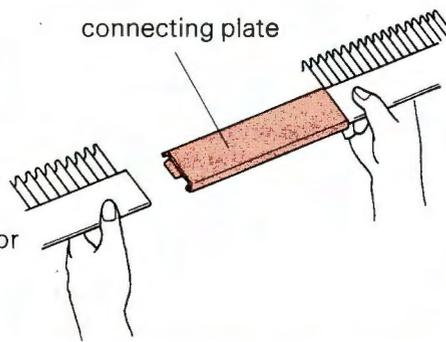
This is how your machine should look when it is packed away.



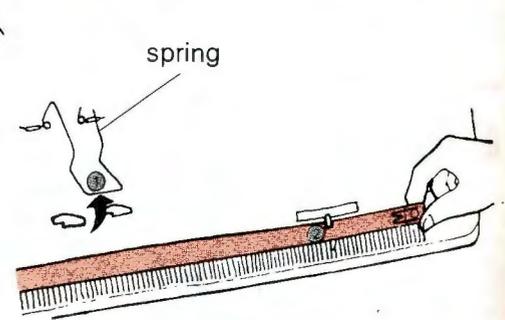
- 1 After turning off the power switch, take off the AC adaptor.



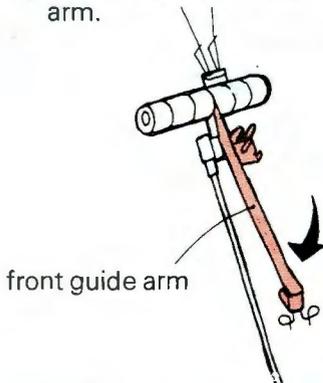
- 2 Join the two sections of the cast-on comb.



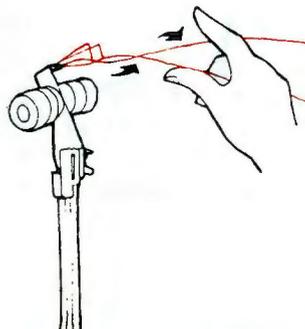
- 3 Lift the spring and replace the cast-on comb back into the lid.



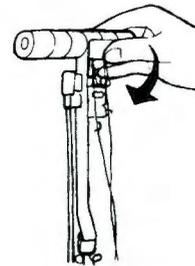
- 4 Remove yarn tension unit and fold down the front guide arm.



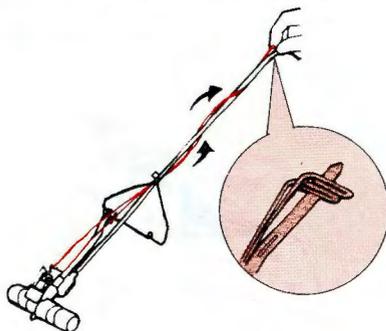
- 5 Wind the take-up springs.



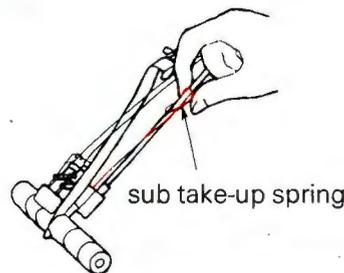
- 6 Next fold down the take-up springs.



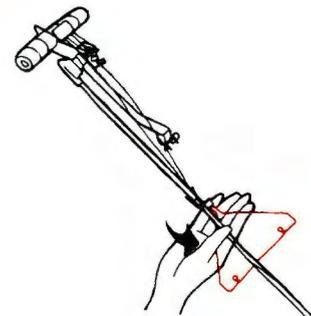
- 7 Fix the take-up springs as shown in the illustration.



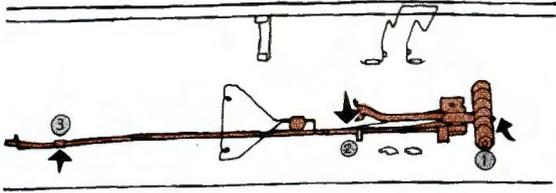
- 8 Put the sub take-up spring on the rod.



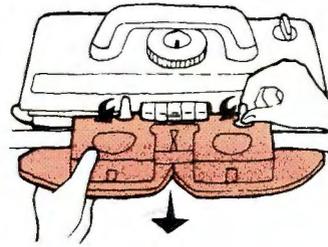
- 9 Fold down rear yarn guide.



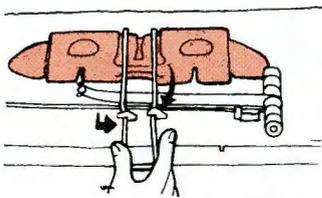
- 10 Replace the yarn tension unit into the case in the order 1, 2, 3, as shown.



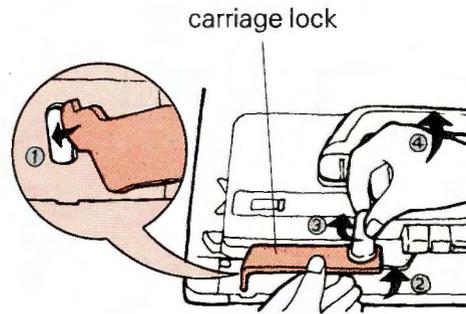
- 11 Loosen knobs and remove the sinker plate assembly from the K carriage.



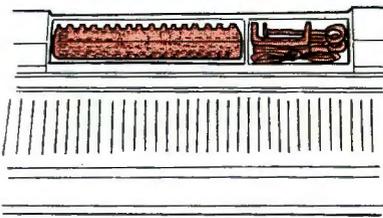
- 12 Put the sinker plate assembly in the case where indicated and secure it with the spring.



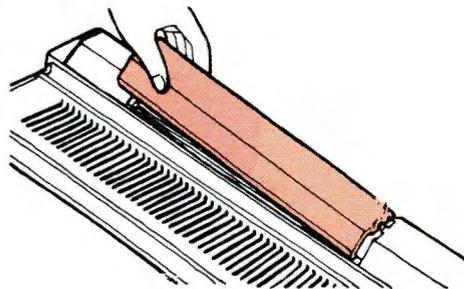
- 13 Insert the carriage lock into the hole in the left side of the machine and secure the K carriage as illustrated. Fold down the handle on the K carriage.



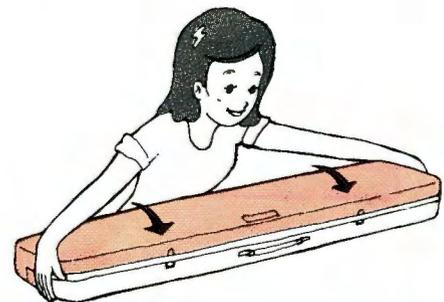
- 14 Unscrew the table clamps and put them in the accessory box with the other parts.



- 15 Then close the lid of the accessory box.



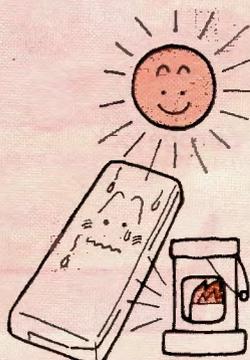
- 16 Hold the lid and replace it as shown. When it is in place, lock the two catches on either side of the handle.



CAUTION

Do not store your machine in the following conditions.

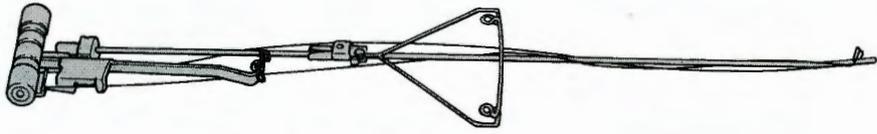
1. In direct or strong sunlight.
2. Close to a hot object such as a heater.
3. In humid or dusty places.



PART NAMES

● ACCESSORIES

yarn tension unit



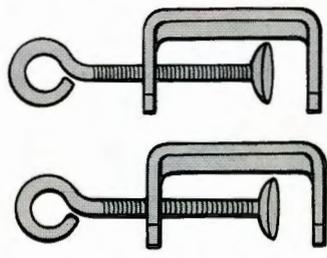
cast-on comb



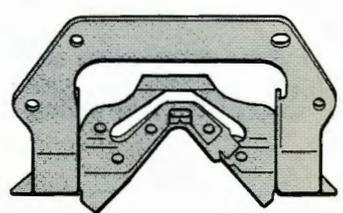
crochet hook



table clamp



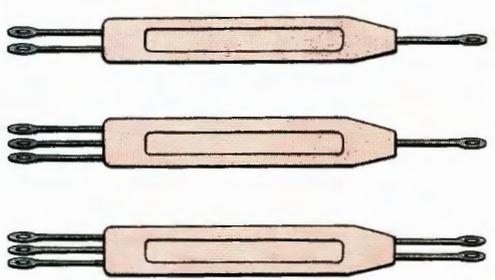
plating yarn feeder



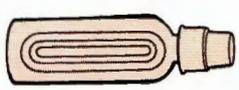
latchet tool



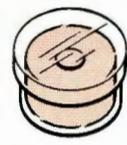
transfer tool



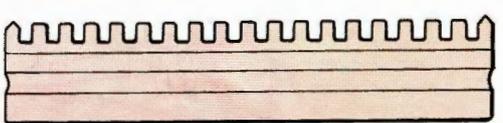
oil



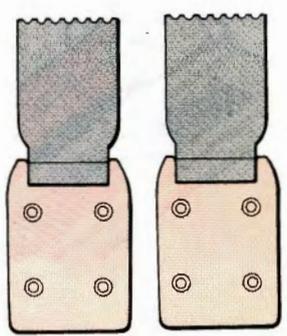
yarn wax (in case)



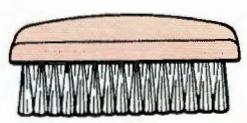
needle pusher



claw weight



hand brush



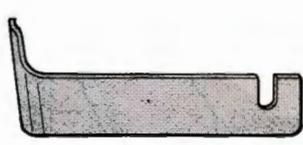
cast-on thread



tapestry needle

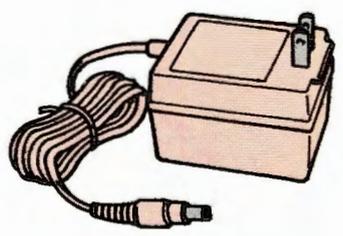
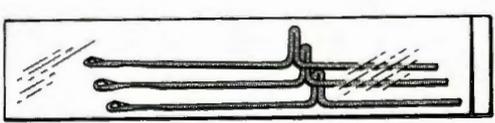


carriage lock

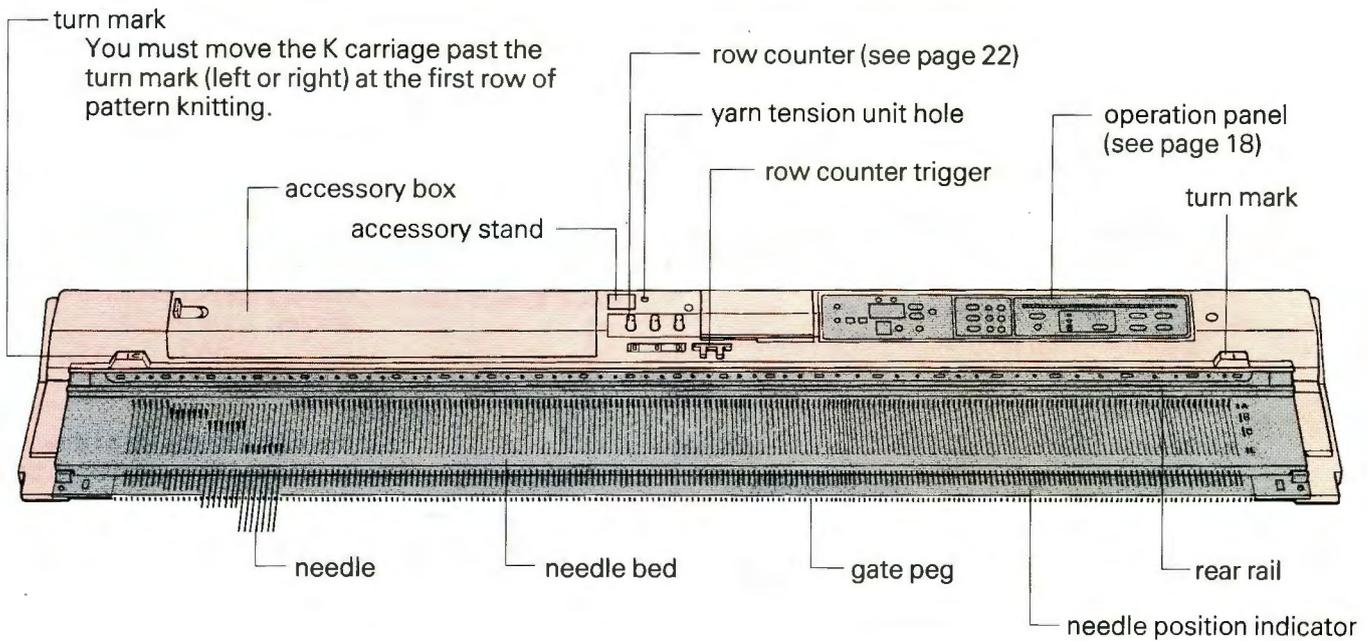


AC adaptor
Always use the adapter
for exclusive use of this
machine.

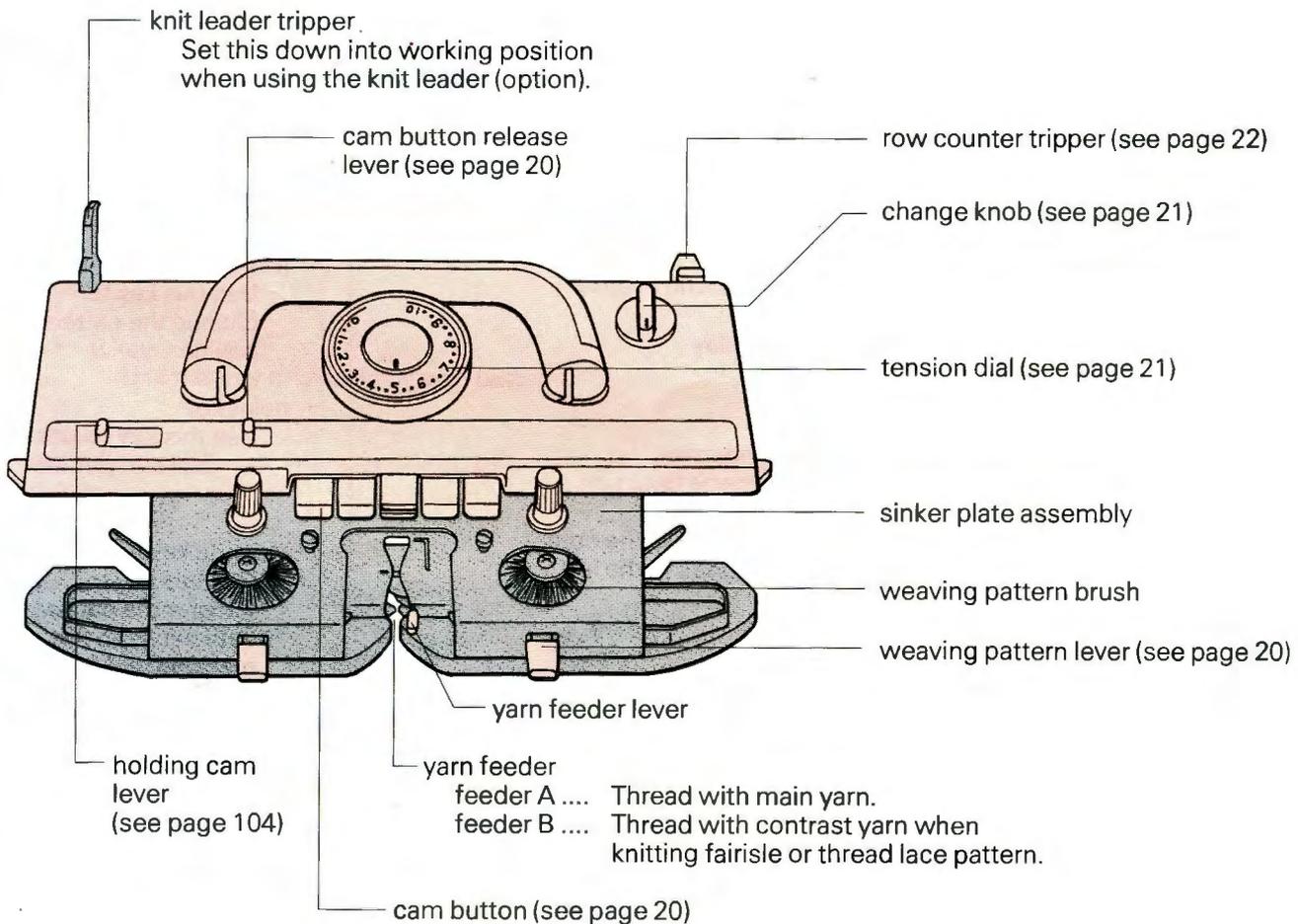
spare needle



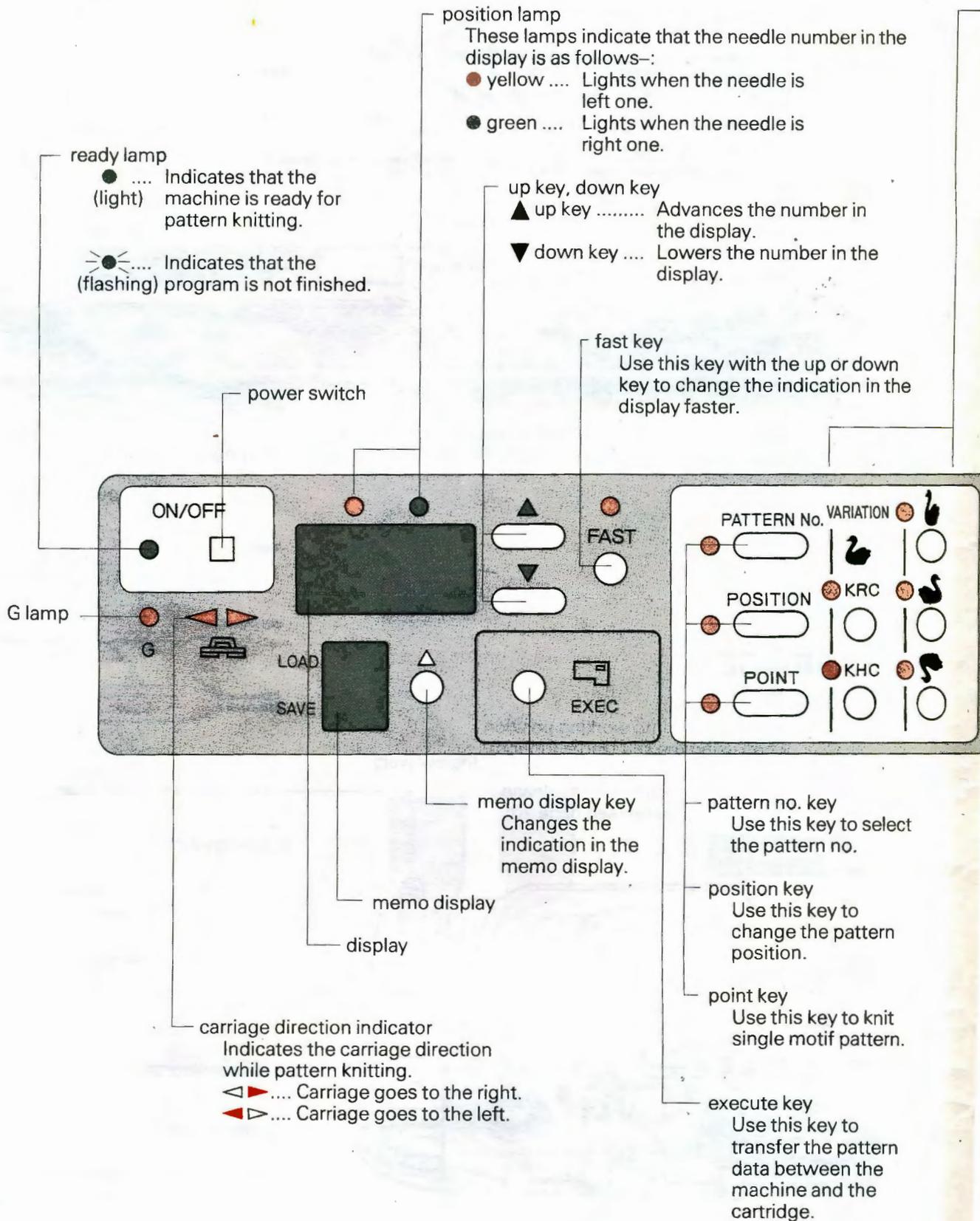
● MACHINE



● K CARRIAGE



● OPERATION PANEL



variation key

Use these keys to vary the pattern.



.... double length
The pattern is knitted in double length.



.... reverse
The direction of the pattern is changed.



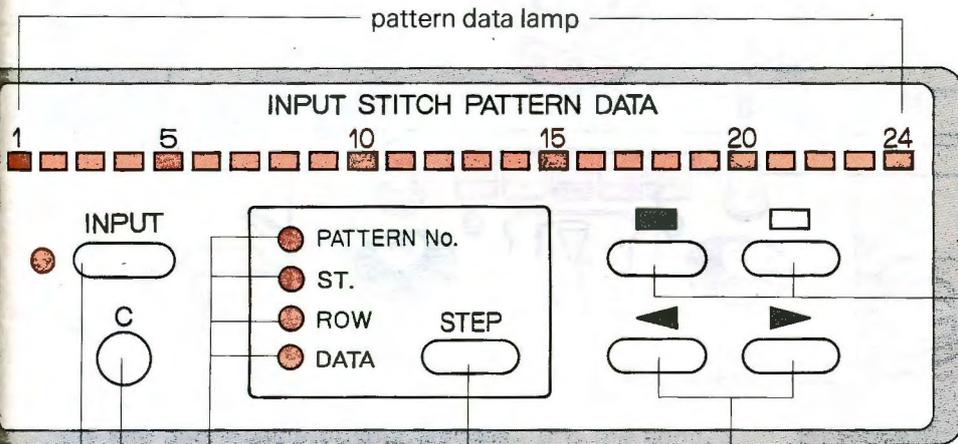
.... upside down
The pattern is knitted upside down.

KRC KRC

Fairisle rib (jacquard) is worked with this key (see page 61).

KHC KHC

The pattern is knitted in negative.



data key
Use this key to enter the pattern data.

■ (black) key
□ (white) key

left key, right key
Use this key to move the cursor on the data lamp.

◀ (left) key
▶ (right) key

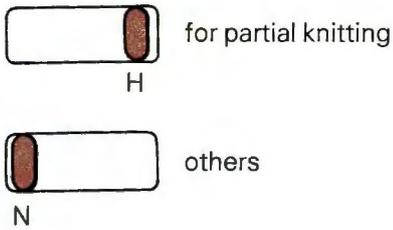
step lamp
Indicates the procedure of inputting your own original patterns.

C key
Use this key to clear your own pattern.

input key
Push this key first when inputting, editing, or clearing your own pattern.

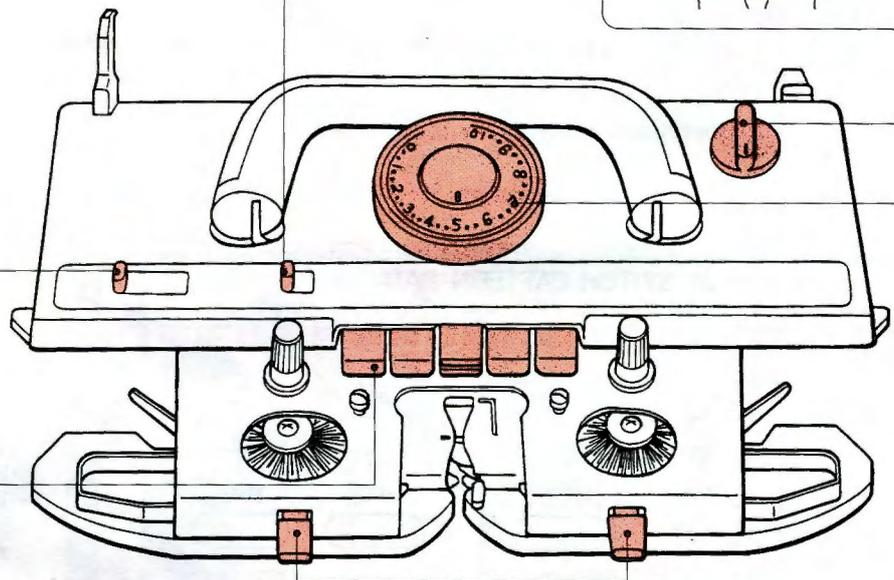
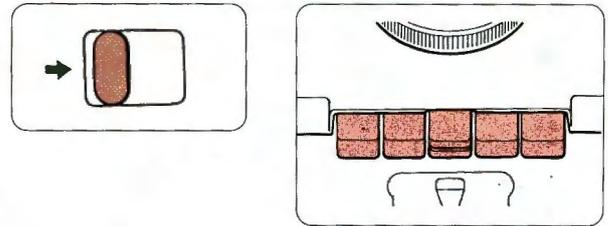
BEFORE STARTING TO KNIT

HOLDING CAM LEVER



CAM BUTTON RELEASE LEVER

Release the cam buttons by sliding the cam button release lever to the right.



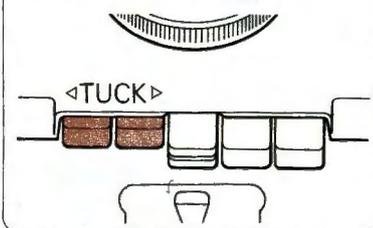
CAM BUTTONS

Use the cam buttons according to the pattern you want.

WEAVING PATTERN LEVER

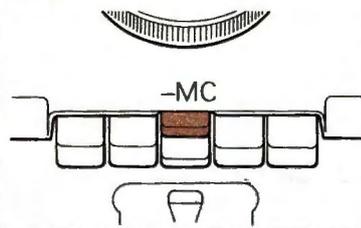
TUCK STITCH PATTERN

Push in the 2 left buttons at the same time.



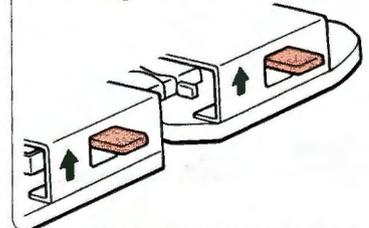
FAIRISLE PATTERN

Push the upper middle button only.



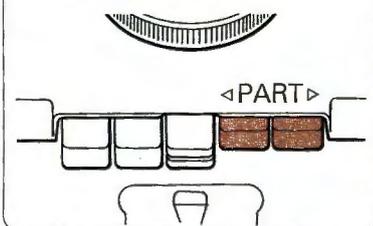
WEAVING PATTERN

Set levers to W.T.
(weaving brushes in use).



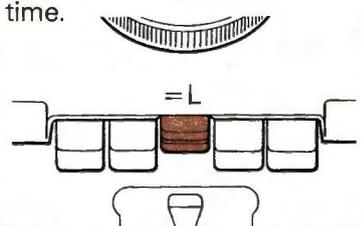
SKIP STITCH PATTERN

Push in the 2 right buttons at the same time.



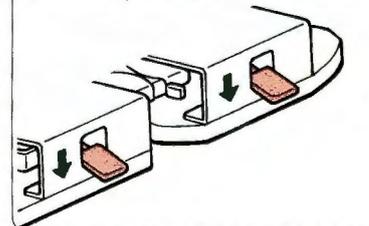
THREAD LACE PATTERN

Push in both middle buttons
(upper & lower) at the same time.



OTHER OCCASIONS

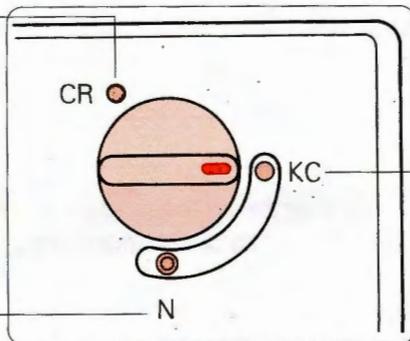
Set levers to N
(weaving brushes not in use).



CAUTION: Do not operate the K carriage if you have depressed both middle buttons (upper & lower) plus either the tuck buttons, or the part buttons.

● CHANGE KNOB

CR
This setting is used to release the K carriage from the needle bed.

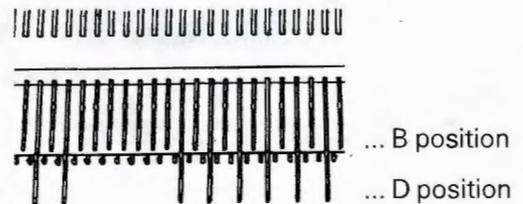


N
This setting is used for stocking stitch and plating.

- ♣ This setting is also used to knit lace or fine lace pattern with the L carriage (option).
- ♣ The cam buttons are automatically released when you set the change knob to N.

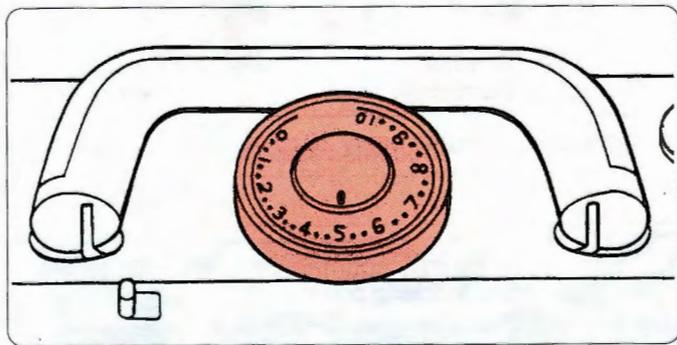
KC
This setting is used for pattern knitting such as tuck, skip, weaving, fairisle, thread lace, etc.

During pattern knitting, the needles are automatically set into B or D position according to the pattern.



● TENSION DIAL

This dial is graduated from 0 to 10, each space being subdivided into three parts. With this dial you can alter the size and tension of your stitches. 0 is the tightest tension (i.e. the smallest stitch) and 10 is the loosest tension (i.e. the largest stitch). You should adjust the dial to a higher or lower number according to the thickness and type of yarn you are using.



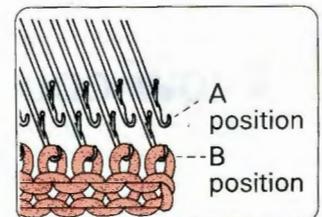
● lower number



● higher number

| type of yarn | recommended tension dial number |
|-----------------|---------------------------------|
| very fine yarn | 0 ~ 3 |
| fine yarn | 3 ~ 5 |
| medium yarn | 4 ~ 6 |
| thick yarn | 7 ~ 10 |
| very thick yarn | 4 ~ 6 |

- ♣ For very thick or bulky yarns, use every other needle or even every third needle.

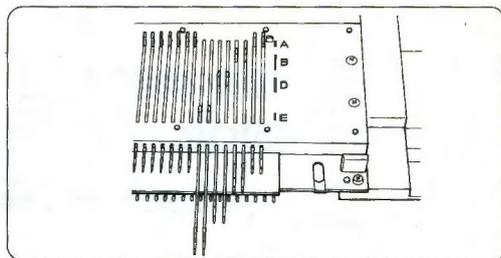


As there are so many different types of yarn, it is impossible for us to tell you which tension dial number you should use. You must decide for yourself which is correct for your yarn by working sample swatches. Use the information above as a rough guide only.

● NEEDLE POSITIONS

On both sides of the needle bed there are the letters A, B, D, and E.
 A -- Non-working position
 B -- Working position. Used for general knitting purposes.
 D -- Upper working position. Selected needles are brought to this position in pattern knitting by the K carriage.
 E -- Holding position. Used for shaping e.g. necklines, shoulders, darts.

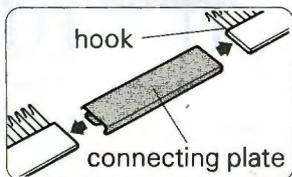
* When you pack your machine away, always return the needles to A position.



● CAST-ON COMB

The cast-on comb is in two sections of 140 and 60 needles, making a total of 200 needles. You can take these apart by removing the connecting plate if you wish to shorten the length.

- 200 stitches



- 140 stitches

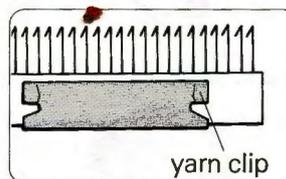


- 60 stitches



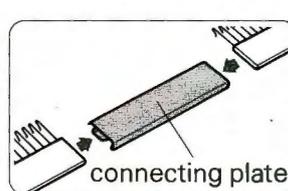
Using the connecting plate

With a 140 or 60 stitch cast-on comb



Use the connecting plate as a yarn clip by attaching it to the end of the comb.

With a 200 stitch cast-on comb

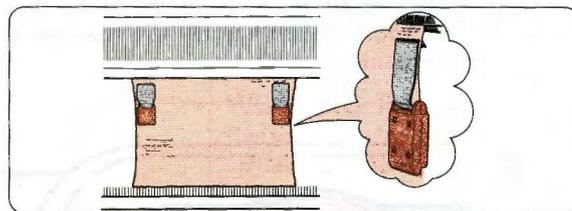
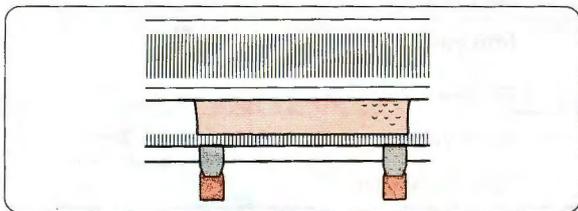


Use the connecting plate to join the two cast-on combs together.

● CLAW WEIGHT

These are used to help your knitting hang properly and to prevent it from lifting up while you work.

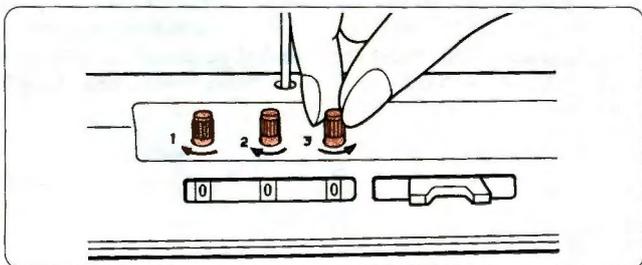
- Hang claw weights onto your cast-on comb so that your knitting hangs evenly.
- If the edges of your knitting do not lie smoothly, hang claw weights on both edges of the actual knitting.



Rehang the weights every 20 rows or so.

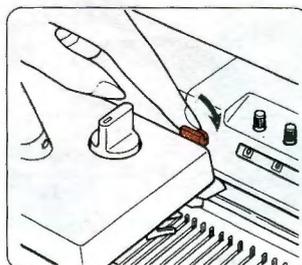
● ROW COUNTER

The row counter shows the number of rows that have been knitted with the K carriage. When you want to set the number back to 000 again, turn the knobs in the direction of the arrows.

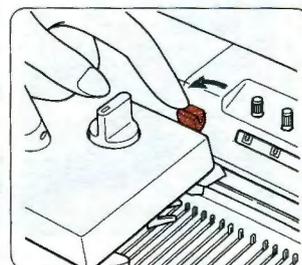


- When using the row counter, do not forget to set the tripper into working position.

working position



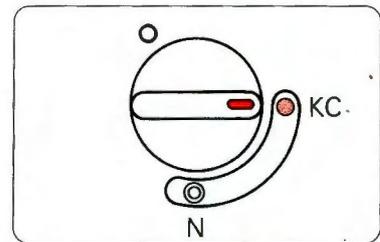
non-working position



● END NEEDLE SELECTION MECHANISM OF THE K CARRIAGE

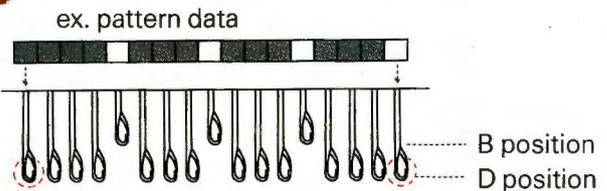
Set the end needle selection of the K carriage to ON or OFF.
Each setting works on the end needle as follows:

- This mechanism works only when the change knob is set to KC.

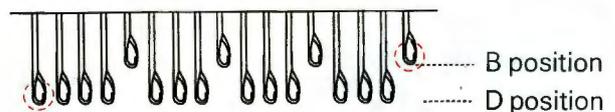


END NEEDLE SELECTION MECHANISM

<ON> End needles are brought to D position at every row in disregard of the pattern data.



<OFF> End needles are selected to B and D position according to the pattern data.



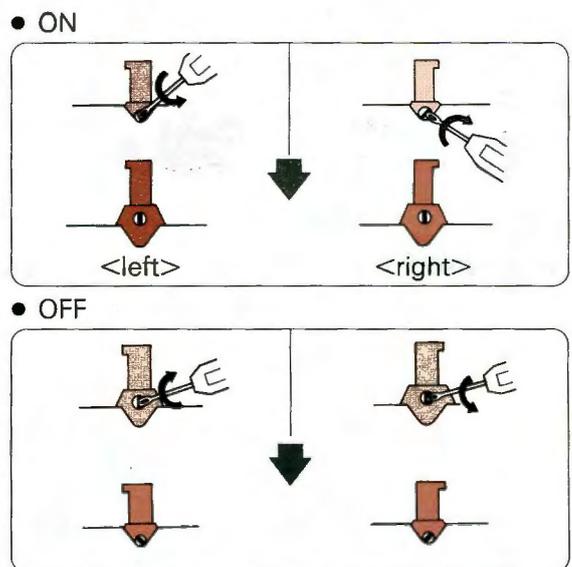
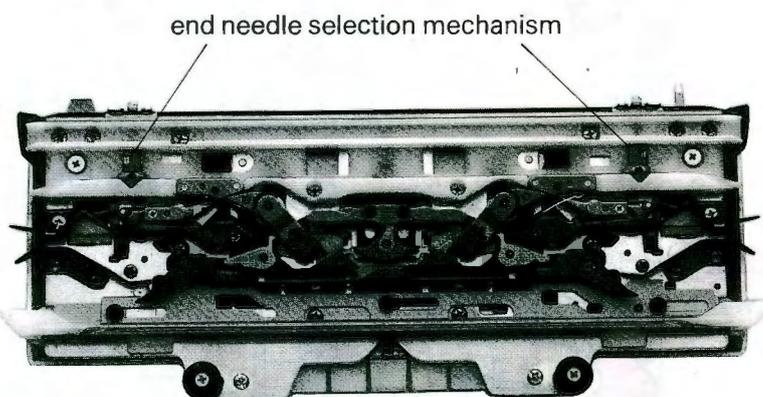
THE REASON WHY YOU SET THE END NEEDLE SELECTION

You have to set the end needle selection according to the pattern. Some patterns require that end needles are brought to D position at every row. Thread lace patterns require that end needles stay in B position at every row to prevent dropping stitches. See pages of pattern knitting to know the end needle selection setting.

ATTENTION: When you knit open stitch patterns, set the end needle selection of the K carriage to OFF.

SETTING THE END NEEDLE SELECTION MECHANISM

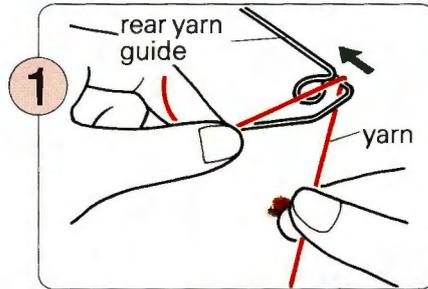
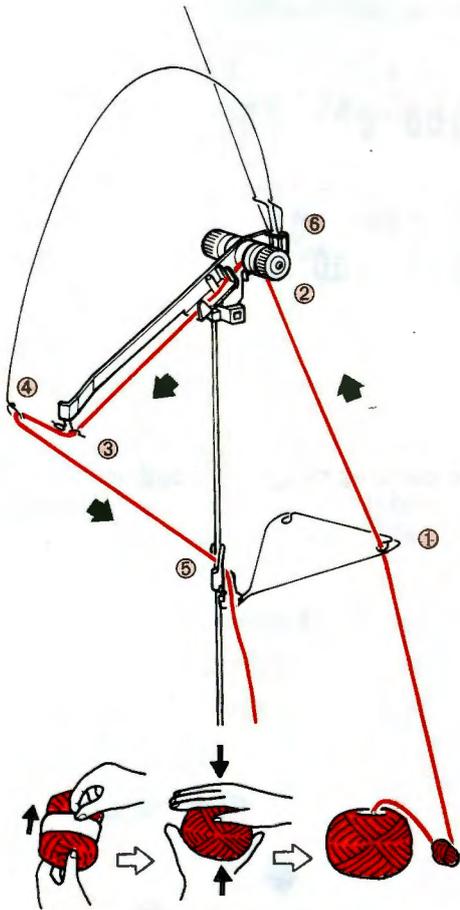
- ① Remove the K carriage from the needle bed.
- ② Set the change knob to KC.
- ③ Turn the K carriage over and set the mechanism to ON or OFF.



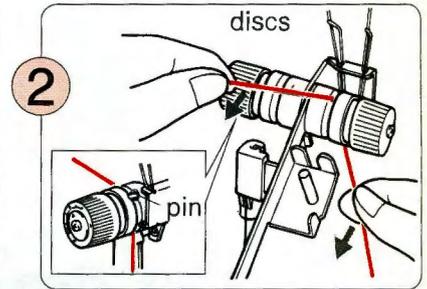
HOW TO OPERATE YOUR KNITTING MACHINE (STOCKING STITCH)

♣ Stocking stitch is the most basic stitch. Practice this until you can do it correctly.

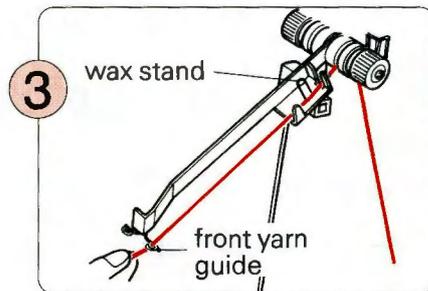
1. THREADING THE YARN



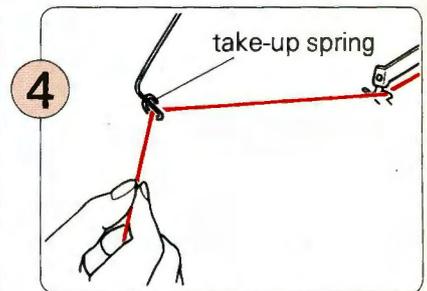
1 Pass the yarn from the ball through the rear yarn guide sliding the yarn through the eyelet.



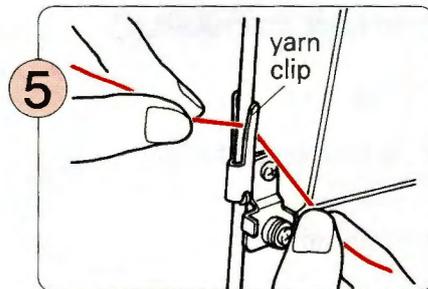
2 Pass the yarn under the pin and between the two discs from behind. Hold the yarn as shown above, and pull it towards you so that the yarn goes under the pin.



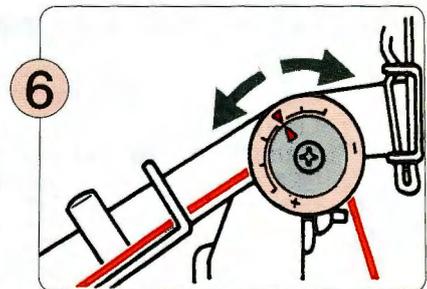
3 Thread the front yarn guide.



4 Thread the yarn into the eyelet of the take-up spring.



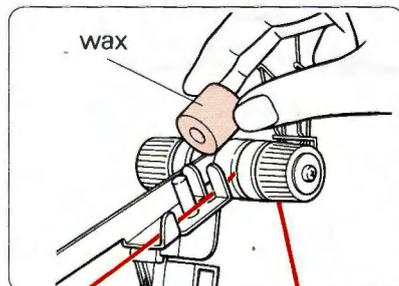
5 Clip the yarn under the yarn clip.



6 Set the arrow mark according to the thickness of the yarn.

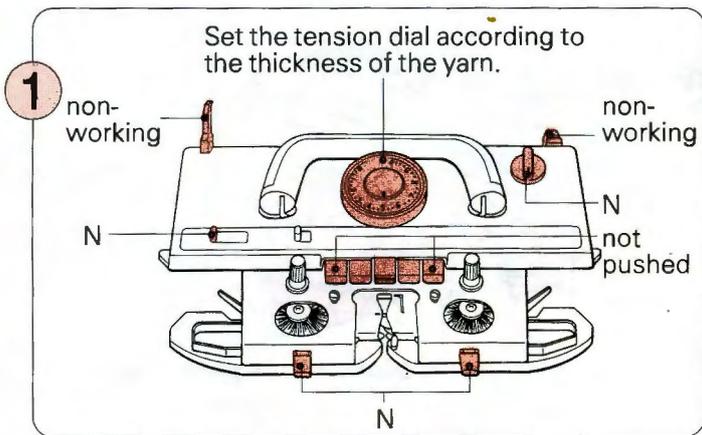
♣ See page 97 to prepare the yarn.

- ▶ ◀ - for medium yarn
- ▶ + - for fine yarn
- ▶ - - for thick yarn

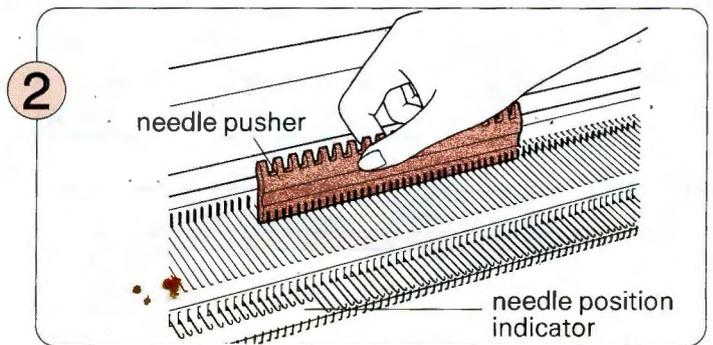


♣ When you start to knit, place the wax which you will find in the accessory box on the wax stand. The wax helps the yarn to slide smoothly.

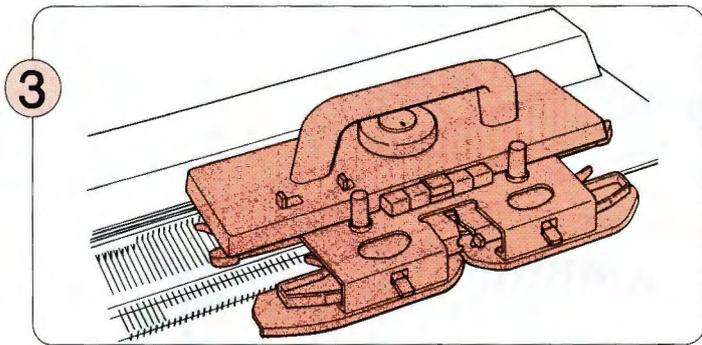
2. HOW TO CAST ON WITH A FINISHED EDGE



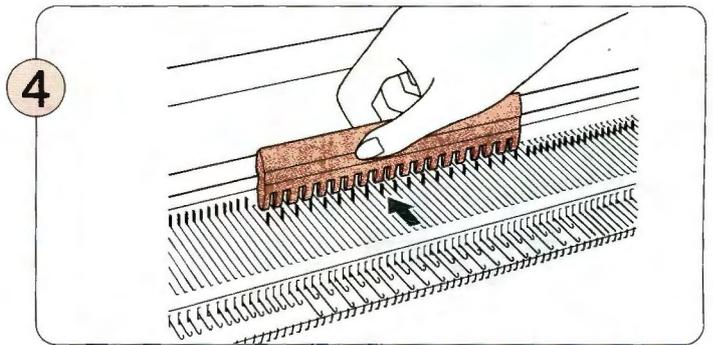
Set the K carriage as shown above.



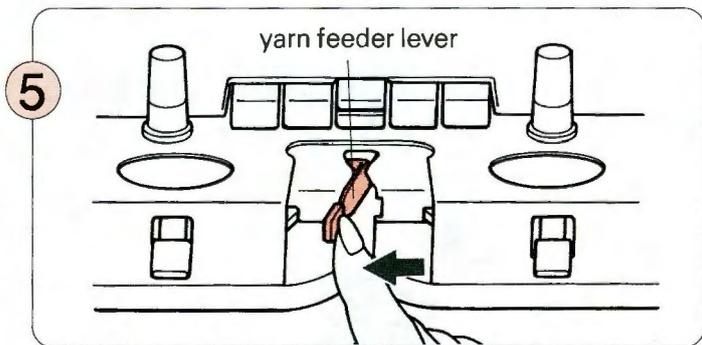
Using the flat side of the 1/1 needle pusher, bring forward needles to B position (the same number of needles on either side of the center mark 0).



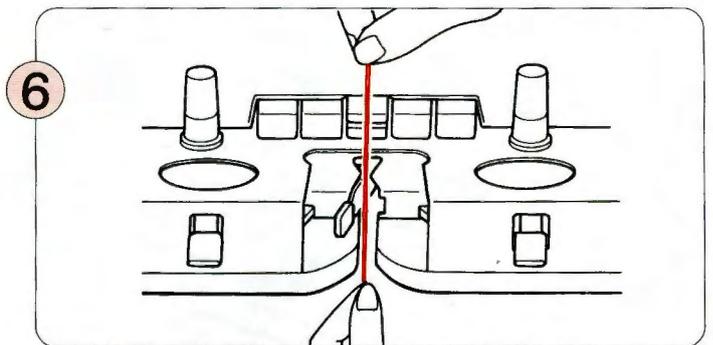
Move the K carriage across the needle bed a few times to align the needles, ending with the K carriage on the right.



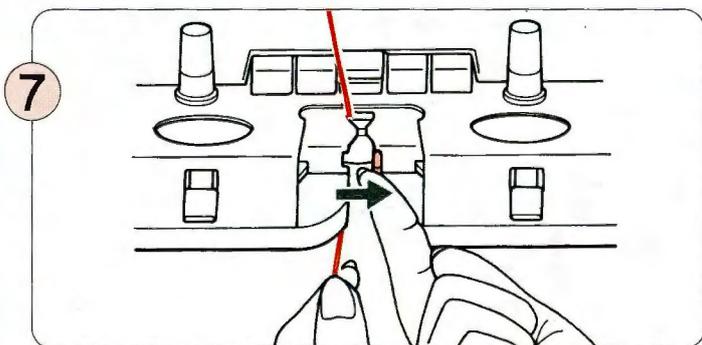
Using the 1/1 needle pusher take every other needle back to A position.



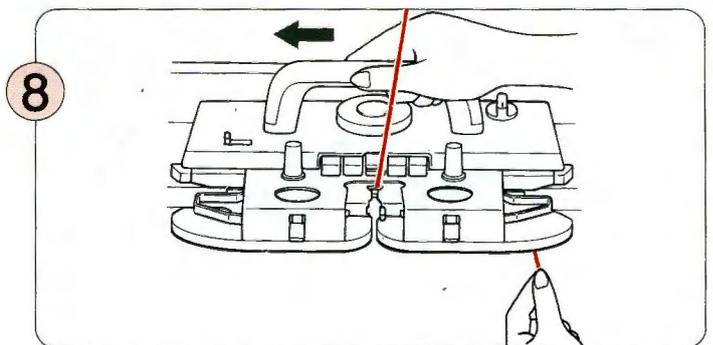
Open yarn feeder A by pushing the yarn feeder lever to the left.



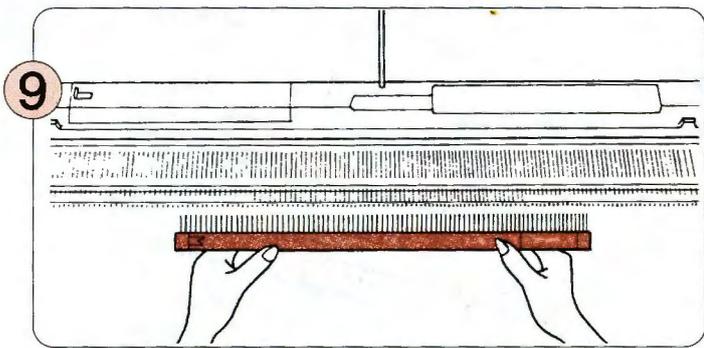
Take the yarn from the yarn clip and thread it into yarn feeder A.



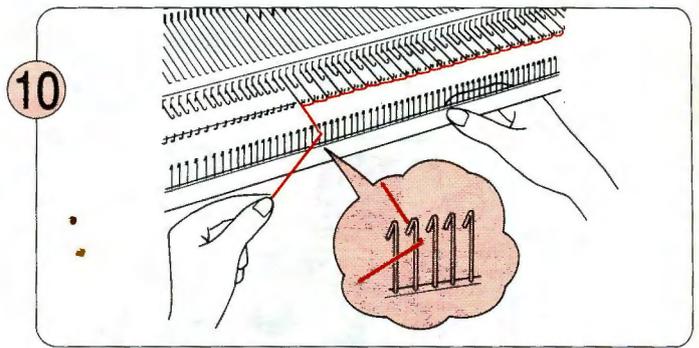
Keeping hold of the end of the yarn with your left hand, close the yarn feeder lever.



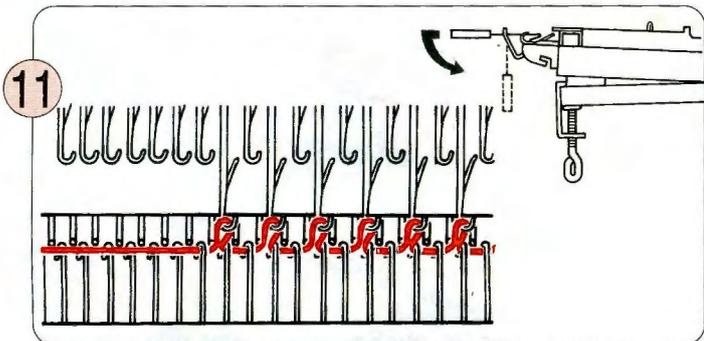
Still holding the yarn end gently, slowly move the K carriage to the left. Once you feel the needles catch the yarn, you can release the yarn end.



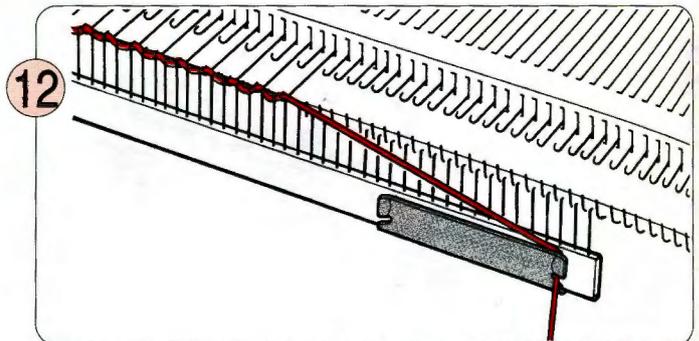
- 9 Take the cast-on comb out of the case and choose the length according to the number of needles (see page 22).
- 10 Hold the cast-on comb as shown with the hooks facing the machine.



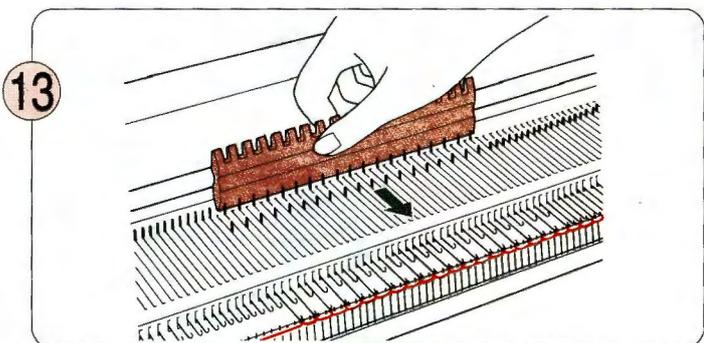
Pull the yarn through the hook towards you as illustrated.



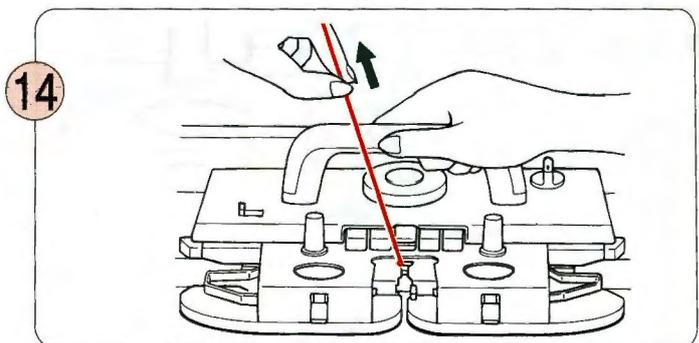
Hook the cast-on comb over the loops and let it hang down. Give the comb a gentle pull downwards.



Hook the loose yarn end under the yarn clip on the front of the connecting plate.

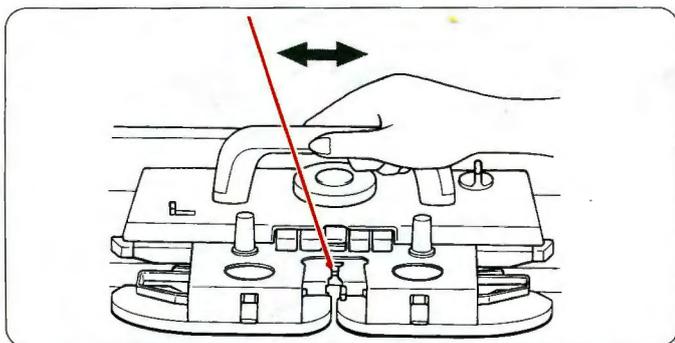


Return the needles which you took to A position in step 4 forward to B position.



Move the K carriage to the right, holding the yarn as shown so that no loops are formed.

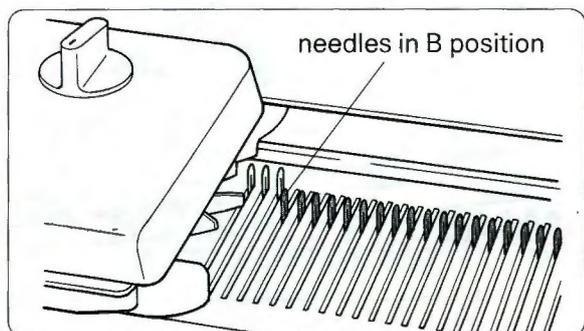
3. STOCKING STITCH



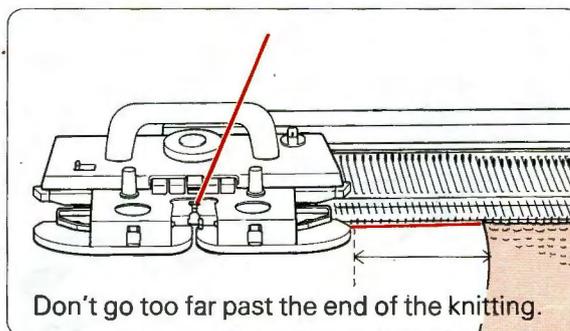
Continue moving the K carriage back and forth. This type of knitting is called "stocking stitch".

Before you move the K carriage

- Watch out for the following points.



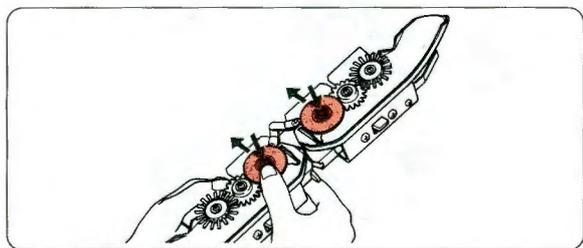
Make sure the K carriage clears the knitting before you move it back in the other direction.



Do not move the K carriage too far beyond the knitting.

Rubber wheels (Use these if the yarn (e.g. cotton, acrylic) doesn't knit properly.)

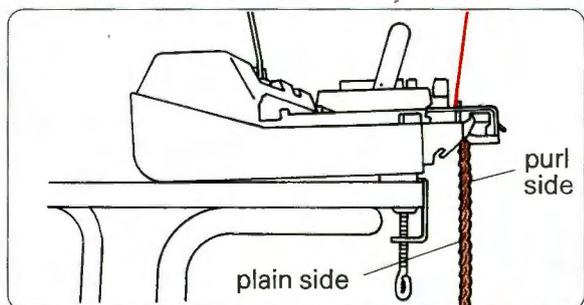
- These are set in working position as follows:



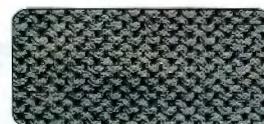
- (1) Remove the sinker plate assembly from the K carriage, and turn it over.
 - (2) Place your thumb onto one of the rubber wheels and slide the wheel forward, so that it is in line with the brush. Do the same for the other rubber wheel.
- ♣ Reverse the above action to return the rubber wheels to non-working position.

Plain & purl sides of your knitting

- You can use whichever side you prefer as the right (face) side when you sew up your garment.

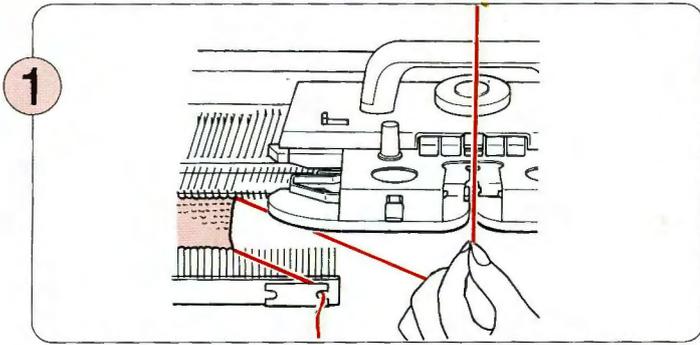


plain side

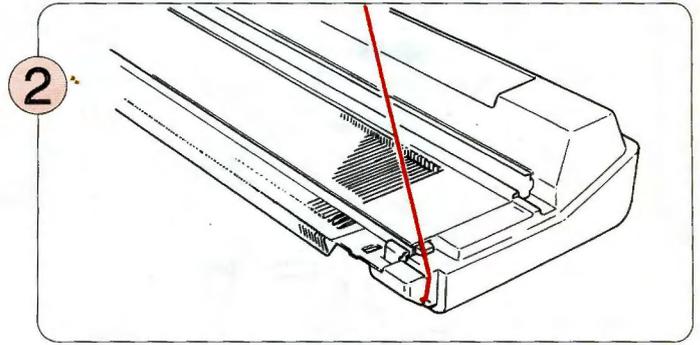


purl side

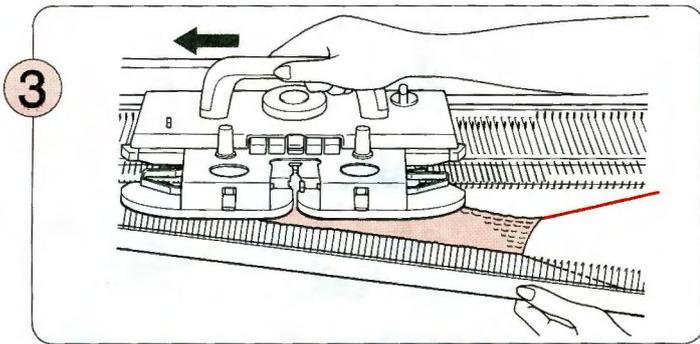
4. HOW TO REMOVE YOUR KNITTING FROM THE MACHINE



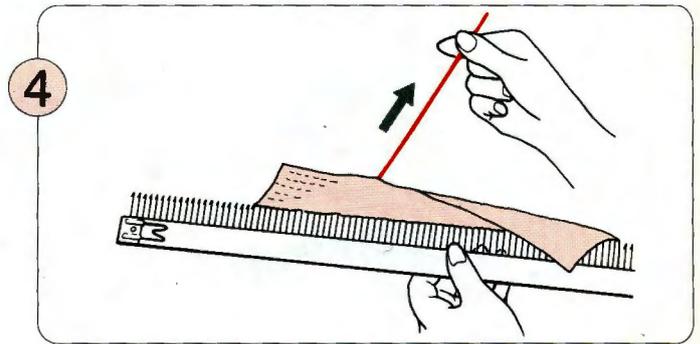
1 Remove the claw weights and take the yarn out of the yarn feeder.



2 Secure the yarn by hooking it into the slot at the edge of your machine.



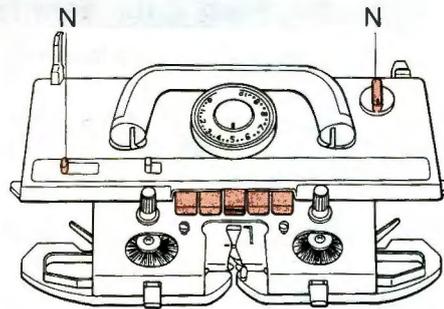
3 To release the knitting, move the empty K carriage slowly across the needles at the same time supporting the knitting with your other hand.



4 As the knitting has not been finished off and the stitches are open loops, it will unravel easily.

How to remove your knitting from the machine while you are knitting in pattern

- Set the change knob and the holding cam lever to N. And then follow the steps ① - ④ on this page.



PROGRAM FOR PATTERN KNITTING

PROGRAM

••• WHAT IS A PROGRAM? •••

PROGRAM means telling the computer what functions you want the knitting machine to perform.

Built into the computer memory are 50 different stitch pattern designs, so in order to knit one of them, you must tell the computer.

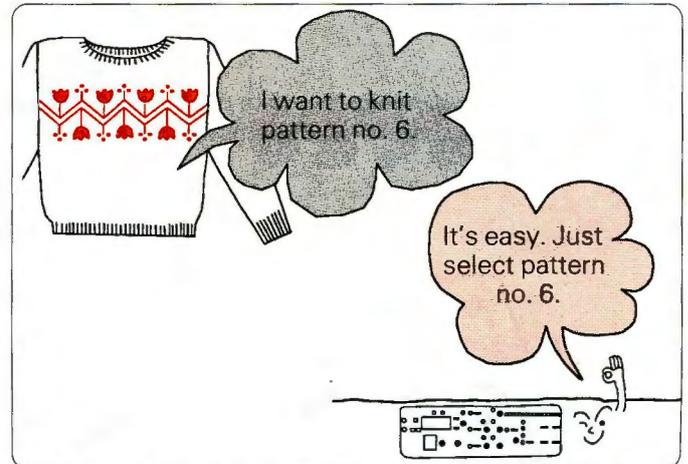
Should you want to design your own stitch pattern, you must store this in the memory of the computer. (You can also delete this information when it is no longer needed.)

Take time to learn the functions of the computer and you will enjoy your knitting machine to the full.

