INSTRUCTION
BOOK

CONTENTS

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 Take the two Table Clamps out of the Accessory Box.
Fasten the machine to the table with the Table Clamps.

Table Clamp
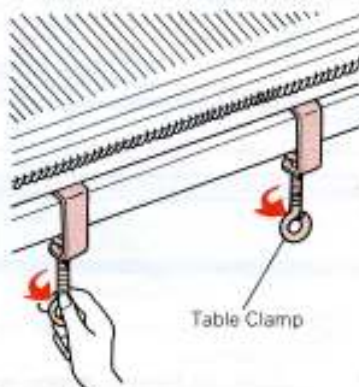
3 Loosen the knob and remove the Carriage Lock.

Knob

Carriage Lock
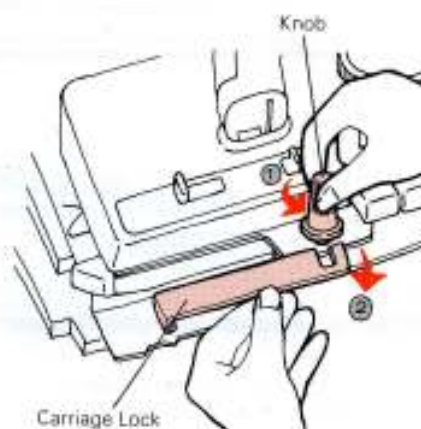
4 Take the Sinker Plate Assembly from the lid of the Carrying Case. Screw the Sinker Plate Assembly onto the K-Carriage.

Sinker Plate Assembly

5 Take the Yarn Tension Unit from the lid of the Carrying Case.

Lift the Front Guide Arm in the direction of the arrow as far as it will go.

Front Guide Arm
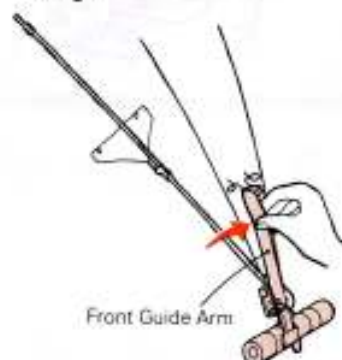
6 Turn back the Take Up Springs until you hear a "Click".

Click!

Take Up Springs

7 Raise the Rear Yarn Guide. Insert the end of the Rod into the hole at the back of the machine.

Rear Yarn Guide

Rod
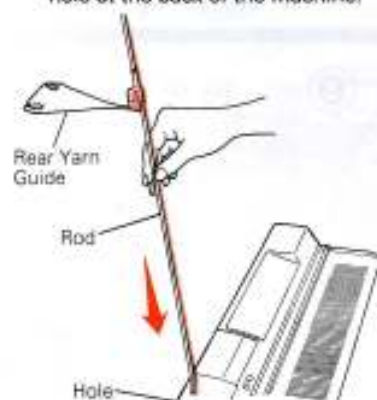
Hole

8 Remove the Extension Rails from the Carrying Case.
Insert the Extension Rails into the holes at both ends of the machine.

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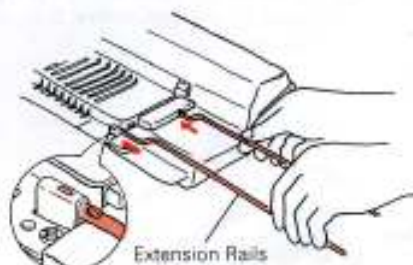
9 After turning off the Power Switch, plug one end of the AC Adaptor into the machine, and the other into the power supply socket and switch on. When you are not programming or going to do pattern knitting (e.g. you are only using stocking stitch) you do not need to plug the machine in.

OFF — ON

Operation Panel   Power Switch

<from rear side of the machine>
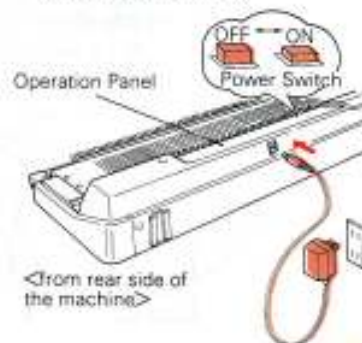
The machine is now set up.
You can slide your K and L-Carriages onto the Extension Rails during knitting.

REPLACING YOUR MACHINE INTO THE CARRYING CASE

This is how your machine should look when it is packed away.
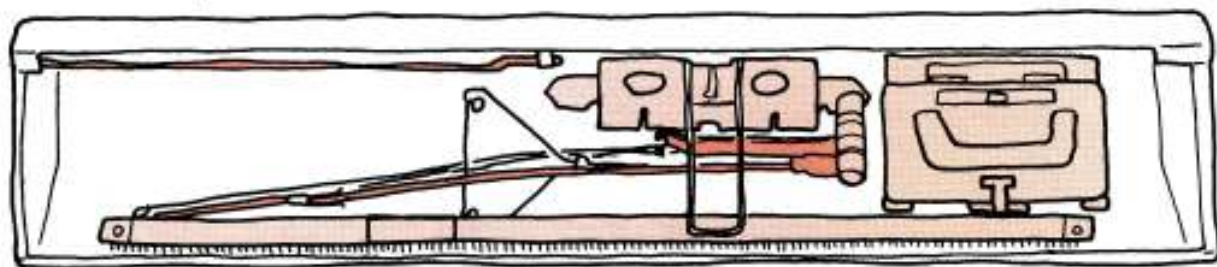
1 After turning off the Power Switch, take off the AC Adaptor.

Operation Panel

OFF ← → ON
Power Switch

AC Adaptor

from rear side of the machine
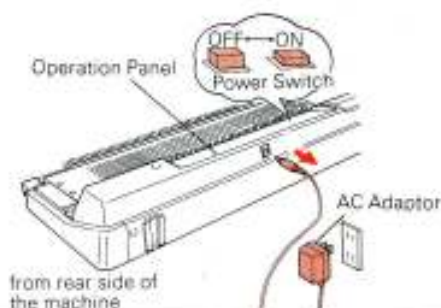
2 Fold down the handle on the L-Carriage.
Push the Release Button and replace the L-Carriage in the Carrying Case.

3 Lift the Spring and replace the Cast-on Comb back into the Lid.

4 Put the Extension Rails in the Carrying Case.
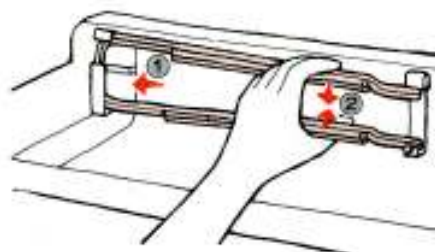
5 Replace the Yarn Tension Unit into the Case in the order 1, 2, 3, as shown.
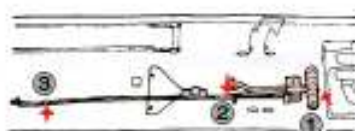
6 Loosen knobs and remove the Sinker Plate Assembly from the K-Carriage. Put the Sinker Plate Assembly in the Case where indicated, and secure it with the Spring.

Sinker Plate Assembly
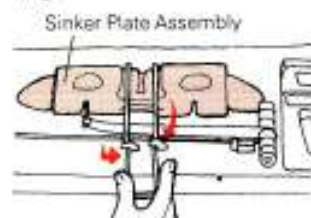
7 Push all Needles back to A Position and fold down Handle on K-Carriage.
Insert the Carriage Lock into the hole in the left side of the machine and secure the K-Carriage as illustrated.
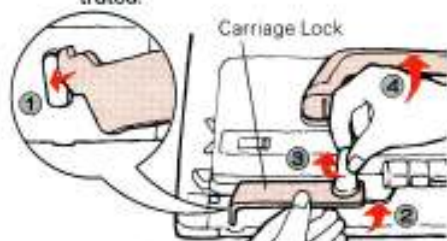
Carriage Lock

8 Unscrew the Table Clamps and put them in the Accessory Box with the other parts.
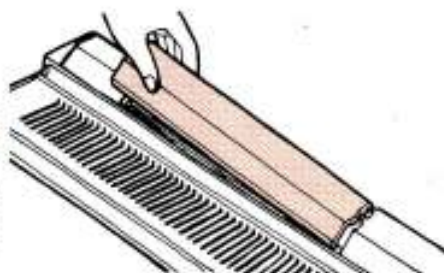
9 Hold the lid and replace it as shown. When it is in place, lock the two catches on either side of the Handle.

MACHINE

Turn Mark
You must move the K-Carriage past the Turn Mark (left or right) to select needles for the first row of pattern knitting.

Accessory Box

Accessory Stand

Row Counter (See page 7.)

Yarn Tension Unit Hole

Row Counter Trigger

Operation Panel (See page 12.)

Turn Mark

Needle Positions (See page 7.)

Needlebed

Gate Peg

Rear Rail

Needle Position Indicator

Needle

Hook Latch Stem Butt Shank

Interface Cable Slot
Connect the optional Floppy Disk Drive Unit to it with the Interface cable.

[NOTE]
Do not connect the Pattern Programming Device to it.

Cartridge Slot
Insert the optional cartridge or the PPD cartridge into this slot.
(See page 45.)

K-CARRIAGE

Knit Leader Tripper
Set this down into working position when using the Knit Leader (option).

Cam Button Release Lever (See page 8.)

Row Counter Tripper (See page 7.)

Change Knob (See page 9.)

Tension Dial (See page 8.)

Sinker Plate Assembly

Weaving Pattern Brush

Weaving Pattern Lever (See page 8.)

Yarn Feeder Lever

Yarn Feeder
Feeder A — Thread with main yarn.
Feeder B — Thread with contrast yarn when knitting Fairisle or Thread Lace Pattern.

Holding Cam Lever (See page 8.)

Intarsia Button

Cam Button (See page 8.)

ACCESSORIES

Pattern Book

"STITCH WORLD"   "STITCH WORLD II"   Design Sheet

Yarn Tension Unit
(See page 5.)

L-Carriage (See page 63.)

Cast-on Comb
(See page 7.)

Extension Rails
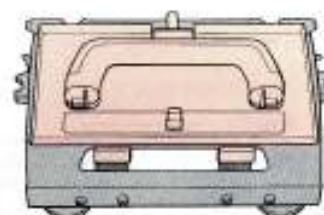
Crochet Hook
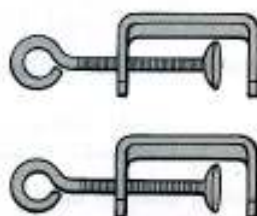
Table Clamp   Plating Yarn Feeder

Latchet Tool

Transfer Tool
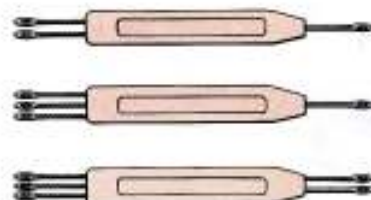
Oil   Yarn Wax (in case)
(See page 5.)

Needle Pusher
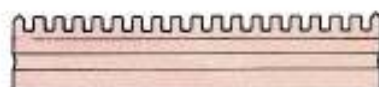
Claw Weight (See page 7.)   Hand Brush
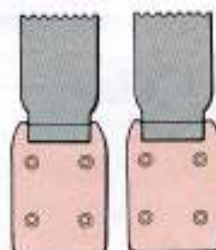
Cast-on Thread

Tapestry Needle

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

Spare Needle

Carriage Lock

●ACCESSORIES
1. YARN TENSION UNIT
● How to thread the yarn
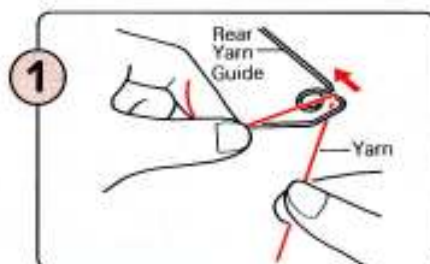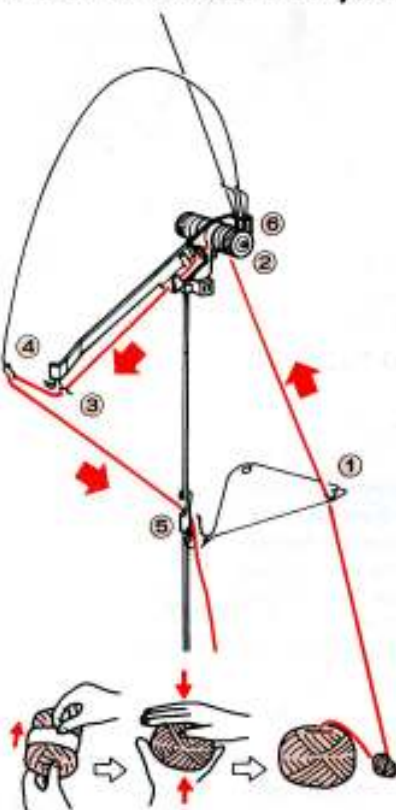
① Pass the yarn from the ball through the Rear Yarn Guide sliding the yarn through the eyelet.
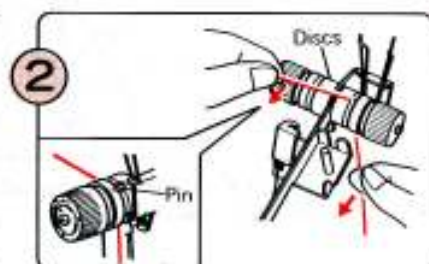
② Pass the yarn under the Pin and between the two Discs from behind.
Hold the yarn as shown above, and pull it towards you so that the yarn goes under the Pin.
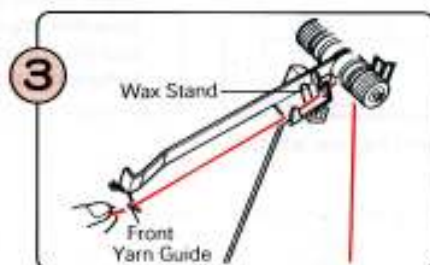
③ Thread the Front Yarn Guide.
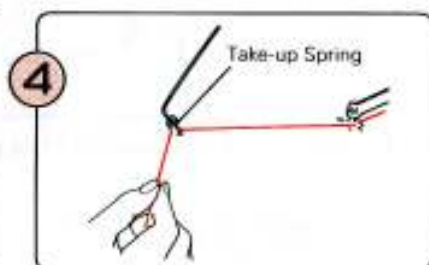
④ Thread the yarn into the eyelet of the Take-up Spring.

⑤ Clip the yarn under the Yarn Clip.
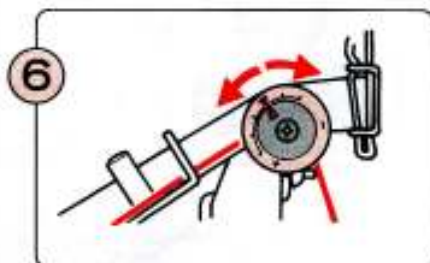
⑥ Set the arrow mark according to the thickness of the yarn.

For medium yarn set as
shown .... ▶ ◀
For finer yarn increase the
tension by turning towards
the plus sign .... ▶ +
For thicker yarn decrease
the tension by turning
towards the minus sign .... ▶ −

Wax
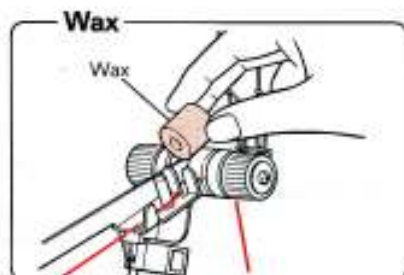
When you start to knit, place the Wax which you will find in the Accessory Box on the Wax Stand.
The Wax helps the yarn to slide smoothly.
♣ You need to use the Wax when you are knitting Lace or Fine Lace Patterns.

• How to thread the Contrast yarn

Ⓐ FAIRISLE PATTERN
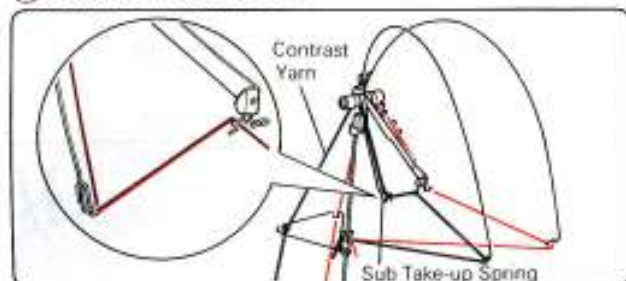
Thread the contrast yarn into the left Yarn Tension Unit, including the Sub Take-up Spring.

Ⓑ THREAD LACE PATTERN
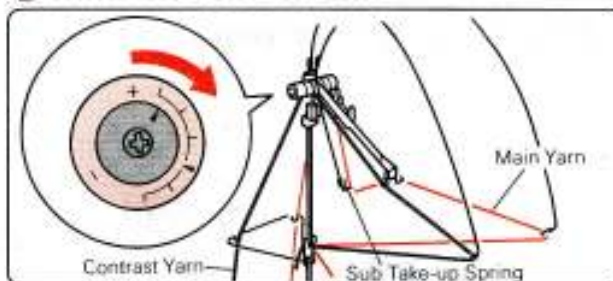
Thread the very fine contrast yarn into the left Yarn Tension Unit. Thread the main yarn into the Sub Take-up Spring.
♣ Turn the Tension Disc (both right and left) to right.

Ⓒ MULTI-COLOUR TUCK/SKIP STITCH, WEAVING, PLATING OR PLATED TUCK STITCH PATTERN
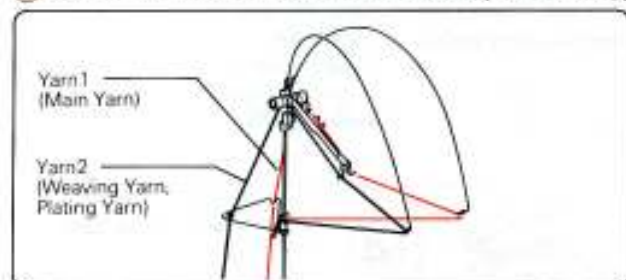
Thread Yarn2 (Weaving yarn or Plating yarn) into the left Yarn Tension Unit.

• When knitting Weaving Patterns...
When the weaving yarn is rather bulky, or the yarn is not feeding smoothly, adjust the Tension Disc and the K-Carriage Tension Dial to loosen the stitches.

• 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.

These yarns are suitable for use without rewinding.
♣ Pull the yarn from the centre of a ball of yarn. Use the yarn from the outside of a cone of yarn.
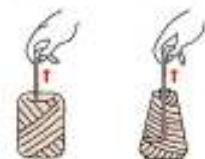
These yarns should be rewound using a Skein Holder and a Yarn Winder.

Rewinding the yarn

Both the Skein Holder and Yarn Winder can be purchased separately.
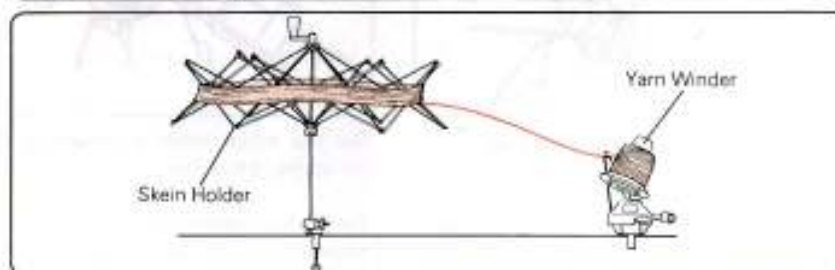
Yarn pulled from the centre of a rewound ball should come out freely without lifting the ball from the table.
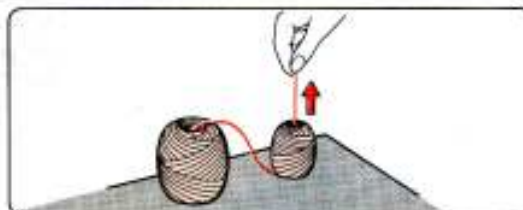
If the yarn does not flow freely, pull some yarn out of the centre of the ball.

— 6 —

2. CLAW WEIGHTS

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.
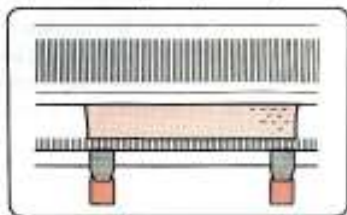
- If the edges of your knitting do not lie smoothly, hang Claw Weights on both edges of the actual knitting.
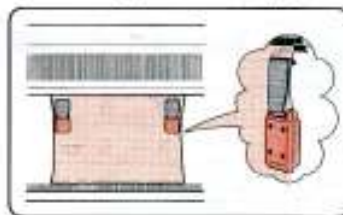
3. CAST-ON COMB

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.

- 140 stitches

Connecting Plate

- 60 stitches

Using the Connecting Plate
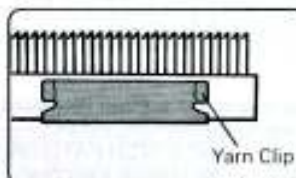
- With a 140 or 60 stitch Cast-on Comb

  Use the Connecting Plate as a Yarn Clip by attaching it to the end of the Comb.

  Yarn Clip
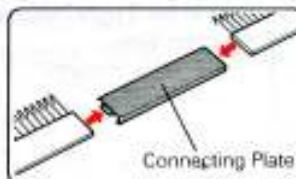
- With a 200 stitch Cast-on Comb

  Use the Connecting Plate to join the two Cast-on Combs together.

  Connecting Plate

• MACHINE

1. NEEDLE POSITIONS

On both sides of the Needlebed there are the letters A, B, D, and E.

A— Non-Working Position.(NWP)
B— Working Position.(WP) Used for general knitting purposes.
D— Upper Working Position.(UWP) Selected needles are brought to this position in pattern knitting by the K or L-Carriages.
E— Holding Position.(HP) Needles in this position do not knit when the Holding Cam Lever is set to H.
Used for shaping e.g. necklines, shoulders, darts.
♣When you pack your machine away, always return the needles to A position.
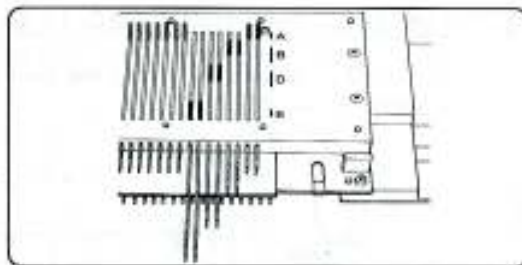
2. ROW COUNTER

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.
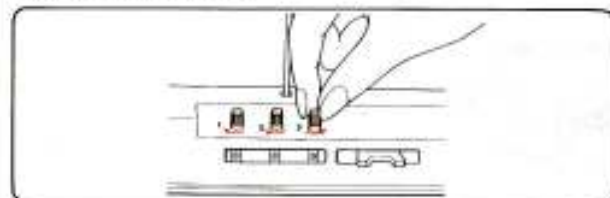
- Row Counter Tripper
  When using the Row Counter, do not forget to set the Tripper into working position.

working position
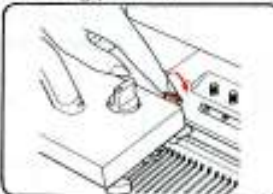
non-working position

● K-CARRIAGE

1. 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.

Type of Yarn	Recommended Tension Dial Number
Very fine yarn 1/2 ply	0 — 3
Fine yarn 2/3 ply	3 — 5
Medium yarn 3/4 ply	4 — 6
Thick yarn 4/Double knit	7 — 10
*Thicker Doubleknits	4 — 6*

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 this information as a rough guide only.

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

--- A Position
--- B Position
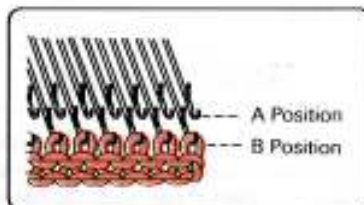
2. CAM BUTTONS

Use the Cam Buttons according to the pattern you want.

TUCK STITCH PATTERN Push in the 2 left buttons at the same time.	**SKIP STITCH PATTERN/ INTARSIA KNITTING** Push in the 2 right buttons at the same time.	**FAIRISLE PATTERN** Push the Upper middle button only. (—MC...Multi Colour)	**THREAD LACE PATTERN** Push in both middle buttons (Upper & Lower) at the same time.(=L...Thread Lace)

◁ TUCK ▷   ◁ INTAR PART ▷   —MC   =L

♣ Do not operate the K-Carriage if you have depressed both Middle Button (Upper & Lower) plus either the Tuck Button, or the Part Buttons.

3. CAM BUTTON RELEASE LEVER

Release the Cam Buttons by sliding the Cam Button Release Lever to the right.

PLAIN
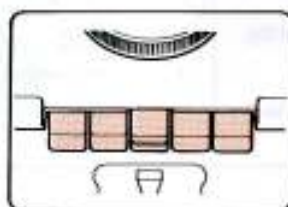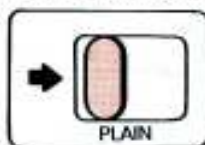
4. HOLDING CAM LEVER
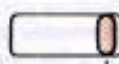
For Intarsia Knitting

For Partial Knitting (except Intarsia Knitting) (H....Holding position)
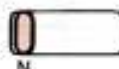
Others

5. WEAVING PATTERN LEVERS (Sinker Plate Assembly)

WEAVING PATTERN Set Levers to W-T. Weaving Brushes in use.
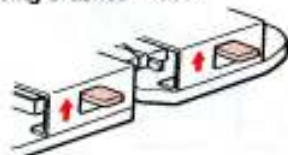
Other occasions Set Levers to N. Weaving Brushes not in use.
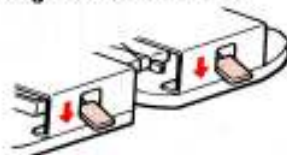
6. CHANGE KNOB
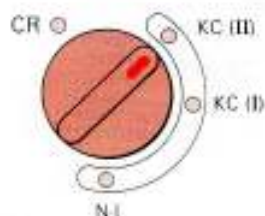
N-L .... This setting is used for Stocking Stitch, Lace Patterns and Intarsia.

KC (I) ....
KC (II) ...: These setting are used for pattern knitting such as Tuck, Skip, Weaving, Fairisle, Thread Lace, etc.
* During pattern knitting, the needles are automatically set into B position or D position according to the pattern.

KC (I) ....End needles are brought to D position every row disregarding the pattern data.

ex. pattern data

..... B position
..... D position
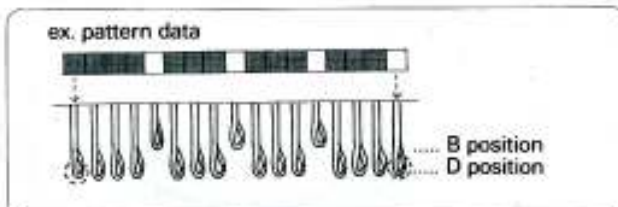
KC (II) .... End needles are selected to B or D position according to the pattern data.

ex. pattern data

..... B position
..... D position
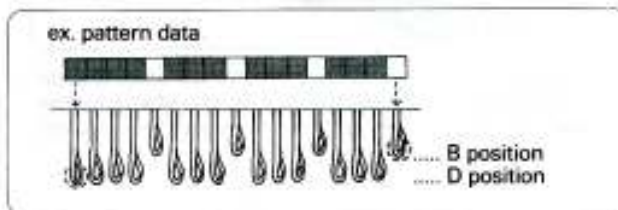
♣See the pattern knitting on page 47 – 65 respectively when setting the change knob to KC (I) or KC (II).

CR .... Carriage Release
This setting is used to release the K-Carriage from the Needlebed.

♣ The Cam Buttons are automatically released when you turn the Change Knob from KC to N-L.

KNITTING

HOW TO CAST-ON WITH A FINISHED EDGE

① Non working — Set the Tension Dial according to the thickness of the yarn. — Non working — Change Knob (N·L) — Holding Cam Lever (N) — Cam Button (PLAIN) — Weaving Pattern Levers (N)
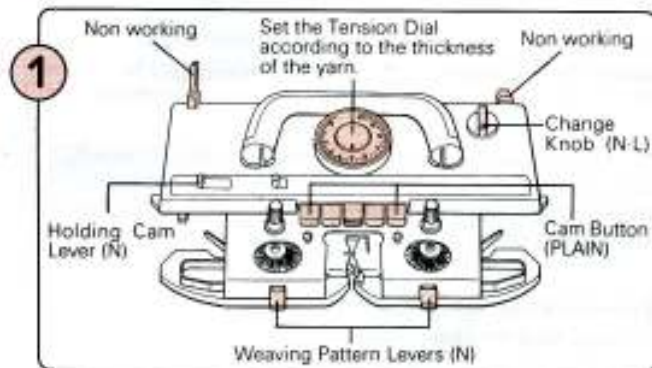
Set the K-Carriage as shown above.
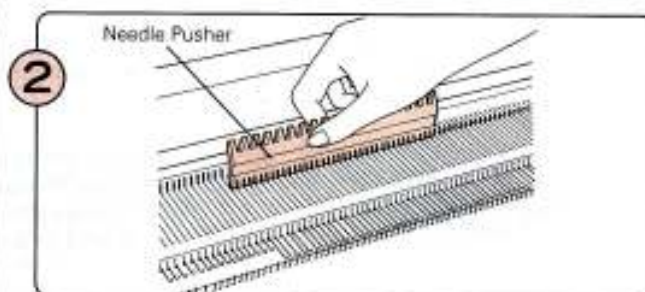
② Needle Pusher

Using the flat side of the 1/1 Needle Pusher, bring forward the needles to B position, centering the mark 0 on the needle position indicator.
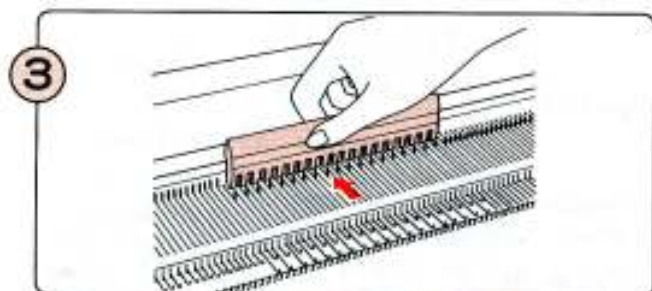
③ Move the K-Carriage across the needlebed a few times to align the needles, ending with the K-Carriage on the right. Using the 1/1 Needle Pusher, take every other needle back to A position.
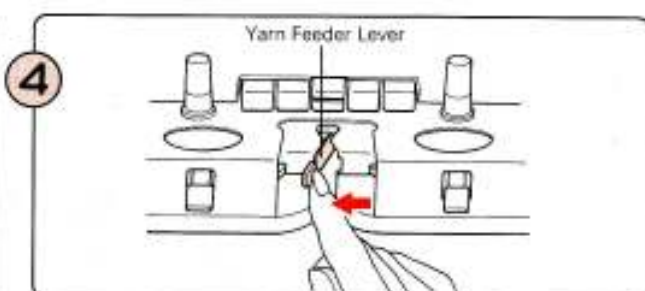
④ Yarn Feeder Lever

Open Yarn Feeder A by pushing the Yarn Feeder Lever to the left.
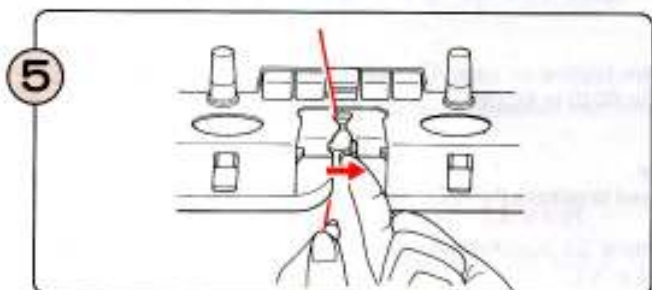
⑤ Take the yarn from the Yarn Clip and thread it into Yarn Feeder A. Keeping hold of the end of the yarn with your left hand, close the Yarn Feeder Lever.
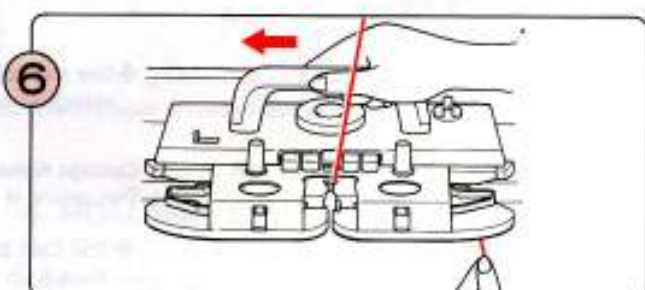
⑥ Still holding the yarn end gently, slowly move the K-Carriage to the left. Once you feel the needles catch the yarn, you can release the yarn end.
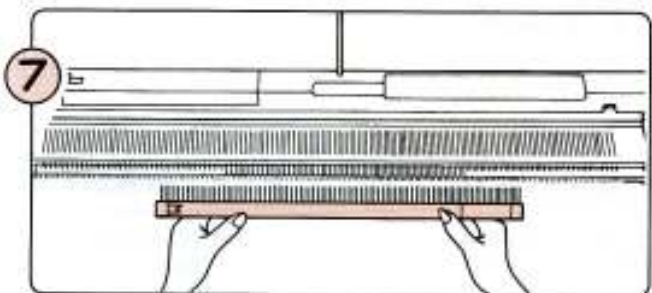
⑦
① Take the Cast-on Comb out of the Case and choose the length according to the number of needles.
② Hold the Cast-on Comb as shown with the hooks facing the machine.
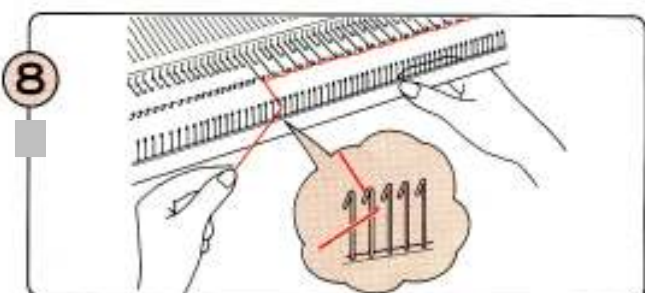
⑧ Pull the yarn through the hook towards you as illustrated.

⑨
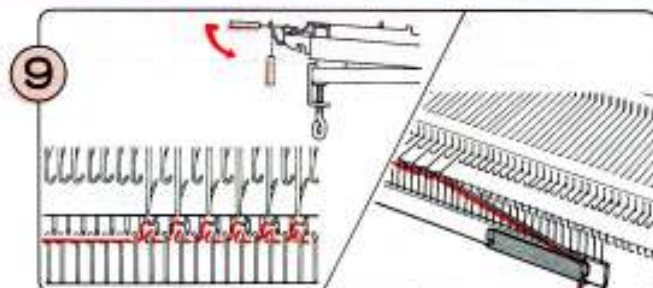
Hook the Cast-on Comb over the loops and let it hang down. Give the Comb a gentle pull downwards. Hook the loose yarn end under the Yarn Clip on the front of the Connecting Plate.

⑩
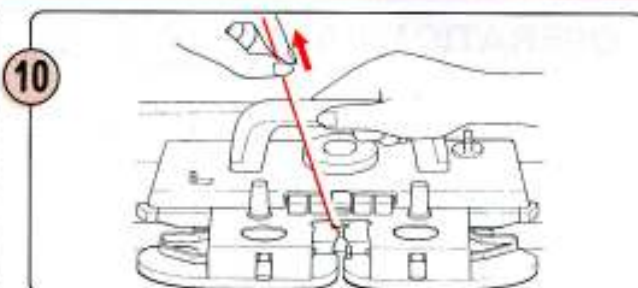
Bring forward the needles, which you took back to A position in step ③, to B position.
Move the K-Carriage to the right, holding the yarn as shown so that no loops are formed.

--- Before you move the K-Carriage ---

• Watch out for the following points

Needles in B Position
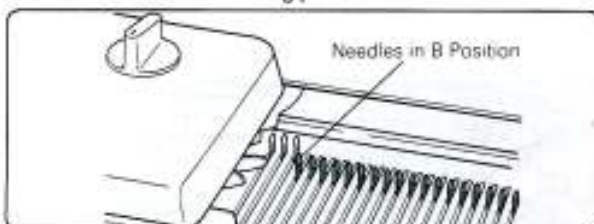
Make sure the K-Carriage (or the L-Carriage) clears the knitting before you move it back in the other direction.
You will hear a "Click" at the end of a row.

Don't go too far past the end of the knitting.
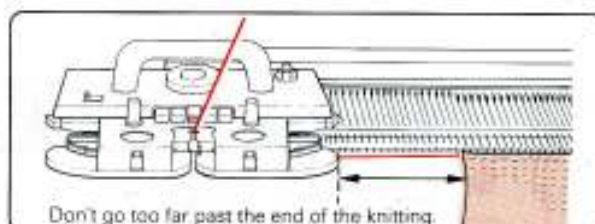
Do not move the K-Carriage too far beyond the knitting.

STOCKING STITCH

After finished the Casting-on, continue moving the K-Carriage back and forth.
This type of knitting is called "Stocking Stitch".

Plain & Purl Sides of your Knitting

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

Purl side
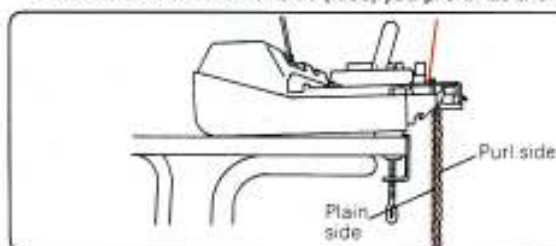
Plain side

• Plain side   • Purl side

HOW TO REMOVE YOUR KNITTING FROM THE MACHINE

①
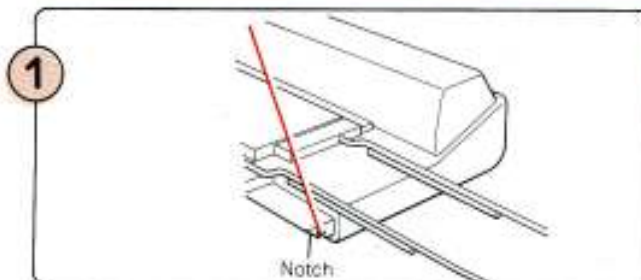
Notch

Remove the Claw Weights. Take the yarn out of Yarn Feeder "A" and hook it around the notch at the end of your machine.

