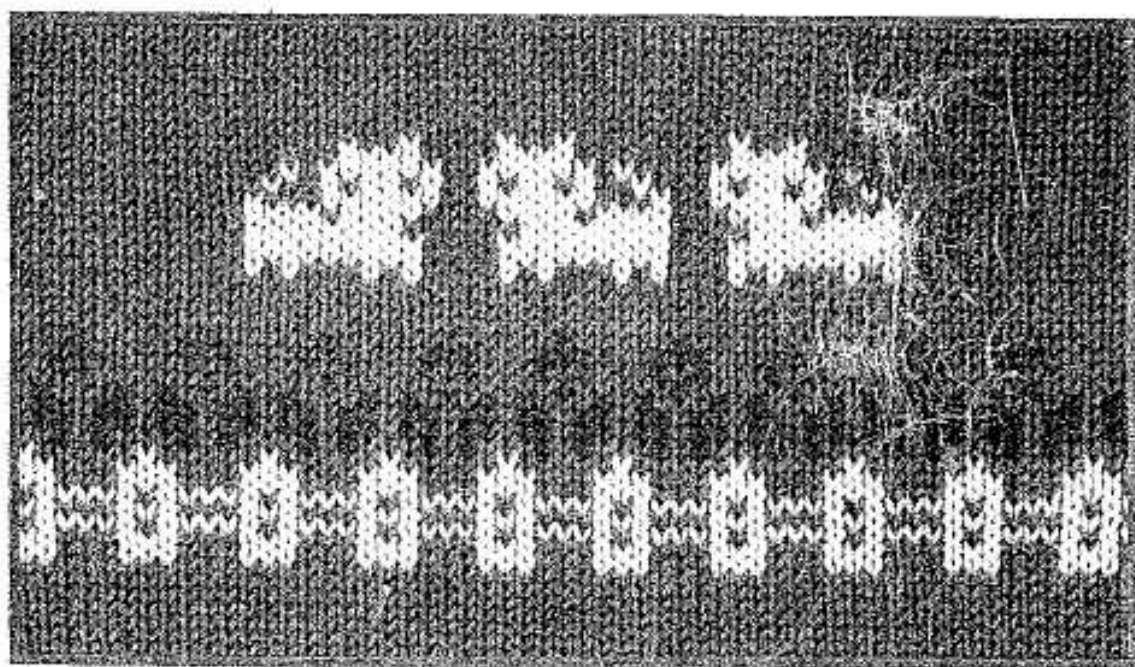


KH-950 INSTRUCTION BOOK



brother

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

BLUE -NEUTRAL

BROWN -LIVE

NOTE. As the colours of the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

Connect **BROWN** wire to terminal marked **L** or coloured **RED**.

Connect **BLUE** wire to terminal marked **N** or coloured **BLACK**.

WHEN USING A B.S. 1363 FUSED PLUG A 3 AMP. FUSE MUST BE FITTED.

If the terminals of the plug are unmarked consult a qualified electrician before use.

Model	Power Source
KH910/KH950	AC(-) 240V 50HZ 40W
KH930	AC(-) 240V 50HZ 25W
KG88/89/88II/89II/93	AC(-) 240V 50HZ 20W

IMPORTANT

When leaving the machine or when servicing or changing mechanical parts or accessories, the machine or set must be disconnected from the supply by removing the plug from the socket-outlet.

Before removing AC line cord or when unit is not in use always disconnect mains plug from wall socket.

To prevent electric shock **DO NOT** remove cover, **NO** user servicable parts inside. Refer servicing to qualified service personnel.

This product is manufactured to comply with the radio interference requirements of EEC directive,

82/499/EEC.

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HOW TO USE YOUR KNITTING MACHINE

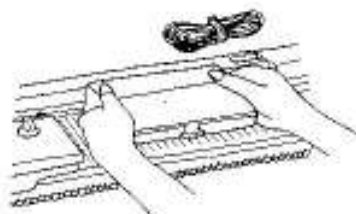
SETTING UP YOUR KNITTING MACHINE

- ① Place the machine on a firm table, with the Carrying Case Handle away from you and unlock the catches.