PATTERN PROGRAM

When you want to knit a particular stitch pattern, you must enter this information by using the pattern program. Pattern program has four selections:

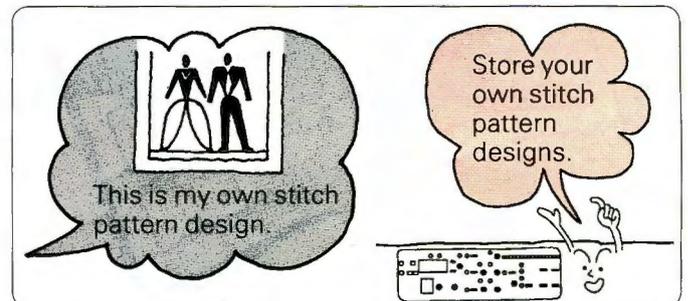
- pattern no. selection see page 31.
- pattern position selection see page 34.
- one-point motif selection see page 36.
- variation selection see page 38.



PATTERN INPUT PROGRAM

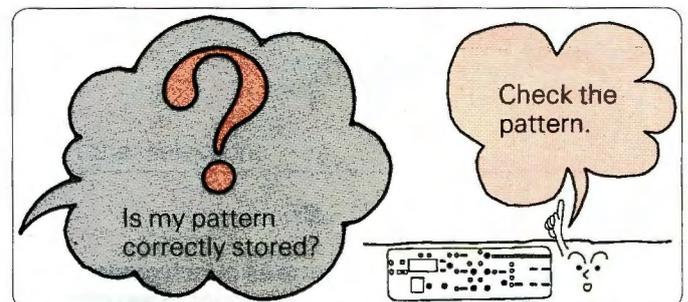
When you want to enter your own stitch pattern design, use the pattern input program.

This program is also used to enter the memo information such as yarn changing (see page 47.)



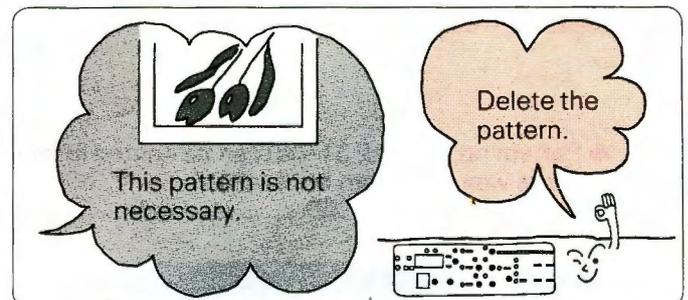
PATTERN EDIT PROGRAM

When you want to check or modify the pattern data (memo data) you entered, use the pattern edit program (see page 54).



PATTERN DELETE PROGRAM

When you want to delete an unnecessary pattern data, use the pattern delete program (see page 56).



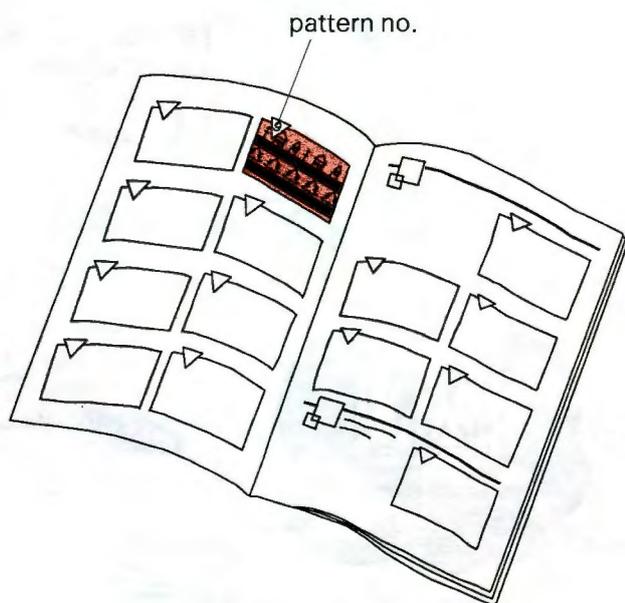
PATTERN PROGRAM

HOW TO SELECT THE PATTERN (PATTERN No. SELECTION)

WHEN KNITTING THE BUILT-IN PATTERN

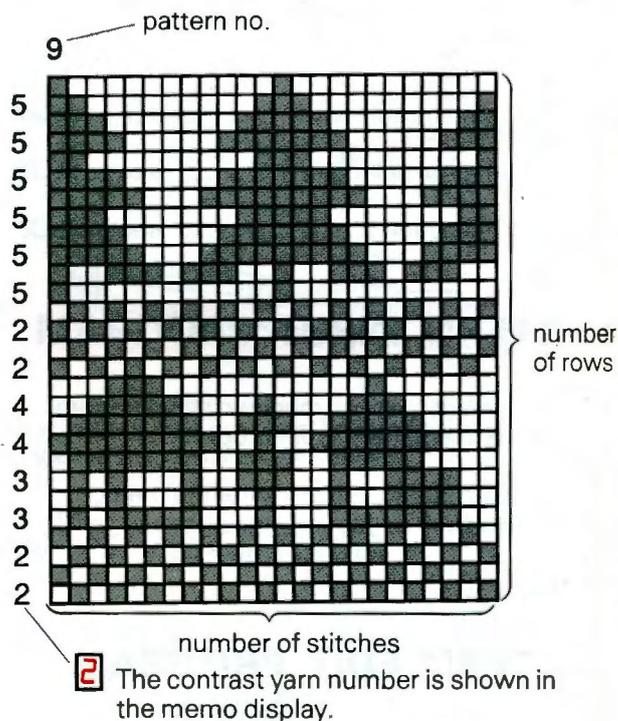
50 stitch pattern designs are built into the memory of the computer.
 Pages 1 – 11 show in full colour the 50 patterns.
 Choose your design and enter the number into the computer (see page 32).

For example When knitting the pattern no. 9, enter pattern no. 9 (pattern no. selection).



PATTERN DATA

See pages 121 – 125 to check the pattern data of the built-in pattern.



• Built-in patterns no. 21 – 50

These patterns are the same as punch cards attached to the optional accessories. See chart at right. (When knitting with these accessories, see pages 57 – 62.)

| pattern No. | optional accesories |
|-------------|---------------------|
| 21~30 | KHC colour changer |
| 31~40 | KRC colour changer |
| 41~50 | G carriage |

♣ Pattern no. 21 – 28, 31 – 40 can be knitted in fairisle pattern without optional accessory. Knit in the same way as pattern no. 1 – 20.

WHEN KNITTING YOUR OWN ORIGINAL PATTERN

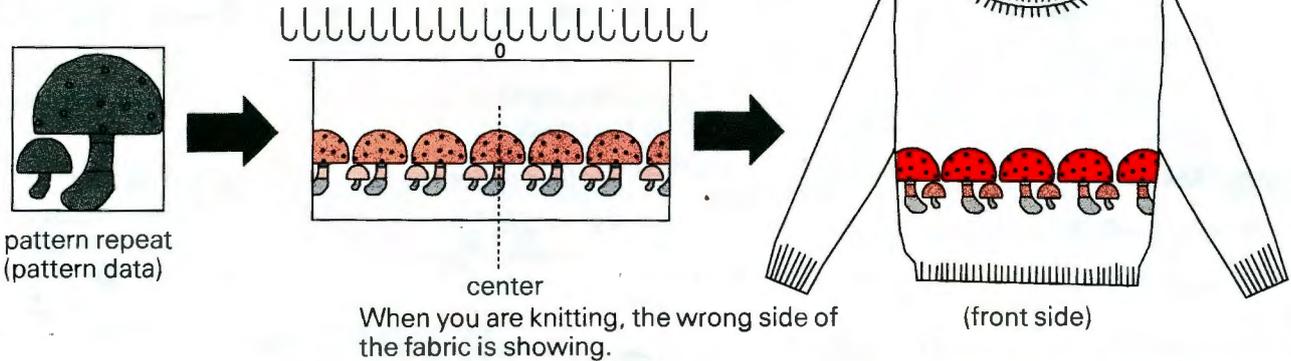
Enter your own original pattern first (see page 47).

● PATTERN No. SELECTION

When you want to knit the pattern, you must select the pattern number.

Pattern on the garment

When you enter the pattern No., the machine will automatically knit the pattern repeat, placed over the center of the needle bed, as an all over stitch design.



<NOTE>

When you view the knitting from the plain side, the pattern direction is different from the direction of the pattern data. To reverse the pattern direction, see page 39.

The pattern repeat does not have to be over the center of the needle bed, see page 34.

Other selections

When you enter a new pattern no., all other selections (e.g. pattern position, one-point motif, and variation selections) return to the original setting.

Therefore, select the pattern no. before other selections.

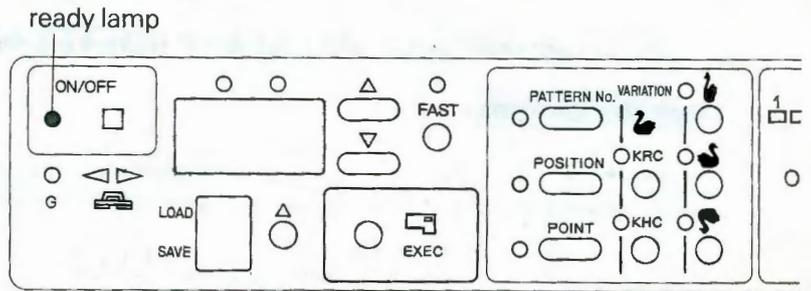
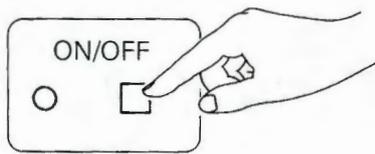
♣ If you do not change the pattern no...

If you push the pattern no. key but do not change the number, other selections will not be cancelled.

● HOW TO PROGRAM (PATTERN No. SELECTION)

● POWER ON

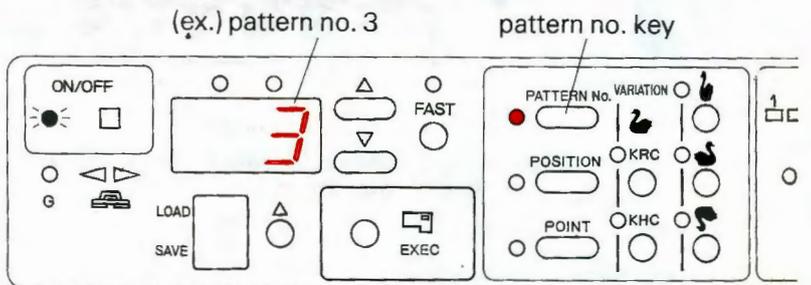
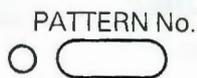
Turn on the power switch.



The ready lamp lights up or blinks. Any information on the panel relates to before the power was turned off.

● PROGRAM

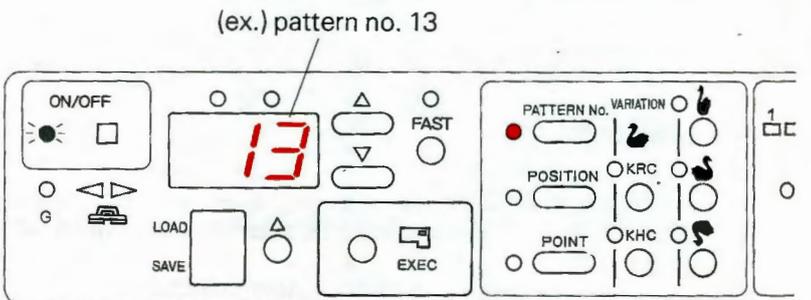
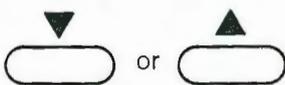
1 Push the pattern no. key.



The ready lamp blinks and pattern no. lamp is lit. The display shows the former pattern no.

♣ The display shows nothing when you use the machine for the first time after purchase or after deleting an original pattern.

2 Choose the pattern number with the up or down key.

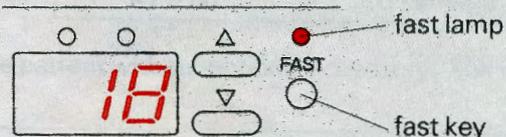


♣ See the next page for the indicating order of the pattern number.

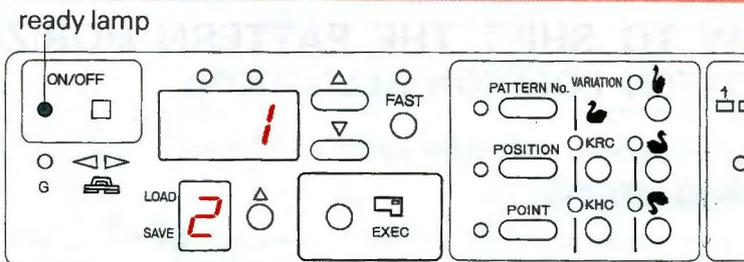
- Keep pushing the up or down key. The display changes continuously.

- To change the display faster....

Push the fast key. Keep pushing up or down key with the fast lamp lit. The changing speed becomes faster. Push fast key to turn off the fast lamp. The changing speed returns to normal.



3 Push the pattern no. key



The pattern no. lamp goes out and the ready lamp is lit. You have completed selecting the pattern No. and the machine is ready to knit the pattern. (see page 63)

• Display and memo display

The display shows 1 after pattern number selection. This means the row number of the pattern and the machine is ready to knit from the first row.
If the memo information is entered at the first row, memo display shows it (see page 30).

• CONFIRMING PATTERN No.

1 Push the pattern no. key.



The ready lamp blinks and pattern no. lamp is lit. The display indicates the pattern no. you have selected.

2 Push the pattern no. key.

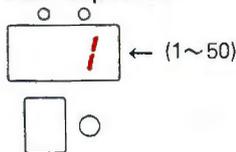


Any information on the panel relates to before you pushed the pattern no. key in step 1.

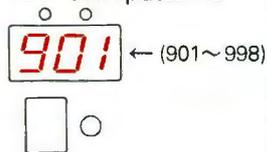
TYPES OF PATTERN

Pattern no. is displayed differently according to the types of the pattern.

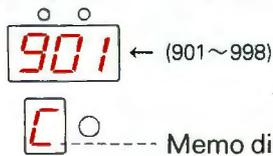
A. Built-in pattern



B. Your own patterns



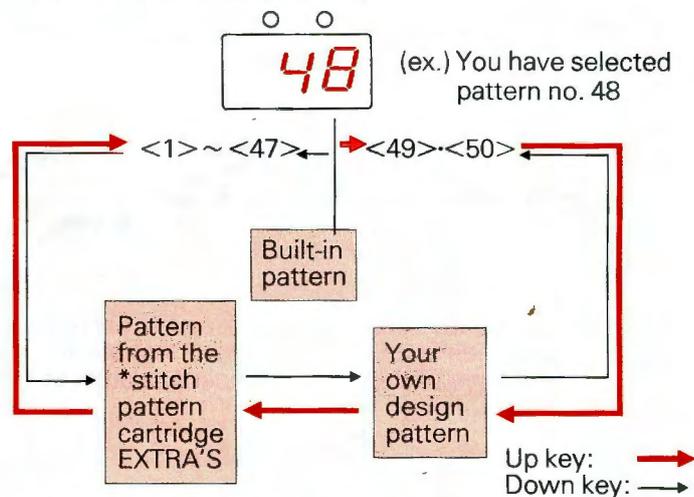
C. Pattern loaded from the *stitch pattern cartridge EXTRA'S



Memo display shows C

DISPLAYING ORDER OF THE PATTERN NO.

The display indicates the pattern no. in the order as below. (If the computer does not store any your own patterns or any patterns from the stitch pattern cartridge EXTRA'S, these pattern no. do not appear.)



*stitch pattern cartridge EXTRA'S

This cartridge contains the 853 patterns which appear in the punch card pattern book and can be purchased optionally.

♣ This is the different cartridge explained in page 57.

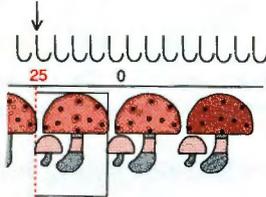
HOW TO SHIFT THE PATTERN HORIZONTALLY (PATTERN POSITION SELECTION)

Set the pattern position to shift the pattern horizontally.

PATTERN POSITION

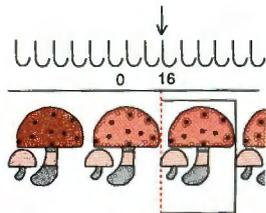
- Pattern position is the left end needle position of the one pattern repeat.
- Set the pattern position by the needle number, then the pattern repeats are positioned according to that needle number.
- You may enter the left end needle position of any pattern repeats.

pattern position



.....left 25 as pattern position

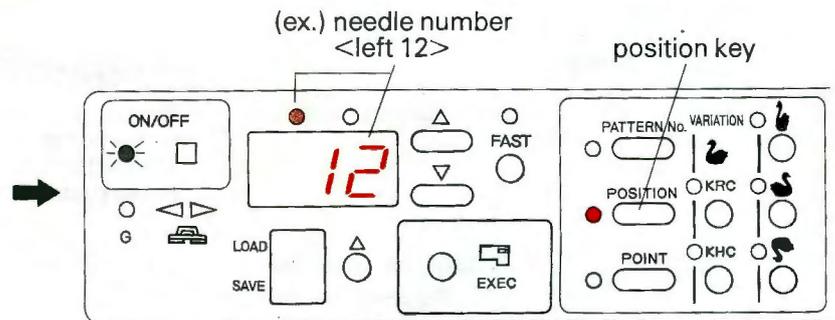
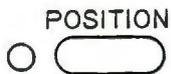
pattern position



.....right 16 as pattern position

HOW TO PROGRAM (PATTERN POSITION SELECTION)

- 1 Make sure that the ready lamp is lit. Push the position key.

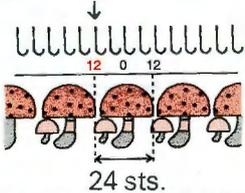


The ready lamp blinks and position lamp is lit. If the point lamp or a variation lamp is lit, it turns off. The display shows the present pattern position.

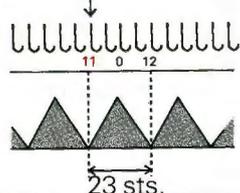
PATTERN POSITION

At first, the computer automatically place the pattern repeat over the center of the needle bed and shows the pattern position of the pattern repeat placed over the center.

(ex. 1)
pattern position

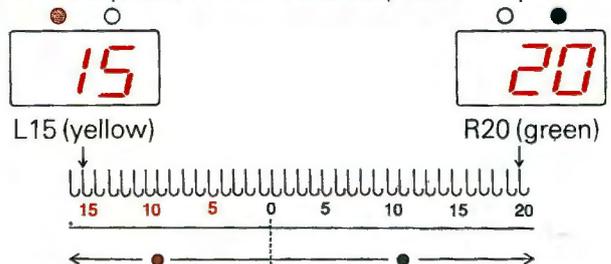


(ex. 2)
pattern position

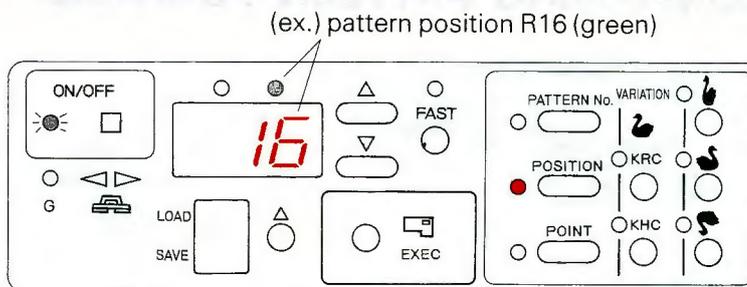
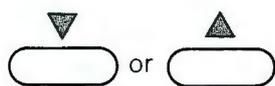


INDICATION OF THE PATTERN POSITION

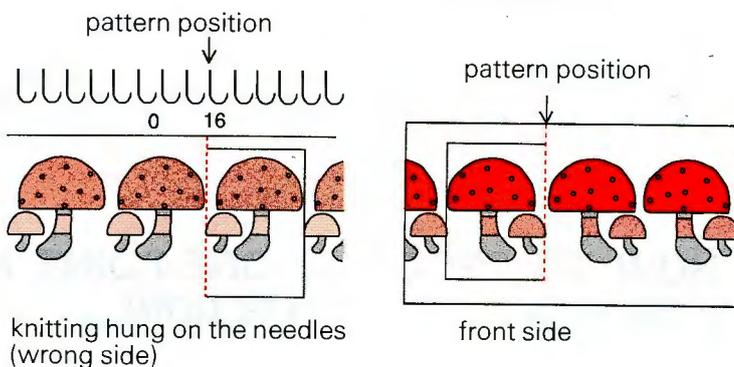
The needle bed is divided into two halves, the left being referred to as yellow and the right being referred to as green on the needle position indicator and the position lamp.



2 Choose the pattern position with the up or down key.



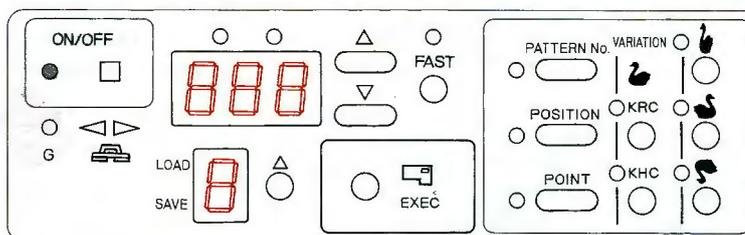
<NOTE> When you decide the pattern position, bear in mind that the pattern position should be set with the wrong side of the knitting facing you.



- Up key and down key to change the pattern position
 Up key: Shifts the pattern position to the right.
 Down key: Shifts the pattern position to the left.

- Keep pushing the up or down key. The display changes continuously.
- To change the display faster... Push the fast key. Keep pushing up or down key with the fast lamp lit. The changing speed becomes faster. Push fast key to turn off the fast lamp. The changing speed returns to normal.

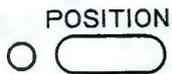
3 Push the position key.



The position lamp goes out and the ready lamp is lit. You have completed selecting the pattern position. Any information displayed on the panel relates to before you started pattern position selection.

● CONFIRMING PATTERN POSITION

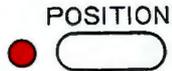
- 1 Push the position key.



➔ The ready lamp blinks and position lamp is lit. The display shows the present pattern position.

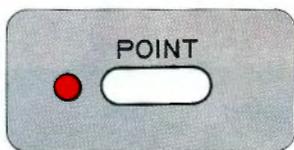
♥ Use the up or down key to correct the pattern position (see step 2 on page 35).

- 2 Push the position key.



➔ Any information on the panel relates to before you pushed the position key in step 1.

■ HOW TO PROGRAM ONE-POINT MOTIF (ONE-POINT MOTIF SELECTION)



You can knit one-point motif as follows using the point key.



one pattern repeat



one pattern repeat



two pattern repeats



three pattern repeats

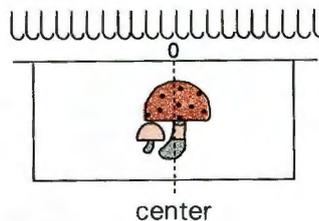


PATTERN POSITION OF THE ONE-POINT MOTIF

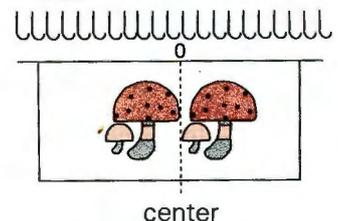
- Pattern position set by the computer

The one-point motif is knitted in the center of the needle bed.

<ex.1>



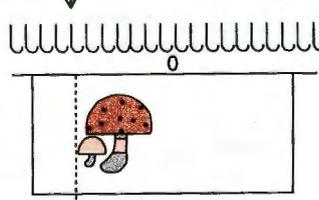
<ex.2>



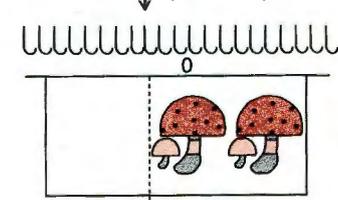
- Pattern position set by you

The pattern position is the left end needle of the one-point motif.

<ex.3> ↓ pattern position



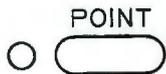
<ex.4> ↓ pattern position



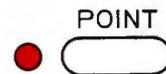
● HOW TO PROGRAM (ONE-POINT MOTIF SELECTION)

When programming one pattern repeat

Make sure that the ready lamp is lit. Push the point key.



The point lamp is lit and the machine is ready to knit one pattern repeat. (see page 66)



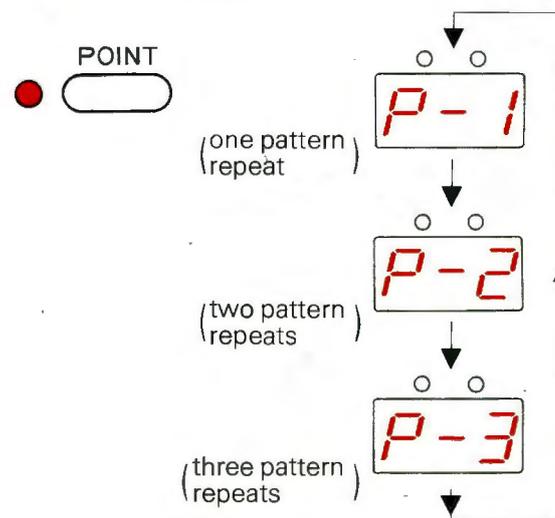
Knit one-point motif with the point lamp lit.

When programming two or three pattern repeats

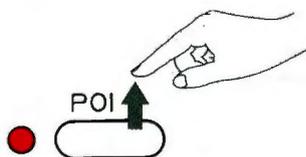
- 1 Make sure that the ready lamp is lit. Press the point key and hold down until the display indicates the number of pattern repeats.



The point lamp is lit. The display indicates the number of pattern repeats.



- 2 Stop pushing the key when the desired number of pattern repeats is indicated on the display.



The display shows selected number of pattern repeats for a while, then returns to the condition before pushing the point key (the point lamp is still lit). Now the machine is ready to knit one-point motif (see page 66).

Knit one-point motif with the point lamp lit.

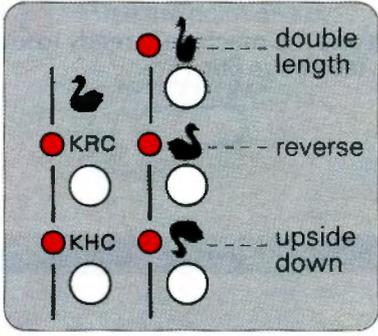
To cancel the function of point key.

Push the point key. The point lamp goes off and the function of the key is cancelled.



The function of the point key is automatically cancelled when selecting a new pattern number. Therefore, you do not have to cancel it when finishing pattern knitting.

HOW TO USE THE VARIATION KEYS (VARIATION SELECTION)



You can have fun making lots of different pattern combinations with the variation keys.

- They are set when the ready lamp is lit.
- The variation lamp is lit when the key is operative.
- The pattern is then varied according to whichever keys you have pushed.

DOUBLE LENGTH KEY



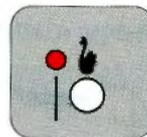
The pattern is knitted in double length.



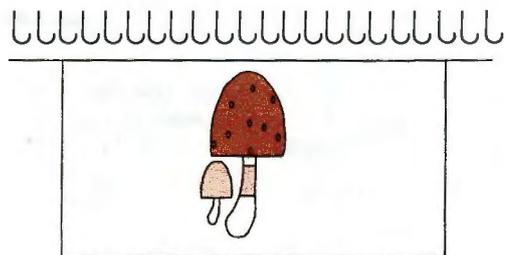
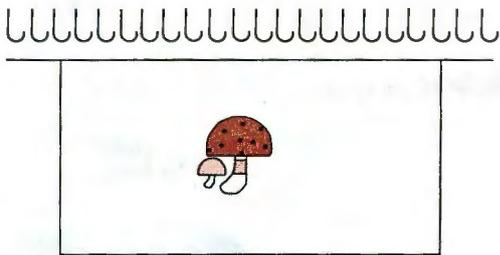
When the double length key is off....



Pattern



When the double length-key is on....



REVERSE KEY



The direction of the pattern is changed.
Use this key to knit the pattern (seen from the plain side) in the same direction as the pattern data.



When the reverse key is off....

- The pattern made on your knitting (seen from the purl side) is in the same direction as the pattern data.



pattern data

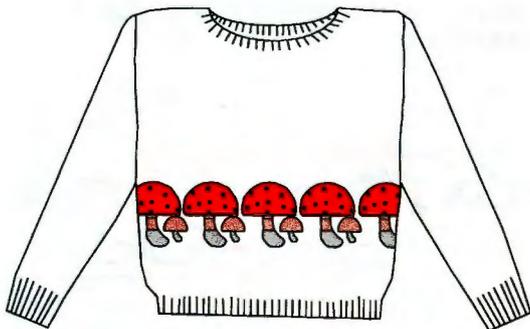


When the reverse key is on....

- The pattern made on your knitting (seen from the purl side) is in the opposite direction of the pattern data.



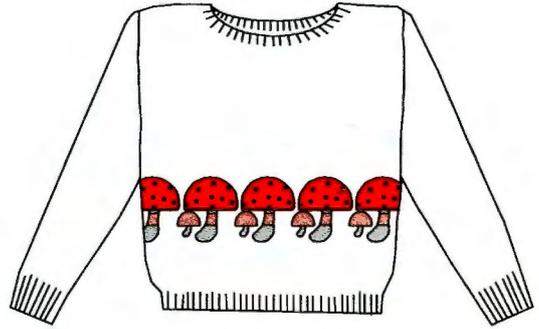
(purl side)



(plain side)



(purl side)



(plain side)

REMEMBER: The pattern direction is different when you view it from the plain side and from the purl side.

UPSIDE DOWN KEY



The pattern is knitted upside down.

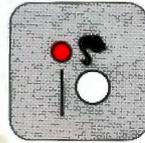


When the upside down key is off....

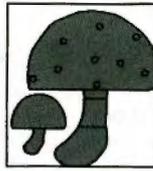


The pattern starts at the first row (bottom row) of the pattern.

pattern

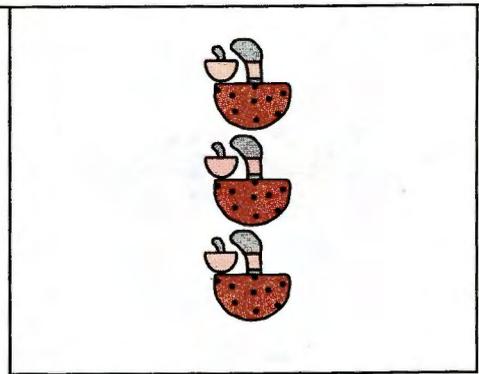
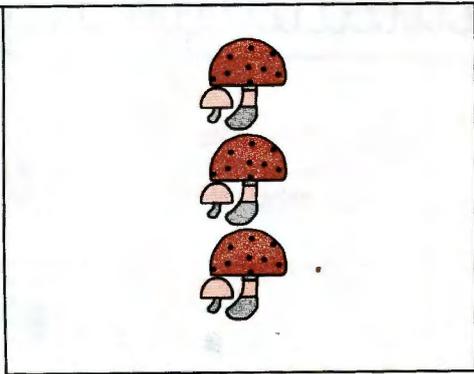


When the upside down key is on....



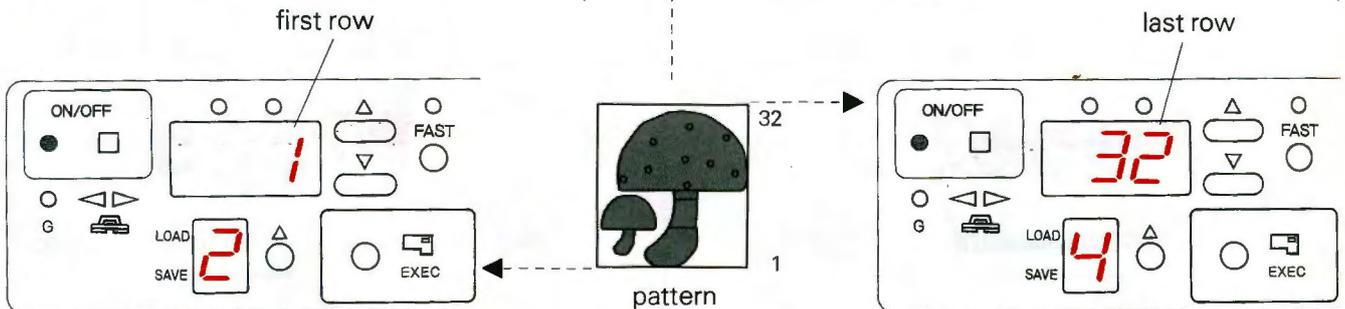
The pattern starts at the last row (top row) of the pattern.

pattern



- The display shows 1 as the first row of knitting after you have finished pattern programming.

- When you turn on the upside down key, the display shows the last row 32.



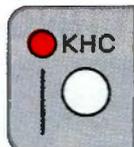
KRC KEY



Push this key to knit in fairisle rib (jacquard) using the pattern data of fairisle. (Both the ribber and the double bed colour changer are necessary for fairisle rib.)

See page 61 in detail.

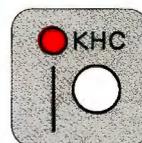
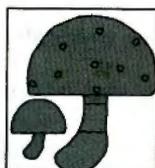
KHC KEY



The pattern is knitted in negative.

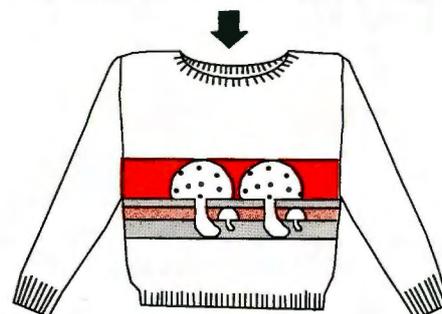
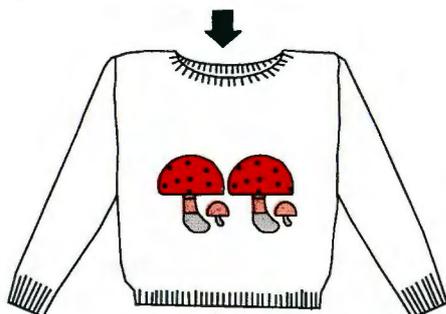
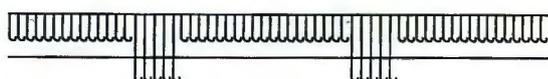


When the KHC key is off....



When the KHC key is on....

- Needles corresponding to the black squares (■) in the pattern data are selected to D position, and the other needles remain in B position. When knitting one-point motif, background needles remain in B position.



See page 59 when using the single bed colour changer (KHC).

• LIST OF VARIATION KEYS

Use the appropriate variation key to knit the patterns marked "o" in the column below.

| | DOUBLE LENGTH | REVERSE | UPSIDE DOWN | KHC | KRC |
|----------------------------|---------------|---------|-------------|-----|-----|
| FAIRISLE PATTERN | ○ | ○ | ○ | ○ | — |
| TUCK STITCH PATTERN | △*1 | ○ | ○ | △*2 | — |
| SKIP STITCH PATTERN | ○ | ○ | ○ | △*2 | — |
| WEAVING PATTERN | ○ | ○ | ○ | ○ | — |
| THREAD LACE PATTERN | ○ | ○ | ○ | — | — |
| PLATED TUCK STITCH PATTERN | — | ○ | ○ | △*2 | — |
| LACE/FINE LACE PATTERN | — | — | — | — | — |
| FAIRISLE RIB | ○ | ○ | ○ | ○ | ○*3 |

*1 Use the double length key according to the remarks on page 53 under tuck stitch pattern.

*2 Do not use the KHC key when knitting tuck stitch, plate tuck stitch and skip stitch patterns from pages 3 – 5 and 8.

*3 Always use the KRC key when you knit fairisle rib (jacquard).

● HOW TO CHANGE A VARIATION KEY WHILE YOU ARE KNITTING IN PATTERN

The variation keys can be changed whenever you wish, even if you are in the middle of a pattern.

● How to change the reverse key or KHC key

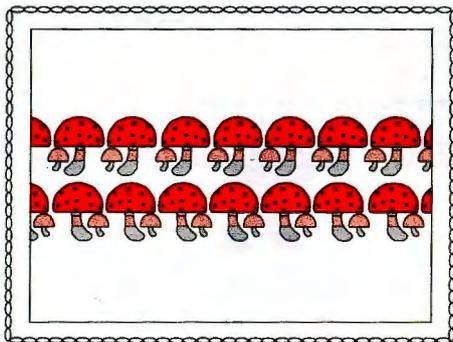
(reverse)
|

KHC
|

- Change the variation key one row before you want the pattern to be altered.
- Change the program in this way anywhere on the pattern to create different effects.

ex.

- This example was knitted using fairisle pattern No. 13.



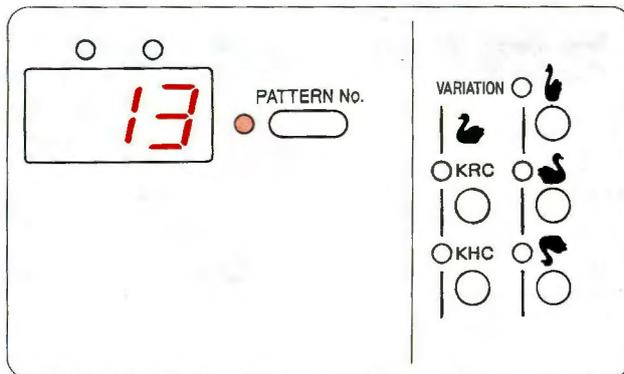
Change the reverse key as follows:-

- (b)..... (reverse key ON)
- (a)..... (reverse key OFF)

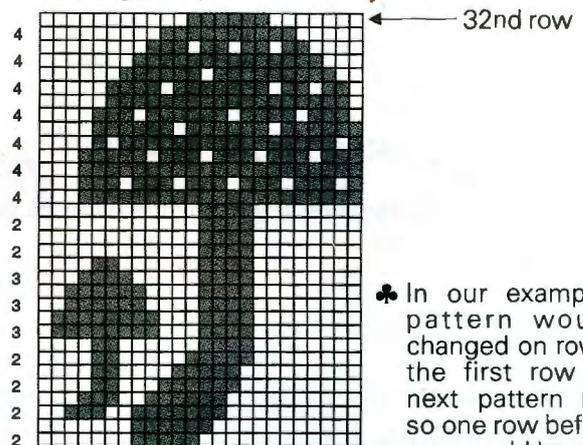
● How to knit

- 1 Program pattern (a) as follows:-

♣ Just select the pattern no.

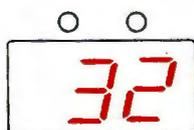


- 2 Look at the pattern data and make a note of the number of the row before that on which you want to change the pattern.

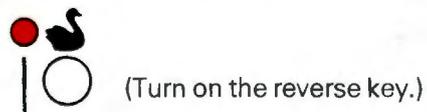


♣ In our example, the pattern would be changed on row 1 (i.e. the first row of the next pattern repeat), so one row before that row would be row 32.

- 3 Knit pattern (a) in fairisle. You can continue knitting until the display shows the memorized number (32). (Finish that row.) The K carriage is at the same side as the lighting side of the carriage direction indicator.

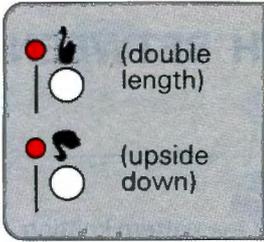


- 4 Now change the variation key (or the pattern program).



- 5 When you operate the K carriage for the next row, the needles are selected for the first row of pattern (b). Continue to knit pattern (b).

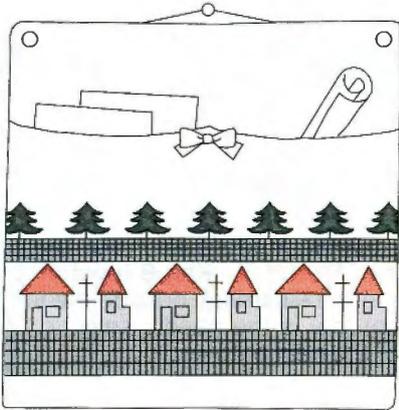
8 How to change the double length key or upside down key



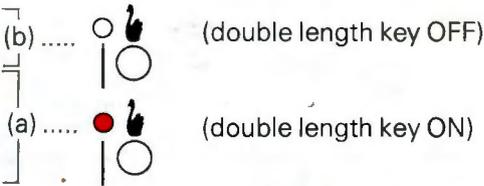
- Change the variation key on the row you want the pattern to be altered.

ex.

- The example was knitted using fairisle pattern No. 9.

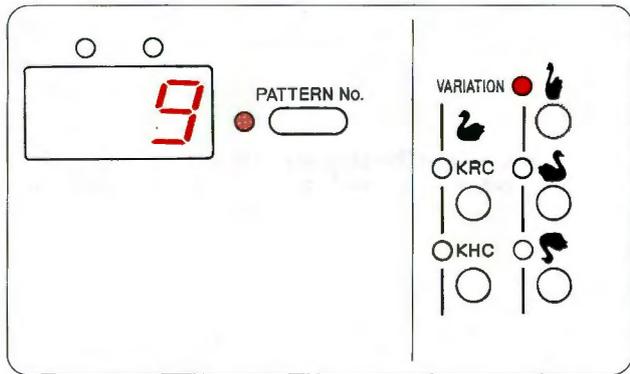


Change the double length key in the middle of the pattern as follows:

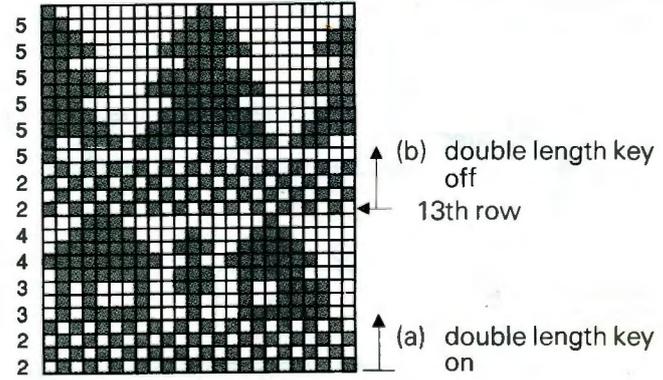


• How to knit

- 1 Program pattern (a) as follows:—
 - 1 Select pattern no. 9.
 - 2 Turn on the double length key.



- 2 Look at the pattern data and make a note of the number of the row on which want to change the pattern.

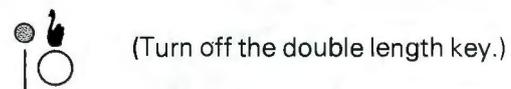


- ♣ In our example, knit the pattern to the 12th row with the double length key on from 13th to last with the key off.

- 3 Knit pattern (a) in fairisle. Continue knitting until the display shows the memorized number (13). (Finish that row.) The K carriage is placed at the same side as the carriage direction indicator.



- 4 Now change the variation key.

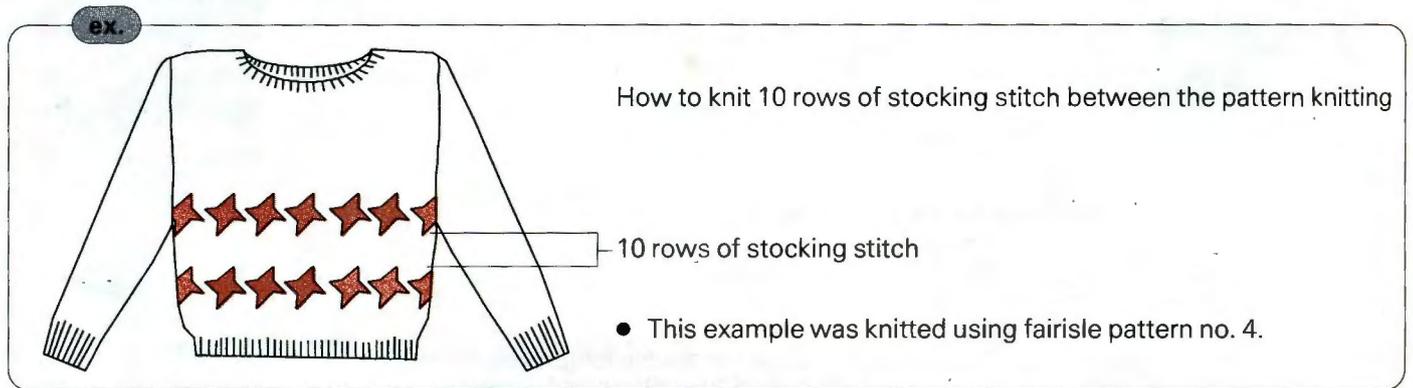


- ♣ The pattern is changed to the new setting (b) on the row where the needles have already been selected. You can begin knitting pattern (b).

- 5 Operate the K carriage and knit pattern (b).

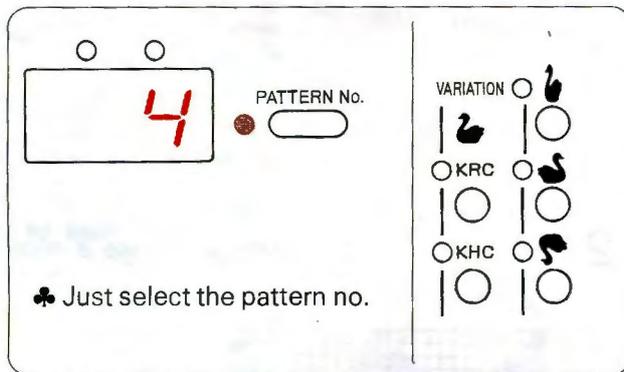
SPECIAL PROGRAM

HOW TO KNIT SEVERAL ROWS OF STOCKING STITCH BETWEEN PATTERN KNITTING



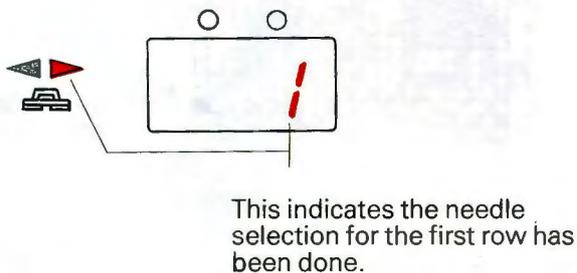
How to knit

- 1 Program the pattern as follows and knit the first pattern.



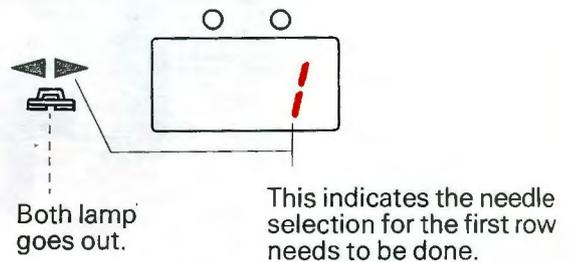
- 2 Now set the change knob to N. Take the contrast yarn out of yarn feeder B. Knit 9 rows of stocking stitch and place the K carriage outside the turn mark. The last (10 th) row is the needle selection row for the first row of the next pattern.

- 3 Program for the needle selection of the first row (next pattern.)
- Either carriage direction indicator lamp is lit.



When either carriage direction indicator lamp is lit, it indicates that the needle selection for the indicated row in the display has been done. In our example, needle selection for the first row of the second pattern has been done when knitting the last row of the first pattern.

- Change the display indication to another row and return it to the first row using the up or down key.



When both carriage direction indicator lamps are out, it shows that the needle selection for the indicated row in the display needs to be done.

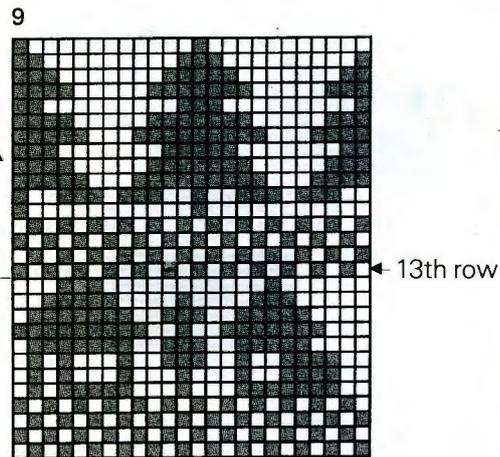
- 4 Make sure the K carriage is outside the turn mark. Now set the change knob to KC and knit one row. The needles are selected for the first row of the next pattern.
- 5 Push the MC button and make sure that the contrast yarn is threaded into the yarn feeder B. Now knit the second pattern.

● HOW TO BEGIN KNITTING MIDWAY THROUGH A PATTERN

ex.



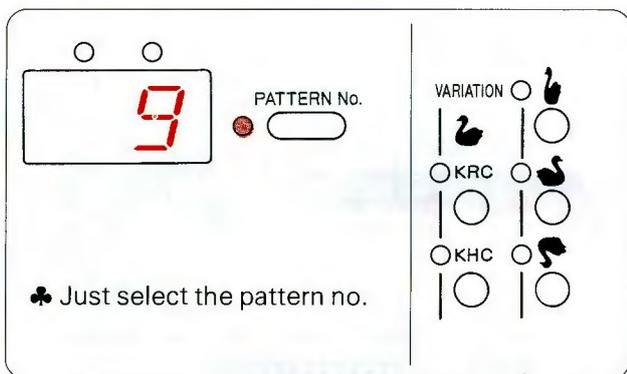
Begin knitting the pattern from the 13th row.



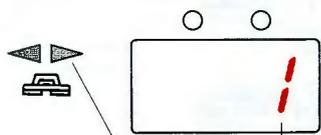
- This example was knitted using fairisle pattern no. 9.

● How to program

- 1 Program the pattern as follows:-



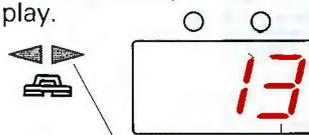
- 2 The display shows 1. Both carriage direction indicator lamp are not lit.



This indicates the needle selection for the first row needs to be done.

When both carriage direction indicator lamps are out, it indicates that the needle selection for the indicated row in the display needs to be done.

- 3 Push the up or down key until the number for the row at which you want to start is shown in the display.



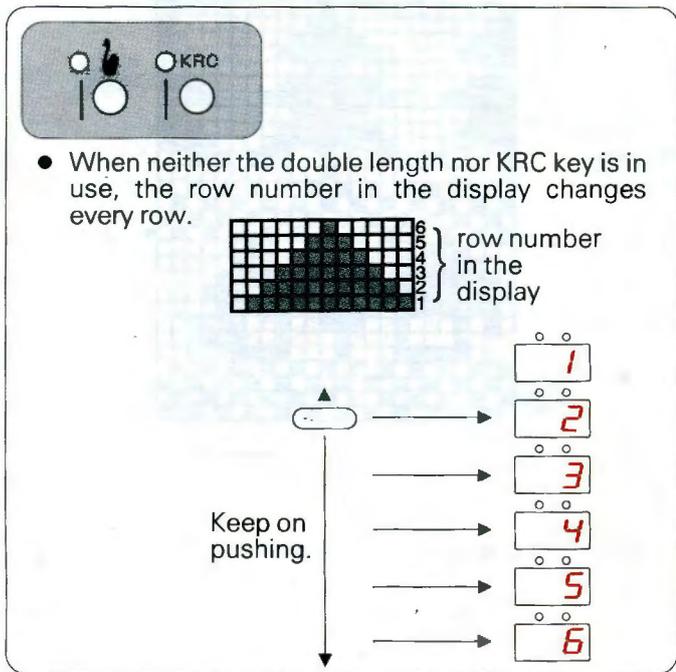
This indicates the needle selection for the 13th row needs to be done.

- ♣ If the double length key or KRC key is on, see the next page.
- ♣ Continue pattern knitting in the normal way after programming.

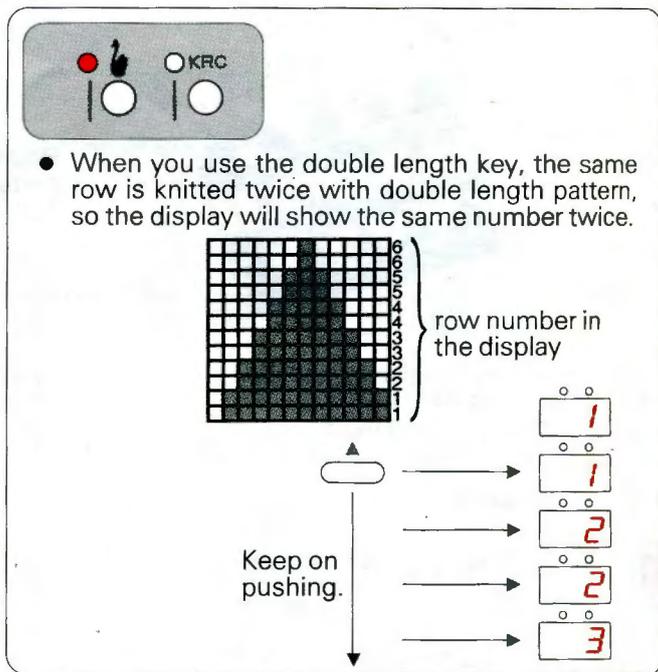
• **What to do when using the double length key or KRC key**

The computer arranges the pattern data as follows, depending upon the setting of the variation key. The indication of the row number in the display is different when you use the double length or the KRC key.

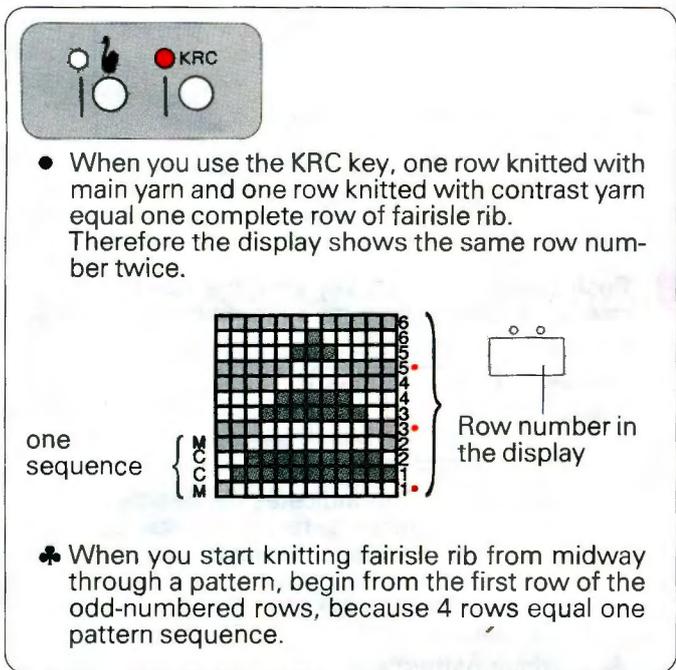
(a)



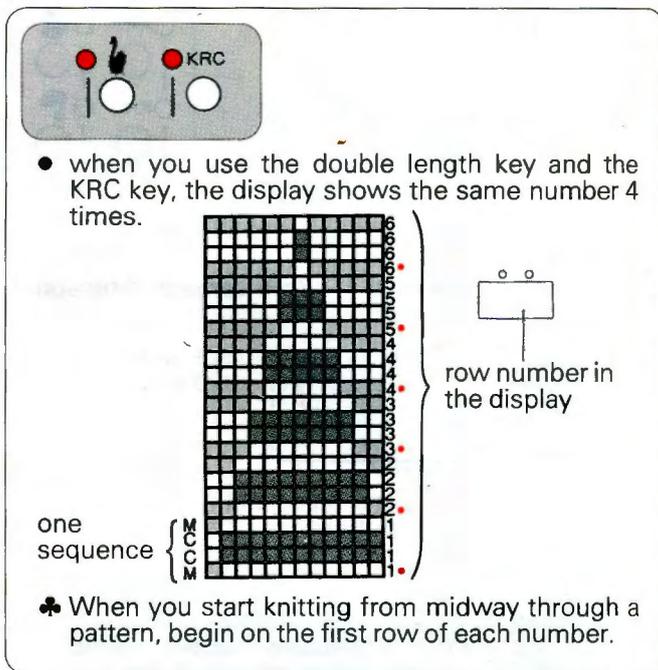
(b)



(c)



(d)



PATTERN INPUT PROGRAM

You can enter and store your own stitch patterns in the computer by using the pattern input program. You can program the memo with information for pattern knitting, and this will be shown in the memo display while you knit.

How large is the memory for your own patterns?

You can store maximum of approx. 26,000 stitches or a maximum of 98 patterns.

♣ This number varies according to the number of stitches (horizontal direction) of the pattern.

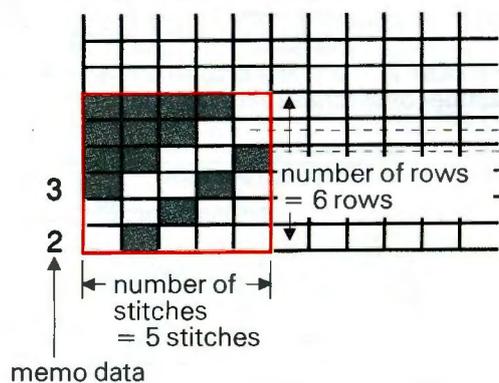
number of stitches from 1 to 24 stitches

number of rows The maximum number of rows available to you is calculated automatically by the computer when you enter the number of stitches you want for the pattern.

pattern no. The computer will give each of your own patterns a number (from 901 - 999). You are advised to note this number for your own reference, to avoid confusion.

Pattern data and memo data

(ex.) pattern design



pattern data

Enter the pattern data stitch by stitch using the data keys.

Push white key.

Push black key.

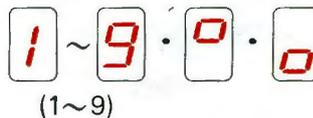
What is the difference between the data keys?

..... A stitch entered with black key is selected to D position.

..... A stitch entered with white key is selected to B position.

memo data

You can enter the memo data such as yarn changing using the number or character as follows:



● HOW TO PROGRAM

1 Push the input key.



Your own pattern is given a number by the computer.
(Use this number yourself as a reference)
(on your design to avoid confusion.)

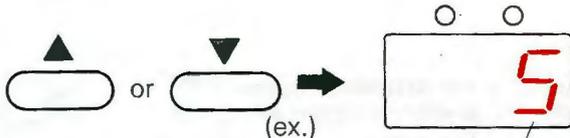
2 Enter the number of stitches.

● Push the step key.

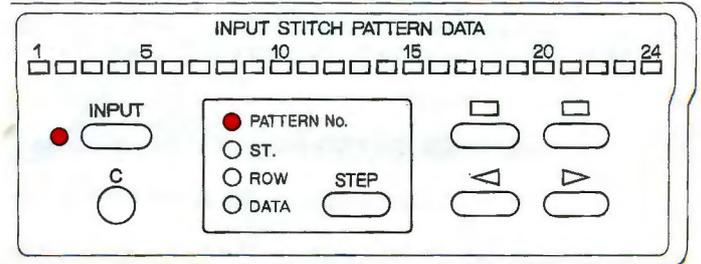


number of stitches

● Select the number of stitches for your own pattern with the up or down key.

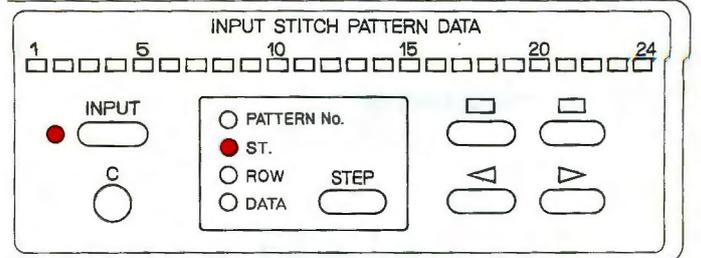


number of stitches
= 5 stitches

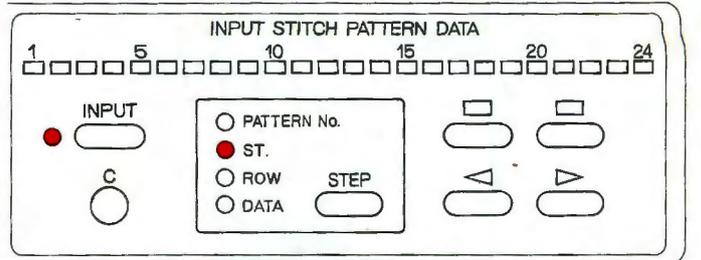


The ready lamp blinks and the input lamp is lit. The step lamp of the pattern no. is lit and this means that the display indication is the pattern no.

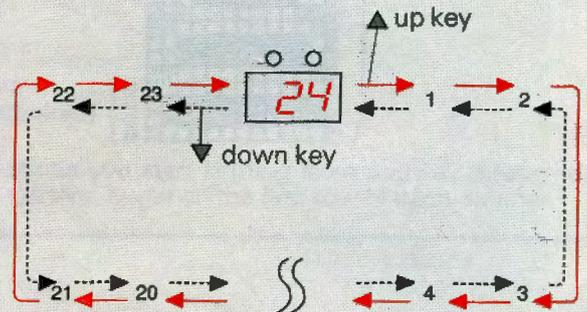
The computer allocates the number 901 for your 1st pattern, number 902 for your second pattern, and so on automatically.



The step lamp of st. is lit and the display shows the maximum number of stitches (24) available for your own pattern.



● displaying order of the number of stitches



● Keep pushing up or down key.
The display changes continuously. (It stops at 24 or 1.)

● To change the display faster....

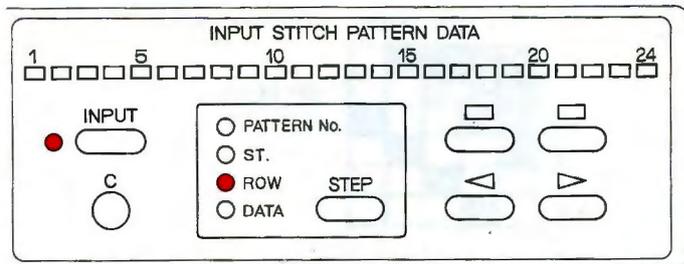
Use the fast key (see page 32).

3 Enter the number of rows.

Push the step key.



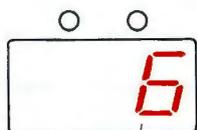
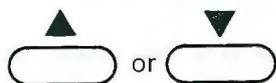
number of rows



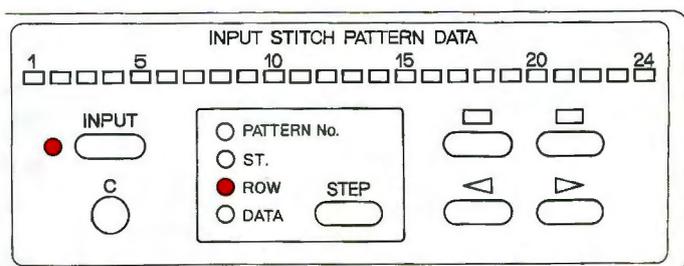
The step lamp of the row is lit and the display shows the maximum number of rows available for your own pattern. (You can use up to 998 rows in this example.)

If you enter a different number of stitches to our example, or if the computer already has some patterns stored in its memory, the number shown in the display will be different.

Select the number of rows for your own pattern with the up or down key.



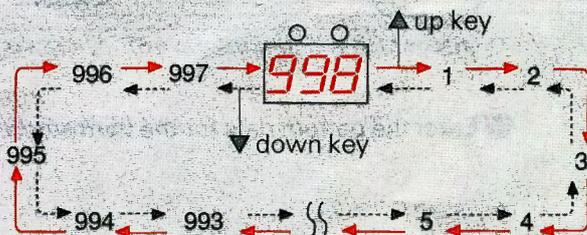
(ex.) number of rows = 6 rows



♥ If you want to stop the pattern input program....

Push the input key. The input lamp goes off and any information displayed on the panel relates to before you started. (The computer does not store the pattern no.. If you stop the pattern input program within the following steps, the pattern no. is stored.)

- displaying order of the number of rows (ex.) maximum number of rows = 998

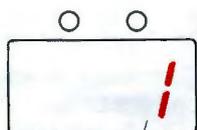


- Keep pushing up or down key. The display changes continuously. (If stops at maximum number or 1.)

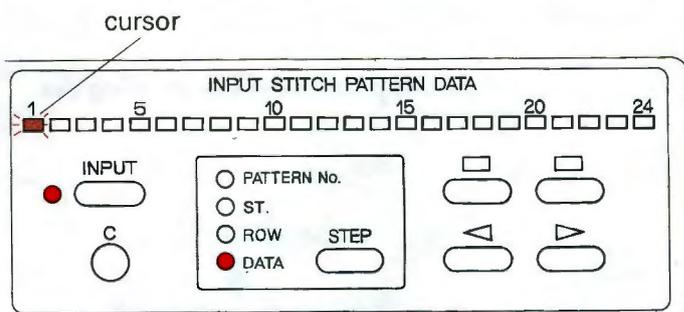
- To change the display faster....

Use the fast key (see page 32).

4 Push the step key.

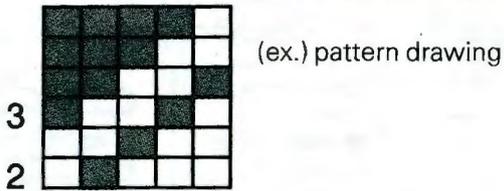


first row



The step lamp of the data is lit and the display shows the row number 1 (Now, enter the data for the first row). The left end data lamp blinks (blinking data lamp is called "cursor").

5 Enter your own pattern data (and memo data) according to your drawing.



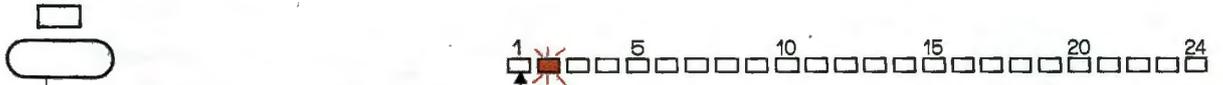
Enter the pattern data and memo data for the first row.

Entering the pattern data.

Enter the data by pushing the black or white key.



1 Cursor is at the first stitch.
Enter the pattern data for the first stitch.

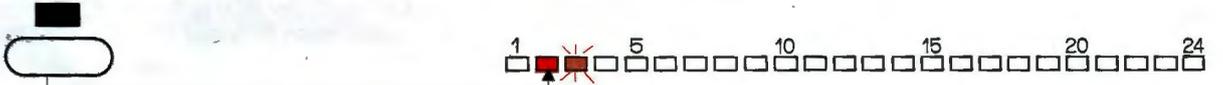


When you enter pattern data with the white key, the data lamp is not lit. The cursor moves to the second stitch.

♥ If you make a mistake...

Move the cursor to the stitch entered mistakenly, with the left key.
Enter the correct data.

2 Enter the pattern data for the second stitch.



When you enter pattern data with the black key, the data lamp is lit. The cursor moves to the third stitch.

3 Enter the pattern data for the third stitch.

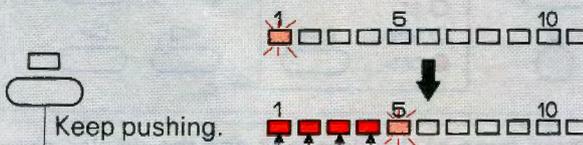


If the remainder of the pattern data for the first row is "blank", you do not have to push the white key.