②
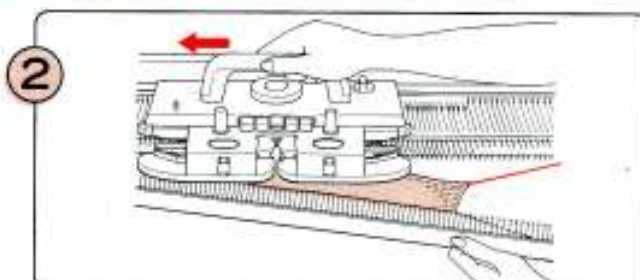
To release the knitting, move the K-Carriage (without yarn) slowly across the needles, while supporting the knitting by hand.

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

PATTERN PROGRAMMING

OPERATION PANEL

ROW KEY
(See page 25.)

STITCH KEY
(See page 25.)

DISPLAY

READY LAMP

START KEY
(See page 22.)

UP KEY

STEP LAMP
(See page 16.)

M KEY
(See page 66.)

DOWN KEY

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

POWER SWITCH

NUMERAL KEYS

ON/OFF

STITCH

LOAD

ROW

SAVE

G

EXEC

MEMO

SELECTOR

MC RIB

READY   P. NO.

M   1   2   3   ▲

START   4   5   6   ▼

7   8   9   CR

POSITION   O   STEP   CE

STEP KEY

SELECTOR
(See page 15.)

NEEDLE POSITION KEY
● YELLOW KEY   ● GREEN KEY

MC RIB KEY
Used for knitting Multi-colour Rib
pattern. (See page 39.)

10   5   0   5   10

Yellow key: Green key

These keys are used to enter pattern positions on your
needlebed.   Note that the left half of the bed is
numbered in yellow and the right half in green.

CR KEY
(See page 72.)

CE KEY
(Clear the entry.)

LOAD KEY

SAVE KEY

MEMO DISPLAY

EXECUTE KEY

G LAMP

Used for transfering the data between
the Cartridge(option) and the knitting
machine. (See page 45.)

♣ When you use the G-Carriage (an optional accessory
which can be purchased separately); the G lamp shows
the machine is ready to work with the G-Carriage.

DATA KEY (See page 26.)
■ BLACK KEY
□ WHITE KEY

◀ LEFT KEY
▶ RIGHT KEY

INPUT KEY
   Used for INPUT PROGRAM. (See page 25.)

DATA LAMP

INPUT   CHECK   MEMO

VARIATION

(((o))

C

REF.

1   2   3   4   5   6   7

CHECK KEY
   Used to CHECK PROGRAM. (See page 29.)

MEMO KEY
   Used to program Memo information. (See page 23.)

C KEY
   Used for deleting the Memo data, your own pattern
   and M key memory.

BUZZER KEY
   Used for checking the Pattern data with the BUZZER
   (See page 29.)

VARIATION KEY (See page 31.)
   1. REVERSE KEY
   2. ROTATION KEY
   3. DOUBLE WIDTH KEY
   4. DOUBLE LENGTH KEY
   5. REFLECTION KEY
   6. UPSIDE DOWN KEY
   7. NEGATIVE KEY

HOW TO PROGRAM

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

Built into the computer memory are 615 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 the machine to knit a particular stitch pattern, you must enter this information by using the Pattern Program. See page 15.

Two pattern repeats of the 'CHERRY' pattern are knitted across the centre of your work.

It's easy!
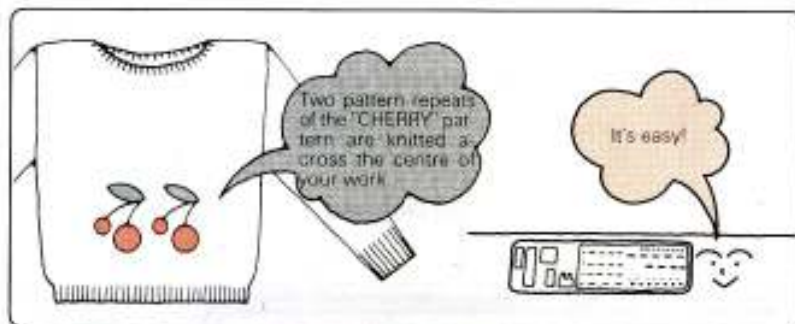
MEMO PROGRAM

This will tell the machine to give you information when to change colour of yarn, which Lace Change Lever setting to use, etc. See page 23.

3. green
2. brown
1. red

Lets you know the yarn changing position.

Red, brown, green, all right!
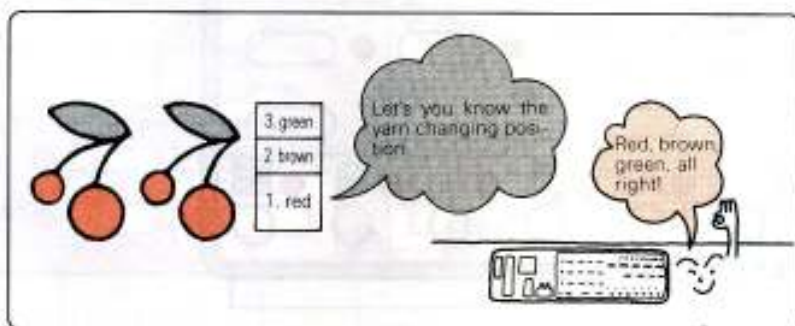
INPUT PROGRAM

When you want to enter your own stitch pattern design, use the INPUT key. (You can also delete it.) See page 25.

This is my own stitch pattern design.

Store your own stitch pattern designs.
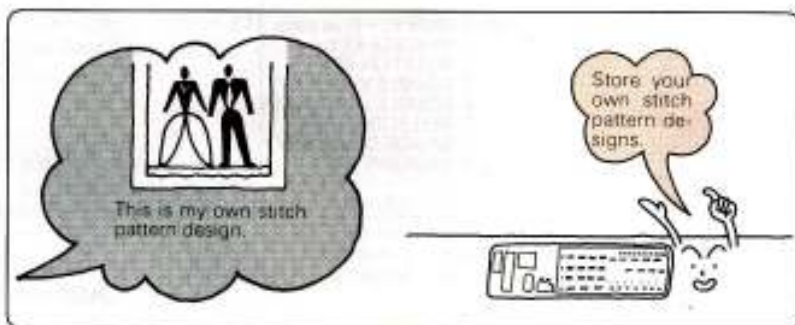
CHECK PROGRAM

Use the Check Program to ensure you have entered all the information correctly. See page 29.

Is your pattern correctly stored ?

Check with lamp or buzzer.
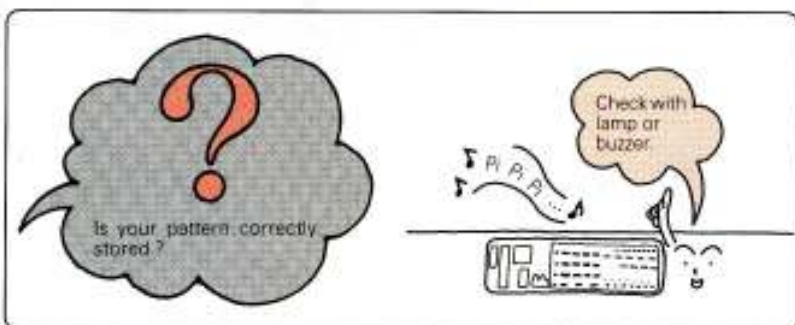
PATTERN PROGRAM

The following functions are used to program your machine to knit patterns, read through each section, then you will find a guide for both basic and motif programing on page 20.

1. SELECTOR

There are two "SELECTORS" on the panel.

First of all, you have to choose SELECTOR I or II.

● SELECTOR I .... **All-over pattern knitting, using the pattern as designed.**

All over pattern.

● SELECTOR II .... **Motif knitting or All over pattern knitting using part of a pattern.**

You can programme a max of 9 pattern areas on the garment. (Each pattern area is called Motif.) And you can use different patterns for each area.

♣ The number of rows of the pattern for Motif 2-9, however, are automatically set to the same as that of Motif 1.

<Ex.> Single Motif knitting.	<Ex.> Same pattern knitted on two different areas.	<Ex.> Two different patterns knitted on two areas.	<Ex.> All over using part of a pattern.
	Motif 1 Motif 2	Motif 1 Motif 2	
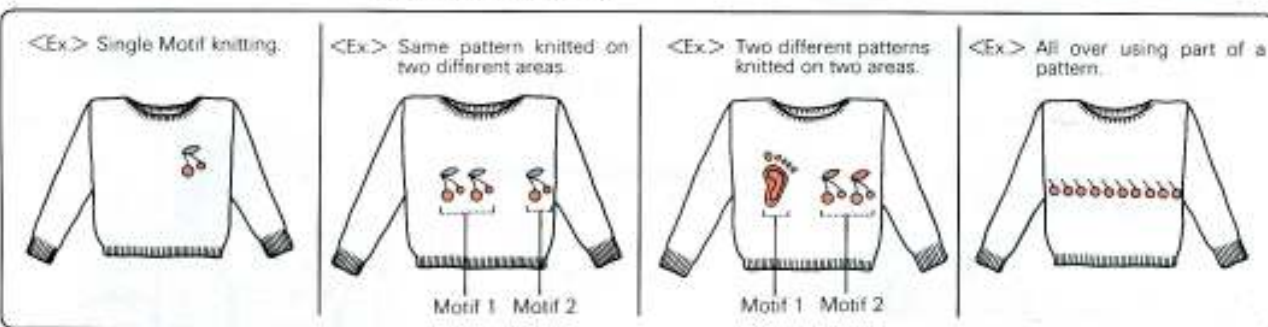
2. VARIATION KEY

By pushing the VARIATION keys, you can change your pattern. (See page 31).

3. STEP LAMP

To move to each section of programming you push the STEP key, follow the STEP lamp and answer the question the machine is asking before pushing the STEP key again to move on to the next section.

STEP LAMPS

P. NO.
— 1. Pattern No. lamp

2-(2)
2-(3) — 2-(4)
2-(1)

2. Pattern Framing lamp (Used with SELECTOR II only)
2-(1) .... The bottom row of the pattern
2-(2) .... The top row of the pattern
2-(3) .... The left end of the pattern
2-(4) .... The right end of the pattern

3 — 3. First Needle position lamp

4-(1)   4-(2)

4. Motif Width lamp (Used with SELECTOR II only)
4-(1) .... The left end needle of the Motif
4-(2) ...... The right end needle of the Motif
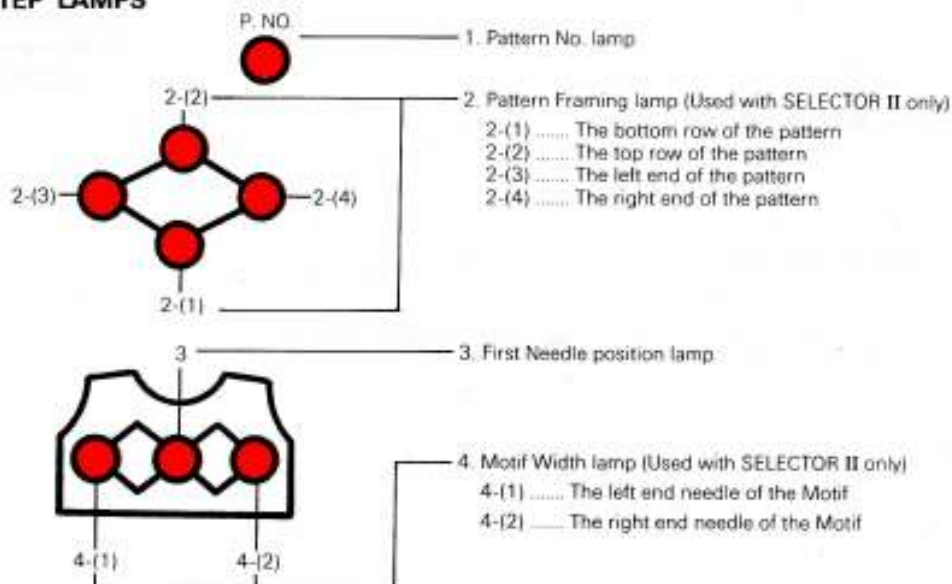
When the READY lamp is lit, push the STEP key. The READY lamp goes off and the P. NO. lamp will be lit.

① P. NO. LAMP (Pattern Number lamp)

P. NO.   When it is lit, enter the pattern number to be knitted, with Numeral key.

● The following pattern numbers can be programmed into your machine.

1-555	For programming one of the 555 built in patterns from the Stitch World Book.
801-860	For programming one of the 60 built in patterns from the Stitch World II Book.
701	Will print the word "brother."
703	Double edged tuck stitch braid.

Select to B position needles 5 yellow to 6 green. Push needles No.1 and 2 yellow and 2 and 3 green back down to A position. Cast on over the remaining needles. Take K-Carriage past left Turn Mark, turn Change Knob to KC (II). Knit from left to right. Push in both TUCK buttons and knit Braid.

901-(998)	For programming own designs (See page 25.)
601-626	Upper case alphabet.
627-652	Lower case alphabet.

♣ Please see page 86 for details about "Alphabet".

<Ex.> Pattern No. 100 in STITCH WORLD

100 ———— Pattern Number

Number of Rows

Number of Stitches

The number of contrast yarn is shown in the Memo Display.
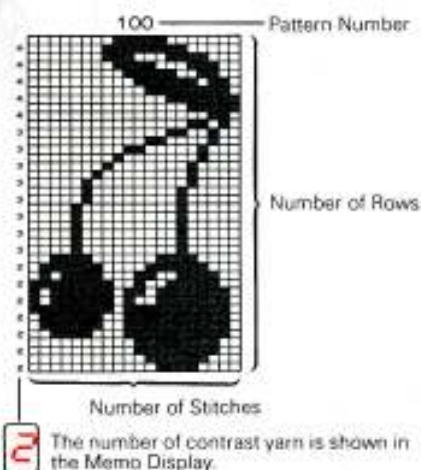
② PATTERN FRAMING LAMP - (Used with SELECTOR II) only
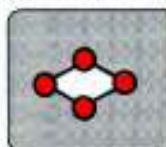
This is for framing a portion of the selected pattern to be knitted.

You have to set the (1) Bottom row (2) Top row (3) Left end (4) Right end of the selected pattern to be knitted. When you enter the pattern no., the computer will automatically set the data (1) -(4) to knit "whole pattern". If you only wish to knit part of the pattern enter your own co-ordinate instead as below.

<Ex> Pattern No. 100

Data in the computer

40 rows
20 stitches

2-(2) 40
2-(3) 1
2-(4) 20
2-(1) 1
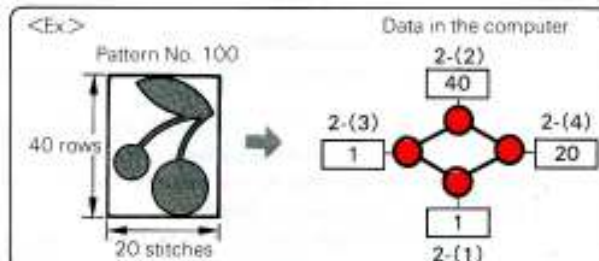
• You can frame any part of the pattern you require.
You can frame a pattern with blank space, which gives the effect of a more spaced out pattern on the garment.

<Example 1> Select the part (cherry) of pattern.

2-(2) 24
2-(3) 9
2-(4) 20
2-(1) 1
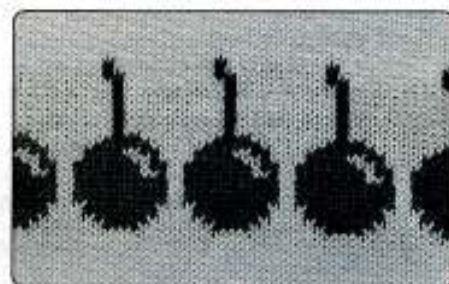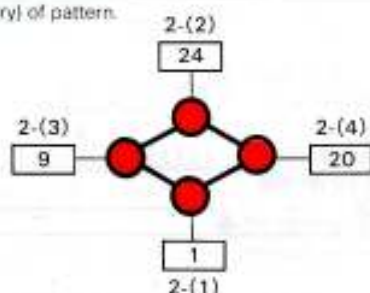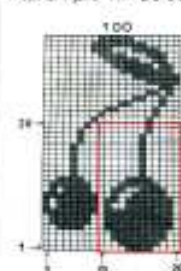
<Example 2> Take 5 stitches between the patterns.

2-(2) 20
2-(3) 1
2-(4) 25
2-(1) 1
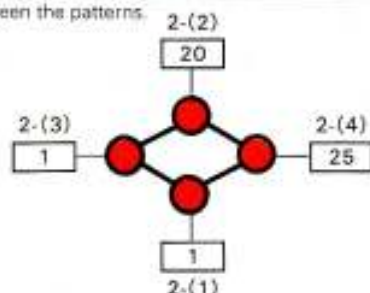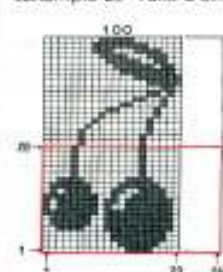
<Example 3> Take 5 rows between the patterns.

2-(2) 45
2-(3) 6
2-(4) 20
2-(1) 31
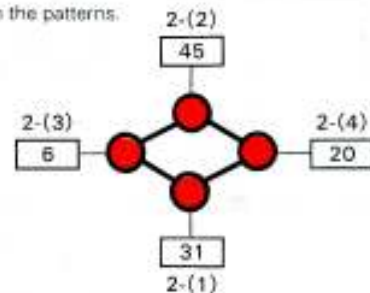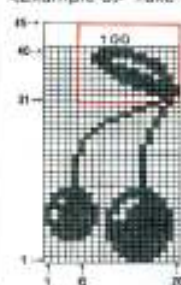
• Note
You can enter settings (1) - (4) for Motif 1, however, you cannot change (1) and (2) for Motif 2 - 9. So the Pattern Framing lamp (1) and (2) will not be lit for Motif 2 - 9.

♣ Height is automatically entered the same as motif 1.

♣ You must enter the tallest pattern as motif 1.

Motif 1

Motif 2

Space

56 rows

27 Stitches

20 Stitches

● — You can change the setting.
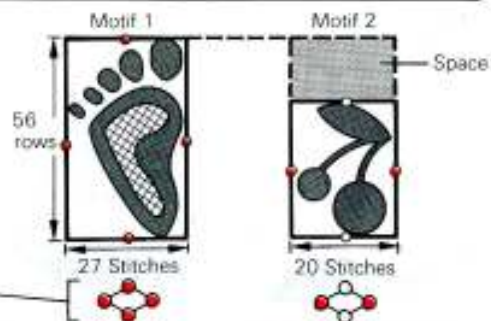
③ FIRST NEEDLE POSITION LAMP (F. N. Position lamp)

This is for setting the FIRST NEEDLE POSITION (the left end stitch of the selected pattern).
Enter the data with the NEEDLE POSITION key and Numeral key.

What is First Needle position ...

First of all we need to understand how a pattern is positioned on the knitting.
Let's take pattern 100 from STITCH WORLD, the cherry pattern.
This is how the machine sees the pattern, graphed out.
The first column of stitches in the pattern(marked by an arrow in our diagram) is the one we need to identify.
When the pattern is knitted each stitch has its own needle.
The needle which corresponds with this first stitch of the pattern repeat is called the First Needle position. (F.N.position)

First Needle position

Note: Needle positions
If you look at the numbered strip under the needles of the machine you will see that the left side is numbered in Yellow, and the right side in Green.
This is so that the computer can distinguish between two needles of the same number. For example No.10 on the right (Green 10) and No.10 on the left (Yellow 10).

yellow   1   0   green   1   0

15   10   5   0   5   10   15

First Needle position in SELECTOR I

The First Needle position of an all over pattern is set automatically to place the pattern centrally on the needle bed then repeat out from there.

- When one pattern repeat consists of an even number of stitches the centre pattern repeat will have half the stitches to the left of '0' and another half to the right.

<Ex.> The First Needle position of this pattern is automatically set at needle number Yellow 10. (Y 10)

10   0   10
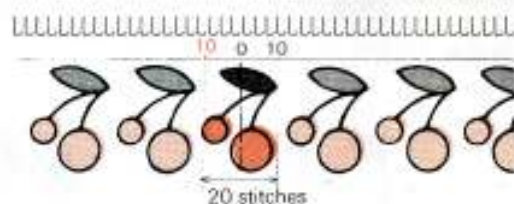
20 stitches

- When one pattern repeat consists of an odd number of stitches, the centre stitch is automatically placed on Green 1. (G 1)

<Ex.> The First Needle position of this pattern is automatically set at needle number Yellow 7. (Y 7)

7   0 1   8

15 stitches
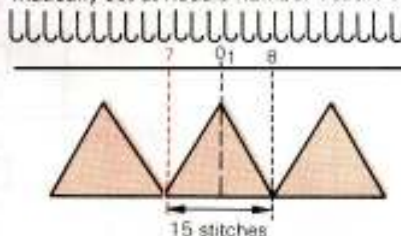
- You can change the First Needle position and move it to either the right or the left.

<Ex.> Change the First Needle position to yellow 15 from yellow 10.

New First Needle position.
This information can be of your own choosing.

First Needle position which was placed automatically based by the computer.

15 10   0

(Original pattern position which was placed automatically by the computer.)

Centre
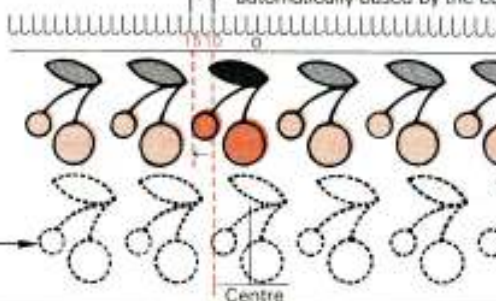
First Needle position in SELECTOR II

You have to set the First Needle position, by yourself, for each motif.

④ MOTIF WIDTH LAMP
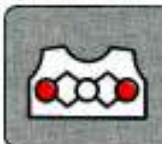
This is for setting the knitting width for each motif.(Used in SELECTOR II only)
Enter the data with the NEEDLE POSITION key and Numeral key.

MOTIF WIDTH LAMP will be lit (1) and (2) in order, by pushing the STEP key.
The Lamp (1) is to set the needle you want to start knitting your motif, and the Lamp (2) is for ending your motif.

4-(1)   4-(2)
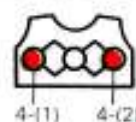
• In the following examples, the First Needle Position is set Yellow 15 (Y15).

15

<EX. 1>   F. N. position
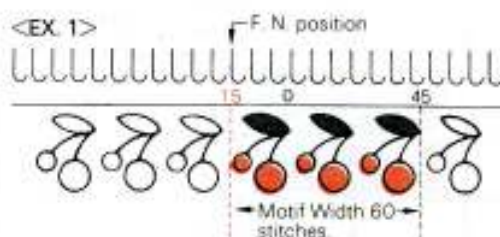
Knit Triple Motif (Three pattern repeats in one motif.)
One pattern repeat is 20 stitches, so three will be 60 stitches.
We have to tell the computer to knit the motif over sixty needles.

① Enter Y15 as the left end of motif width.
② Enter G45 as the right end of motif width.

←Motif Width 60→ stitches.

15   45

<EX. 2>   F. N. position
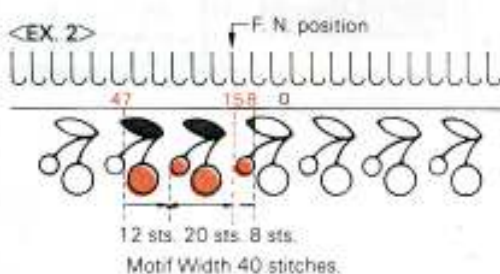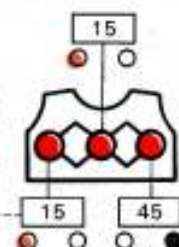
♣ By changing the motif width, you can obtain various pattern combination.

① Enter Y47 as the left end of motif width.
② Enter Y8 as the right end of motif width.

12 sts. 20 sts. 8 sts.
Motif Width 40 stitches.

15

47   8
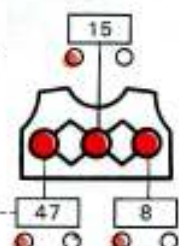
• Using SELECTOR II for an all over pattern.

By using SELECTOR II you can take part of a pattern and spread it all over a garment.
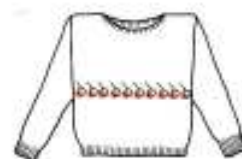
<Example> Select part of a cherry.
Pattern is 12 stitches wide.

First Needle position

6

24

9   20

1
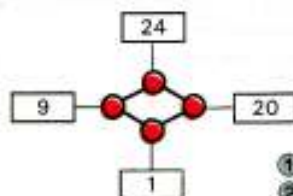
① Enter Y100 to start patterning at the left end.
② Enter G100 as the right end of the pattern.

100   100
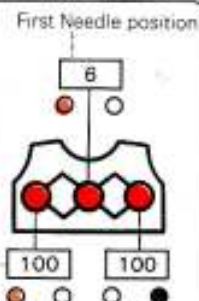
By programming this way you will be sure that the pattern will appear right across your knitting as with SELECTOR I.

PATTERN PROGRAM PROCEDURE
Make sure that the READY lamp is lit.

When using SELECTOR I
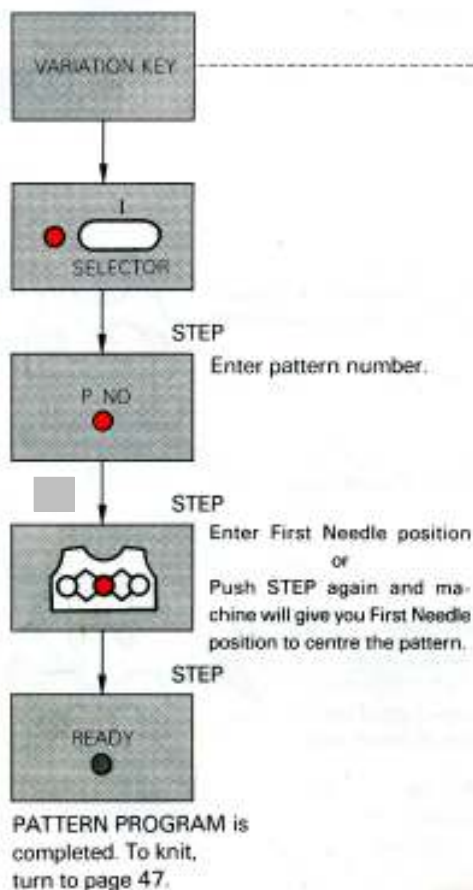
When using SELECTOR II

The MEMO display shows the Motif No. you are programming.

VARIATION KEY ---- Switch on VARIATION key (s) first in case your patterns need to use VARIATION keys (e.g. upside down) to knit from the beginning.

VARIATION KEY

I SELECTOR

II SELECTOR

STEP
Enter pattern number.

P. NO

Motif 1
P. NO — Page 16

Motif 2 - 9
P. NO

● When the total number of motifs are less than 9.

<Ex> You have three motifs. Enter "0" when the MEMO display shows "4".

STEP
Enter First Needle position
or
Push STEP again and machine will give you First Needle position to centre the pattern.

Page 17

STEP

READY

Page 18

Repeat

Page 19

PATTERN PROGRAM is completed. To knit, turn to page 47.

● When you have 9 motifs to input....
Input the data for Motif 9.

READY

PATTERN PROGRAM is completed. To knit, turn to page 47.

♥ If you enter the wrong data by mistake ......
If you have not pushed the STEP key, push the CE key to clear the data in the display window and enter the correct data.
If you have already pushed the STEP key, continue to programme your pattern.
When finished, enter the correct data using the check programme (see next page).

HOW TO CHECK AND CORRECT YOUR PATTERN PROGRAM

If you repeatedly push the STEP key, the program is displayed step by step in the order in which you entered it.
In this way you can check and correct your program.
♣ If there is no pattern programmed into the computer, you cannot proceed on to the next stage even if you push the STEP key.

① Make sure that all VARIATION keys are set correctly and the READY lamp is lit.

② Push the SELECTOR key I or II as required.
Push the STEP key, the P. NO. lamp is lit.

③ Push the STEP key.
The Display shows the memorised pattern number.

 P. NO.
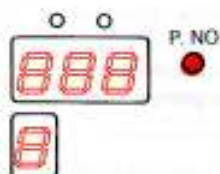
- When using SELECTOR II ...
The MEMO display shows the Motif No. you will check now.
- When using SELECTOR I ...
Nothing appears on the MEMO display.

• How to correct ... Enter the correct number.
  • When using SELECTOR I go to step ⑤ .

- When you correct the pattern no., or enter the same pattern no. again, then
  a) Pattern Framing data will be reset to its original computer settings
  b) First Needle position will automatically be placed over the centre of the needlebed.
    • When using SELECTOR II, First Needle position will remain unchanged.

- When you correct the pattern no. in your Pattern Book, or enter the same pattern no. in your Pattern Book again, then the MEMO information will be reset to its original form.

④ Push the STEP key.
The Display shows the Pattern Framing data (1), (2), (3) and (4) in order.
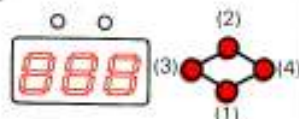
[Note]
The Display shows the Pattern Framing data (3) and (4) for Motif 2 - 9.

⑤ Push the STEP key.
The Display shows the First Needle position of the pattern.
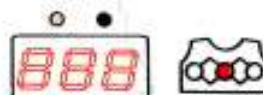
• How to correct ..... Push the yellow or green key and enter the correct number.

  • When using SELECTOR I ..... Go to step ⑦ .
  • When using SELECTOR II .... Go to step ⑥ .

⑥ Push the STEP key.
The Display shows the Motif Width data (1) and (2) in order.
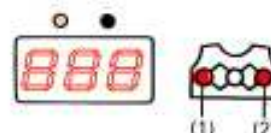
• How to correct ..... Push the yellow or green key and enter the correct number.

  • Repeat the step ③ — ⑥ for Motif No. 2-9.

    ♣ In case you want to add motif (s) to your program ...

    <Ex.> You have only one motif (Motif 1) in your program.
    Enter the pattern no. and follow the step from ④ .

⑦ Push the STEP key.
The READY lamp is lit and the PATTERN PROGRAM Check is completed.

 READY

START KEY

START ⬤	Use this key to start knitting from the first row of the pattern, or midway through a pattern.

When you push the START key, even if the Display indicates any other row number in the pattern, it will change to the first row. Needle selection will also be according to the first row of your pattern.

① HOW TO GET BACK TO THE FIRST ROW

• When you want to begin a new piece of knitting, and you are using the same pattern number, (e.g. if you are making different parts of a garment) the Display will show the number of the row you are going to knit next in pattern. To get back to the first row of your pattern, push the START Key and the number in the Display will revert to 1. (When you use the UPSIDE DOWN key, the last (top) row of the pattern will appear in the display.)

• You must always select the needles first before your start pattern knitting.

When the number in the Display is flashing on and off, it means the needle selection has already been done. Return the Display to a steady number 1 by pushing the START Key.
The flashing will cease, and the needles will be selected according to Row 1 of the pattern.

The Display tells you to knit the first row

START

The needle selection will be according to the first row of the pattern.
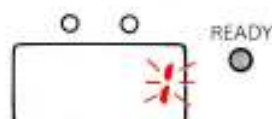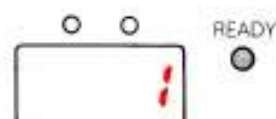
② HOW TO BEGIN KNITTING MIDWAY THROUGH PATTERN

① Program the pattern. (The READY lamp is lit.)
② Enter the row number which you want to start knitting and push the START key.
  ♣ You can also use the Up/Down key to set the start row.
    Keep pushing the Up/Down key until the row no. you want to start knitting appears in the display window.

• When working in Lace or Fine Lace pattern, take care of the following point.

Please refer to the Diagram.

You can begin knitting from one row above the ones with the memo number (i.e. those marked with 2).
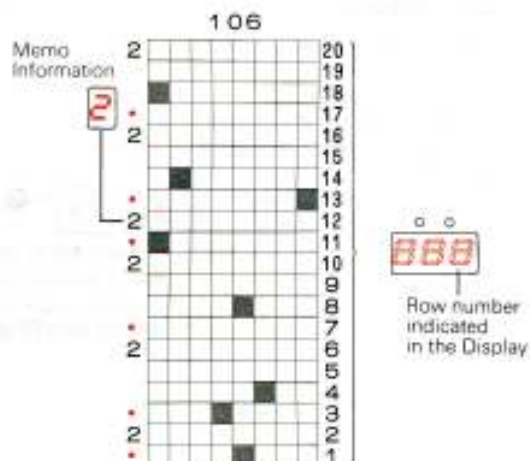
♣ Please refer to page 43 if you are using the DOUBLE LENGTH key or REFLECTION key or MC RIB key.

MEMO PROGRAM

You can progam Memo information for pattern knitting, and this will be shown in the MEMO display while you knit.
You can easily enter, delete and modify the Memo information.

MEMO KEY

MEMO — Push this key when you start and finish the Memo Program.
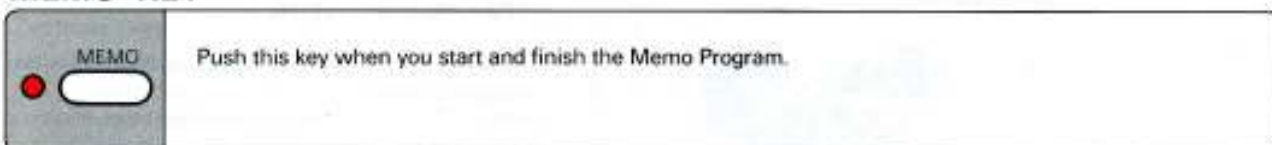
● Use the keys 1-9 and the yellow and green and CE keys to enter this information.

INDICATION IN THE MEMO DISPLAY USING THE KEYS

● When you enter Memo information using the keys 1 — 9.

<Ex.>
3 ➡ 3
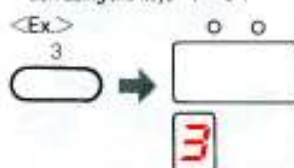
● When you enter Memo information using the yellow or the green key for lace patterns.

yellow ➡ 0

green ➡ 0
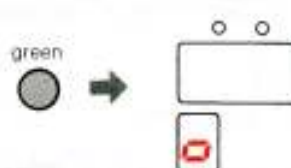
● When you enter Memo information using the CE key.

CE ➡ ←Blank
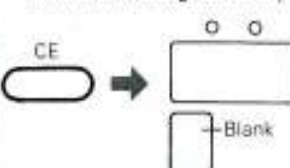
● Memo information for the patterns in the "STITCH WORLD" pattern books that you have modified or deleted will revert back to their original form when you enter the same pattern number again.
● Memo information for your original patterns will remain until you modify or delete them.

● In case you enter the Memo information for Multi-colour Skip Stitch pattern (3 colours) and Multi-colour Rib pattern (3 colours) programmed in Input Mode 2, one row will be displayed three times. In these patterns, the computer separates each row into three sections, for yarn 1-3.

<Ex.>
Row number — 2   Up key →   2   Up key →   2
Memo — 1   2   3
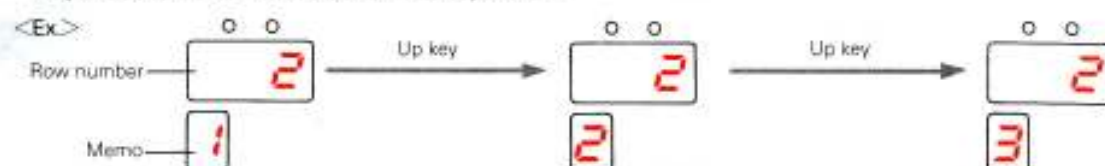
ENTERING/CORRECTING THE MEMO INFORMATION

● To enter or correct the Memo information for the programmed pattern.

① Program the required pattern.
② When the READY lamp is lit, push the MEMO key. (The READY lamp goes off.)
③ Pushing the Up/Down key, move the number on the Display to the row you want to enter or correct the Memo information.
④ Enter or correct the Memo information. For other rows, repeat the step ③ — ④.
⑤ Push the MEMO key to finish the Memo Program. The READY lamp is lit and you have now completed the Memo Program.

♣ In case you want to delete the Memo information on particular row, move the number on the Display to that row and push CE key.

♣ You cannot use CE key for Multi-colour Skip Stitch pattern (3 colours) and the Multi-colour Rib patterns (3 colours) programmed in Input Mode 2.

DELETING THE MEMO INFORMATION

● You can delete all the Memo information for the programmed pattern.

① Program the pattern.
② When the READY lamp is lit, push the MEMO key. (The READY lamp goes off.)
③ Push C key. All the Memo information has been deleted.
④ Push the MEMO key. The READY lamp is lit and the program is completed.

♣ In case of Multi-colour Skip Stitch pattern (3 colours) and the Multi-colour Rib patterns (3 colours) programmed in Input Mode 2, all the Memo information will come back to its original form.

MEMO INFORMATION IN THE PATTERNS IN YOUR PATTERN BOOKS

- Please refer to the Diagrams on the back pages of your pattern books.
- The Memo information is shown on the left side of the Diagrams and it also appears in the MEMO display.
  ♣ Please refer to page 39 for Multi-colour Rib pattern (2 and 3 colours).

Memo Information

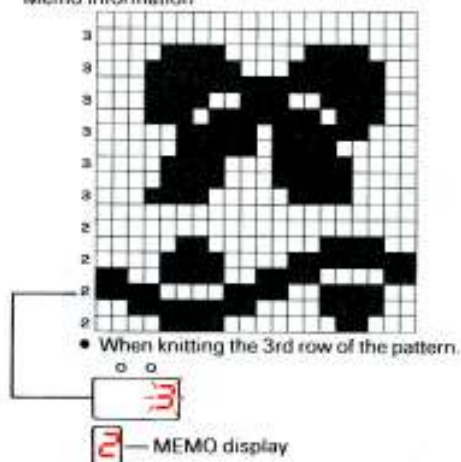- When knitting the 3rd row of the pattern.
- MEMO display

- The meaning of the Memo information will be different depending on the type of pattern you are knitting.