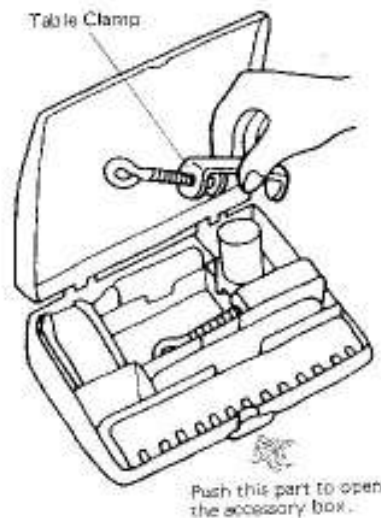
Lift up the case top and pull it towards you to release the lid.



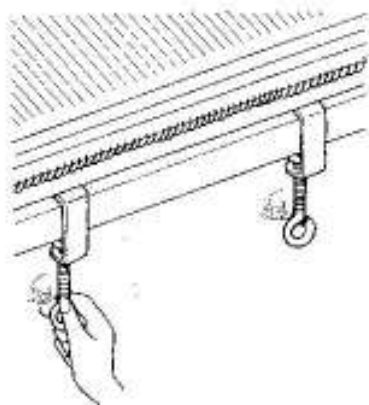
- ② Remove the accessory box and power supply cord from the machine.



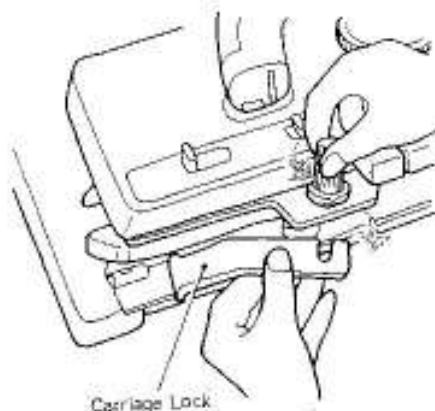
- ③ Take the two Table Clamps out of the Accessory Box.



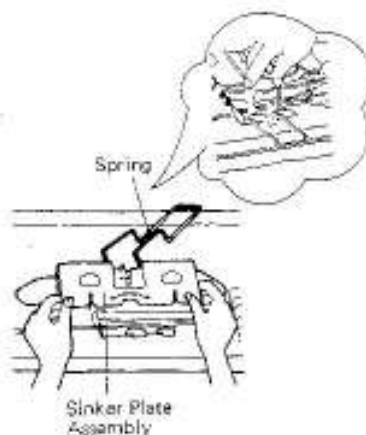
- ④ Fasten the machine to the table with the Table Clamps.



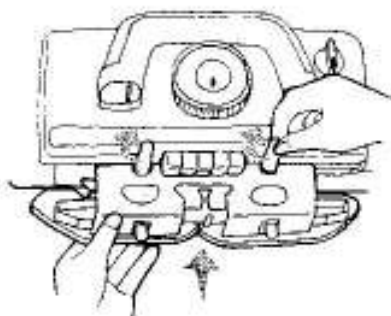
- ⑤ Loosen the knob and remove the Carriage Lock.



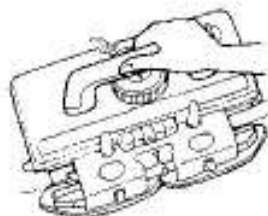
- ⑥ Release Spring and remove the Sinker Plate Assembly from the lid of the Carrying Case.



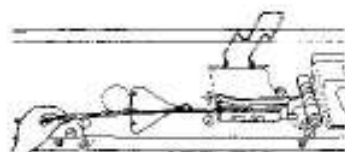
- ⑦ Screw the Sinker Plate Assembly onto the K-Carriage.



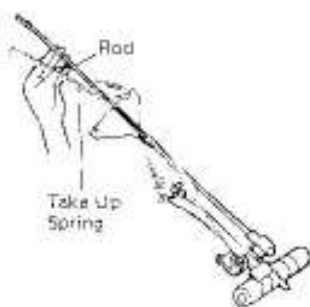
- ⑧ Raise the Carriage Handle by pulling it towards you, then move the Carriage to the right of the needlebed.



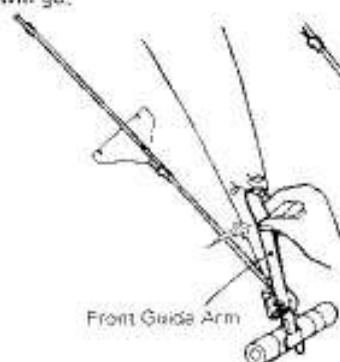
- ⑨ Take the Yarn Tension Unit out of the Carrying Case lid in the order 1, 2, 3, as shown.