When you enter the pattern data for the last stitch of one row using the black key or white key, the buzzer makes a sound which tells you that you have reached the end of the row. Cursor goes out, but if you push the left key, it appears again.

You can enter the same pattern data by pushing the data key continuously.

(ex.) Keep pushing the black key,...



left key, right key and cursor

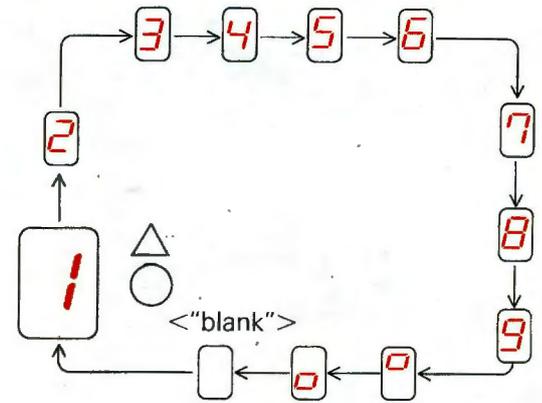
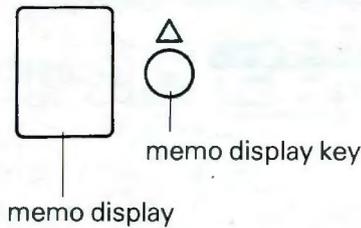
Cursor can be moved using the left or right key within the pattern area.

- Keep pushing the left or right key to move the cursor continuously. The cursor goes out in the following cases:
 - If you push the left key when the cursor is at the first stitch.
 - If you push the right key when the cursor is at the last stitch.

Entering the memo data

Enter the memo data with the memo display key.

Select the memo data by pushing the memo display key.

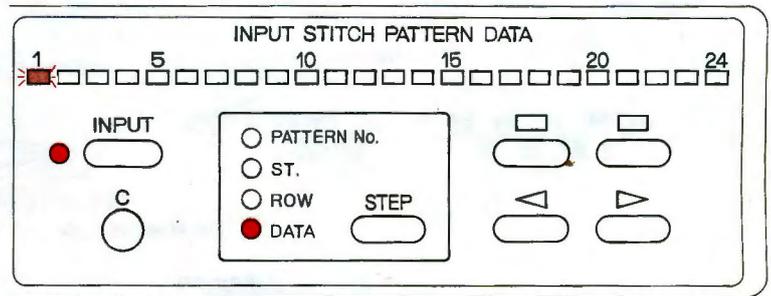
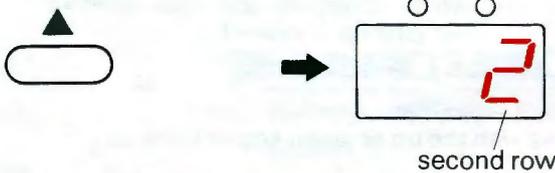


♣ To erase the memo data, select "blank".

- Keep pushing the memo display key. The memo display changes continuously. (It stops at @.)

② Enter the pattern data and memo data for the second row.

(1) Push the up key to advance the row number.

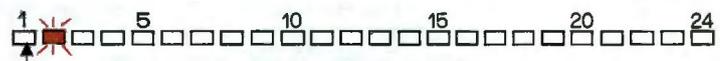
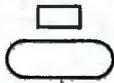


The display shows 2. The cursor is at the first stitch.

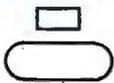
(2) Enter the pattern data for the second row by pushing the black or white key.



1 Enter the pattern data for the first stitch.



2 Enter the pattern data for the second stitch.



3 Enter the pattern data for the third stitch.



4 Enter the pattern data for the fourth stitch.



If the remainder of the pattern data for this row is "blank", you do not have to push the white key.

(3) Enter the memo data with the memo display key, if necessary.

⑥ Enter the pattern data and memo data to the last row in the same way.

- To return to a row number in the display.....
 Push the down key. The data lamps and the memo display changes according to the row number. If you correct the pattern data, do it in the same way as when entering it.

fourth row

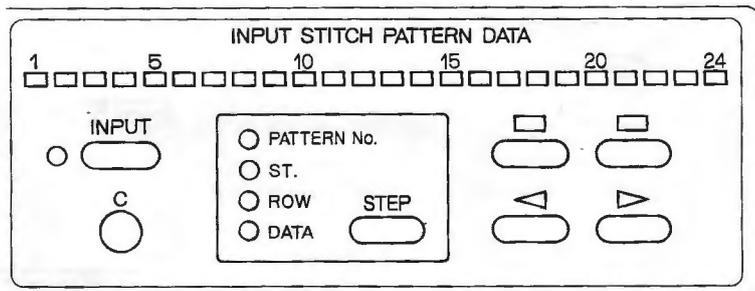
third row

memo data

♣ The cursor is always at the first row when changing the row number with the up or down key.

- The row number in the display changes with the up or down key as follows:
 - ▲ up key: Advance the row number by one row. If you push the up key when the display shows the final row of the pattern, then the number in the display is the first row.
 - ▼ down key: Turn back the row number by one row. If you push the down key when the display shows the first row of the pattern, then the number in the display is the final row.
- Keep pushing the up or down key.
 The display changes continuously (it stops at the first row or last row).
- To change the display faster....
 Use the fast key (see page 32).

6 After you have finished entering the pattern data and memo data, push the input key.

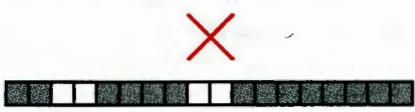
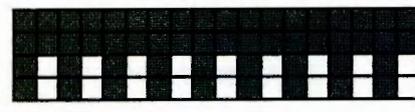
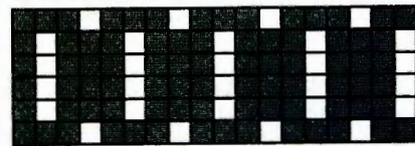
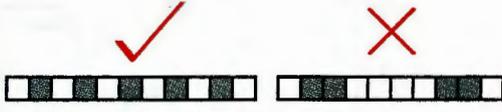
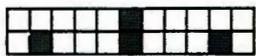
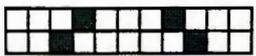


The input lamp goes out and the pattern input program is completed.

♣ When you finish the pattern input program, the machine is ready to knit the entered pattern as if you had selected that pattern no. (When you entered several patterns continuously, the machine is ready to knit the pattern entered last.)

● GUIDELINES WHEN MAKING YOUR OWN PATTERNS

- When designing your own stitch patterns, please bear the following points in mind.

| | STITCHES | ROWS |
|--|---|--|
| TUCK STITCH PATTERN MULTI-COLOUR TUCK STITCH PATTERN <input type="checkbox"/> ...tuck stitch <input checked="" type="checkbox"/> ...stocking stitch | You can't have two tuck stitches together.  | (1) You may not knit stocking stitch after knitting more than 2 rows of 1x1 tuck stitch.  |
| | | (2) Do not tuck up the stitches more than 4 rows, or for 3 or 4 row tuck stitch pattern, have at least 3 stocking stitches between the tuck stitch.  |
| PLATED TUCK STITCH PATTERN <input type="checkbox"/> ...tuck stitch | You cannot have two tuck stitches together.  | You can only tuck up the stitch one row.  |
| WEAVING PATTERN <input checked="" type="checkbox"/> ...knitted by (needle selected to D position) | Don't weave the yarn more than five stitches. 5 stitches  | |
| THREAD LACE PATTERN <input checked="" type="checkbox"/> ...knitted by (needle selected to D position) | Don't select more than 5 needles to D position. 5 stitches  | |
| LACE PATTERN FINE LACE PATTERN <input checked="" type="checkbox"/> ...transfer-red stitch | You can't transfer two stitches together.  | Don't try to transfer the same stitch over more than one row.  |
| | | Don't try to transfer 2 stitches diagonally.  |
| FAIRISLE RIB (jacquard) | <ul style="list-style-type: none"> ● In order to use the KRC key, make the pattern in the same way as for ordinary single bed fairisle. Make the pattern with even rows, and change the yarn on the even rows using the KRC. | |

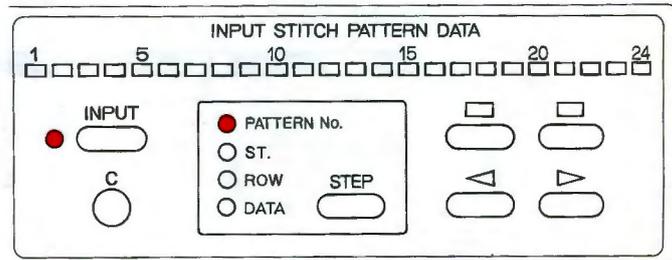
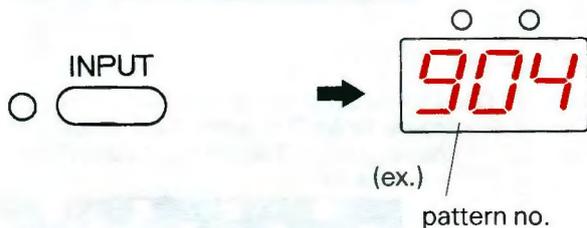
PATTERN EDIT PROGRAM

You can check your own patterns stored in the computer. You can also change the pattern data.

<ATTENTION> Pattern area (number of the stitches and rows) cannot be changed.

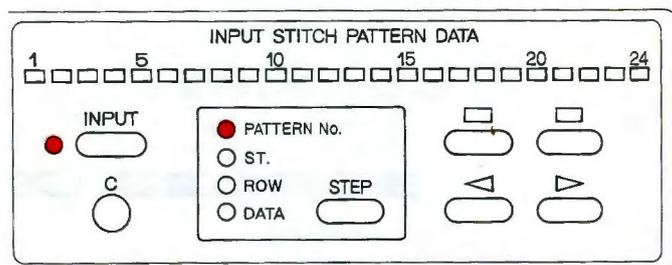
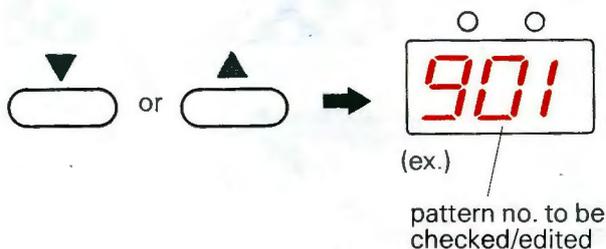
● HOW TO PROGRAM

- 1 Push the input key.



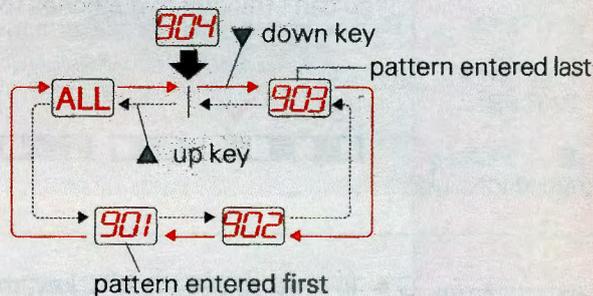
The ready lamp blinks and the input lamp is lit. The step lamp of the pattern no. is lit and the display indicates the pattern no.

- 2 Select the pattern no. you want to check or edit using the up or down key.



- display order of the pattern no.

(ex.) You have entered three patterns in the order of 901, 902 and 903.

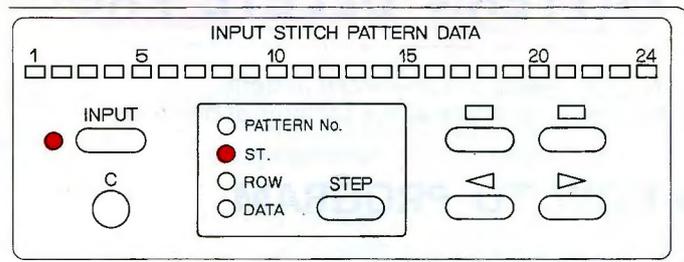
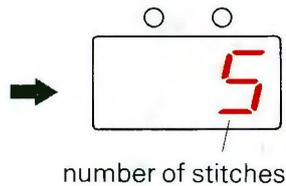


<NOTE>

"All" means "all the patterns" and is used only when deleting all the patterns.

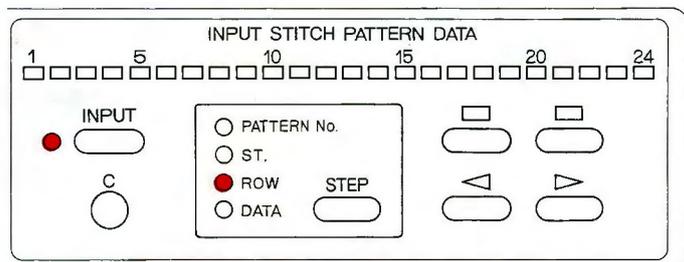
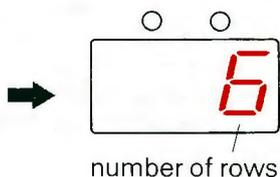
- Keep pushing the up or down key.
The display changes continuously (it stops at "All").
- To change the display faster....
Use the fast key (see page 32).

3 Push the step key.



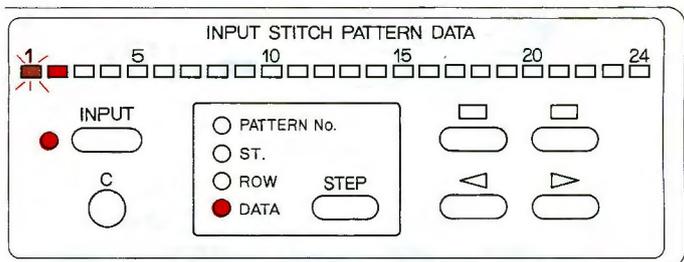
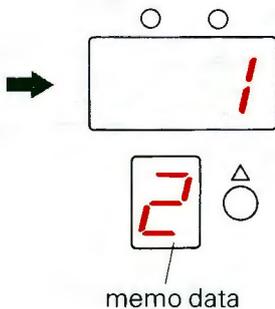
The step lamp of st. is lit and the display shows the number of stitches. (You cannot change this.)

4 Push the step key.



The step lamp of row is lit and the display shows the number of rows. (You cannot change this.)

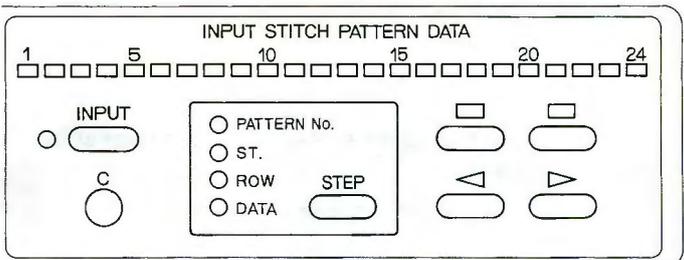
5 Push the step key.



The step lamp of data is lit and the display shows the row number 1. The data lamp shows the pattern data entered for the first row. The memo display shows memo data for the first row (if you entered it before). The cursor is at the first stitch.

6 Using the up or down key, move along the row so that the number is in the display. You can change the pattern data or memo data in the same way as you entered it (see pages 50 – 52).

7 Push the input key after checking or editing.



The input lamp goes out and the pattern edit program is completed. Any information displayed on the panel relates to before the pattern edit program was started.

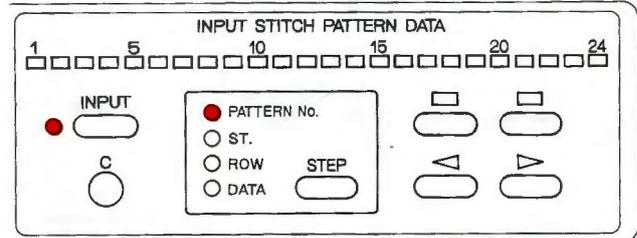
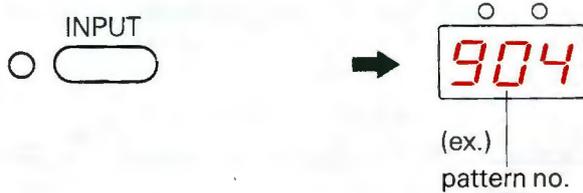
♣ Select the pattern no. to knit the pattern you checked or edited (see page 32).

PATTERN DELETE PROGRAM

You can delete any unwanted pattern.
You can also delete all the patterns at one time.

● HOW TO PROGRAM

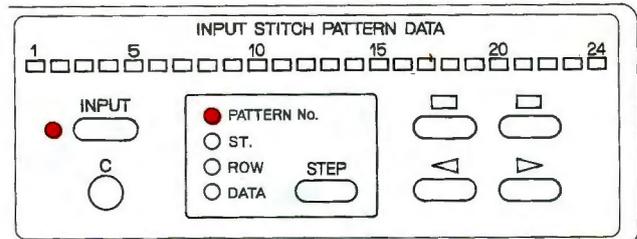
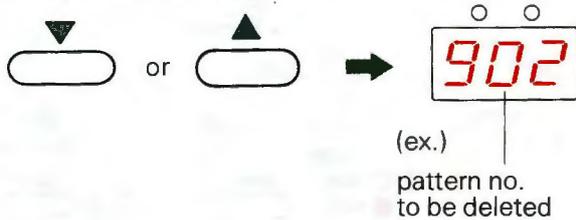
1 Push the input key.



The ready lamp blinks and the input lamp is lit. The step lamp of the pattern no. is lit and the display indicates the pattern no.

2 deleting one by one

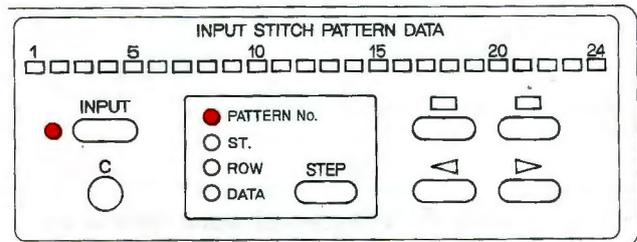
Select the pattern No. you want to delete using the up or down key.



♣ displaying order of the pattern no..... see page 54.

deleting all the patterns

Select "ALL" using the up key.



3 Push the C key.

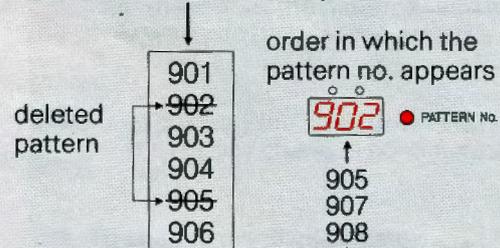


The input lamp and the step lamp of pattern no. goes out and the pattern delete program is completed. Any information displayed on the panel relates to before the pattern delete program was started. (If you delete the pattern you have selected, nothing appears both on the display and memo display. Start lamp blinks.)

The order in which the pattern numbers appear in the input program

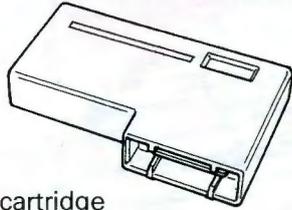
The lowest vacant pattern number appears in the display.

<ex.> number of stored patterns



OPTIONAL ACCESSORY

CARTRIDGE



cartridge

Cartridge

You can store your own original pattern, which you entered in the knitting machine computer, in the cartridge. Once you store the pattern in the cartridge, you can load it to the knitting machine time and time again.

- ♣ When using the pattern programming device This cartridge works with the pattern programming device and you can create the pattern on the TV screen.

CAUTION

- Do not insert or remove the cartridge to/ from the slot with the power switch on.
- Do not touch the metal part of the bottom of the cartridge with the fingers or metal.
- Do not get the cartridge wet.
- Do not drop the cartridge or put something on it.
- Do not leave the cartridge in a hot or humid place.
- The battery of the cartridge saves the data about ten years. When ten years have passed from purchasing the cartridge, ask a dealer to change the battery.

MEMORY CAPACITY

Memory capacity of this cartridge is eight times as big as that of the knitting machine memory. It is divided into eight parts, which is as big as the memory capacity of the knitting machine. Each part is called "page".

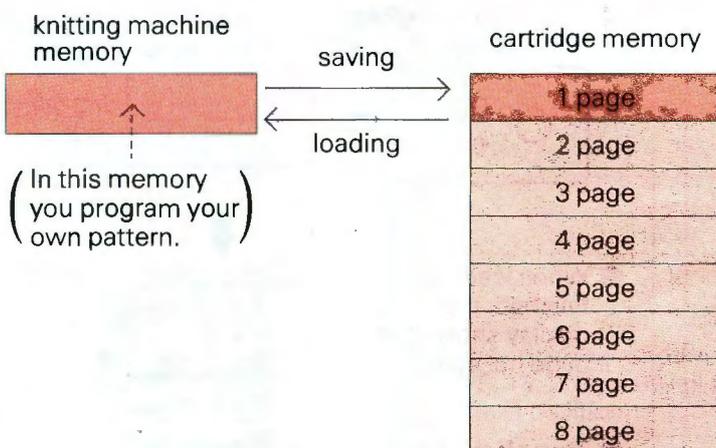
SAVING AND LOADING

SAVING Means storing on the cartridge the data which has been memorized by the knitting machine. Specify the page and the data will be saved on that page.

CAUTION: When you save the data on the page which already has the data on it, the old data will be deleted, so keep careful records.

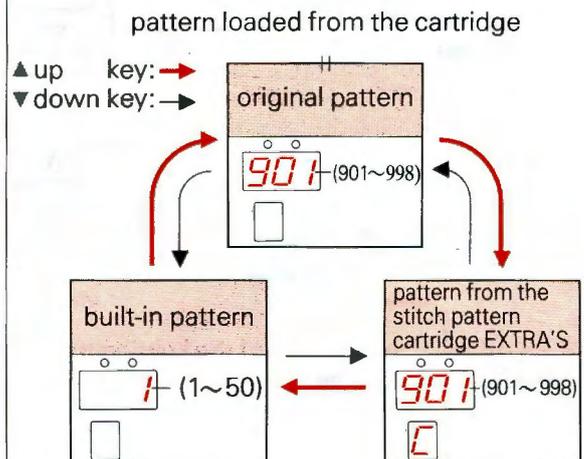
LOADING Means transferring to the knitting machine the data saved on one page of the cartridge.

CAUTION: When you load the data to the knitting machine, all the data in the knitting machine is deleted. Save the data first, if necessary.



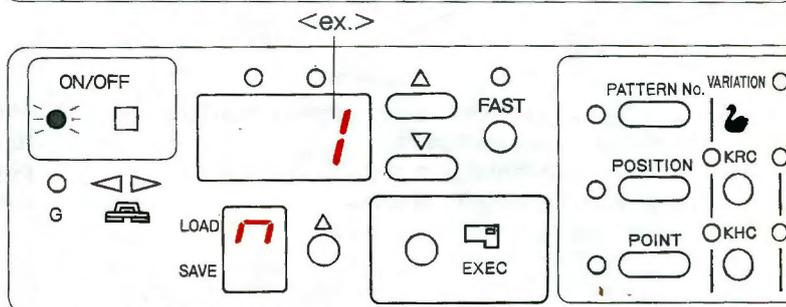
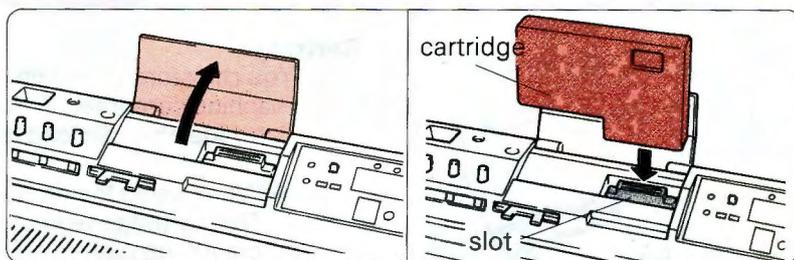
Pattern loaded from the cartridge

- Pattern loaded from the cartridge is transferred to the same memory area as one where your original patterns are stored.
- When you select the pattern no., it is indicated in the following order.



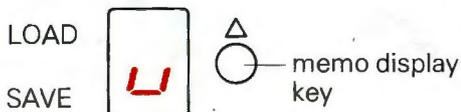
● SAVING AND LOADING

- 1 Turn off the power switch of the knitting machine.
- 2 Open the lid of the cartridge slot to the left of the operation panel. Insert the cartridge into the slot.
- 3 Turn on the power switch of the knitting machine. The ready lamp blinks and the panel information is as shown right.
 - ♣ If you use the new cartridge "F" blinks in the display about 40 seconds, then the panel information changes into as shown right. This is the preparation procedure to enable the cartridge to work with the knitting machine.
- 4 Operating the necessary procedure on the panel transfers the data (saving or loading). Follow the steps below.

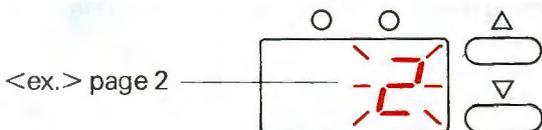


SAVING

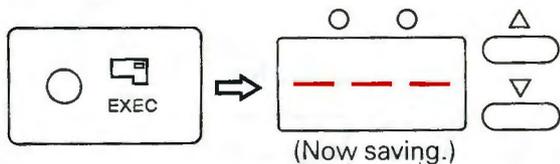
- Select "SAVE" in the memo display using the memo display key.



- The display shows the page no. of the cartridge. Using the up or down key, select the page no. where the data will be saved. (The blinking page no. means it is empty. The lighting page no. means it is occupied.)



- Push the execute key. Saving begins.



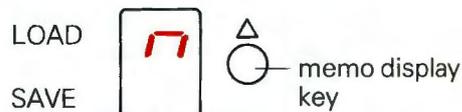
- When saving is finished, the display shows the page no. again.



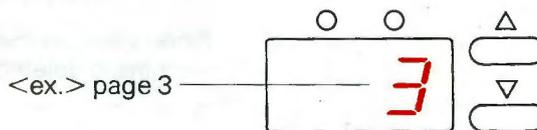
- Turn off the power switch of the knitting machine. Take out the cartridge.

LOADING

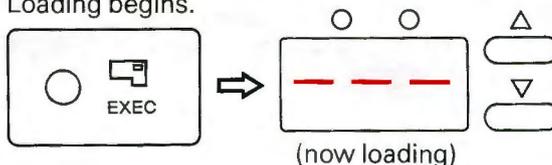
- Select "LOAD" in the memo display using the memo display key.



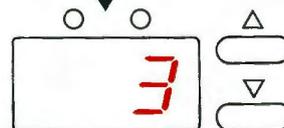
- The display shows the page no. of the cartridge. Using the up or down key, select the page no. to be loaded to the knitting machine. (The blinking page no. means it is empty and cannot be loaded.)



- Push the execute key. Loading begins.



- When loading is finished, the display shows the page no. again.



- Turn off the power switch of the knitting machine. Take out the cartridge.

- ♣ To knit the pattern loaded to the knitting machine Turn on the power switch of the knitting machine. Select the pattern no. (See page 32.)

Select the pattern no. given by the computer.

SINGLE BED COLOUR CHANGER (KHC)

Please read the original instruction manual for the KHC in conjunction with the following instructions.

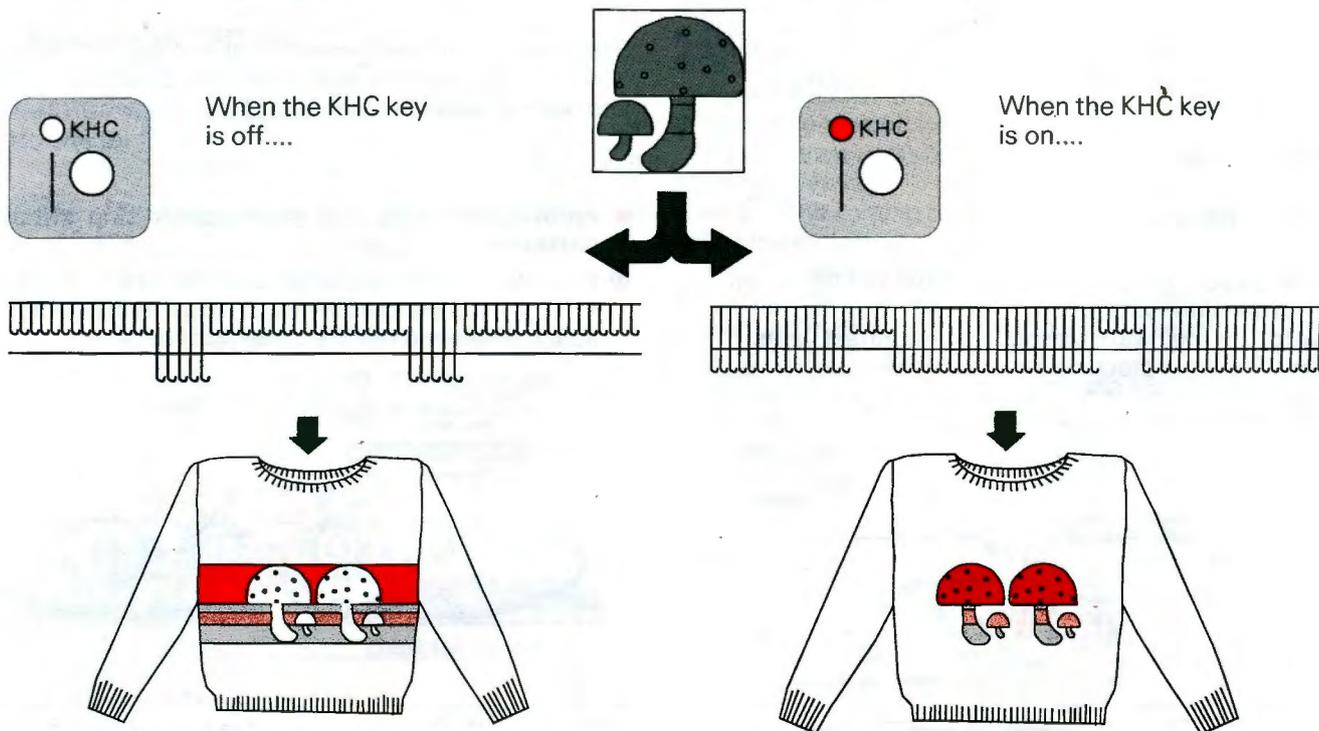
- **Pattern**

All the patterns shown in the KHC instruction manual are also memorized in the computer, so you should select the pattern no. you require from page 9. (The punch cards that come with the KHC are not used.)

- **Using the KHC key**

fairisle pattern

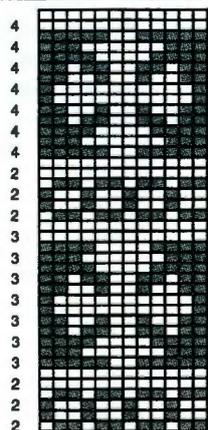
When you knit fairisle pattern using the single bed colour changer (KHC), black squares of pattern data are knitted by main yarn and white squares of pattern data are knitted by contrast yarn. In case of knitting the built-in pattern in fairisle as shown in the pages 1-2, turn on the KHC key to reverse the needle selection.



multi-colour tuck stitch pattern, multi-colour skip stitch pattern

When knitting multi-colour tuck stitch patterns or multi-colour skip stitch patterns built into the computer, do not turn on the KHC key.

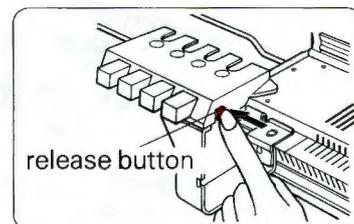
- **How to knit pattern no. 23**



pattern no. 23

When the display shows knitting row numbers 5, 19, 25 and 39, all the needles are selected to D position.

- ♣ Push the release button on the KHC and knit two rows with the main yarn only.

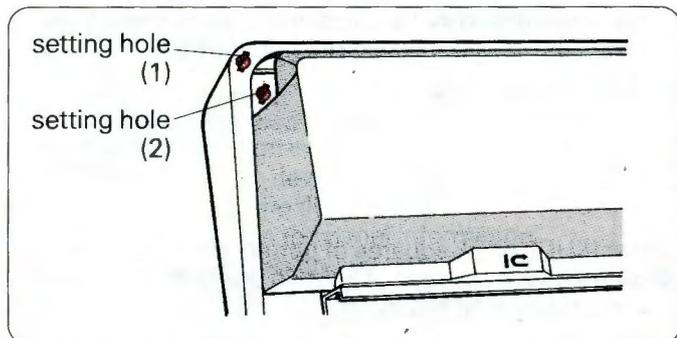


Push the release button.

● **How to install the single bed colour changer (KHC) onto this machine**

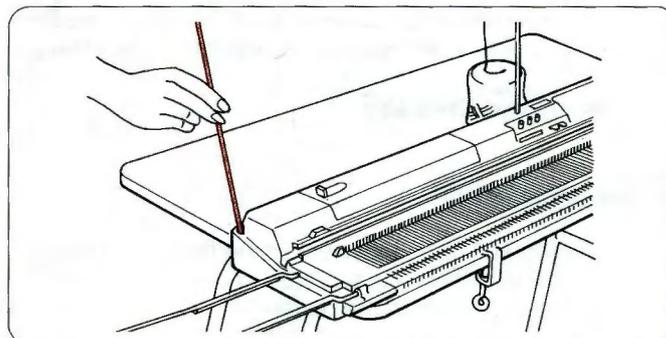
Refer to the KHC instruction manual, and see the following instructions (6) on page 3 and (7) on page 4.

(6) on page 3



You do not have to set the yarn tension stand. You can use the setting hole on the corner of your knitting machine.

(7) on page 4

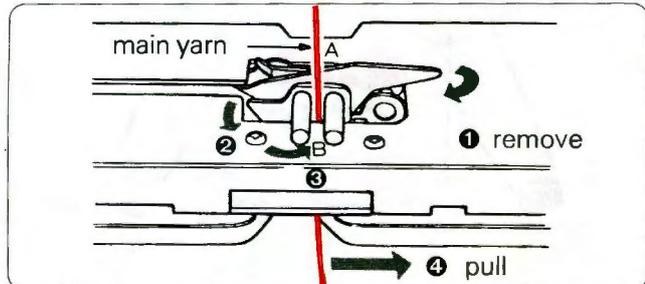


Place the second yarn tension unit into the setting hole. You can choose either hole (1) or hole (2), but when you use the knit leader, select hole (2).

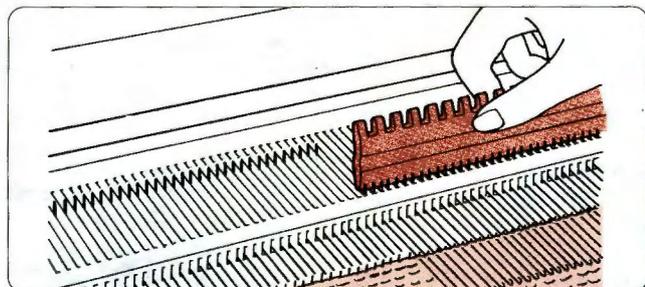
● **How to knit**

■ **fairisle pattern**

- ① Refer to your KHC instruction manual and thread up main and contrast yarn.
button 1 – main yarn button 2/3/4 – contrast yarns
- ② Knit 10 rows in stocking stitch with the main yarn and place the K carriage on the right side of the machine.
- ③ Program the pattern.
- ④ Transfer the main yarn from yarn feeder A into yarn feeder B.



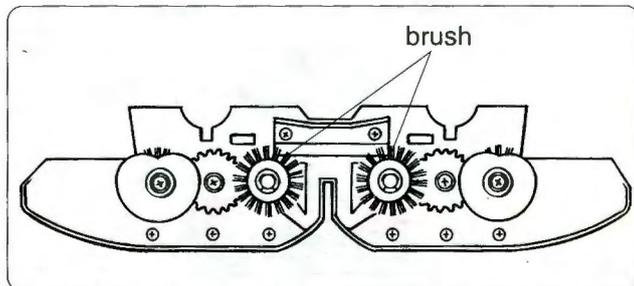
- ⑤ Take the main yarn off the roller 1 and cancel the changer button 1.
- ⑥ Bring all the needles forward from B to E position.



- ⑦ Move the K carriage to outside the right turn mark. Set the change knob to KC and push the MC button.
- ⑧ Move the K carriage across the needle bed from right to left, so that it is outside the left turn mark and the needles have been selected.
- ⑨ To continue knitting, push the changer button according to the number shown in the memo display.

■ **multi-colour tuck and multi-colour skip stitch patterns**

- ① When you knit multi-colour tuck stitch pattern with the KHC, put the brushes in action. (Put them out of action when you knit the other patterns.)



- ② Thread the yarn into the KHC and knit approx. 10 rows ending with the K carriage at the right. Place the K carriage outside the right turn mark.
- ③ Program the pattern.
- ④ Set the change knob to KC and move the K carriage from right to left so that it is outside the left turn mark and the needles have been selected.
- ⑤ Push both tuck buttons for tuck stitch pattern. Push both part buttons for skip stitch pattern.
- ⑥ Continue knitting. Push the changer button according to the number shown in the memo display.

DOUBLE BED COLOUR CHANGER (KRC)

Please read the original instruction manual for the KRC in conjunction with the following instructions.

● Pattern

- All the patterns shown in the KRC instruction manual are also memorized in the computer, so you should select the pattern you require from page 10. (The punchcards that come with the KRC are not used.)
- You can also knit fairisle rib pattern using the fairisle patterns built in the computer on page 1 and 2 with KRC key on.

● Pattern Program

- Do not fail to turn on the KRC key.
- You can use another variation key at the same time as the KRC key if you wish.
- You can knit one-point motif fairisle rib using the point key. (Please disregard the instruction on page 17 of the KRC instruction manual).

● Function of KRC key

The KRC key converts the pattern data for fairisle into one for fairisle rib (jacquard).



When the KRC key is off



When the KRC key is on



chart for fairisle (single bed)



■ ... C - Knitted with the contrast yarn
 ■ ... M - Knitted with the main yarn

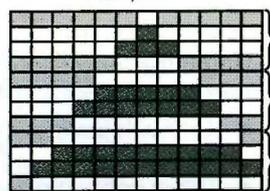


chart for fairisle rib (double bed)

one sequence

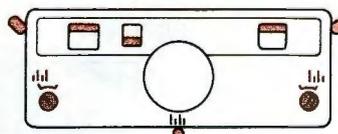
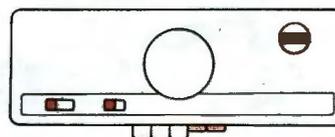
- ♣ In fairisle rib pattern, the main yarn and contrast yarn are knitted separately. 4 rows of knitting makes 2 rows of pattern.

● When you put the KRC key on or off

The display shows 1 and the needles are selected according to the first row of knitting. When the upside down key is on, the display shows the last row number of the pattern, and the needles are selected according to the last row.

● How to knit fairisle rib pattern (jacquard)

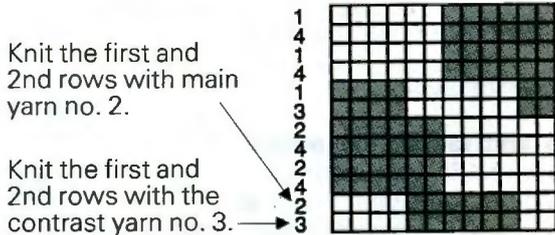
- ① Refer to your KRC instruction manual and set up the ribber and KRC onto your machine.
- ② Refer to your KRC instruction manual and thread up main and contrast yarns. button 1 – main yarn button 2/3/4 – contrast yarns
- ③ Fit the fine knitting bar on the main bed.
- ④ Set the end needle selection mechanism of K carriage to FREE (see page 23).
- ⑤ Arrange the needles for full needle rib and knit 10 rows with the main yarn in full needle rib. Place the K carriage outside the left turn mark.
- ⑥ Program the pattern and turn on the KRC key.
- ⑦ Set the change knob to KC.
- ⑧ Move the K carriage across the needle bed from left to right using the main yarn, so that the needles have been selected.
- ⑨ Set the K carriage and the KR carriage as shown in the illustration.



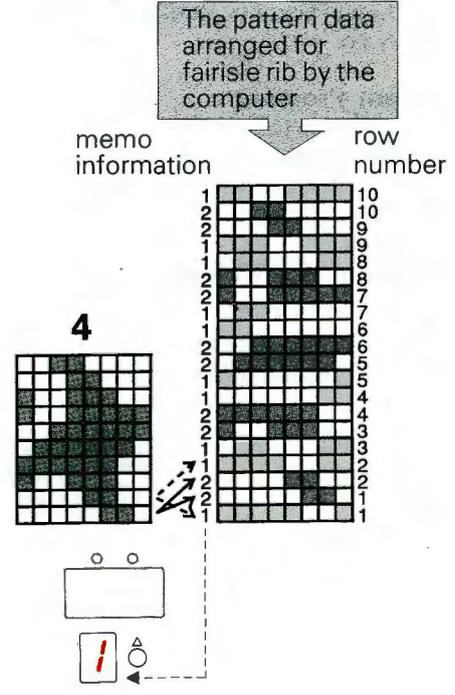
- ⑩ Move the carriages to the left until you hear a "click". Now push the changer button according to the number shown in the memo display.
- ⑪ Knit two rows.
- ⑫ Continue knitting. When the carriages are at the left side, push the changer button according to the number shown in the memo display.
- Push the changer button after you hear the "click".
- ◆ For correction of mistakes, refer to page 90.

• Memo data of the fairisle rib (built into the computer)

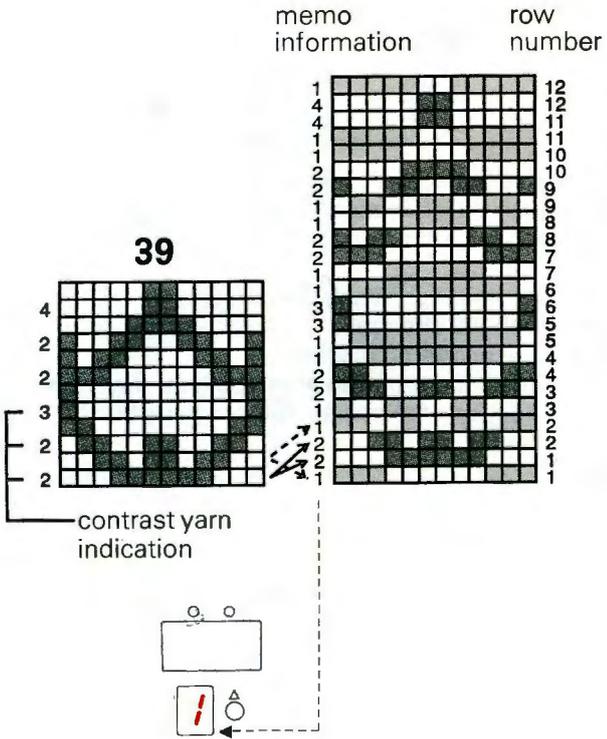
- For fairisle pattern the memo information is used as follows:-
- Memo information on odd numbered rows—distinguishes between different coloured contrast yarns for two rows.
- Memo information on even numbered rows—distinguishes between different coloured main yarns for two rows.



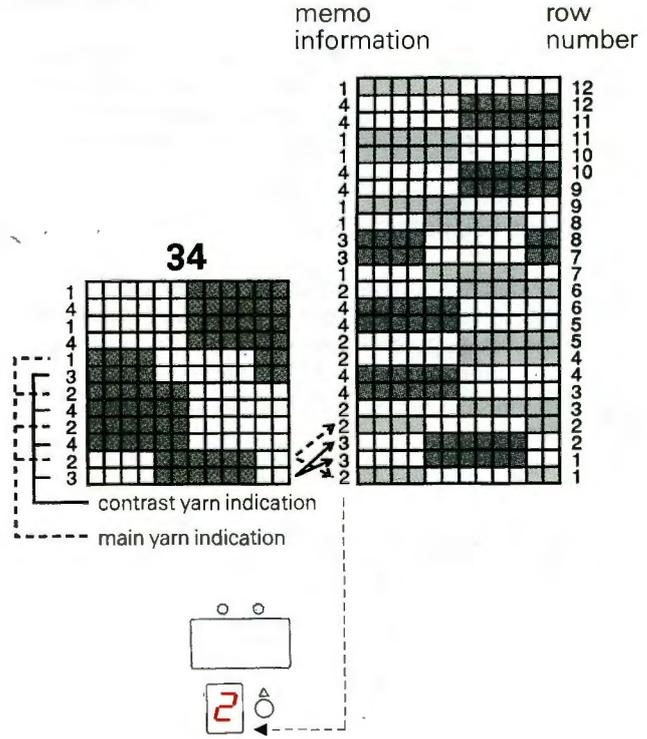
- 1** When there is no memo information on the pattern data:-
- Knit with only one main yarn and one contrast yarn.
 - The number 1 in the memo display tells you to knit with the main yarn, and the number 2 tells you to knit with the contrast yarn.



- 2** When the memo information is on the odd row only:-
- Knit with only one main yarn but several contrast yarns.
 - The number 1 in the memo display tells you to knit with the main yarn, and the other numbers distinguish between the contrast yarns.

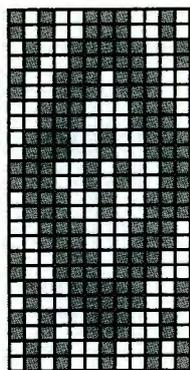


- 3** When the memo information is on both the odd numbered rows and even numbered rows-
- Knit with several main yarns and several contrast yarns.
 - The numbers in the memo display indicate which yarn to use.



PATTERN KNITTING

PATTERN DATA AND CARRIAGE SETTING

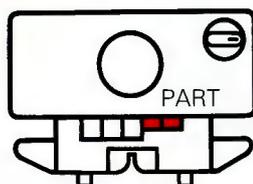


pattern no. 11

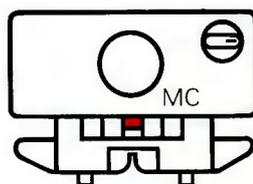
The knitting machine computer memorizes the pattern data of 50 patterns. It is possible to knit several different fancy stitch patterns from the same pattern data.

<ex.> The following are examples using pattern no. 11.

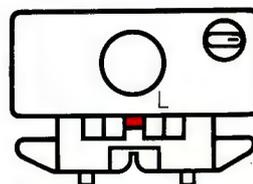
skip stitch pattern



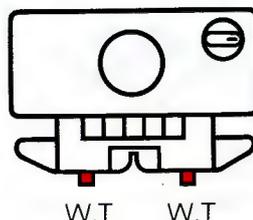
fairisle pattern



thread lace pattern



weaving pattern

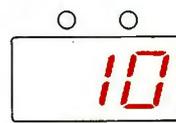


FAIRISLE PATTERN

<ex.> pattern no. 10



example pattern program



PATTERN No.

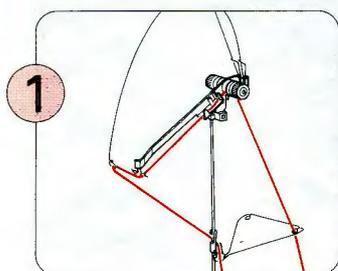


VARIATION

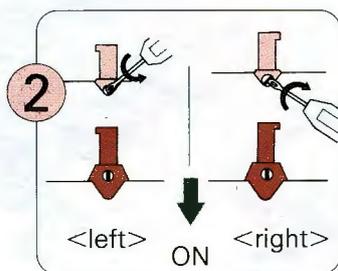


• pattern knitting

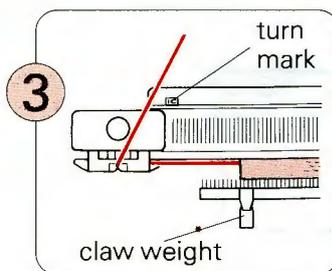
Prepare two yarns (main yarn and contrast yarn).



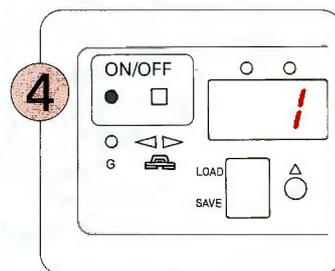
1 Thread the main yarn into the right yarn tension unit (see page 24).



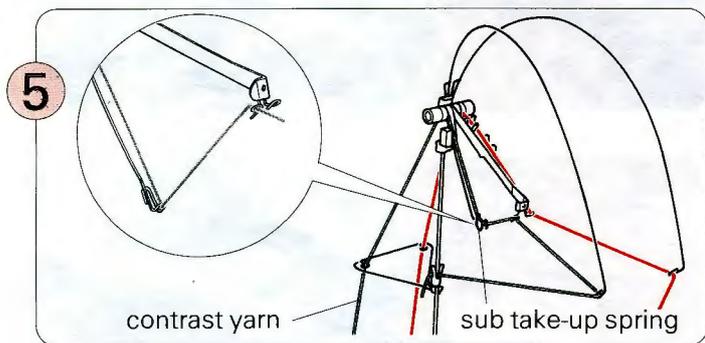
2 Set the end needle selection mechanism to ON (see page 23).



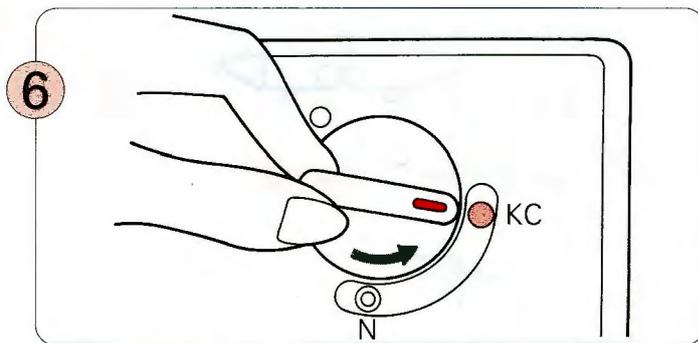
3 Knit a few rows in stocking stitch and place the K carriage outside the left turn mark. Hang the claw weights evenly along the cast-on comb.



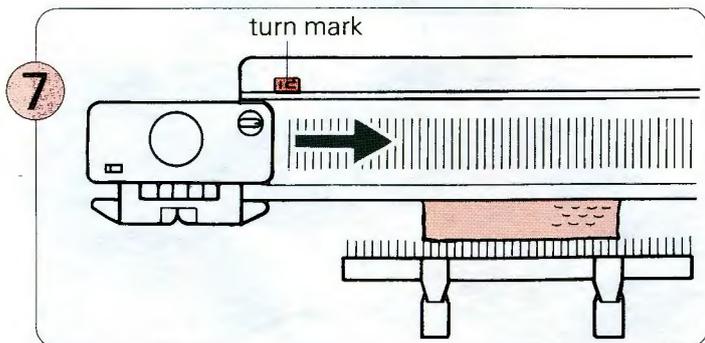
4 Program your pattern. Just select the pattern no. in this example (see page 32).



5 Thread the contrast yarn into the left yarn tension unit, including the sub take-up spring.

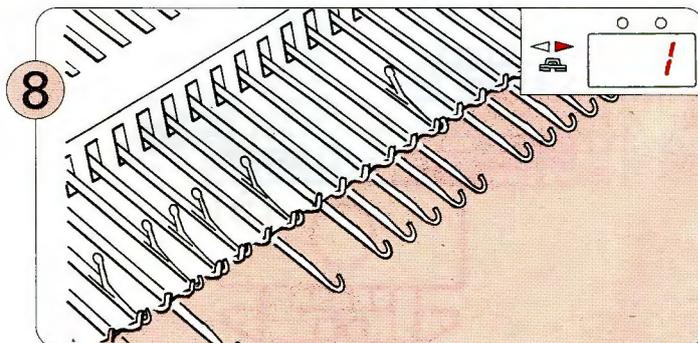


6 Set the change knob to KC.



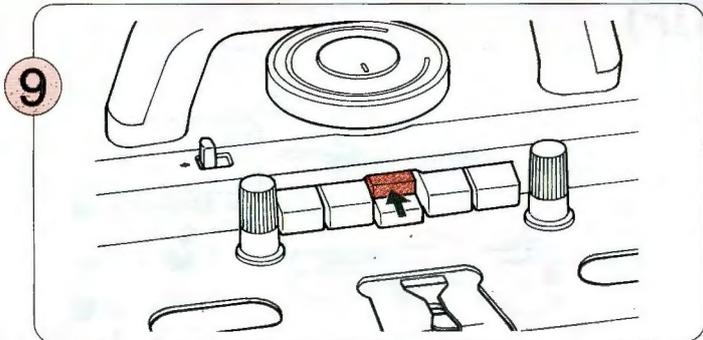
7 Move the K carriage from left to right across the left turn mark.

♣ You only need to operate the K carriage once across the turn mark when you start pattern knitting.

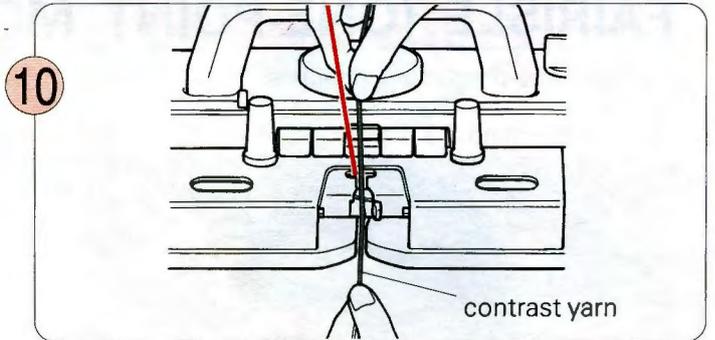


8 The needles are selected. The display still shows row number 1.

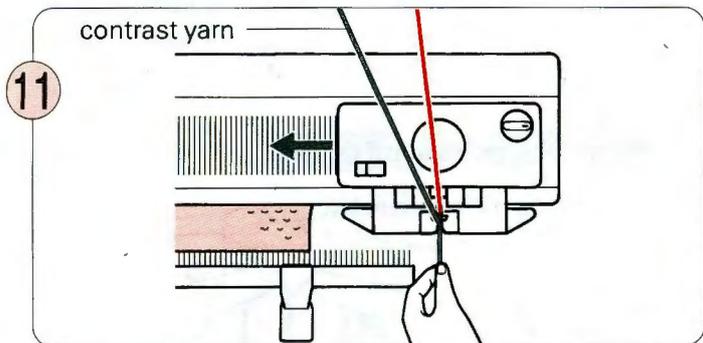
The lamp of carriage direction indicator is lit.



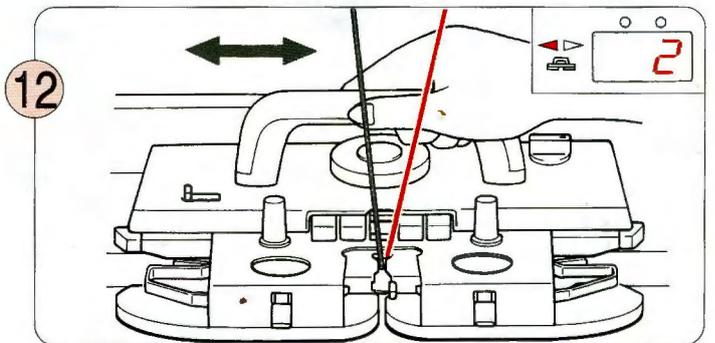
9 Push the upper MC button.



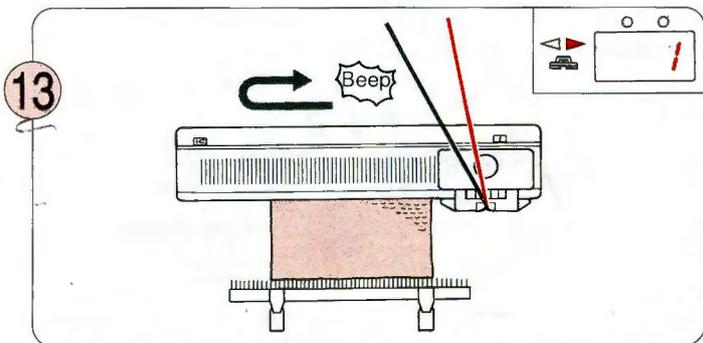
10 Thread the contrast yarn into the yarn feeder B – there is no need to open the yarn feeder lever when you do so.



11 Holding the yarn end with your hand, move the K carriage from right to left.

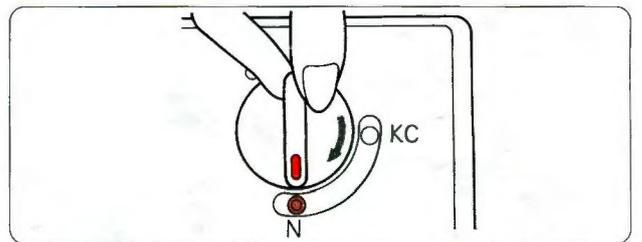


12 The number 2 appears on the display to tell you to knit the second row of the pattern. Move the K carriage to the right and then to the left. You are now knitting fairisle.



13 Knit in pattern until you hear the sound "Beep". Finish the row and knit one more row. Number 1 appears in the display. You have now knitted one complete pattern in length.

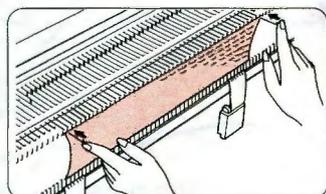
14 • **You can either continue:** Repeat steps 12 – 13
• **Or finish pattern knitting ...**



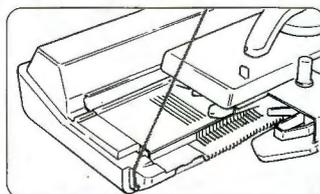
Set the change knob to N. The cam button will be released automatically. Take out the contrast yarn.

- While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.
- When you are using more than two different colour yarns, watch the number in the memo display and change yarns as it indicates.

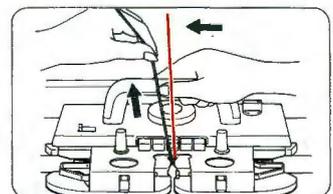
If there are any rows where you use only the main yarn (i.e. no contrast colour) ...



1. Push the end needles back to B position.



2. Take the contrast yarn out of feeder B and hook it around the notch at the end of your machine. Then continue knitting with the main yarn only, bringing the end needles back to B position on each row.



3. When the needles are selected across the row again for the pattern, rethread the contrast yarn into feeder B and knit the row, holding the contrast yarn as shown so that no loops form at the edges.

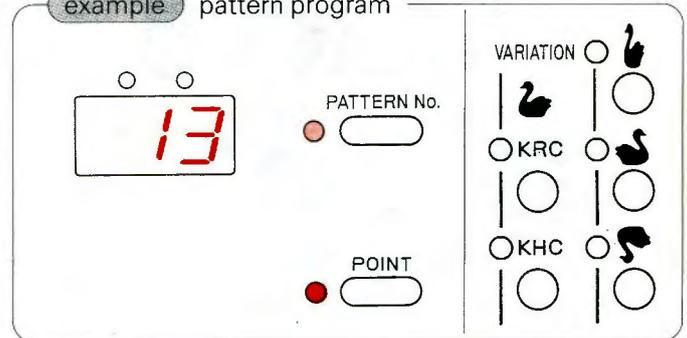
FAIRISLE (ONE-POINT MOTIF)

Let's knit one-point motif in fairisle.

<ex.> pattern no. 13



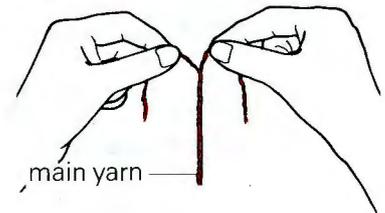
example pattern program



- Prepare sufficient balls of yarn according to the pattern data.

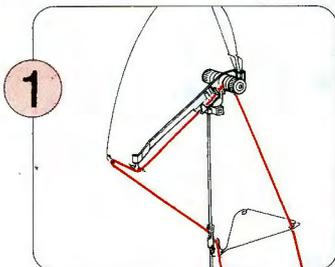
To knit one-point motif fairisle....

Separate the main yarn in two.

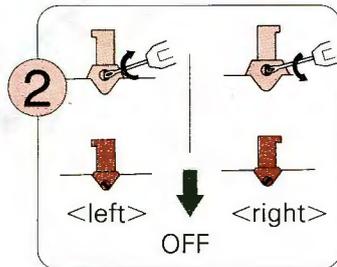


The stitches at the edges of one-point motif need to be bound in with the rest of the knitting, so that there are no holes. To do this, use length of stranded main yarn called "finishing yarn".

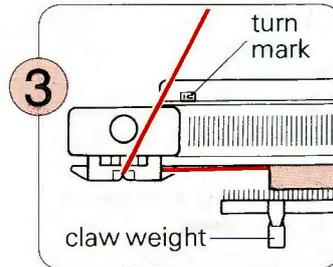
• pattern knitting



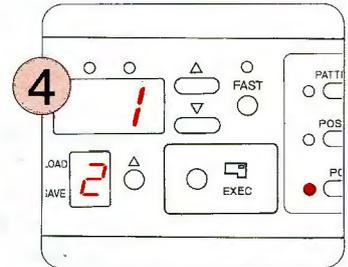
1 Thread the main yarn into the righthand yarn tension unit (see page 24).



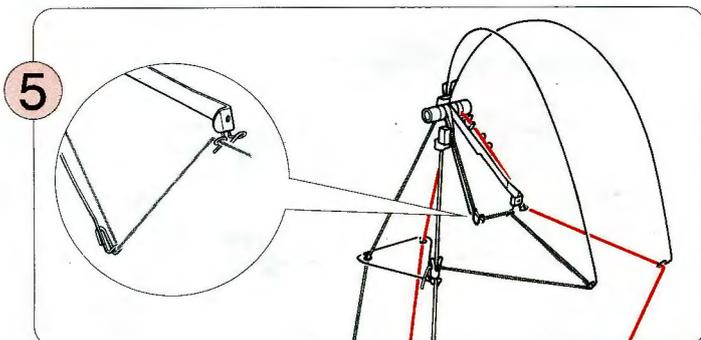
2 Set the end needle selection mechanism to OFF (see page 23).



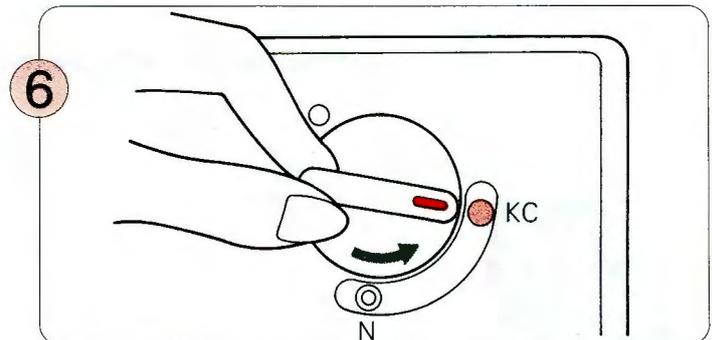
3 Knit a few rows in stocking stitch and place the K carriage outside the left turn mark. Hang the claw weight evenly along the cast-on comb.



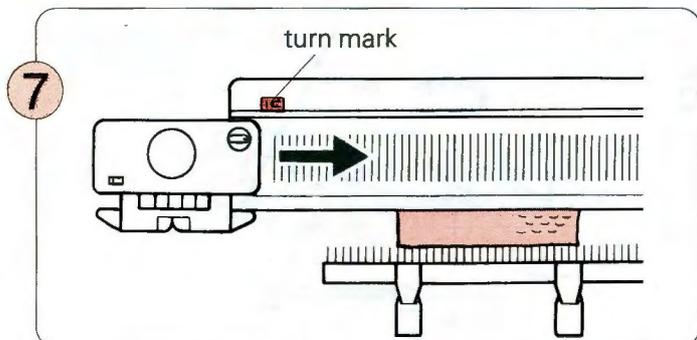
4 Program your pattern.
 ① Select the pattern no. (see page 32).
 ② Push the point key to light the point lamp.



5 Thread the contrast yarn into the left yarn tension unit, including the sub take-up spring.

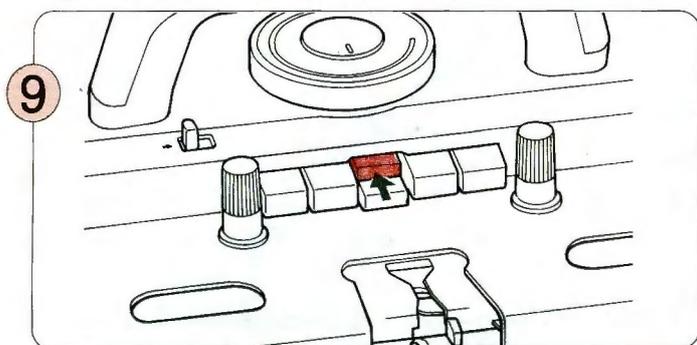


6 Set the change knob to KC.

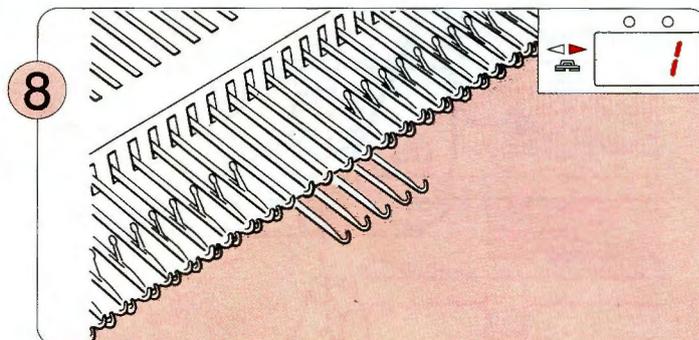


7 Move the K carriage from left to right across the left turn mark.

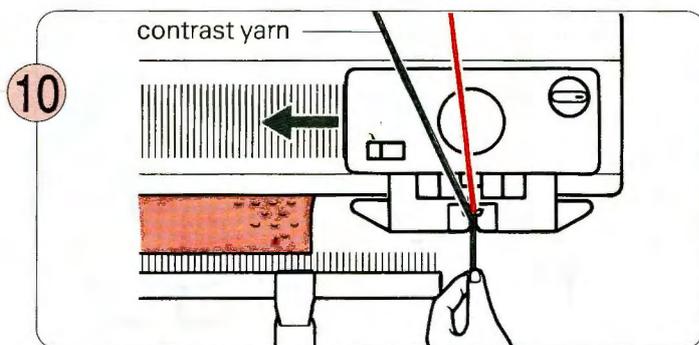
♣ You only need to operate the K carriage once across the turn mark when you start pattern knitting.



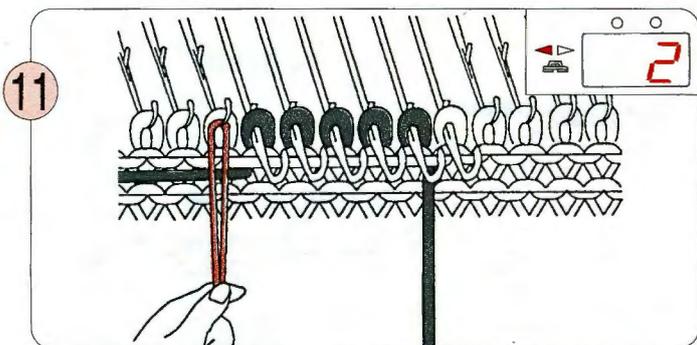
9 Push the upper MC button.