FAIRISLE PATTERN

- The Memo information is used to distinguish between the contrast yarns.
- No.1 is used for the main yarn and the other numbers for the contrast yarns.

<Ex.> 55

Knit with contrast yarn No.2.
Knit with contrast yarn No.3.
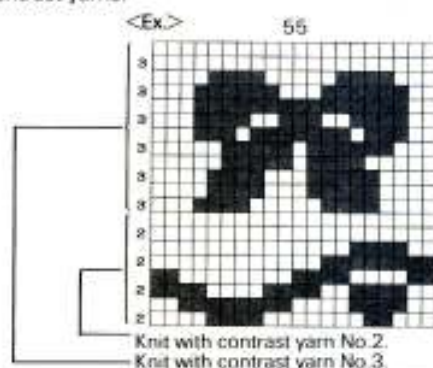
TUCK & SKIP STITCH PATTERN

- The Memo information is used to distinguish between different colour yarns in multi-colour pattern knitting.

<Ex.> 306

Knit with yarn No.1.
Knit with yarn No.2.
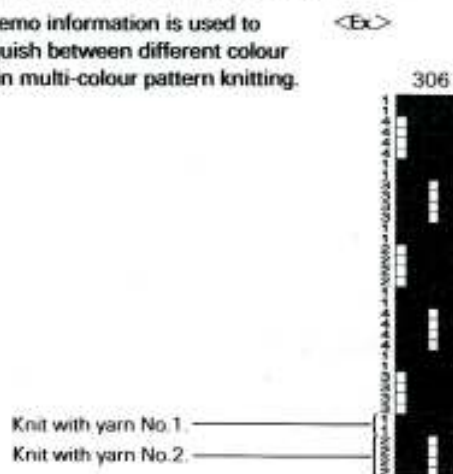
WEAVING PATTERN

(1) The Memo information is used to distinguish between the weaving yarns.
(2) When no number is shown in the MEMO display, you should knit this row without a weaving yarn.

<Ex.> 453

Knit without a weaving yarn.
Knit with weaving yarn No.2.
Knit with weaving yarn No.3.
Knit with weaving yarn No.2.
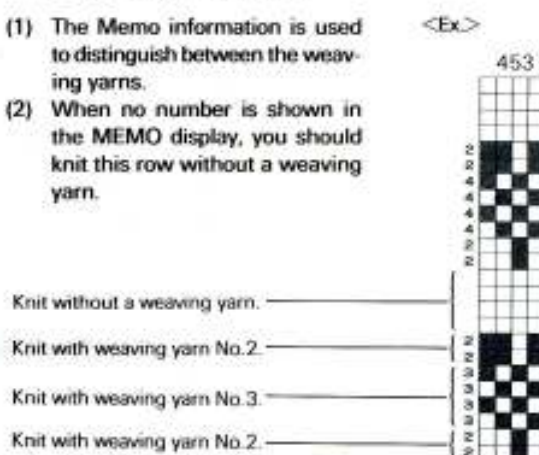
LACE & FINE LACE PATTERN

- If no number is shown in the MEMO display operate the L-Carriage.
- When a number appears in the MEMO display knit as many rows with the K-Carriage as the number indicates.

<Ex.> 164

Knit 4 rows with the K-Carriage.
Operate the L-Carriage.
Knit 2 rows with the K-Carriage.
Operate the L-Carriage.
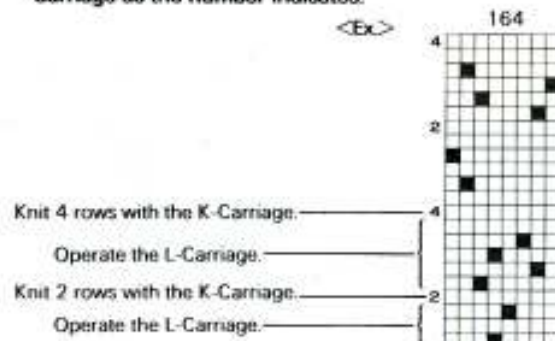
LACE & FINE LACE PATTERNS MIXED

- Use the L-Carriage as indicated by the symbol or number in the MEMO display.

<Ex.> 219

Operate the L-Carriage.
(Lace Change Lever-N)

Knit as many rows with the K-Carriage as the number indicates.

Operate the L-Carriage.
(Lace Change Lever-F)
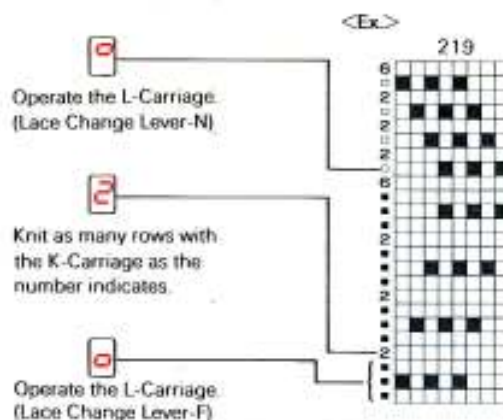
INPUT PROGRAM (HOW TO PROGRAM YOUR OWN PATTERNS)

You can enter and store your own stitch patterns in the computer by using the Input Program.
You can use max. 3 colours(including main yarn) in one row.
This facility allows you to both enter and delete patterns of your own design.

- Before starting to enter your own patterns, you must prepare the following:

(1) Draw your own design onto one of the blank Design Sheets which come with the machine.
(2) Draw a frame around your design.
(3) Count the number of stitches and the number of rows which make up the pattern.

<Ex.>
2 COLOURS/ROW PATTERN   3 COLOURS/ROW PATTERN

6 rows   6 rows
5 stitches   6 stitches

---
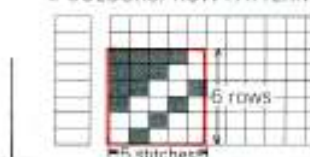
1. INPUT KEY
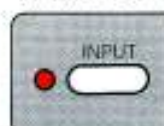
INPUT

Push this key when you start and finish the Input Program.

---

2. P. NO. LAMP (Pattern No. lamp)

P. NO

The computer will give each of your own patterns a number(from 901—998).

You can store a maximum of 98 patterns.
The computer allocates the number 901 for your 1st pattern, number 902 for your 2nd pattern, and so on automatically.
♣In order to avoid confusion, it is recommended to write down the pattern no. on your design sheet.

3. INPUT MODE

When you input your original pattern, you have to enter "1" or "2" (No. of INPUT MODE) according to the pattern you want to make.

MODE 1 ..... All the patterns except for the ones in MODE 2.
MODE 2 ..... Multi-colour Skip Stitch and Multi-colour Rib pattern (3 colours)
"1" (= MODE 1) appears on the MEMO display. So when you want to input the pattern for MODE 2, enter "2".

Pattern number — 901
Input mode — 1
MEMO
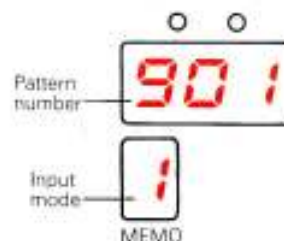
4. STITCH KEY · ROW KEY
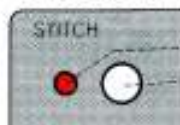
STITCH
— STITCH lamp
— STITCH key .... Push this key when you change the display from ROW data to STITCH data.
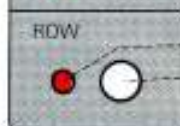
ROW
— ROW lamp
— ROW key .... Push this key when you change the display from STITCH data to ROW data.

STITCH lamp · ROW lamp

A. When you input the number of stitches and rows, these lamps will be lit in order.

Number of stitches .... A pattern can be from 1 to 200 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. You don't have to use all the rows indicated as available however.

B. When you are checking or inputting the pattern data, either of these lamps light and indicate that the number on the Display is for the STITCH data or for the ROW data.

5. PATTERN DATA INPUT KEYS

- You have to use the correct keys for inputting the pattern data, according to the INPUT MODE. (See 3. on previous page.)
  - MODE 1 ..... Use Data keys (White key and Black key).
  - MODE 2 ..... Use Numeral keys (1, 2 and 3).
- You can input the pattern data on your design sheet, as it is.
  Input the stitch data, one by one, from the left end stitch of the 1st row.
- Up key ...... Push this key for inputting the next (upper) row.
- Down key, Left key .... You can use these keys when you find that you have inputted the wrong data. However, when you come back over stitches using these keys, all the data which you come back over will be deleted.
  So if you do not want them deleted, do not use these keys but correct the data with Check Program.

① DATA KEY — — — MODE 1

|	
White key	Needle remains in B position. (Ex. Knitted with Main yarn in Fairisle pattern.)
Black key	Needle is selected to D position. (Ex. Knitted with Contrast yarn in Fairisle pattern.)

② NUMERAL KEY (1-3) — — — MODE 2

1	Use this key for inputting the stitch knitted with yarn 1.
2	Use this key for inputting the stitch knitted with yarn 2.
3	Use this key for inputting the stitch knitted with yarn 3.

- For your quick input ......
(1) When all the remaining stitches on a particular row are to be input with White key or 1 key, then you do not have to input these stitches simply.
  Push the Up key for inputting the next row.
(2) You can enter the same stitch data by pushing the Data/Numeral key continuously.

6. DATA LAMPS

	The input pattern data will appear on the Data lamps.

① When inputting with Data keys .....

<Ex.> 5 STITCHES/ROW PATTERN

Contrast yarn (Black key)
Main yarn (White key)
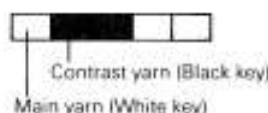
Data lamp
OFF   ON

② When inputting with the Numeral keys...

<Ex.> 6 STITCHES/ROW PATTERN

Yarn 3(3 key)
Yarn 2(2 key)
Yarn 1(1 key)

Data lamp
OFF   ON   FLASHING
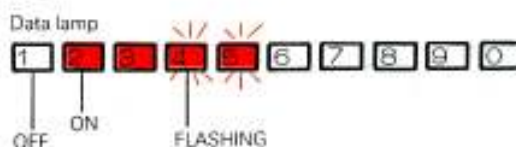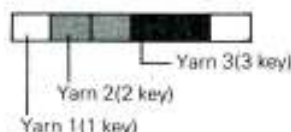
- What to do when your pattern has more than 10 stitches in one row.
(1) The Data lamps indicate the pattern data from the first to the 10th stitch in the order you have entered them.
(2) When you enter pattern data for the 11th stitch, all the pattern Data lamps for the first 10 stitches go off, and the first Data lamp now indicates the pattern data for the 11th stitch.

INPUT PROGRAM PROCEDURE

① STORING YOUR OWN PATTERN

Make sure the READY lamp is lit.

INPUT

P. NO.

Write down the pattern no.

STEP

MEMO

Select INPUT MODE 1 or 2.

STEP

STITCH

Input number of stitches.

♥ If you input the wrong data, push CE key to clear the display and enter the correct data.

STEP

ROW

Input number of rows.

STEP

STITCH
ROW
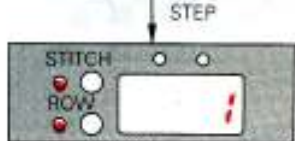
Input pattern data with Data/Numeral/Up key.
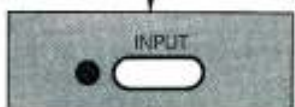
INPUT

The READY lamp is lit and the Input Program is completed.

♣ When you want to enter Memo information, see page 23.

If you wish to knit the inputted design immediately, you need to go through the programming procedure as on Page 20. Otherwise the machine will only remember the last pattern you knitted.

② HOW TO DELETE YOUR OWN PATTERNS

• Enter the pattern number that you want to delete and push the C key.

① Make sure that the READY lamp is lit. Push the INPUT key. The READY lamp goes off and the INPUT lamp is lit. The lowest vacant pattern no. will appear on the Display.

② Enter the pattern no. you want to delete.
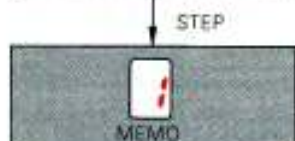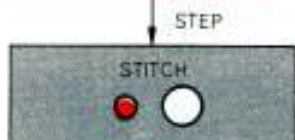♥ If you entered the wrong no., push CE key to clear the display and enter the correct no. again.

③ Push the C key. The number in the display goes out and the computer deletes the stored pattern.
♣ If you want to delete more than one stored pattern, repeat steps ② — ③ .

④ Push the INPUT key after you have finished deleting stored patterns. (The INPUT lamp goes out.) The READY lamp is lit and the Input Program is completed.

The order in which the pattern numbers appear in the Input Program.

• The lowest vacant pattern number appears in the Display.

<Ex.> Number of the Stored Patterns

901
902
Deleted   903
patterns   904
905
906

902

905
907
908

Order in which the pattern number appears.
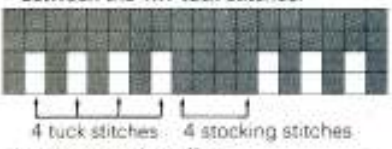
[NOTE]
If you delete one of your own patterns, the Pattern Program which contains the deleted pattern will also be deleted.
In SELECTOR II, however if you delete some patterns, other patterns programmed for the smaller Motif no. will not be deleted.

<Ex.>
If you delete your own pattern programmed for Motif no. 5, Motif no. 6-9 will be deleted in the pattern program. However you can knit the patterns for Motif no. 1-4 as you have programmed.

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 □ ... Tuck Stitch ■ ... Stocking Stitch	You can't have two tuck stitches together. ✗	(1) When you want stocking stitch between 2 rows of 1x1 tuck stitch. ♣Don't repeat the 1x1 tuck stitch more than 4 times, or have more than 4 stocking stitches between the 1x1 tuck stitches. 4 tuck stitches 4 stocking stitches This gives a seersucker effect. (2) Don't pull up the stitches more than 4 rows, or for 3 or 4 row tuck stitch pattern, have more than 3 stocking stitches between the tuck stitches. This becomes very difficult to knit.
PLATED TUCK STITCH PATTERN □ ... Tuck Stitch	You can't have two tuck stitches together. ✗	You can only pull up the stitch one row.
WEAVING PATTERN ■ ... Knitted by needle selected to D-position	Don't weave the yarn more than five stitches. ┌5 stitches┐	
THREAD LACE PATTERN ■ ... Knitted by needle selected to D-position	Don't select more than 5 needles to D-position. ┌5 stitches┐	
LACE PATTERN FINE LACE PATTERN ■ ... Transferred 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. ✗
MULTI-COLOUR RIB (2 and 3 colours)	Multi-Coloured Rib — (Jacquard) this type of work is achieved by using a ribbing attachment and colour changer with your machine. Knit these patterns with MC RIB (Multi-colour Rib) key. Input the pattern data on your design sheet, as it is. ♣When you design a Multi-colour rib pattern (2 colours per row) check that the total number of pattern rows are "even", and that the yarn is changed "every even row number".	

CHECK PROGRAM

You can check the pattern number, stitches, rows and pattern data for your own patterns stored in the computer.
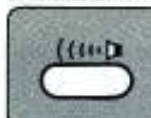You can also change the pattern data, if necessary, with this program. Checking can be done with the Data lamp and /or the Buzzer.

CHECK KEY

Push this key when you start and finish the Check Program.

BUZZER KEY

Push this key when you start checking the pattern data with buzzer, and stop the buzzer.

CHECK PROGRAM

① HOW TO CHECK THE PATTERN NUMBERS YOU HAVE STORED IN THE COMPUTER

① When the READY lamp is lit, push the CHECK key.
The display shows the last pattern no. with INPUT MODE on the MEMO display.

② When you push the Down key, the display shows the pattern numbers in order, beginning with the last one stored in the computer.

<Ex.>

Last pattern
number stored

First pattern
number stored

►905 ──► 904 ──► 903─ ──► 902 ──► 901─
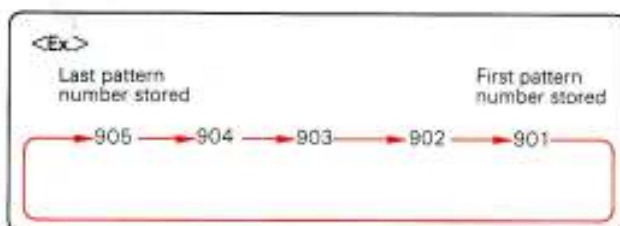
③ Push the CHECK key after you have checked the pattern number.
The READY lamp is lit and the pattern no. check is completed.

② HOW TO CHECK THE PATTERN DATA YOU HAVE STORED IN THE COMPUTER

METHOD 1: Check the pattern data with the Data lamp, starting from the 1st row.

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

METHOD 2: Check the pattern data with the buzzer.

Method 1:
How to check the pattern data using the Data lamp

① When the READY lamp is lit, push the CHECK key.
To display the pattern number you want to check, push the Down key.
The INPUT MODE of the pattern no. will appear on the MEMO display.

② Push the STEP key.
The display shows the number of stitches for the pattern. (You cannot change this data.)

③ Push the STEP key.
The display shows the number of rows for the pattern. (You cannot change this data.)

④ To check the first row: Push the STEP key.
The Data lamps show the pattern data entered for the 1st-10th stitch.
"1" appears on the display, with ROW lamp lit. (It shows the 1st stitch of the 1st row.)

⑤ To check the 2nd row: Push the Up key to advance the row number to the next row.
The Data lamps show the pattern data entered for the 1st-10th stitch of the 2nd row.
"2" appears on the Display, with ROW lamp lit. (It shows the 1st stitch of the 2nd row.) Check other rows in the same manner.

⑥ After checking the pattern data, push the CHECK key.
The READY lamp is lit and the pattern data check is completed.

● How to use the Data lamps when the pattern has more than 10 stitches in one row.
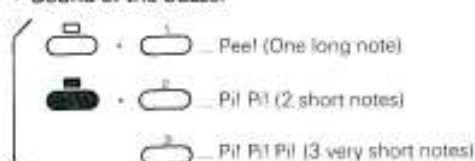
(1) When the display shows the first stitch of the first row, the Data lamps refer to the pattern data for stitches 1-10.

(2) If you advance the stitch number in the display to 11 by pushing the Right key, the Data lamps refer to the pattern data for stitches the next 10 stitches, i.e. stitches 11-20.

♣ Pushing the CHECK key, you can finish the Check Program whenever you wish.
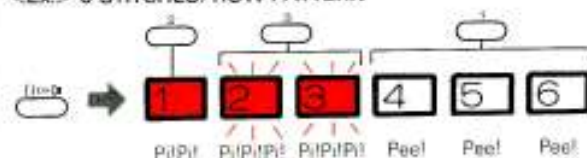
• Sound of the buzzer

⎓ · ⎓ ... Peel (One long note)

⬛ · ⎓ ... Pi! Pi! (2 short notes)

⎓ ... Pi! Pi! Pi! (3 very short notes)

<Ex.> 6 STITCHES/ROW PATTERN

| 1 | 2 | 3 | 4 | 5 | 6 |

Pi!Pi! Pi!Pi!Pi! Pi!Pi!Pi! Peel Peel Peel

① Follow the steps ① — ③ in Method 1: on previous page.
② How to check the first row.
  ① Push the STEP key.
    "1" appears on the display, with ROW lamp lit.
    (It shows the 1st stitch of the 1st row.)

② Push the Buzzer key.
  The buzzer will make a sound according to the pattern data from the first stitch of the first row.
③ How to check the 2nd row.
  ① Push the Up key to advance the row number.
    "2" appears on the display, with ROW lamp lit.
    (It shows the 1st stitch of the 2nd row.)
  ② Push the Buzzer key.
    The buzzer will make a sound according to the pattern data from the first stitch of the 2nd row.
    Check other rows in the same manner.
④ After checking the pattern data, push the CHECK key.
  The READY lamp is lit and the pattern data check is completed.
  The Check Program can be finished whenever you wish.
  ① Push the Buzzer key to stop the sound.
  ② Push the CHECK key to finish the Check Program.

In case you want to check a particular part of the pattern only, move the number on the display to that position, with Up/Down/Left/Right key.

• HOW TO CORRECT THE PATTERN DATA

♣While you are checking the pattern data with the buzzer, use the Buzzer key to stop the sound.

1 Move the number on the display to the stitch you want to change, with Up/Down/Left /Right key.
2 Enter the correct pattern data with Data key (White/Black) or Numeral key (1/2/3).

♣When you have entered the correct pattern data, the number on the display will remain unchanged. So move the number to the next stitch to be corrected, with Up/Down/Left/Right key.

♣When checking the pattern data with the buzzer, push the Buzzer key.
The buzzer will make the appropriate sounds beginning with the stitch number in the Display.

• The indication in the display is changed when you push the Up, Down, Left or Right key. (Pattern data for the number indicated in the display can be changed with the Data key (White key · Black key) or Numeral key (1/2/3).
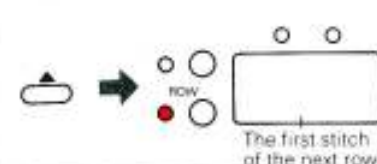
The first stitch of the next row
• Advance the row number in the Display.
• When you push the Up key, the Display shows the first stitch of the next row.
• If you push the Up key when the Display shows the final row of the pattern, then the number in the Display will be the first stitch of the first row.

The First stitch of the previous row
• Turn back the row number in the Display.
• When you push the Down key, the Display shows the first stitch of the previous row.
• If you push the Down key when the Display shows the first row of the pattern, then the number in the Display will go back to the first stitch of the final row.
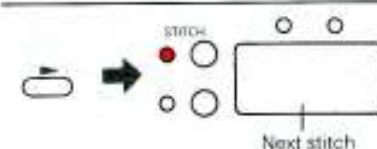
Next stitch
• Advance the stitch number in the Display.
• Push the Right key when the Display shows the row number, and the Display will show the next stitch of the same row.
• Push the Right key when the Display shows the last stitch of the row, and the Display will show the first stitch of the same row.
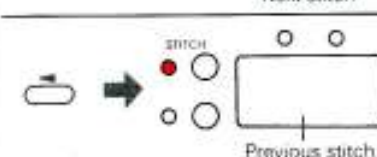
Previous stitch
• Turn back the stitch number in the Display.
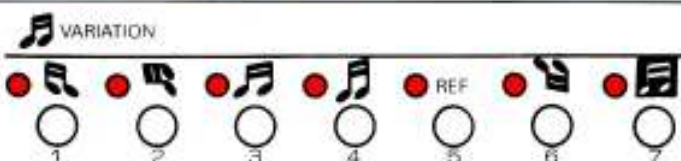• Push the Left key when the Display shows the row number, and the Display will show the previous stitch of the same row.
• Push the Left key when the Display shows the first stitch of the row, and the Display will show the last stitch of the same row.

VARIATION KEYS

♫ VARIATION

● 🎵 ● 🎵 ● 🎵 ● 🎵 ● REF ● 🎵 ● 🎵
○   ○   ○   ○   ○   ○   ○
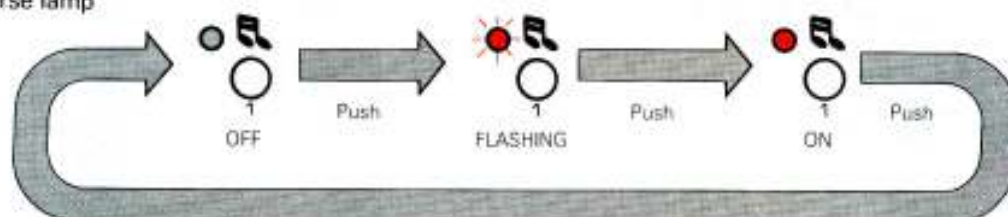1   2   3   4   5   6   7

- 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 will be lit when the key is operative. The pattern is then varied according to whichever keys you have pushed.

1. REVERSE KEY

The direction of the pattern is changed.

- Reverse lamp

OFF → Push → FLASHING → Push → ON → Push

Pattern using SELECTOR I

To knit the pattern with REVERSE key ON. (Push REVERSE key twice.)

Pattern using SELECTOR II

You can set REVERSE for each motif. (Max.9 motifs can be programmed.)

- Data lamp

Motif   1   2...   9

- The Data lamp 1-9 corresponds to the Motif 1-9.

FLASHING
(Setting mode)

Push

ON

- By pushing the Numeral key 1-9, you can have the Data lamps 1-9 flashing or off.

Data lamp   Data lamp

FLASHING   OFF

Data lamp is FLASHING...   Data lamp is OFF...
The motif is reversed.   The motif is not
                            reversed.

ON   OFF

(1) Push the REVERSE key. The REVERSE lamp and the Data Lamp are flashing.
♣ The REVERSE data used last appears on the Data lamps.
(2) Referring to the Data lamps, set the REVERSE data for each motif, with Numeral key 1-9.
(3) When all the Reverse data is set, push the REVERSE key again.
The REVERSE lamp and Data lamp are steady (On) and the setting is completed.
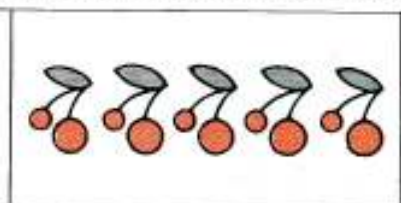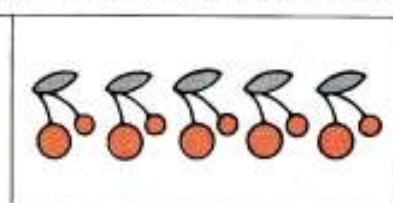
DIAGRAM

When the REVERSE key is off ...

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

➡ When the REVERSE key is on ...

The pattern made on your knitting (as seen from the purl side) is in the opposite direction to the diagram.

Pattern using SELECTOR II

DIAGRAM

Motif 1   Motif 2

When the REVERSE key is off ...

• To reverse Motif 1 only ...

➡ When the REVERSE key is on ...

F. N. position of Motif 1
F. N. position of Motif 2

F. N. position of Motif 1
F. N. position of Motif 2
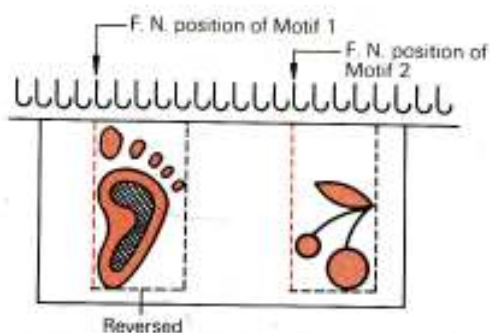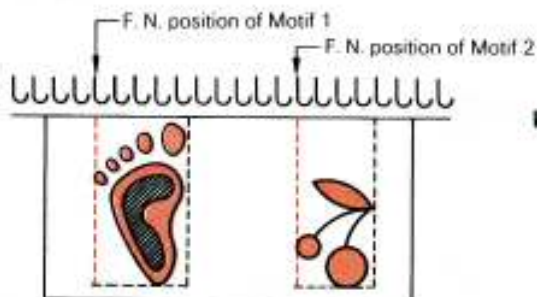
Reversed

• How to change the REVERSE key whilst you are knitting in pattern ...
  Change the REVERSE key one row before you want the pattern to be reversed.

  <Ex.> When you want to reverse from 10th row ...
       Push the REVERSE key twice when "9" is blinking on the Display.

2. ROTATION KEY

The pattern is rotated 90° counter-clockwise, seen from the purl side.

♣In case the ROTATION key is used, combined with other VARIATION keys...
First, the pattern is rotated and then it will be changed according to the other VARIATION keys.

- When you use the ROTATION key, the Stitches and the Rows of the pattern replace each other.
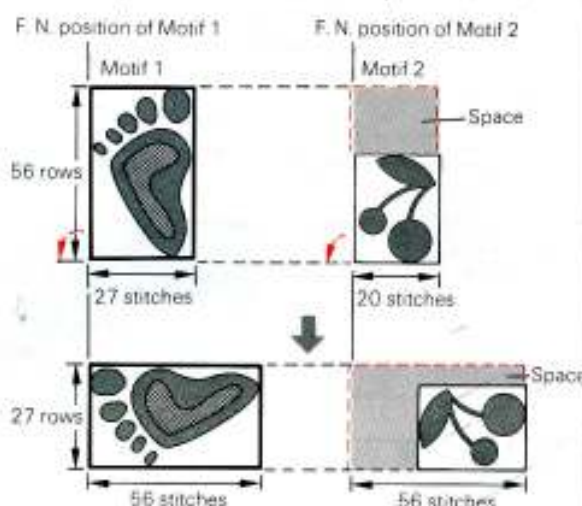
  <Ex.> 20 stitches X 40 rows ----- Rotation OFF

  40 stitches X 20 rows ----- Rotation ON

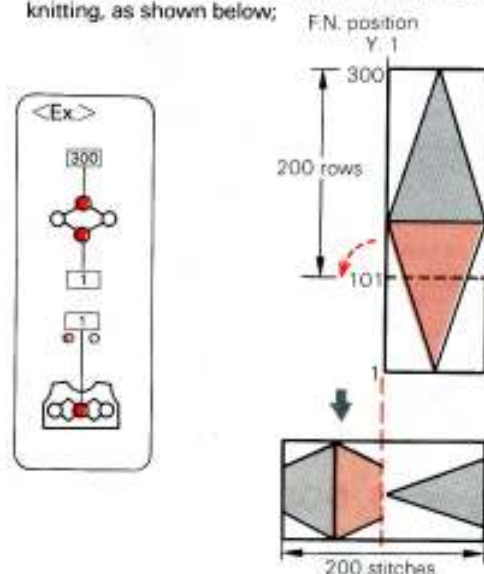40 rows / 20 stitches → 20 rows / 40 stitches

---

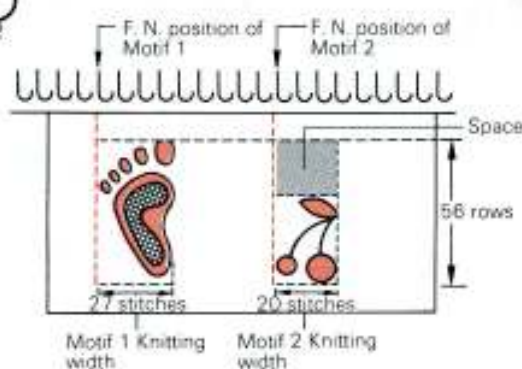- When using SELECTOR II
- When you use ROTATION key for two motifs or more...

The stitches and rows of the pattern for Motif 2-9 are set automatically the same as those of the pattern for Motif 1.

F. N. position of Motif 1 — Motif 1
F. N. position of Motif 2 — Motif 2 — Space

56 rows / 27 stitches — 20 stitches

27 rows / 56 stitches — 56 stitches — Space

- When you use the ROTATION key for the pattern which has more than 200 rows...

Only the top 200 rows of the pattern appears on the knitting, as shown below;

<Ex.>
[300]
[1]
[1]

F.N. position Y. 1
300
200 rows
101
1
200 stitches

When the ROTATION key is off...

F. N. position of Motif 1 — F. N. position of Motif 2

Space
56 rows
27 stitches — 20 stitches
Motif 1 Knitting width — Motif 2 Knitting width

When the ROTATION key is on...

F. N. position of Motif 1 — F. N. position of Motif 2

Space
27 rows
56 stitches — 56 stitches
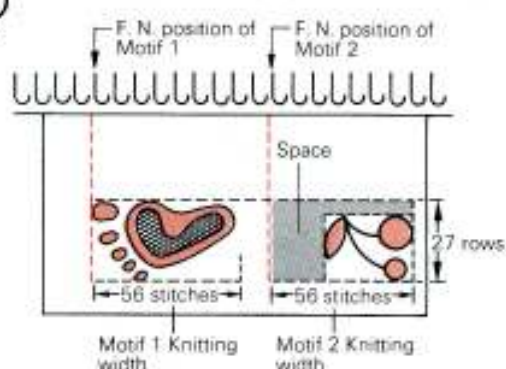Motif 1 Knitting width — Motif 2 Knitting width

[NOTE] ——— In SELECTOR II

Using the ROTATION key, the stitch data of the pattern will be changed.
So when you input the Pattern Program input the First Needle position and the Motif Knitting Width of each motif, remembering that rows are now stitches and vice-versa.

- How to change the ROTATION key whilst you are knitting in pattern...
  Change the ROTATION key one row before you want the pattern to be rotated.
  <Ex.> When you want the pattern to be rotated from 10th row...
  Push ROTATION key when "9" is blinking on the display.
  ♣When you push ROTATION key, the rotated pattern is knitted from the "first" row of the pattern.
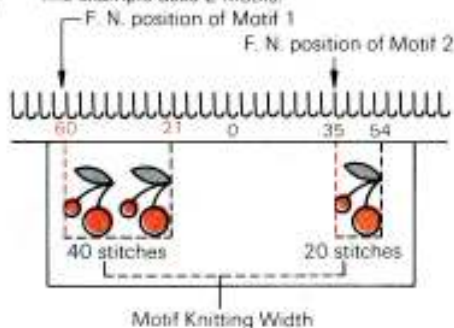
3. DOUBLE WIDTH KEY

The pattern is knitted in double width.

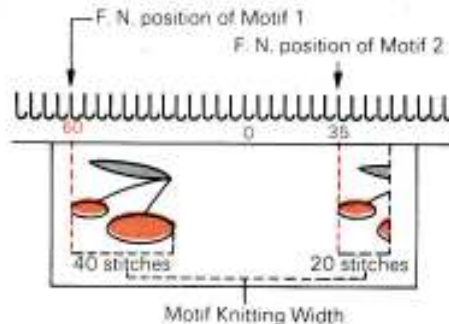- Using SELECTOR I --- All your patterning will double in width.
- Using SELECTOR II

When the DOUBLE WIDTH key is off...
- The example uses 2 motifs.

F. N. position of Motif 1

F. N. position of Motif 2

40 stitches   20 stitches

Motif Knitting Width

When the DOUBLE WIDTH key is on...

F. N. position of Motif 1

F. N. position of Motif 2

40 stitches   20 stitches

Motif Knitting Width

Please remember to give the computer twice the amount of stitches to knit your pattern over when using the No.3 DOUBLE WIDTH key, or you will get only half a pattern.

- How to change the DOUBLE WIDTH key whilst you are knitting in pattern...
  Change the DOUBLE WIDTH key one row before you want the pattern in double width.

  \<Ex\> When you want the pattern in double width from 10th row...
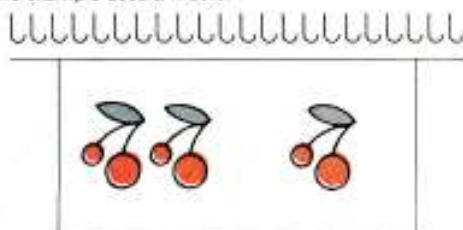 Push the DOUBLE WIDTH key when "9" is blinking on the Display.

4. DOUBLE LENGTH KEY

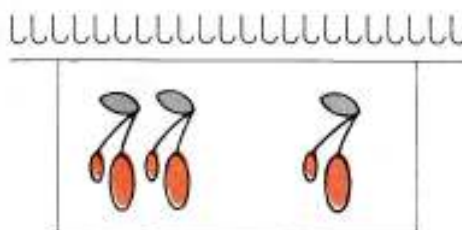The pattern is knitted in double length.

When the DOUBLE LENGTH key is off...

When the DOUBLE LENGTH key is on ...

- The example uses 2 motifs.

- How to change the DOUBLE LENGTH key whilst you are knitting in pattern...
  Change the DOUBLE LENGTH key on the row you want the pattern in double length.

  \<Ex\> When you want the pattern in double length from 10th row...
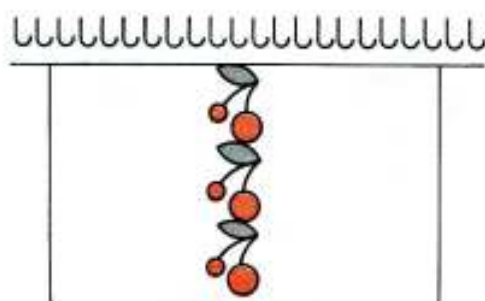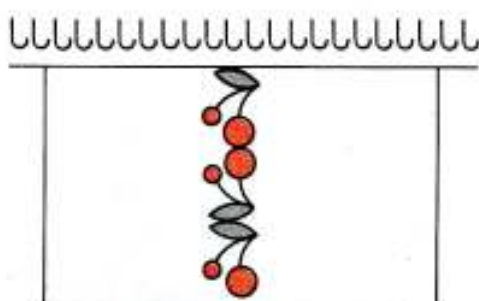 Push the DOUBLE LENGTH key when "10" is blinking on the Display.

5. REFLECTION KEY

REF.
5

The pattern is knitted the right way up, then upside down.
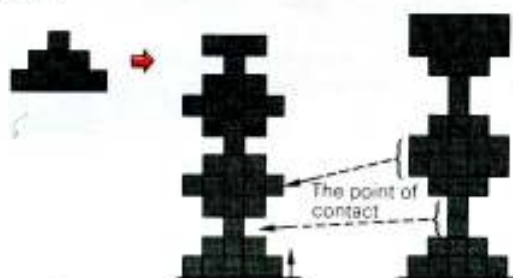
REF.
5

When the REFLECTION key is off...

LLLLLLLLLLLLLLLLLLLLLLLLLL

REF.
5

When the REFLECTION key is on...

LLLLLLLLLLLLLLLLLLLLLLLLLL

♣ While knitting, the buzzer makes a sound "beep" the row before the last row of pattern and the Display shows the number for the last row. Then the Display shows the row numbers in the reverse order.

♣ If you want the pattern to knit upside down first then the right way up... Enter the row no. for the top of the pattern and push the START key.

NOTE

The point of contact between patterns is overlapped for one row.

The point of contact

• How to change the REFLECTION key whilst you are knitting in pattern...

1 Off → On

Pushing the key at any row, the pattern will be knitted upside down after completing one pattern right way up.

2 On → Off

• Whilst knitting right way up...
You can push the REFLECTION key at any row.

• Whilst knitting upside down...
Change the REFLECTION key one row before you want the pattern to be changed.
<Ex> When you want the pattern to be knitted right way up from 10th row...
Push the REFLECTION key when "11" is blinking on the Display.
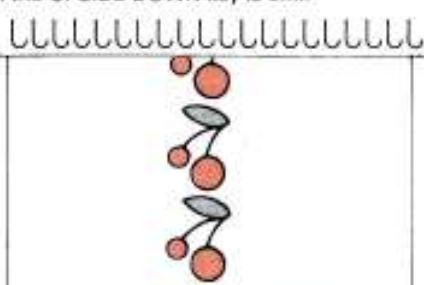
6. UPSIDE DOWN KEY

The pattern is knitted upside down.
(Knitted from the top row of the pattern.)