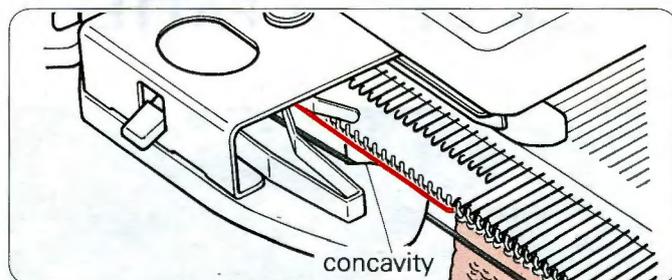
8 The needles are selected. The display still shows row number 1 and the lamp of carriage direction indicator is lit.



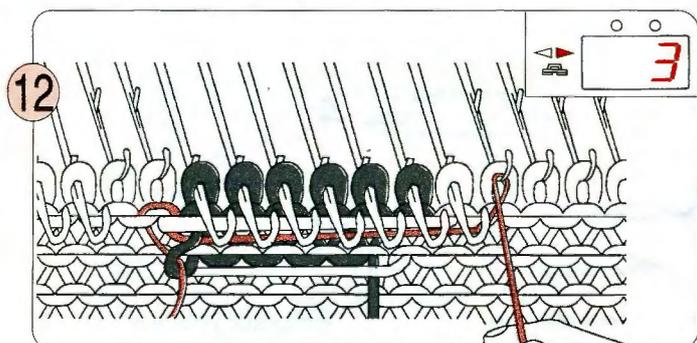
10 Thread the contrast yarn into yarn feeder B – there is no need to open the yarn feeder lever when you do so. Move the K carriage from right to left.



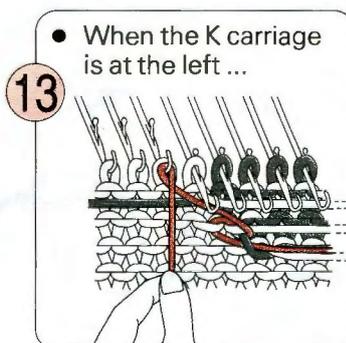
11 Fold a separate piece of finishing yarn in half, and place it over the needle adjacent to the last selected needle at the left. Holding the end of the finishing yarn, move the K carriage to the right.



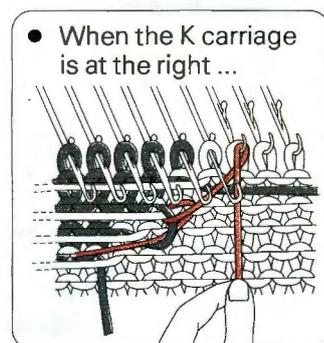
♣ Make sure the contrast yarn goes under the concavity in the sinker plate.



12 Take one end of the finishing yarn under the selected needles, and wrap it from right to left round the needle adjacent to the last selected needle on the right (see illustration). Holding the end of the finishing yarn, move the K carriage from right to left.

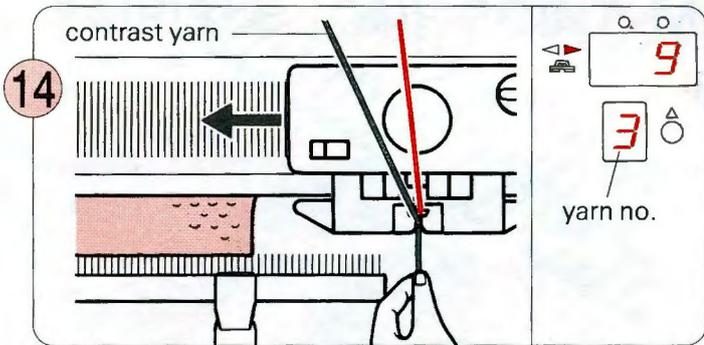


• When the K carriage is at the left ...

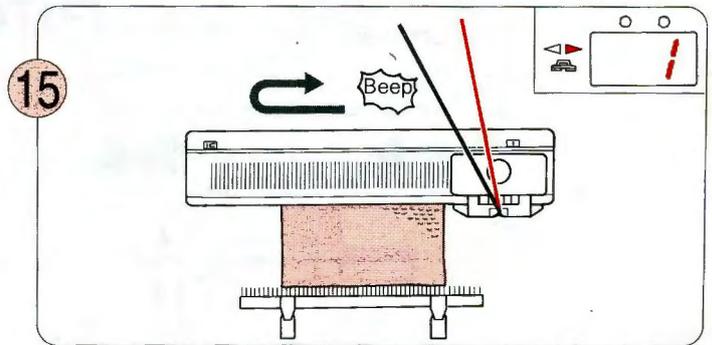


• When the K carriage is at the right ...

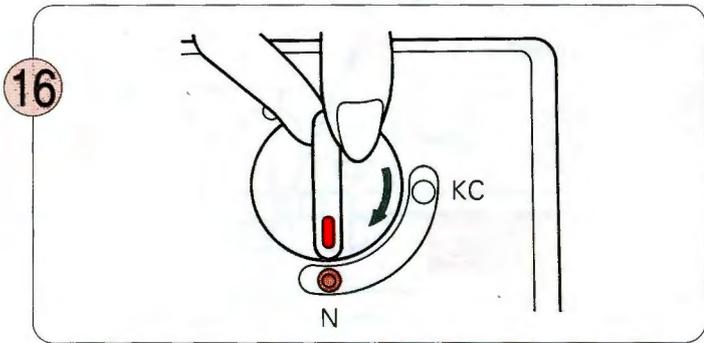
13 Wrap the finishing yarn around the hook of the needle adjacent to the first selected needle, and pull down gently.



When the yarn no. in the memo display changes, change the contrast yarn in the yarn tension unit and the yarn feeder B.



Knit in pattern until you hear the sound "Beep". If you are operating the K carriage from right to left when you hear the sound, finish that row and knit one more row. The number 1 appears in the display.



Set the change knob to N. The cam button will be automatically released. Take out the contrast yarn.

While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.

TUCK STITCH PATTERN

<ex.> pattern no. 2



example pattern program

2

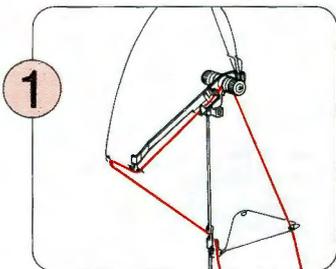
PATTERN No.

VARIATION

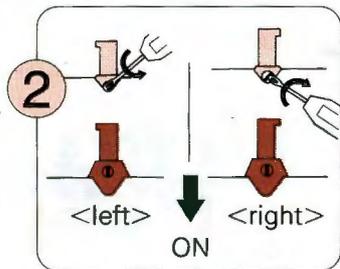
KRC

KHC

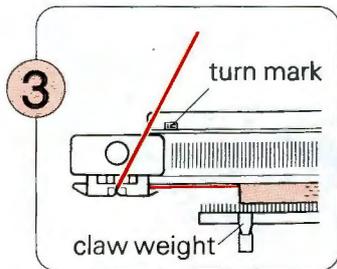
● pattern knitting



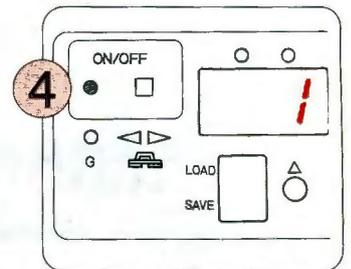
1 Thread the main yarn into the righthand yarn tension unit (see page 24).



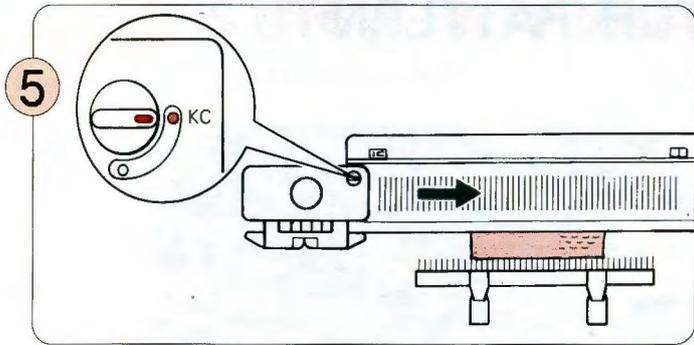
2 Set the end needle selection mechanism to ON (see page 23).



3 Knit a few rows in stocking stitch and place the K carriage outside the left turn mark. Hang the claw weight evenly along the cast-on comb.

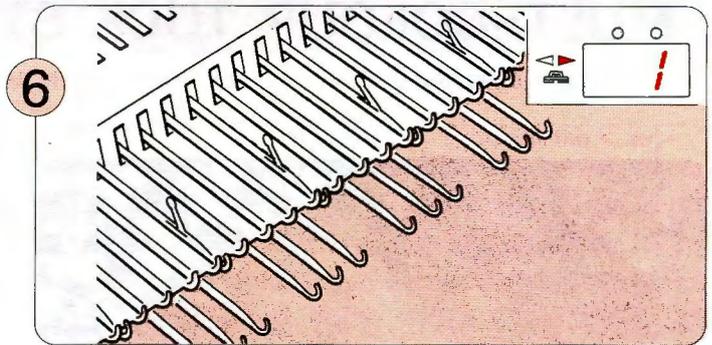


4 Program your pattern. Just select pattern no. in this example (see page 32).

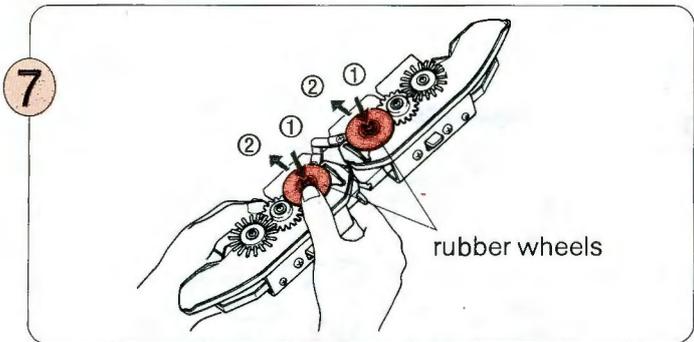


Set the change knob to KC. Move the K carriage from left to right across the left turn mark.

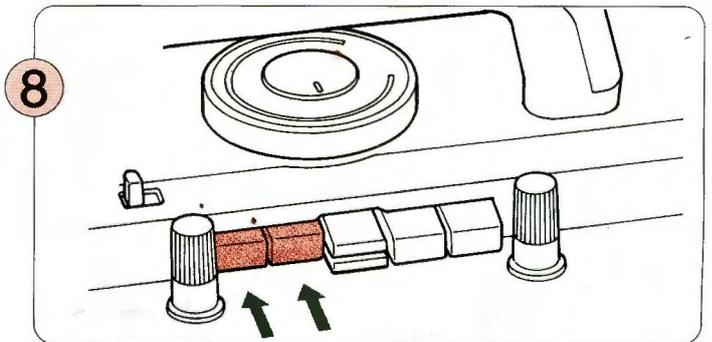
♣ You only need to operate the K carriage across the turn mark when you start pattern knitting.



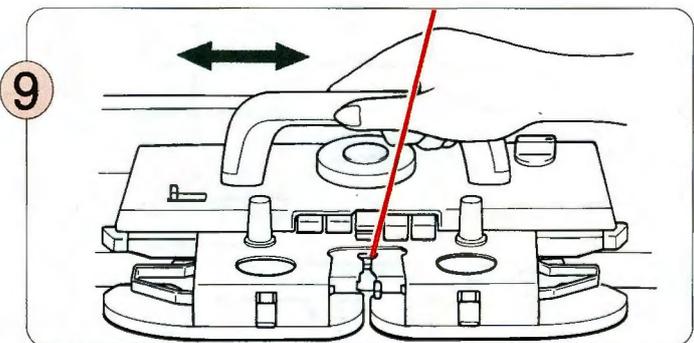
The needles are selected. The display still shows 1 and the lamp of the carriage direction indicator is lit.



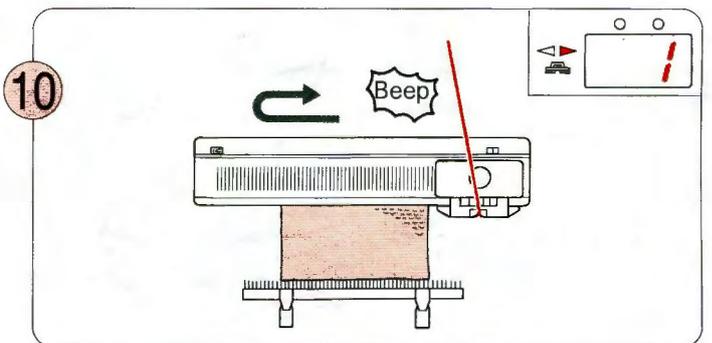
Remove the sinker plate assembly from the K carriage and turn it over. Put the rubber wheels into working position ② as shown. Attach the sinker plate assembly back on the K carriage again.



Push both tuck buttons at the same time.



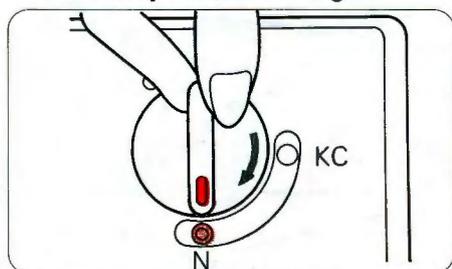
Move the K carriage back and forth. You are now knitting in tuck stitch pattern. The number in the display tells you the row number you are going to knit next.



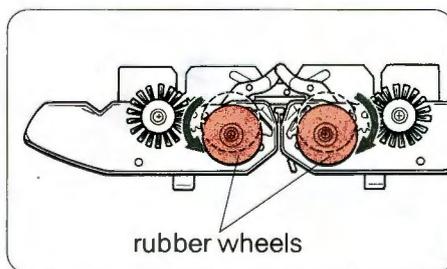
Knit in pattern until you hear the sound "Beep". If you are operating the K carriage from right to left when you hear the sound, finish the row and knit one more row. Number 1 appears in the display. You have now knitted one complete pattern in length.

11 • **You can either continue:**
Repeat steps ⑨ – ⑩.

• **Or finish pattern knitting**



① Set the change knob to N. The cam buttons will be released automatically.



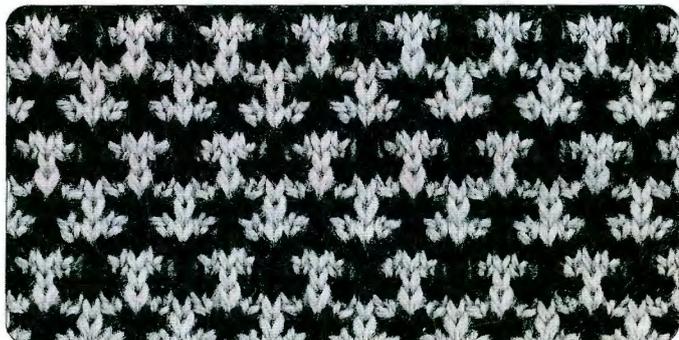
② Place the rubber wheels in non-working position.

While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.

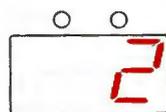
MULTI-COLOUR TUCK STITCH PATTERN

This pattern is worked the same as tuck stitch pattern, except the yarn is changed every two rows.

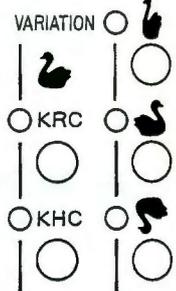
<ex.> pattern no. 2



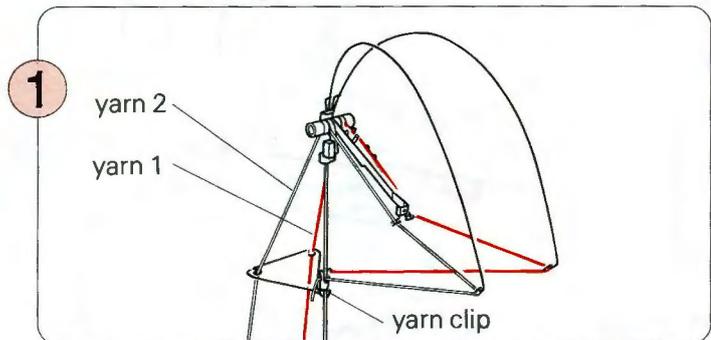
example pattern program



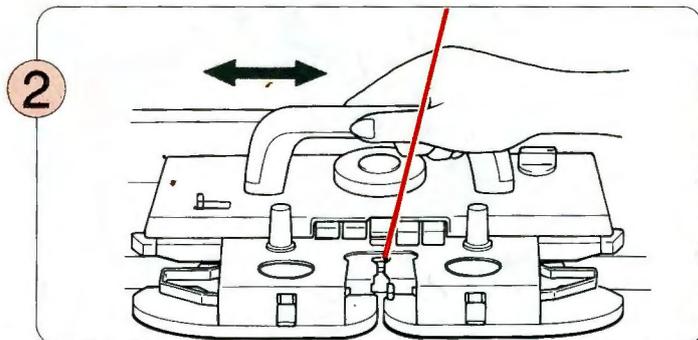
PATTERN No.



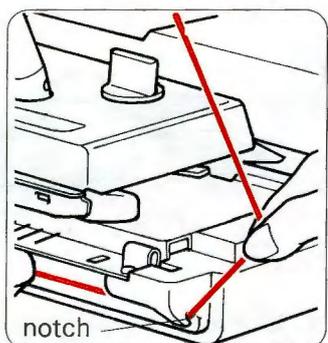
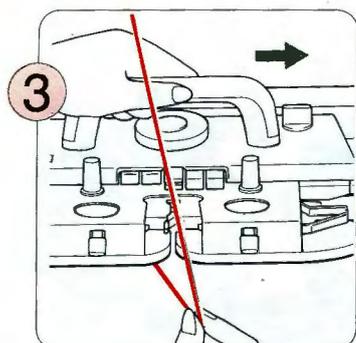
• pattern knitting



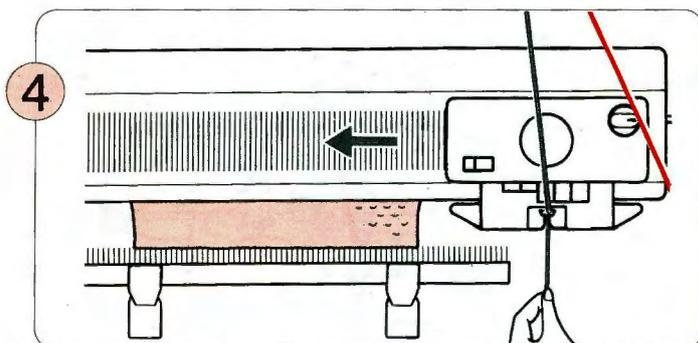
Thread the yarn 1 into the righthand tension unit and the yarn 2 into the lefthand one. Follow the steps ② - ⑧ of tuck stitch pattern (see page 68).



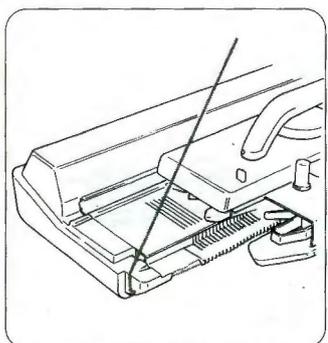
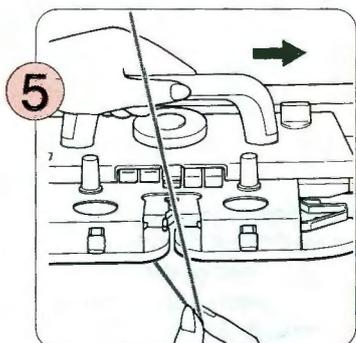
Knit two rows.



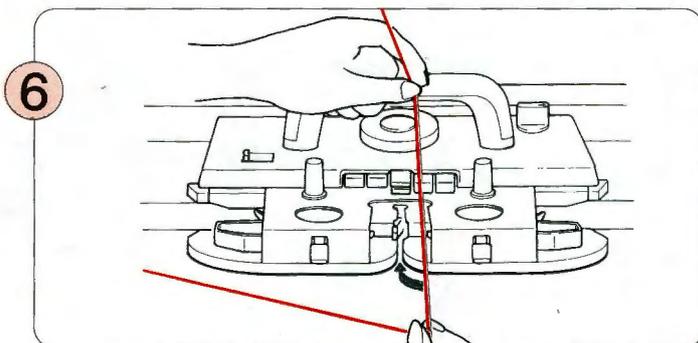
Take yarn 1 out of yarn feeder A. If you slide the K carriage slightly to the right, the yarn can be removed easily. Hook the yarn 1 around the notch at the end of your machine.



Thread yarn 2 into yarn feeder A and knit two rows.



Take the yarn 2 out of yarn feeder A and hook it around the notch at the end of your machine.



Thread yarn 1 into yarn feeder A and knit two rows. Continue knitting, changing the yarn in yarn feeder A every two rows.

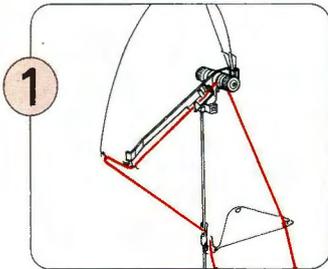
♣ Hook the yarn 1 around the notch at the right end of your machine and the yarn 2 around the notch at the left end.

SKIP STITCH PATTERN

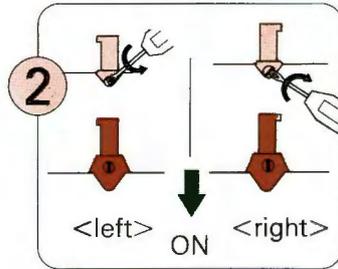
<ex.> pattern no. 5



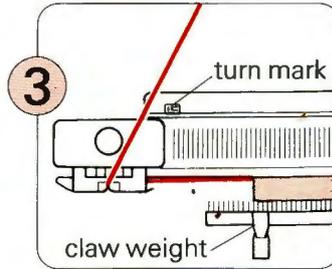
• pattern knitting



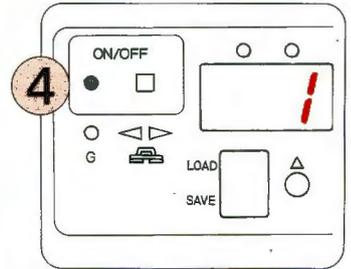
1 Thread the main yarn into the righthand yarn tension unit (see page 24).



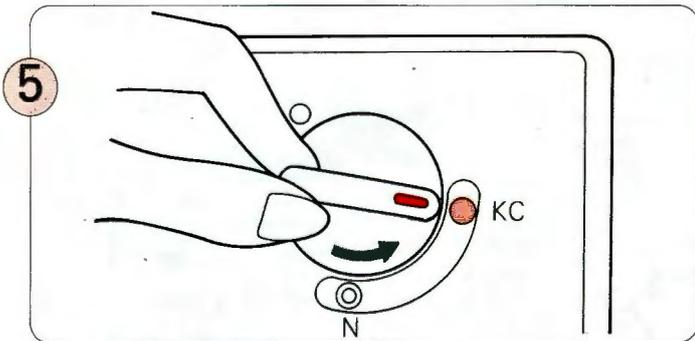
2 Set the needle selection mechanism to ON (see page 23).



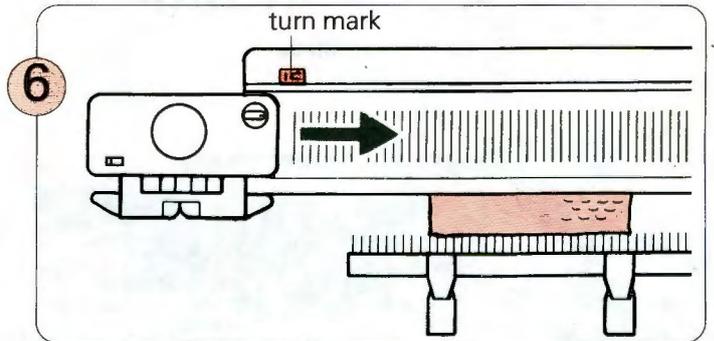
3 Knit a few rows in stocking stitch and place the K carriage outside the left turn mark. Hang the claw weight evenly along the cast-on comb.



4 Program your pattern. Just select the pattern no. in this example (see page 32).

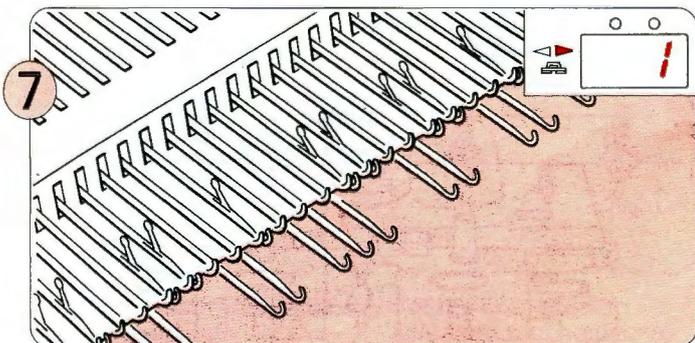


5 Set the change knob to KC.

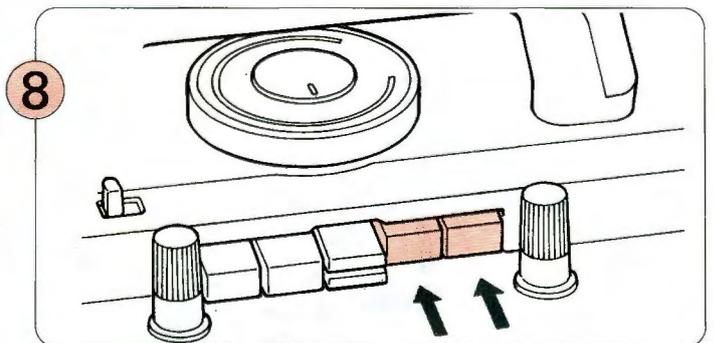


6 Move the K carriage from left to right across the left turn mark.

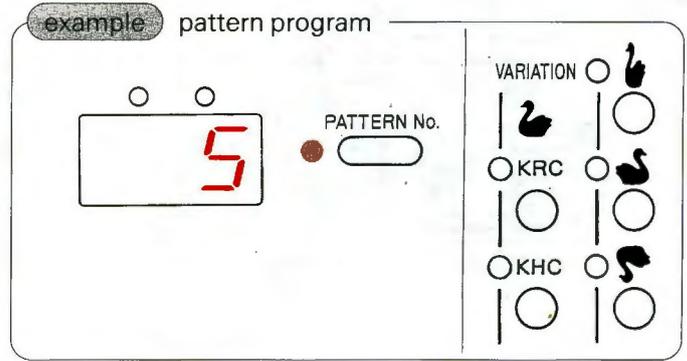
♣ You only need to operate the K carriage once across the turn mark when you start pattern knitting.

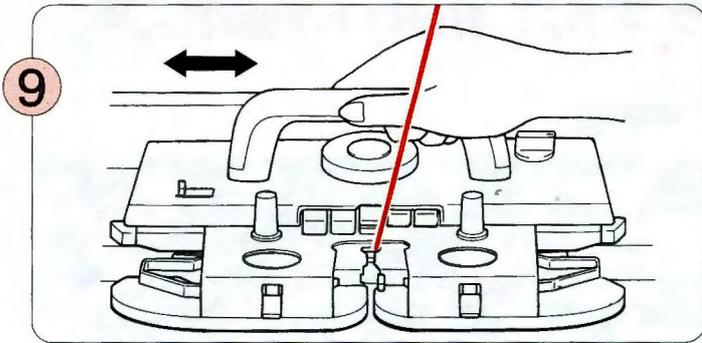


7 The needles are selected. The display still indicates 1 and the lamp of the carriage direction indicator is lit.



8 Push both part buttons at the same time.

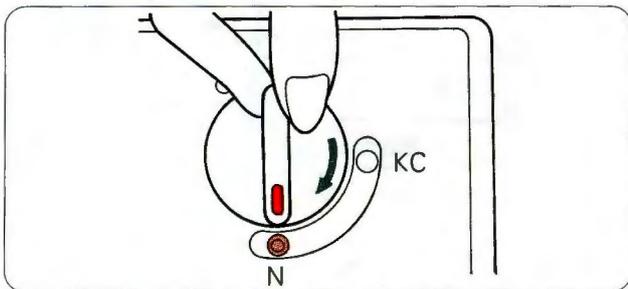




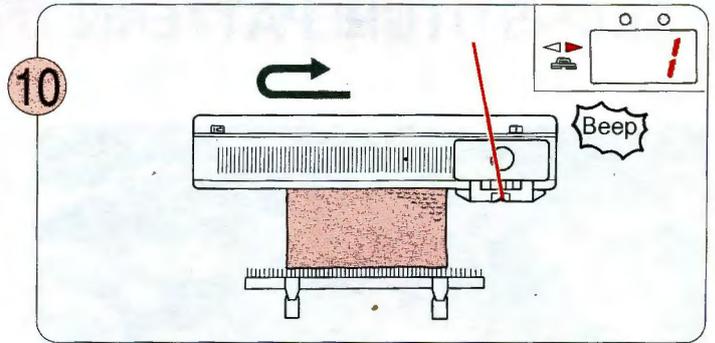
Move the K carriage back and forth. You are knitting in skip stitch pattern. The number in the display tells you the row you are going to knit.

- 11** • **You can either continue:**
Repeat steps 9 – 10.

- **Or finish pattern knitting**



Set the change knob to N. The cam buttons will be automatically released.



Knit in pattern until you hear the sound "Beep". If you are operating the K carriage from right to left when you hear the sound, finish that row and knit one more row. The number 1 appears in the display. You have now knitted one complete pattern in length.

While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.

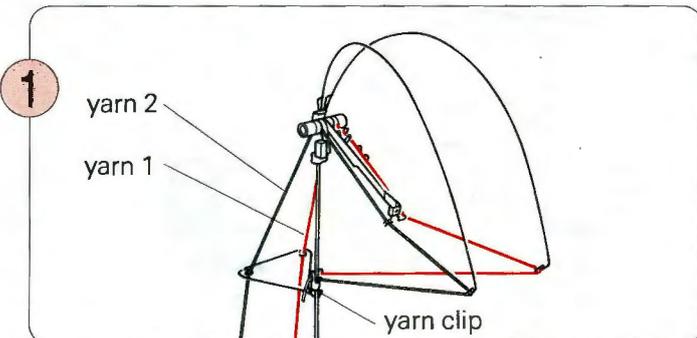
MULTI-COLOUR SKIP STITCH PATTERN

This pattern is the same as skip stitch pattern, except the yarn is changed every two rows.

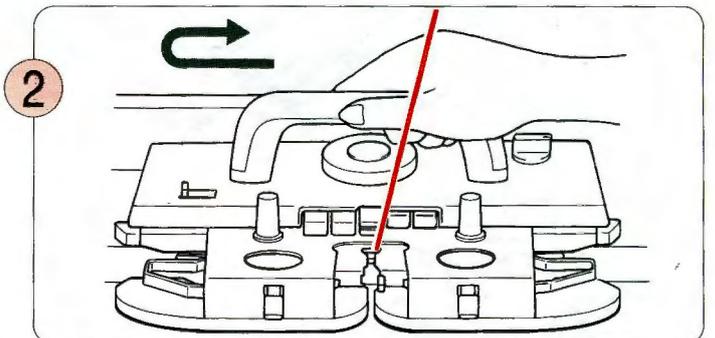
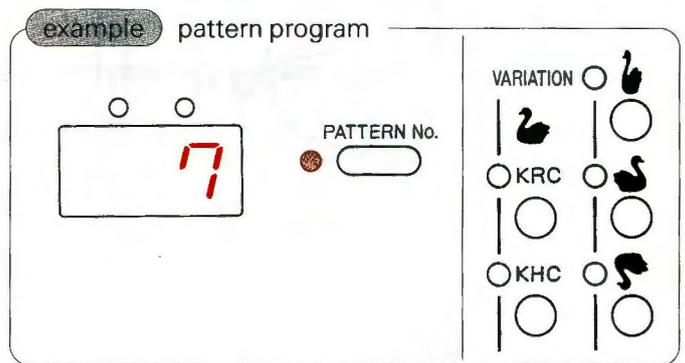
<ex.> pattern no. 7



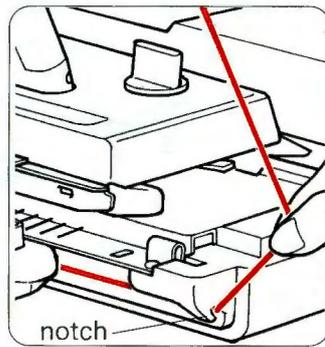
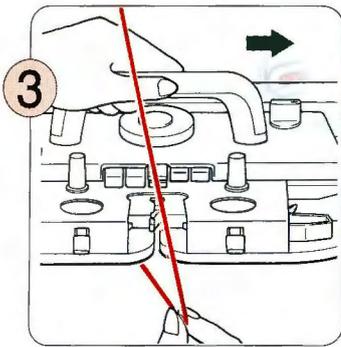
- **pattern knitting**



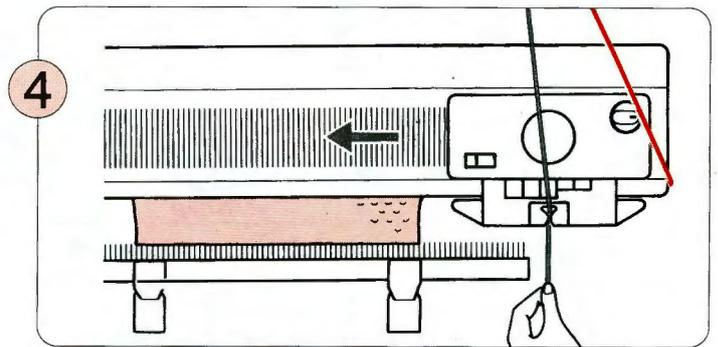
Thread the yarn 1 into the righthand yarn tension unit and the yarn 2 into the lefthand one. Follow the steps 2 – 8 of skip stitch pattern (see page 71).



Knit two rows.



Take the yarn 1 out of the yarn feeder A. If you slide the K carriage slightly to the right, the yarn can be removed easily. Hook the yarn 1 around the notch at the end of your machine.



Thread yarn 2 into yarn feeder A and knit two rows. Change the yarn in yarn feeder A every two rows (see steps ③ - ⑥ on page 70) and continue knitting.

♣ When you change the yarns, take care not to cross them over each other.

WEAVING PATTERN

<ex.> pattern no. 7



example pattern program

○
○

7

PATTERN No.

VARIATION ○

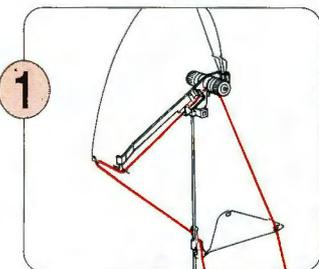
○ KRC ○

○ KHC ○

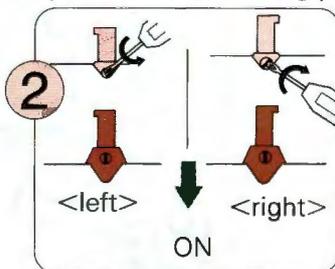
○ ○

• pattern knitting

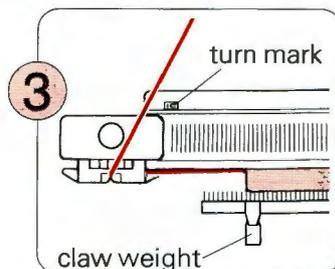
- This example requires two types of yarn – the main yarn and the weaving yarn.
- A better effect will result if you choose a weaving yarn that is thicker than the main yarn.



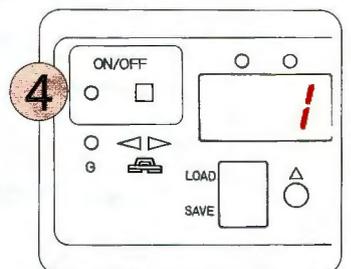
Thread the main yarn into the righthand yarn tension unit (see page 24).



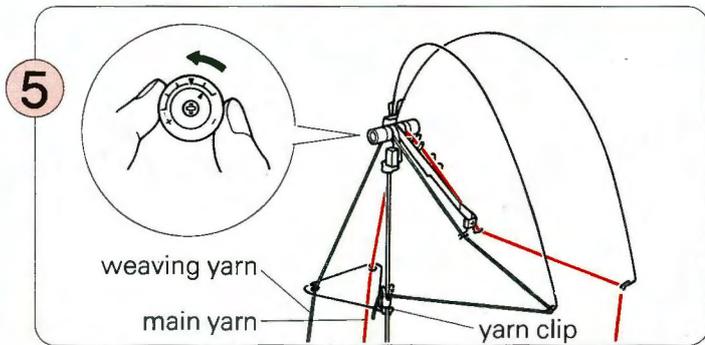
Set the end needle selection mechanism to ON (see page 23).



Knit a few rows in stocking stitch and place the K carriage outside the left turn mark. Hang the claw weight evenly along the cast-on comb.

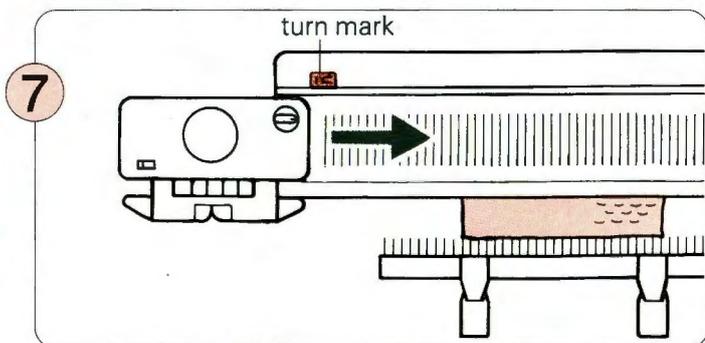


Program your pattern. Just select the pattern no. in this example (see page 32).



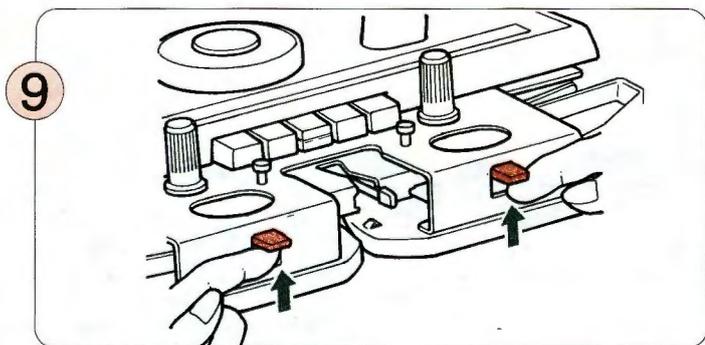
Thread the weaving yarn into the lefthand yarn tension unit.

- ♣ Adjust the tension disc as shown according to the weaving yarn.

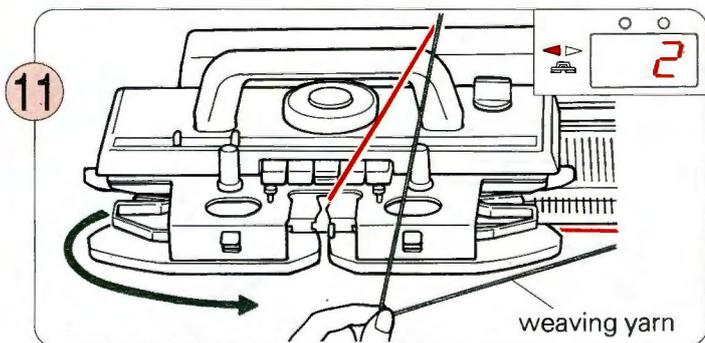


Move the K carriage from left to right across the left turn mark.

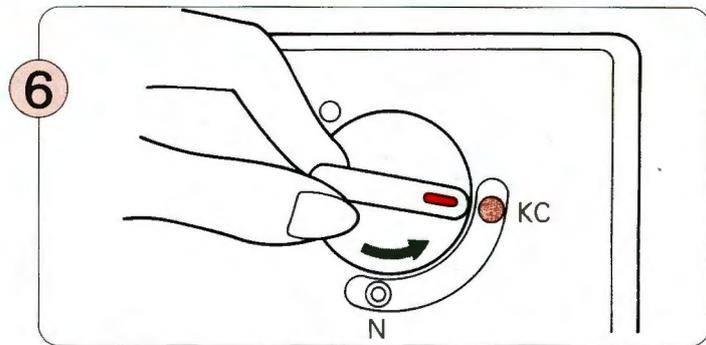
- ♣ You only need to operate the K carriage once across the turn mark when you start pattern knitting.



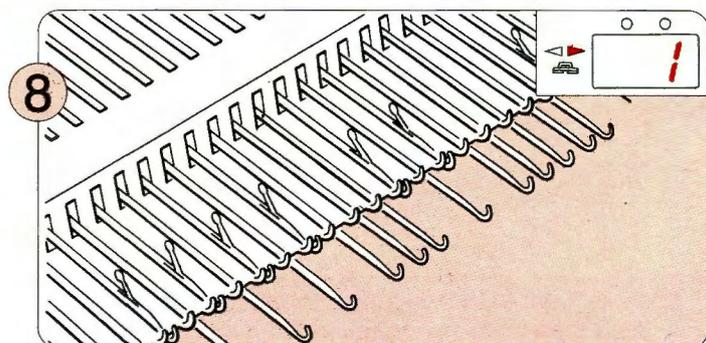
Set the weaving pattern levers to W.T.



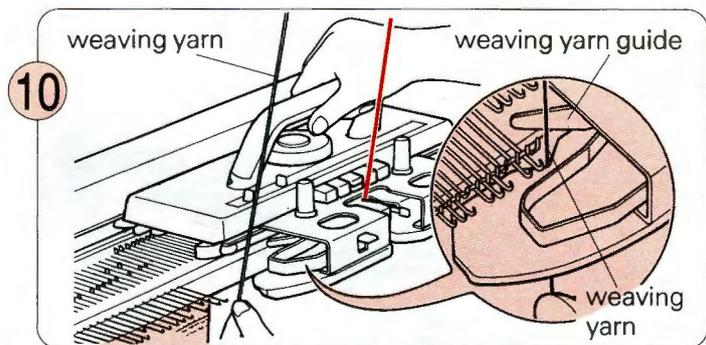
Remove the weaving yarn from the left weaving yarn guide by moving the K carriage slightly to the left. Pass the weaving yarn under the K carriage to the right side. Number 2 in the display tells you to knit the second row of the pattern.



Set the change knob to KC.

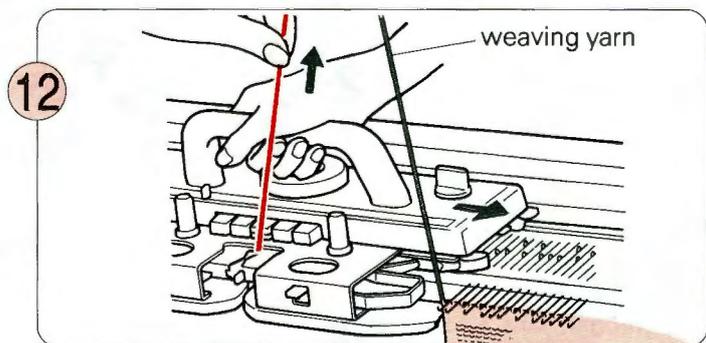


The needles are selected. The display still shows 1 and the lamp of the carriage direction indicator is lit to tell you to knit the first row of the pattern.

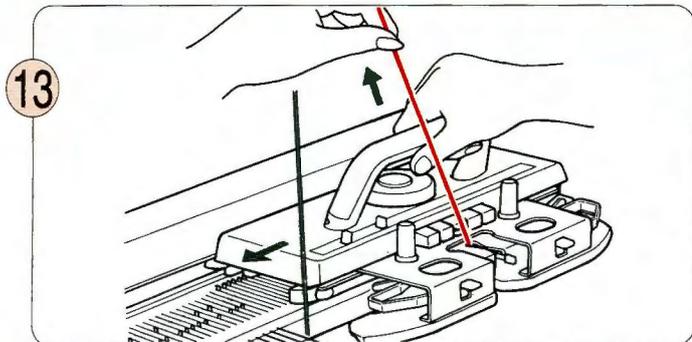


Hold the end of the weaving yarn with your hand, and check it slides the weaving yarn guide on the left side of the K carriage. Then move the K carriage across the needle bed.

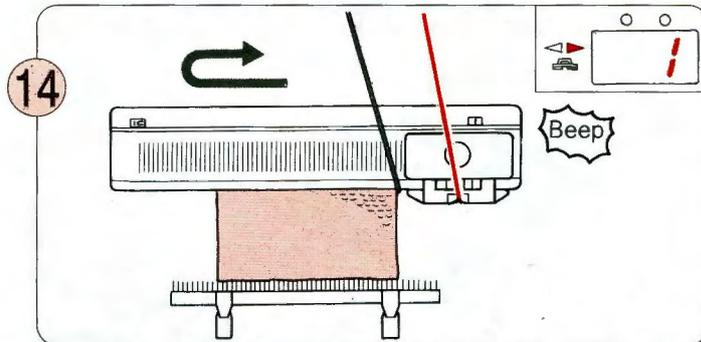
- ♣ Release the yarn end after knitting one row.



Move the K carriage to the right, pulling the main yarn upwards slightly – ensure that the weaving yarn is in the right weaving yarn guide.



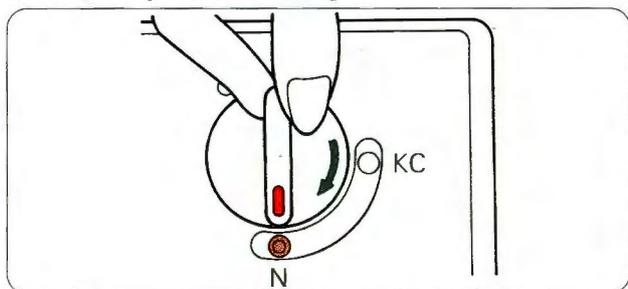
Continue knitting at the same time placing the weaving yarn into the left or right weaving yarn guide according to the direction of the K carriage, and pulling the main yarn upwards slightly.



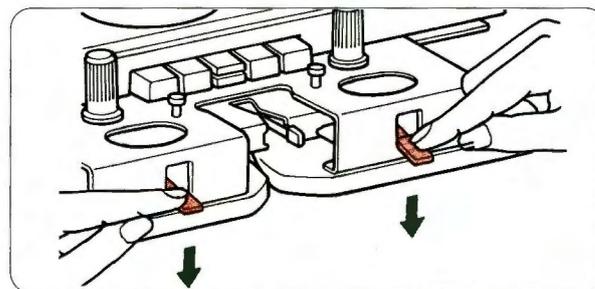
Knit in pattern until you hear the sound "Beep". If you are operating the K carriage from right to left when you hear the sound, finish that row and knit one more row. The number 1 appears in the display. You have now knitted one complete pattern in length.

15 • You can either continue:
Repeat steps 13 – 14.

• Or finish pattern knitting



① Set the change knob to N.



② Set the weaving pattern levers to N.

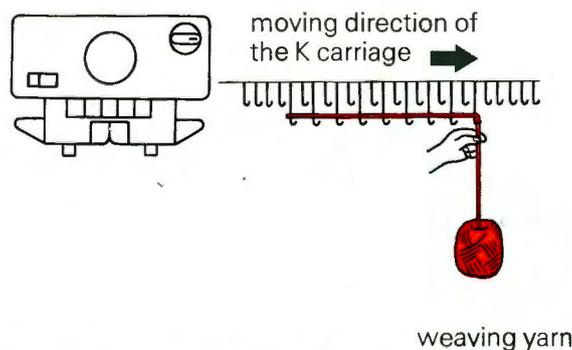
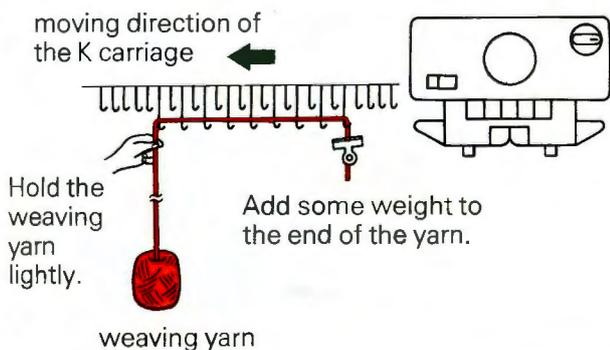
While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.

When using more than two weaving yarns

There are two ways to weave – one is to change the yarn in the yarn tension unit, and the other is to lay the weaving yarn across the needles by hand.

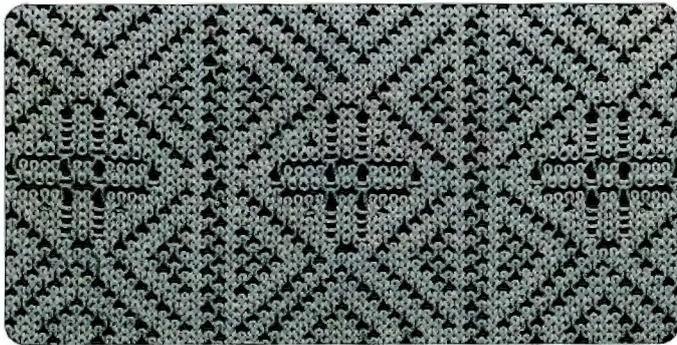
• Second method

Lay the weaving yarn across the selected needles, beginning from the same side as the K carriage, as illustrated.



THREAD LACE PATTERN

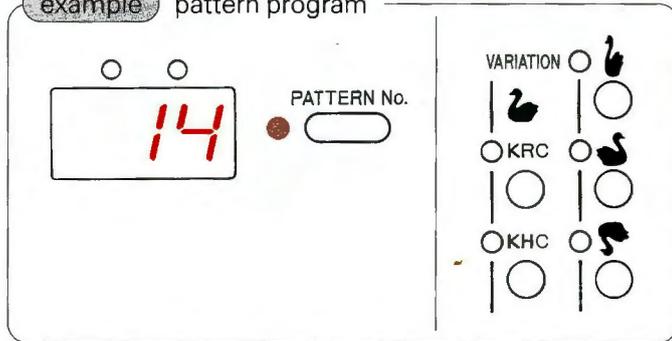
<ex.> pattern no. 14



• Before starting pattern knitting

- You can knit this pattern by using a combination of medium yarn and very fine yarn.
- Use medium (or fine) yarn as the main yarn, and very fine yarn in a similar colour to the main yarn, for the contrast.

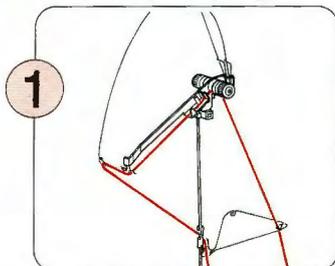
example pattern program



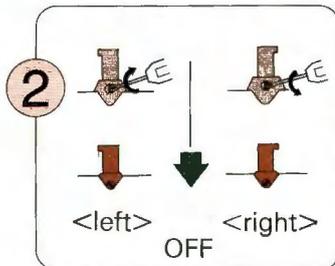
APPROXIMATE TENSION CHART

| combination of the yarn | | tension dial |
|-------------------------|----------------|--------------|
| fine yarn | very fine yarn | 4~9 |
| medium yarn | very fine yarn | 6~9 |

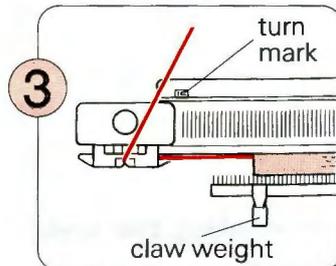
• Pattern knitting



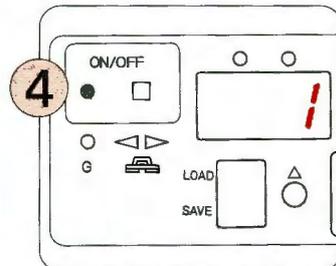
1 Thread the main yarn into the righthand yarn tension unit (see page 24).



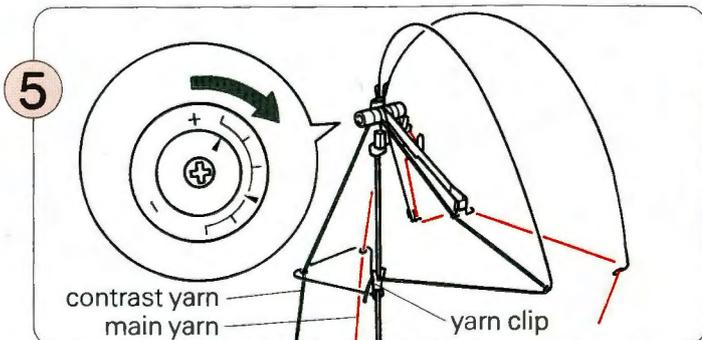
2 Set the end needle selection mechanism to OFF (see page 23).



3 Knit a few rows in stocking stitch and place the K carriage outside the left turn mark. Hang the claw weight evenly along the cast-on comb.

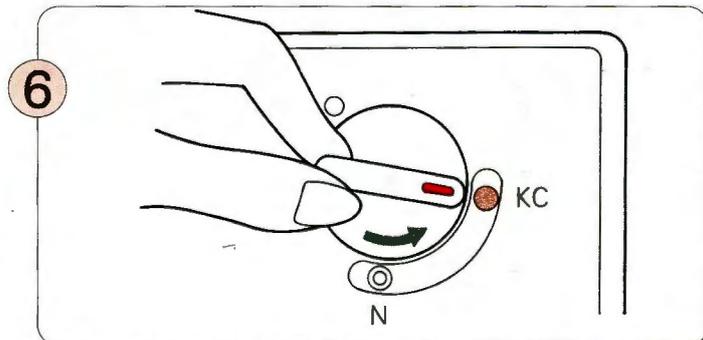


4 Program your pattern. Just select the pattern no. in this example (see page 32).

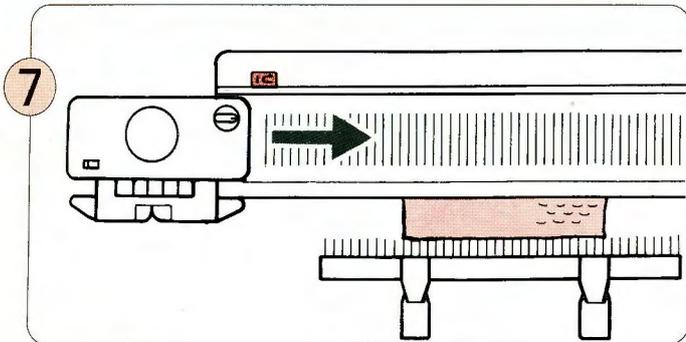


5 Thread the very fine contrast yarn into the lefthand yarn tension unit. Thread the main yarn into the sub take-up spring.

♣ Turn the tension disc (both right and left) towards +.

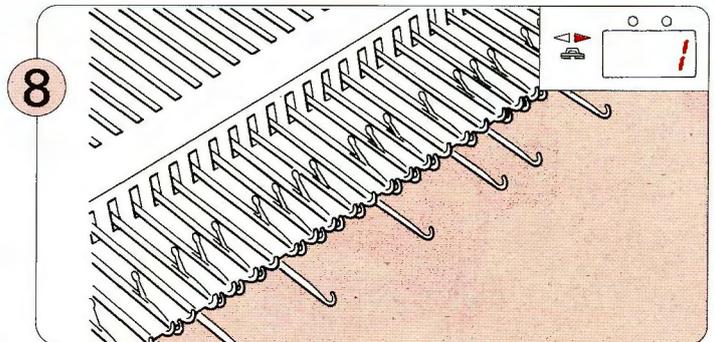


6 Set the change knob to KC.

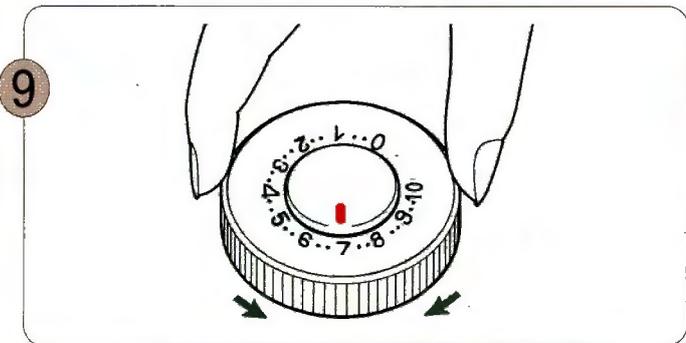


7 Move the K carriage from left to right across the left turn mark.

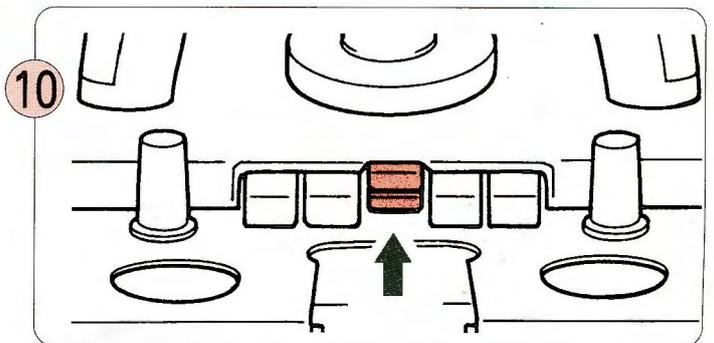
♣ You only need to operate the K carriage once across the turn mark when you start pattern knitting.



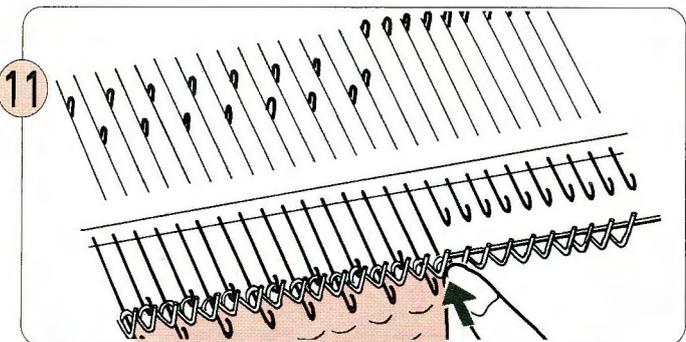
8 The needles are selected. The display still shows 1 and the lamp of the carriage direction indicator is lit.



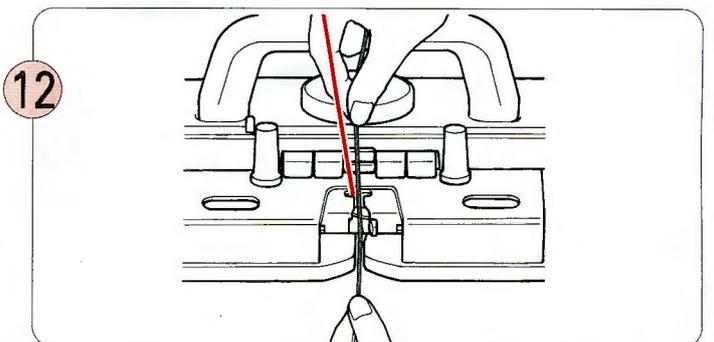
9 Set the tension dial using the tension chart on page 76.



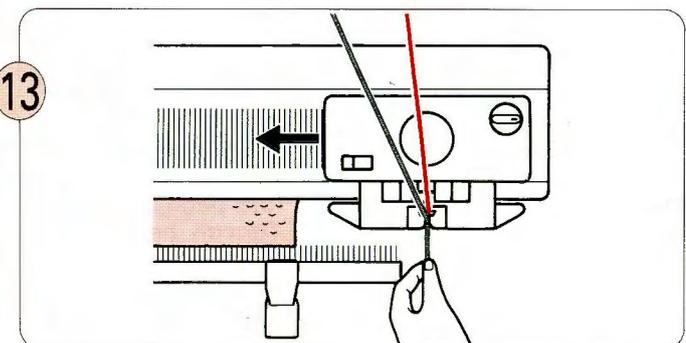
10 Push both upper and lower buttons (L) at the same time.



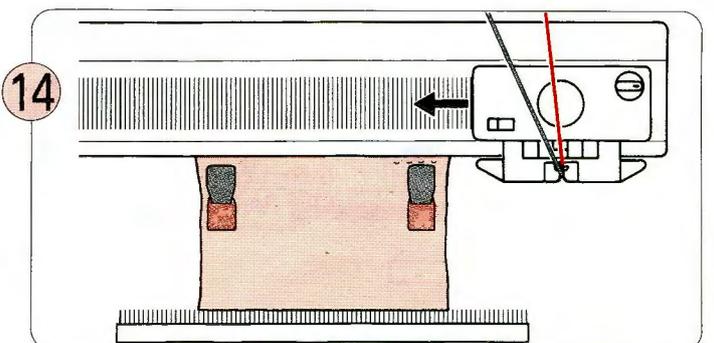
11 If an end needle is in D position, push it back to B position.



12 Thread the contrast yarn into yarn feeder B – there is no need to open the yarn feeder lever when you do so.



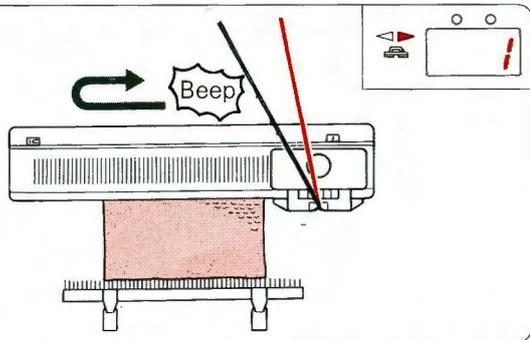
13 Knit a row with the K carriage, at the same time holding the yarn end with your hand.



14 Continue knitting, remembering to push the selected end needle back to B position (see step 11).

- ♣ Move the K carriage slowly.
- ♣ Rehang the claw weight every 20 rows or so.

15

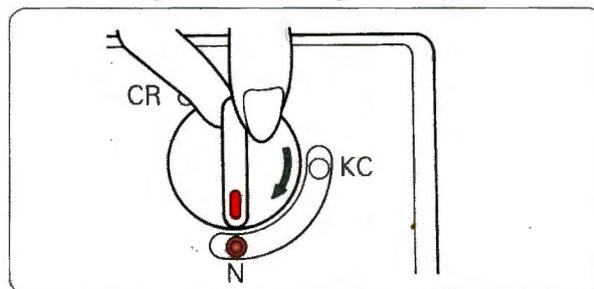


Knit in pattern until you hear the sound "Beep". If you are operating the K carriage from right to left when you hear the sound, finish the row and knit one more row. Number 1 appears in the display. You have now knitted one complete pattern in length.

16

• You can either continue:
Repeat steps 14–15.

• Or finish pattern knitting

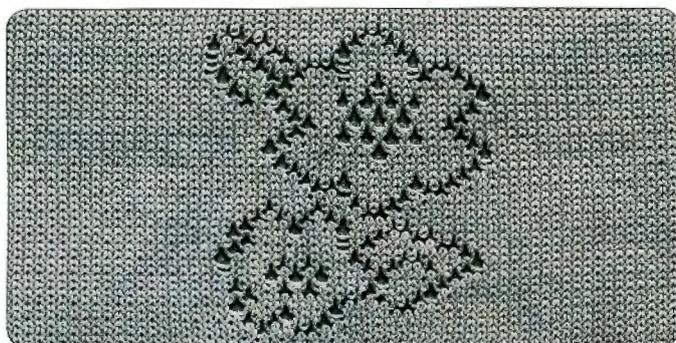


Set the change knob to N.
The cam buttons will be released automatically.

While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.

THREAD LACE PATTERN (ONE-POINT MOTIF)

<ex.> pattern no. 16



example pattern program

PATTERN No. 16

POINT ●

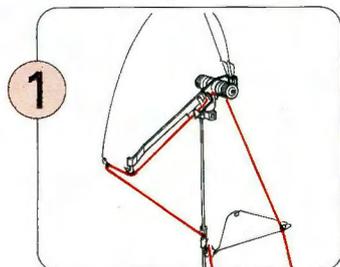
VARIATION

KRC

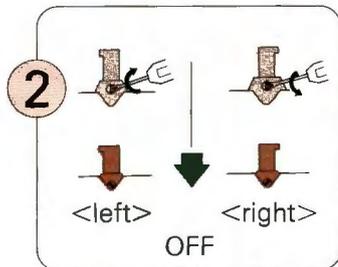
KHC

• **pattern knitting**

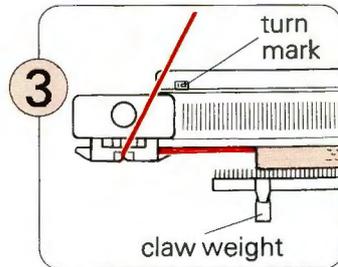
The contrast yarn is knitted in with the main yarn throughout thread lace knitting. So if you knit areas in stocking stitch only, you should use main and contrast yarns together so that these areas will match those in thread lace pattern.



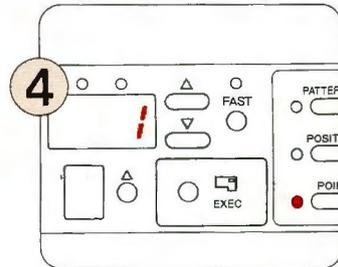
Thread the main yarn into the righthand yarn tension unit (see page 24).



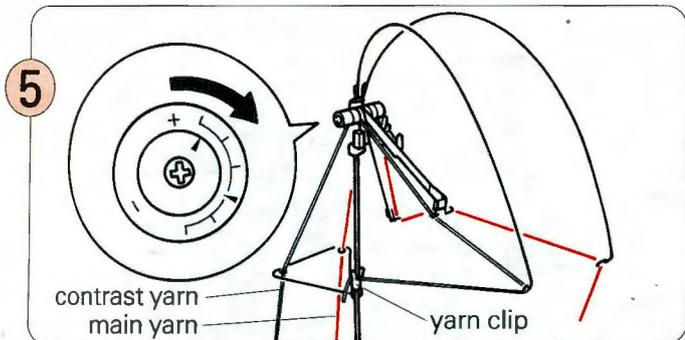
Set the end needle selection mechanism to OFF (see page 23).



Knit a few rows in stocking stitch. Hang the claw weight evenly along the cast-on comb.

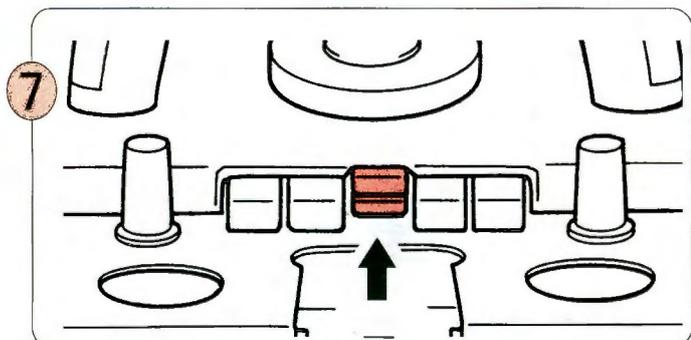


Program your pattern.
① Select the pattern no. (see page 32).
② Turn on the point key.

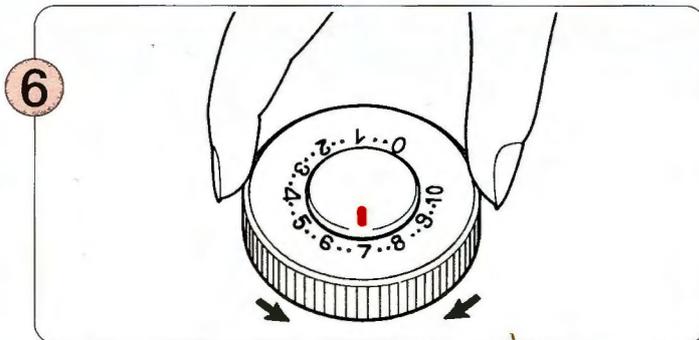


Thread the very fine contrast yarn into the left-hand yarn tension unit. Thread the main yarn into the sub take-up spring.

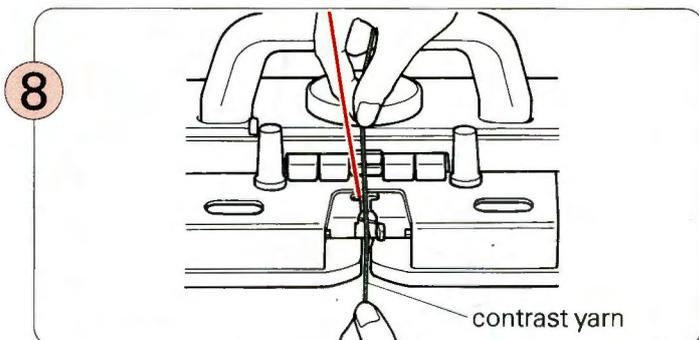
♣ Turn the tension disc (both right and left) to right.



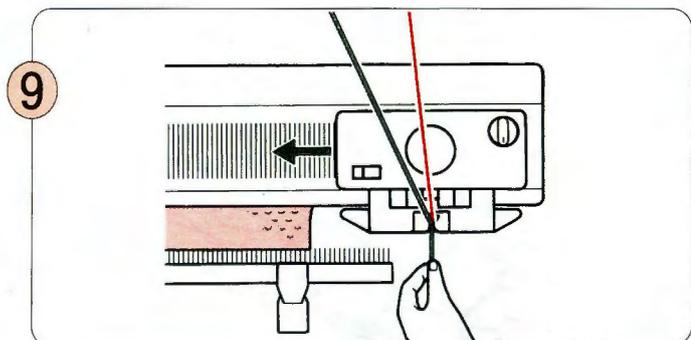
Push both upper and lower buttons (L) at the same time.



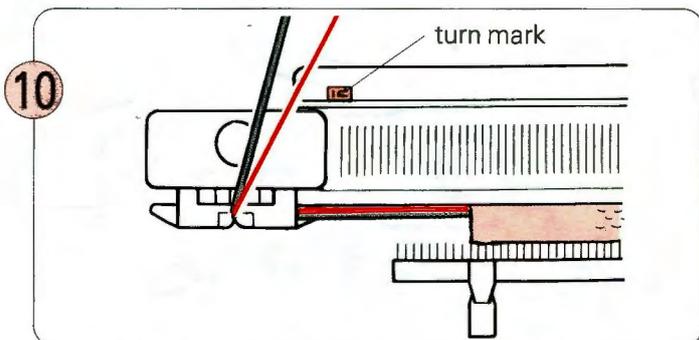
Set the tension dial using the tension chart on page 76 as a guide.



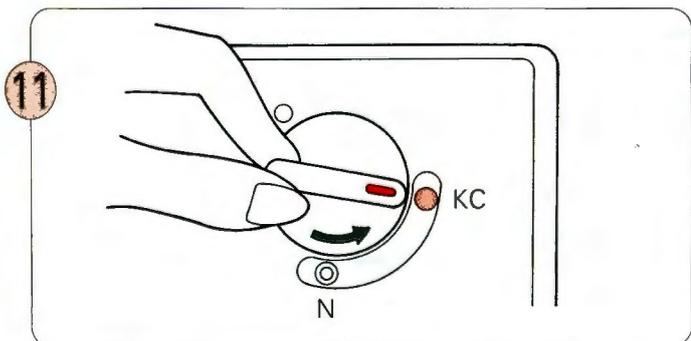
Thread the contrast yarn into yarn feeder B – there is no need to open the yarn feeder lever when you do so.



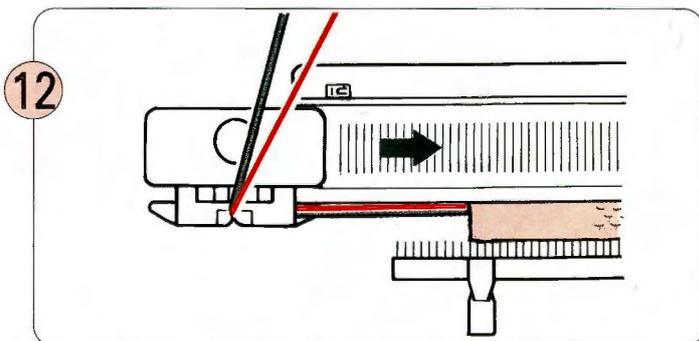
Knit a row with the K carriage, at the same time holding the yarn end with your hand.



Continue knitting until you want to begin thread lace knitting. Place the K carriage outside the left turn mark.

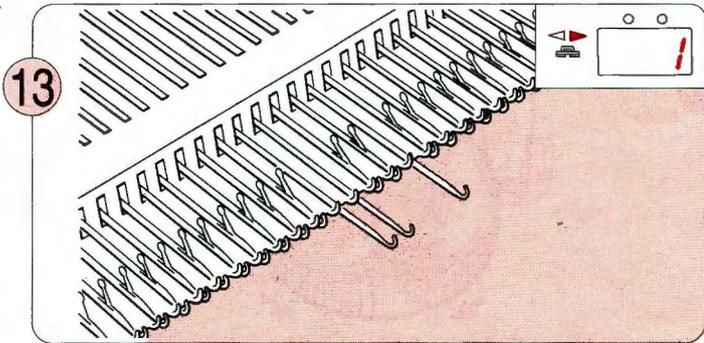


Set the change knob to KC.

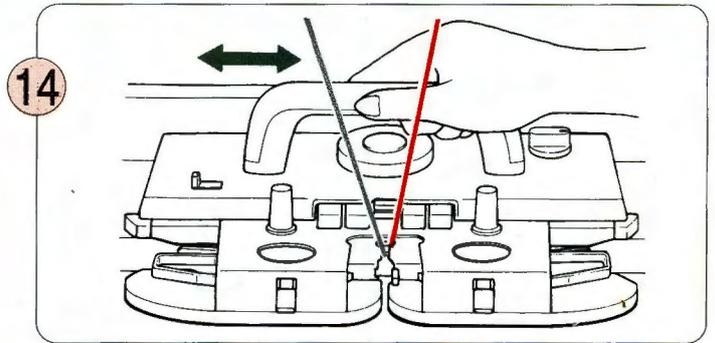


Move the K carriage from left to right across the left turn mark.

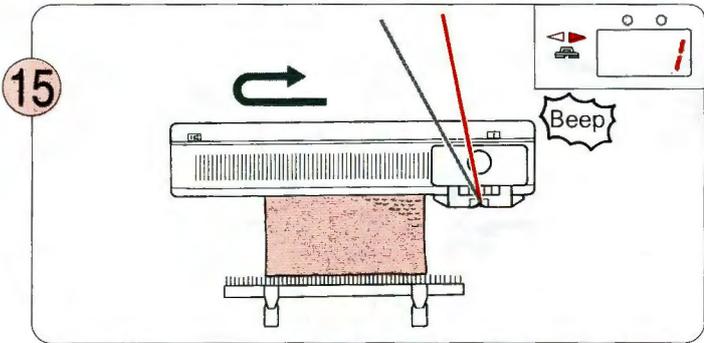
♣ You only need to operate the K carriage once across the turn mark when you start pattern knitting.



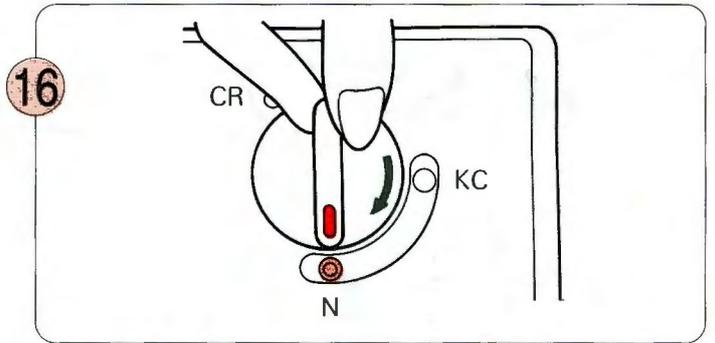
13 The needles are selected. The display still shows 1 and the lamp of the carriage direction indicator is lit.



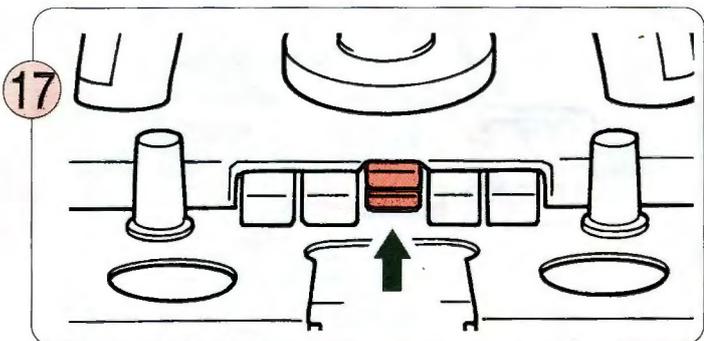
14 Move the K carriage back and forth. You are now knitting in thread lace pattern. The number in the display tells you the row you are going to knit next.



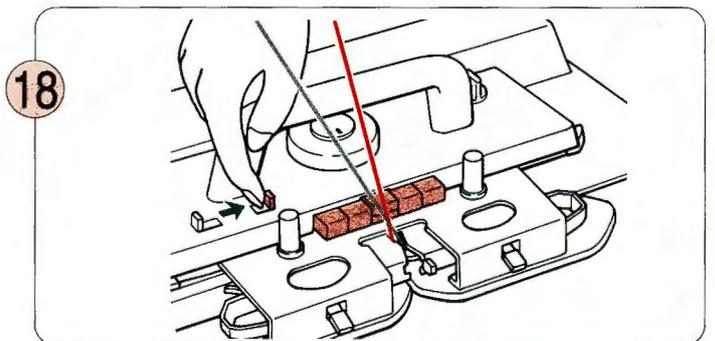
15 Knit in pattern until you hear the sound "Beep". If you are operating the K carriage from right to left when you hear the sound, finish the row and knit one more row. Number 1 appears in the display. You have now knitted one complete pattern in length.



16 Set the change knob to N. The cam buttons will be released automatically. Bring back the selected needles to B position.



17 Push both upper and lower buttons (L) at the same time. Then continue knitting until you want to finish.



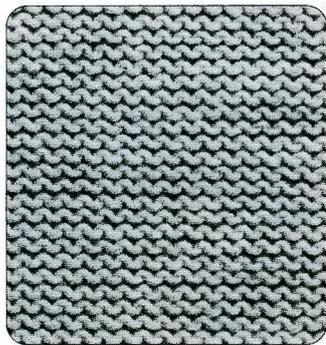
18 Slide the cam button release lever to the right to release the cam buttons.

While knitting in pattern, you must take the K carriage past the center of the machine (green 1 needle) on every row.

PLATING



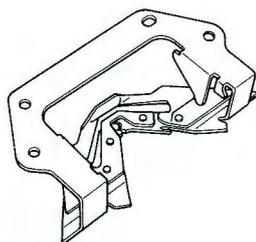
front (plain)



reverse (purl)

With the plating yarn feeder, you can use two yarns to knit a reversible fabric, with one colour on the right side and the other on the wrong side. The main yarn will be on the front (plain) side of the knitting and the plating yarn will be on the reverse (purl) side.

plating yarn feeder

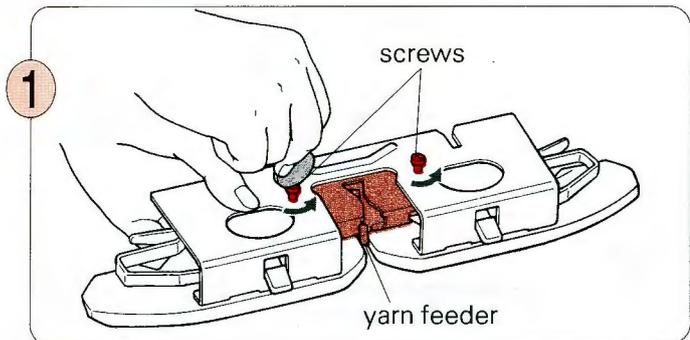


approximate tension chart

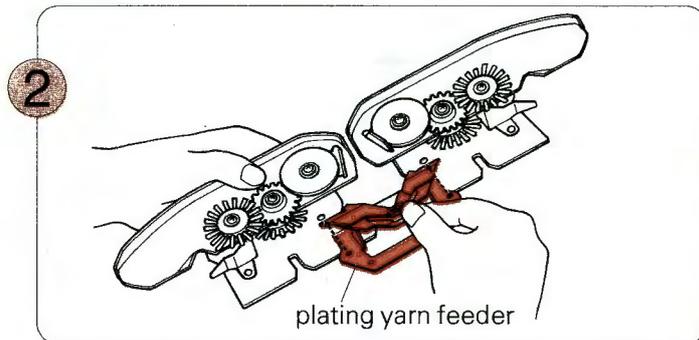
| combination of the yarns | | tension dial |
|--------------------------|--------------|--------------|
| main yarn | plating yarn | |
| very fine | very fine | 4 – 5 |
| fine | very fine | 6 – 7 |
| fine | fine | 8 – 9 |

• pattern knitting

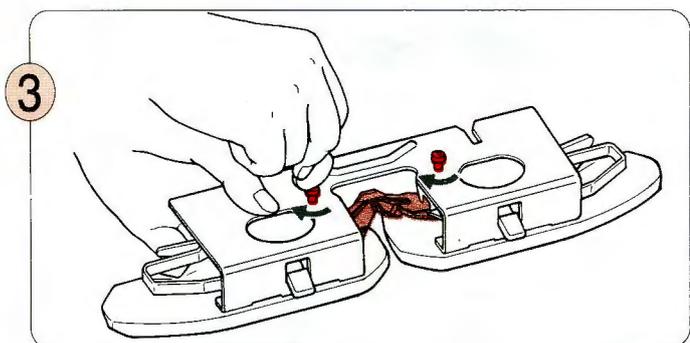
The setting for the K carriage is the same as for stocking stitch. Prepare your two yarns – use fine or very fine yarn.



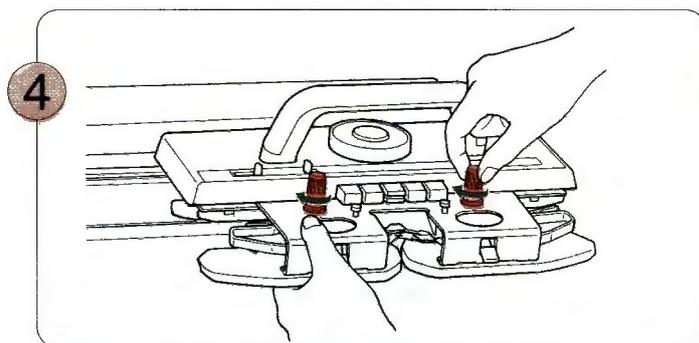
Remove the two screws and the yarn feeder from the sinker plate assembly. Be sure to keep the screws safe.



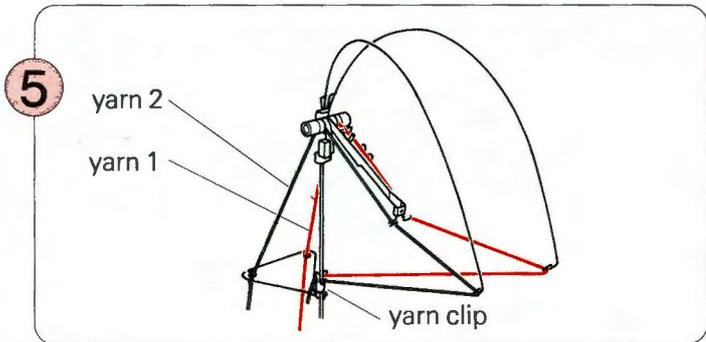
Take the plating yarn feeder out of the accessory box and fit it into the sinker plate assembly as shown above.



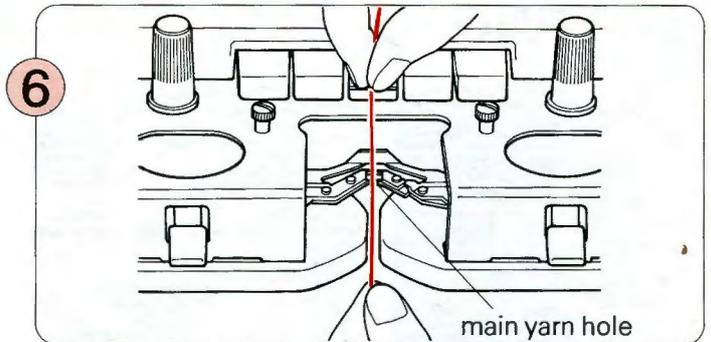
Fasten the two screws.



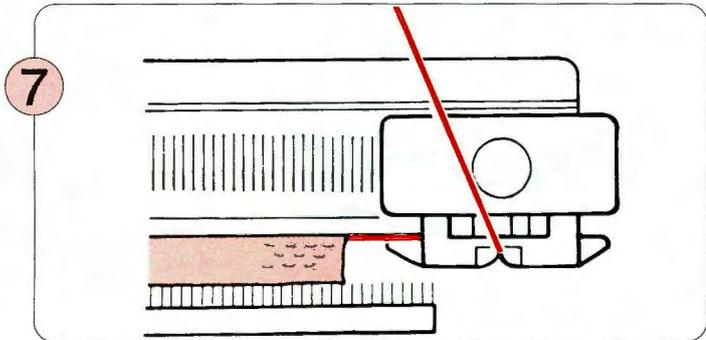
After you have changed the yarn feeder, screw the sinker plate assembly back on the K carriage.



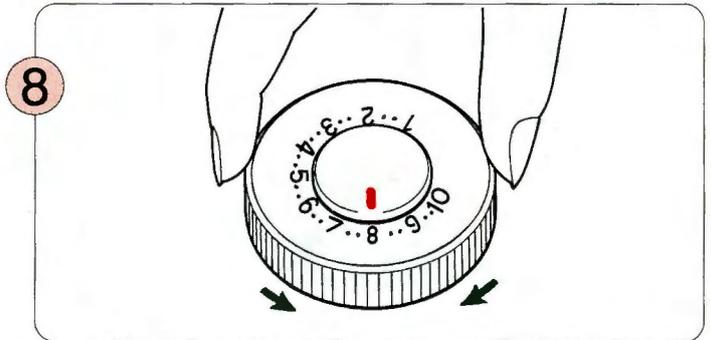
5 Thread the yarns into the yarn tension unit as shown.



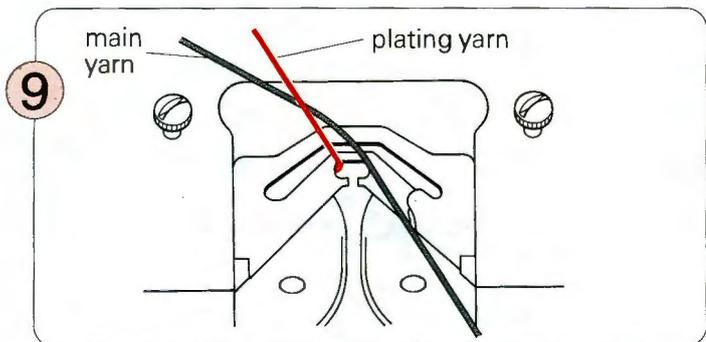
6 Thread the main yarn into the main yarn hole.



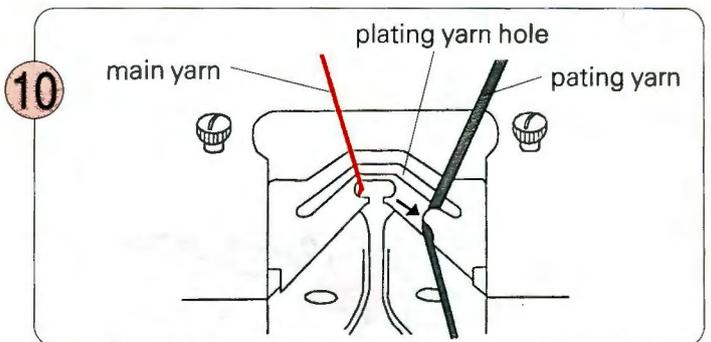
7 Knit a few rows in stocking stitch, ending with the K carriage on the right of the machine.



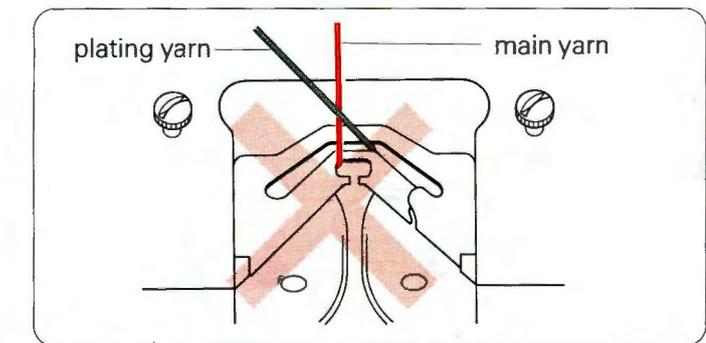
8 Set the tension dial according to the yarn you are using.



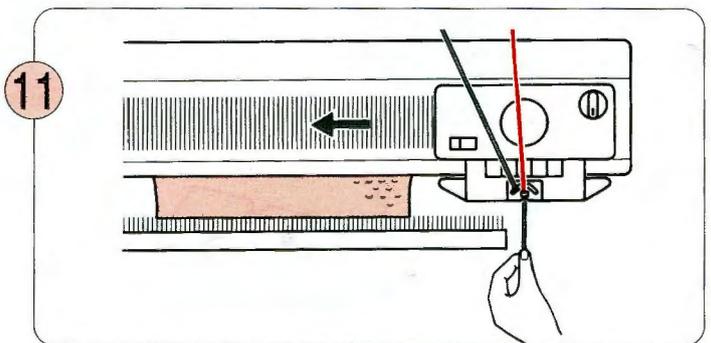
9 Pass the end of the plating yarn behind the main yarn.



10 Now thread the plating yarn into the plating yarn hole. There is an opening at the side and you can pass the yarn through the slit.

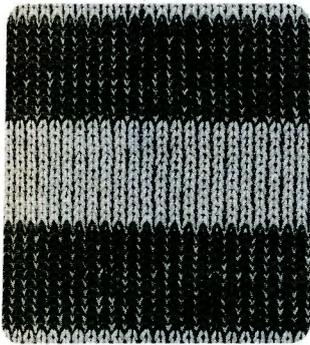


♣ Make sure the two yarns are not crossed.

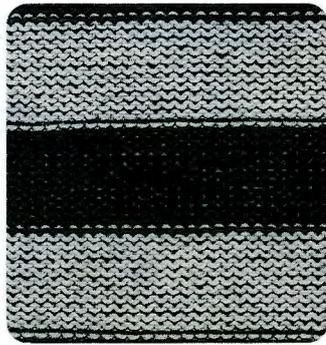


11 Hold the end of the plating yarn with your hand, and move the K carriage to the left. Once the needles have caught the yarn, you can release the yarn end. Continue knitting in this way. You are now knitting plating.

CHANGING THE MAIN YARN AND THE PLATING YARN

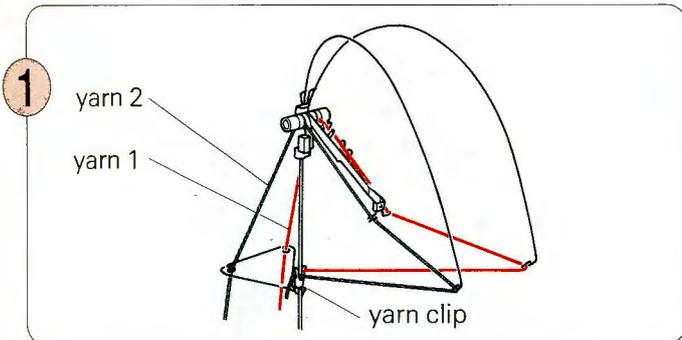


front (plain)

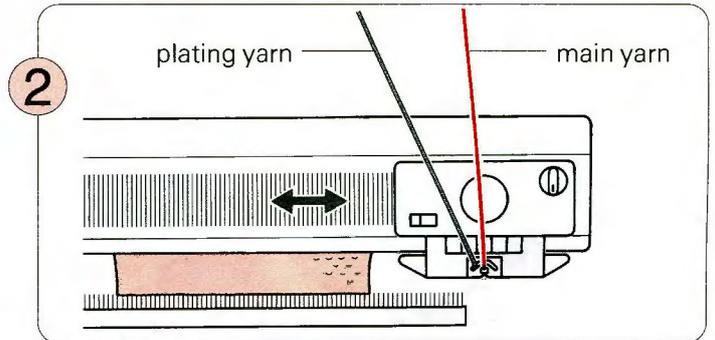


reverse (purl)

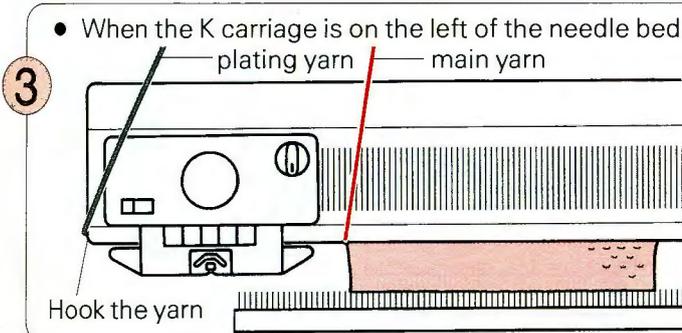
- This is knitted the same as ordinary plating, except the yarns are changed.



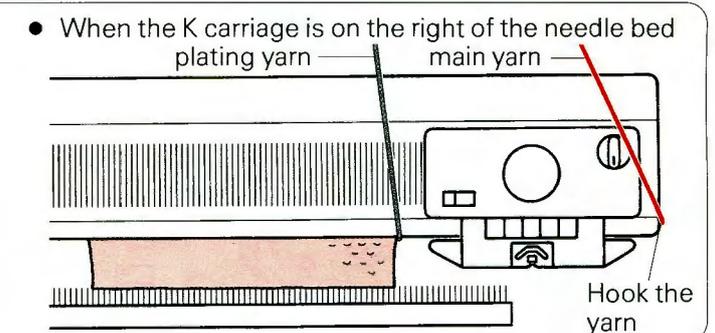
Thread the yarns as shown above.



Follow the steps given for plating and continue knitting until you want to change the yarn (see page 82).



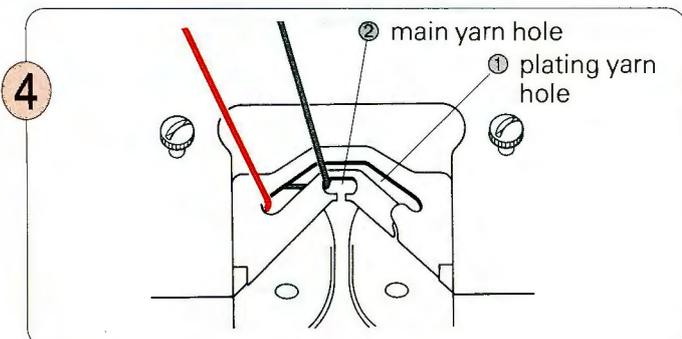
- When the K carriage is on the left of the needle bed



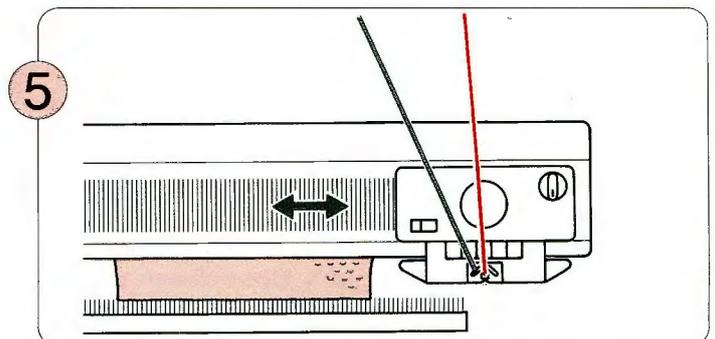
- When the K carriage is on the right of the needle bed

To change the yarn, do as follows:—

- ① Take the yarn out of the main yarn hole.
- ② Take the yarn out of the plating yarn hole.
Hook the yarn in the right yarn tension unit into the righthand notch.
Hook the yarn in the left yarn tension unit into the lefthand notch.



- ① Thread up the plating yarn hole.
- ② Thread up the main yarn hole.



Continue knitting, changing the yarn when you wish.

PLATED TUCK STITCH PATTERN

<ex.> pattern no. 3

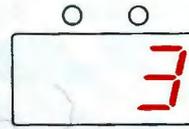


front (plain)

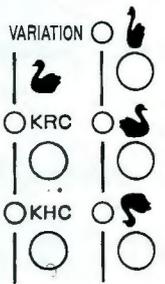


reverse (purl)

example pattern program

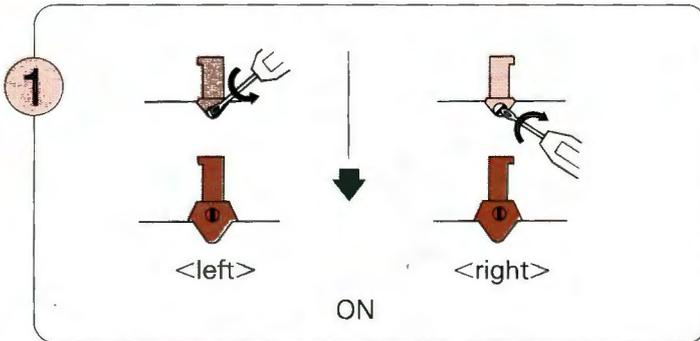


PATTERN No.

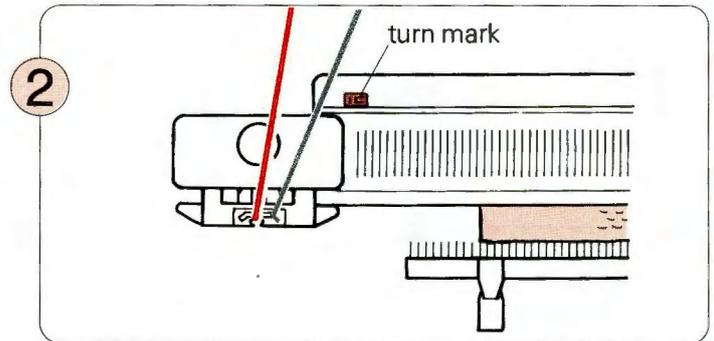


• pattern knitting

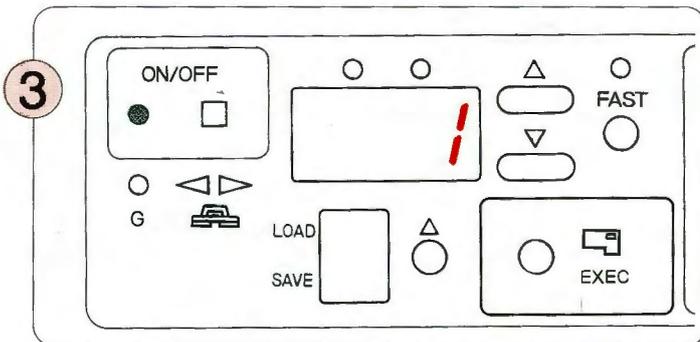
This is knitted the same as tuck stitch pattern, using the plating yarn feeder.



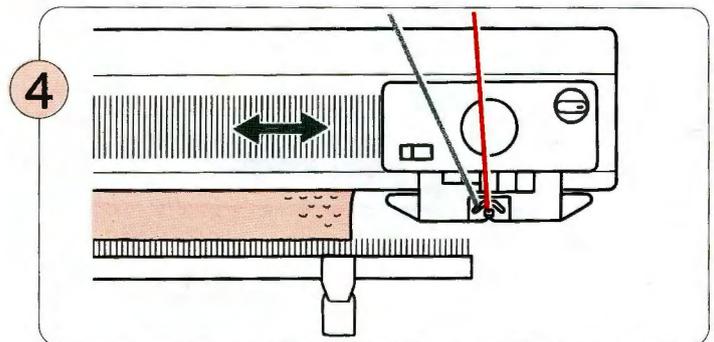
Set the end needle selection mechanism to ON (see page 23).



After knitting several rows in plating, place the K carriage outside the left turn mark. Hang the claw weight evenly along the cast-on comb (refer to page 81 ~ 82).

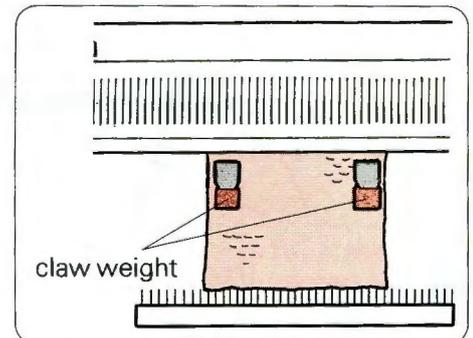


Program your pattern. Just select the pattern no. in this example, (see page 32).



Continue knitting, following instructions for tuck stitch pattern (see from step ⑥ on page 69).

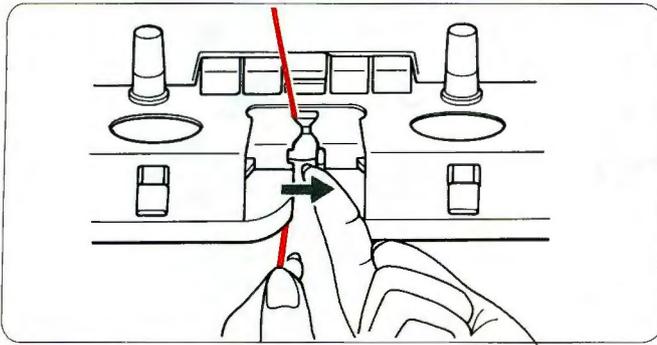
♣ Rehang the claw weights every 20 rows or so.



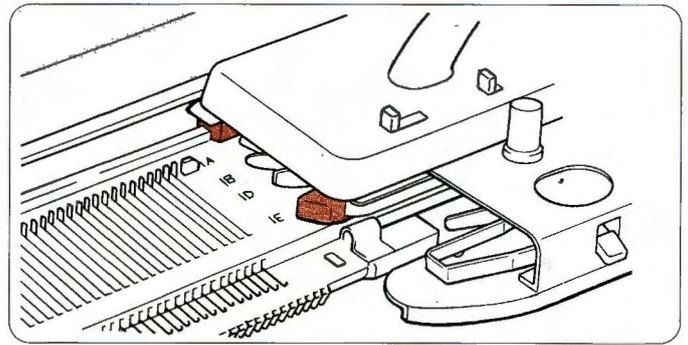
USEFUL HINTS

WHAT TO DO WHEN YOU CANNOT KNIT STOCKING STITCH SMOOTHLY

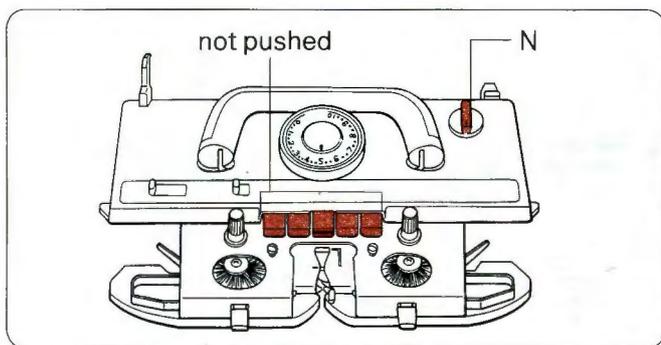
1. When the needles do not catch the yarn properly



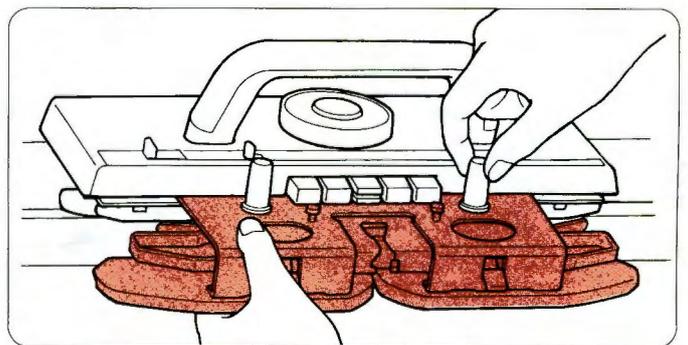
- Is the yarn correctly located in the yarn feeder A
- Is the yarn feeder lever closed?



- Is the K carriage set correctly on the needle bed?



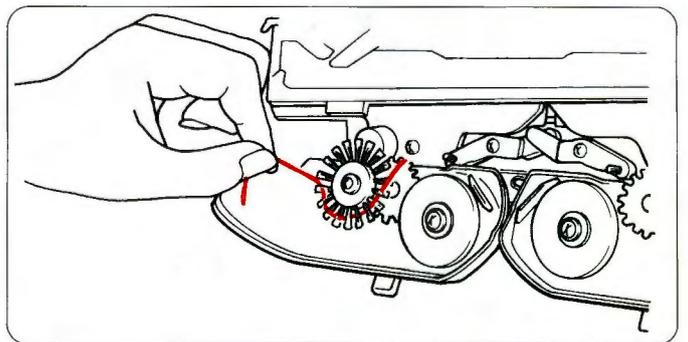
- Is the change knob set to N?
- Has any cam button been pushed in?



- Is the sinker plate assembly joined correctly to the K carriage?

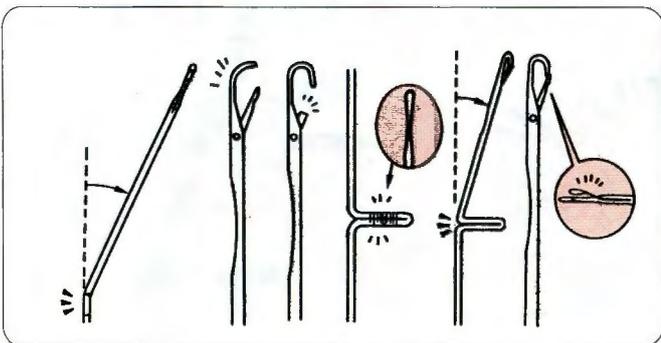
2. When the K carriage is hard to push back and forth

- Make sure that the tension dial and tension disc are adjusted according to the thickness of your yarn. (tension dial – see page 21, tension disc – see page 24).
- Make sure that the machine is not damaged or dirty (see the underside of the K carriage also). If the machine needs oiling or cleaning, see page 120.
- Make sure you have threaded the yarn correctly into the yarn tension unit (see page 24).
- Make sure the yarn is flowing freely from the cone or ball.



- Make sure the wheel brushes are rotating freely. If there is yarn wrapped around these, you must remove it.

3. When stitches are not formed correctly

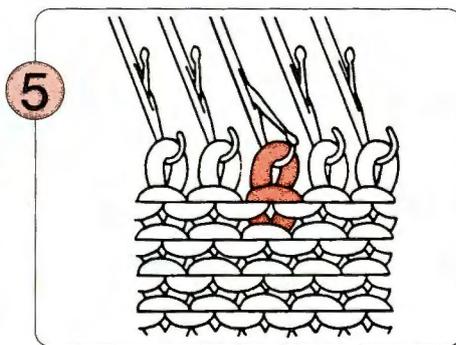
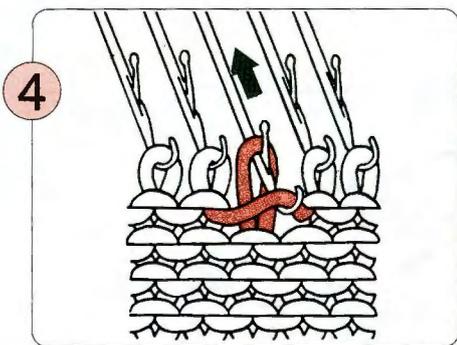
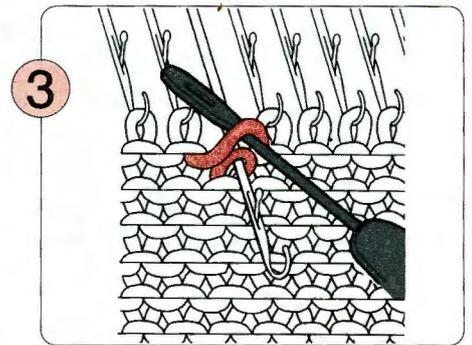
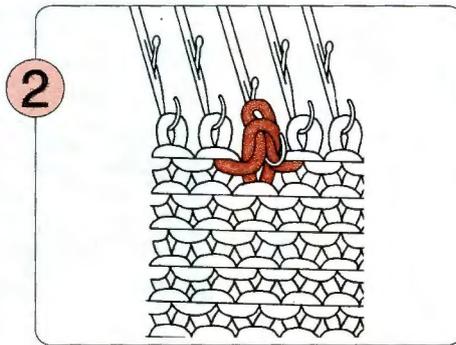
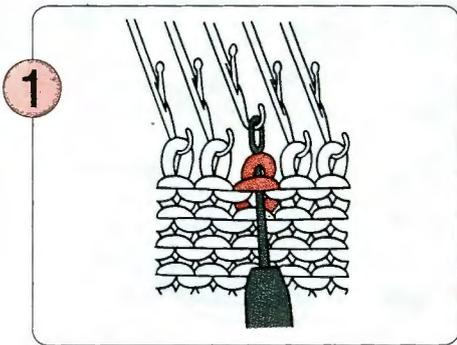


- Is the needle bent? If so, change it for a new one (see page 120).
- Place the rubber wheels into working position (see page 27).

4. How to pick up a dropped stitch

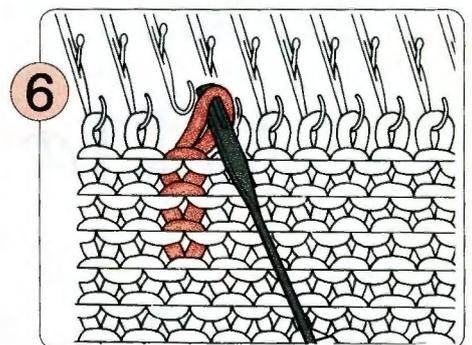
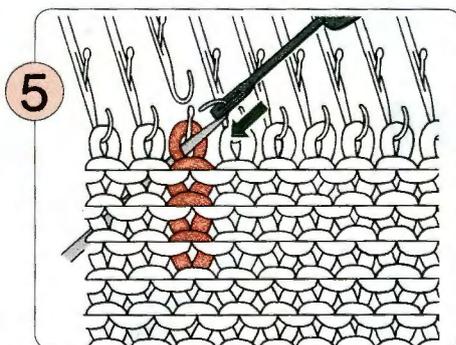
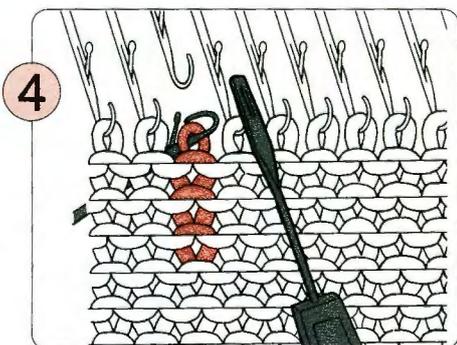
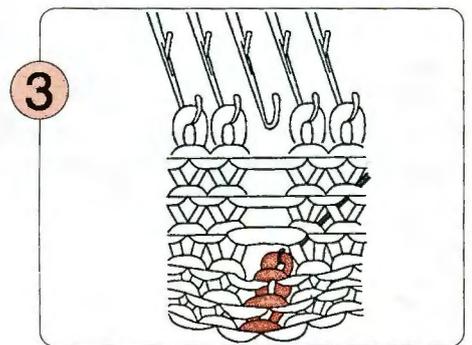
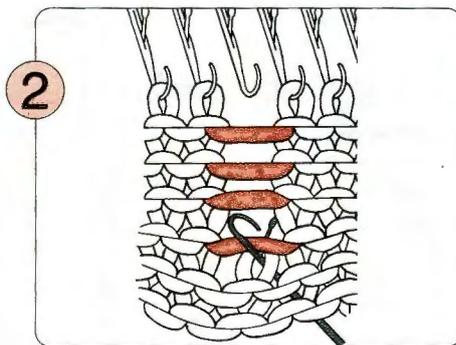
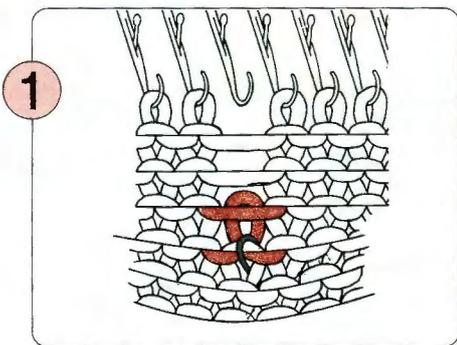
- **Repairing a dropped stitch**

Insert the transfer tool into the stitch on the row below the dropped stitch. Remake the dropped stitch as illustrated.



- **Repairing a stitch that has dropped several rows**

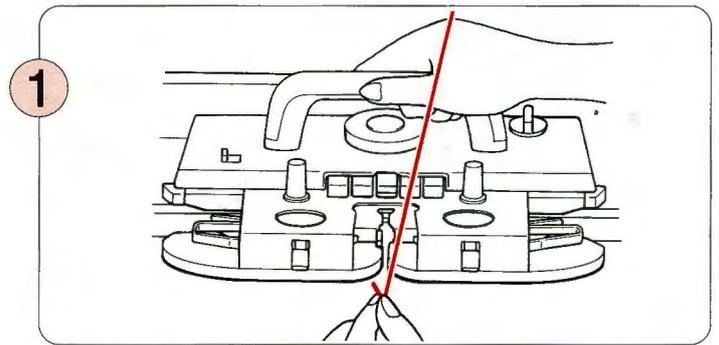
Use the latchet tool from behind, and hook up the bottom stitch. Remake the dropped stitches row by row. On the final row, transfer the stitch from the latchet tool to a transfer tool, and replace it onto the needle.



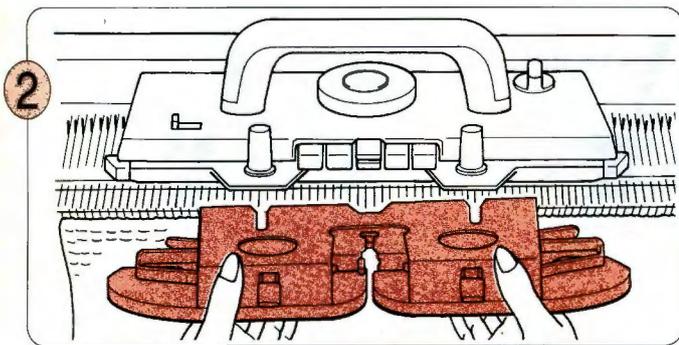
WHAT TO DO IF YOU MAKE MISTAKES AS YOU KNIT STOCKING STITCH AND PLATING

1. If the K carriage should jam

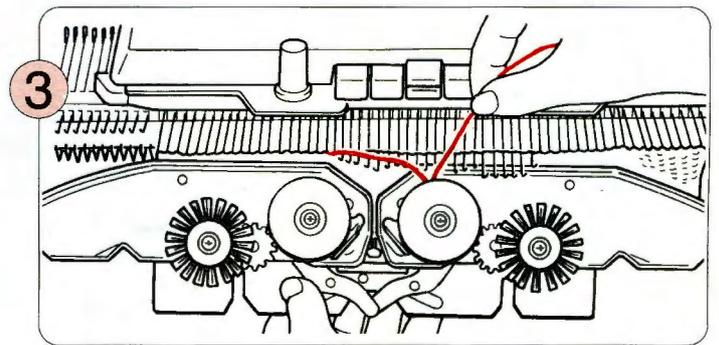
- Do not attempt to move the K carriage by force. Proceed as follows:



Take the yarn out of the yarn feeder.



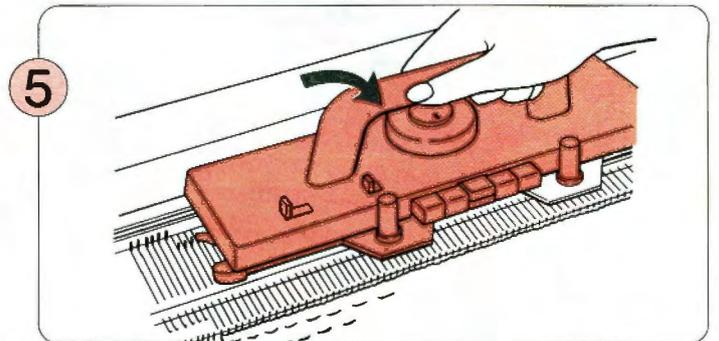
Loosen the knobs and remove the sinker plate assembly.



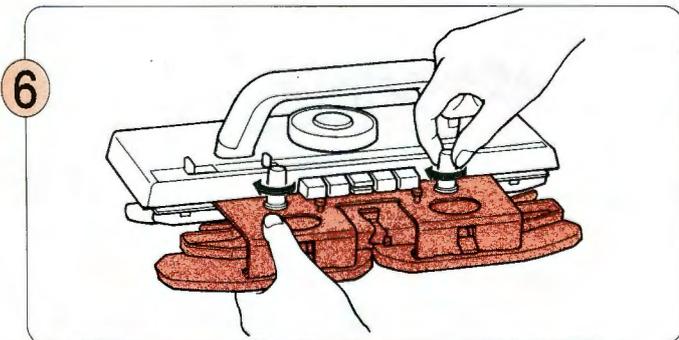
Untangle any yarn that has become wrapped around the wheels.



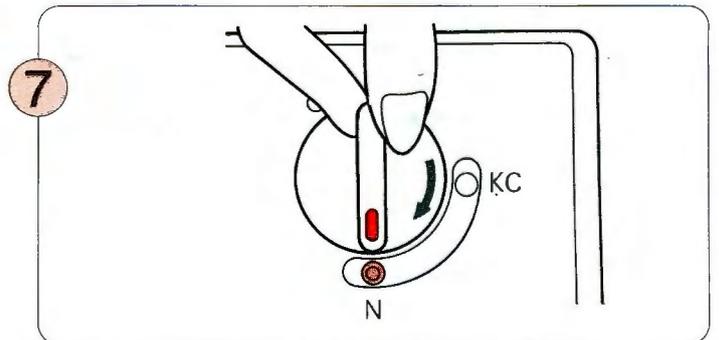
Set the change knob to CR to release the K carriage from the machine.



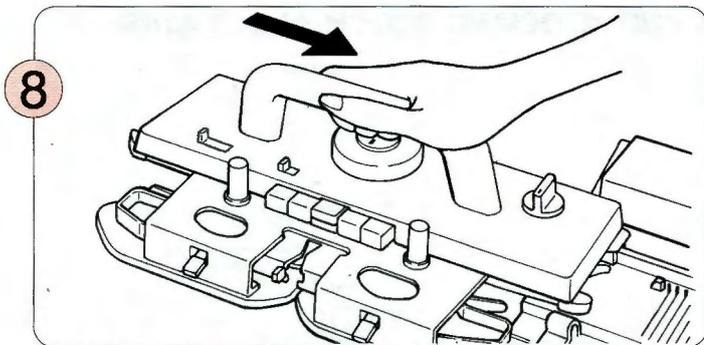
Lift up the K carriage towards you and removed it from the needle bed.



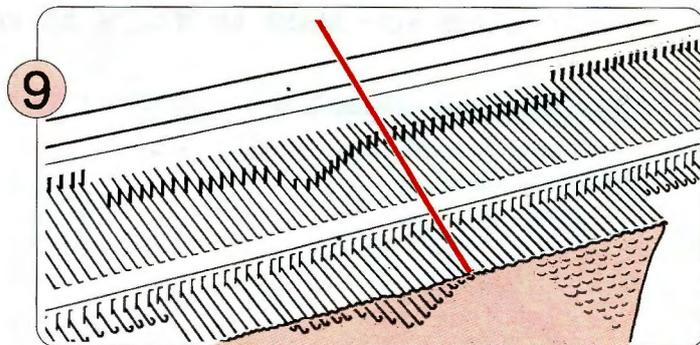
Screw the sinker plate assembly back onto the K carriage.



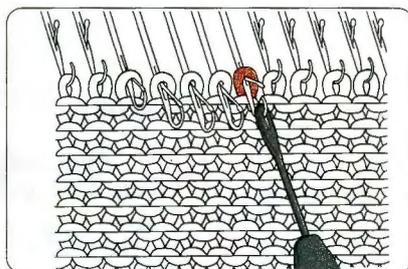
Return the change knob to N.



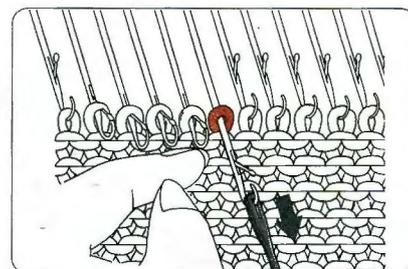
8 Slide the K carriage across onto the needle bed and check it is placed correctly.



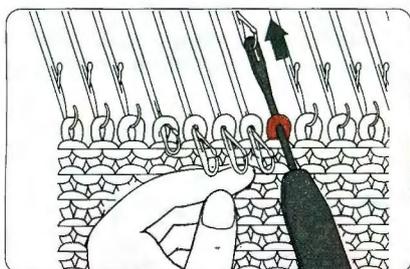
9 Using your transfer tool, replace any stitches that are on the stems of the needles back into the hooks, so that they will not drop off. (The following steps illustrate this technique.)



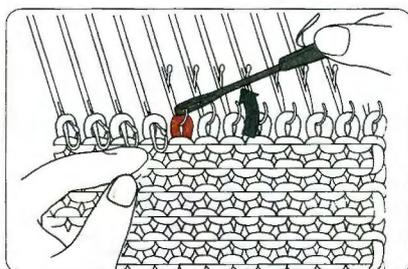
(1) Place the eye of the transfer tool into the hook of the needle.



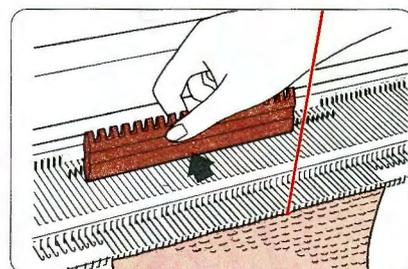
(2) Hold the transfer tool and pull it in line with the needle towards you.



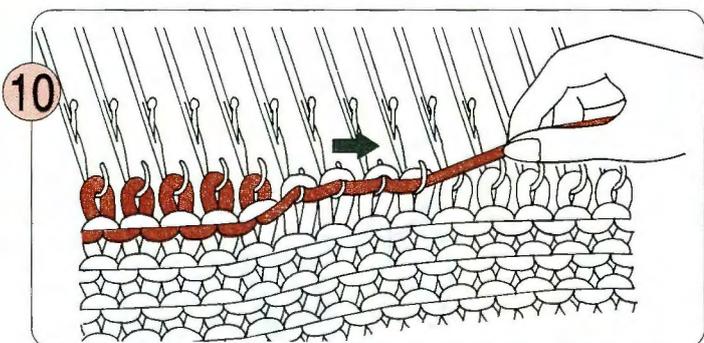
(3) Push the transfer tool away from you towards the machine until the stitch is on the transfer tool.



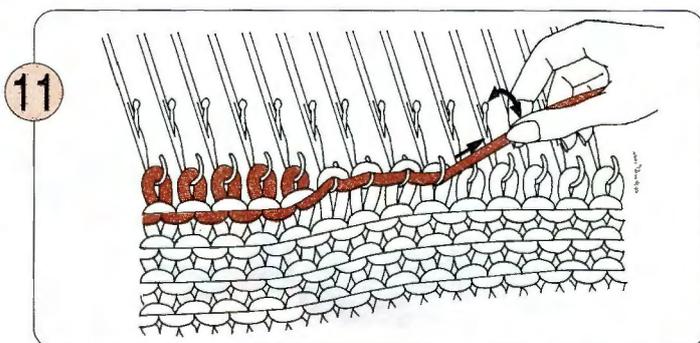
(4) Transfer the stitch into the hook of the needle.



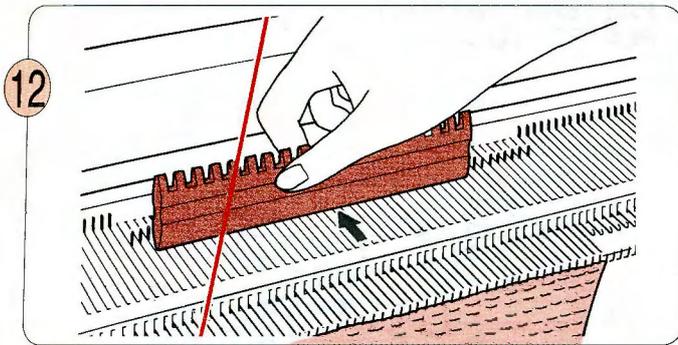
(5) When all the stitches are safely in the hooks of the needles, align all needles in B position using the flat edge of the needle pusher.



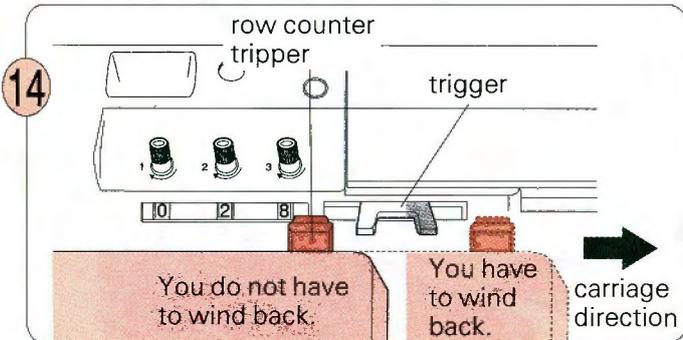
10 Pull the yarn sideways slightly so that it becomes tight in the needle hooks.



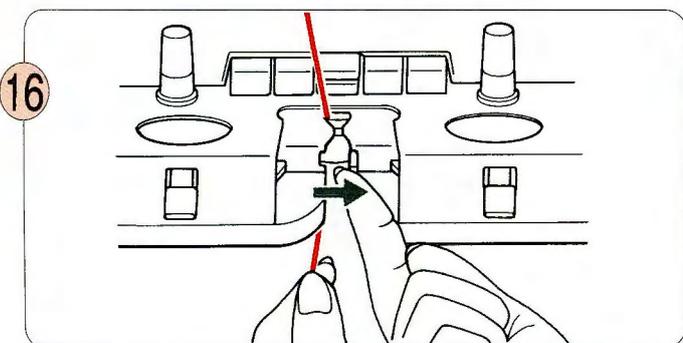
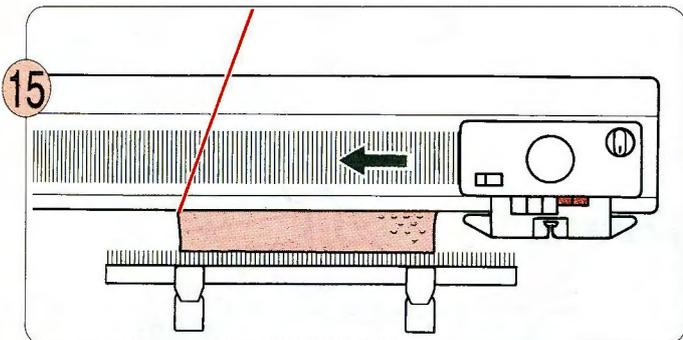
11 Now pull the yarn in an upwards direction to unravel the knitting. The stitches are undone and those from the row below will slip into the needle hooks. Work a few stitches at a time and repeat steps 10 and 11 across the row.



After unravelling a row check that all the stitches are in the needle hooks. Using the flat side of the needle pusher, align the needles in B position.



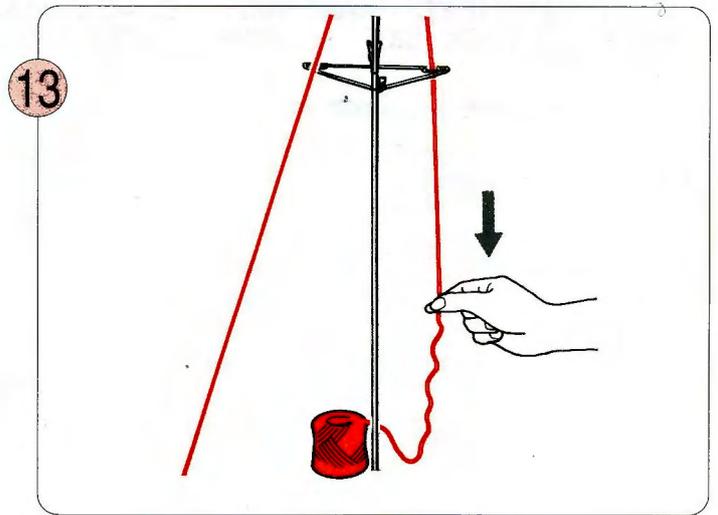
Wind back the row counter and knit leader (if used) by the number of rows you have unravelled. You do not need to count the last row if the row counter tripper or the knit leader tripper did not operate e.g. if you made the mistake before the K carriage had passed the triggers.



Thread up the yarn into the yarn feeder A.
♣ Put the row counter and/or knit leader trippers back in operation.

2. If you want to unravel some knitting.

If you wish to unravel a row or rows of knitting, for example if you find you have knitted too many, follow steps 10 – 17 above.

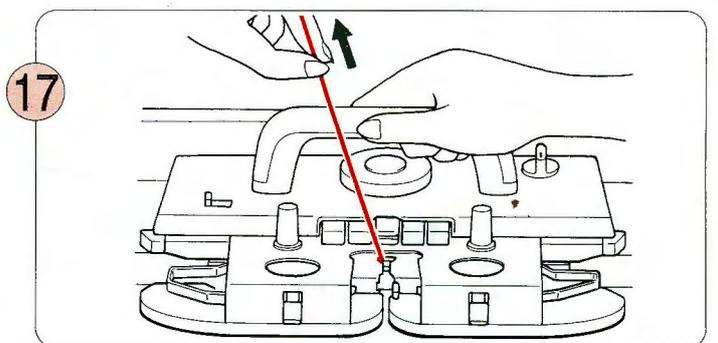


Pull down the loose unraveled yarn from behind the rear yarn guide.

♣ To unravel several rows of knitting, repeat steps 10 – 12.

If the yarn is now on the opposite side of the knitting to the K carriage, you can move the K carriage across the needles without knitting as follows:

- (1) Make sure all the needles are in B position.
- (2) Push both part buttons.
- (3) If you are using the row counter or the knit leader, set their trippers to non-working position.
- (4) Move the K carriage across to the other side of the needle bed.
- (5) Cancel both part buttons by sliding the cam button release lever.

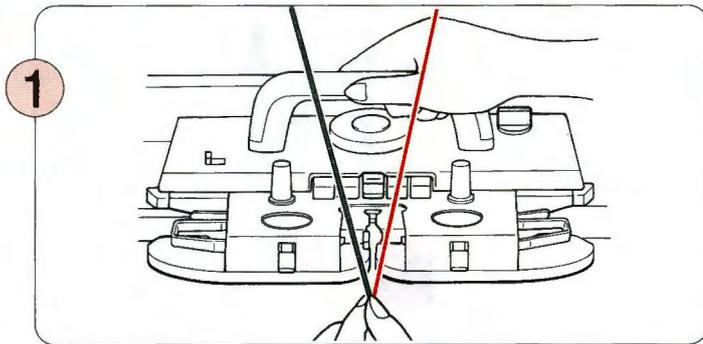


Continue knitting with the K carriage, pulling the yarn slightly on the first row to remove any slackness.

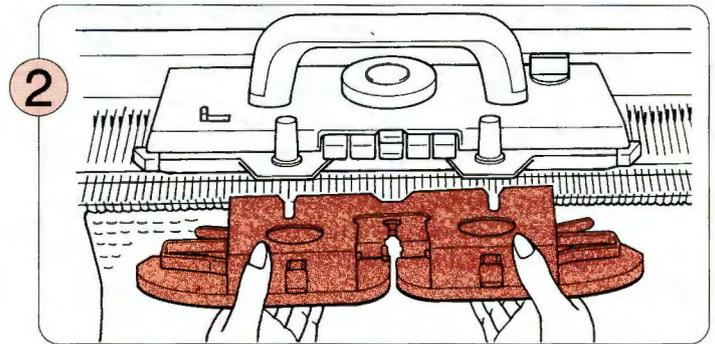
**WHAT TO DO IF YOU MAKE MISTAKES AS YOU KNIT PATTERN KNITTING
(FAIRISLE · TUCK · SKIP · WEAVING · THREAD · LACE · PLATED · TUCK)**

1. If the K carriage should jam

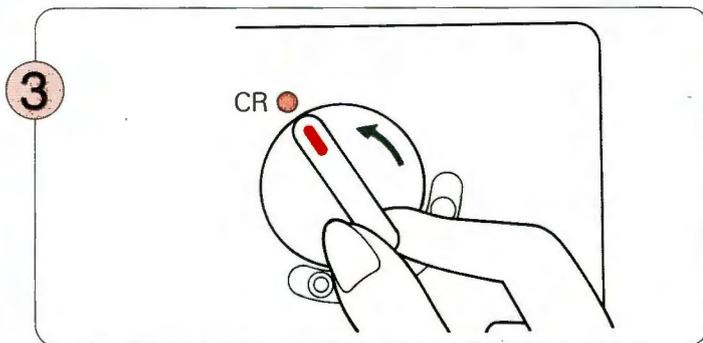
- Do not attempt to move the K carriage by force. Proceed as follows:



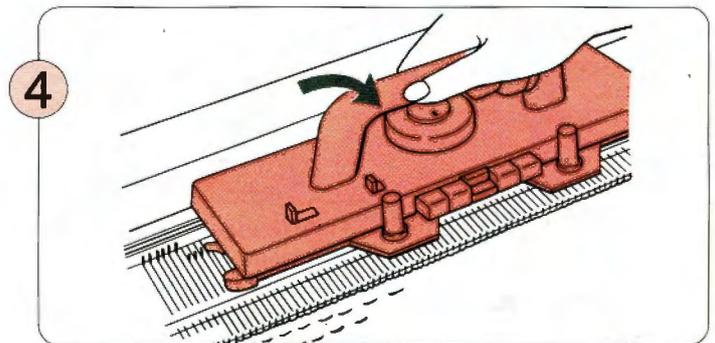
Take the yarn out of the yarn feeder.