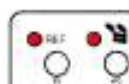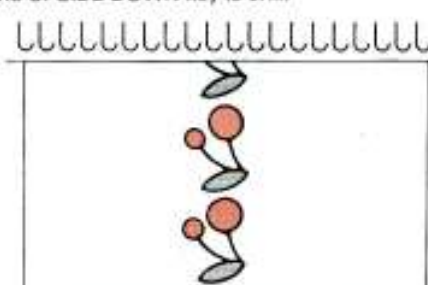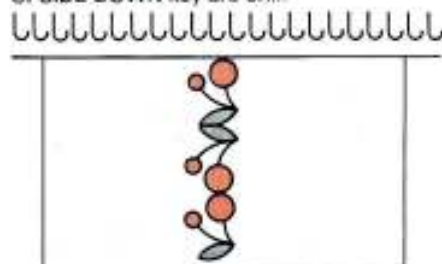When the UPSIDE DOWN key is off...

DIAGRAM

When the UPSIDE DOWN key is on...

DIAGRAM

When both the REFLECTION and the UPSIDE DOWN key are on...

• How to change the UPSIDE DOWN key whilst you are knitting in pattern...

Change the UPSIDE DOWN key on the row you want the pattern to be changed.

<Ex.> When you want the pattern to be knitted upside down from 10th row...
Push the UPSIDE DOWN key when "10" is blinking on the Display.
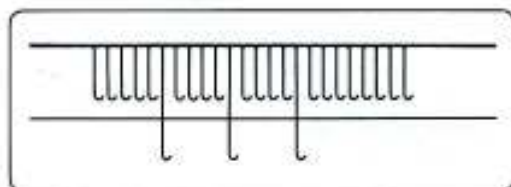
7. NEGATIVE KEY

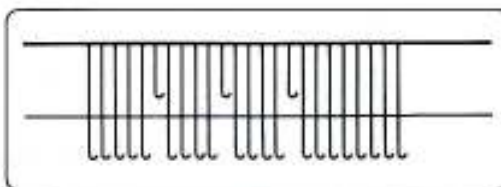The Pattern is knitted in negative.

When the NEGATIVE key is off ...
Needles corresponding to the black square (■) in the diagram are selected to D position, and the other needles remain in B position.

When the NEGATIVE key is on...
Needles corresponding to the black square (■) in the diagram remain at B position and the other needles are selected to D-position.

• How to change the NEGATIVE key whilst you are knitting in pattern...
Change the NEGATIVE key one row before you want the pattern to be knitted in negative.
<Ex.> When you want the pattern knitted in negative from 10th row...
Push the NEGATIVE key when "9" is blinking on the Display.

•WHEN YOU USE THE SINGLE BED COLOUR CHANGER (KHC)

Use NEGATIVE key according to the pattern you knit. The Singlebed Colour Changer is used for Multicolour patterns, for example Multi-colour Tuck Stitch or Skip Stitch and Multi-colour Fairisle among others. It enables you to knit these patterns quicker and easier than you would normally. It can be fitted to both electronic and punchcard machines. 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 can select these patterns from your Pattern Book. (The Punchcards that come with the KHC are not used.)

You can also use your KHC when knitting the following pattern numbers:-

When to use the NEGATIVE

| PATTERN	PATTERN NO.	NEGATIVE key
Fairisle & Tuck Stitch Patterns shown in the KHC Manual	512 — 521	ON
Fairisle & Multi-colour Fairisle Patterns	1-2-4 — 84 801 — 840	ON
Multi-colour Tuck Stitch Patterns	293 — 312	OFF
Multi-colour Skip Stitch Patterns	368 — 394 841 — 850	OFF

• You can also use the KHC with your own designs, with the NEGATIVE key.

•When there are rows of plain knitting in between the pattern rows.

Example. "STITCH WORLD" Pattern No.514

When the 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.

514

Push the Release Button
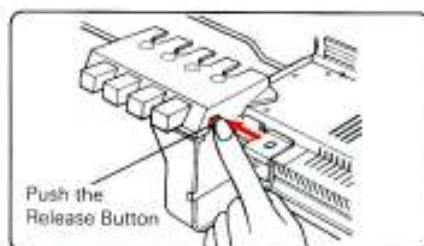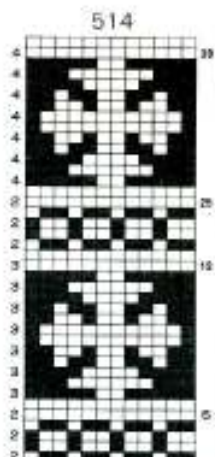
•How to install the Single Bed Colour Changer (KHC) onto the electronic machine.

Refer to the KHC Instruction Manual, and see the following instructions about (2) on page 2, (6) on page 3 and (7) on page 4.

(2) on p.2

KHC Arm Connector

• Always fit the KHC Arm Connector, whether or not you have a Ribbing Attachment.
In this case, however, do not change the setting position of the changer, loosening the knob. (Refer to "How to set (2)".)

(6) on p.3

The Setting Hole (1)
The Setting Hole (2)
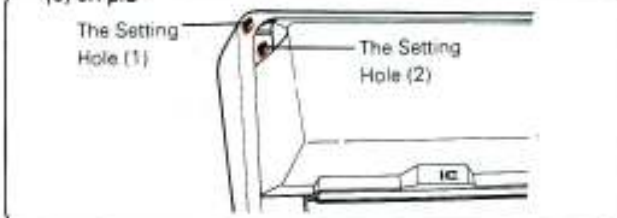
You don't have to set the Yarn Tension Stand. You can use the setting hole on the corner of your knitting machine.

(7) on p.4
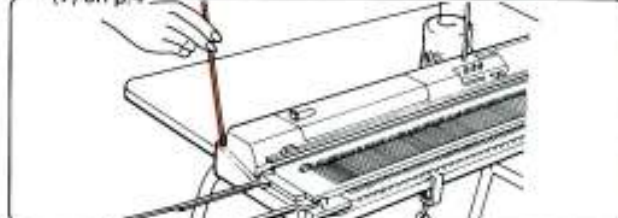
Place the Second Yarn Tension Unit into the setting hole. You can choose either hole (1) or hole (2), but when you use the Knit Leader, select hole (2).

PATTERN KNITTING

1. Fairisle pattern

① Refer to your KHC Instruction Manual and thread up main and contrast yarns.
Button No.1-Main yarn
Button No.2/3/4 - Contrast yarn.

② Knit 10 rows in stocking stitch with the main yarn and place the K-Carriage on the right-hand side of the machine.

③ Program the pattern.

④ Transfer the main yarn from yarn feeder "A" into yarn feeder "B".
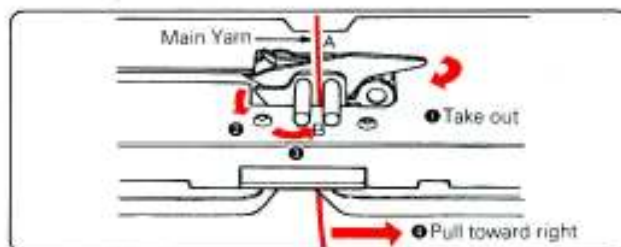
⑤ Take the main yarn off roller 1 and cancel the Changer Button 1.

⑥ Bring all the needles forward from B to E position.
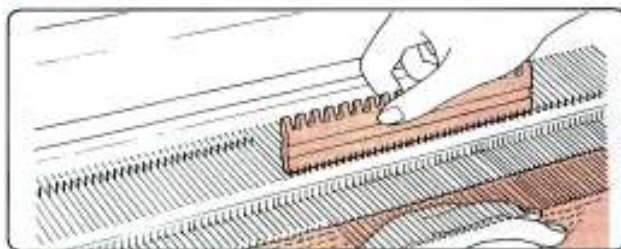
⑦ Move the K Carriage to outside the Right Turn Mark. Set the Change Knob to KC (I) and push MC button.

⑧ Move the K Carriage across the needlebed from right to left, so that it is outside the Left Turn Mark and the needles have been selected.

⑨ Continue knitting. Push the Changer Button according to the number shown in the Memo display.

2. Multi-colour Tuck and Skip Stitch pattern (2-colours)

① When you knit Multi-colour Tuck Stitch pattern with KHC, put the Weaving Brushes in action.
(Put them out of action when you knit other patterns.)
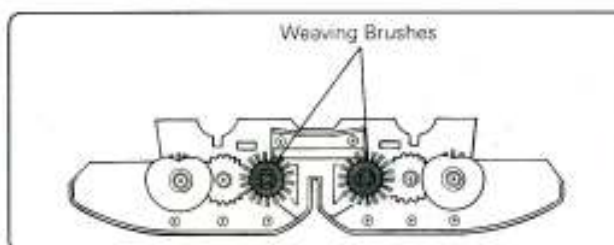
② Thread the yarn into the KHC and knit approximately 10 rows ending with the K-Carriage at the right. Place the K-Carriage outside the Right Turn Mark.

③ Program the pattern.

④ Set the change knob to KC (I) 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.

3. Multi-colour Skip Stitch pattern (3 colours)

In order to knit these patterns, you have to change the yarn every row, both on the left and right of the needlebed unless you use DOUBLE LENGTH (VARIATION) key No.4.
You have to knit 1, 2 or 3 rows to complete knitting each row of your pattern. (It depends on how many colours per row you used in your pattern.)

A. When you use the DOUBLE LENGTH key ...
Follow the steps 2- ② - ⑥ above.
Change yarn every two rows.

B. When you do not use the DOUBLE LENGTH key ...
Follow the steps 2- ② - ⑥ above.
In this case, you can start knitting, with the K-Carriage on the left or on the right.
Change the yarn every row, according to the Memo information.

MC RIB KEY (Multi-colour Rib-Jacquard)

MC RIB

Use this key when you knit the Multi-colour Rib patterns.
♣Do not use this key when you knit the Multi-colour Rib patterns (3 colours) in your pattern book (pattern no. 851 ~ 860).

Multi-colour Rib patterns are worked using both the ribber and the Double Bed Colour Changer (KRC).

PATTERN DATA & MEMO INFORMATION OF THE PATTERNS IN YOUR PATTERN BOOK

Multi-colour Rib patterns (2 colours) (pattern no. 522 ~ 531).

- The Pattern data are memorized in the computer in the same form as that of the Fairisle pattern.
- Memo Information on the "odd number" rows show the Contrast yarns and those on the "even number" rows show the Main yarns.

Knit the first and 2nd rows with Main yarn No.2.

Knit the first and 2nd rows with Contrast yarn No.3.
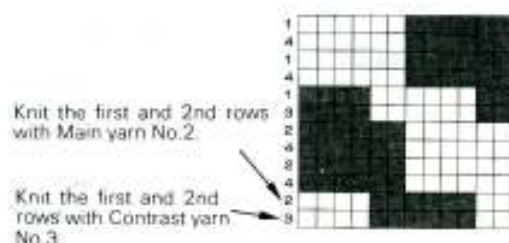
Multi-colour Rib patterns (3 colours) (pattern no. 851~ 860)

- The Pattern data and Memo Information are already arranged and stored in the computer, in order to knit each yarn.
  (Do not use the MC RIB key to knit these patterns)

Yarn No. to knit with

One sequence
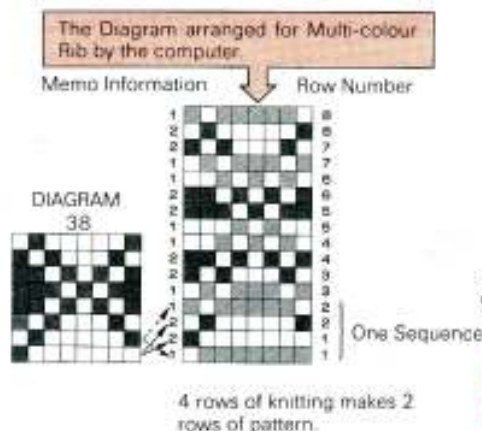6 rows of knitting makes 2 rows of a pattern.
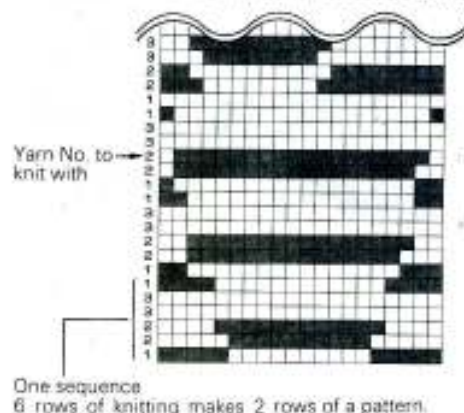
Pushing the MC RIB key (the lamp is lit), the computer automatically arranges the pattern data of one row into several rows, in order to knit it separately.

THE PATTERN DATA AND MEMO INFORMATION WHEN THE MC RIB KEY IS ON

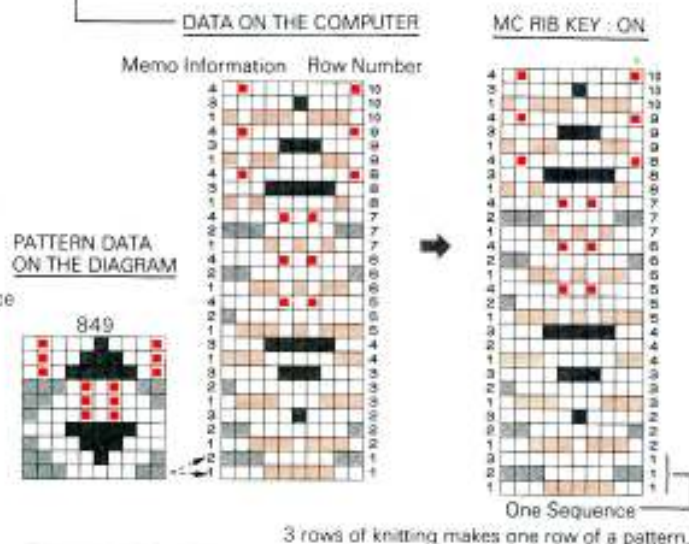① When there is no Memo information on the Diagram:—

A. Fairisle patterns and Patterns programmed in INPUT MODE 1

- 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.

The Diagram arranged for Multi-colour Rib by the computer.

Memo Information   Row Number

DIAGRAM 38

One Sequence

4 rows of knitting makes 2 rows of pattern.

B. Multi-colour Skip Stitch patterns (3 colours) in the Pattern Book and the Patterns programmed in INPUT MODE 2.

- Knit with three yarns, 1-3.
- The pattern datas arranged and stored in the computer, in order to knit yarns 1 - 3 separately.

DATA ON THE COMPUTER   MC RIB KEY : ON

Memo Information   Row Number

PATTERN DATA ON THE DIAGRAM

849

One Sequence
3 rows of knitting makes one row of a pattern.

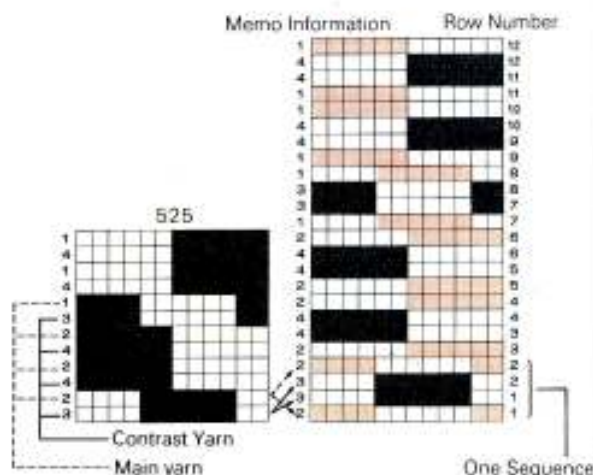## THE PATTERN DATA AND MEMO INFORMATION WHEN THE MC RIB KEY IS ON

② When the Memo information is on the "odd number" rows only:—
- Knit with one Main yarn and several Contrast yarns.
- The number 1 on the MEMO display tells you to knit with Main yarn, and other numbers with Contrast yarns.
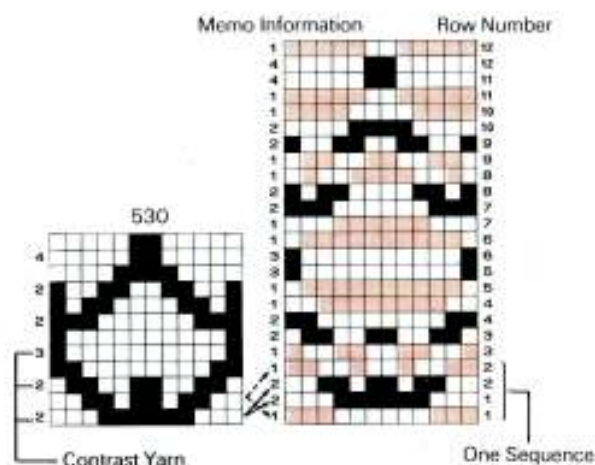
③ When the MEMO information is both on the "odd number" and "even number" rows:—
- Knit with several Main yarns and Contrast yarns.
- The number on the MEMO display shows the yarn no. to use.

530

Memo Information   Row Number

Contrast Yarn   One Sequence

525

Memo Information   Row Number

Contrast Yarn
Main yarn   One Sequence

● WHEN YOU USE THE DOUBLE BED COLOUR CHANGER (KRC)

This can be fitted to both electronic and punchcard machines.
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 can select these patterns from your STITCH WORLD. (The punchcards that come with the KRC are not used.)
  Also, you can use the Multi-colour Rib patterns in STITCH WORLD II.

- You can knit Multi-colour Rib patterns using the patterns for Fairisle, Multi-colour Fairisle, Single motif and Multi-colour Skip Stitch (3 colours).

PATTERN KNITTING

- When using the SELECTOR II...

Please disregard the instruction on page 17 of the KRC Instruction Manual.
The back ground of the pattern is knitted with the yarn for the first row of one sequence.
The Multi-colour Rib pattern (3 colours) in STITCH WORLD II cannot be knitted in SELECTOR II as a motif.

(1) Multi-colour Rib patterns (3 colours) programmed in INPUT MODE 2 and using Multi-colour Skip Stitch patterns (3 colours) in STITCH WORLD II

In knitting above patterns, you have to change the yarn every row, both on the left and right.
So it is recommended to use the DOUBLE LENGTH key in order to change yarns with the Colour Changer Unit.

(A) When using the DOUBLE LENGTH key...

① Set up the ribber and KRC onto your machine and thread the yarn.

② Fit the Fine Knitting Bar on the main bed.

③ Arrange the needles for full needle rib and knit 10 rows with the Yarn 1 in full needle rib.
Place the K-Carriage outside the right-hand Turn Mark.

④ Program the pattern and push the MC RIB key(ON).

⑤ Set the Change Knob to KC (II).

⑥ Move the K-Carriage slowly across the Turn Mark, to knit one row.
The needles are selected.

⑦ Set the K-Carriage and the KR-Carriage as shown in the illustration.
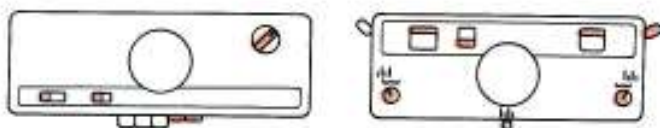
⑧ Knit two rows.

⑨ 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.

⑩ Knit according the Memo information.

• Push the Changer Button after you hear the "Click".
• For correction of mistakes, refer to page 72.

(B) When you do not use the DOUBLE LENGTH key ...

Follow the steps Ⓐ above.
In this case, before start knitting, you can place the K-Carriage either on the left or on the right.
Change yarns every row, according to the Memo information.

(2) Other patterns

① Set up the ribber and KRC onto your machine, and thead the yarns.
♣ In case you knit Multi-colour Rib pattern using Fairisle patterns, thread the Main yarn into Changer 1.

② Follow the steps ① — Ⓐ , ② ③ ④ ⑤ ⑥ ⑦ ⑨ ⑧ and ⑩ in order.
However, in step ③ , place the K-Carriage outside the left-hand Turn Mark.

LIST OF VARIATION KEYS & MC RIB KEY

Use the appropriate Variation or MC Rib key to knit the patterns marked " √ " in the columns below.

Variation \ Patterns	Fairisle pattern	Tuck Stitch pattern	Skip Stitch pattern	Weaving pattern	Thread Lace pattern	Plating-Tuck Stitch pattern	Multi-colour Rib pattern (2 colours)	Multi-colour Rib pattern (3 colours)	
								No.851-860	Others
1. Reverse	√	√	√	√	√	√	√	√	√
2. Rotation	√ *9	√ *1 *9	√ *3 *9	√ *4 *9	√ *4 *9	√ *5 *9	√ *9	—	√ *7
3. Double Width	√	—	√	√ *4	√ *4	—	√	√	√
4. Double Length	√	√ *1	√	√	√	—	√	—	√
5. Reflection	√	√ *1	√	√	√	√	√	—	√
6. Upside Down	√	√	√	√	√	√	√	—	√
7. Negative	√	— *2	— *2	√ *4	—	— *2	√	—	—
MC RIB	—	—	—	—	—	—	√ *6	—	√ *8

♣ When knitting lace pattern, all Pattern Variation keys cannot be used.

*1- Use the ROTATION, DOUBLE LENGTH or REFLECTION key according to the remarks on page 28 under Tuck Stitch patterns.

*2- You can knit Tuck Stitch, Plated Tuck Stitch and Skip Stitch Patterns from "STITCH WORLD" without using the NEGATIVE key.

*3- There is a possibility you cannot knit the pattern, in case you have many rows to be skipped after ROTATION.
    ♣ In Multi-colour Skip Stitch patterns (3 colours), if rotated, the Memo information will always repeat 1, 2, 3, 1, 2, 3, ..., and the needles are always selected three times in one row, even if you use only two colours in one row. (In this case, you have to operate the carriage one row, when no needles are selected.)
    Also, when you use total 4 or more colours in your pattern, there is a possibility you cannot vary the pattern as you would expect.

*4- Do not use the DOUBLE WIDTH, ROTATION and NEGATIVE key for pattern which have more than 6 selected needles next to each other.

*5- Use the ROTATION key according to the remarks on page 28 under Plated Tuck Stitch patterns.

*6- Always use the MC RIB key when you knit Multi-colour Rib using Fairisle patterns.

*7- After rotated, the Memo information will always repeat 1, 2, 3, 1, 2, 3, ..., and the needles are always selected three times in one row.
    In case you use total 4 or more colours in your pattern, there is a possibility that you cannot vary the pattern as you would expect.
    When you change the Memo information, set the ROTATION key on and enter your Memo information.
    ♣ When you set the ROTATION key off, the Memo information will revert back to the previous form. The Memo information for the built-in patterns no. 841-850 will revert back to the original form.
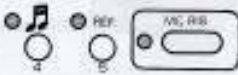
*8- Always use the MC RIB key when you knit Multi-colour Rib programmed in INPUT MODE 2.

*9- The Memo information for the patterns except Multi-colour Skip Stitch patterns (3 colours) does not show in the Memo display when the ROTATION key is on. If you need the Memo information, enter your memo data when the ROTATION key is on.
    ♣ When you set the ROTATION key off, the Memo information will revert back to the previous form. The Memo information for the built-in patterns will revert back to the data in the diagrams of the pattern book.
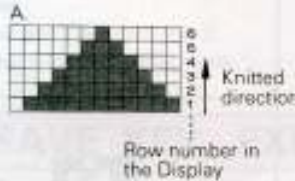
USING THE START KEY (Refer to p.22) WITH THE DOUBLE LENGTH, REFLECTION OR MC RIB KEYS

The computer arranges the pattern data as follows, depending upon the setting of the VARIATION or MC RIB key.
The indication of the row number in the Display is different when you use the DOUBLE LENGTH, REFLECTION or MC RIB key.

(a)

- When using none of these keys;

A. All patterns except for the Multi-colour Skip Stitch pattern

Enter the row number which you want to start and push the START key, the needle selection is started from the entered row.

■ HOW TO USE UP/DOWN KEY
Keep pushing the Up/Down key until you get the row no. you want to start.

Knitted direction

Row number in the Display

B. Multi-colour Skip stitch patttern

The same row no. appears on the Display 1 — 3 times, according to the pattern data.
- The row uses only one colour .... 1 time
- The row uses two colours ...... 2 times
- The row uses three colours ...... 3 times

Enter the row number which you want to start and push the START key, the needle selection is started from the 1st row of the entered row.

In case you want to knit from the 2nd (or 3rd) row of the entered row, push the Up key (twice).

■ HOW TO USE UP/DOWN KEY
Keep pushing the UP/DOWN key until you get the row no. you want to start.

Knitted direction

(b)
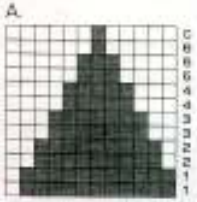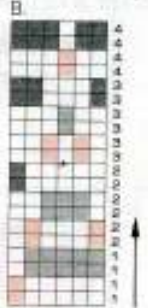
- When using the DOUBLE LENGTH key; the same row is knitted twice with Double Length Pattern.

The same row no. will appear on the Display twice.
♣When knitting the Multi-colour Skip Stitch patterns, it will appear 2 — 6 times, depending on the pattern data.

Enter the row number which you want to start and push the START key, the needle selection is started from the 1st row of double length pattern for the entered row.
♣In case you want to knit from midway through the entered row, push the Up key to advance through the row you want to start knitting.

■ HOW TO USE UP/DOWN KEY
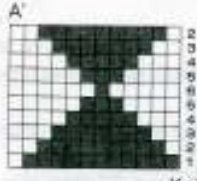Keep pushing the Up/Down key until you get the row no. you want to start.

Knitted direction

(c)

- When using the REFLECTION key; When you use the REFLECTION key, the computer regards the pattern A', shown below, as "one pattern".
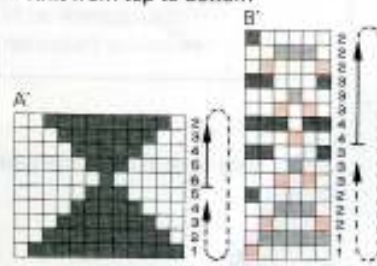
1) • When knitting the pattern from bottom to top, push the START key.
   • When knitting the pattern from top to bottom, enter the last (top) row of pattern and push the START key.

2) Enter the row number which you want to start and push the START key.
   ♣When knitting the Multi-colour Skip Stitch patterns, the same row no. will appear several times, depending on the pattern. The needle selection is started from the 1st row of the entered row. In case you want to knit from the 2nd(or 3rd) row of the entered row, push the Up key (twice).

■ HOW TO USE UP/DOWN KEY
Keep pushing the Up/Down key until you get the row no. you want to start.

• Knit from bottom to top

• Knit from top to bottom

Knitted direction

(d)

○♪ ○REF [MC RIB] • When using the MC RIB key: You have to knit two (or three) rows to complete knitting one row
of your pattern.

Enter the row number which you want to start and push the START key, the needle selection is started from the row for
the Main yarn (or Yarn 1) of the entered row. (i.e., those marked with •)

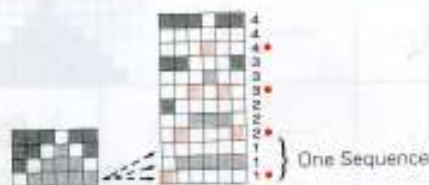♣In case you want to knit from the 2nd (or 3rd) row of the entered row, push the Up key (twice).

A. Multi-colour Rib pattern (2 colours)
Begin from the first row of the odd-numbered rows,
because 4 rows equal one pattern sequence.
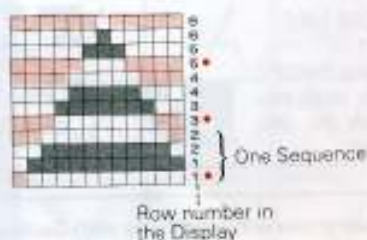
B. Multi-colour Rib pattern (3 colours)
♣ 3 rows makes one pattern sequence.

} One Sequence

Row number in
the Display

} One Sequence

■ HOW TO USE UP/DOWN KEY
Keep pushing the Up/Down key until you get the row no. you want to start.

(e)

♪ ○REF [MC RIB] • When using the DOUBLE LENGTH and MC RIB keys; You have to knit four (or six) rows to
complete knitting one row of your pattern.

Enter the row number which you want to start and push
the START key.
The needle selection is started from the row for the "first"
Main yarn (or Yarn 1) of the entered row. (i.e. those marked
with •)
♣In case you want to knit from the next row of the entered
row, push the Up key.

■ HOW TO USE UP/DOWN KEY
Keep pushing the Up/Down key until you get the row
no. you want to start.

} One Sequence

} One Sequence
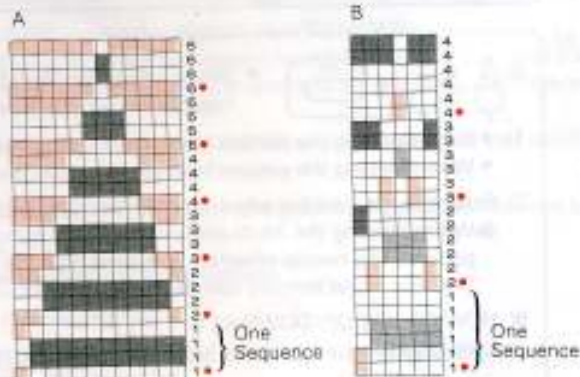
CARTRIDGE (Optional Accessory)
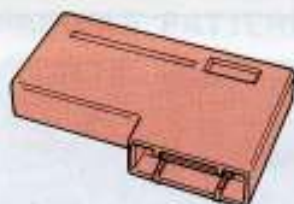
- **BLANK CARTRIDGE**
  You can store all your own designs that you have created on your knitting machine computer into a cartridge. Once you have the patterns stored in the cartridge you can load them back into the machine time and time again. Follow the steps of SAVING or LOADING below when you transfer the data from/to the knitting machine.
- **STITCH PATTERN CARTRIDGE/LACE CARTRIDGE**
  When you create your pattern with the pattern programming device...
    Set the mode of KH965. If no mode of KH965 is in the screen, set the mode of KH940.
  How to transfer the data from/to the knitting machine...
    Switch off the power of the pattern programming device and TV set. Take out the cartridge from the main body. Follow the steps of SAVING or LOADING below.
- **STITCH PATTERN CARTRIDGE EXTRA'S**
  Please refer to the next page.

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.

LOAD KEY, SAVE KEY, EXECUTE KEY
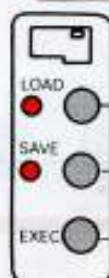
LOAD key....Transfer the data, stored in the cartridge, onto the knitting machine.

SAVE key.....Transfer the data, stored in the knitting machine, onto the cartridge.
    CAUTION: When you save the data onto a cartridge which already has data on it, the data will be deleted.

EXECUTE key...Carry out the data saving or loading.

SAVING AND LOADING

1 Turn off the power switch of the knitting machine.

2 Open the lid of the cartridge slot on the left of the operation panel.
Insert the cartridge into the slot.

3 Turn on the power switch of the knitting machine.

Cartridge

Slot
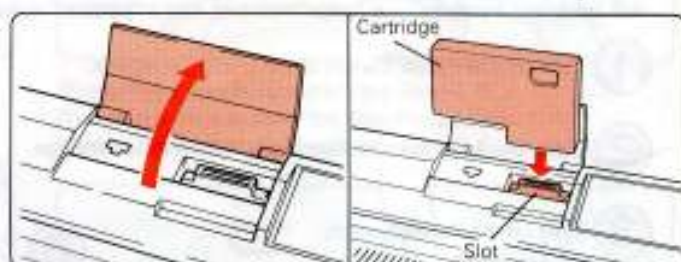
SAVING

♣When you first save your own patterns on the cartridge...
  Enter "888" and push the STEP key.

4 Push the SAVE key. The Display shows 1 blinking.

(blinking)

The cartridge has no data in it.

♣When a steady 1 is lit, it means that the cartridge has data on it.
  If you save the data in this case, the data already stored on the cartridge will be deleted.
♣If you push the LOAD key by mistake, push the SAVE key and operate the necessary procedure.

5 Push the EXECUTE key.
The SAVE lamp is flashing and the data saving starts.
When saving is finished, the buzzer beeps and all the display except Power lamp and READY lamp goes off.

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

♣Please note that 3 colour in a row patterns (see page 25 mode 2) will NOT save onto stitch pattern cartridge II but will save onto cartridge III.

You are able to load individual patterns onto your machine from a cartridge without losing all your own patterns in the machines memory.

(4) Push the LOAD key. Display shows 1 (If the 1 is blinking, it means the cartridge has no data on it.)

○   ○

(lit)

i

── The cartridge has data in it.

♥ If you push the SAVE key by mistake, push the LOAD key and operate the necessary procedure.

(5) Push the STEP key. — Pattern number appears.
Enter the pattern number from the cartridge that you want to load onto the machine.

(6) Push the STEP key. — Machine will re-allocate that pattern the next available empty pattern number on your machine.

(7) Push the EXECUTE key. — The loading will happen instantly.
The buzzer beeps and all the lights go off except the Power Switch and READY lamp.
♣ If you wish to load more than one pattern onto your machine, repeat steps (4) to (7).

(8) Turn off the Power Switch and take cartridge out of slot.

• USING STITCH PATTERN CARTRIDGE EXTRA'S (Optional Extra).

This cartridge has over 800 patterns stored on it — the patterns can be seen in PUNCHCARD BOOK Volume 5.
To use with your machine, locate the pattern that you wish to knit in the instruction book that comes with the cartridge, each pattern will have two numbers — a "page" number, and a "pattern" number.

(1) Turn off the Power Switch of the knitting machine.

(2) Open the lid of the cartridge slot and insert the cartridge.

(3) Turn on the Power Switch.

(4) Push the LOAD key, "page" 1 appears in the Display.
Enter the "page" number you require and push the STEP key.

(5) Pattern number will appear. — Enter the pattern number that you wish to knit.

(6) Push the STEP key. — The machine will re-allocate the pattern the next available empty pattern number on your machine.

(7) Push the EXECUTE key.
♣ If you wish to load more than one pattern, repeat steps (4) to (7).

(8) Turn off the Power Switch and take cartridge out of slot.

PATTERN KNITTING

FAIRISLE PATTERN — All over pattern knitting

<Ex.> Pattern No.19

(1) PATTERN PROGRAM (See page 20.)
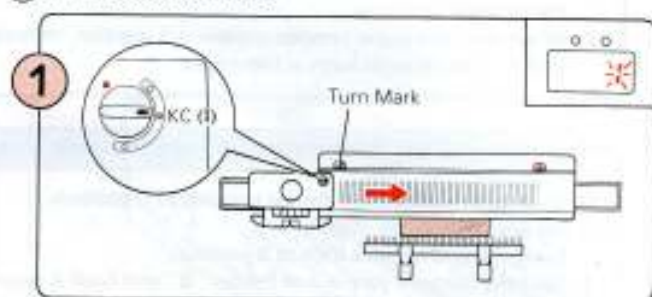
(2) PATTERN KNITTING

Place the K-Carriage outside the Turn Mark. Set the Change Knob to KC.(I).

Move the K-Carriage slowly across the Turn Mark, and knit one row.

The needles are selected, No.1 flashes on and off in the Display to tell you to knit the first row of the pattern.

♣You only need to pass the K-Carriage once across the Turn Mark when you start pattern knitting.
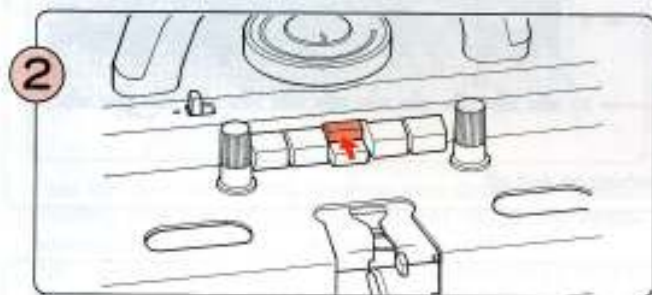
Push the upper MC Button.
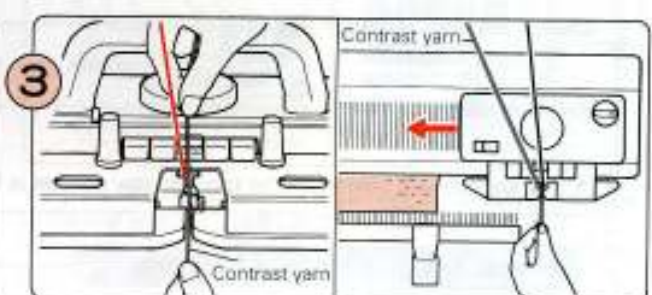
Thread the contrast yarn into Yarn Feeder"B".
(You do not have to open the Yarn Feeder Lever.)
Holding the yarn end by hand, move the K-Carriage one row.
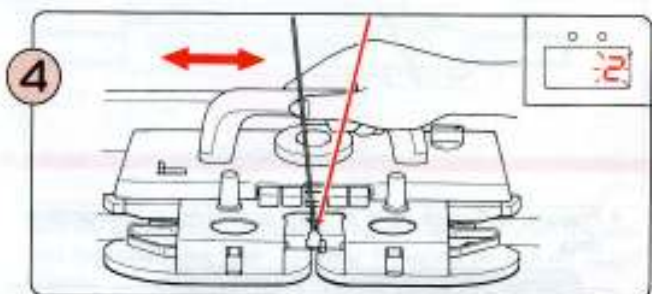
The Number 2 flashes on and off in the Display to tell you to knit the second row of the pattern.

Move the K-Carriage back and forth to knit the Fairisle pattern.
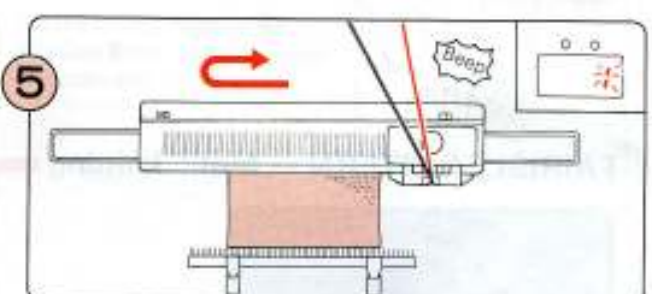
When you hear the sound "beep", finish the row and knit one more row.