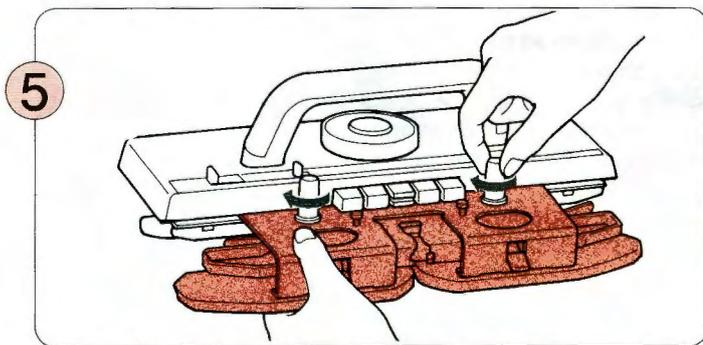
Loosen the knobs and remove the sinker plate assembly.



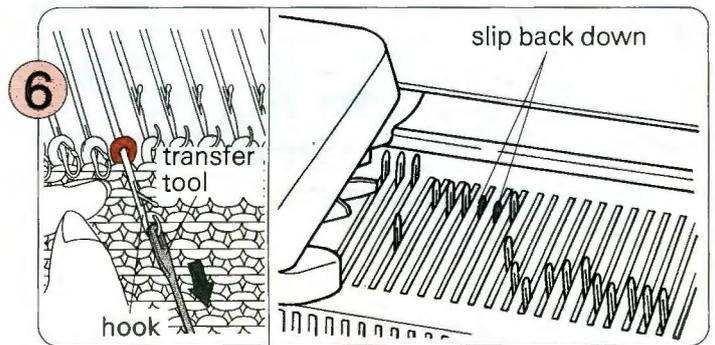
Set the change knob to CR to release the K carriage from the machine.



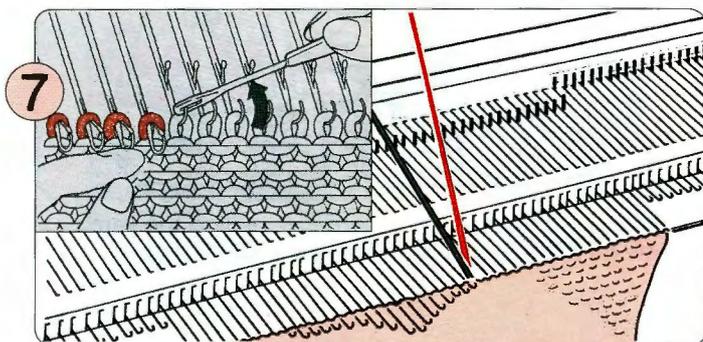
Lift up the K carriage towards you and remove it from the needle bed. Set the change knob to N.



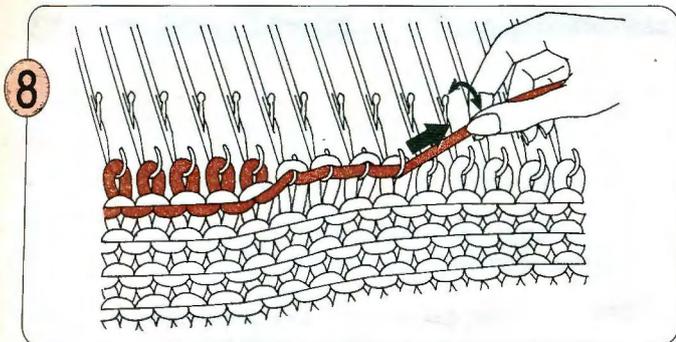
Screw the sinker plate assembly back onto the K carriage.



If some needles have slipped back down, pull the needle towards you using the transfer tool.

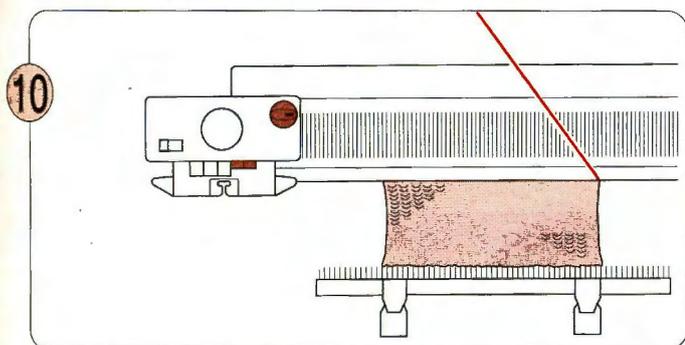


Using your transfer tool, replace any stitches that are on the stems of the needles back into the hooks, so that they will not drop off. (See steps ① – ⑤ on page 88.) Align all the needles in B position.

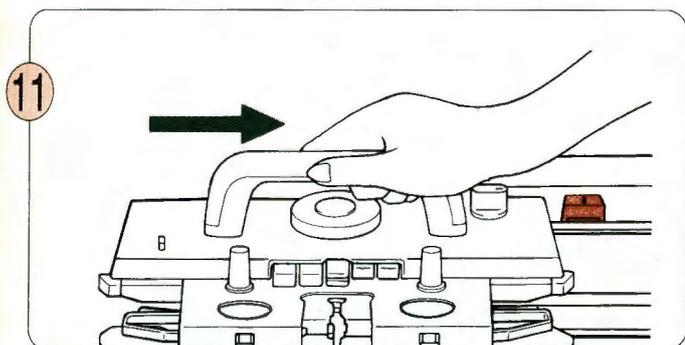


Unravel the row (see steps 10 – 13 on page 88).

- ♣ If you have unravelled several rows of knitting, remember the number of rows you have unravelled. Even if you stopped the last row in the middle (even one stitch), you must still count this as one.

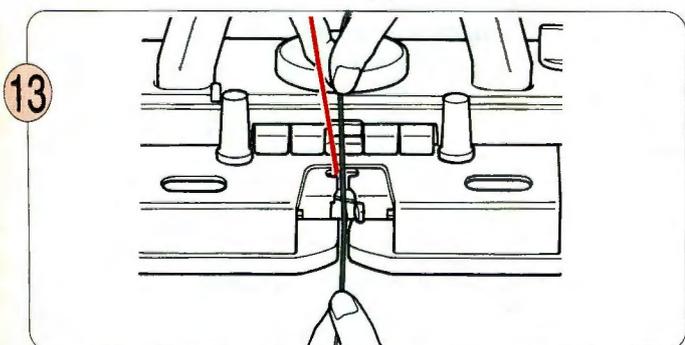


Place the K carriage at the opposite end of the needle bed to the yarn. (If the yarn is on the same side as the K carriage, refer to page 89 for how to pass the carriage across the needles without knitting.) Push both part buttons and set the change knob to KC.



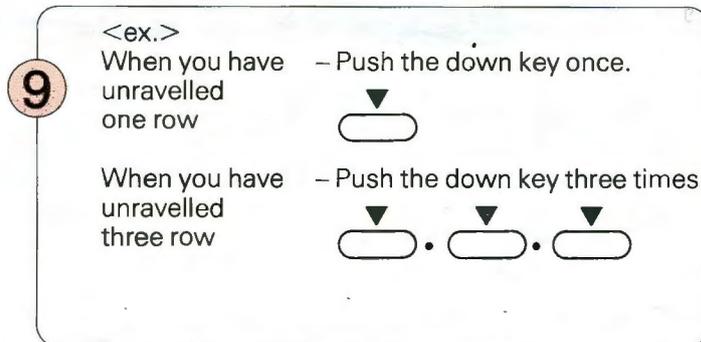
Move the K carriage across the needle bed to the same side as the yarn. The needles are selected for the pattern.

- ♣ If you are using the row counter or the knit leader, set their trippers to non-working position.



Thread the yarn into the yarn feeder.

- ♣ If you are using the contrast yarn or weaving yarn, do not forget to thread this up as well.

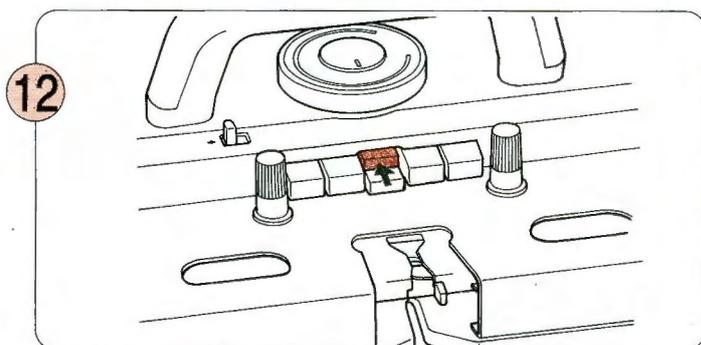


<ex.>

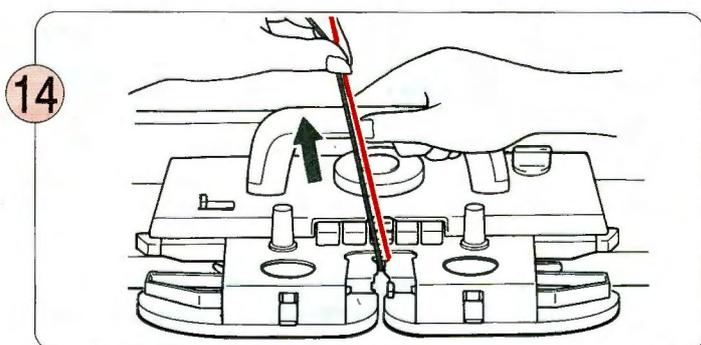
When you have unravelled one row – Push the down key once.

When you have unravelled three row – Push the down key three times.

- ② Push the down key as many number of times as unravelled rows Both lamps of carriage direction indicator go out and the row number in the display gets back.
- ♣ When the upside down key is on Push the up key instead of the down key.
- ♣ When the double length key or the KRC key is on The display may not change. But push the down key or up key as many number of rows as unravelled rows.
- ② Wind back the row counter and knit leader (if used) by the number of rows you have unravelled.
- ♣ You do not need to count the last row if the row counter tripper or the knit leader tripper did not operate e.g. if you made the mistake before the K carriage had passed the trippers.



Push the cam buttons according to the pattern.



Continue knitting with the K carriage, pulling the yarn slightly on the first row to remove any slackness.

- ♣ Put the row counter and/or knit leader trippers back in operation.

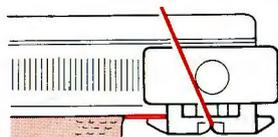
2. If you want to unravel some knitting (when the K carriage has gone past the end of the knitting)

1 Set the change knob to N. The cam button is automatically released.

2 Check whether the K carriage has turned by the carriage direction indicator.

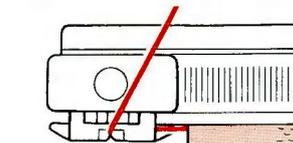
When the K carriage is at the right side of the machine

◁ ▷ ... K carriage has not turned,
▷ ▷ ... K carriage has turned.



When the K carriage is at the left side of the machine

◁ ▷ ... K carriage has turned.
▷ ▷ ... K carriage has not turned.



3 Unravel the row. Remember the number of rows you have unravelled.

4 To get back the row number in the display.

If the K carriage has not been turned yet

Push the down key as many number of times as the number of rows you have unravelled.

(ex.) when you unravelled 3 rows

Push the down key three times.



♣ When the upside down key is on, push the up key instead of the down key.

If the K carriage has already turned

Push the down key as many number of times as the number of rows you have unravelled plus one extra row.

(ex.) when you unravelled 3 rows

Push the down key four times.



♣ When the upside down key is on, push the up key instead of the down key.

♣ When the double length key or the KRC key is on

The display may not change. But push the down key or up key as many number of rows as unravelled rows.

5 Follow the steps 10 – 14 on page 91.

3. If the selected needles are pushed back by mistake

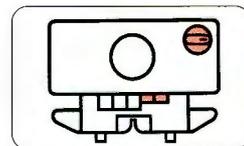
1 Follow the above steps 1 – 2 on this page.

2 Bring all the needles back to B position and take the yarn out of the yarn feeder.

3 If you have already turned the K carriage, push the down key once to get back the row number.

4 Slide the K carriage to the outside to remove it from the needle bed and place it at the opposite end of the needle bed (outside the turn mark) to the yarn. Push both part buttons and set the change knob to KC.

5 Follow the steps 11 – 14 on page 91.



NOTE: If you move the K carriage in the direction of the carriage direction indicator, row number does not advance and the same needle selection is repeated.

4. If you cannot remember how many rows you have unravelled.

- 1 Set the change knob to N and push both part buttons.
- 2 Examine the swatch to find which row should be knitted next (when using the KRC key, refer to ●.)
- 3 Now follow the instructions according to the setting of the variation keys.

A When the double length key and KRC key are not in use

- 1 Move the K carriage to the opposite side of the needle bed to the yarn end, and place it outside the turn mark.
- 2 Push the up or down key until the display shows the number you want for the next row to be knitted.
- 3 Set the change knob to KC.
- 4 Move the K carriage across the needle bed to select the needles.
- 5 Push the cam button(s) according to the pattern, check the yarn in the yarn feeder and continue to knit.

B When using the double length key

- When you knit double length patterns, each row is knitted twice. Check whether your next row is the first or the second row of the double length pattern.
- The steps are the same as for ●. However, please bear the following points in mind when you reach step 2.
When you push the up or down key, the same number will appear in the display twice. If the row you want is the first row of the double length pattern, use the number the first time it appears. If the row you want is the second row, then use the number the second time it appears.

C When using the KRC key or KRC key and the double length key

- 1 Unravel your knitting until the main yarn end is at the right of the swatch.
- 2 Place the KR carriage at the right side of the ribber bed. (If the KR carriage is on the left side of the machine, remove it from the needle bed and place it at the right.) Place the K carriage outside the left turn mark.
- 3 Check the contrast colourstitches to find out which row number should be knitted next.
- 4 Push the up or down key until the display shows the number you want for the next row to be knitted.
NOTE: When you are using the double length key, the same number will appear in the display four times. Use the number the first time it appears, regardless of whether the double length key is on or off.
- 5 Set the change knob to KC and move the K carriage across the needle bed to select the needles.
- 6 Connect the K and KR carriage, check the yarn in the yarn feeder and continue to knit.

WHAT TO DO IF THE NEEDLES ARE SELECTED INCORRECTLY

Check the following points:

- Make sure that you have programmed the pattern correctly.
- Make sure you have set the K carriage correctly and that you began with it outside the turn mark on the first row of the pattern.
- Make sure the K carriage passed the center of the machine (needle green 1) on every row. If the K carriage is returned without passing the center of the needle bed, the same needle selection will appear again. If this is what you have done wrong, correct the needle selection as follows:
 - (1) Place all selected needles in B position.
 - (2) Push both part buttons and take the K carriage across to the other side of the needle bed. (The K carriage must pass the center of the machine.)
 - (3) Place any selected needles in B position.
 - (4) Take the K carriage across the needle bed again, this time to get the correct needle selection.
 - (5) Push the cam button(s) according to your pattern, check the yarn in the yarn feeder and continue knitting.

WHAT TO DO IF THE NEEDLES ARE NOT SELECTED AND REMAIN AT B POSITION

Check the following points:

- Make sure you have set the K carriage correctly and that you began with it outside a turn mark on the first row of the pattern.
- Make sure that the ready lamp is lit. If it isn't, check whether the program is finished or not.
- When you began to pattern knit again after moving the K carriage outside the turn mark, did the K carriage pass the turn mark after setting the change knob to KC?

If the K carriage did not pass the turn mark, correct this as follows:

- (1) Unravel the knitting down to a correct row.
- (2) Place the K carriage outside the turn mark on the opposite side of the needle bed to the yarn end.
- (3) Set the change knob to KC and push both part buttons.
- (4) Move the K carriage from outside the turn mark across the needle bed to select the needles.

WHAT TO DO IF THE ELECTRIC POWER IS CUT OFF WHILE YOU ARE KNITTING

- A** If the power is cut off when the K carriage is clear of the knitting
- 1 Turn on the power.
 - 2 Move the K carriage across the turn mark and continue knitting.
- B** If the power is cut off while stitches are actually being knitted with the K carriage
- 1 Move the K carriage to outside the turn mark on the side towards which it is moving. Set the change knob to N.
 - 2 Unravel the knitting down to a row of correct pattern knitting.
 - 3 Place the K carriage at the opposite side of the needle bed to the yarn end.
 - 4 Turn on the power.
 - 5 Check that the opposite side of the carriage direction indicator lamp to the K carriage is lit.
 - ♥ If the same side of the carriage direction indicator lamp as the K carriage side is lit
Push the down key once. Both of the carriage direction indicator lamps go out. (When the upside down key is on, push the up key instead of the down key.)
 - 6 Set the change knob to KC and push both part buttons. Move the K carriage across the needle bed from outside the turn mark, to select the needles.
 - 7 Push the cam buttons according to your pattern. Check the yarn in the yarn feeder and continue knitting.

HOW TO CORRECT MISTAKES IN THE PATTERN INPUT PROGRAM

1. What to do if there is an insufficient number of rows left for your own pattern.

You can enter your own pattern after you have deleted one or more patterns memorized in the computer.

- 1 Push the input key to stop the pattern input program (the input lamp goes out).
- 2 Check back and find a pattern which has more than the number of stitches you require to make up the shortfall for the new pattern.
 - ♣ If you cannot find a pattern with sufficient stitches for your requirements, then you will have to delete more than one pattern.
- 3 See page 56 and delete the pattern.
- 4 Start the pattern input program again.

2. What to do when the display does not indicate the pattern number, even if the input key is turned on

It means that the memory capacity is completely full. You will have to delete some of the memorized patterns before you can program fresh patterns.

- 1 Check back and find a pattern which has more than the number of stitches you require to make up the shortfall for the new pattern.
 - ♣ If you cannot find a pattern with sufficient stitches for your requirements, then you will have to delete more than one pattern.
- 2 See page 56 and delete the pattern.
- 3 Start the pattern input program again.

3. What to do if the electric power is cut off while you are entering pattern data

When the electric power is cut off while you are using the pattern input program, follow the instructions according to the step you have reached.

<PATTERN INPUT PROGRAM STEPS>

1. Turn on the input key.
2. Select the number of stitches for the pattern.
3. Push the step key.
4. Select the number of rows for the pattern.

A What to do if the electric power is cut off while entering the input program during steps 1 – 4

The pattern data will revert back to the way it was just before you turned on the input key. Turn on the electric power and push the input key to activate it again. Enter your original pattern from the beginning.

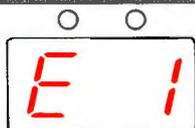
5. Push the step key.
6. Enter the pattern (memo) data.

B What to do if the electric power is cut off when pushing the step key at step 5, after you have entered the number of rows for the pattern, or while entering the pattern data with the data key at step 6

All the pattern data and memo data entered before the power was cut off is memorized in the computer correctly. But the data for the rest of your pattern stitches will have been automatically entered as the white key stitches by the computer.

See page 54 and correct the white key entries for the remainder of stitches using the pattern edit program. (Also enter the memo data.)

WHEN USING CARTRIDGE



CAUSE 1

Check if this cartridge was used with the pattern programming device. If so, check the cartridge type. (The cartridge type is determined by which mode was used when you create the pattern with the pattern programming device and the cartridge.) This error message indicates that the cartridge type does not correspond to this knitting machine. You cannot load the pattern from this cartridge.

Turn off the power switch of the knitting machine and take out the cartridge.

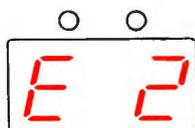
CAUSE 2

Data of your original pattern saved in the cartridge is damaged for some reason, for example, you took out or inserted the cartridge with the power switch on, or you touched the metal part at the bottom of the cartridge.

You can use this cartridge after deleting the damaged data.

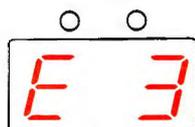
- ① Push the C key.
- ② "F" blinks in the display about 40 seconds, then "1" blinks in the display. All the data in the cartridge is deleted.

If more than ten years have passed since you purchased the cartridge, the battery may be used up. In this case ask your dealer for advice.



CAUSE

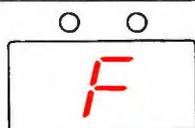
The cartridge or the knitting machine has some defects. Ask the dealer to check them.



CAUSE

The cartridge is not inserted into the slot securely. Turn off the power switch of the knitting machine and insert the cartridge into the slot securely. Then, start the program again.

2. If the display shows "F" except the case when you use the cartridge for the first time



CAUSE

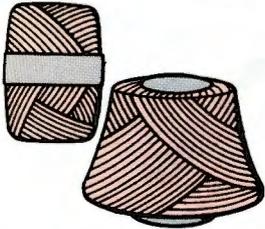
The computer is deleting the damaged data to enable the cartridge work with the knitting machine again because data of your original pattern was damaged for some reason.

- ♣ If "F" appears time and time again while using the same cartridge The battery may be used up. Ask your dealer for advice.

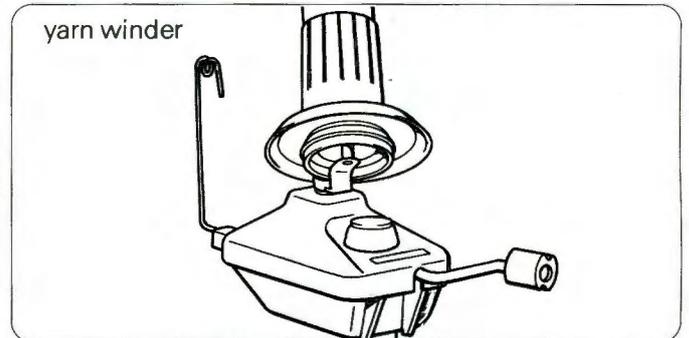
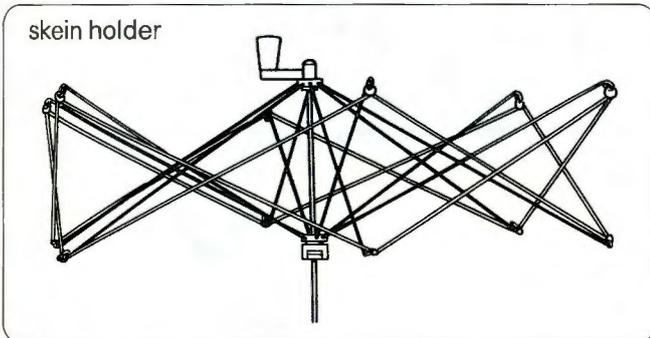
MAKING GARMENTS

PREPARING YOUR YARN

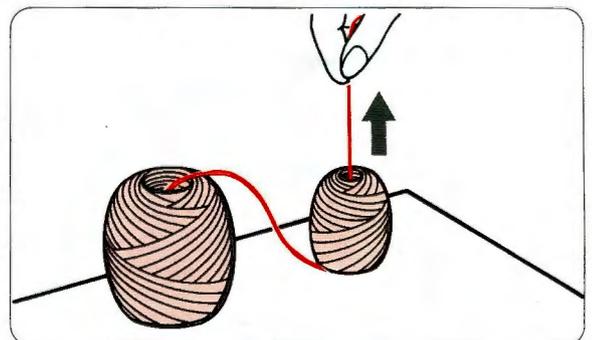
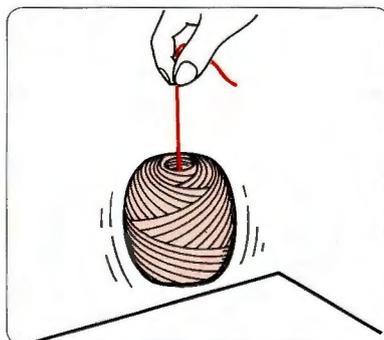
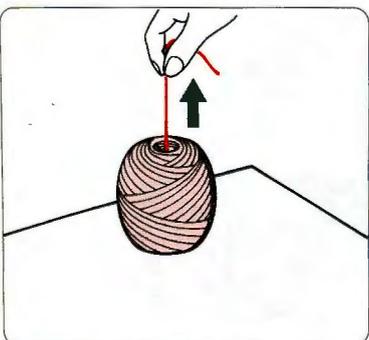
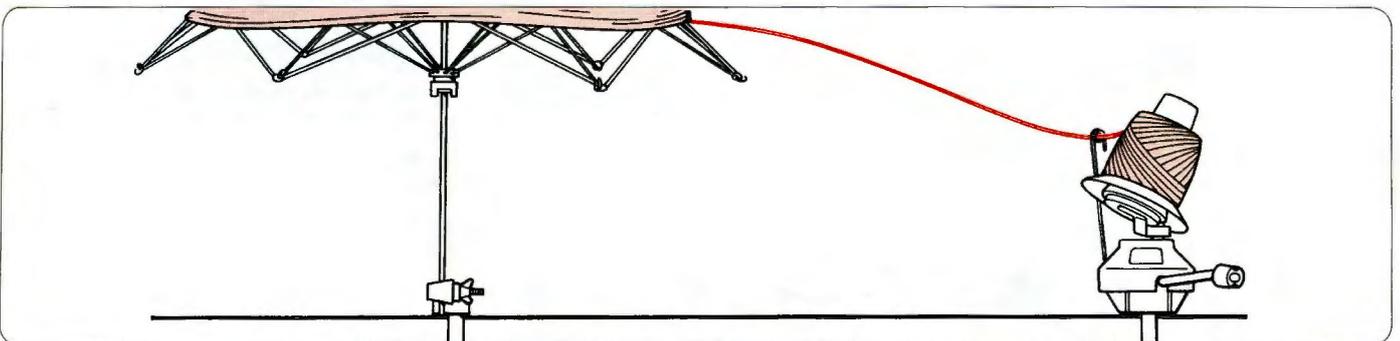
- When you are new to machine knitting, you are advised to start with new yarn. Choose one that is smooth and of reasonably good quality. Avoid hairy and harsh, poor-quality yarns as they are difficult to knit.

| | |
|---|---|
|  | <p>These yarns are suitable for use without rewinding.</p> <ul style="list-style-type: none">♣ Pull the yarn from the center of a ball yarn. Use the yarn from the outside of a coned yarn.   |
|  | <p>These yarns should be rewound using a Skein Holder and a Yarn Winder.</p> |

Both the Skein Holder and Yarn Winder can be purchased separately.



• Rewinding the yarn



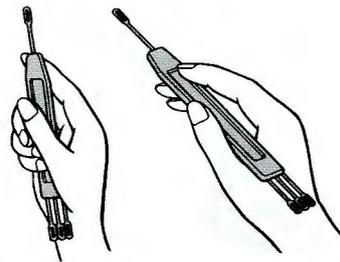
Yarn pulled from the centre of a rewind ball should come out freely without lifting the ball from the table.

If the yarn does not flow freely, pull some yarn out of the centre of the ball.

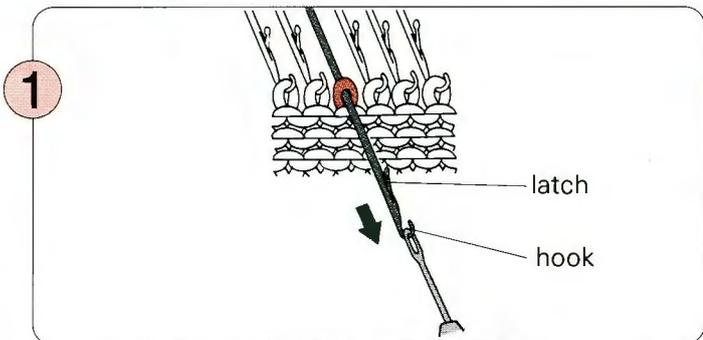
HOW TO USE THE TRANSFER TOOL

- Use when you decrease, increase, transfer stitches, etc.

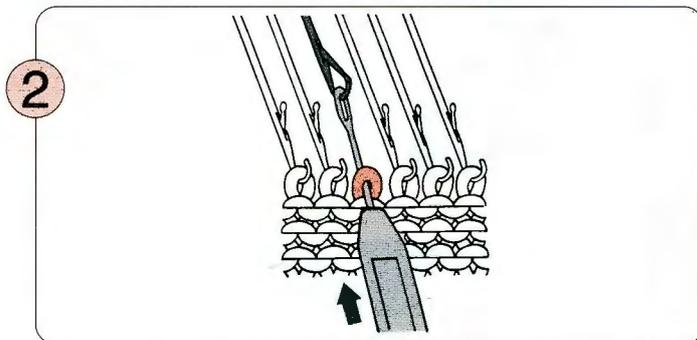
- How to hold the transfer tool.



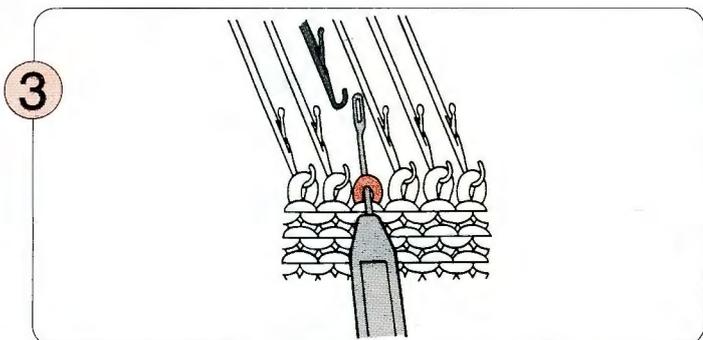
Transferring stitch



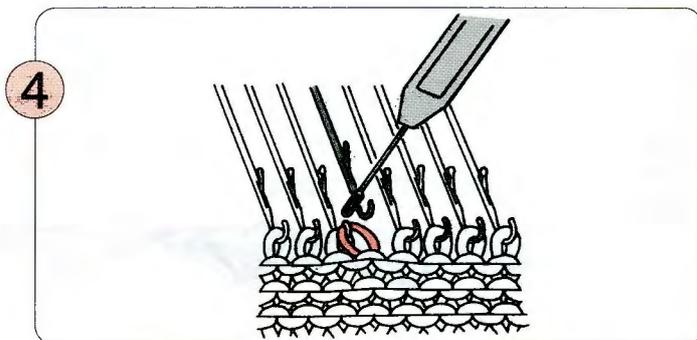
Place the eye of a single transfer tool over the needle hook, and pull the needle towards you until the stitch passes behind the latch.



Holding the transfer tool in line with the needle, use it to push the needle back so that the stitch slips onto the transfer tool.



Lift the transfer tool together with the stitch, and place it onto the adjacent needle.



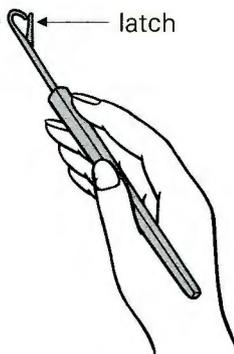
Tilt the transfer tool slightly so that the stitch slides off into the hook of the needle. Then remove the transfer tool. One stitch has been transferred.

HOW TO USE THE LATCHET TOOL

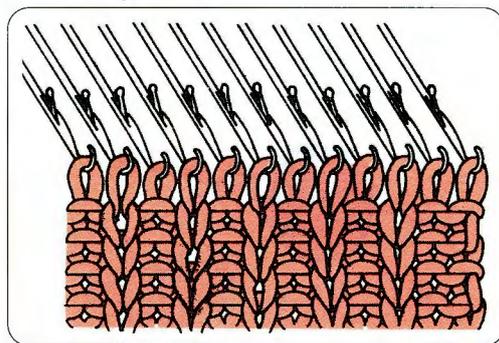
- Use when you make ribbing, pick up dropped stitches, etc.

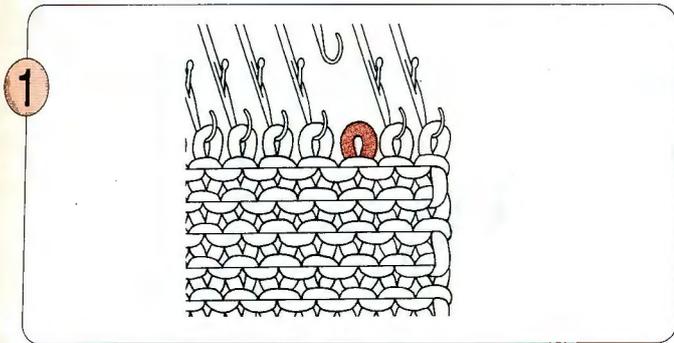
- How to hold the latchet tool

hook → ← latch

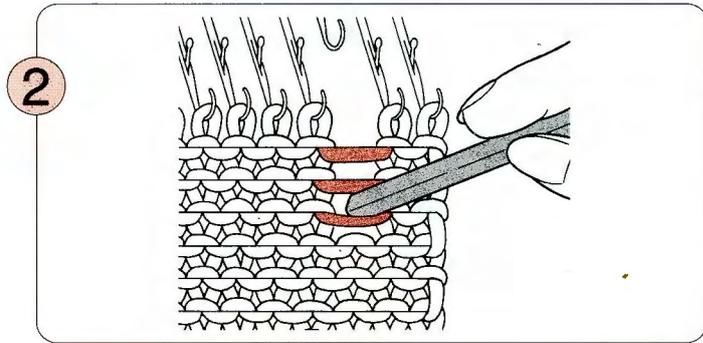


- Making Rib by hand

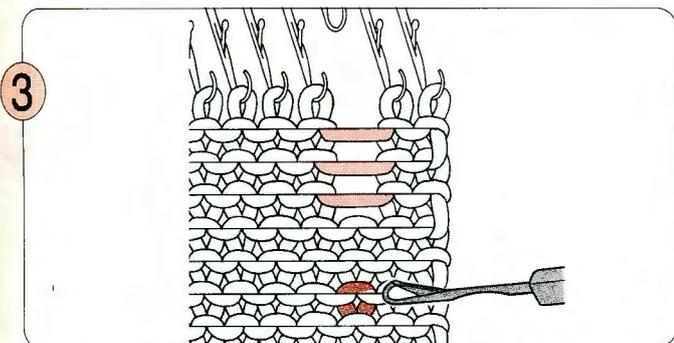




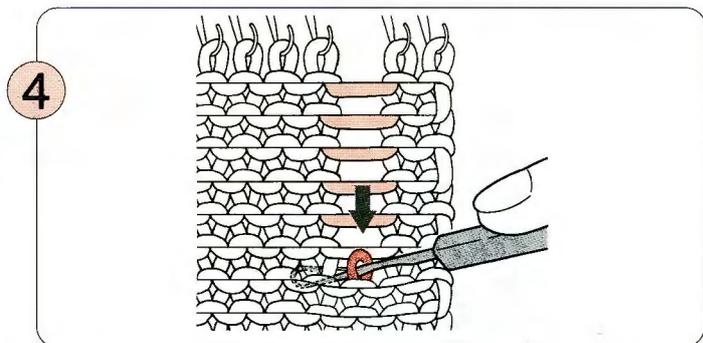
1 Bring the needle for your first "purl" stitch forward to E position by hand. Take the needle back to A position so that the stitch drops off the needle.



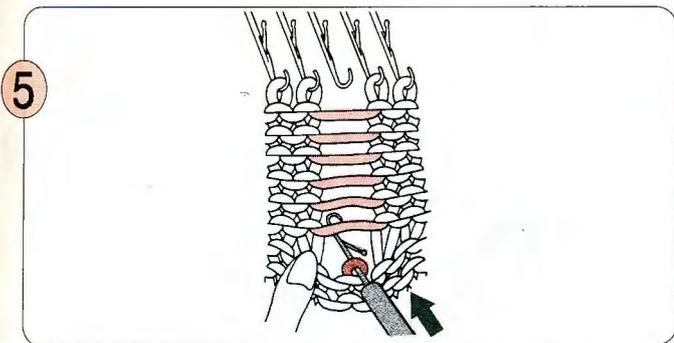
2 Using the tip of your latchet tool, ladder the stitch down to within a few rows of the point where you want to start the ribbing.



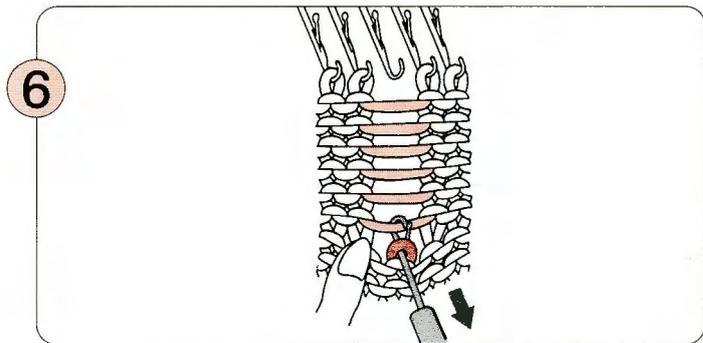
3 With the latchet tool hook the bottom stitch where the ribbing will begin.



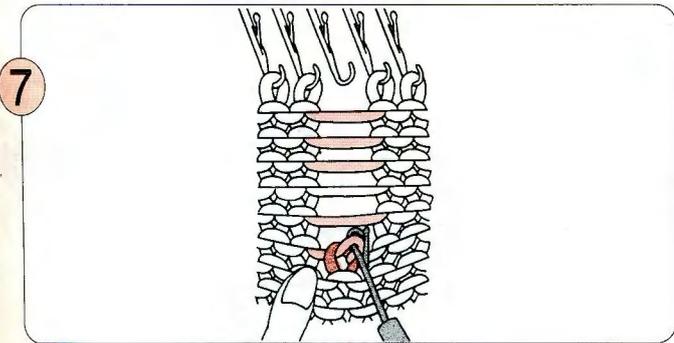
4 Push down with the latchet tool so that the last few stitches drop.



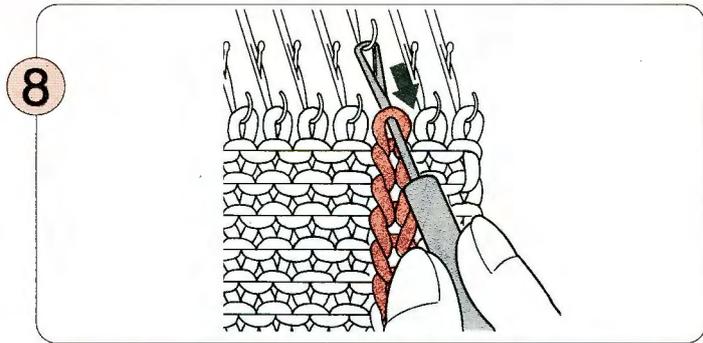
5 Hold the knitting firmly with your other hand. Push the latchet tool forward to put the bottom stitch behind the latch.



6 Catch the next horizontal bar above with the hook of the latchet tool. Pull the latchet tool towards you.



7 The latch closes with this new stitch in the hook. Gently slip the old stitch off the end of the latchet tool. A purl stitch has been formed.



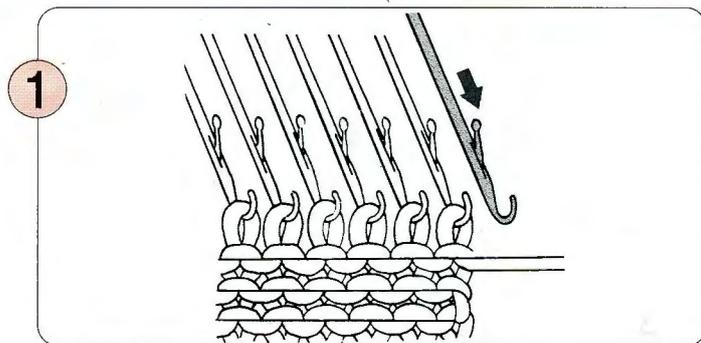
8 Continue in this way until you reach the top, then hook the last stitch onto the needle as shown.

HOW TO INCREASE STITCHES

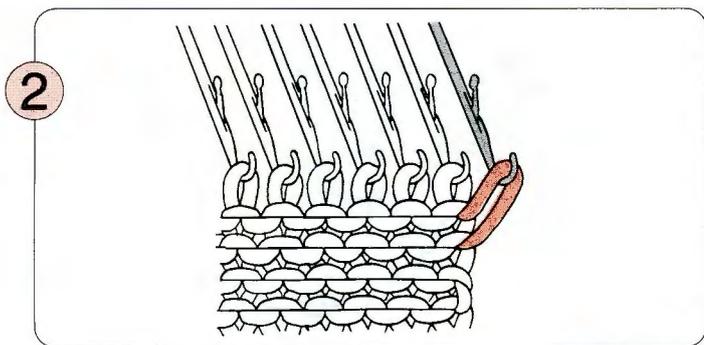
● INCREASING ONE STITCH

Simple method

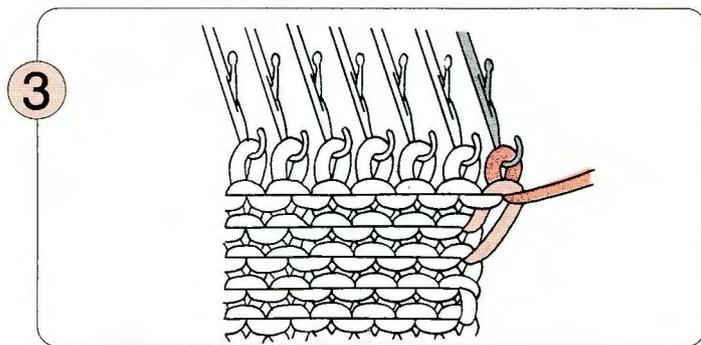
The K-Carriage and yarn are at the side where you wish to increase the stitch.



1 On the K carriage side, bring one edge needle forward from A to B position.



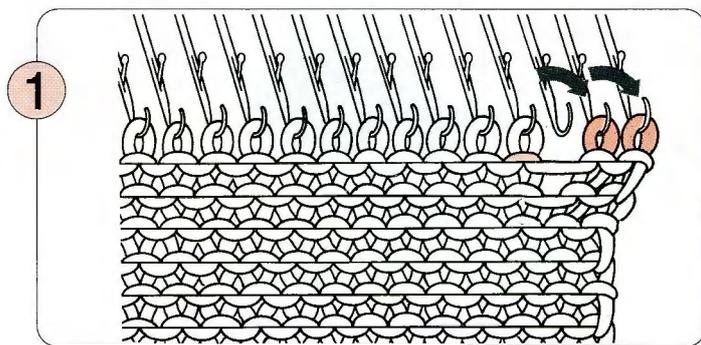
2 Knit one row to the left. The empty needle picks up the yarn.



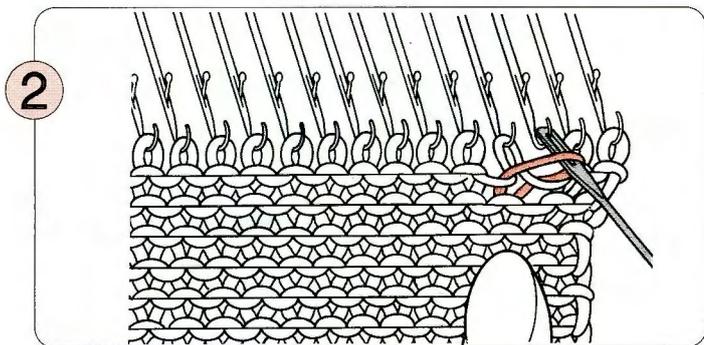
3 Knit one row to the right. The new stitch knits.

Fully fashioned method

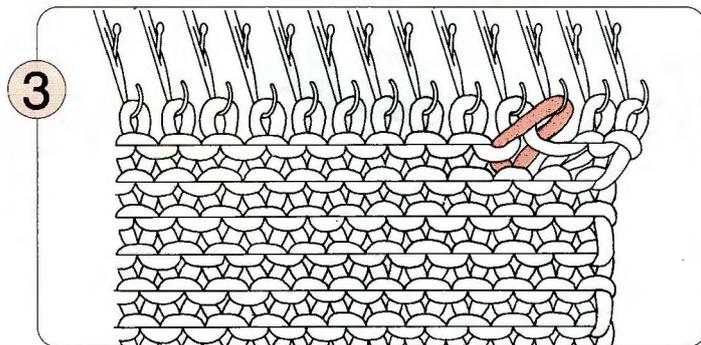
The K carriage can be at either end of the needlebed.



1 Using the 1 x 2 transfer tool, move two stitches out by one needle, so that the third needle from the edge becomes empty.



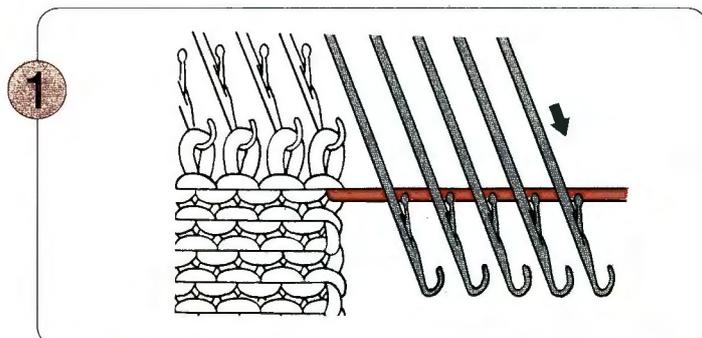
2 Pick up the loop as shown using the transfer tool.



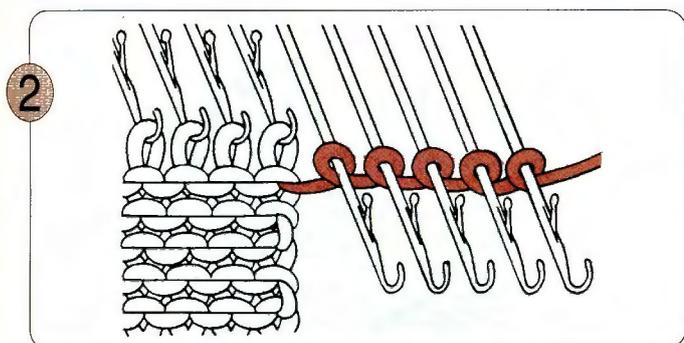
3 Place this loop onto the empty needle and continue to knit.

● INCREASING SEVERAL STITCHES

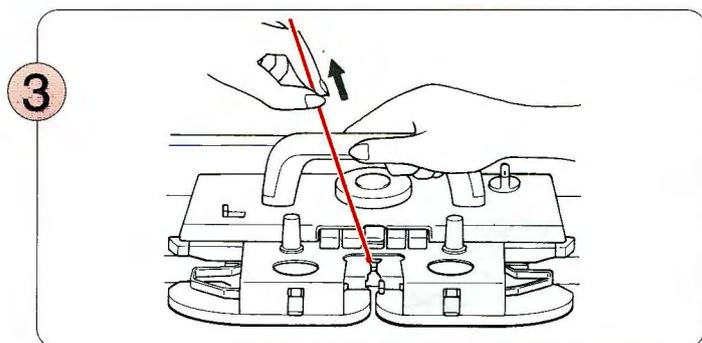
The K carriage and yarn are at the side where you wish to increase the stitches.



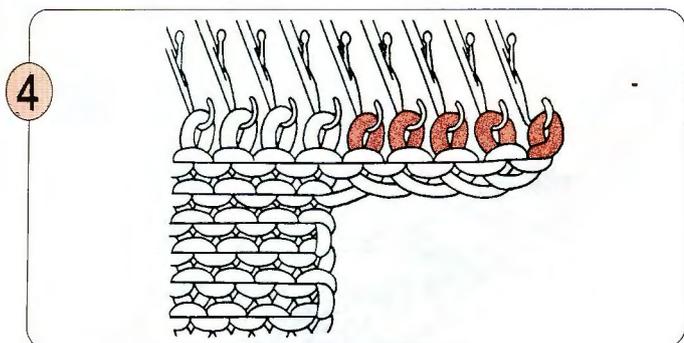
On the K carriage side, bring the needles to be increased forward from A position to E position.



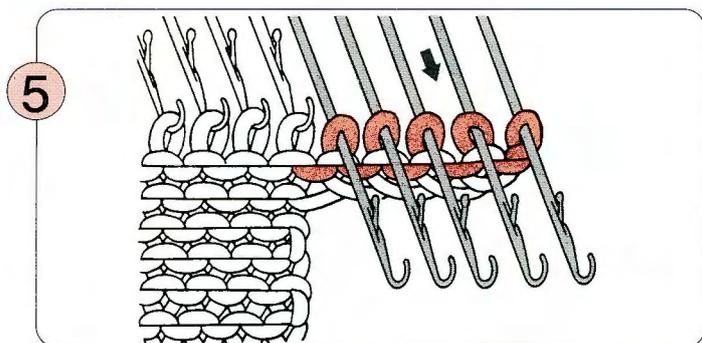
Wind the yarn loosely around the stem of each needle as shown.



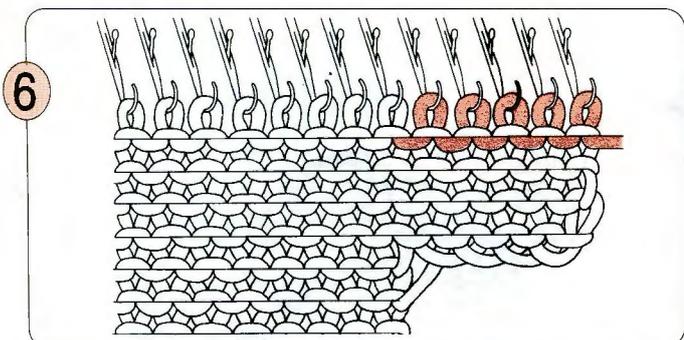
Pull up any loose yarn with your hand, and knit one row.



The needles in E position have knitted.



Pull the needles containing the new stitches to E position again, and knit one row. (This helps them to knit properly).

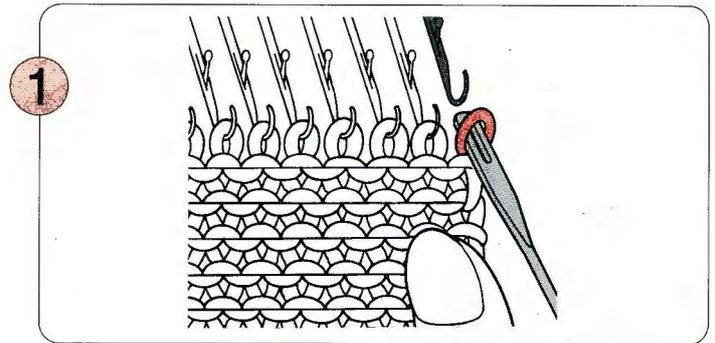


Knit two or three more rows in the same manner as Step ⑤, then continue knitting normally.

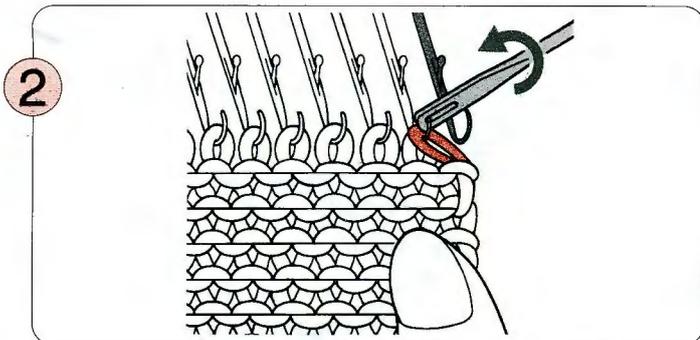
HOW TO DECREASE STITCHES

● DECREASING ONE STITCH.

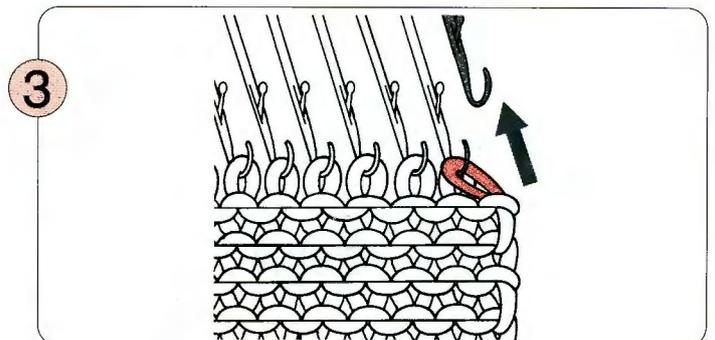
Simple method



1 Remove one stitch at the edge onto your transfer tool.

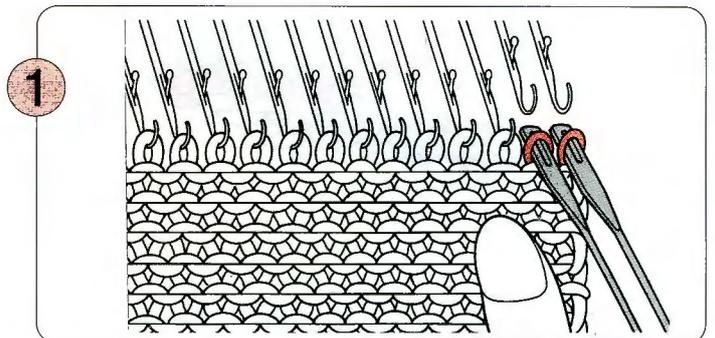


2 Place the transfer tool onto the hook of the adjacent inside needle, and transfer the stitch.

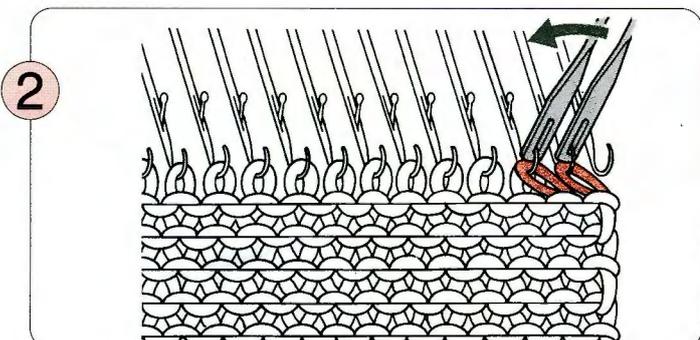


3 Return the empty needle to A position.

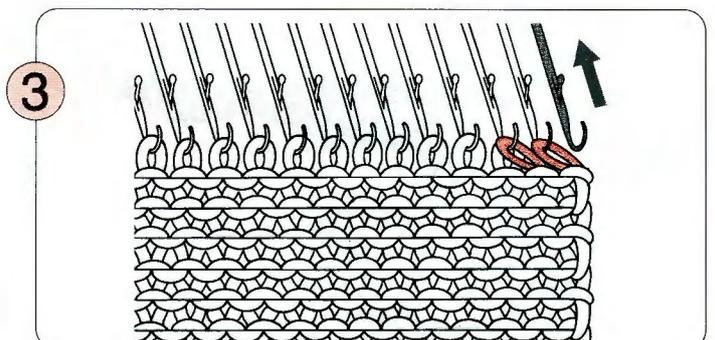
Fully fashioned method



1 Remove two stitches at the edge using a 2 eyed transfer tool.



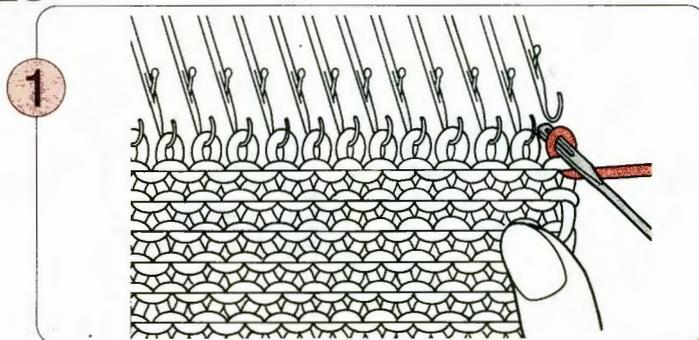
2 Place the transfer tool onto the hooks of the adjacent inside needles, and transfer the stitches.



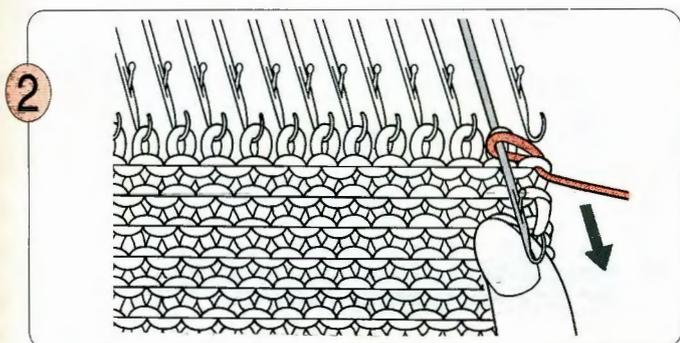
3 Return the empty needles to A position.

● DECREASING SEVERAL STITCHES

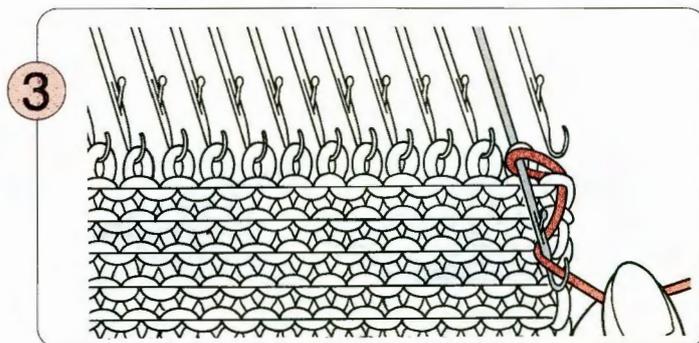
The K carriage and yarn are at the side where you wish to decrease the stitches.



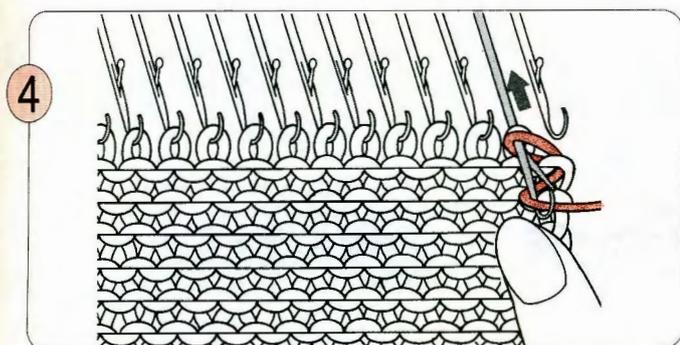
1 On the K carriage side transfer the end stitch onto the adjacent inside needle.



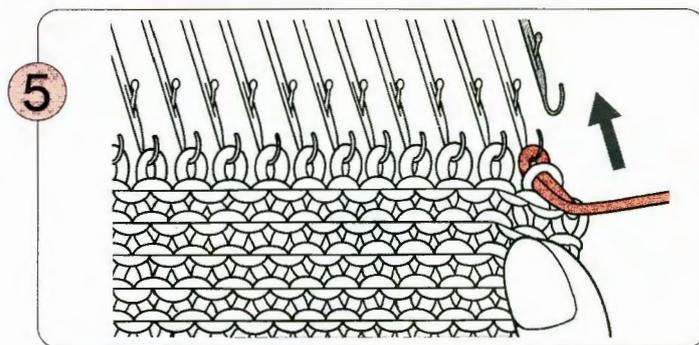
2 Bring this needle forward so that the two stitches are behind the latch.



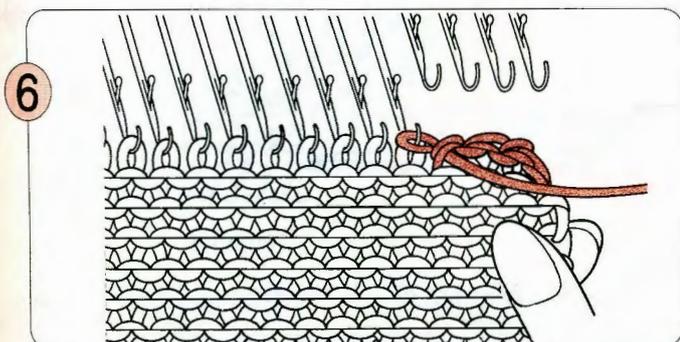
3 Loop the yarn around the needle hook in front of the latch as illustrated.



4 Manually push the needle back so that a single stitch is formed.



5 Return the empty needle to A position.



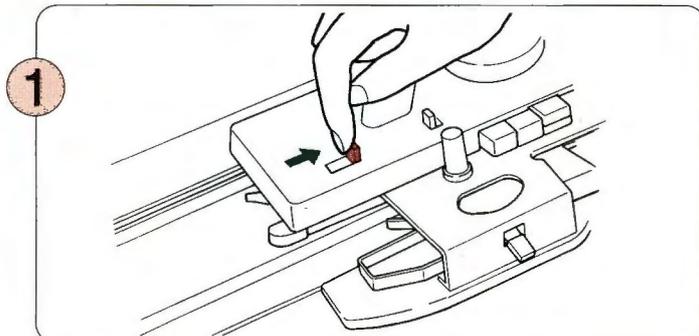
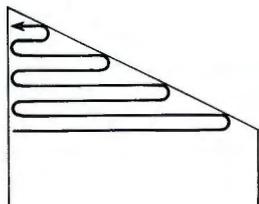
6 Repeat steps 1-5, but on the last stitch work step 4 only.

NOTE:
Take care not to make the stitches too tight.

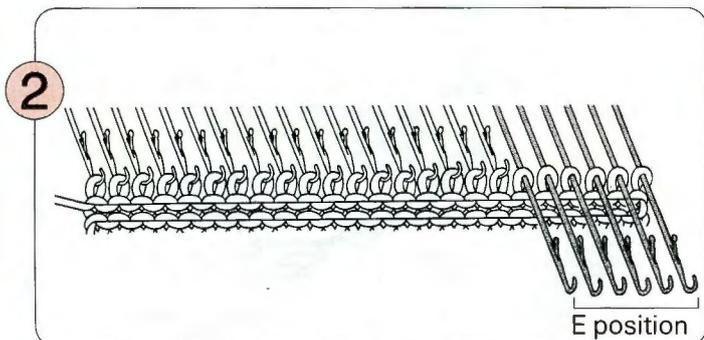
PARTIAL KNITTING

● DECREASING STITCHES USING THE HOLDING POSITION (H.P)

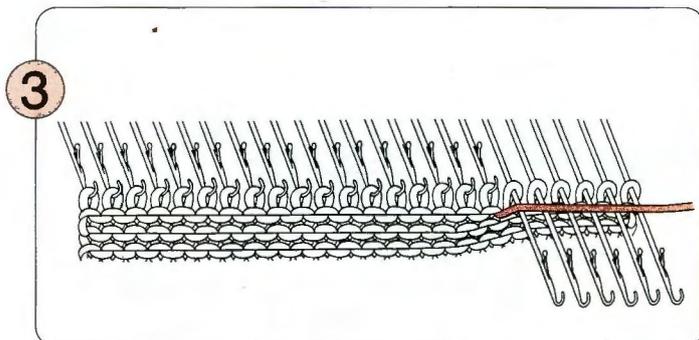
- When working decreases for shoulders, neck opening etc., set the holding cam lever on the K carriage to H.



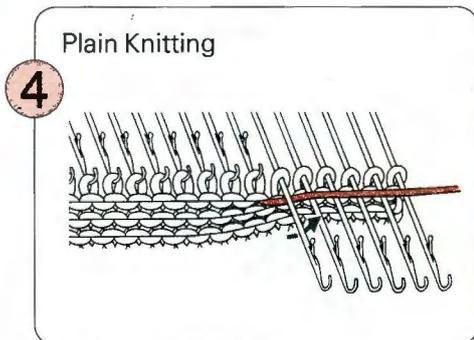
1 Set the holding cam lever to H and the cam buttons and change knob according to the pattern.



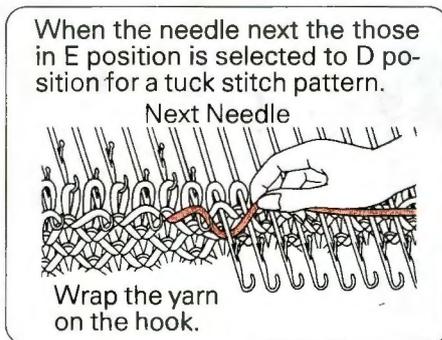
2 On the opposite side to the K carriage, bring the needles you want to decrease forward to E position.



3 Knit one row. The needles in B position (B and D position in the case of pattern knitting) have been knitted and those in E position have not been knitted.



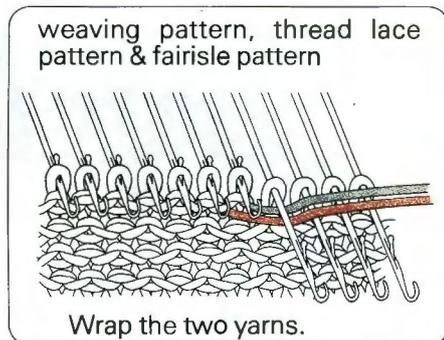
4 Plain Knitting
Wrap the yarn by passing it under the stem of the first needle in E position as shown.



When the needle next the those in E position is selected to D position for a tuck stitch pattern.

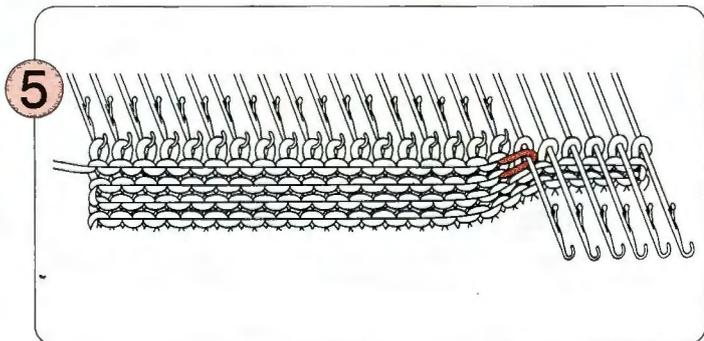
Next Needle

Wrap the yarn on the hook.

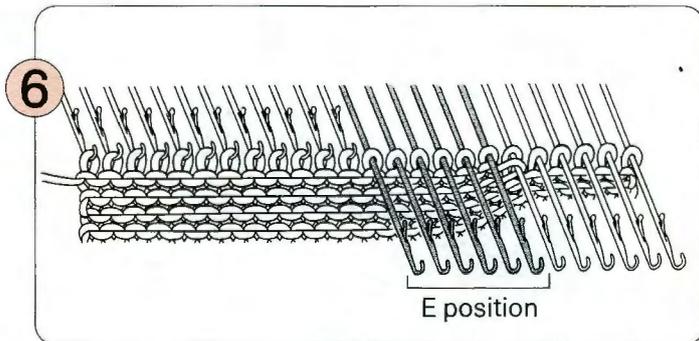


weaving pattern, thread lace pattern & fairisle pattern

Wrap the two yarns.



5 Pull up any loose yarn with your hand and knit one row. The yarn is wrapped around the end needle in holding position as shown above.

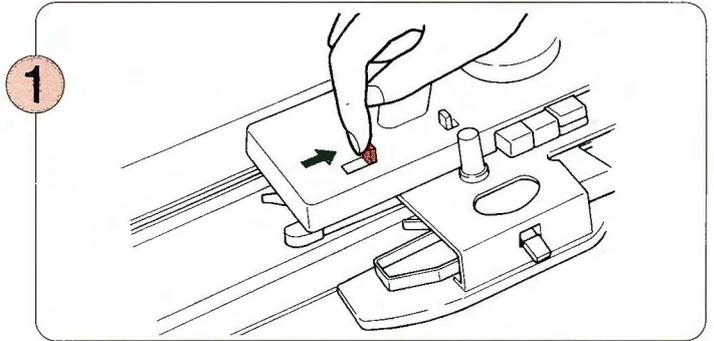
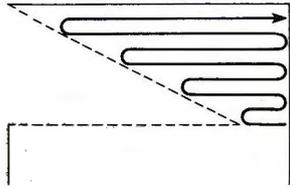


6 Continue moving needles to be decreased into E position, repeating step 2 - 3.

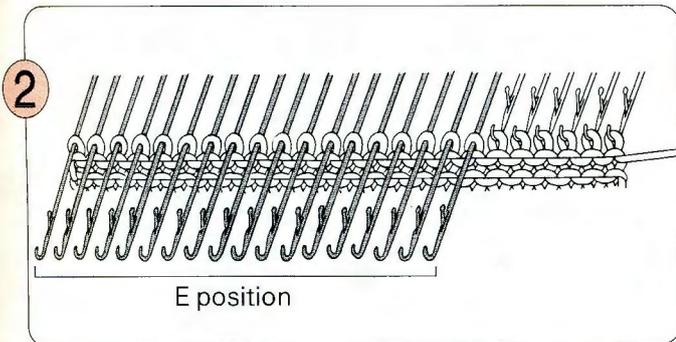
♣ After partial knitting is complete, return the holding cam lever to N.

• INCREASING STITCHES FROM THE HOLDING POSITION (H.P)

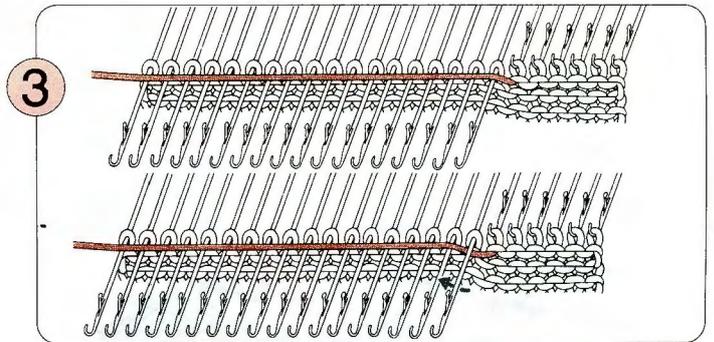
- When working increases (for example the hemline of a skirt), set the holding cam lever to H.



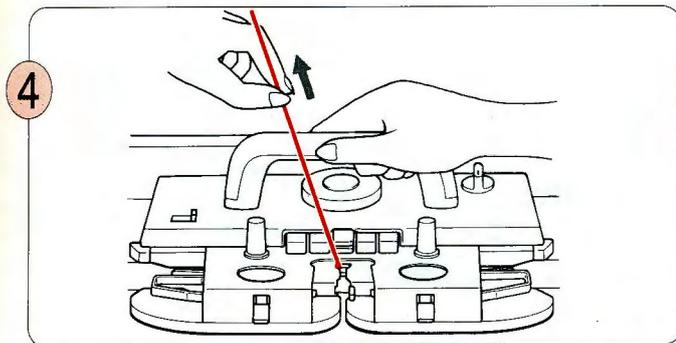
1 Set the holding cam lever to H and the cam buttons and change knob according to the pattern.



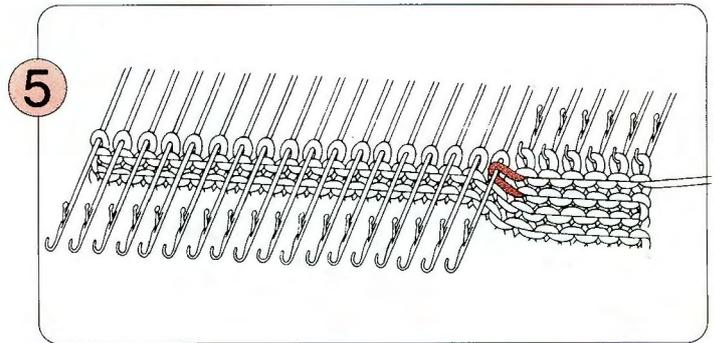
2 On the opposite side to the K carriage, bring forward to E position those needles that you do not want to knit.



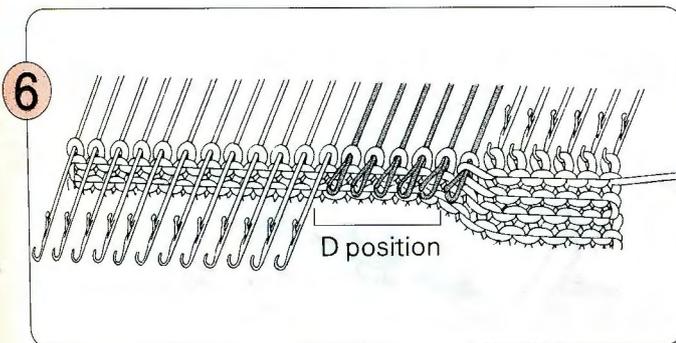
3 Knit one row. The needles in B position (B and D position in the case of pattern knitting) have been knitted, and the yarn has passed over those in E position. Wrap the yarn under the stem of the first needle in E position. (In the case of pattern knitting, refer to step 4 on page 104.)



4 Pull up any loose yarn with your hand and knit one row.

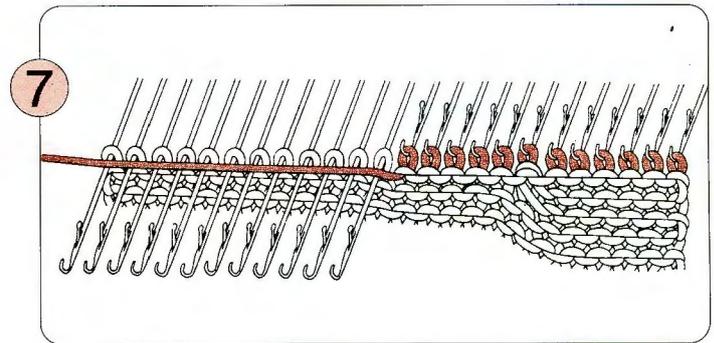


5 The yarn is wrapped around the end needle in holding position as shown above.



6 Manually push the needles to be increased from E to D position.

- ♣ For pattern knitting, put the appropriate needles to B position according to the pattern. When you return these needles from D to B position, place the stitches into the needlehooks using the transfer tool.

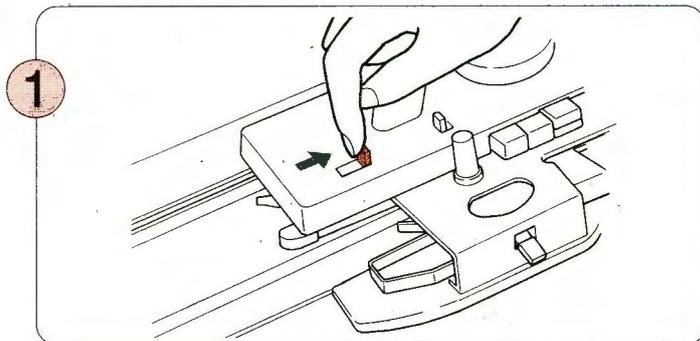
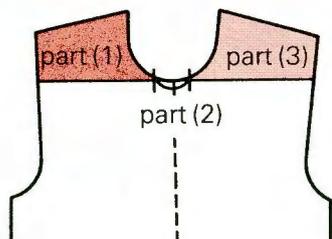


- 1) Knit one row and the needles you brought to D position will have been knitted.
- 2) Repeat Steps 3 - 6.
 - ♣ After partial knitting is complete, return the holding cam lever to N.

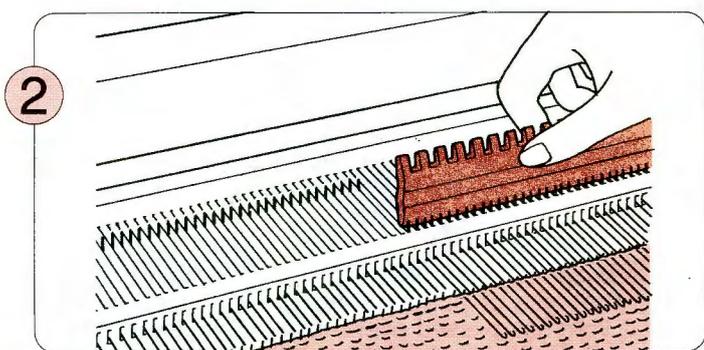
HOW TO SHAPE A ROUND NECKLINE

● STOCKING STITCH AND PLATING

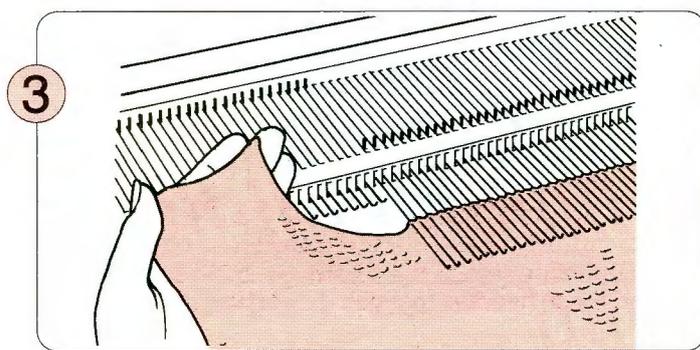
- The following example begins with the yarn and K carriage at the left. Reverse the instructions (e.g. read left for right) if beginning with yarn and K carriage at the right.



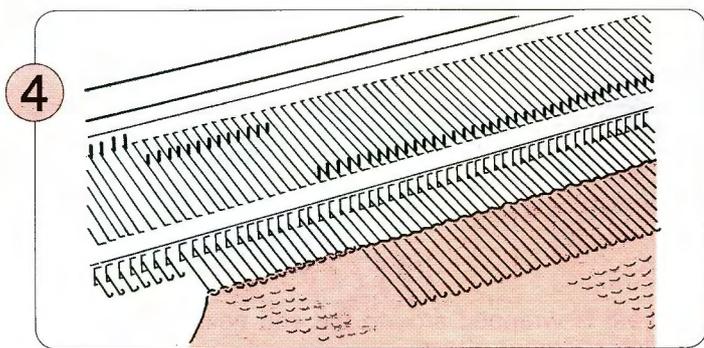
1 On the K carriage, set the holding cam lever to H.



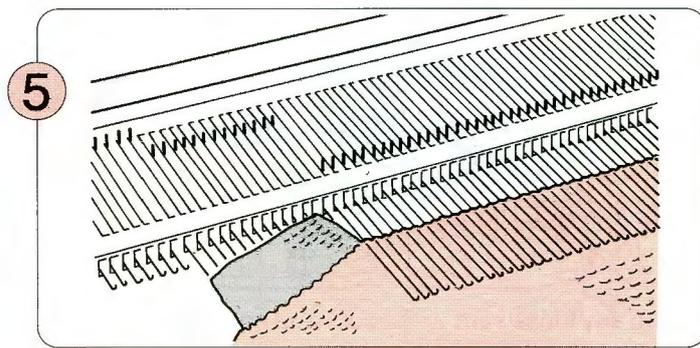
2 Using the flat side of the 1 × 1 needle pusher, bring the needles for parts (2) and (3) forward to E position. These needles will not knit.



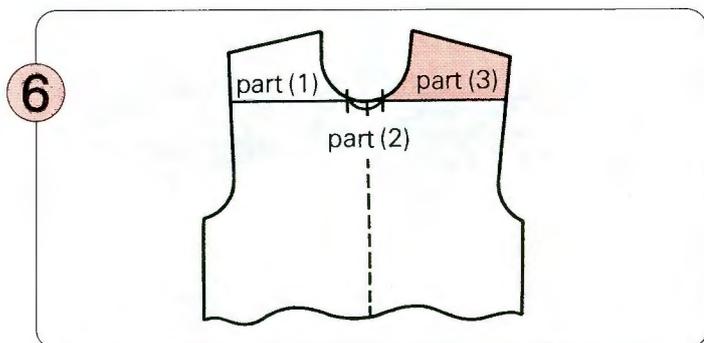
3 Knit part (1) according to your pattern, and return needles to A position.



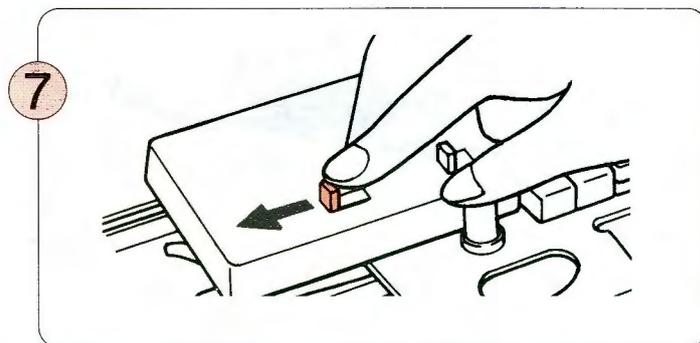
4 Bring needles from part (2) to B position at the same time replacing the stitches into the needle hooks.



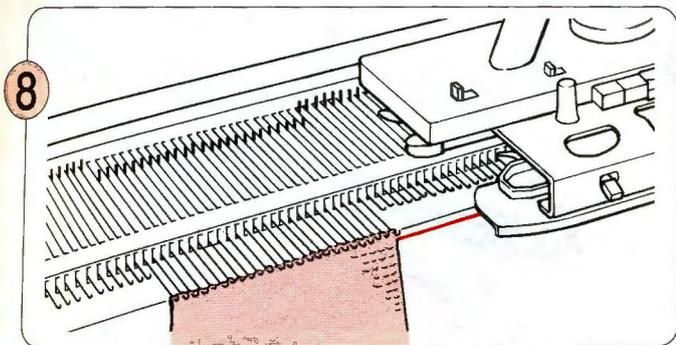
5 Waste knit part (2) and remove this from machine. Return needles to A position.



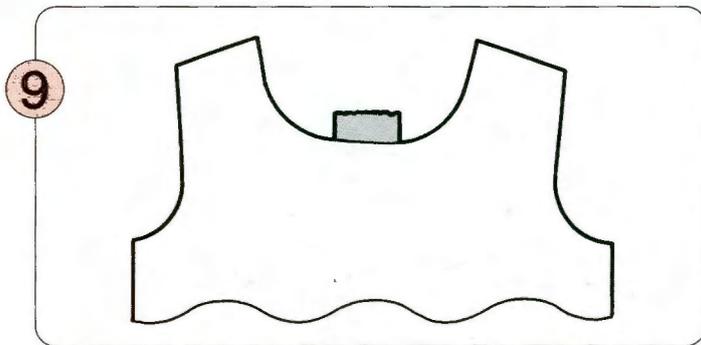
6 Now only the needles for part (3) are left in E position.



7 Set the holding cam lever on the K carriage to N.



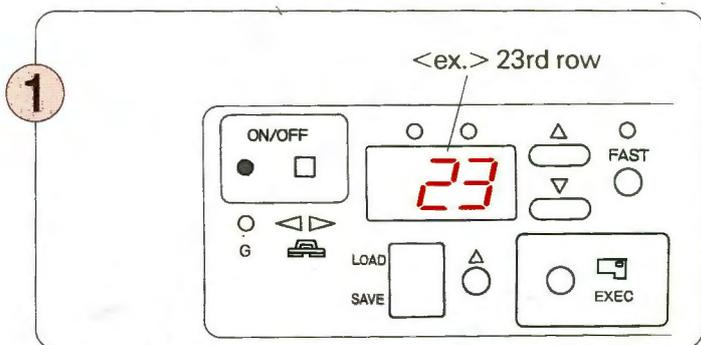
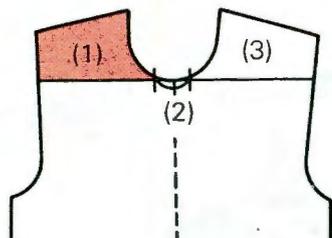
8 Knit part (3) according to your pattern.



9 The neckline-shaping has now been completed.

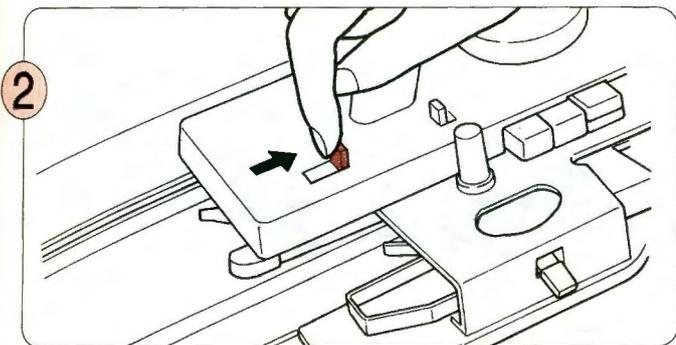
● PATTERN KNITTING

- The following example begins with the yarn and K carriage at the left. Reverse the instructions (e.g. read left for right) if beginning with yarn and K carriage at the right.

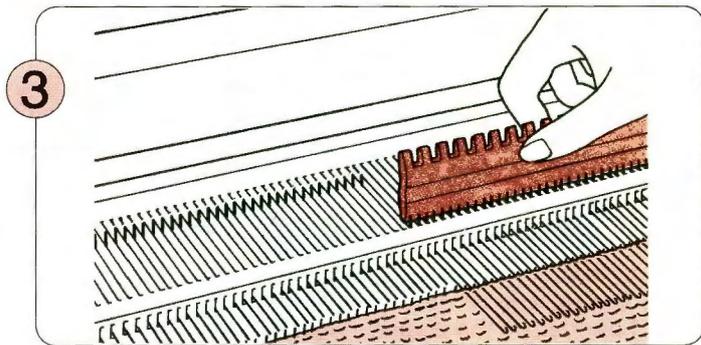


1 Before you start knitting part (1), keep the row number on the memo, so that you can return to the exact row when you knit the other side.

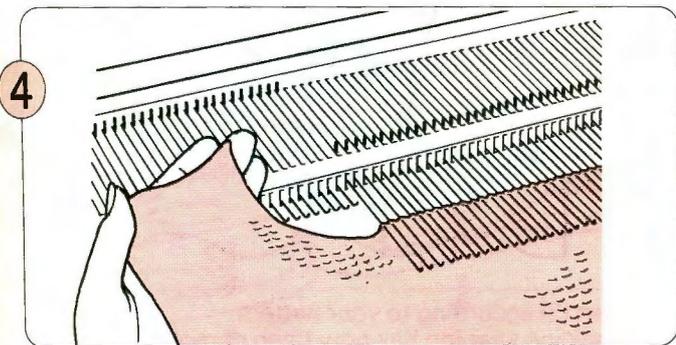
ATTENTION: Keep the row number before turning the K carriage.



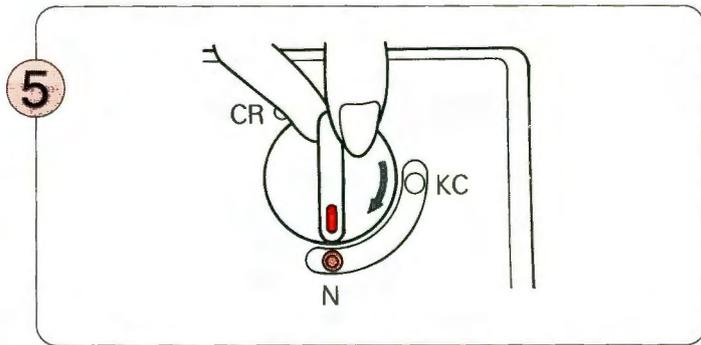
2 On the K carriage, set the holding cam lever to H.



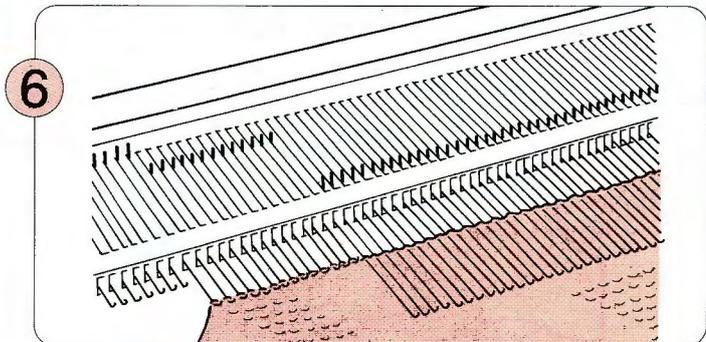
3 Using the flat side of the 1 × 1 needle pusher, bring the needles for parts (2) and (3) forward to E position. These needles will not knit.



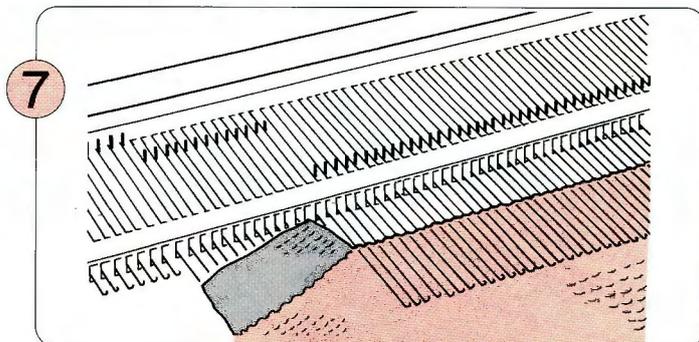
4 Knit part (1) according to your pattern, and return needles to A position.



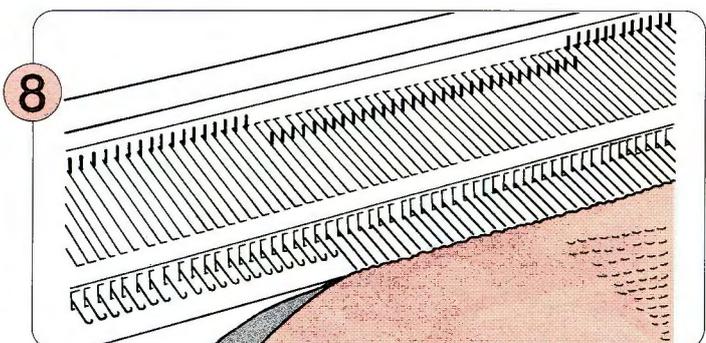
5 Set the change knob to N.



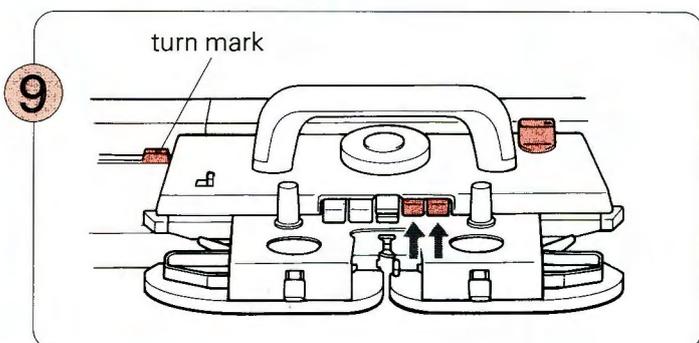
Bring needles from part (2) to B position at the same time replacing the stitches into the needle hooks.



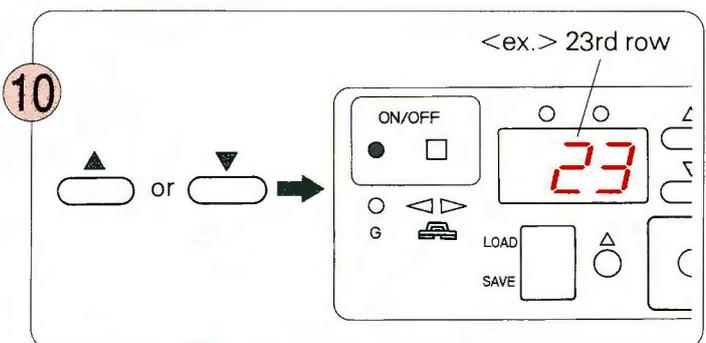
Waste knit part (2) and remove this from machine. Return needles to A position.



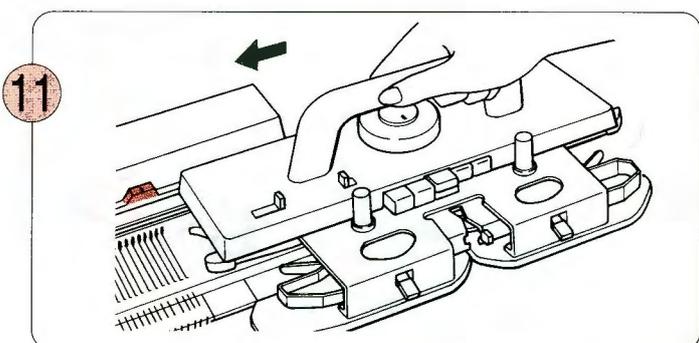
Now only the needles for part (3) are left in E position. Bring these to B position the same as you did for part (2).



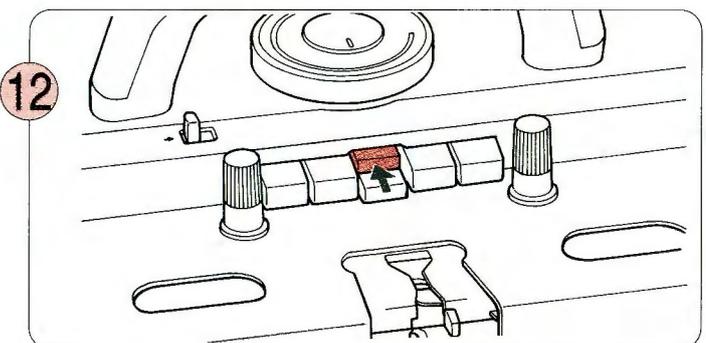
Place the K carriage outside the right turn mark. Push in both part buttons at the same time. Set the change knob to KC.



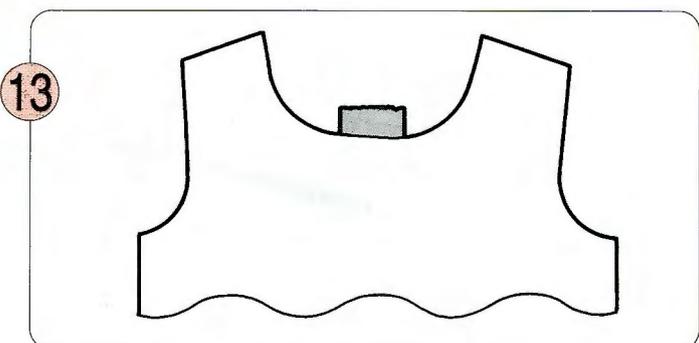
Push the up key or down key until the row number of step 1 appears in the display.



Move the K carriage from right to left across the right turn mark. The needles are selected according to the row number in the display.



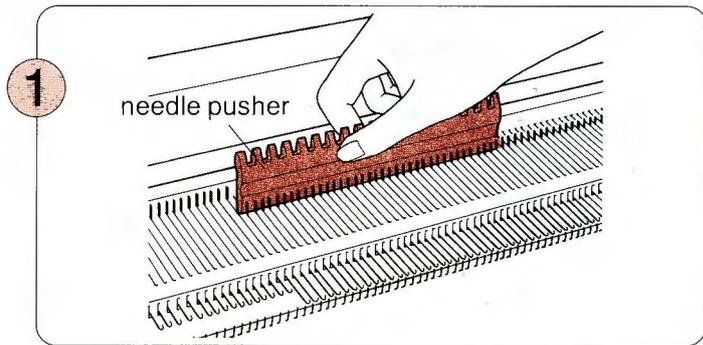
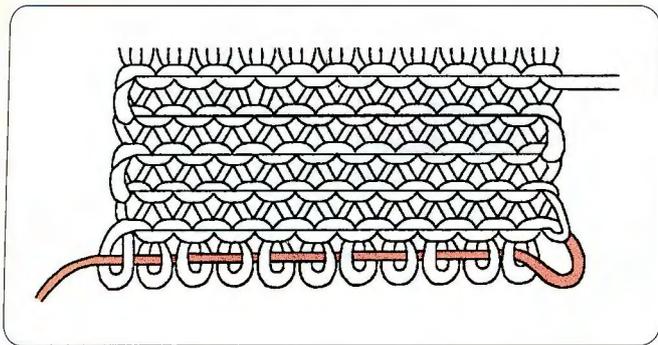
Push the cam buttons according to pattern. Thread up the yarn into yarn feeder. (If you are using contrast yarn, plating yarn or weaving yarn, don't forget to thread this up.)



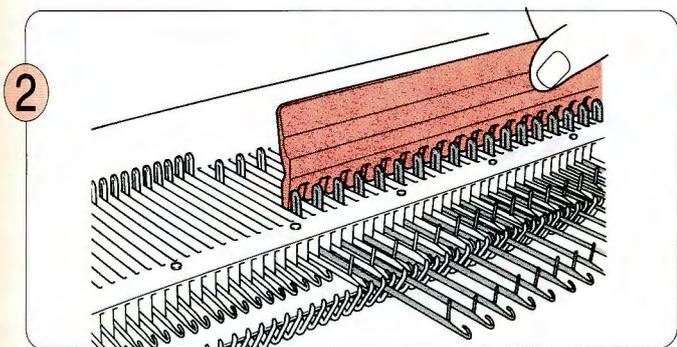
Knit part (3) according to your pattern. The neckline shaping has now been completed.

HOW TO CAST ON WITH A FINISHED EDGE (Closed edge cast on)

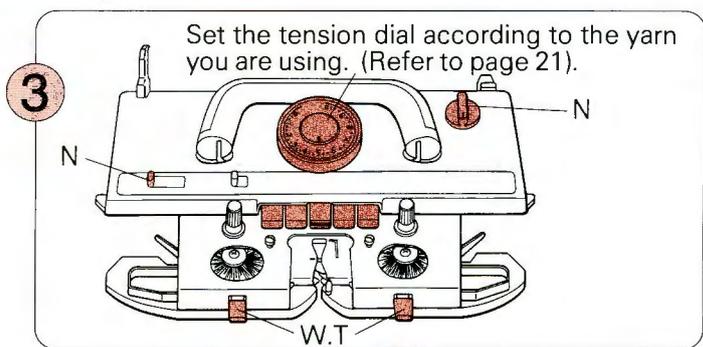
• USING THE WEAVING PATTERN LEVER



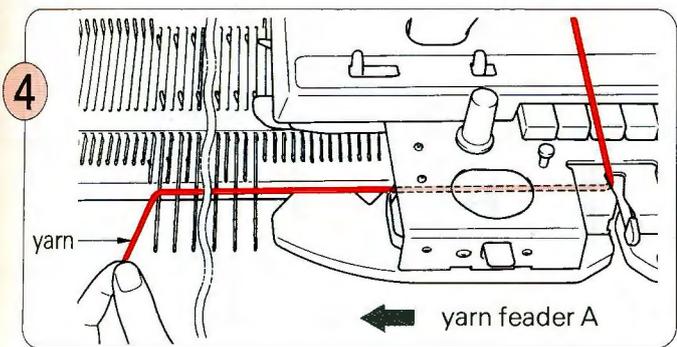
1 Place the K carriage at the right. Using the flat side of the 1/1 needle pusher, bring the needles forward to B position.



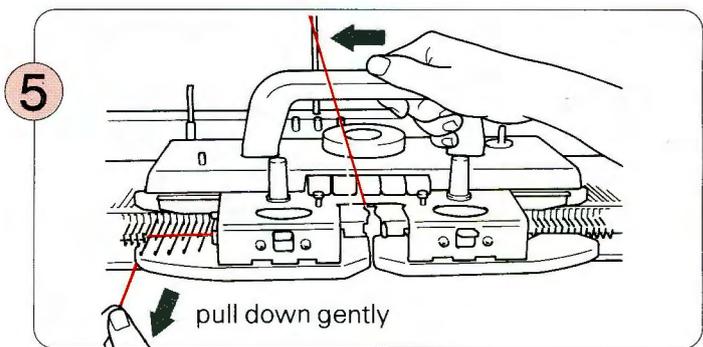
2 Using 1/1 needle pusher, bring forward every other needle to E position.



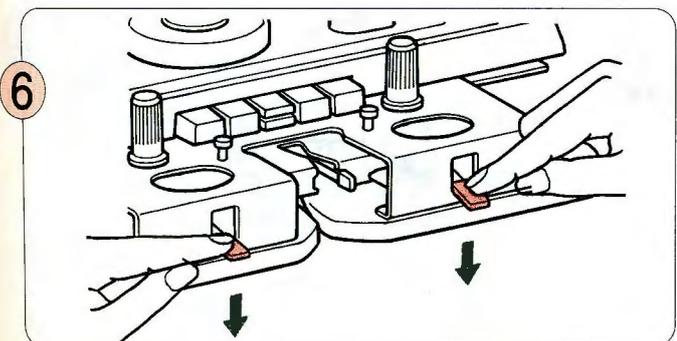
3 Set the K carriage as shown above.



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



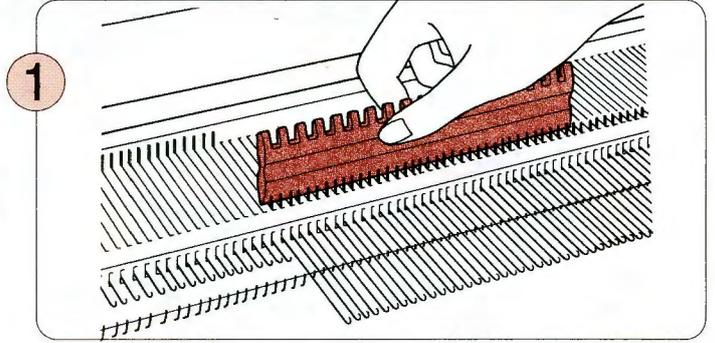
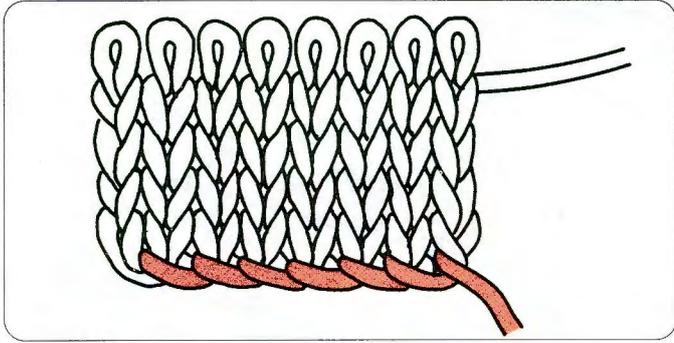
5 Pulling the yarn down gently with the left hand, move the K carriage to knit slowly with right hand. Continue to hold the end of yarn with left hand for a few rows.



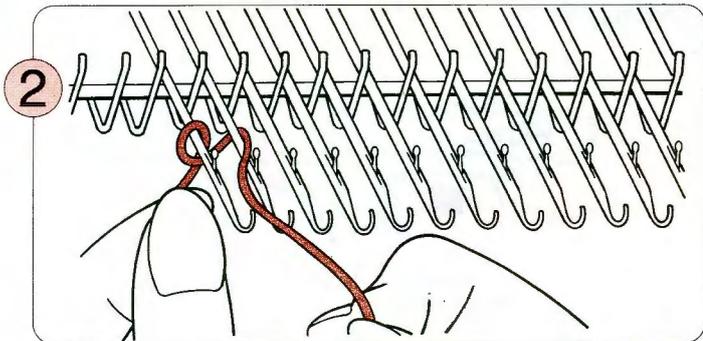
6 Release yarn which was held in left hand. and return the weaving pattern levers to N.

● 'E' WRAP METHOD

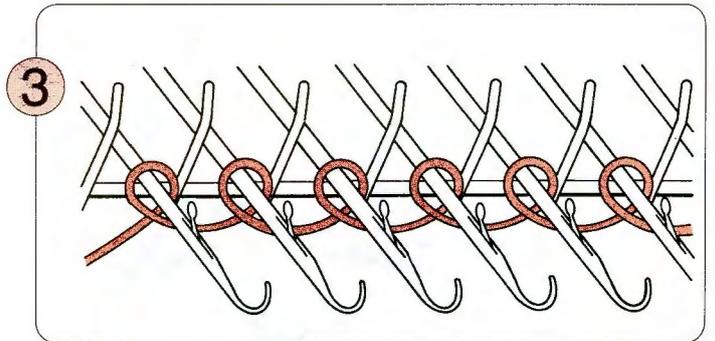
● With this method you will achieve a thin, elastic edge so it is suitable for any type of knitting.



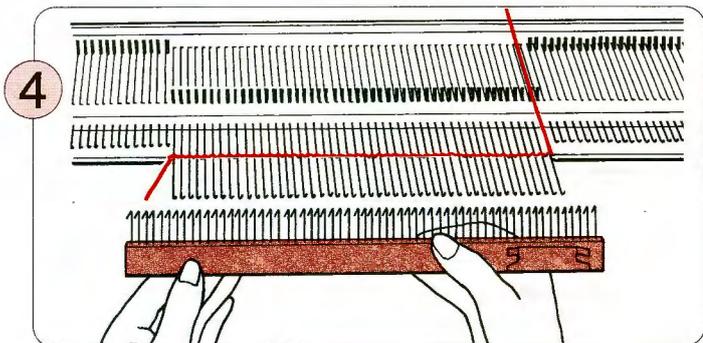
1 Place the K carriage at the right. Using the flat side of the 1/1 needle pusher, bring the needles forward to E position.



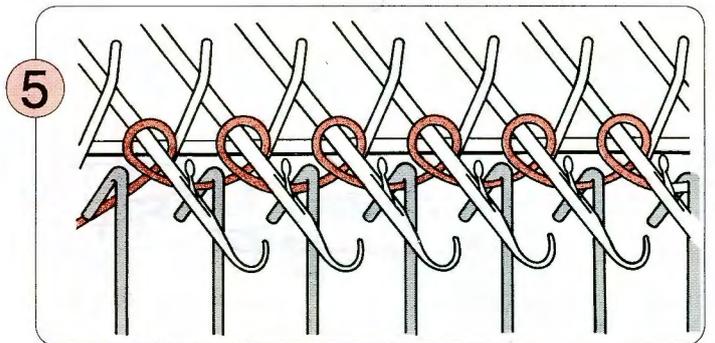
2 Beginning at the left, and working from left to right, wind the yarn around the needles in an anticlockwise direction. Do not wind the yarn too tight.



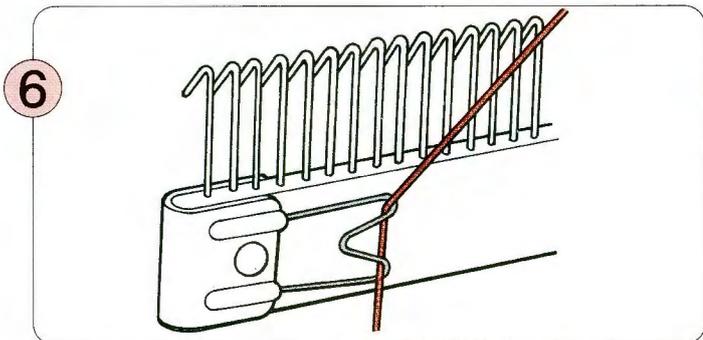
3 The loops should be behind the latches as shown.



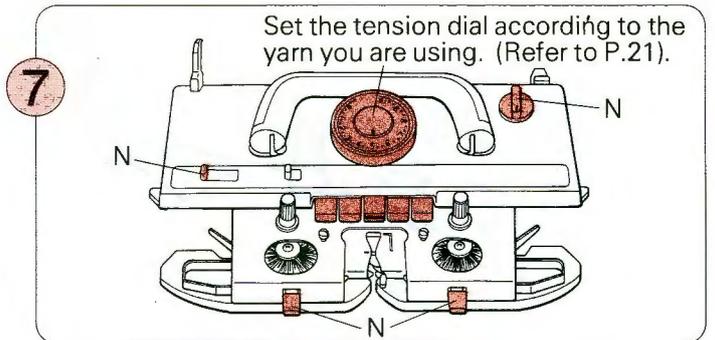
- 4 (1) Take the cast-on comb out of the case and choose the length according to the number of needles. (Refer to page 22.)
- (2) Hold the cast-on comb as shown with the hooks facing the machine.



5 Pull the yarn through the edge hook. Hang the cast-on comb over the loops and gently pull it downwards.

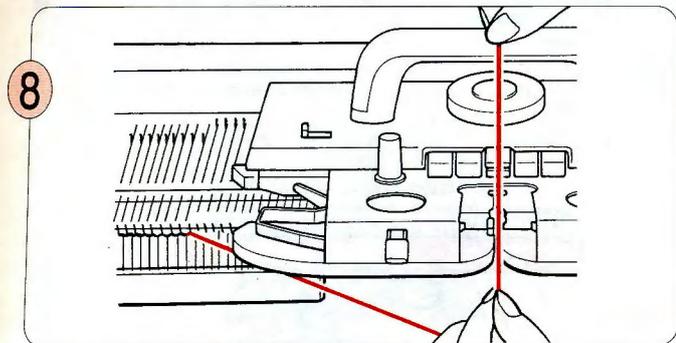


6 Hook the loose yarn end under the yarn clip from the front.

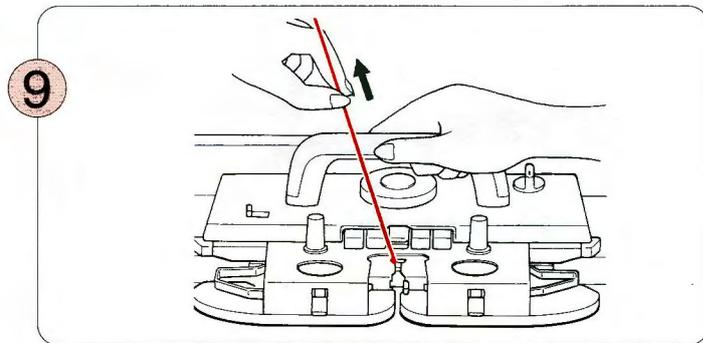


7 Set the tension dial according to the yarn you are using. (Refer to P.21).

Set the K carriage as shown above.



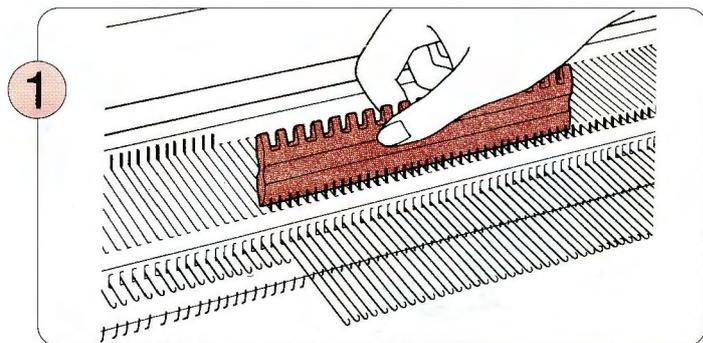
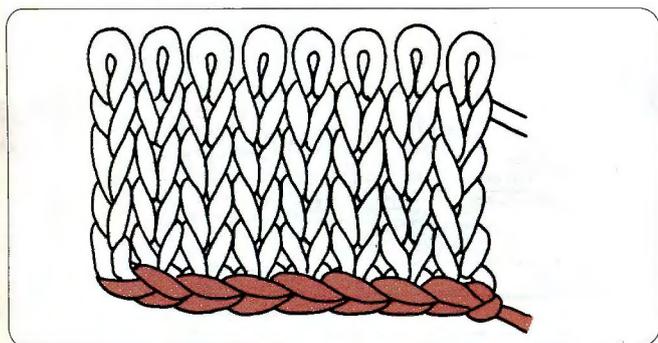
8 Thread the yarn into yarn feeder A (Refer to steps 5 – 7 on page 25).



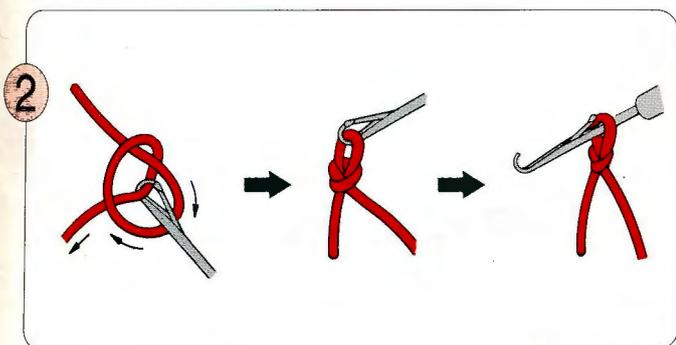
9 Move the K carriage to the left, holding the yarn as shown so that no loops are formed.

● USING THE LATCHET TOOL

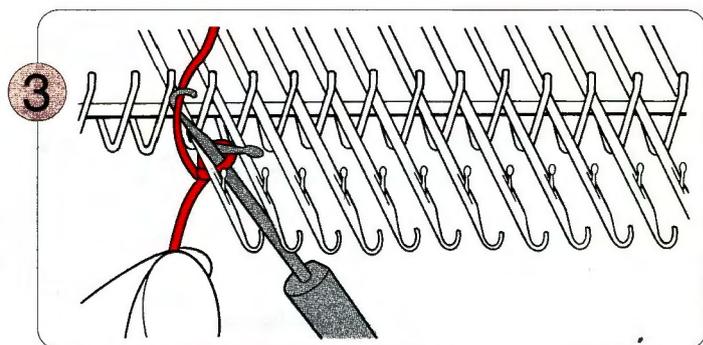
- With this method you will achieve a firm edge which is not very elastic.



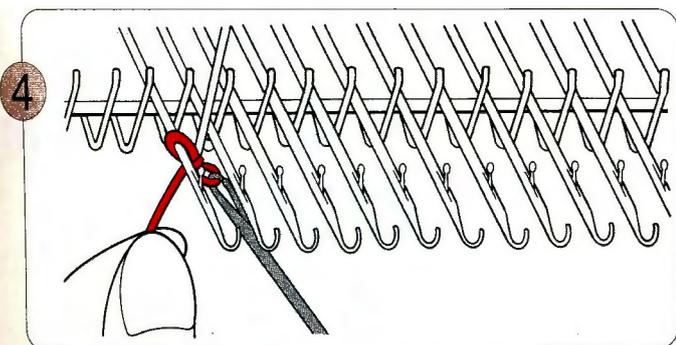
1 Place the K carriage at the right. Using the flat side of the 1/1 needle pusher bring the needles forward to E position.



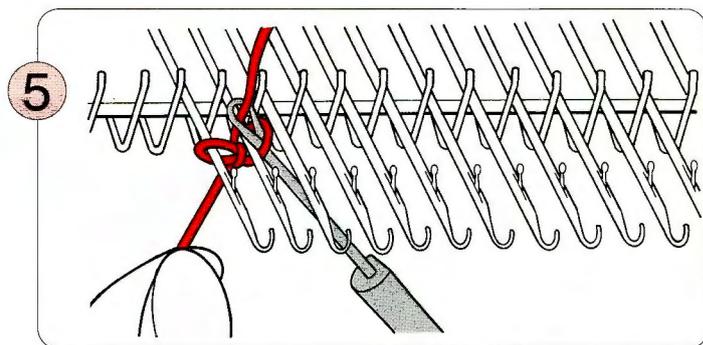
2 Thread the yarn into the yarn tension unit. Now make a chain stitch using the latching tool as shown.



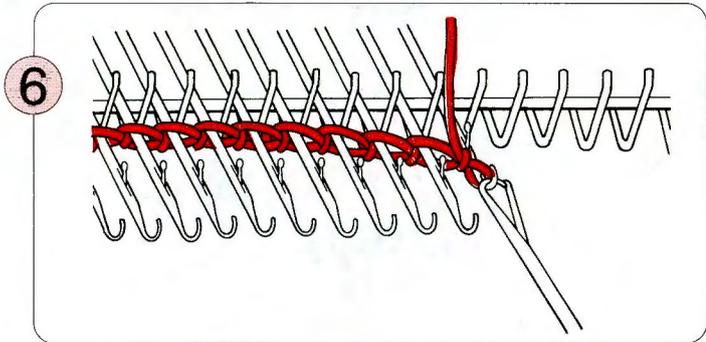
3 With the loop behind the latch, insert the latching tool between the first and second needles on the left. Catch the yarn with the latching tool.



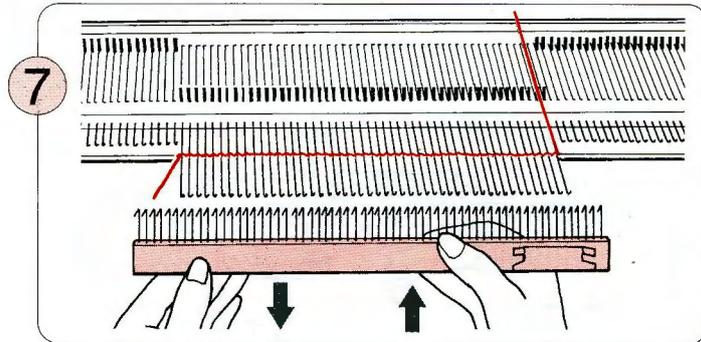
4 Keeping the yarn in the hook of the latching tool, pull the yarn down through the chain loop, and slip the loop off the latching tool. This makes one stitch.



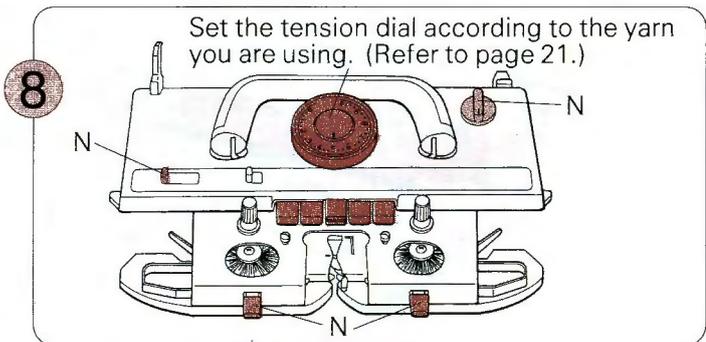
5 Repeat this across the needles until you reach the last needle.



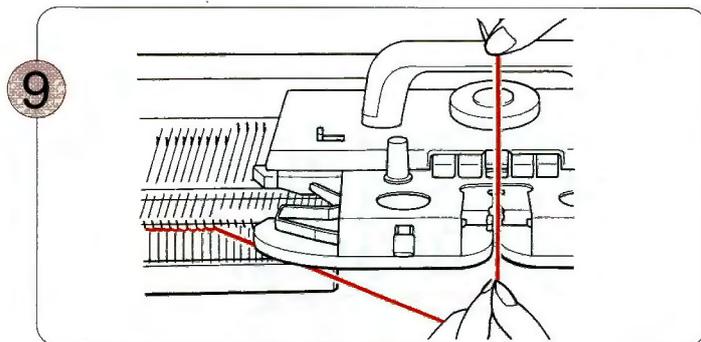
When you get to the last needle, transfer the loop from the latchet tool into the needle hook.



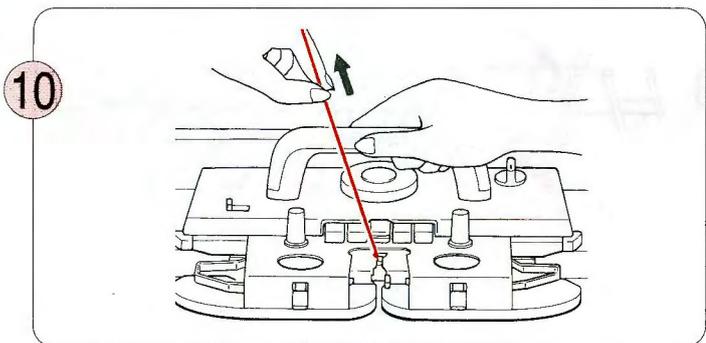
- (1) Take the cast-on comb out of the case and choose the length according to the number of needles. (Refer to page 22.)
- (2) Hold the cast-on comb as shown with the hooks facing the machine. Hang the cast-on comb over the loops and gently pull it downwards.



Set the K carriage as shown above.



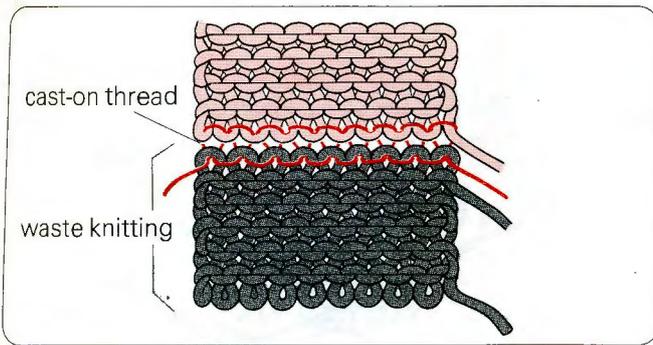
Thread the yarn into yarn feeder A. (Refer to steps 6-7 on page 25.)



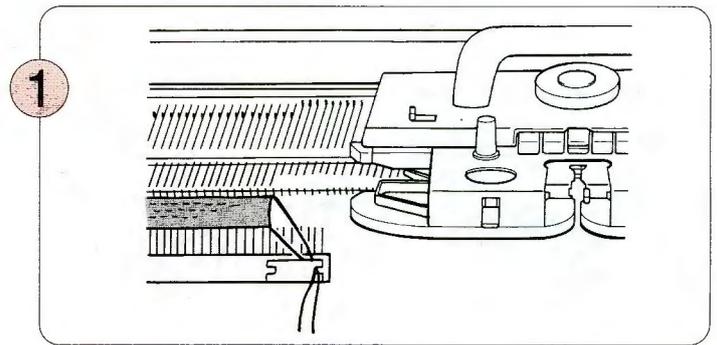
Move the K carriage to the left, holding the yarn as shown so that no loops are formed.

● WASTE KNITTING (CASTING-ON)

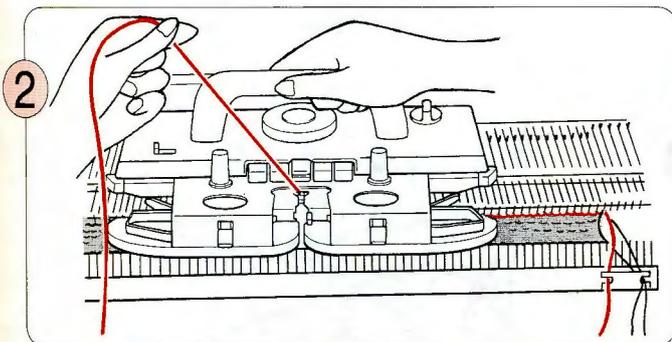
- Waste knitting is the term used to describe knitting that will be removed when the garment is completed, or to enable you to carry out the next step.



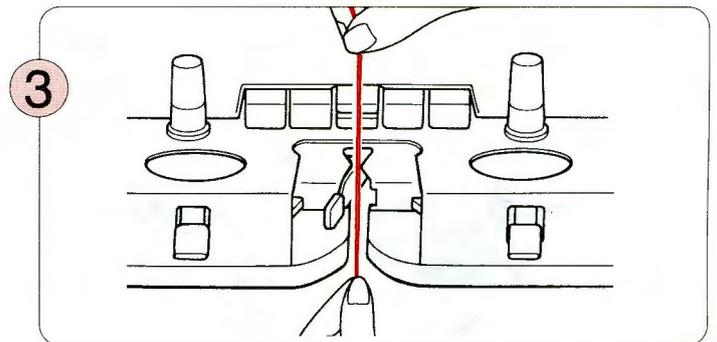
Waste yarn is a smooth yarn in a different colour to that of the main yarn.



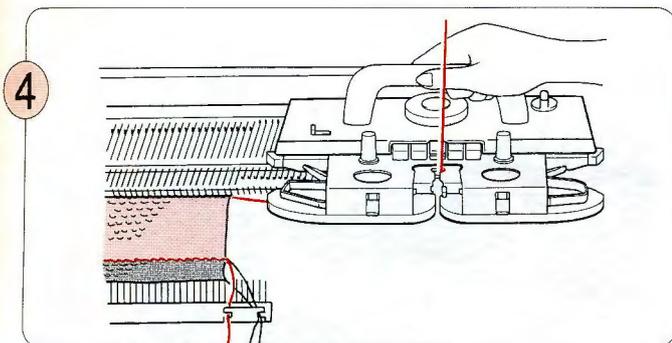
1 Knit about 10 rows in stocking stitch using waste yarn ending with the K carriage at the right of the needle bed. Remove waste yarn from yarn feeder and cut the yarn.



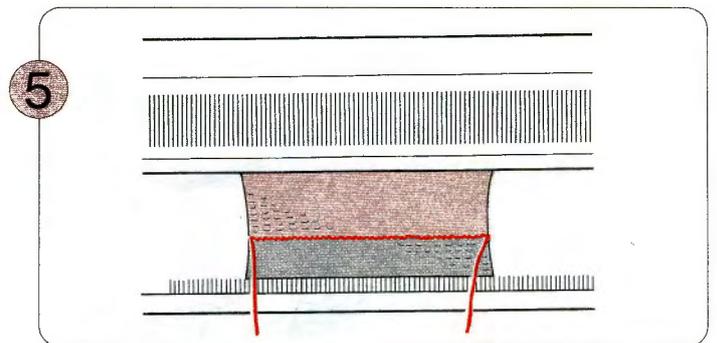
2 Thread the cast-on thread into yarn feeder A. Hold the end as shown and knit one row. Remove cast-on thread from yarn feeder A.



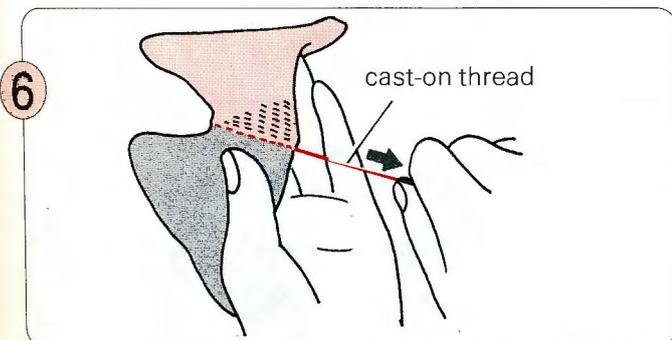
3 Thread the main yarn into yarn feeder A.



4 Knit several rows.



5 One row has been knitted with the cast-on thread and this separates the waste knitting from the main knitting.



6 If you pull out the cast-on thread, the waste knitting will drop away.

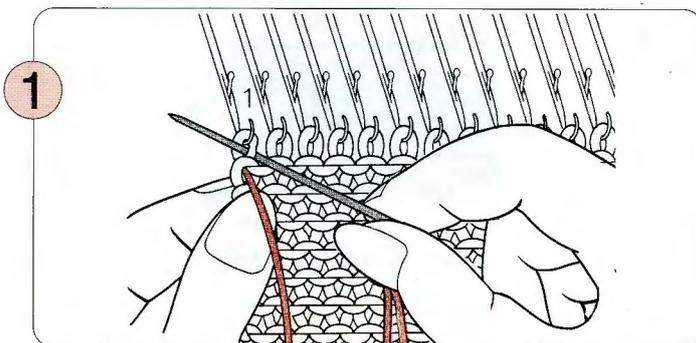
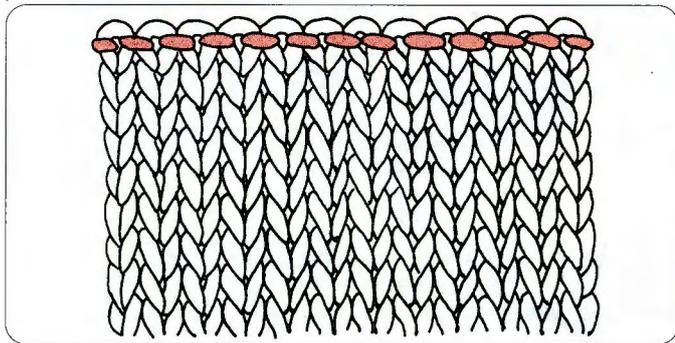
- ♣ This method is used when the stitches are being used to turn up hems etc.

BACKSTITCH CASTING OFF (Binding off)

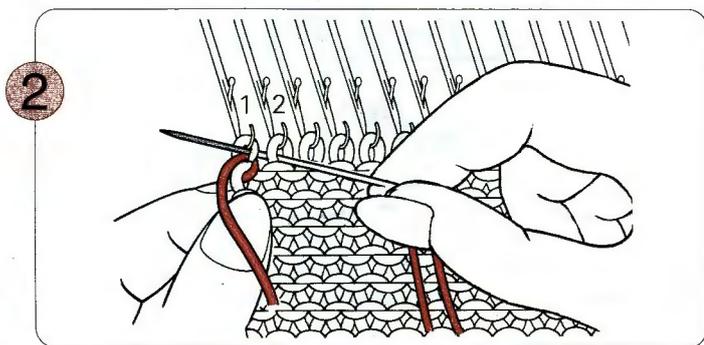
● USING THE TAPESTRY NEEDLE

- With this method you will achieve a thin, elastic edge so it is suitable for any type of knitting.
- The yarn is on the lefthand side. Take yarn out of the yarn feeder and cut it leaving a length three times the width of the knitting.

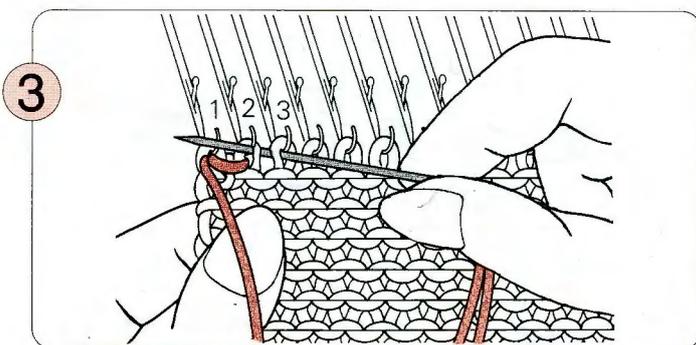
<Ending with K carriage on the left>



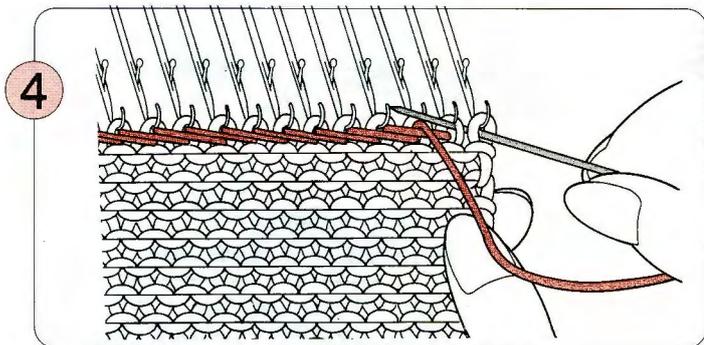
1 Thread yarn end into a tapestry needle. From the back, pass needle through the first stitch at the left (1).



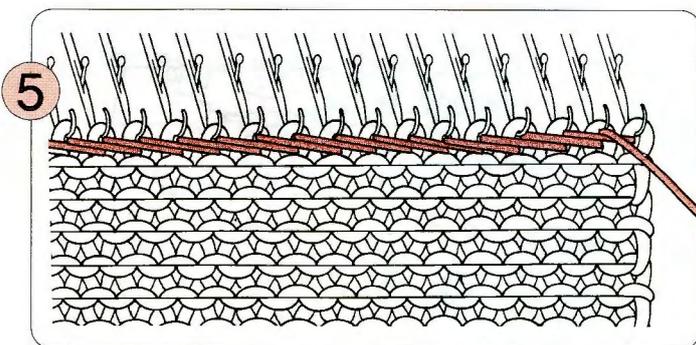
2 From the front, insert the needle in through the second stitch (2) and back out through the first stitch (1).



3 From the front, insert the needle in through the third stitch (3) and back out through the second stitch (2).

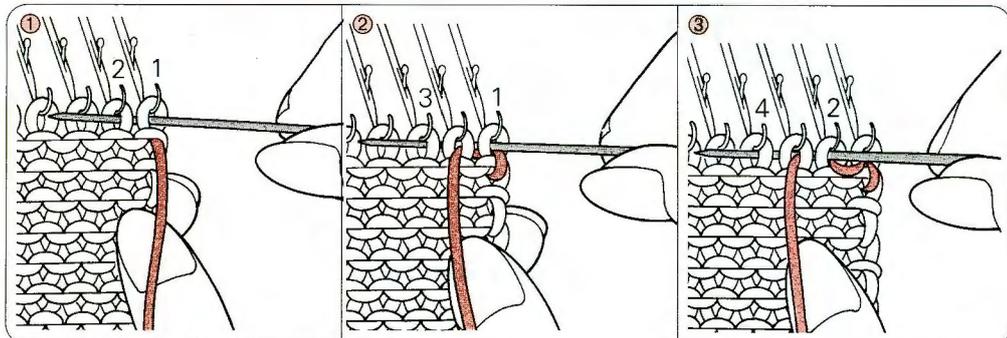
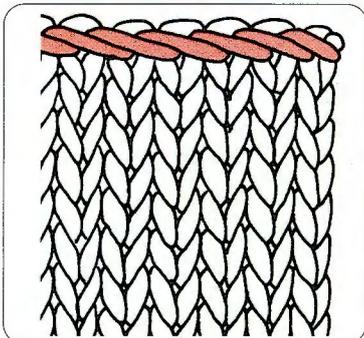


4 Continue in this way until you reach the righthand edge of the knitting.



5 The casting off (binding off) is now completed and you can remove the knitting from the machine. If you find it easier, you can remove the stitches a few at a time whilst you work, so that you can place your lefthand behind the knitting.