Number 1 flashes on and off in the Display.

You have now finished knitting one complete pattern.

6

* You can either continue...
  Repeat Steps (4) — (5).

* Or finish pattern knitting...
  Set the Change Knob to
  N·L. The Cam Button will
  be released automatically.

* In pattern knitting, always move the K-Carriage pass the centre of the machine (Green needle 1) every row. It tells the computer to go to the next row.

* When you use more than two different colour yarns, change the yarn acording to the Memo information.

All the needles are selected to D position. In this case, follow the step 1 and 2.

1. Take out the main yarn out of Feeder A and hook it around the notch at the end of your machine. Then continue knitting with the contrast yarn only.
2. When you have some needles remain in B position, rethread the main yarn into Feeder A and knit the row, holding the main yarn so that no loops form at the edges.

Only the both end needles will be selected to D position.
In this case, follow the steps 1 — 3.

1. Bring 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 so that no loops form at the edges.

In order to knit the pattern nos.810 and 819 in STITCH WORLD II, you have to change the main yarn midway through the knitting. The row no. where the main yarn should be changed in specified in the diagram.

Change the main yarn from ① to ② —— 9th row ————▶

Knit with main yarn ① ——————— 1st row —————▶
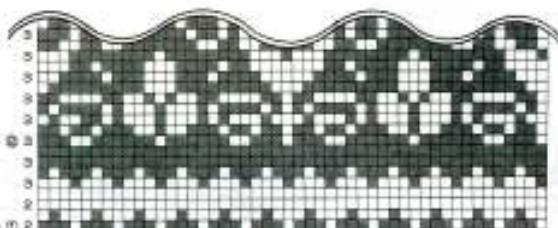
• Change the main yarn when the specified row number is flashing on and off.

Some knitting pattern may require you to "lock machine on row number? for e.g. 10 rows" to do this push the CR key — Display will go blank and pattern will repeat — when required number of rows have been knitted, push CE — pattern will now knit normaly.

FAIRISLE PATTERN — Motif knitting

<Ex> Pattern No.86

① PATTERN PROGRAM (See page 20.)

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

Separate the main yarn in two.

The stitches at the edges of single motifs need to be bound in with the rest of the knitting, so that there are no holes. To do this split the main yarn by untwisting it to give a finer thread of the same colour.
We will call this "finishing yarn".

Main Yarn

② PATTERN KNITTING

The following figures show the steps when the needles are selected from left to right, in step ①.

① Follow the steps ① — ③ on page 47.
But, set the Change Knob to KC (II) in step ①.
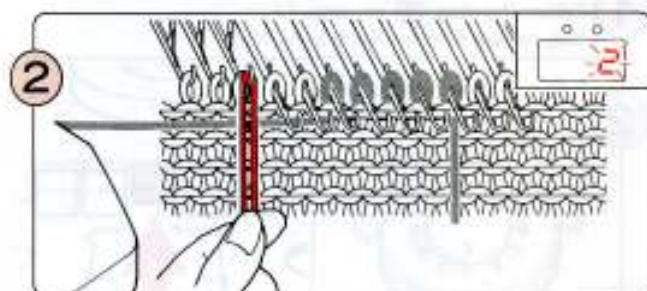
② Fold the Finishing yarn in half and hook it on the needle next to the left-end selected needle.
Holding the finishing yarn, move the K-Carriage to the right.
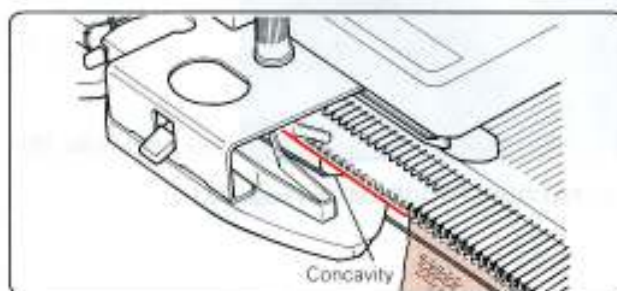
Concavity

♣ Make sure the contrast yarn goes under the concavity in the Sinker Plate.
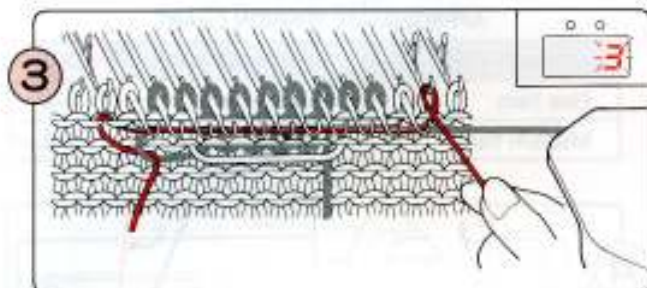
③ Pass the other end of the finishing yarn under the selected needles, and wrap it from right to left round the needle adjacent to the last selected needle on the right.
Holding the finishing yarn, move the K-Carriage from right to left.

④
• When the K-Carriage is at the left...
• When the K-Carriage is at the right...
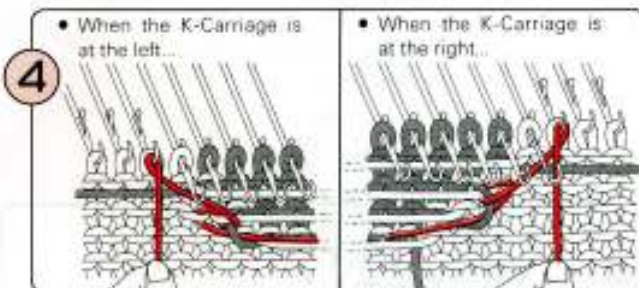
Wrap the finishing yarn around the hook of the needle adjacent to the first selected needle, and pull down gently.
Ensure that this needle is in B position before you take the K-Carriage across for the next row of knitting.
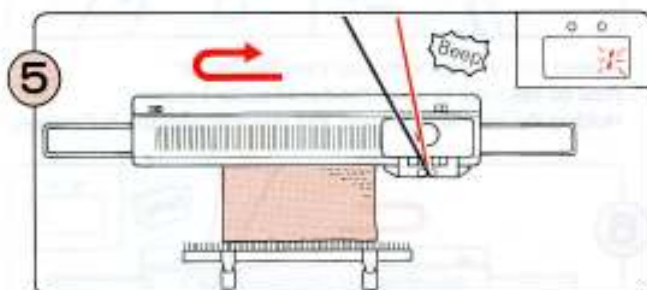
⑤ Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display.

⑥ Set the Change Knob to N-L.
The Cam Button will be released automatically.

N-L

- When you use more than two different colour yarns, change the yarn according to the Memo information.
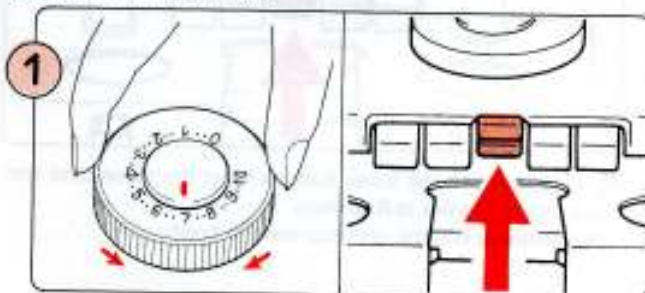- Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row. It tells the computer to go to the next row.

THREAD LACE PATTERN — All over pattern knitting ▬▬▬▬

You can knit this pattern with 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.

<Ex> Pattern No. 397

① **PATTERN PROGRAM (See page 20.)**

② **PATTERN KNITTING**

1 Follow the step **①** on page 47.
But, set the Change Knob to KC (II).
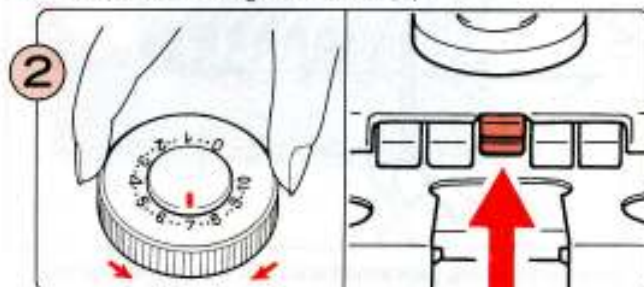
Set the Tension Dial, referring to the Tension Chart below.
Push both upper and lower buttons (L) at the same time.

APPROXIMATE TENSION CHART

MAIN YARN	CONTRAST YARN	DIAL
Fine Yarn	Very fine yarn	4-9
Medium Yarn	Very fine yarn	6-9

3
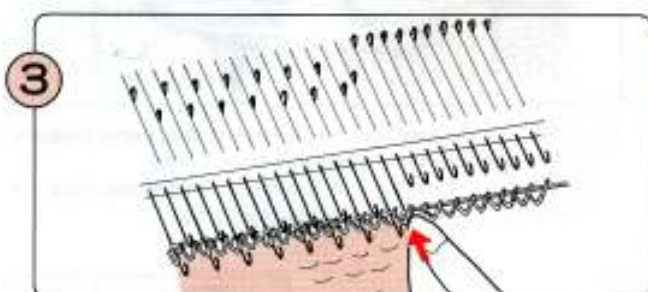
If the end needle is selected to D position, push it back to B position.
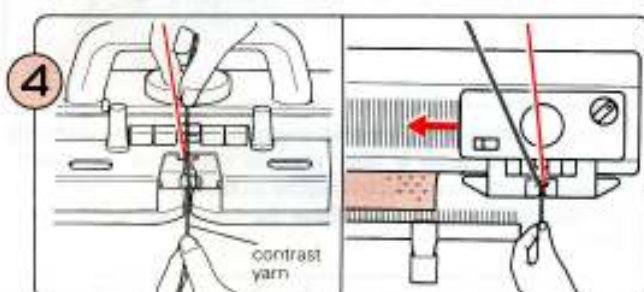
4

contrast yarn

Thread the contrast yarn into Yarn Feeder "B".
(You do not have to open the Yarn Feeder Lever.)
Holding the yarn end by hand, knit one row with the K-Carriage.

5
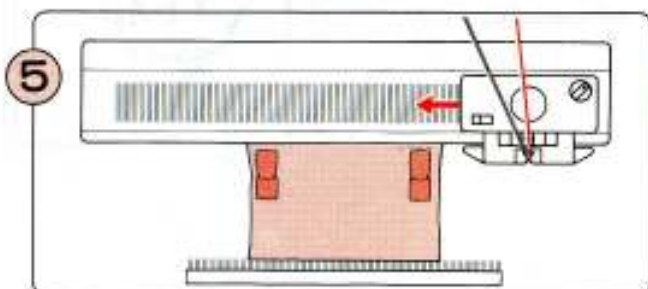
Continue knitting, remembering to push the selected end needle back to B position. (See step **③** .)

♣Move the K-Carriage slowly.
♣Rehang the Claw Weights every 20 rows or so.
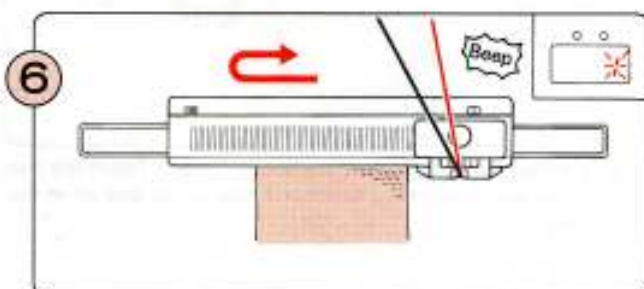
6

Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display.
You have now knitted one complete pattern.

7 • You can either continue: Repeat steps **⑤** — **⑥** .
• Or finish pattern knitting... Set the Change Knob to N·L. The Cam Buttons will be released automatically.

• Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row.

THREAD LACE PATTERN — Motif knitting

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

<Ex.> Pattern No. 421

① PATTERN PROGRAM (See page 20.)

② PATTERN KNITTING

Set the Tention Dial referring to the Tention Chart on previous page.
Push both upper and lower buttons(L) at the same time.
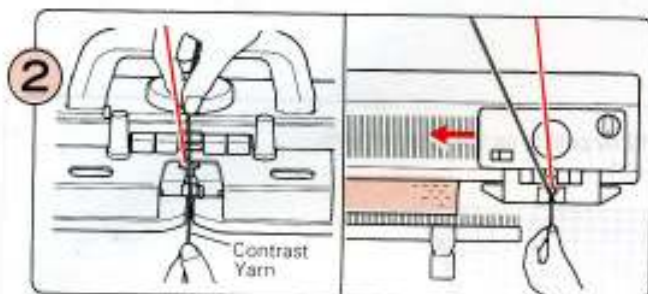
②
Contrast Yarn

Thread the contrast yarn into Yarn Feeder"B".
(You do not have to open the Yarn Feeder Lever.)
Holding the yarn end by hand, Knit one row with the K-Carriage.

③
KC (II)   Turn Mark
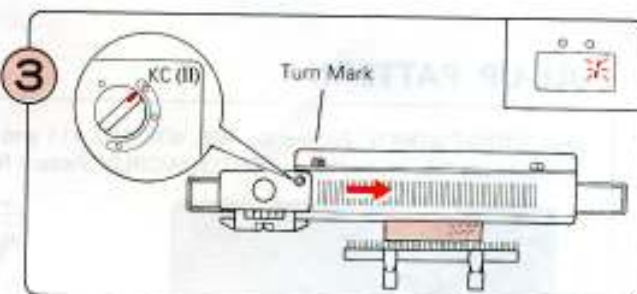
Continue knitting until you want to begin Thread Lace Knitting. Place the K-Carriage outside the Turn Mark. Set the Change Knob to KC (II). Move the K-Carriage slowly across the Turn Mark to knit one row.
♣You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.
The needles are selected.
Number 1 flashes on and off in the Display to tell you to knit the first row of the pattern.

④
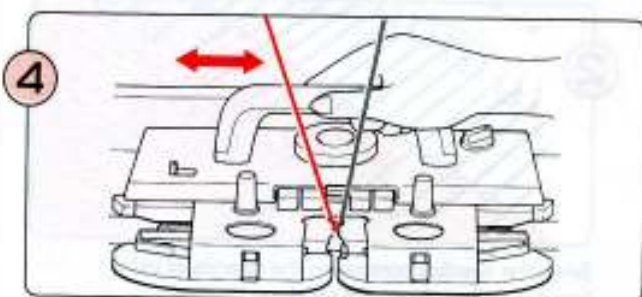
Move the K-Carriage back and forth, you can knit Thread Lace Pattern.
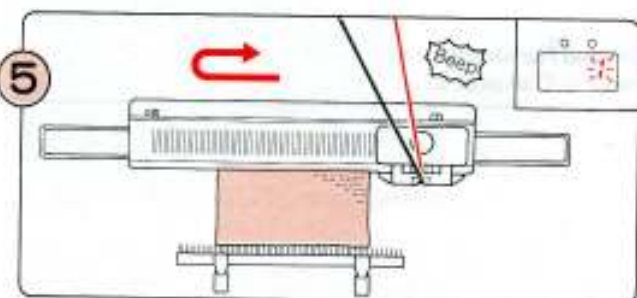
⑤
Beep

Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display.

⑥
N·L
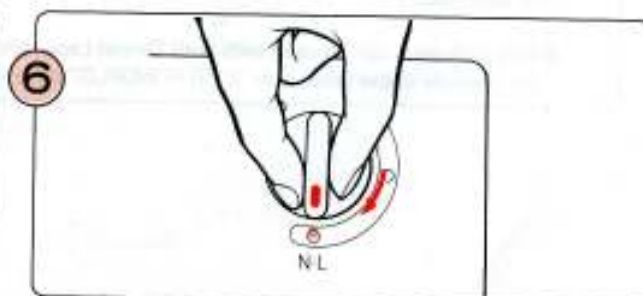
Set the Change Knob to N-L.
The Cam Buttons will be released automatically.
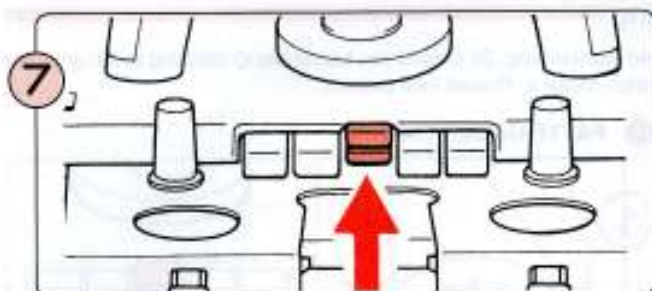
Push both upper and lower buttons (L) at the same time and align all the needles at B position.
Then continue knitting until you want to finish.
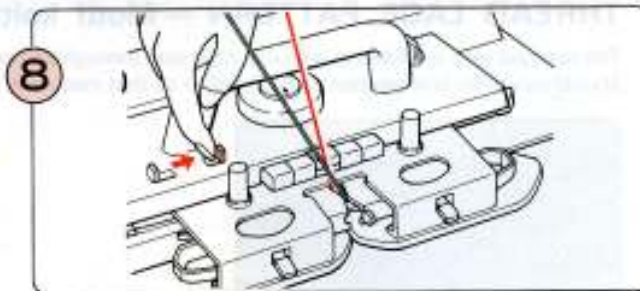
Slide the Cam Button Release Lever to the right to release the Cam Buttons.

- Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row.

PULL-UP PATTERN

Knit "STITCH WORLD" Pattern No. 408, 409, 410, 411 and 412 by pulling up the contrast yarn.
The example was knitted using "STITCH WORLD" Pattern No.411.
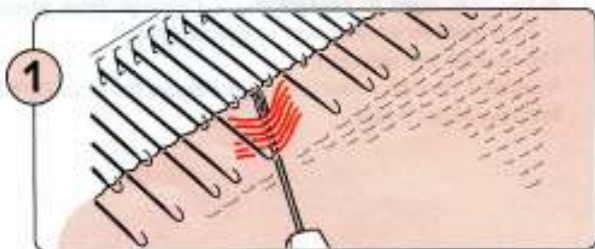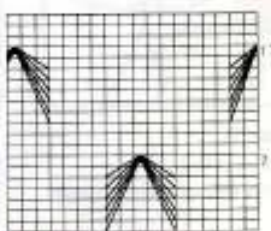
When the row number indicated on the right-side of the Diagram in "STITCH WORLD" appears in the Display, you should pick up the strands of contrast yarns that cross in front of the knitting, and place these onto the needle.
(See illustration.)

Bring the needles containing the strands of yarn forward to E position and continue knitting.

♣This technique can be used with both Thread Lace patterns and Fairisle patterns.
An example of the latter is in "STITCH WORLD" pattern No.1 — C on page 2.

TUCK STITCH PATTERN

<Ex.> Pattern No. 240

① PATTERN PROGRAM (See page 20.)
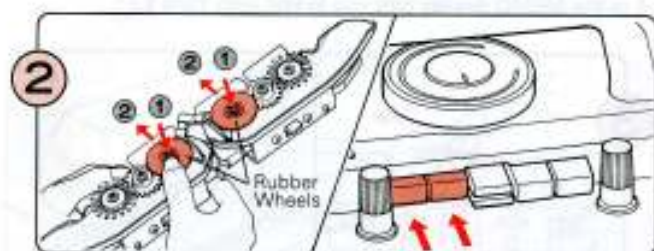
Remove the Sinker Plate Assembly from the K-Carriage and turn it over. Pushing the Rubber Wheels into working position ② , and attach the Sinker Plate Assembly back on the K-Carriage again.
Push both TUCK Buttons at the same time.
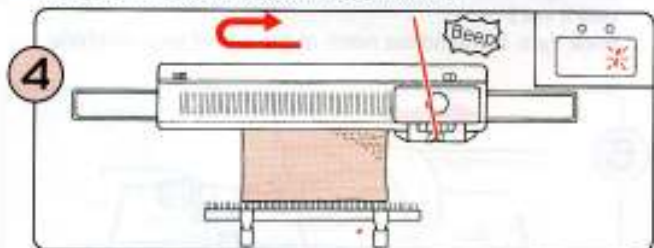
Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display. You have now knitted one complete pattern.

② PATTERN KNITTING
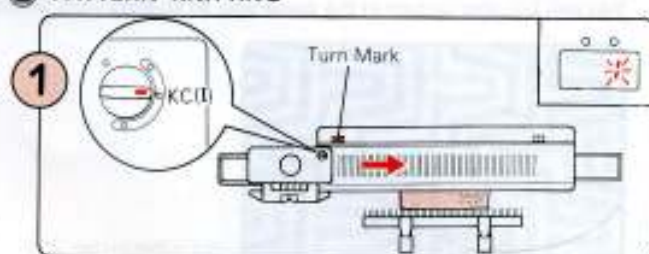
Place the K-Carriage outside the Turn Mark.
Set the Change Knob to KC (I). Move the K-Carriage slowly across the Turn Mark to knit one row.
♣You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.

The needles are selected. Number 1 flashes on and off in the Display to tell you to knit the first row of the pattern.
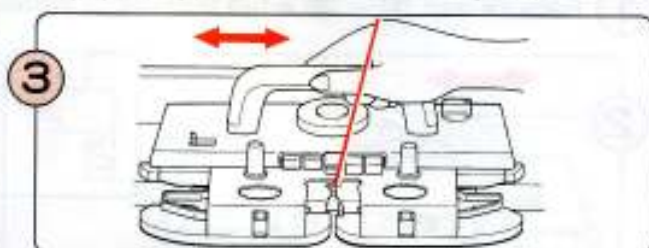
Moving the K-Carriage back and forth, you can knit Tuck Stitch Pattern.

- You can either continue...
  Repeat steps ③ — ④ .
- Or finish pattern knitting...
  ① Set the Change Knob to N-L. The Cam Buttons will be released automatically.
  ② Place the Rubber Wheels in non-working position.

- Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row.

OPEN TUCK STITCH PATTERN (TUCK LACE)

<Ex.> Pattern No. 292

① PATTERN PROGRAM (See page 20.)

② PATTERN KNITTING
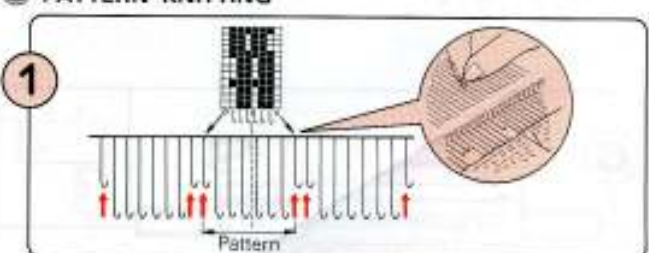
Bring the needles marked with "o" in the Diagram in "STITCH WORLD" forward to E position and back to A position. This will drop these stitches. If you were knitting a garment you can transfer the left marked stitch to the needles at its left side, and the right one out to the right.
Then take the empty needles back down to "A" position.

② Follow the steps ① — ② above. But, set the Change Knob to KC (II) in step ① . Then, follow the steps ③ — ⑤ above, remembering to bring forward the end needles to D position every row, if they are not selected.

MULTI – COLOUR TUCK STITCH PATTERN

You can knit this pattern in the same way as knitting Tuck Stitch pattern, by changing the yarn according to the Memo information.
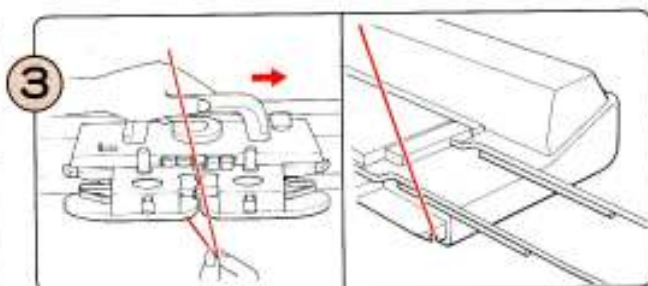
<Ex> Pattern No. 296

① PATTERN PROGRAM (See page 20.)

② PATTERN KNITTING

**①** Follow the steps ① — ② in Tuck Stitch pattern. (Number 1 in the MEMO display tells you to knit with Yarn 1.)
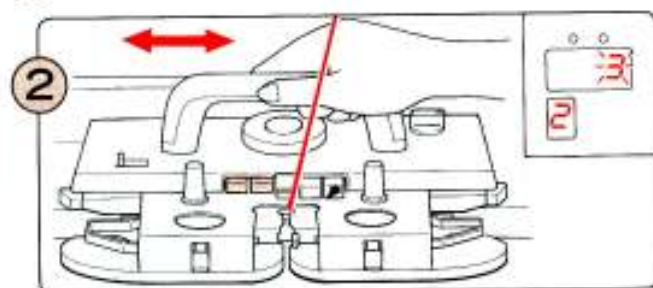
② Move the K-Carriage back and forth until the number 2 appears in the MEMO display. Row 3 in the Display and Number 2 in the MEMO display tell you to knit the third row with Yarn 2.

③ Take Yarn 1 out of Yarn Feeder "A".
(Sliding the K-Carriage slightly to the outside, you can easily take it out.)
Hook Yarn 1 around the notch at the end of your machine.
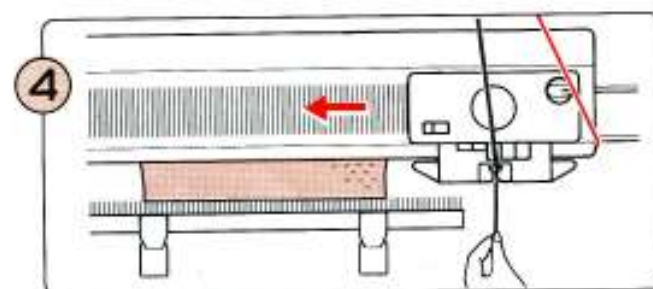
④ Thread Yarn 2 into Yarn Feeder "A" and continue knitting until Number 1 appears in the MEMO display.
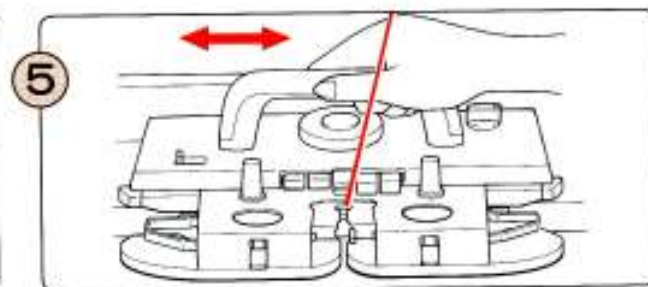
⑤ Continue knitting, changing the yarns according to the number in the MEMO display. (When you change the yarns, take care not to cross them over each other.)
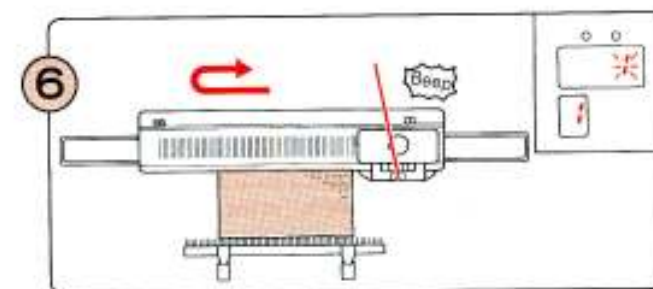
⑥ Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display. You have now knitted one complete pattern.

⑦
- You can either continue...
  Repeat steps ⑤ — ⑥.
- Or finish pattern knitting...
  ① Set the Change Knob to N-L. The Cam Buttons will be released automatically.
  ② Set the Rubber Wheels in non-working position.

● Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row.

SKIP STITCH PATTERN

<Ex> Pattern No. 363

1 PATTERN PROGRAM (See page 20.)
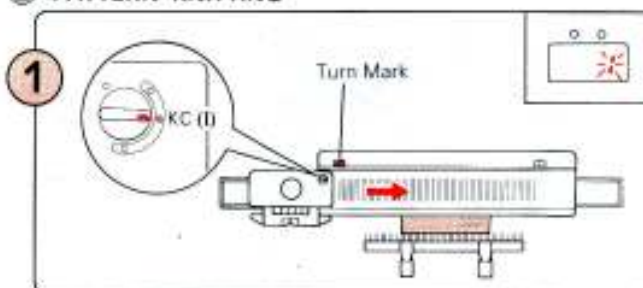
2 PATTERN KNITTING

Turn Mark
KC (I)

Place the K-Carriage outside the Turn Mark. Set the Change Knob to KC (I). Move the K-Carriage across the Turn Mark, to knit one row.

♣You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.

The needles are selected. Number 1 flashes on and off in the Display to tell you to knit the first row of the pattern.
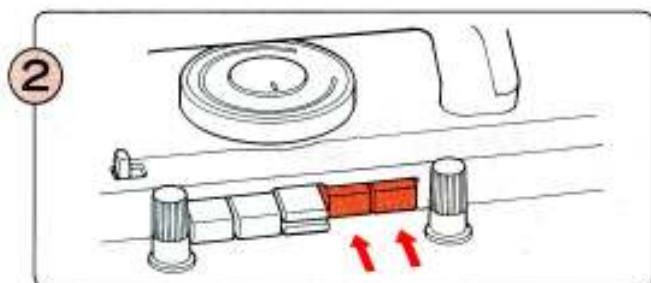
Push both PART Buttons at the same time.
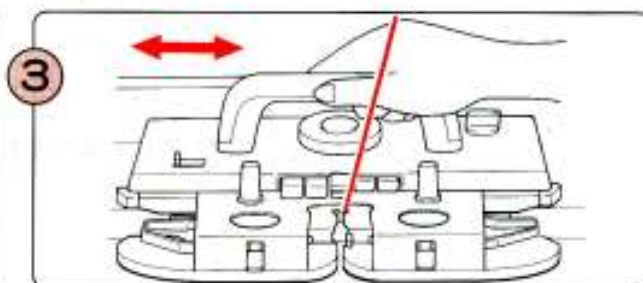
Moving the K-Carriage back and forth, you can knit Skip Stitch pattern. The number in the Display tells you the row you are going to knit next.
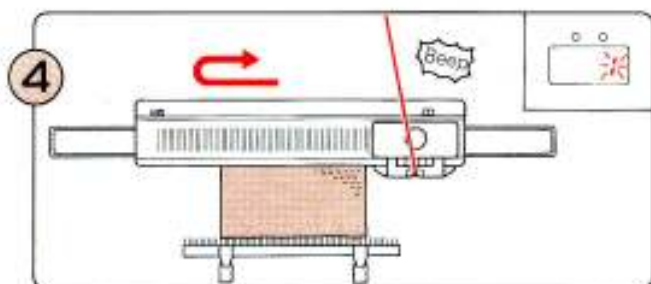
Beep

Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display. You have now knitted one complete pattern.

5

N·L

• You can either continue...
  Repeat steps 3 — 4.
• Or finish pattern knitting...
  Set the Change Knob to N·L. The Cam Button will be released automatically.

• In pattern knitting, take the K-Carriage past the centre of the machine (green needle 1) on every row. It tells the computer to go to the next row.

MULTI-COLOUR SKIP STITCH PATTERN (2-COLOURS)

You can knit this pattern in the same way as knitting Skip Stitch pattern, by changing the yarn according to the Memo information.

<Ex> Pattern No. 383

① **PATTERN PROGRAM** (See page 20.)

② **PATTERN KNITTING**

1 Follow the steps ① — ② on previous page. (Number 1 in the MEMO display tells you to knit with Yarn 1.)

2 Follow the steps ② — ⑦ — ① in Multi-colour Tuch Stitch pattern.

MULTI-COLOUR SKIP STITCH PATTERN (3-COLOURS)

① **PATTERN PROGRAM** (See page 20.)

② **PATTERN KNITTING** (See page 38.)

MULTI-COLOUR FAIRISLE RIB PATTERN (3-COLOURS: Pattern no. 851 ~ 860)
MULTI-COLOUR RIB PATTERN (2-COLOURS)

① **PATTERN PROGRAM** (See page 20.)

② **PATTERN KNITTING** (See page 41, - ② .)

MULTI-COLOUR RIB PATTERN (3-COLOURS)

① **PATTERN PROGRAM** (See page 20.)

② **PATTERN KNITTING** (See page 41, - ① .)

WEAVING PATTERN

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.

<Ex> Pattern No. 435

① **PATTERN PROGRAM (See page 20.)**

② **PATTERN KNITTING**

① Follow the step ① on page 47.
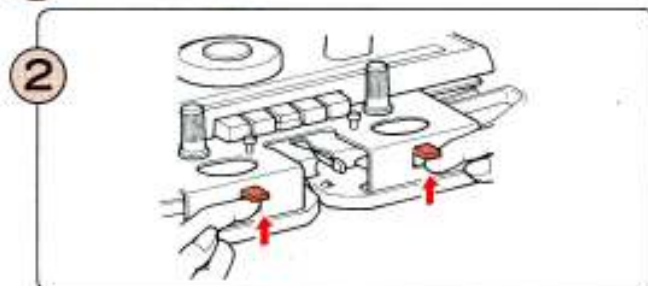
Set the Weaving Pattern Levers to W-T.
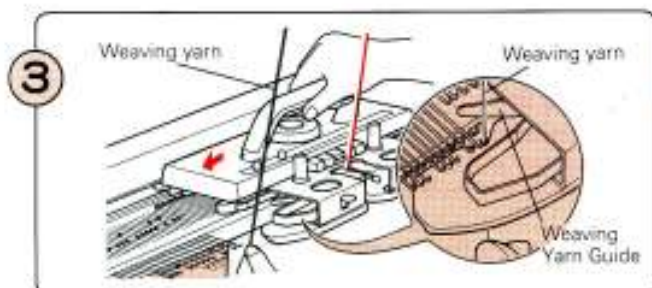
Holding the weaving yarn between the Weaving Yarn Guide and the needles, move the K-Carriage to knit one row.
♣Weaving yarn guide is provided both on the left and right of the K-Carriage.
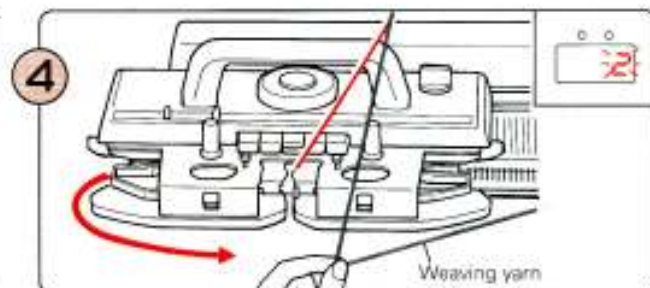
Take out the weaving yarn from the Weaving Yarn Guide (by moving the K-Carriage slightly to the outside), and pass it to the opposite side of the K-Carriage.
Number 2 in the Display tells you to knit the second row of the pattern.
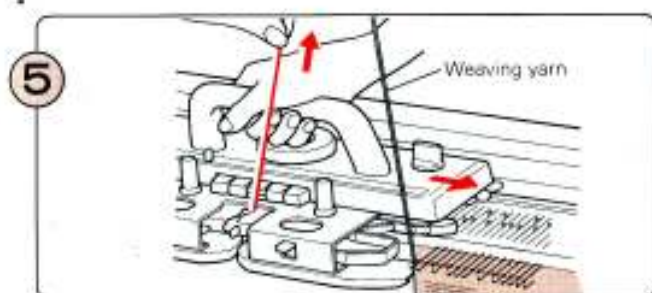
Knit one row, while pulling the main yarn up wards slightly (make sure that the weaving yarn is in the Weaving Yarn Guide.)
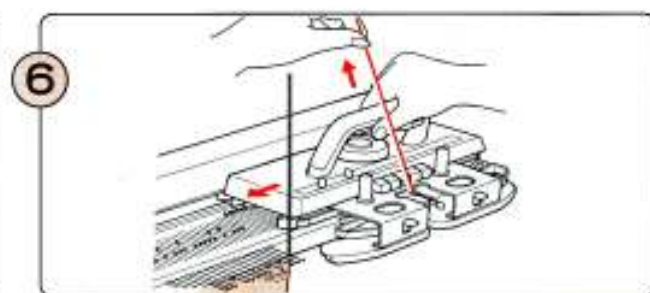
Continue knitting at the same time placing the weaving yarn into the left or right Weaving Yarn Guide according to the direction of the K-Carriage, and pulling the main yarn upwards slightly.
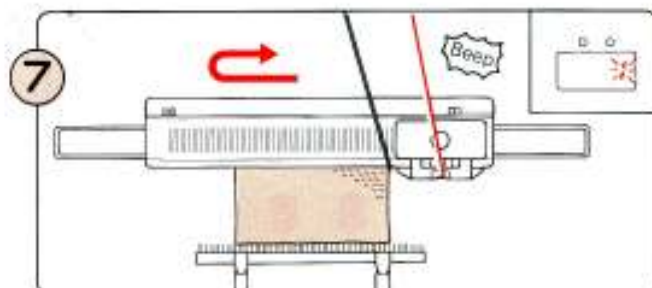
⑧
- You can either continue...
  Repeat steps ⑥ — ⑦
- Or finish pattern knitting...
  ① Set the Change Knob to N-L. The Cam Buttons will be released automatically.
  ② Set the Weaving Pattern Levers to N.

- Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row.

Knit the pattern till you hear the sound "beep". Finish the row and knit one more row. Number 1 flashes on and off in the Display. You have now knitted one complete pattern.

WHEN USING MORE THAN TWO WEAVING YARNS

Change the weaving yarns according to the number in the MEMO display.
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.
Latter method...
Lay the weaving yarn across the selected needles, beginning from the same side as the K-Carriage, as illustrated.

MOVING DIRECTION
OF THE K-CARRIAGE

Hold the weaving
yarn lightly.

Add some weight to
the end of the yarn.