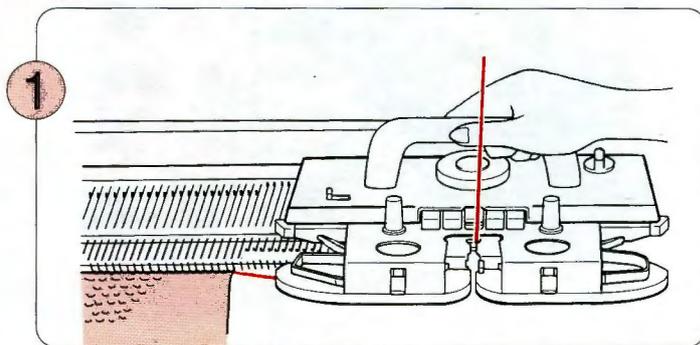
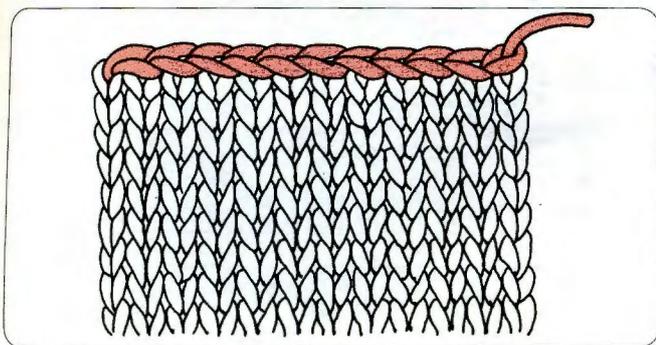
<Ending with K carriage on the right>



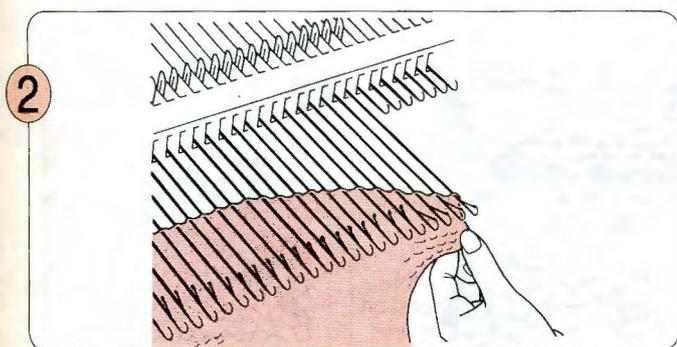
CHAIN STITCH CAST OFF (Binding off)

● USING THE LATCHET TOOL

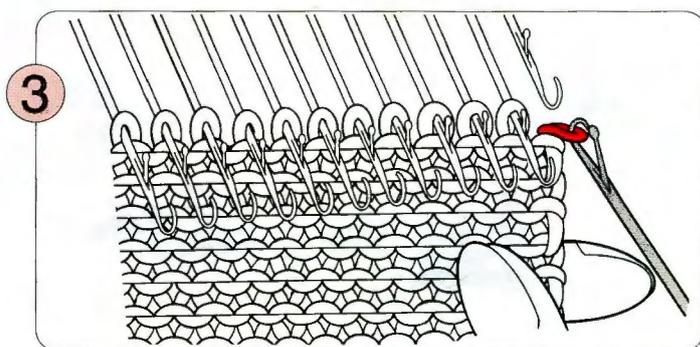
- With this method you will achieve a firm edge which is not very elastic.



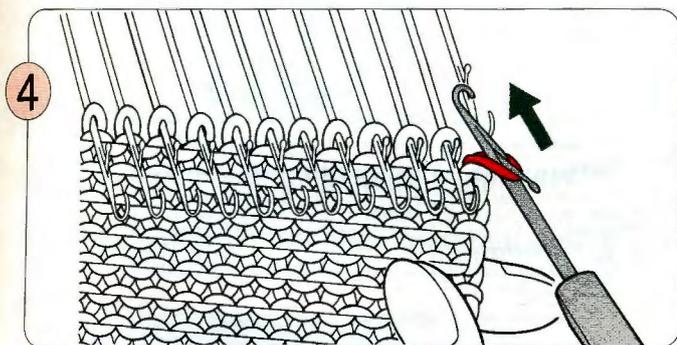
Knit the final row from right to left. Loosen the tension dial for this row (e.g. if main tension is say 4-6, knit the final row at tension 9-10).



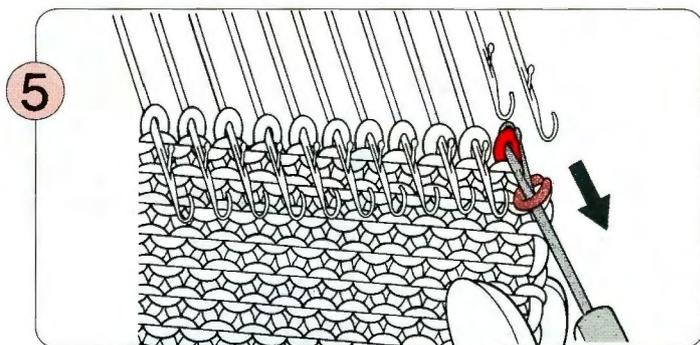
Bring the needles forward to E position. Gently bring the knitting towards you, taking care not to drop any stitches.



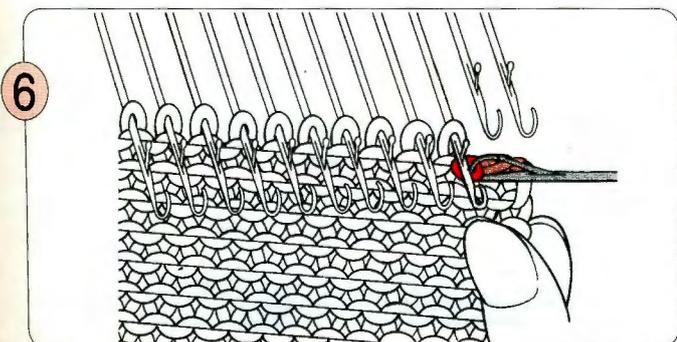
Beginning at the righthand edge, hook the first stitch onto the latchet tool.



Put the stitch behind the latch of the latchet tool.

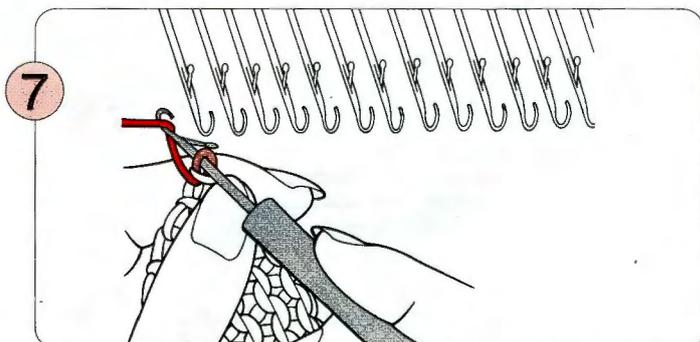


Now hook the second stitch with the latchet tool, keeping this stitch in the hook.



Draw the second stitch through the first stitch, letting the first stitch slip off the hook.

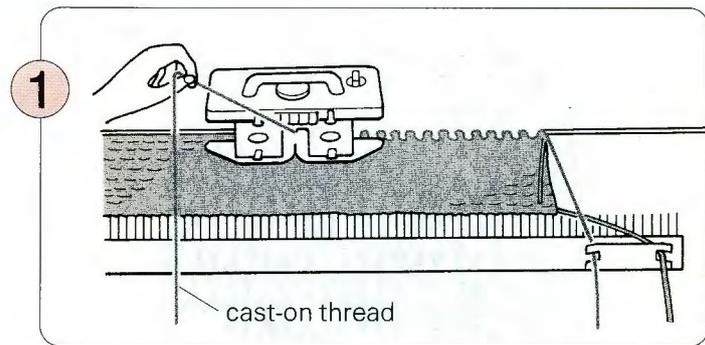
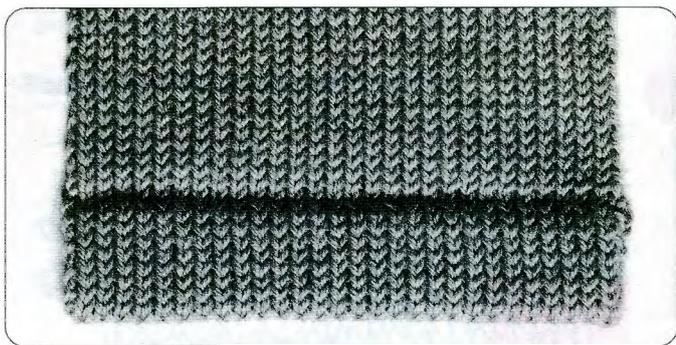
- ♣ Take care not to drop any of the other stitches from off the needles while you work.



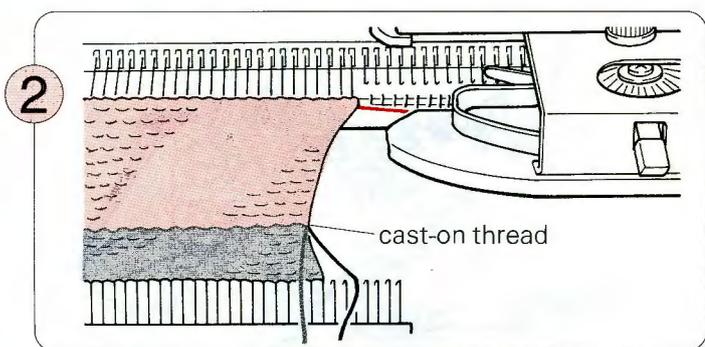
Repeat this until you reach the last stitch. Now hook the yarn end with the latchet tool as shown, and pull this through the last stitch.

HOW TO MAKE A HEM

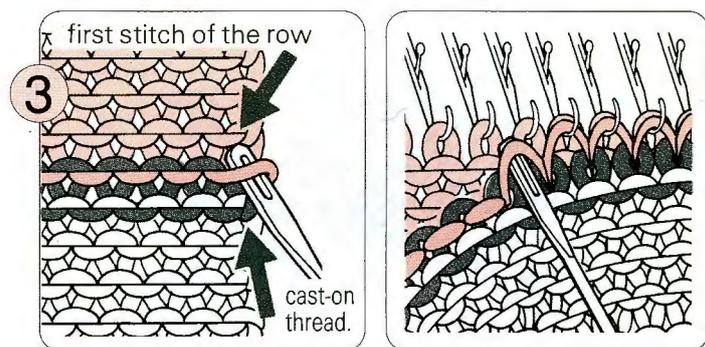
● PLAIN HEM



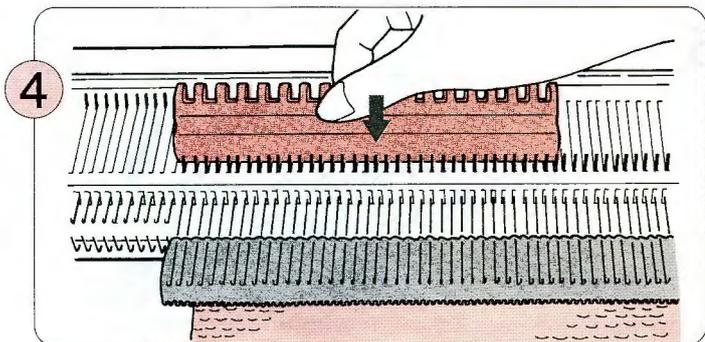
Knit several rows with waste yarn and then knit one row with the cast-on thread. (Refer to page 113.)



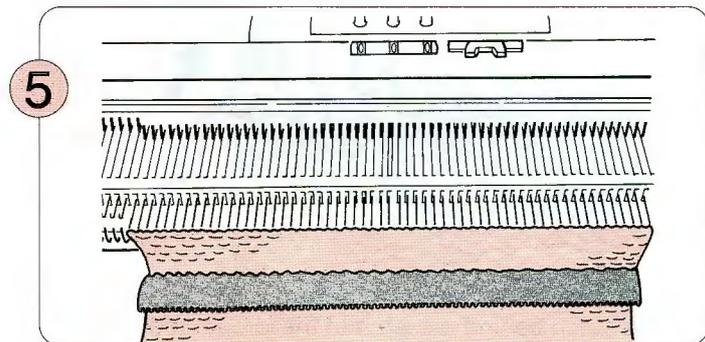
Working in stocking stitch, knit the number of rows required for double the depth of the hem (e.g. if hem is to be folded under 2.5 cms (1") then knit 5 cms (2")).



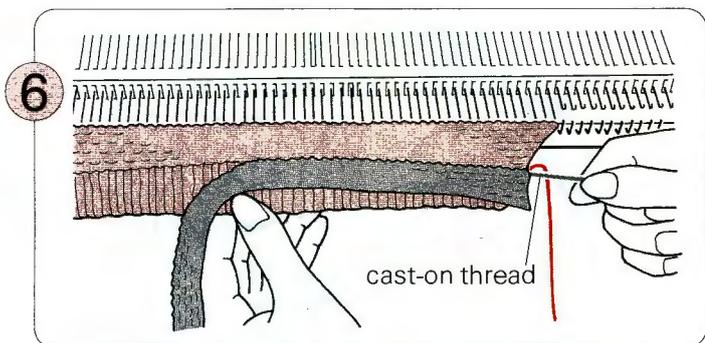
Using your transfer tool, pick up the first stitch of the row above the cast-on thread. Continue picking up stitches across the row. (Note: there will be one less stitch to be picked up than there are needles).



After you have picked up all the stitches, bring the needles forward to E position.



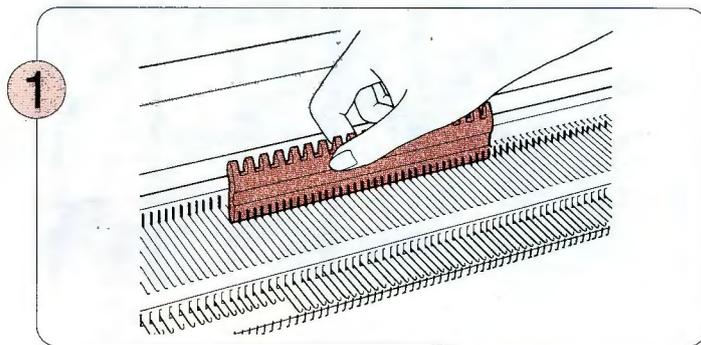
Knit one row with the K carriage. Continue knitting in stocking stitch.



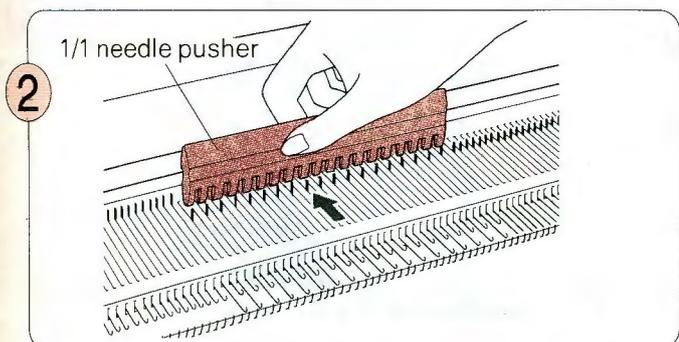
When you have knitted several rows you can pull out the cast-on thread. The waste knitting will fall away.

● 1 × 1 ELASTIC HEM

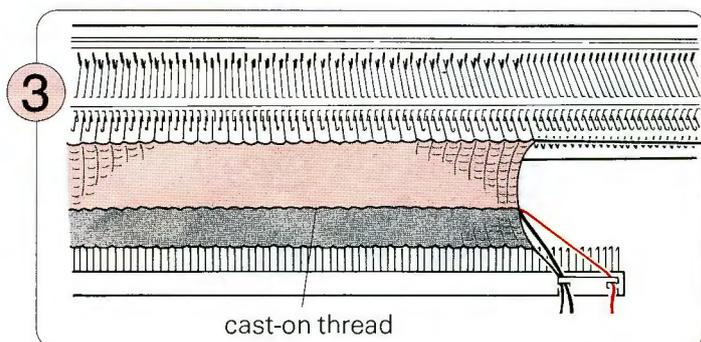
(This type of hem is also referred to as "Mock Ribbing" or "Continental Ribbing".)



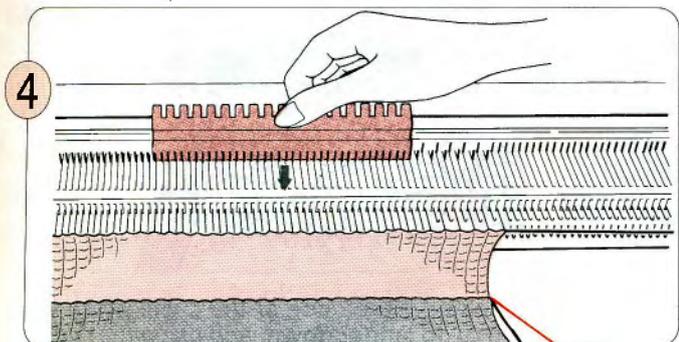
Using the flat side of the 1/1 needle pusher, bring forward the required number of needles to B position.



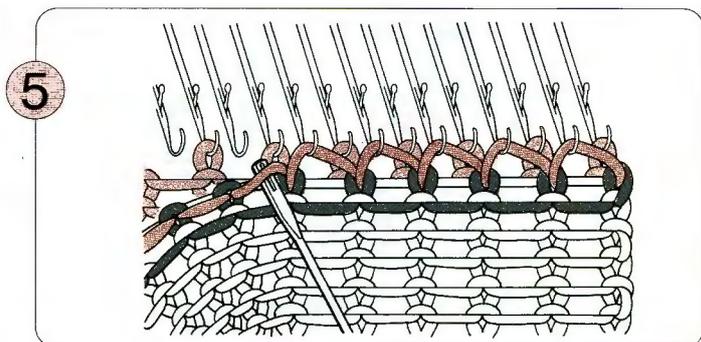
With the 1/1 needle pusher take every other needle back to A position.



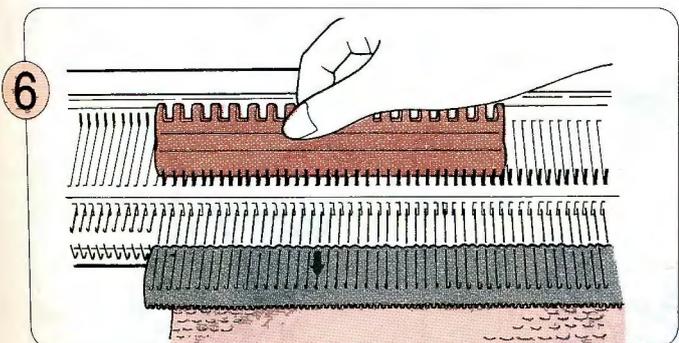
Knit several rows with waste yarn, then one row with the cast-on thread. With main yarn, working in stocking stitch, knit the number of rows required for double the length of the hem.



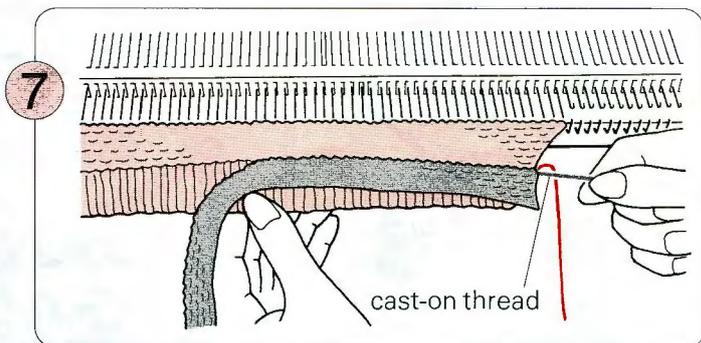
With the flat side of the 1/1 needle pusher, bring the needles in A position forward to B position.



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

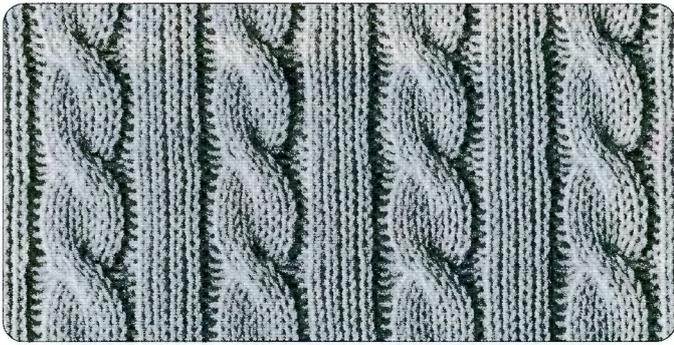


When all the stitches have been picked up, bring the needles forward to E position. Knit one row.

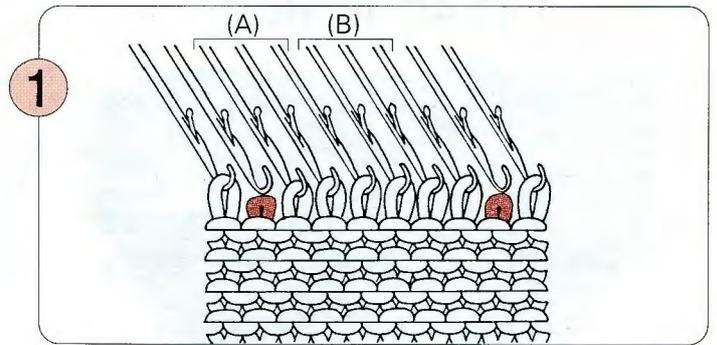


After you have knitted several rows, pull out the cast-on thread. The waste yarn drops away.

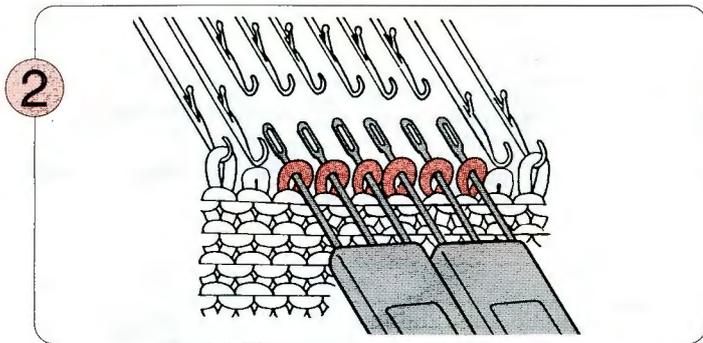
CABLE STITCH PATTERN



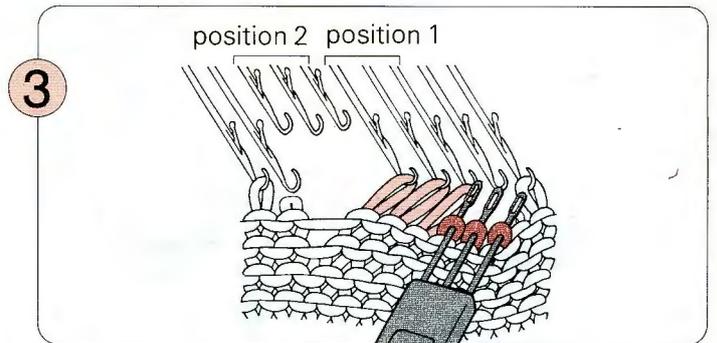
- Cables are made by crossing two sets of stitches using two transfer tools. The following example uses two 3-eyed transfer tools.



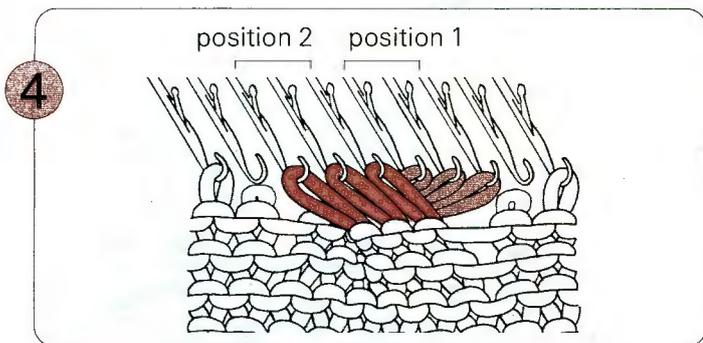
Knit until you reach the point for your first cable cross-over. Drop one stitch on either side of the cable pattern stitches.



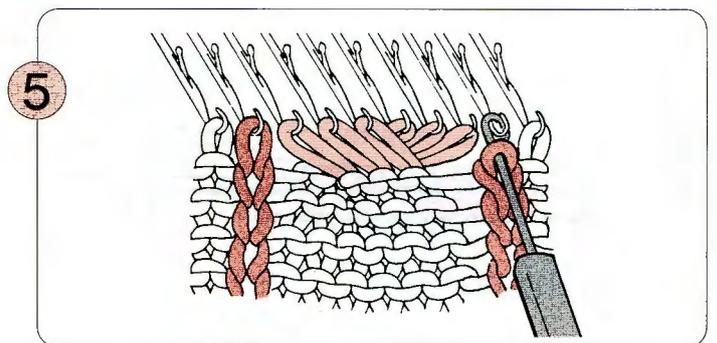
Transfer 3 stitches onto both 3-eyed transfer tools as shown.



Transfer the stitches marked (A) to position 1.



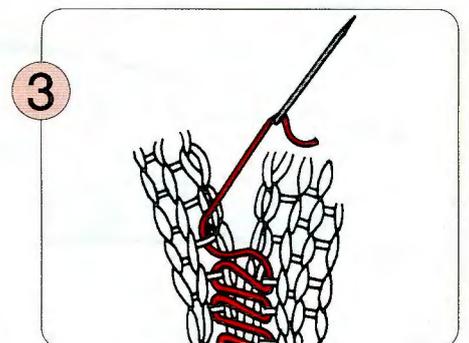
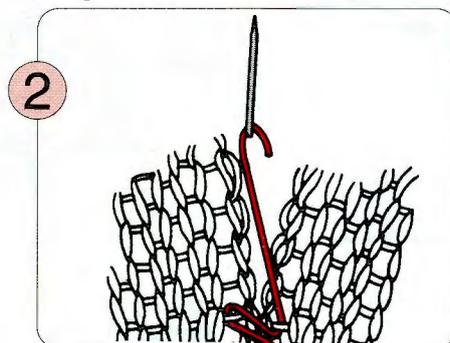
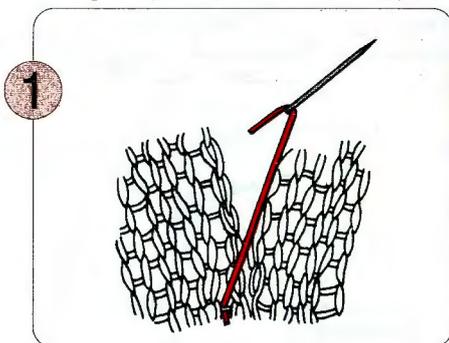
Transfer the stitches marked (B) to position 2.



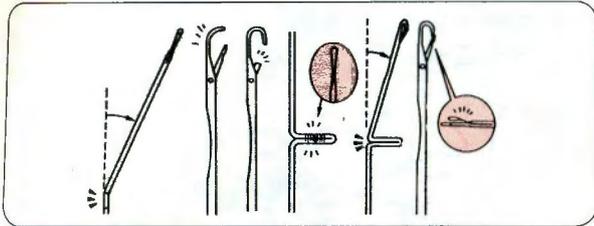
Allow the stitches on either side of the cable which you dropped in Step ①, to ladder down, and using the latchet tool reform them into purl stitches (see page 99).

SEAMING

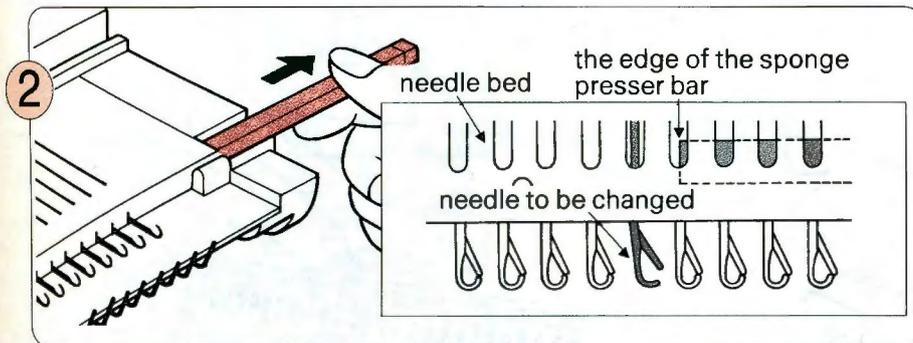
Using a tapestry needle, pick up half of the edge stitch as shown below.



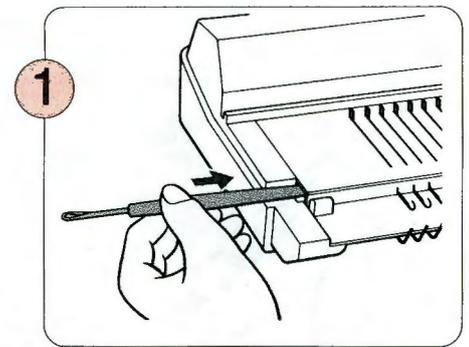
REPLACING A NEEDLE



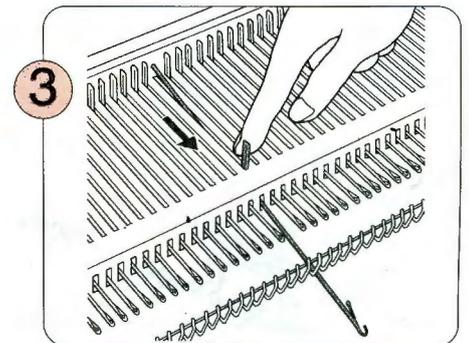
• Needles that are bent, broken or damaged will cause problems during knitting. If you experience dropped or badly knitted stitches you should check the needles and replace any faulty ones immediately. In an emergency if you have no spare needles, use one from the extreme edge of the needle bed.



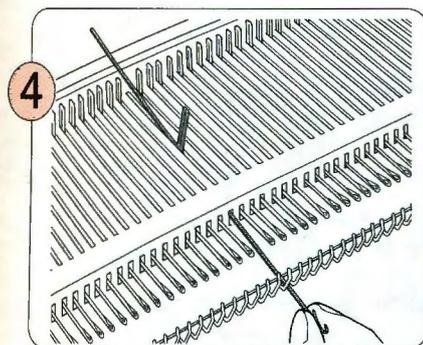
Draw the bar out by hand until it passes the needle to be replaced.



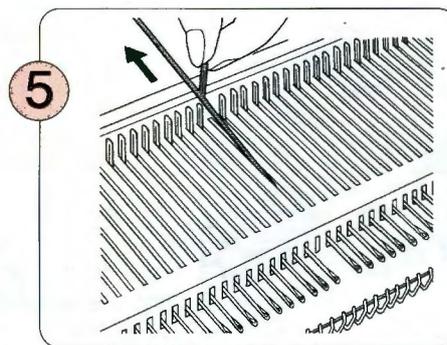
1 Push one end of the sponge presser bar with the handle of your latchet tool until it appears at the other end.



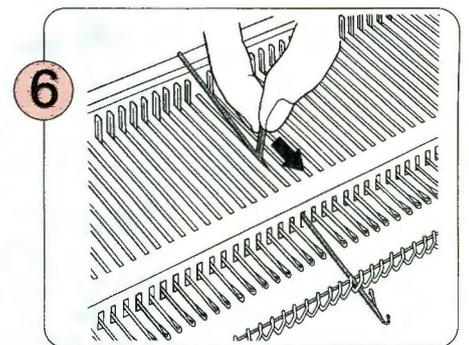
3 Push the faulty needle forward to E position as far as it will go.



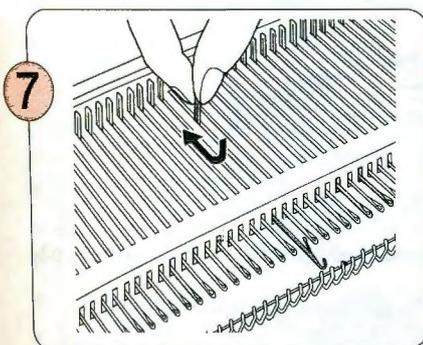
4 Press down at the hook end so that the shank end of the needle is raised clear of the needle bed.



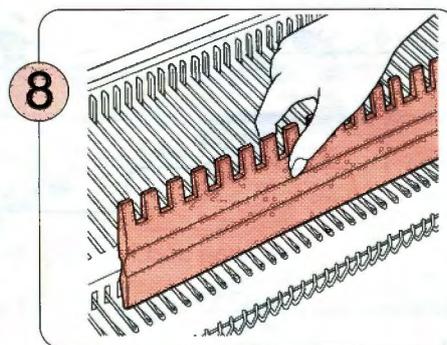
5 Catch hold of the shank end and lift the faulty needle out from the needle bed.



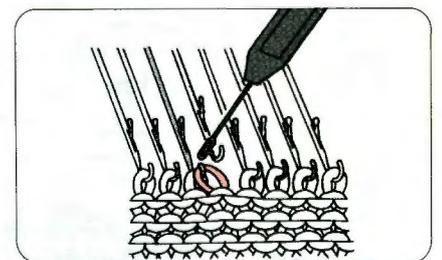
6 With the latch open, insert the new needle as shown.



7 Return needle to A position.

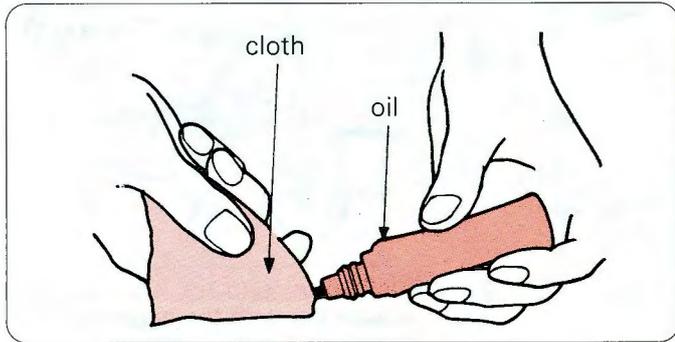


8 Holding the needles down with your hand or the flat side of your 1/1 needle pusher, push the sponge presser bar back in place.

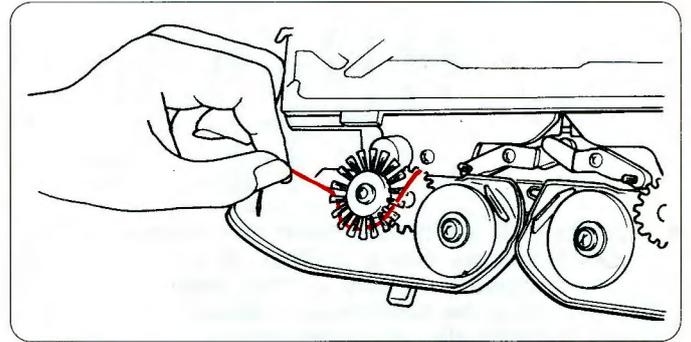


♣ If you need to replace a needle whilst you have knitting on the machine transfer the stitch from the faulty needle onto an adjacent needle. Replace the stitch after you have completed the replacement.

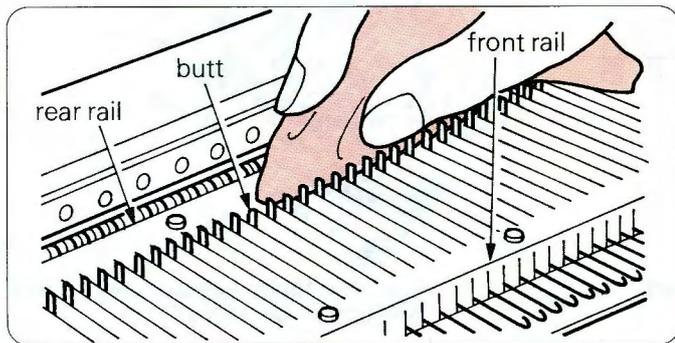
CLEANING AND MAINTENANCE



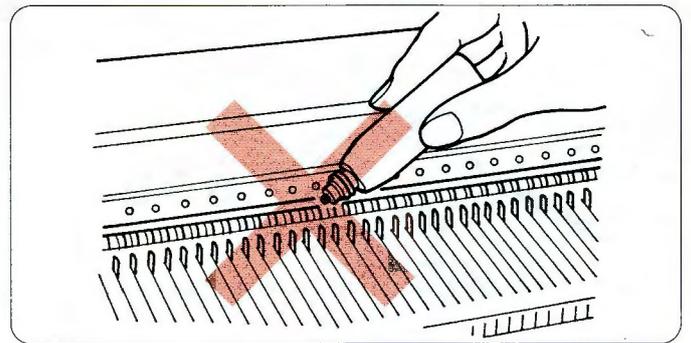
Wipe the metal parts with an oily cloth and clean plastic parts with a soft cloth and mild, neutral detergent.



Remove the K and L carriages from the needle bed and brush away any dust or fluff. Check that the brushes are free from fluff or strands of yarn, and that they revolve smoothly.

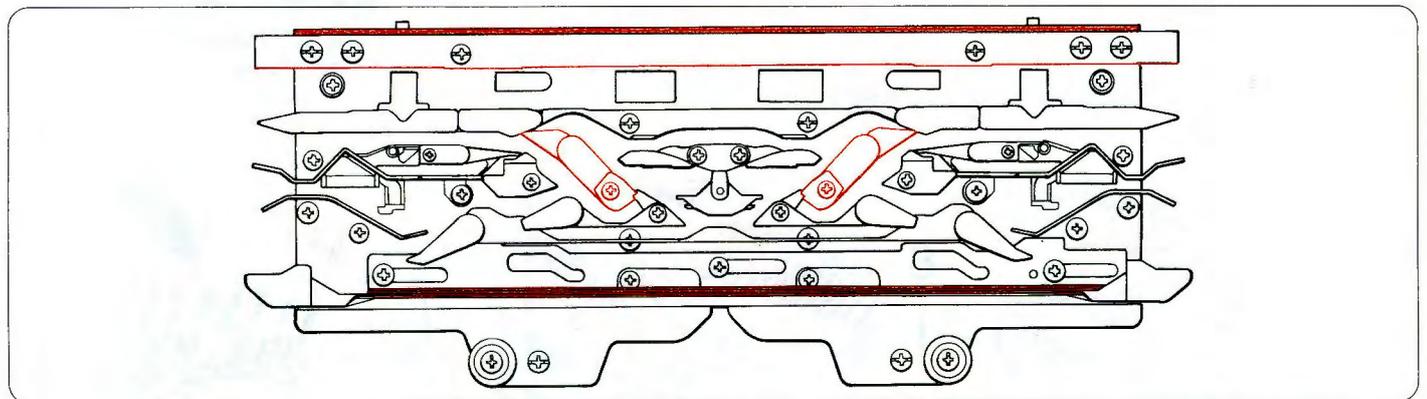


Arrange all needles in B position and clean the butts, rear and front rails as shown, using an oily cloth.



Do not put oil directly onto the machine.

Do not use alcohol, benzine, thinners or petrol.



Should the K carriage feel heavy to operate, you should clean and lubricate the areas indicated above, using an oily cloth.

If you regularly clean and lightly oil your machine it will make knitting easier and help to prevent excessive wear.

♣ When you come to use your machine again after you have stored it for a while, knit 20–30 rows with waste yarn to clean away any dirty oil.

PATTERN DATA

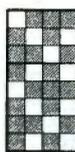
1



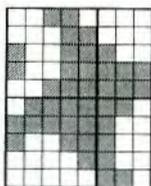
2



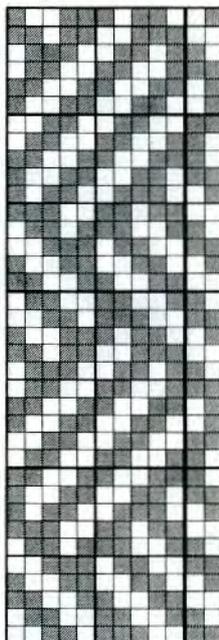
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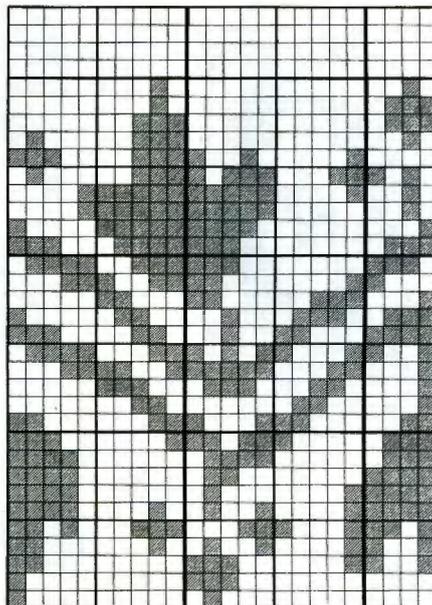
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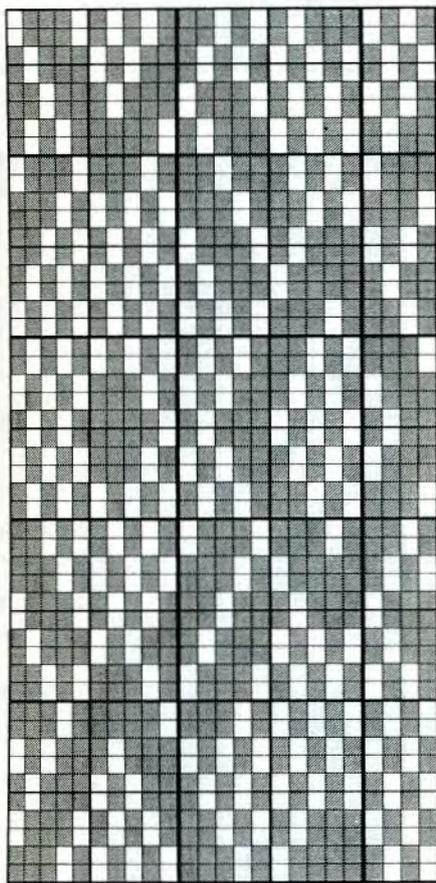
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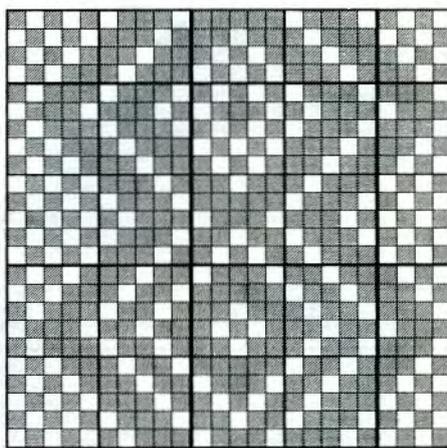
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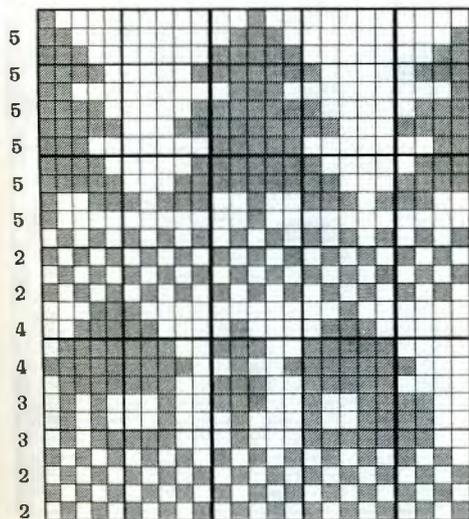
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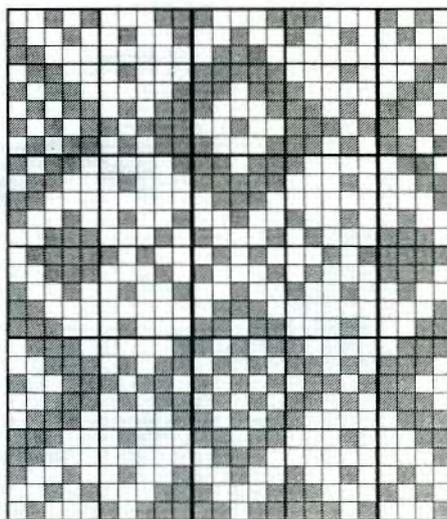
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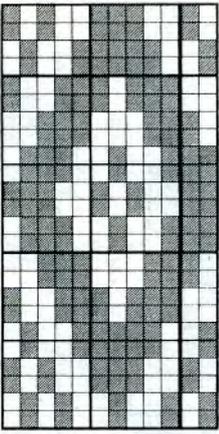
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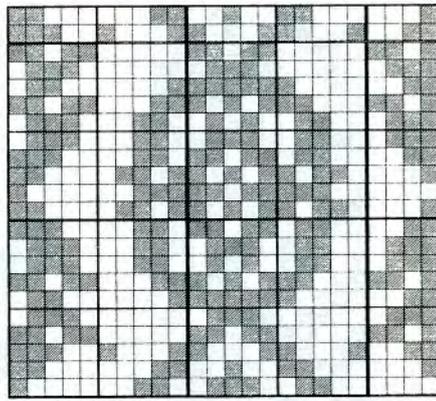
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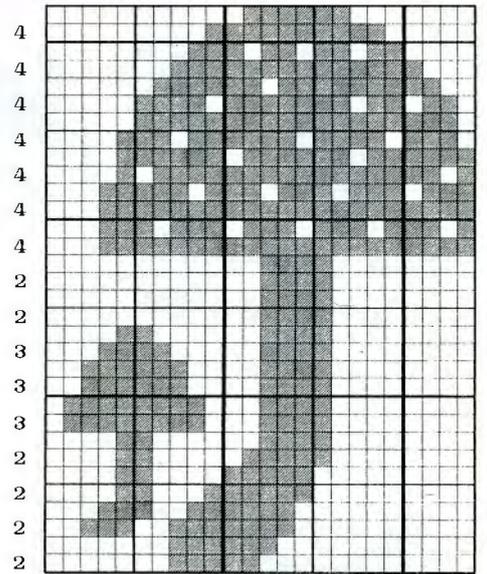
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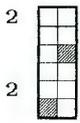
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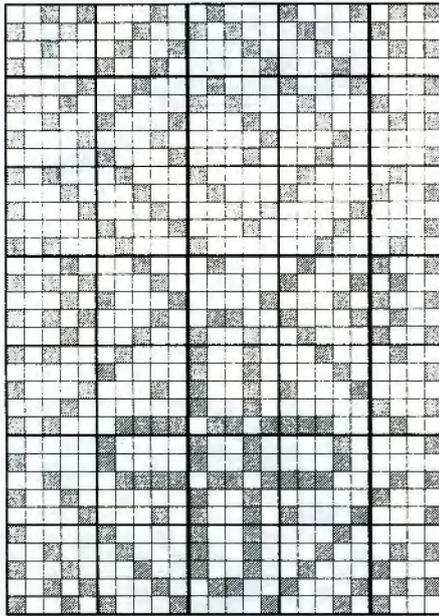
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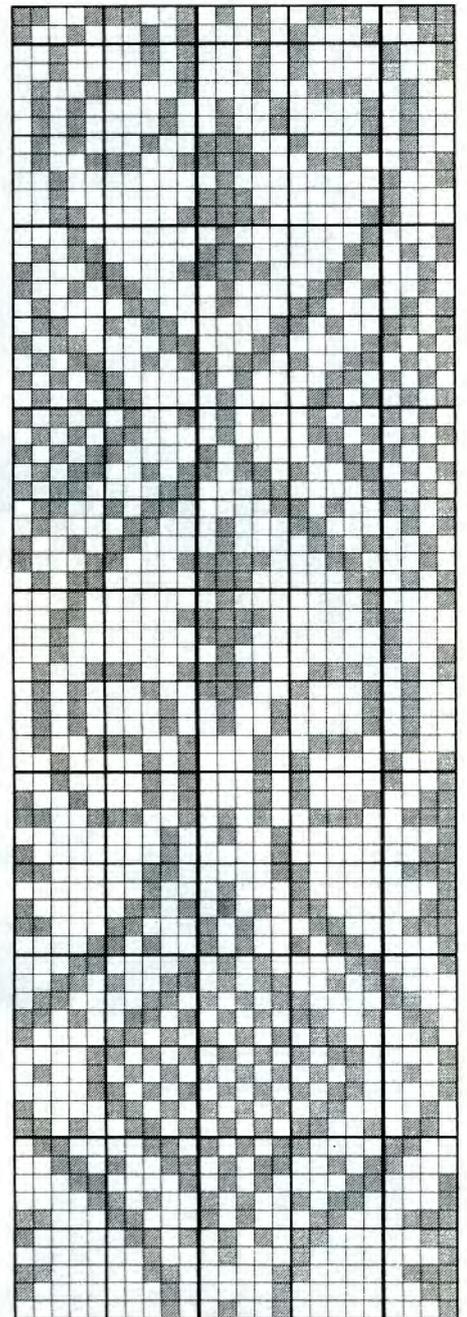
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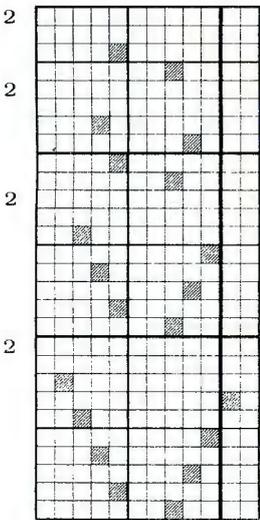
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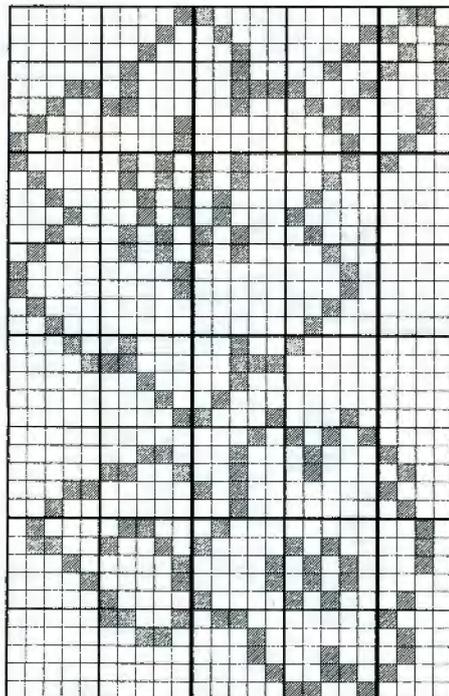
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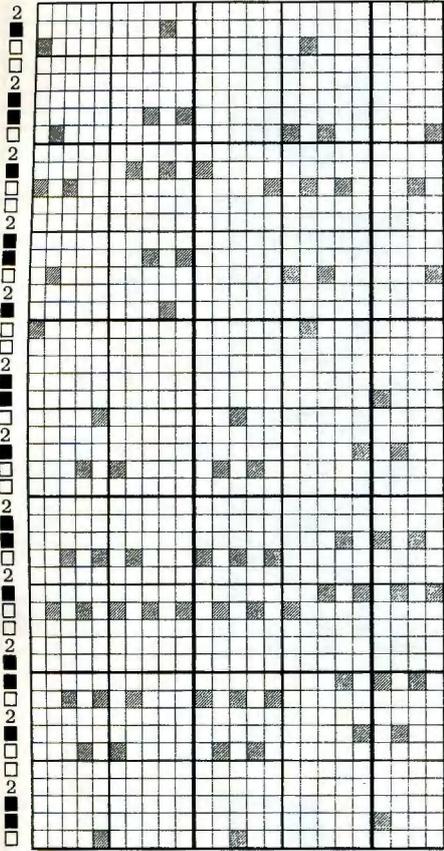
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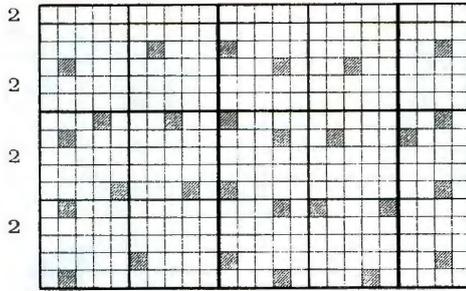
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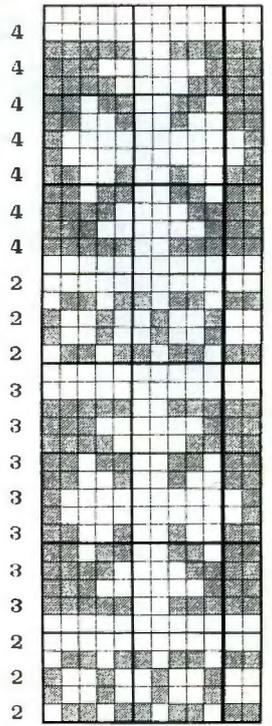
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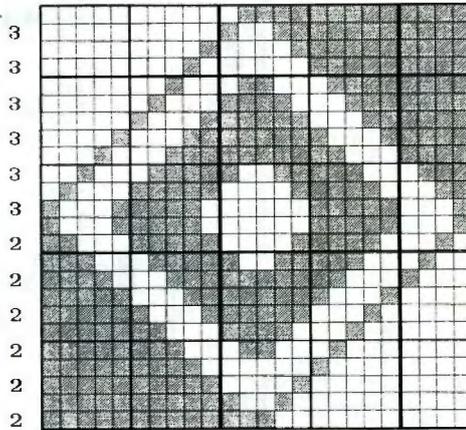
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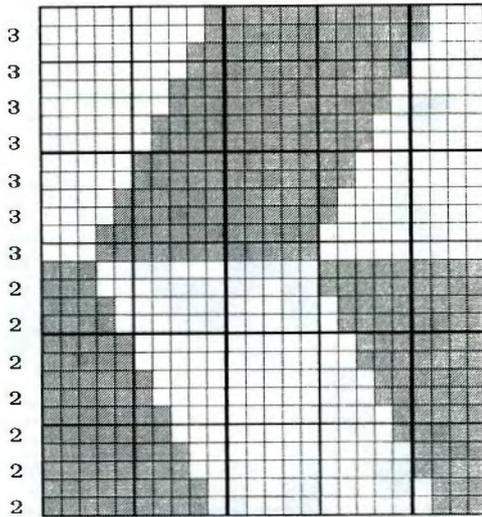
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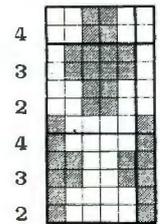
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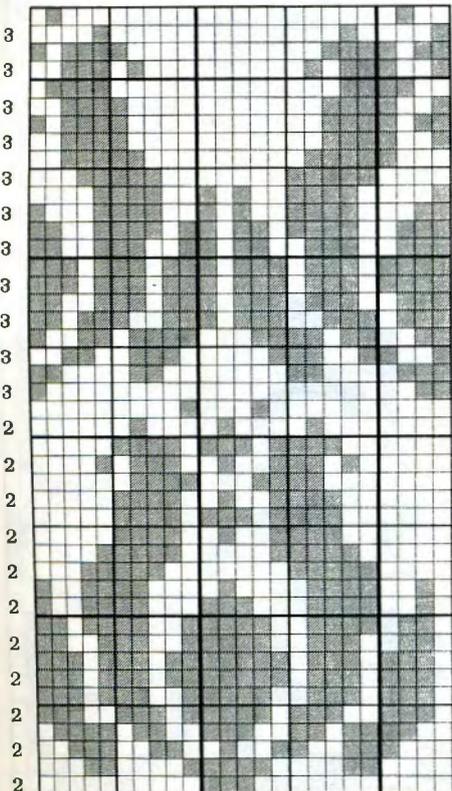
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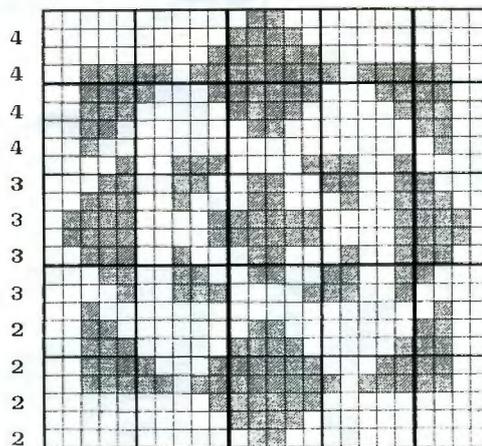
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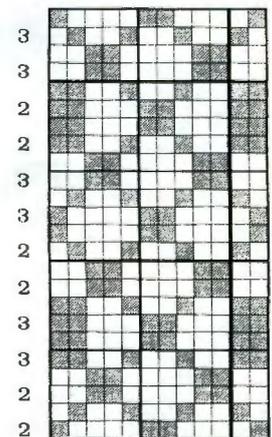
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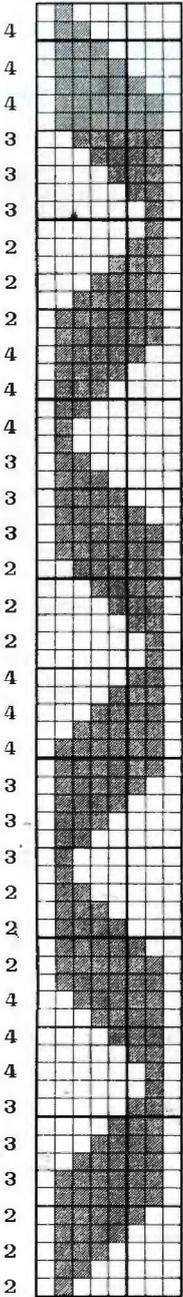
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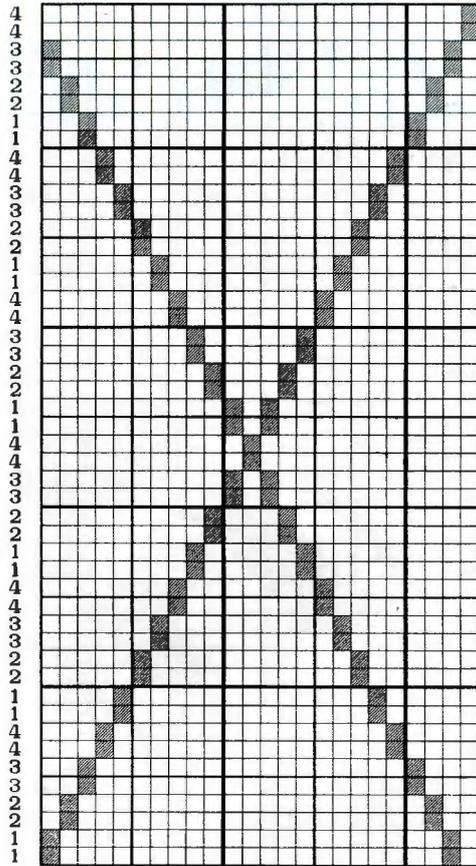
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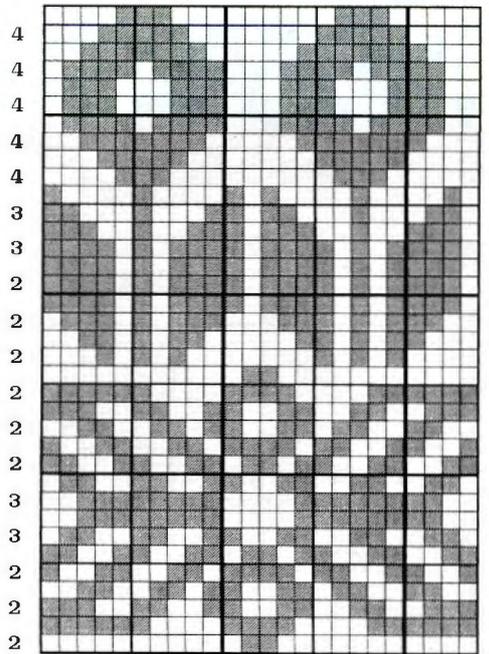
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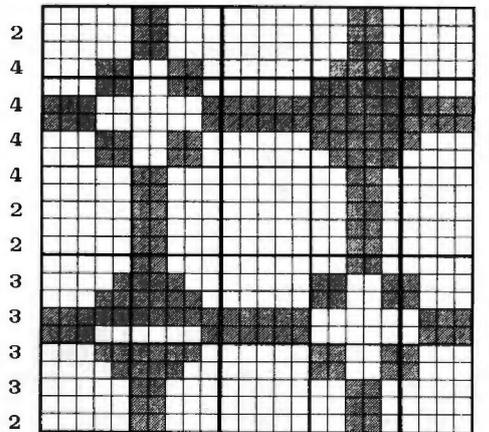
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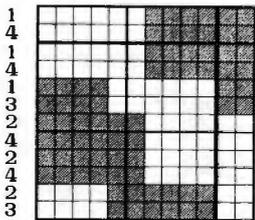
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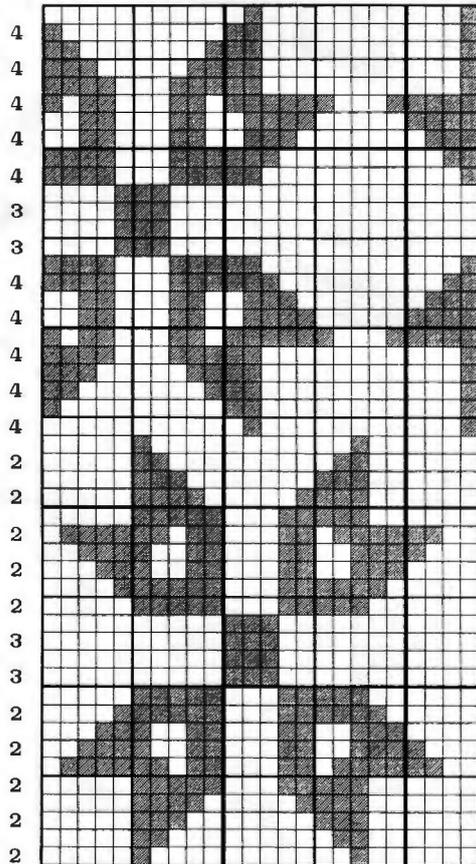
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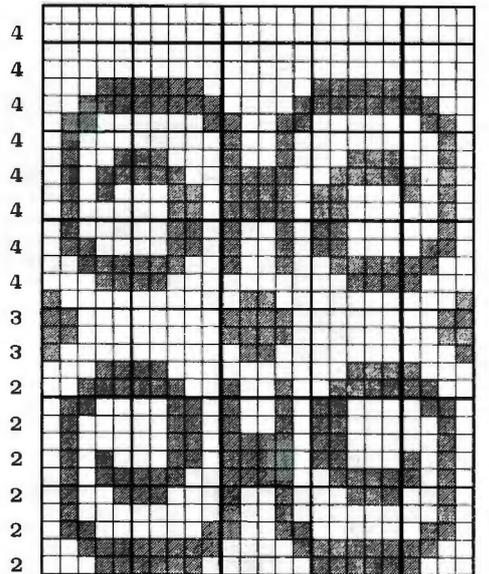
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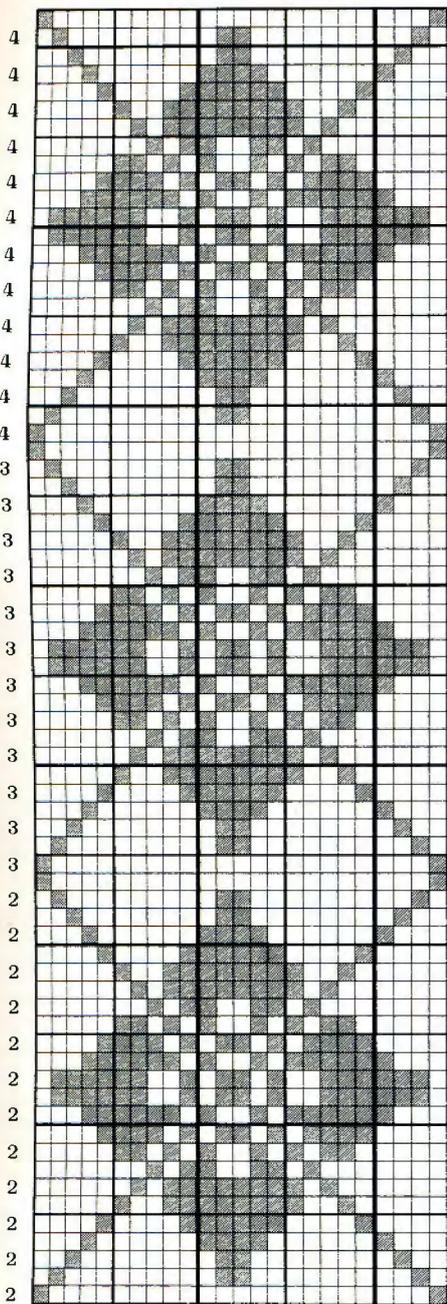
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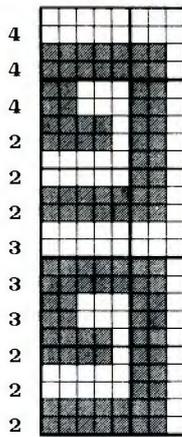
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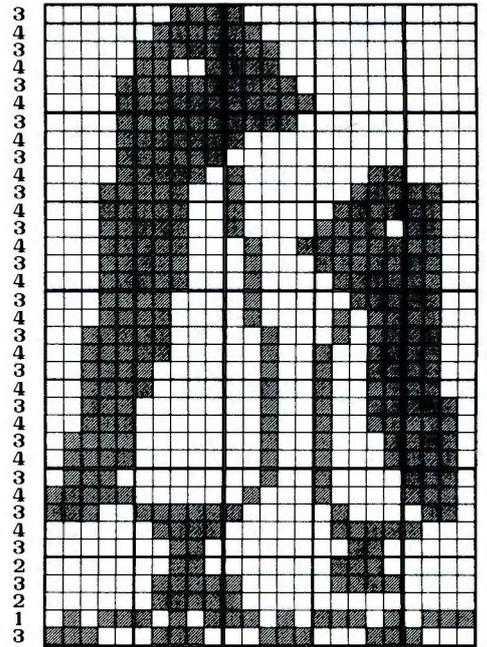
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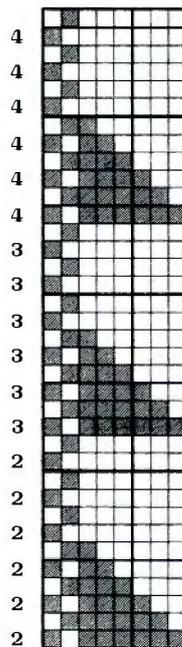
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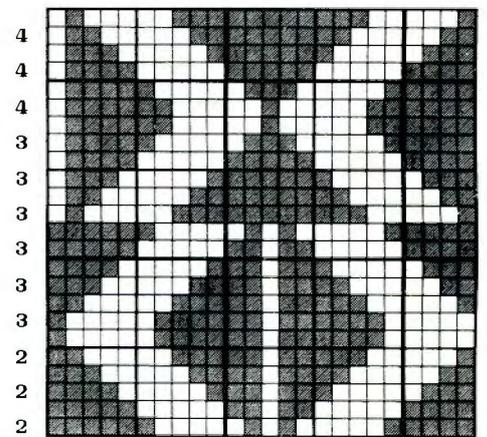
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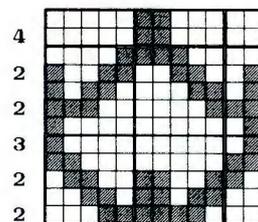
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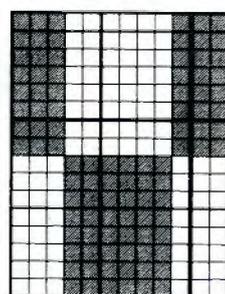
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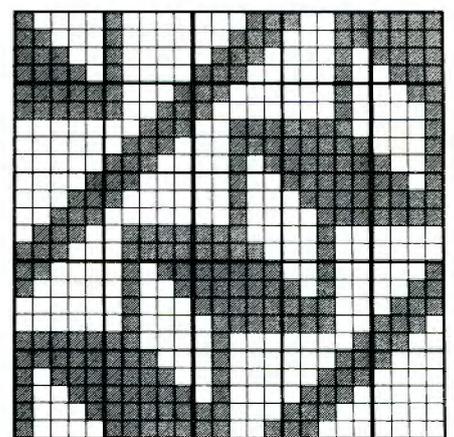
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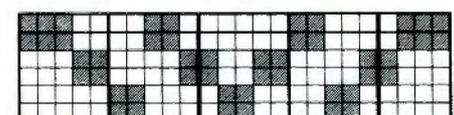
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