MOVING DIRECTION
OF THE K-CARRIAGE
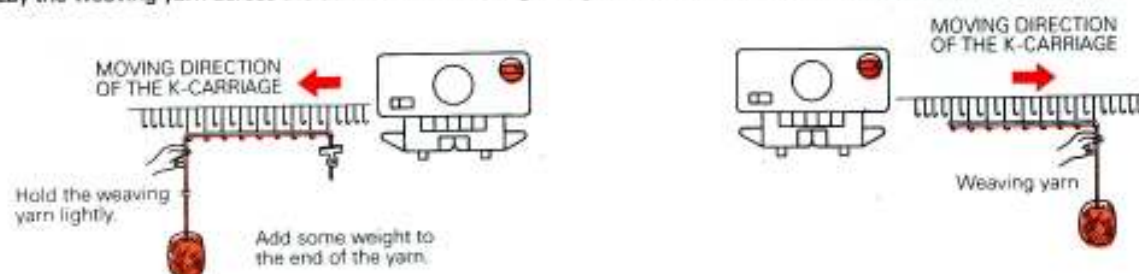
Weaving yarn

HOW TO KNIT SOME ROWS WITH THE MAIN YARN ONLY

• The example in "STITCH WORLD" Pattern No.439.

When the number appears in the MEMO display, you should knit using the weaving yarn.
When there is no number in the MEMO display, knit without the weaving yarn.

WINDING METHOD

Special method for use with Weaving Patterns.

• This example shows how to knit "STITCH WORLD" Pattern No.463 by winding the yarn around the selected needles.
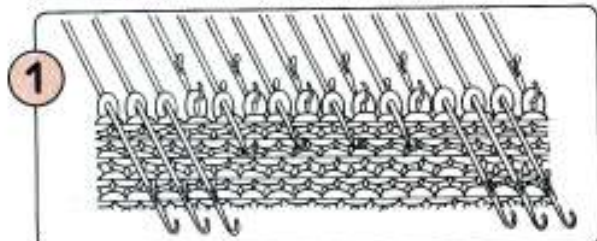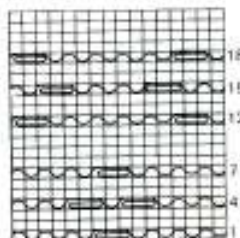
1 When the needles are selected, bring the three selected needles which are next to each other forward from D to E position.
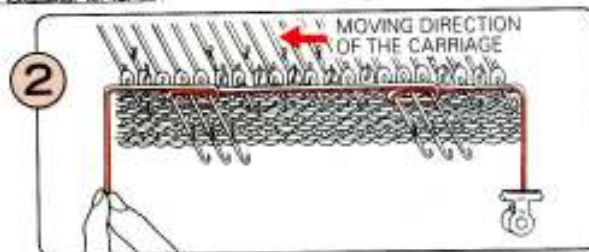
2 Wind the weaving yarn around the stem of the E position needles and operate the K-Carriage until the needles are selected again.

MOVING DIRECTION
OF THE CARRIAGE
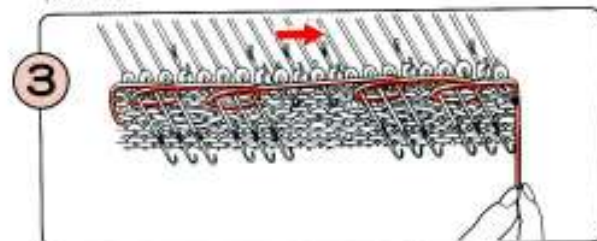
3 Bring the three selected needles which are next to each other forward to E position, and wind the weaving yarn around the stem of the E position needles. And operate the K-Carriage until the needles are selected again.

4 Repeat steps **1** — **3**.

WOVEN PULL-UP STITCH

Special method for use with Weaving Patterns.
Knit "STITCH WORLD" Pattern No.458, 460, 462 by pull-up method.
● This example shows how to knit "STITCH WORLD" Pattern No.460 by pull-up method.
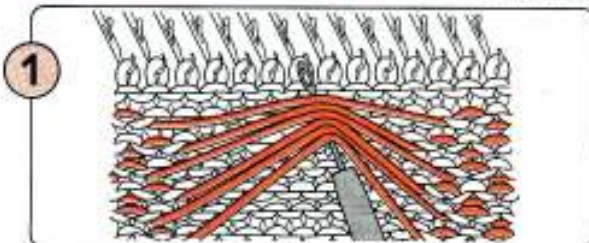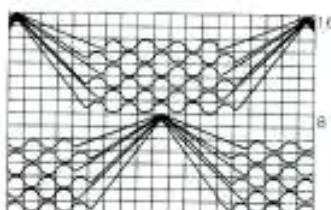
① Knit until the number indicated at the right side of the diagram in "STITCH WORLD" appears in the Display. Using your Transfer Tool, pick up the long weaving yarns which lie across the front of the stitches, and place them onto the needle shown. This is illustrated above.
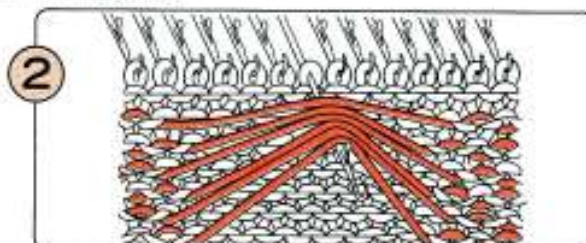
② Now bring these needles forward to E position and continue knitting.

INTARSIA KNITTING

With Intarsia Knitting there are no long floats on the back of the fabric, and you can use many colours in one row.
Prepare sufficient separate balls of yarn according to the changes in the pattern and place these on the floor at your feet.

Draw a diagram of your design.

When you do Intarsia Knitting, the tension may vary, according to how firmly you hold the yarn with your hand. Bear in mind this possible difference when making your tension swatches.

● PATTERN KNITTING
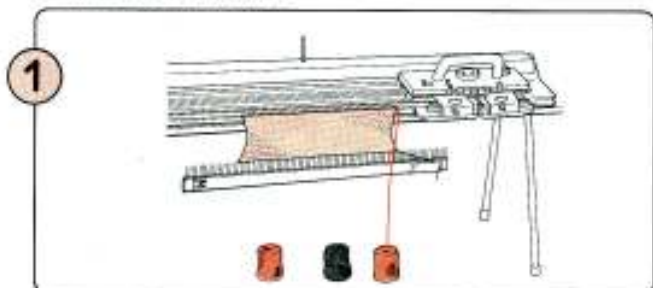
① Take the yarn out of the Yarn Feeder and the Yarn Tension Unit. Prepare the other balls of yarn, and place them on the floor at your feet.
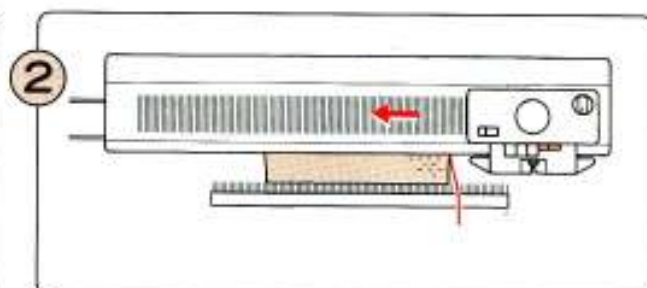
② Push both PART Buttons at the same time, and pass the K-Carriage across the needlebed.
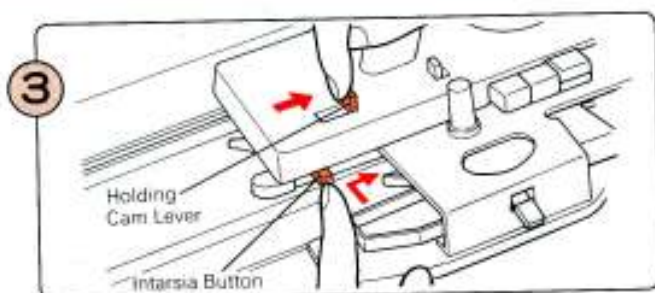
③

Set the Holding Cam Lever to I.
(Slide the Holding Cam Lever to the right, while pushing in the Intarsia Button.)

④
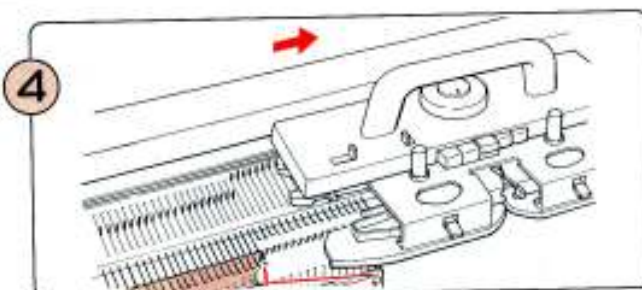
Move the K-Carriage one row, without yarn, and all the needles are aligned in D position.
Make sure that all the latches are open. If not, open them.
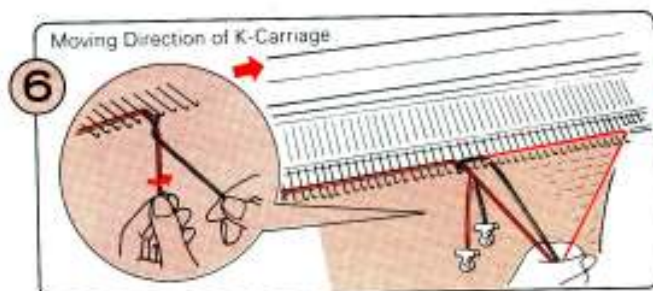(Wind the Row Counter and Knitleader back by 2 rows.)
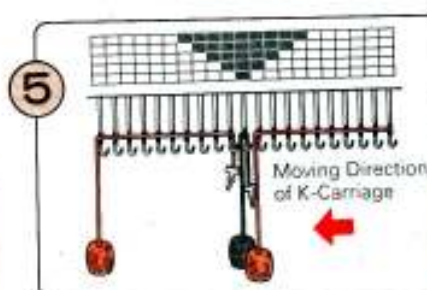
⑤

Lay the yarns in the open needle hooks, as illustrated, beginning from the nearest one to the K-Carriage.
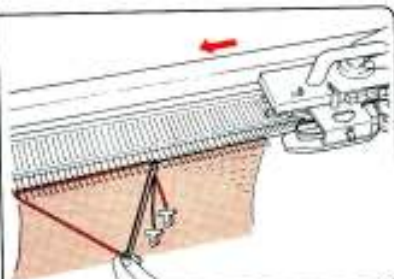
Move the K-Carriage slowly across the needlebed, while gently pulling the yarns downwards by hand.
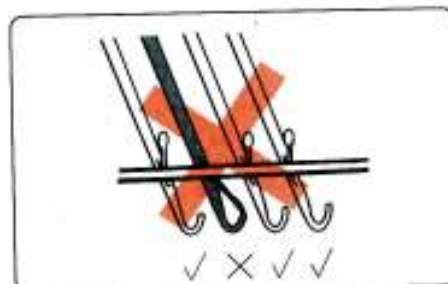
♣ When working Intarsia, always make sure the latches are open, otherwise the stitches will drop.

⑥

Lay the yarns in the open needle hooks for the next row, in the same manner as ⑤.
To avoid making a hole where the yarns meet, cross one over the other as illustrated. Now slowly move the K-Carriage across the needlebed.
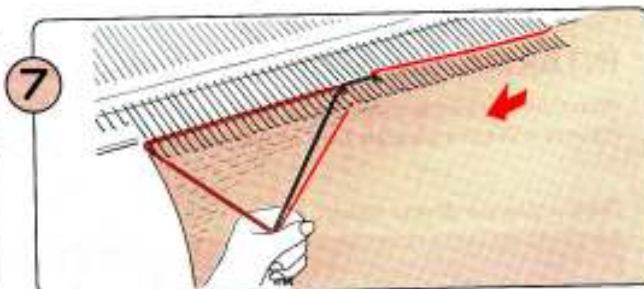
⑦

Lay the yarns and knit the third row.

⑧

Continue knitting in this way, laying your yarns according to your pattern chart. (Repeat steps ⑤ — ⑥.)
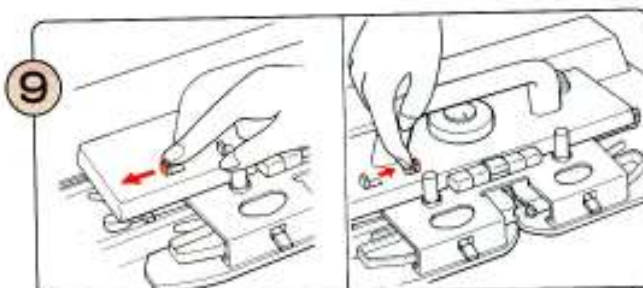
⑨

When you want to finish Intarsia Knitting, set the Holding Cam Lever to N and release the Cam Buttons with the Cam Button Release Lever.

PLATING

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. The setting for the K-Carriage is the same as for stocking stitch.
Prepare two yarns — use fine or very fine yarn.
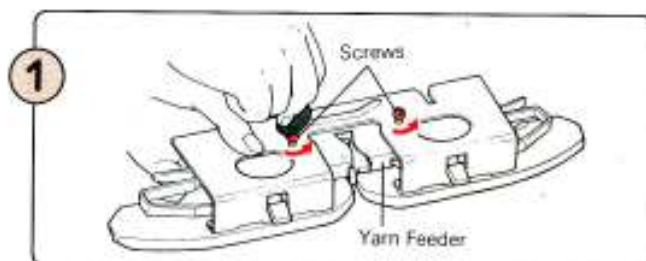
Front (Plain)   Reverse (Purl)

APPROXIMATE TENSION CHART

MAIN YARN	PLATING YARN	TENSION DIAL
Very fine	Very fine	4 — 5
Fine	Very fine	6 — 7
Fine	Fine	8 — 9

Plating Yarn Feeder

1 Screws / Yarn Feeder

Remove the two screws and the Yarn Feeder from the Sinker Plate Assembly.
♣Be sure to keep the screws safe.

2 Plating Yarn Feeder
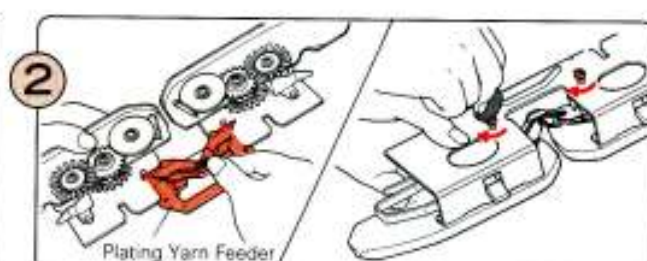
Take the Plating Yarn Feeder out of the Accessory Box and fit it into the Sinker Plate Assembly with two screws. Set the Sinker Plate Assembly back on the K-Carriage.
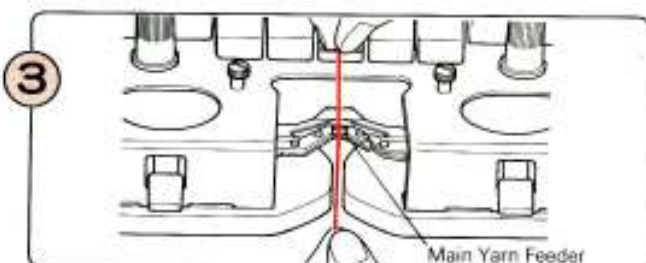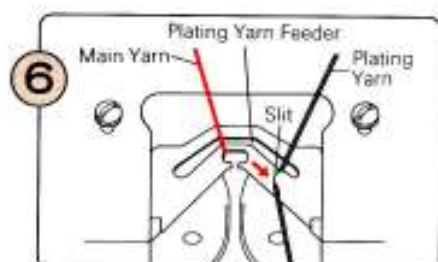
3 Main Yarn Feeder

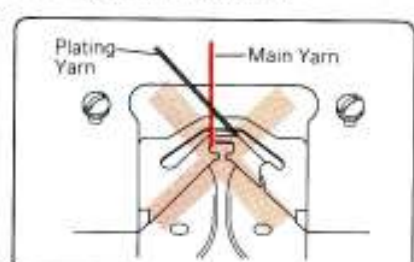Thread the main yarn into the Main Yarn Feeder.

4

Set the Tension Dial according to the yarn you use.

5 Main Yarn / Plating Yarn
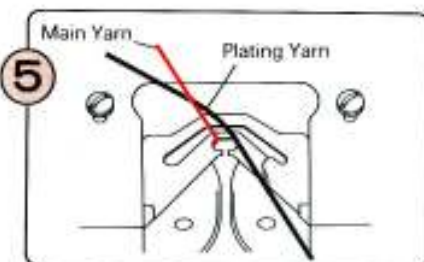
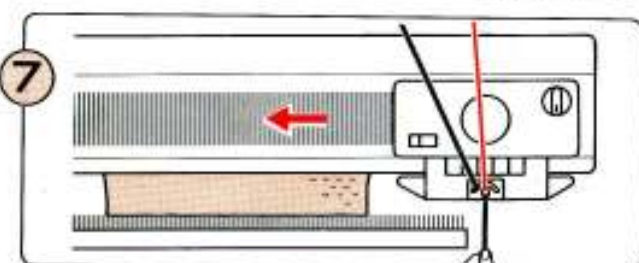Pass the plating yarn behind the main yarn.

6 Plating Yarn Feeder / Main Yarn / Plating Yarn / Slit

Now thread the plating yarn into the Plating Yarn Feeder. (You can pass the plating yarn through the slit.)

Plating Yarn / Main Yarn

♣Make sure the two yarns are not crossed.

7

Holding the end of the plating yarn by hand, move the K-Carriage one row. 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

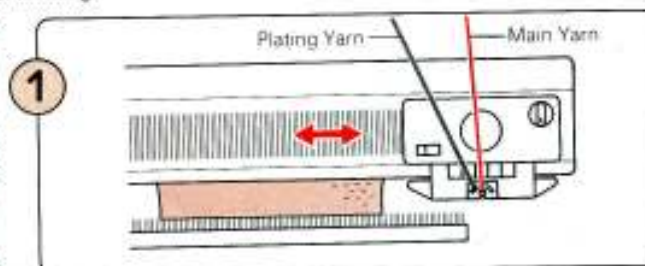You can change the main and plating yarn midway thuough your knitting.

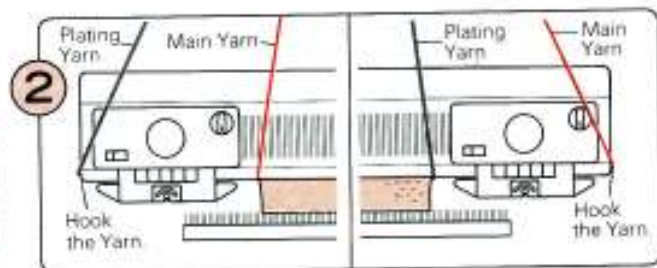Front (Plain)   Reverse (Purl)

♣ Set the Tension Dial referring to the Approximate Tension Chart on previous page.

Follow the steps given for Plating and continue knitting until where you want to change the yarn.

Continue knitting, changing the yarn when you wish.

• When the K-Carriage is on the left of the needlebed.

• When the K-Carriage is on the right of the needlebed.

1. Take the yarn out of the Main Yarn Feeder.
2. Take the yarn out of the Plating Yarn Feeder.
   ♣ 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.
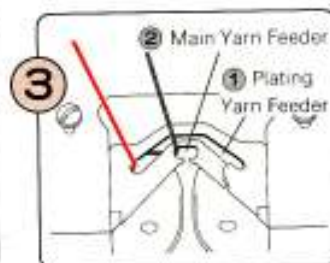
1. Thread up the Plating Yarn Feeder.
2. Thread up the Main Yarn Feeder.

PLATED TUCK STITCH PATTERN

You can knit this pattern in the same way as knitting Tuck Stitch Pattern, with the Plating Yarn Feeder and two yarns.

<Ex.> Pattern No. 321

PATTERN PROGRAM (See page 20.)

LACE PATTERN OR FINE LACE PATTERN — All over pattern knitting ▬▬▬

• LACE PATTERN

<Ex.> Pattern No. 106

① PATTERN PROGRAM (See page 20.)

### • FINE LACE PATTERN

<Ex.> Pattern No. 206

① PATTERN PROGRAM (See page 20.)

L-CARRIAGE

With the L-Carriage you select and transfer stitches automatically. You must use the Lace Carriage (L-Carriage) for Lace or Fine Lace Pattern.

• You can knit Lace and Fine Lace pat-
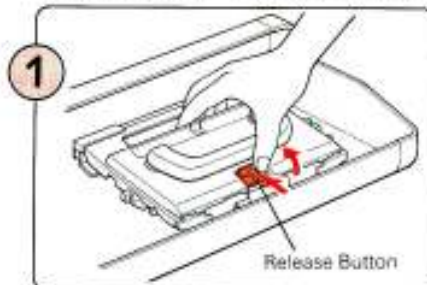terns, by changing the setting of the
Lace Change Lever.

Lace Change Lever

☐ N — Normal Lace pattern knitting

☐ F — Fine Lace pattern knitting
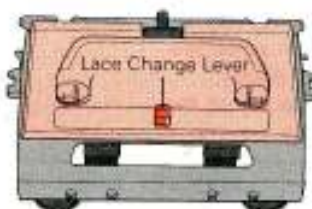
APPROXIMATE TENSION CHART

Very fine yarn (1/2 ply)	4 — 5
Fine yarn (2/3 ply)	4 — 5
Medium yarn (3/4 ply)	5 — 6

• HOW TO SET THE L-CARRIAGE

①
Release Button
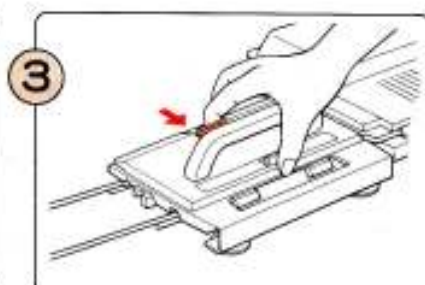
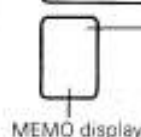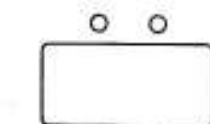Remove the L-Carriage by pushing
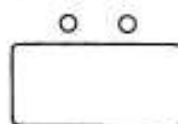the Release Button.

②

Raise the L-Carriage Handle.

③

Push the Release Button and place the
L-Carriage securely on the left Ex-
tension Rail.

Operate the L-Carriage and the K-Carriage according to the Memo information.

○   ○

MEMO display
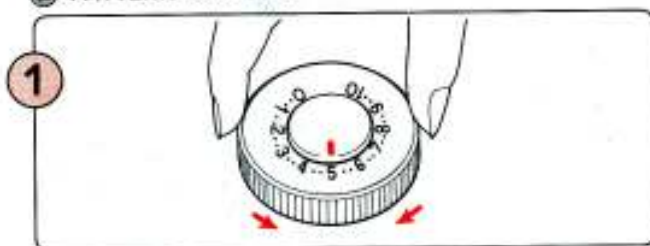
If no number appears:
Operate the L-Carriage unitl a number
shows in the MEMO display.

○   ○

2

When a number appears:
Knit as many rows with the K-Carriage
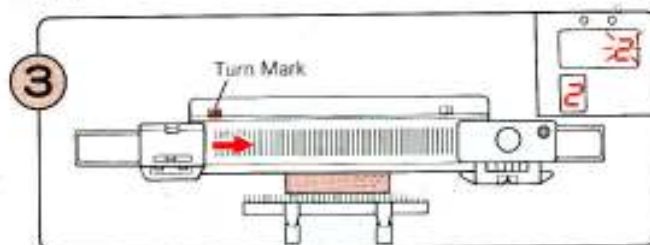as the number in the MEMO display
indicates, then operate the L-Carriage.

② PATTERN KNITTING

**①** Set the Tension Dial according to the yarn you use. (Refer to the Approximate Tension Chart on previous page.)

Lace Change Lever

② Set the Lace Change Lever to either N or F according to the pattern you are going to knit.
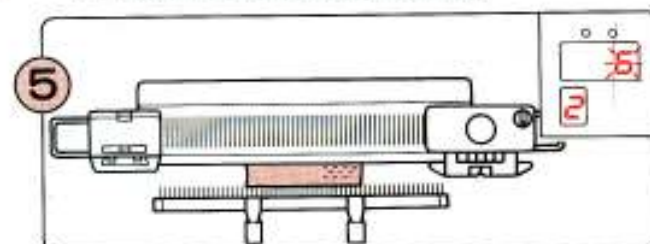

Turn Mark

③ Move the L-Carriage from outside the left Turn Mark to the right. Then operate the L-Carriage back and forth across the knitting until the number 2 appears in the MEMO display.
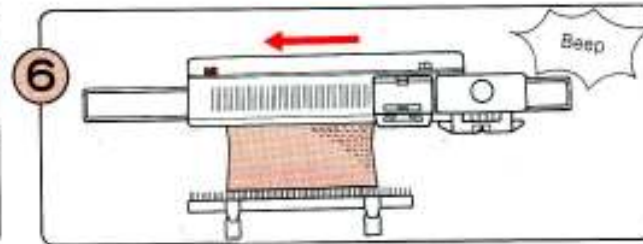♣You only need to operate the L-Carriage once across the Turn Mark when you start pattern knitting.
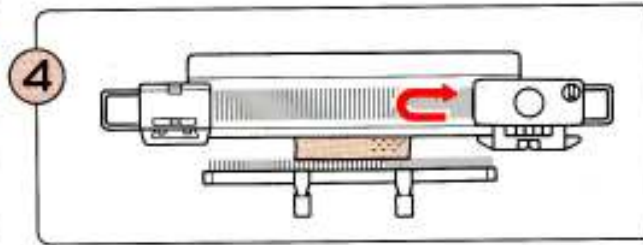
④ Knit two rows with the K-Carriage.

⑤ Operate the L-Carriage until a number appears in the MEMO display.
Operate the K and L-Carriages according to the MEMO display.

Beep

⑥ Knit the pattern till you hear the sound "Beep". If you are operating the L-Carriage when you hear the sound, finish that row.

⑦
● You can either continue...
  Repeat steps **⑤** — **⑥**
● Or finish pattern knitting...
 Knit as many rows as you wish in stocking stitch.

● Whilst knitting in pattern, you must take the L-Carriage past the centre of the machine (Green 1 needle) on every row.

When you finish knitting "STITCH WORLD" Pattern No.104, proceed as follows:-

1) Knit 2 rows with the K-Carriage.
2) Set the Lace Change Lever to F.
3) Operate the L-Carriage four times.
4) Knit as many rows as you desire in stocking stitch.

LACE PATTERN OR FINE LACE PATTERN — Motif knitting ▬▬▬▬▬

The procedure is the same as that for "All over pattern knitting" so refer to previous page.
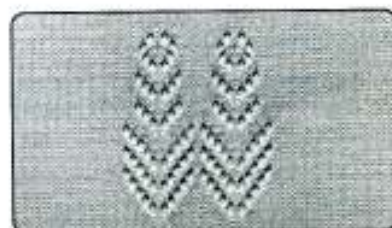
<Ex> Pattern No. 112

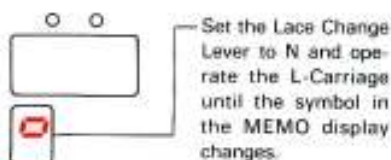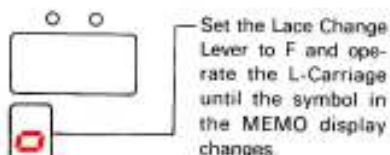# LACE AND FINE LACE MIXED

<Ex.> Pattern No. 222

① **PATTERN PROGRAM** (See page 20.)
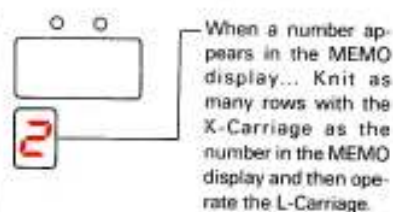
② **PATTERN KNITTING**

Use the L-Carriage and the K-Carriage according to the Memo information.

Set the Lace Change Lever to N and operate the L-Carriage until the symbol in the MEMO display changes.
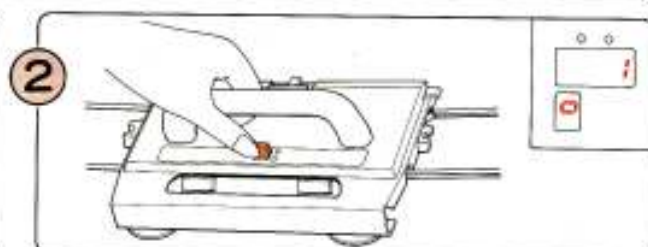
Set the Lace Change Lever to F and operate the L-Carriage until the symbol in the MEMO display changes.
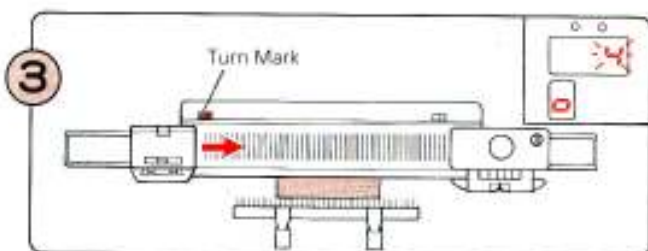
When a number appears in the MEMO display... Knit as many rows with the X-Carriage as the number in the MEMO display and then operate the L-Carriage.

① Set the Tension Dial according to the yarn you use. (Refer to the Approximate Tension Chart on page 63.)
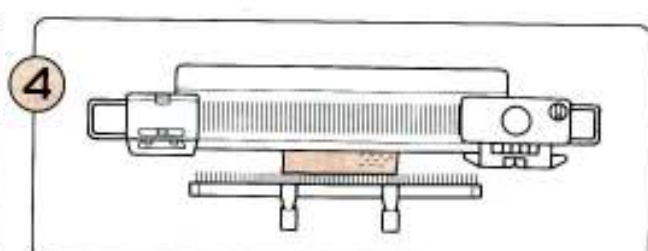
② Set the Lace Change Lever to N which corresponds to the symbol " 回 " in the MEMO display.
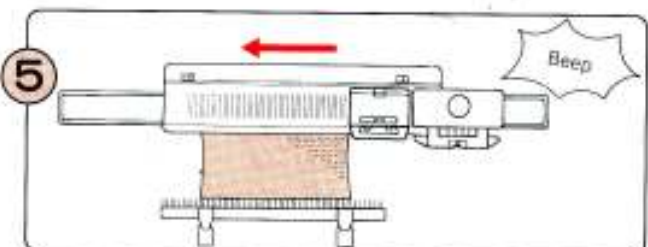
③ Move the L-Carriage from outside the left Turn Mark to the right. Then operate the L-Carriage back and forth across the knitting until the symbol in the MEMO display changes.
♣You only need to operate the L-Carriage once across the Turn Mark when you start pattern knitting.

④ Operate the K and L Carriages according to the MEMO Display.

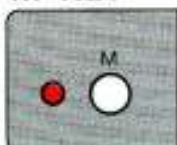⑤ Knit the pattern till you hear the sound "Beep". If you are operating the L-Carriage when you hear the sound, finish that row.

⑥ • You can either continue...
  Repeat steps ④ — ⑤.
  • Or finish pattern knitting...
  Knit as many rows as you wish in stocking stitch.

• Whilst knitting in pattern, you must take the L-Carriage past the centre of the machine (Green 1 needle) on every row.

— 65 —

M KEY

Use this key when you want to have the data on the particular row memorized in the computer.

You can use the M key when you want to knit separately part of the garment midway through pattern knitting — i.e. Neckline shaping.

- When you push the M key, the M lamp is lit and all the data (which needles have been selected, pattern program, the position of the VARIATION keys etc.) on the row are memorized in the computer.

- When you push the M key again later, the M lamp goes off and the above data's recalled. (The machine returns to the settings from when you turned on the M key.)

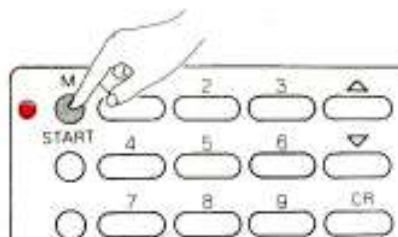- You can cancel the M key memory, by pushing the C key when the M lamp is lit. (Then the M lamp goes off.)

HOW TO SHAPE A ROUND NECKLINE

1. PATTERN KNITTING (Using the Holding Cam Lever)

- 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.

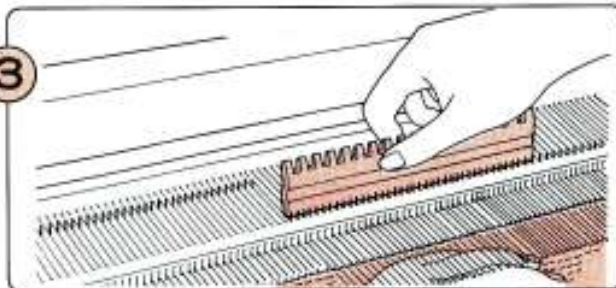Part (1)   Part (3)

Part (2)
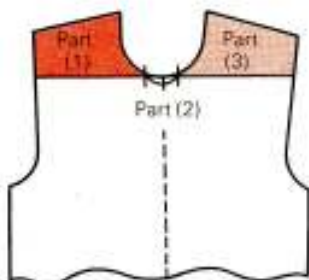
① Push the M key.(M lamp is lit.)

♣ You should push the M key before operating the K-Carriage for the next row. If you have operated the K-Carriage, use the Down key to put the row number back by one row, and then push the M key. Then push the Up key to advance one row.
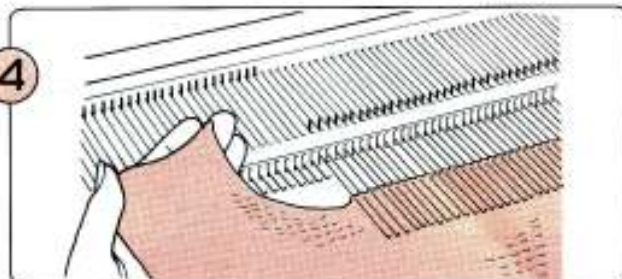
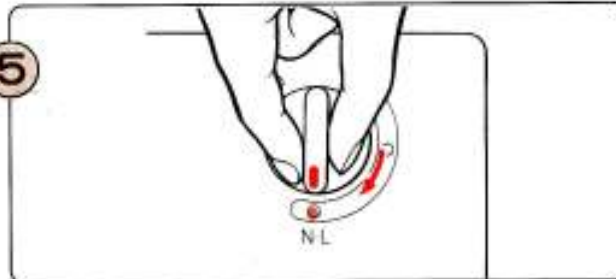**②** On the K-Carriage, set the Holding Cam Lever to H.

③ Using the flat side of the 1 x 1 Needle Pusher, bring the needles for Parts (2) and (3) forward to E position. (These needles will not be knitted.)
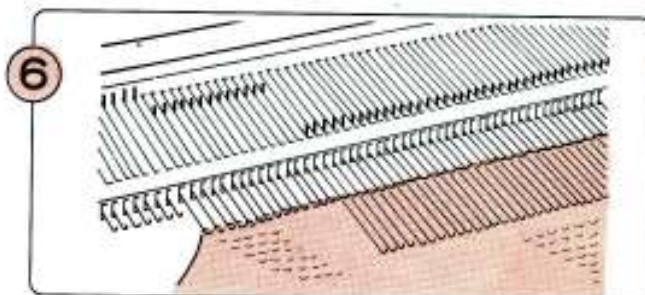
④ Knit Part (1) according to your pattern, then take it off the machine and return the needles for Part (1) back to A position.
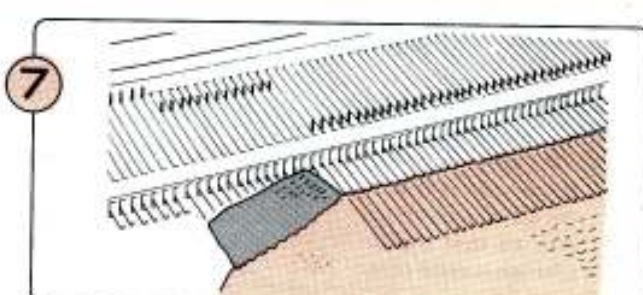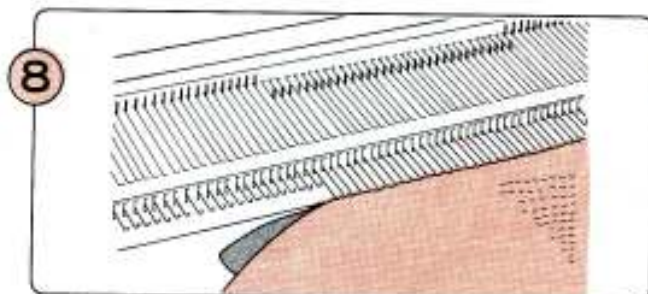
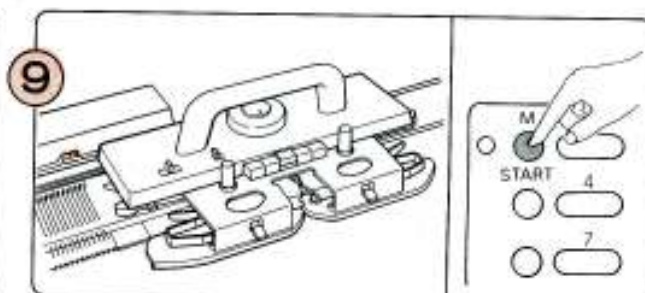**⑤** Set the Change Knob to N·L.

N·L

Bring the needles for Part (2) back to B position, by replacing the stitches into the needle hooks using the transfer tool.

Waste knit part (2) and take it off the machine. Return the needles for Part (2) back to A position.

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

Place the K-Carriage outside the right Turn Mark. Push the M Key. (M lamp goes off.)
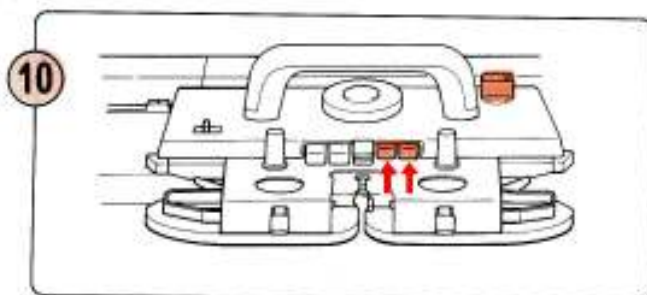
Push in both PART Buttons at the same time. Set the Change Knob to KC (I) or KC (II).
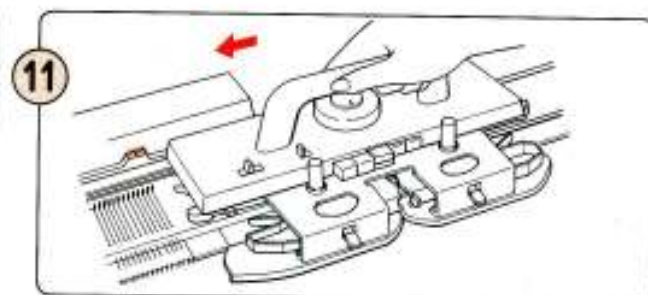
Move the K-Carriage from right to left across the right Turn Mark. The needles are selected according to the pattern row memorised by the M key.
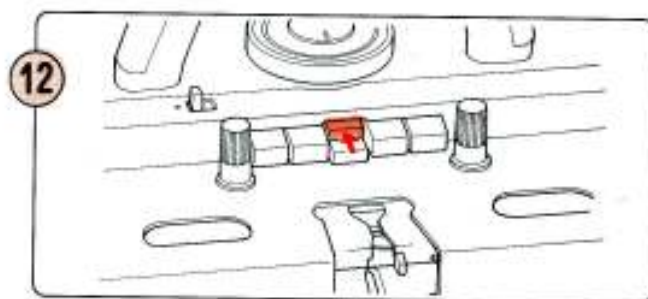
Push the Cam Buttons according to pattern. Knit part (3) according to your pattern. The neckline shaping has now been completed.

2. STOCKING STITCH AND PLATING (Using the Holding Cam Lever)

1 Follow the steps ②, ③, ④, ⑥ and ⑦ on previous page.

2 Set the Holding Cam Lever on the K-Carriage to N.
Knit part (3) according to your pattern. The neckline shaping has now been completed.

3. LACE OR FINE LACE PATTERN (Using the Cast-on Thread)

- When shaping a neck-
  line in Lace pattern,
  knit the right side first.
  If the yarn end is at
  the left, knit one more
  row so that the K-
  Carriage is at the right-
  hand side.
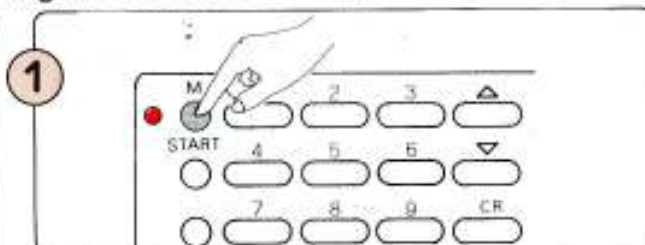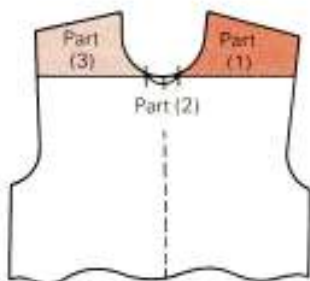
Part (3)　Part (1)

Part (2)

①

Push the M key. (M lamp is lit.)

♣You should push the M key before operating the L-Carriage
for the next row. If you have operated the L-Carriage, use the
Down key to put the row number back by one row, and then
push the M key. Then push the Up key to advance one row.

②

Using the flat side of the 1 x 1 Needle Pusher, bring the needles
for Parts (2) and (3) forward to E position.

③
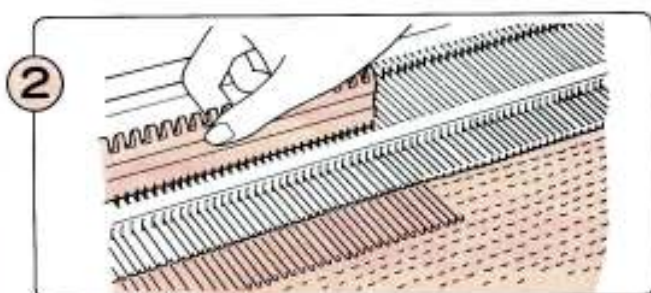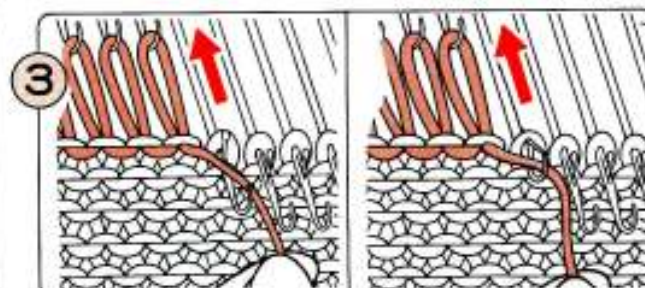
Hang the Cast-on Thread over the hooks of the needles in E
position, and knit them back to A position by hand. (These
needles in A position will not be knitted.)

④
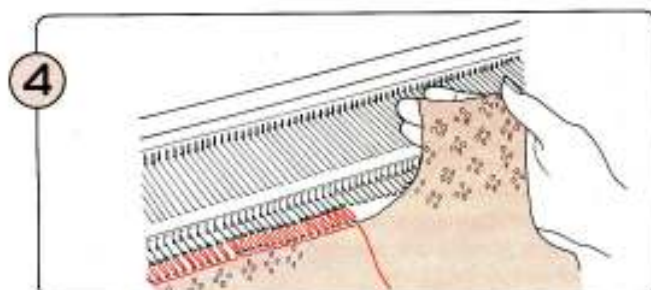
Knit Part (1) according to your pattern using both L and K
Carriages, and then take it out of the machine and return these
needles back to A position.

⑤
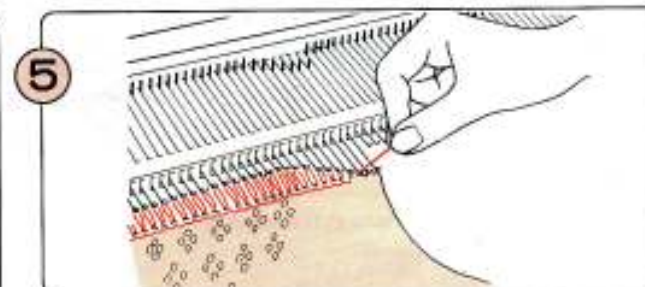
Bring needles for Part (2) from A to B position, while replacing
the stitches into the needle hooks and removing the Cast-on
Thread.

⑥
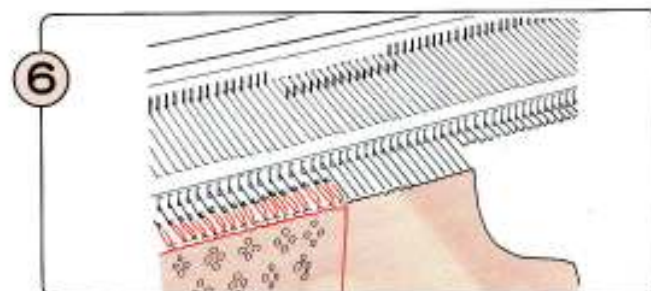
The needles for Part (3) are still left in A position.

⑦
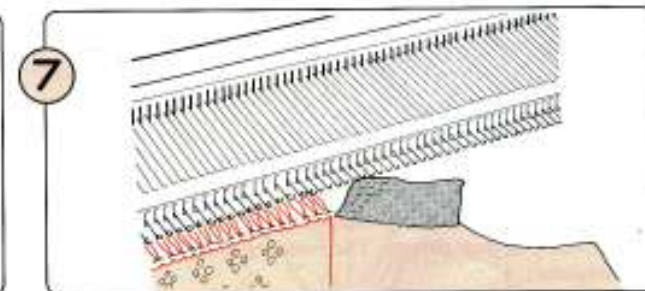
Waste knit part (2) and take it off the machine. Return the
needles back to A position.
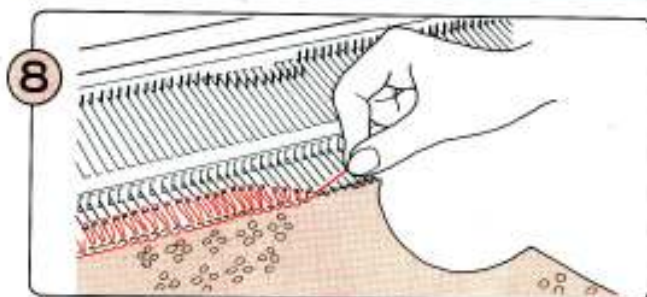
Now only the needles for Part (3) are left in A position. Bring these to B position, in the same way as you did for Part (2).
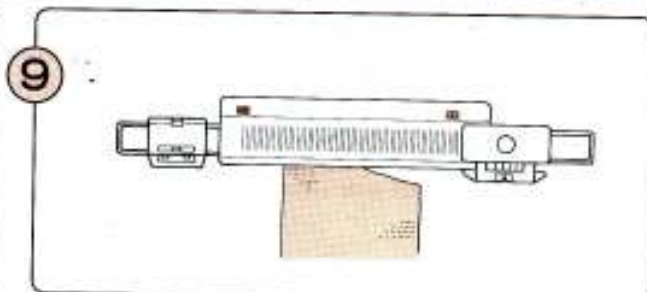

Place the K-Carriage outside the right Turn Mark and the L-Carriage outside the left Turn Mark.
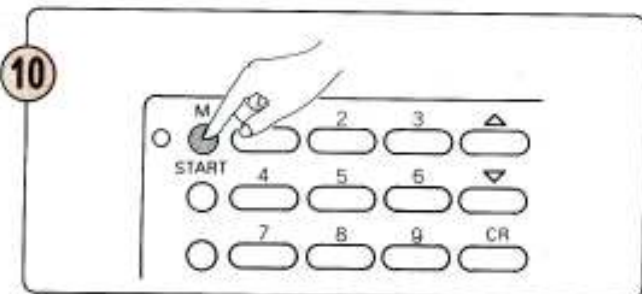
Push the M Key. (M lamp goes off).
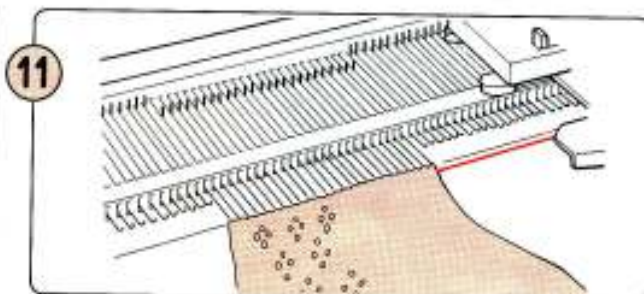
Knit Part (3) according to your pattern, using the K and L-Carriages. The neckline shaping has now been completed.

4. INTARSIA

• Knit both shoulders at the same time.
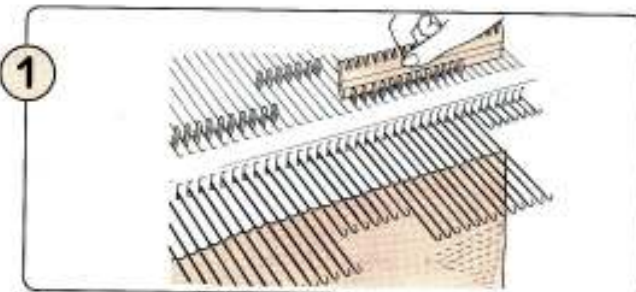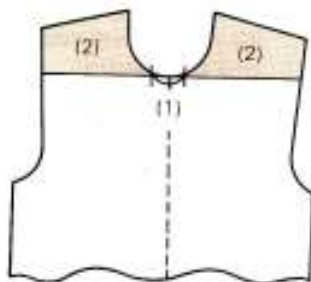
Bring forward the needles for Parts (2) to E position.
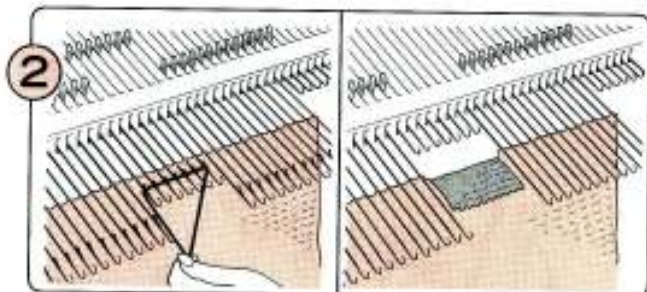
Waste knit the stitches for Part (1) only and return needles to A position.
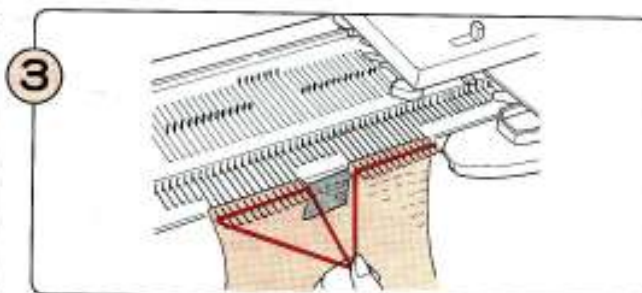
Return the Part (2) needles from E to D position and knit both shoulders according to your pattern, using seperate yarns for each side.

HOW TO SHAPE A V-NECKLINE (TAKING PART OF THE KNITTING OFF ON WASTE YARN)

When using the holding position to divide your knitting (e.g. for a V-neck) or if you are working with light coloured yarn, the stitches in holding position may become soiled. To prevent this, take these stitches off onto waste yarn instead of using the holding position.

• STOCKING STITCH AND PLATING

1. Bring forward the needles into E position for the part you want to knit first.

2. Set the Holding Cam Lever to H.

3. Remove the main yarn from the Yarn Feeder and hook it around the edge of the machine.

4. Push both PART buttons and move the K-Carriage to the other side without the yarn in the Yarn Feeder. Release the Cam Buttons by pushing the Cam Button Release Lever.

5. Thread the waste yarn into the Yarn Feeder and knit about 10 rows. Remove the waste yarn and knit 1 row with the Yarn Feeder empty, to release the knitting.

6. Return the empty needles to A position.

7. Move the K-Carriage across to the main yarn end and thread the main yarn into the Yarn Feeder.

8. Set the Holding Cam Lever to N.

9. Knit the first part of the V-neck.

10. Replace stitches from waste knitting back onto the needles using a Transfer Tool, and put the needles into B position.

11. Knit the second part of the V-neck.

• LACE AND FINE LACE PATTERN

1. When shaping the neckline in Lace and Fine Lace patterns, knit the right side first.
   If the yarn end is at the left side, knit one more row so that the K-Carriage is at the right side.

2. Push the M key. (M lamp is lit.)
   You should push the M key before operating the L-Carriage for the next row. If you have operated the L-Carriage, use the Down key to put the row number back by one row, and then push the M key. Then push the Up key to advance one row.

3. Take the left shoulder off onto waste yarn. (Refer to the above steps 1 — 6 in Stocking Stitch.)

4. Return the needles in E position to B position using the Transfer Tool to replace the stitches into hooks.

5. Thread the yarn into the Yarn Feeder and knit the right side of the neck and shoulder, using the K- and L-Carriage.

6. Replace the stitches for the left side back onto the needles using the Transfer Tool and place the needles in B position.

7. Push the M key. (The M lamp goes off).

8. Knit the left side of the neck and shoulder using the K- and L-Carriage according to your pattern.

• PATTERN KNITTING

1. Push the M key. (The M lamp is lit.)

2. Set the Change Knob to N-L.

3. Take part of the knitting off onto waste yarn. (Refer to the Steps 1 — 6 in Stocking Stitch.)

4. Return the needles in E position to B position. Use Transfer Tool to replace stitches into the hooks of the needles.

5. Place the K-Carriage outside of the Turn Mark at the opposite side to the yarn end.

6. Set the Change Knob to KC (I) or KC (II). Push both PART buttons. Set the Holding Cam Lever to N.

7. Push the M key. (The M lamp goes off.)

8. Move the K-Carriage across the Turn Mark.

9. Push the M key. (The M lamp is lit.)

10. Push the Cam Button according to the pattern.

11. Thread the yarn into the Yarn Feeder and knit the first part of the neck and shoulder.

12. Set the Change Knob to N-L. Place the K-Carriage outside the Turn Mark at the opposite side to the first part of the neck and shoulder.

13. Replace the stitches from waste knitting back onto the needles using the Transfer Tool and place the needles in B position.

14. Push the M key. (The M lamp light goes off.)

15. Set the Change Knob to KC (I) or (II) and push both PART buttons.

16. Move the K-Carriage across the Turn Mark.

17. Set the Cam Buttons according to pattern. Thread up the yarn into the Yarn Feeder and complete the second part of the neck and shoulder, reversing shapings.

USEFUL HINTS

WHEN THE NEEDLES DON'T CATCH THE YARN PROPERLY
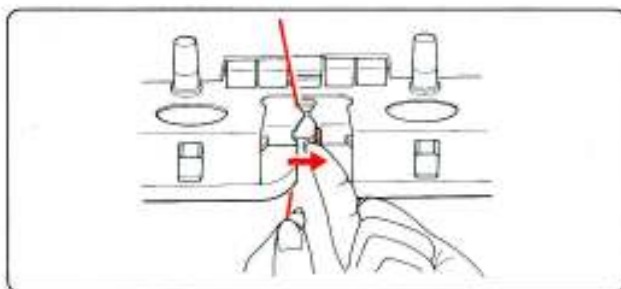
- Is the yarn correctly located in Feeder "A"?
- Is the Yarn Feeder Lever closed?
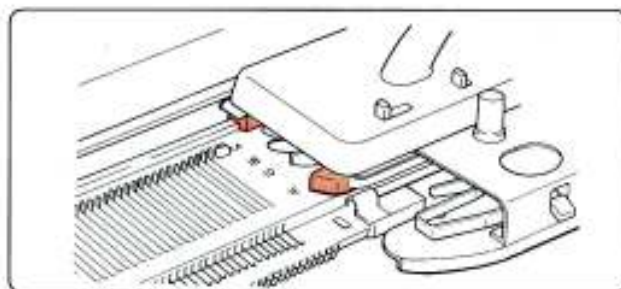
- Is the K-Carriage set correctly on the Needlebed?
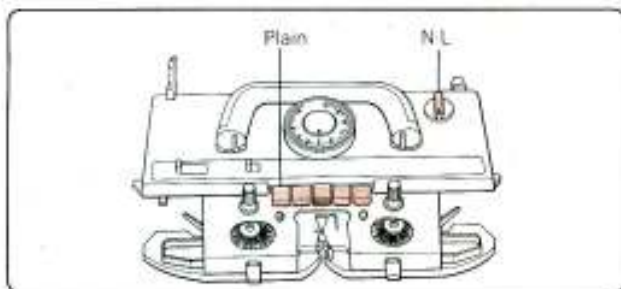
- Is the Change Knob set to N-L?
- Has any Cam Button been pushed in?
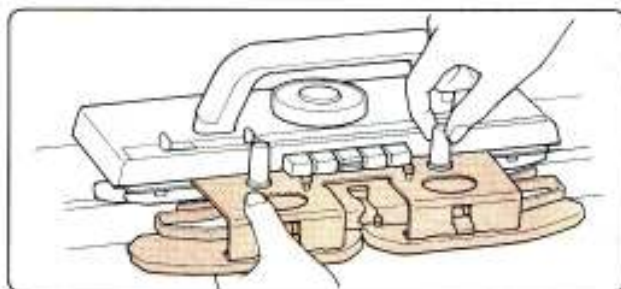
- Is the Sinker Plate Assembly joined correctly to the K-Carriage?

WHEN THE K-CARRIAGE FEELS HEAVY TO MOVE BACK AND FORTH

- Make sure that the Tension Dial and Tension Discs are adjusted according to the thickness of your yarn. (Tension Dial see page 8. Tension Disc see page 5.)

- Make sure that the machine is not damaged or dirty. If the machine needs oiling or cleaning refer to page 85.

- Make sure you have threaded the yarn correctly into the Yarn Tension Unit. (See page 5.)

- 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.
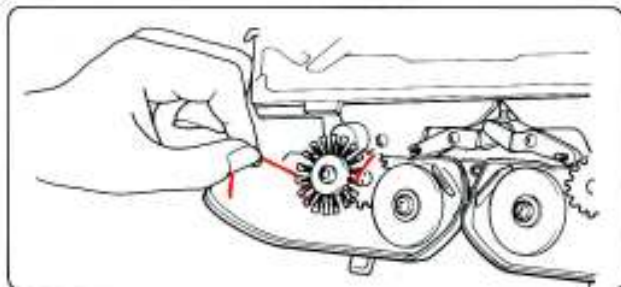
WHEN STITCHES ARE NOT FORMED CORRECTLY

- Is the needle bent or damaged? If so, change it for a new one. (See page 84.)
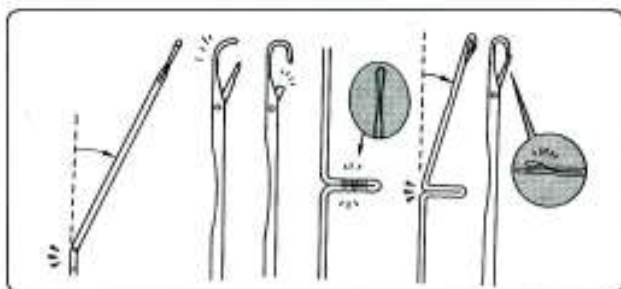
- Set the Rubber Wheels into working position ② if the yarn (e.g. cotton, acrylic) doesn't knit properly.
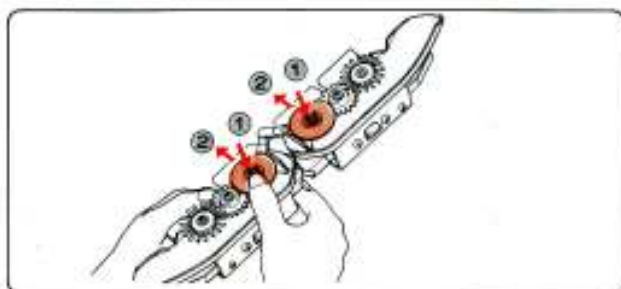
HOW TO PICK UP A DROPPED STITCH

• **Repairing a dropped stitch**
Insert the Transfer Tool into the stitch on the row below the dropped stitch. Remake the dropped stitch as illustrated.
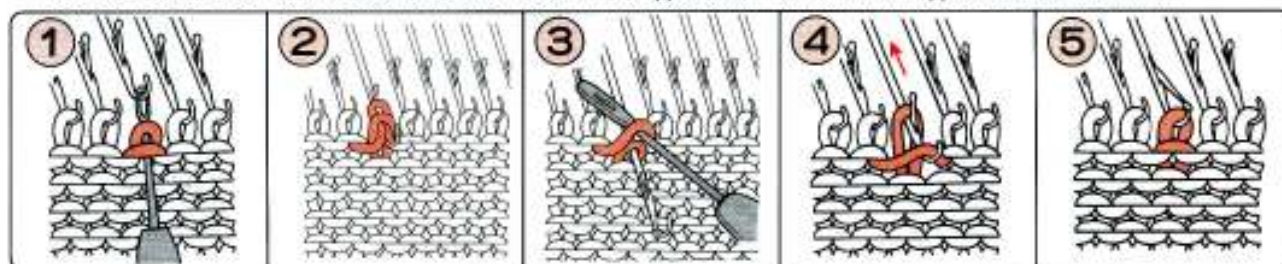
• **Repairing a stitch that has dropped several rows**
Use the Latchet Tool from behind, and hook up the bottom stitch. Remake the dropped stitches row by row. On the final row, transfer the stitch from the Latchet Tool to a Transfer Tool, and replace it onto the needle.
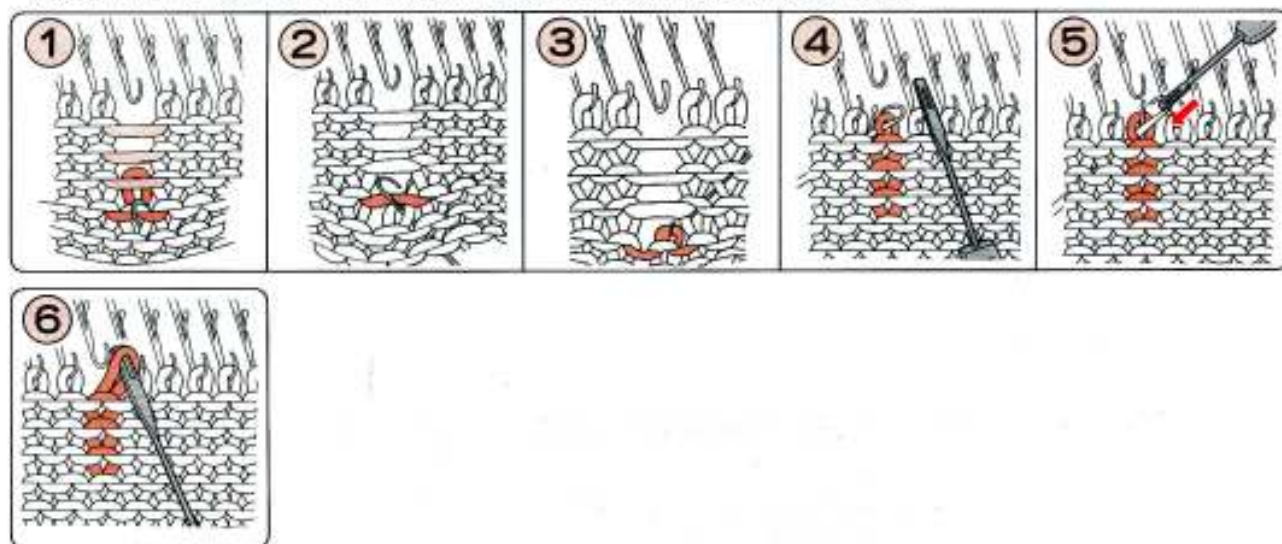
WHAT TO DO IF YOU MAKE MISTAKES IN PATTERN KNITTING

CR KEY
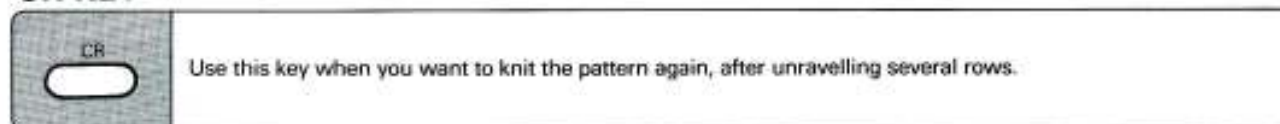
Use this key when you want to knit the pattern again, after unravelling several rows.

IF THE K-CARRIAGE SHOULD JAM

• Do not attempt to move the K-Carriage by force. Proceed as follows:
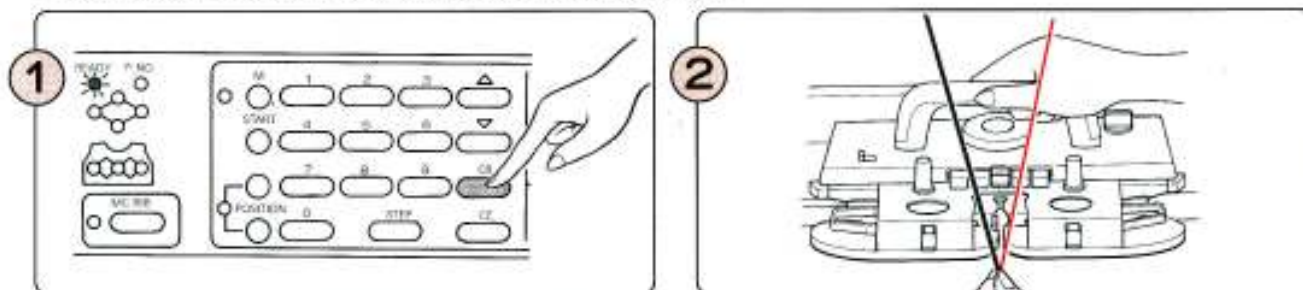
Push the CR Key. The READY lamp flashes on and off.

Take the yarn out of the Yarn Feeder.
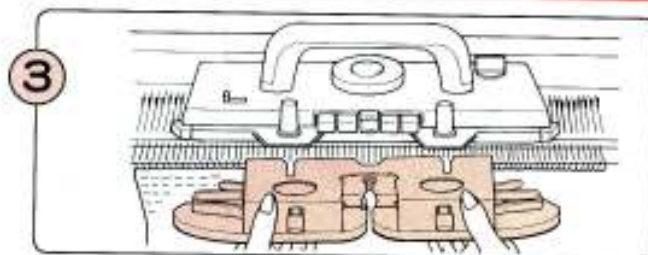
Loosen the knobs and remove the Sinker Plate Assembly.
▶ Untangle any yarn that has become wrapped around the Wheels.

Set the Change Knob to CR to release the K-Carriage from the machine.
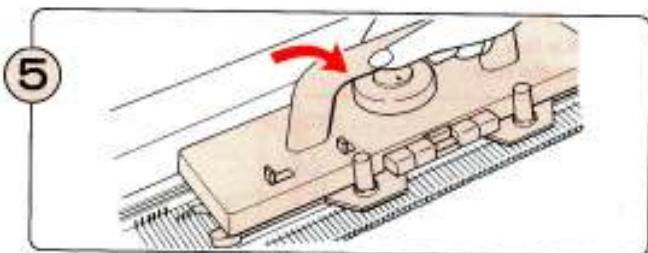
Lift up the K-Carriage to remove.
Place the K-Carriage onto either of the Extension Rails.
Set the Change Knob to N·L.

Screw the Sinker Plate Assembly back onto the K-Carriage.
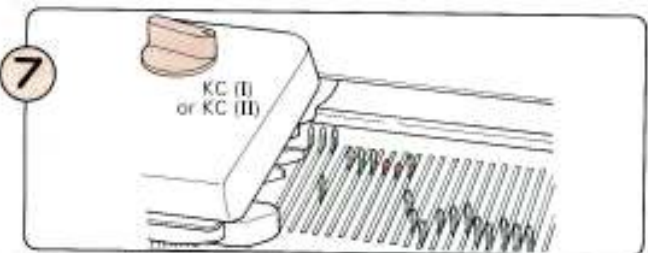
KC (I) or KC (II)

If some stitches have slipped back down the Needlebed, set the Change Knob to KC (I) or KC (II) and slide the K-Carriage back and forth across the Needlebed. At the side of your knitting, do not go over needles in working position. This will bring the needles back into the correct position.
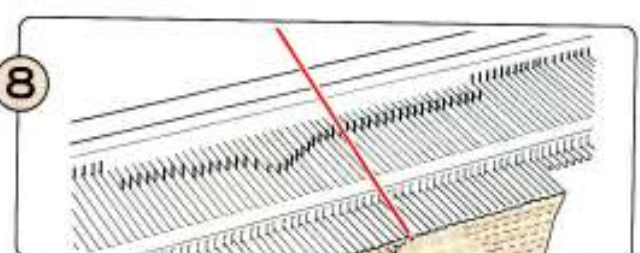
Using your Transfer Tool, replace any stitches that are on the stems of the needles back into the hooks, so that they will not drop off. (The following steps illustrate this technique).

Stitch behind latch on stem of needle

Stitch in needle hook
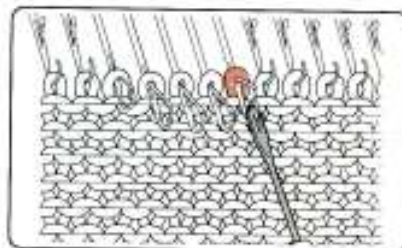
(1) Place the eye of the Transfer Tool into the hook of the needle.
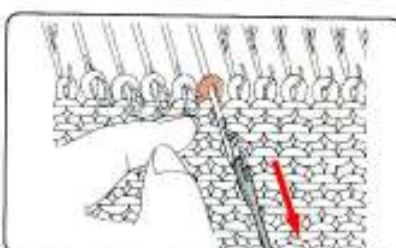
(2) Hold the Transfer Tool in line with the needle and pull it towards you.
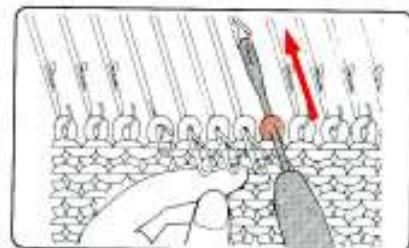
(3) Push the Transfer Tool away from you towards the machine until the stitch is on the Transfer Tool.
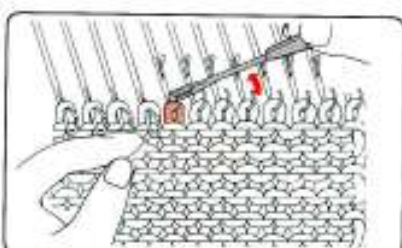
(4) Transfer the stitch into the hook of the needle.
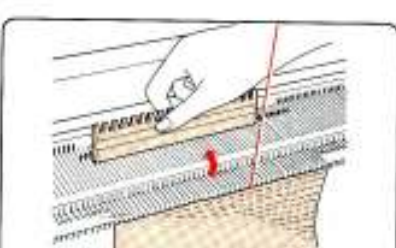
(5) When all stitches are safely in the hooks of the needles, align all needles in B position using the flat side of the 1/1 Needle Pusher.
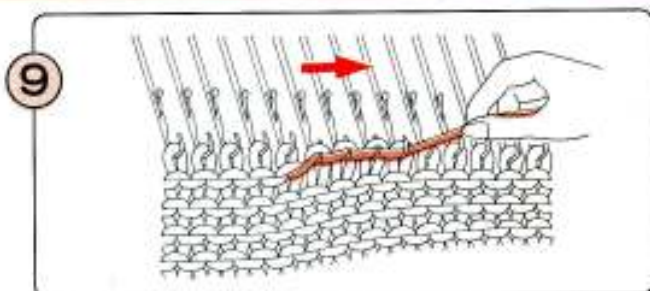
Pull the yarn sideways slightly so that it becomes tight in the needle hooks.
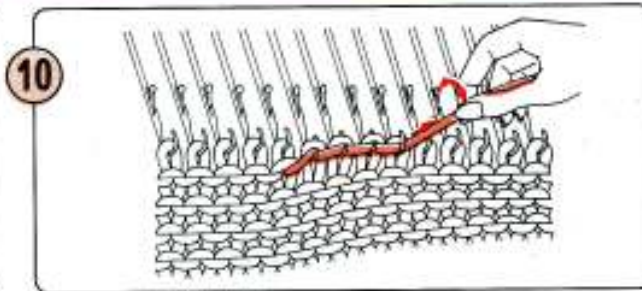
Now pull the yarn in an upwards direction to unravel the knitting. The stitches are undone and those from the row below will slip into the needle hooks.
Work a few stitches at a time and repeat steps ⑨ and ⑩ across the row.
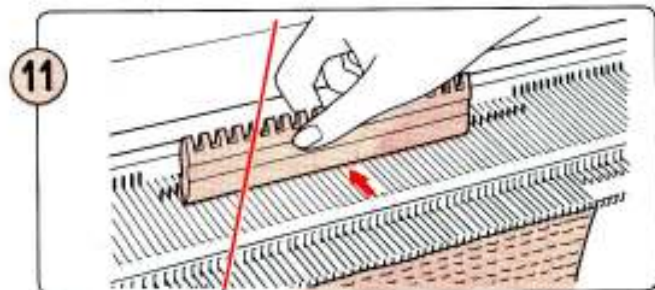
After unravelling a row check that all the stitches are in the needle hooks.
Using the flat side of the 1/1 Needle Pusher, align the needles in B position.
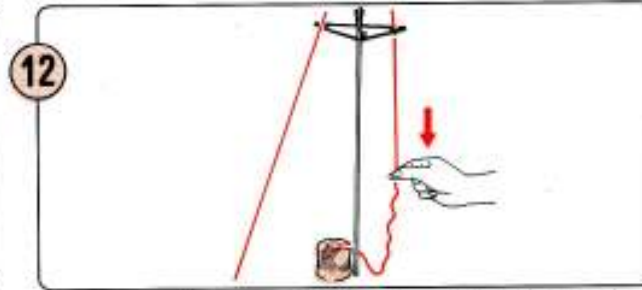
Pull down the loose unravelled yarn from behind the Rear Yarn Guide.
♣To unravel several rows of knitting, repeat steps ⑨ — ⑫.

⑬

Enter the number of rows you have unravelled and push the CR key. The READY lamp is lit and the row number you are going to knit appears in the Display.
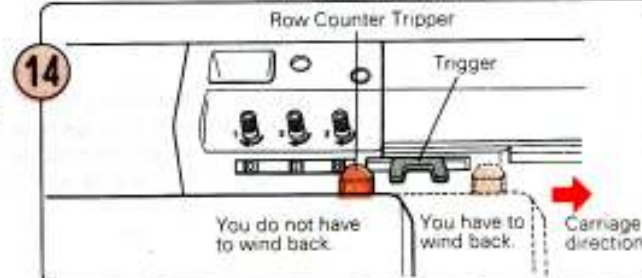
Row Counter Tripper
Trigger
You do not have to wind back.
You have to wind back.
Carriage direction

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 the K-Carriage is stopped before passing the Triggers.
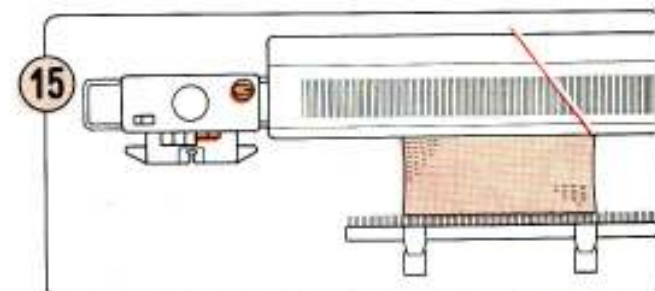
Make sure the K-Carriage is placed outside the Turn Mark opposite the yarn.
To select the needles, push both PART buttons and set the Change Knob to KC (I) or KC (II).
At this time, the yarn is not in the Yarn Feeder.
♣If you are using the Row Counter or Knit Leader, set their Trippers to NON working position.
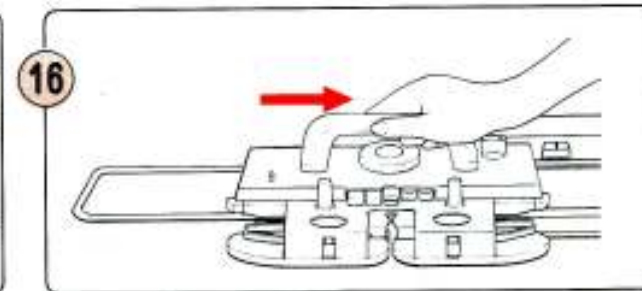
Move the K-Carriage across the knitting. B position needles are selected.
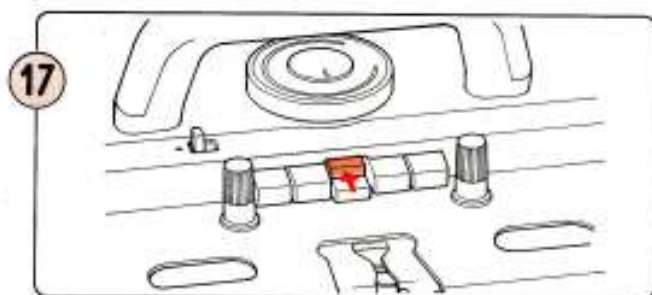
Push the Cam Button according to the pattern you are going to knit.
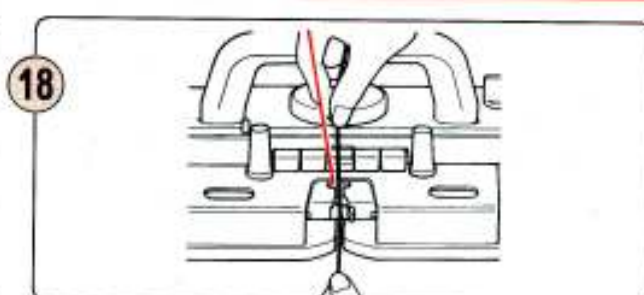
Thread up the yarn into Feeder "A".

♣If you are using contrast yarn or weaving yarn, don't forget to thread this up as well.

♣Put the Row Counter and/or Knit Leader Trippers back in operation.
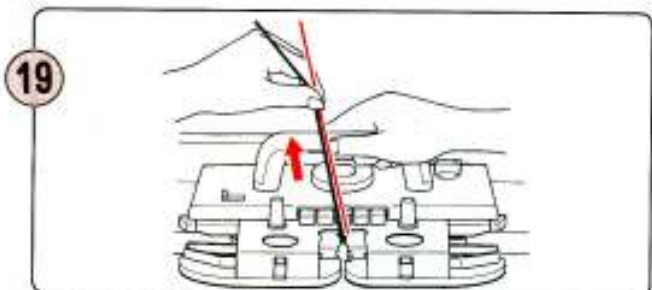
Continue knitting with the K-Carriage, pulling the yarn slightly on the first row to remove any slackness.

IF YOU WANT TO UNRAVEL SOME KNITTING
(WHEN THE CARRIAGE HAS GONE PAST THE END OF THE KNITTING)

1 Begin by unravelling the rows. (Refer to Step ⑨ — ⑫ on page 74).

2 Now follow Steps ⑬ — ⑯ on page 74.

IF THE SELECTED NEEDLES ARE PUSHED BACK BY MISTAKE

1 Bring all the needles back to B position and take the yarn out of the Yarn Feeder.

2 Enter "0" and push the CR key.

3 Follow Steps ⑮ — ⑲ on page 74.

WHAT TO DO IF YOU MAKE MISTAKES IN STOCKING STITCH AND PLATING

IF THE K-CARRIAGE SHOULD JAM

• Do not attempt to move the K-Carriage by force. Proceed as follows.

(1) Follow Steps ② — ⑥ ⑧ — ⑫ and ⑭ on page 72.
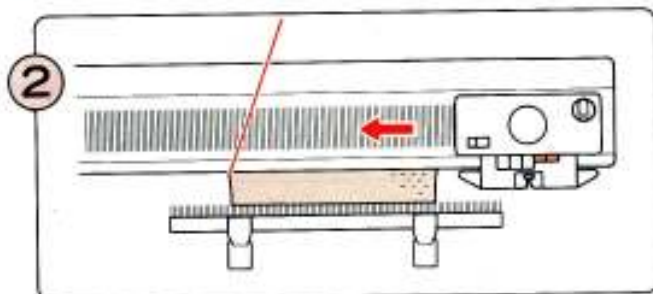
If the yarn is now on the opposite side of the knitting to the K-Carriage, you can move the K-Carriage across the needles without knitting as follows:

(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 the 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.
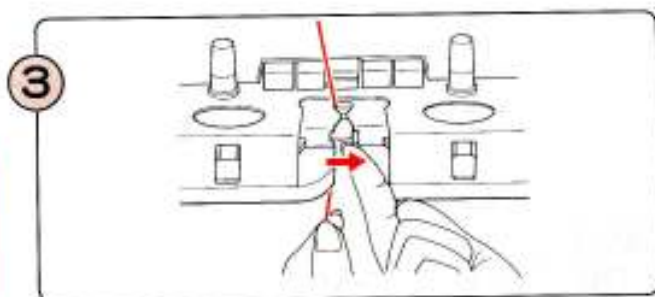
Thread up the yarn into Feeder "A".
♣ Set the Row Counter and/or Knit Leader Trippers back into working position.
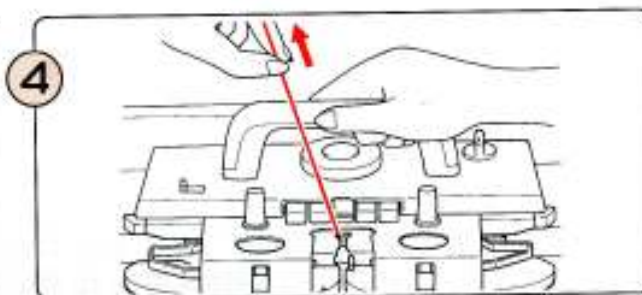
Continue knitting with the K-Carriage, pulling the yarn slightly on the first row to remove any slackness.

IF YOU WANT TO UNRAVEL SOME KNITTING

(1) Begin by unravelling the rows. (Refer to Steps ⑨ — ⑫ and ⑭ on page 74).

(2) Now follow Steps ② — ④ above.

WHAT TO DO IF YOU MAKE MISTAKES IN LACE OR FINE LACE PATTERN KNITTING

IF THE L-CARRIAGE SHOULD JAM

• Do not attempt to move the L-Carriage by force. Proceed as follows:
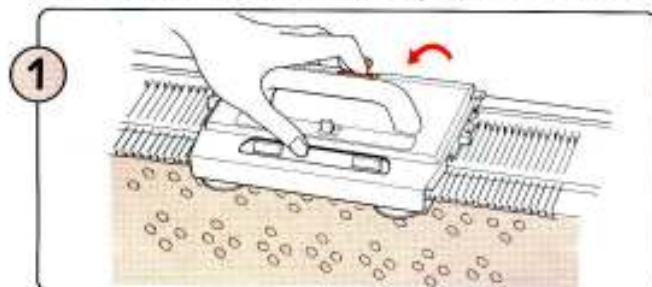
Remove the L-Carriage by pushing the Release Button. If the L-Carriage is caught on the needles, take care when removing it.
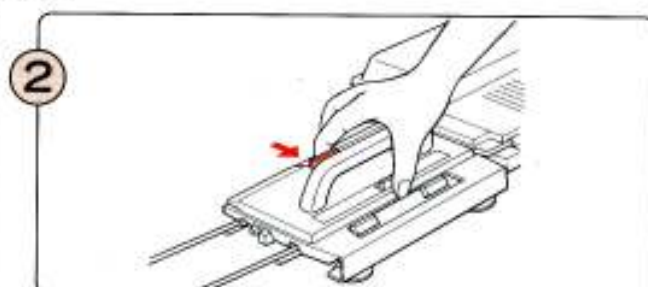
Place the L-Carriage securely on the left Extension Rail.
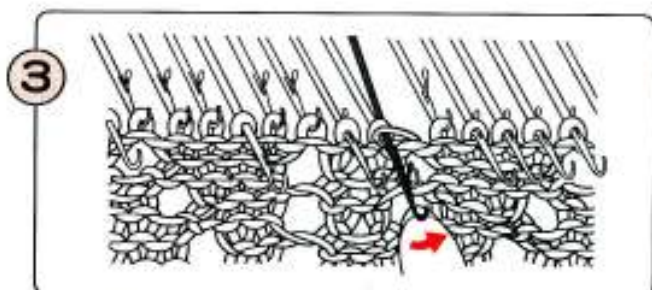
If the needles are caught over each other, separate them by lifting the tips as shown above.
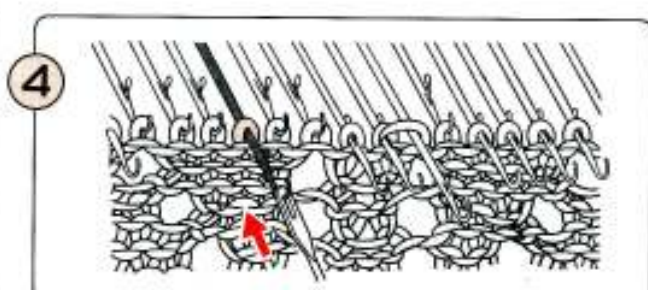
Use the Transfer Tool to replace any stitches on the stems of the needles back into the hooks.
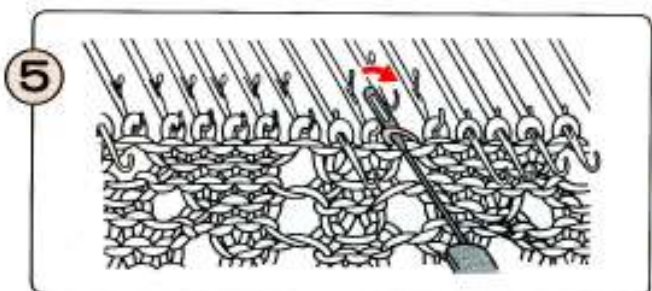
Return any stitches that have been transferred back onto the adjacent needles using the Transfer Tool. Bring all needles back to B position.

6
(1) Push the Down key until a number appears in the MEMO display.
(2) Push the Up key once.

7

Continue knitting, operating the L-Carriage and K-Carriage according to the MEMO display.

IF YOU WANT TO UNRAVEL SOME KNITTING

1 (1) Return any transferred stitches to the adjacent needles and put all needles in B position. (Refer to **5** above).
(2) Push the Down key until the number appears in the MEMO display.
(3) Unravel the stocking stitch rows referring to Steps **9** — **12** on page 74.
(4) Also repeat Steps (1) to (3) above as necessary.
♦Wind back the Row Counter and/or Knit Leader if necessary.

2 (1) Check the stocking stitch rows. The MEMO display indicates the row number for stocking stitch. If the rows are insufficient, knit the extra rows needed.
(2) Push the Up key.
♦Don't forget to set the Row Counter and Knit Leader Trippers back into action.
(3) Continue knitting, operating the L-Carriage and the K-Carriage according to the MEMO display.

IF YOU OPERATE THE L-CARRIAGE FOR ONE EXTRA ROW

(1) Return the selected needles from D to B position.

(2) Move the L-Carriage to the left and place it outside the left Turn Mark.

(3) Push the Down key until the number appears in the MEMO display.

(4) Operate the K-Carriage according to the MEMO display.

♣ When the L-Carriage moves from right to left, needles are sometimes selected. If this happens, you can leave them as they are.

(5) Push the Up key.

(6) Operate the L-Carriage and the K-Carriage according to the MEMO display.

IF THE SELECTED NEEDLES ARE PUSHED BACK BY MISTAKE

(1) Bring the selected needles from D to B position.

(2) Move the L-Carriage to the other side and place it outside the Turn Mark. Bring the selected needles from D to B position.

(3) Push the Down key once.

(4) Operate the L-Carriage and the K-Carriage according to the MEMO display.

WHAT TO DO IF YOU MAKE MISTAKES IN INTARSIA KNITTING

IF THE K-CARRIAGE SHOULD JAM

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

(1) Follow Steps ③ , ④ , ⑤ , ⑥ , ⑧ , ⑨ , ⑩ and ⑪ on page 73.

(2) Wind back the Row Counter and Knit Leader (if used) by the number of rows you have unravelled.

♣ You don't need to count the last row if the Row Counter Tripper or the Knit Leader Tripper didn't operate e.g. if you made a mistake before the K-Carriage had passed the Triggers.
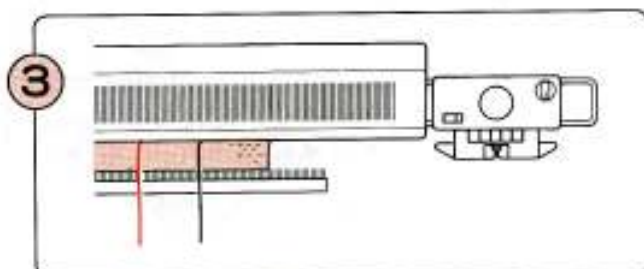
If the K-Carriage is at the same side of the knitting as the yarn, remove the K-Carriage from the needlebed and place it at the opposite side.
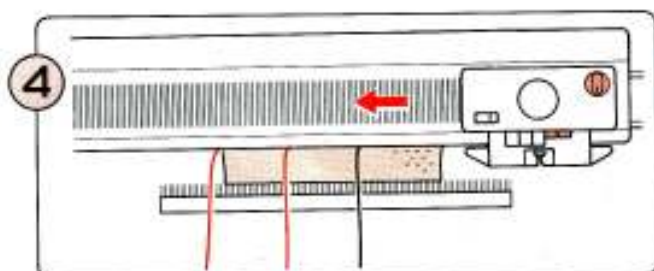
Push both PART buttons and move the K-Carriage across to the other side of the needlebed.

♣ If you are using the Row Counter or the Knit Leader, set their Tripper to non-working position.
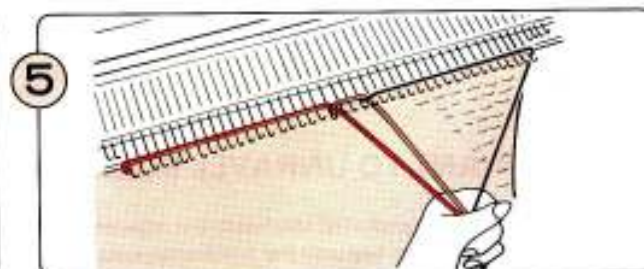
Lay the yarns according to the pattern and continue knitting.

♣ Don't forget to set the Row Counter and Knit Leader Trippers back in operation.

IF YOU WANT TO UNRAVEL SOME KNITTING

Follow steps ⑧ (1) — ⑪ on page 73 then follow Steps ② — ⑤ above.

WHAT TO DO IF YOU CANNOT REMEMBER HOW MANY ROWS YOU HAVE UNRAVELLED

(1) When the READY Lamp is flashing on and off, push the CE key. (The READY lamp is lit.)

(2) Set the Change Knob to N·L. and push both PART buttons.

(3) Examine the swatch to find which row should be knitted next.
Now follow the instructions below, according to the setting of the VARIATION/MC RIB key.

A. When using none of these keys.

Move the K-Carriage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark.
Enter the row no. to be started knitting again, and push the START key.

C. When using the DOUBLE LENGTH key.

Move the K-Carriage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark.
Enter the row no. to be started knitting again, referring to page 43, (b).

E. When using the DOUBLE LENGTH and REFLECTION keys.

Move the K-Cariage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark. Check and find the knitting direction of the pattern and whether it is the first row or the second row of the double length pattern.
Enter the row no. to be started knitting again, referring to page 43, (c).
Please note, with the DOUBLE LENGTH key, each row will be doubled.

G. When using all of these keys.

(1) Unravel the knitting and place the K-Carriage in the same manner as shown in D. ① above.
(2) Enter the row no. to be started knitting again, referring to E. on this page.

B. When using the REFLECTION key.

Move the K-Carriage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark.
Check and find the knitting direction.
Enter the row no. to be started knitting again, referring to page 43, (c).

D. When using the MC RIB key or the DOUBLE LENGTH and MC RIB keys.

(1) • Multi-colour Rib pattern (2 colours)
Unravel the knitting until the main yarn comes to the right side of the knitting.
Place the K-Carriage outside the left Turn Mark.
• Multi-colour Rib pattern (3 colours)
When you use the DOUBLE LENGTH key, unravel the knitting until the yarn comes to the left side of the knitting. Place the K-Carriage outside the right Turn Mark.
♣ In case you do not use the DOUBLE LENGTH key, you can finish unravelling either on the left or right of your knitting.
(2) Check the yarn colour stitches to find out which row number should be knitted next.
(3) Enter the row no. to be started knitting again, referring to page 44.

F. When using the REFLECTION and MC RIB key.

(1) Unravel the knitting and place the K-Carriage in the same manner as shown in D. ① above.
(2) Check and find the knitting direction.
Check the yarn colours stitch to find out which row number should be knitting.
(3) Enter the row no. to be started knitting again, referring to page 43, (c).
• Multi-colour Rib pattern (3 colours)
The same row no. always appears three times, except for the pattern nos. 851-860 in Stitch World II.
• Other patterns
When you use the START key, always enter the odd number row first, and then set it to the row you want, with the Up/Down key.

WHAT TO DO WHEN YOU HAVE ENTERED THE WRONG NUMBER FOR THE ROWS YOU HAVE UNRAVELLED

- **The number you have entered is smaller than the correct figure.**
  (e.g. You have unravelled 4 rows, but entered the number as '3' and then pushed the CR key.)

(1) Work out the number of rows you are short, and turn back the number indicated in the Display by pushing the Down key. In the example, you are one row short, so take the number back by one row using the Down key.

(2) Now follow the instructions on page 74 Steps ⑭ — ⑲ .

- **The number you have entered is larger than the correct figure.**
  (e.g. You have unravelled 2 rows, but entered the number as '4' and then pushed CR key.)

(1) Move the K-Carriage to select the needles.

(2) Bring back all the selected needles to B position and move the K-Carriage to select the needles again.
(Repeat these steps according to the worked out number.)
(In this example, repeat these steps twice.)

WHAT TO DO IF THE NEEDLES ARE SELECTED INCORRECTLY

Check the following points:
- Make sure that the READY lamp is lit.
- 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 a Turn Mark on the first row of the pattern.
- Make sure the K-Carriage passed the centre of the machine (needle Green 1) on every row. If the Carriage is returned without passing the centre of the needlebed, 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 needlebed. (The K-Carriage must pass the centre of the machine.)
(3) Place any selected needles in B position.
(4) Take the K-Carriage across the needlebed again, this time to get the correct needle selection.
(5) Push the Cam Buttons 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 that the READY lamp is lit. If it is not check whether the program is finished or not.
- 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 the pattern selector is in the right position.
- 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 (I) or KC (II)?
 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 needlebed to the yarn end.
(3) Set the Change Knob to KC (I) or KC (II) and push both PART buttons.
(4) Move the K-Carriage from outside the Turn Mark across the needlebed to select the needles.

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

1. If the power is cut off when the K-Carriage is knitting on a swatch or if you knit several rows after electric power is cut off.

   a) Finish the row you are knitting and place the K-Carriage outside the Turn Mark.
   b) Turn on the power.
   c) Push the CR key. (The READY lamp flashes on and off.)
   d) Unravel the knitting down to a row of correct pattern knitting.
   e) Place the K-Carriage outside the Turn Mark, opposite the yarn.
   Push both PART buttons and operate the K-Carriage. The needles are selected.
   f) Push the CE key (The READY lamp is lit).

2. If the K- or L-Carriage is outside of the knitting.

   a) Turn on the power.
   b) Move the K- or L-Carriage across the Turn Mark and continue knitting.

3. If the electric power is cut off when the L-Carriage is operating.

   a) Finish the row you are working, and then remove the L-Carriage and place it on the opposite side of the needlebed, outside the Turn Mark.
   b) Turn on the power.
   c) Push the CR key. (The READY lamp flashes on and off.)
   d) Bring back all the selected needles to B position.
   e) Move the L-Carriage one row.
   f) Push the CE key. (The READY Lamp is lit.)
   g) Operate the K and L-Cariage according to the MEMO display.

WHAT TO DO WHEN THE LETTER "E" IS FLASHING ON AND OFF IN THE MEMO DISPLAY

1 Push the CE Key to clear the Display.

2 Enter the correct figure.
In the following cases, the E will flash on and off in the MEMO display.
• If the figure, shown below, is entered when programming.
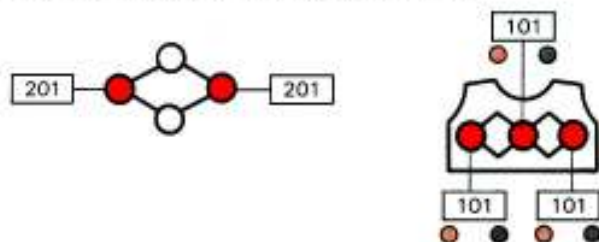
• In the case where more or less figures than the pattern required are entered and the STEP key pushed.
• In the case where you enter the pattern number which is not memorized in the computer and push the STEP key.
• In the case where zero ("0") is entered and the CR key is pushed when knitting the Lace pattern.
• In the case where the CR key is pushed without operating the K- or L-Carriage after correcting the pattern. (If you entered the number for the unravelled row by mistake, refer to previous page.)

IF THE LETTER "E" IS FLASHING ON AND OFF WHEN ENTERING THE STARTING ROW OF PATTERN AND PUSH THE START KEY

• If extra figures beyond pattern area are entered when programming, "E" will flash on and off in the MEMO display. Push the CE key and enter the correct programming.
• Make sure that the pattern programming is done correctly.

SHOULD YOU PUSH THE CR KEY BY MISTAKE...

Push the CE key. (The READY lamp stops flashing.)

SHOULD YOU TURN ON THE M LAMP BY MISTAKE...

Push the C Key. (The M lamp goes off.)

HOW TO CORRECT MISTAKES IN THE PATTERN INPUT PROGRAM

WHAT TO DO IF THERE IS AN INSUFFICIENT NUMBER OR THERE ARE NO ROWS LEFT FOR YOUR OWN PATTERN PROGRAM.

● 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 off.)

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.
♣ To find out how to check the memorized pattern, see "CHECK THE PATTERN DATA YOU HAVE STORED IN THE COMPUTER" on page 29.

3 Push the INPUT key. (The INPUT lamp is lit.)
♣ The display shows the number which is used for the new pattern.

4 Enter the number of the pattern you want to delete, then push the C key.
♣ The number in the display together with all the pattern data for that number has been deleted from the computer.
♣ When you want to delete more than one pattern, enter the pattern number you want to delete, then push the C key.

5 Push the INPUT key after you have deleted the pattern. (The INPUT lamp goes off.)

6 Enter your own pattern program by referring to page 25.

WHAT TO DO WHEN THE DISPLAY DOESN'T 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 can't find the pattern you want to delete from the computer, look for it with the CHECK routine for your own patterns on page 29.

2 Enter the pattern number that you want to delete, and push the C key.
♣ When you want to delete more than one pattern, repeat this step.

3 Push the INPUT key after you have deleted the pattern. (The INPUT lamp goes off.)
Enter your own pattern program by referring to page 25.

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 input program, follow the instructions according to the step you have reached.

INPUT PROGRAM STEPS

1. Turn on the INPUT key.

2. Push the STEP key.

3. Input mode.

4. Push the STEP key.

5. Enter the number of stitches for the pattern.

6. Push the STEP key.

7. Enter the number of rows for the pattern.

8. Push the STEP key.

9. Enter the pattern data using data keys or the numeral keys.

① What to do if the electric power is cut off while entering the input program during steps 1 to 7.
● All the data you input will be deleted. Turn power on and follow "INPUT PROGRAM" from the beginning.

② What to do if the electric power is cut off when pushing the STEP key at step 8, after you have entered the number of rows for the pattern, or while entering pattern data with the Data key or the Numeral keys at step 9.
● All the pattern 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 or 1 key stitches by the computer.
If the pattern data programming is nearly finished, use the check program to correct the white key or 1 key entries for the remainder of the stitches. Please refer to page 29.
If you had only just started pattern data programming, delete the pattern data and begin the input program again.
1. Turn on the electric power.
2. Push the INPUT key (on). Enter the pattern number you want to delete and push the C key. Turn off the INPUT key.
3. Push the INPUT key (on) and enter the pattern data from the beginning again.

WHEN USING THE CARTRIDGE

WHAT TO DO WHEN THE SAVE LAMP IS NOT LIT EVEN IF THE SAVE KEY IS PUSHED

CAUSE 1

The cartridge which was used for another model is inserted.

(A) If you insert the cartridge by mistake...
Turn off the power switch and change the cartridge to the correct one. Turn on the power switch and start data saving again.

(B) If you want to use the cartridge for this machine...
You can delete all the data stored in the cartridge, in order to use it with this machine.
  (1) Enter 888.
  (2) Push the STEP key.
And start the data saving.
  ♣If you turn power off the machine without saving the data, you have to repeat steps (1) and (2) above again, before data saving.

CAUSE 2

Date of your origianl pattern stored in the cartridge is damaged for some reason.
Delete the damaged date with the above step (B). You can use the cartridge again.

WHAT TO DO WHEN THE LETTER "E" IS FLASHING ON AND OFF IN THE MEMO DISPLAY

CAUSE 1

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.

CAUSE 2

You have entered the page no. which is not stored in the cartridge.
Push the CE key to clear "E" and enter the correct no.

CAUSE 3

The input pattern no. is not stored in the input page, or in the cartridge.
Push the CE key to clear "E" and enter the correct no.

CAUSE 4

You cannot load any more patterns.

CAUSE 5

Data of your original pattern stored in the cartridge is damaged for some reason.
You can use this cartridge after deleting the damaged date.
Push the CE key.
Enter 888 and push the STEP key.
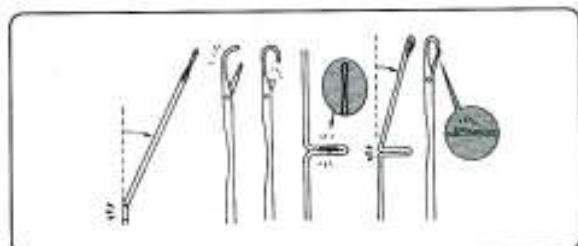All the date stored in the cartridge is deleted and you can use the cartridge again.

CAUSE 6

**Design system cartridge is inserted.**
Turn off the power switch and change the cartridge to correct one.
Turn on the power switch and start programming again.

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 needlebed.
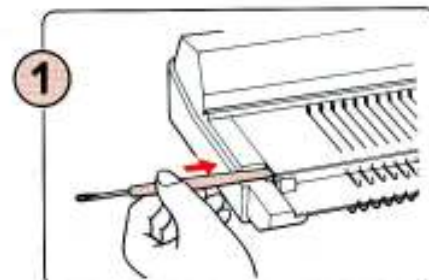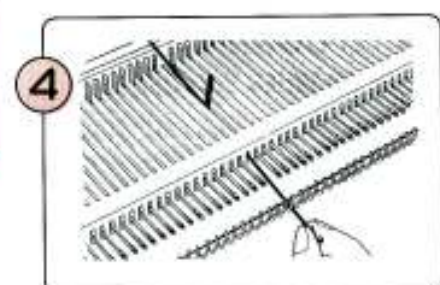
Push one end of the sponge presser bar with the handle of your latchet tool until the other end comes out of the needlebed.
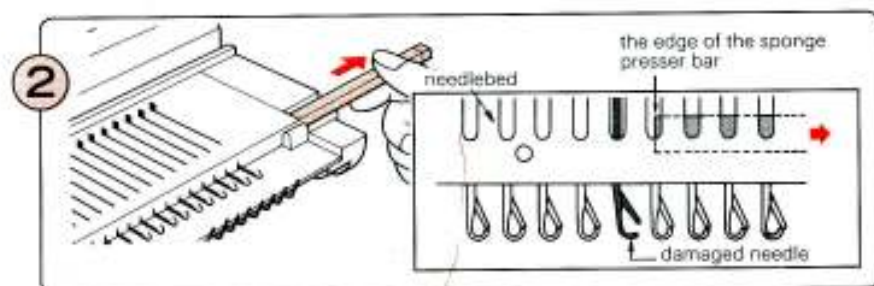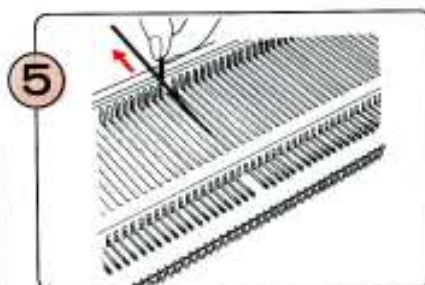

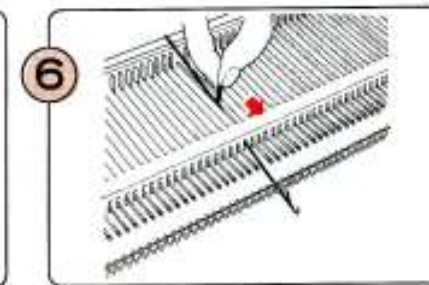Draw the bar out by hand until it passes the needle to be replaced.
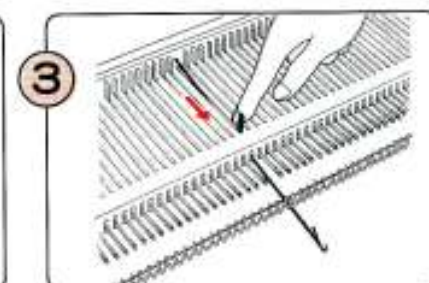
Push the faulty needle forward to E position as far as it will go.

Press down the hook end so that the shank end of the needle is raised clear of the needlebed.

Catch the shank end and pull it out of the needlebed.

With the latch open, insert the new needle.
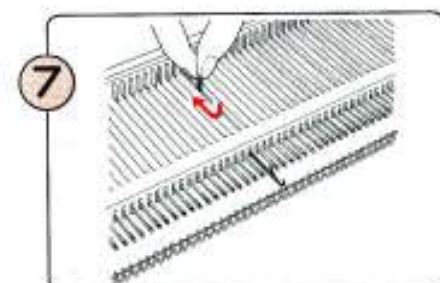
Return needle to A position.
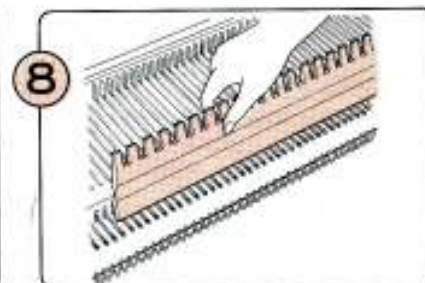
Holding the needles down with your hand or the flat side of your 1/1 needle pusher, push the sponge presser bar back in place.

♣ 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 needle 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 needlebed and brush away any dust or fluff. Check that the brushes are free from fluff or strands of yarn, and that they revolve smoothly.
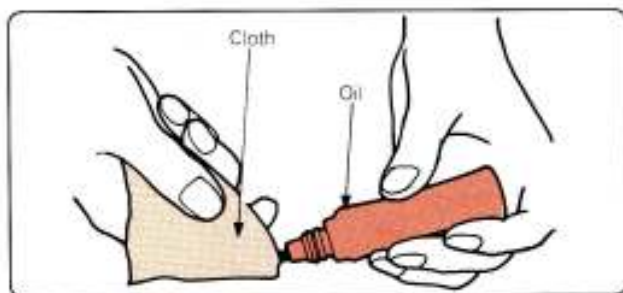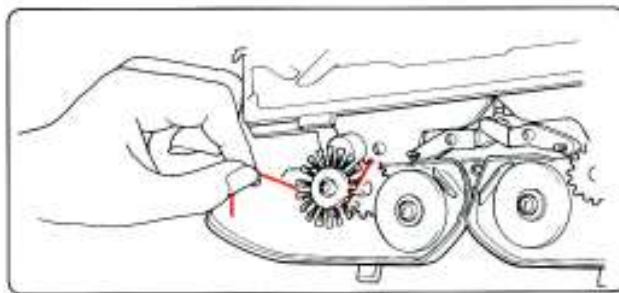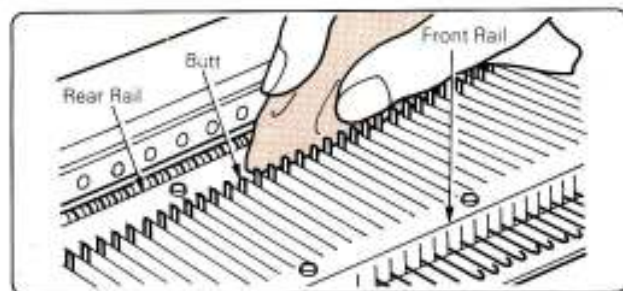

Arrange all needles in B position and clean the butts, rear and front rails as shown, using an oily cloth.
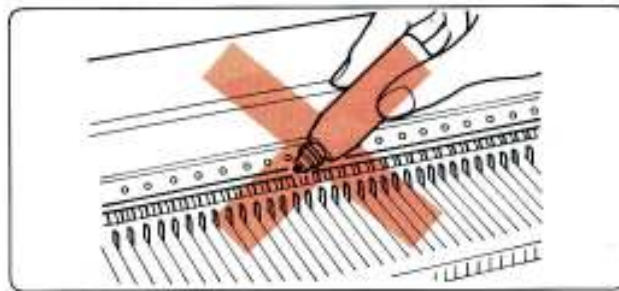
Do not put oil directly onto the machine.
Do not use silicone spray on your machine.

Do not use alcohol, benzine, thinners or petrol !
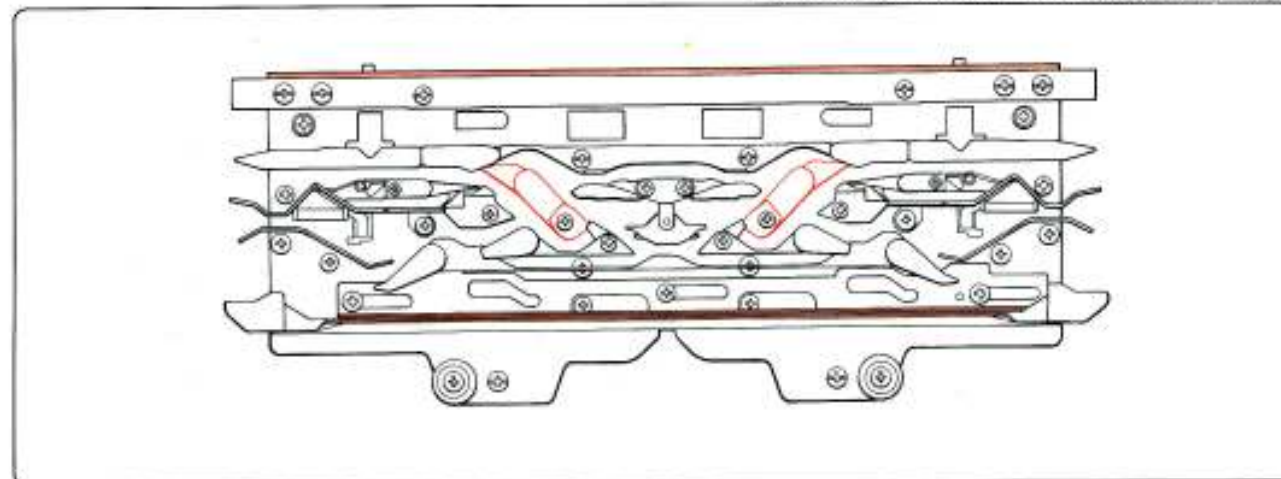
Should the K-Carriage feel heavy to operate, you should clean and lubricate the areas indicated above, using an oily cloth.
If you regularly clean and lightly oil your machine, it will make knitting easier and help to prevent excessive wear.
♣When you come to use your machine again after you have stored if for a while, knit 20-30 rows with waste yarn to clean away any dirty oil.

HOW TO USE THE ALPHABET

Use pattern selector II (multiple motif setting), because this pattern selector will only ask for the height of the pattern once, the tallest pattern must be programmed in first i.e.b (pattern 628).

Example-abc

① Ready light, press STEP, pattern number light.
② Enter pattern number 628 (b).
③ Press STEP 6 times showing size of pattern.
④ Position light, position the b in centre of needlebed i.e.

    first needle position Yellow 5, STEP
    left end needle Yellow 5, STEP
    right end needle Green 5, STEP

⑤ Pattern number light (2 in memo window for second pattern) enter pattern number 627 (a).
⑥ Press STEP four times (shows width of pattern only).
⑦ Position light, position a as

    first needle position Green 8, STEP
    left end needle Green 8, STEP
    right end needle Green 17, STEP

⑧ Pattern number light (3 in memo window for third pattern) enter pattern number 629 (c).
⑨ Press STEP four times (shows width of pattern only).
⑩ Position light, position C as

    first needle position Yellow 17, STEP
    left end needle Yellow 17, STEP
    right end needle Yellow 8, STEP

⑪ Pattern number light, enter 0 and press STEP. Because letters need to be reversed to knit correctly, switch on number 1 variation switch (reverse) nine light should be flashing.
⑫ Make sure lights 1, 2 & 3 in this case are flashing.
⑬ Press variation switch again to confirm the patterns you wish to reverse and knit.

Letter	Pattern No.	Stitches	Rows	Letter	Pattern No.	Stitches	Rows
A	601	10	16	a	627	10	12
B	602	10	16	b	628	10	16
C	603	10	16	c	629	10	12
D	604	10	16	d	630	10	16
E	605	10	16	e	631	10	12
F	606	10	16	f	632	9	16
G	607	10	16	g	633	10	14
H	608	10	16	h	634	10	16
I	609	6	16	i	635	6	16
J	610	10	16	j	636	8	16
K	611	10	16	k	637	8	16
L	612	10	16	l	638	6	16
M	613	10	16	m	639	10	12
N	614	10	16	n	640	10	12
O	615	10	16	o	641	10	12
P	616	10	16	p	642	10	12
Q	617	10	16	q	643	10	12
R	618	10	16	r	644	8	12
S	619	10	16	s	645	10	12
T	620	10	16	t	646	8	16
U	621	10	16	u	647	10	12
V	622	10	16	v	648	10	12
W	623	10	16	w	649	10	12
X	624	10	16	x	650	10	12
Y	625	10	16	y	651	10	12
Z	626	10	16	z	652	10	12