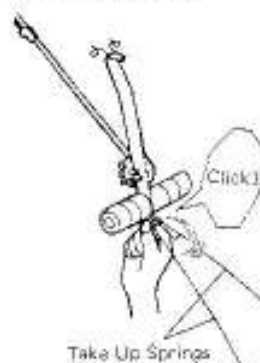
- ⑩ Unwind the Take Up Springs from the Rod.



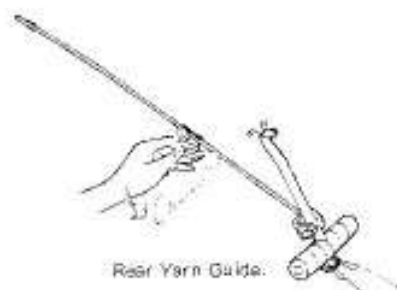
- ⑪ Lift the Front Guide Arm in the direction of the arrow as far as it will go.



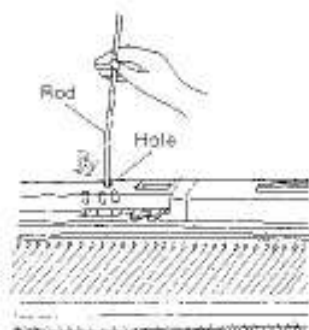
- ⑫ Turn back the Take Up Springs until you hear a "Click"



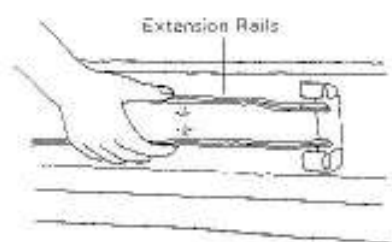
- ⑬ Raise the Rear Yarn Guide.



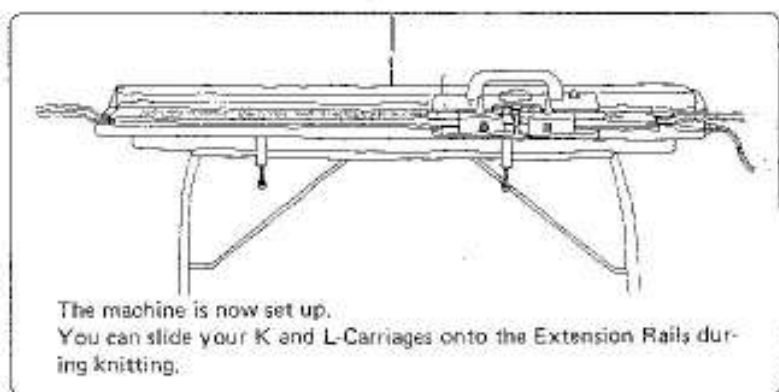
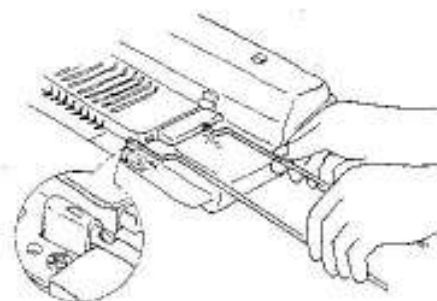
- ⑭ Insert the top end of the Rod into the hole at the back of the machine.



- ⑮ Remove the Extension Rails from the Carrying Case.



- ⑯ Insert the Extension Rails into the holes at both ends of the machine.



- Make sure the power is off by pushing down on the front of the switch, plug one end of the Power Cord into the machine, and the other into the power supply socket and switch on Push down on the back of the switch.



When you aren't programming or going to do pattern knitting, (e.g. you are only using stocking stitch) you don't need to plug the machine in.

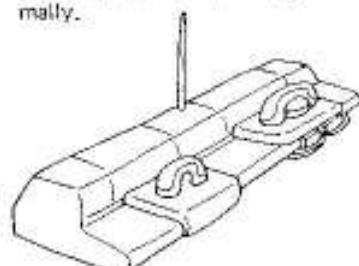
CAUTION

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

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

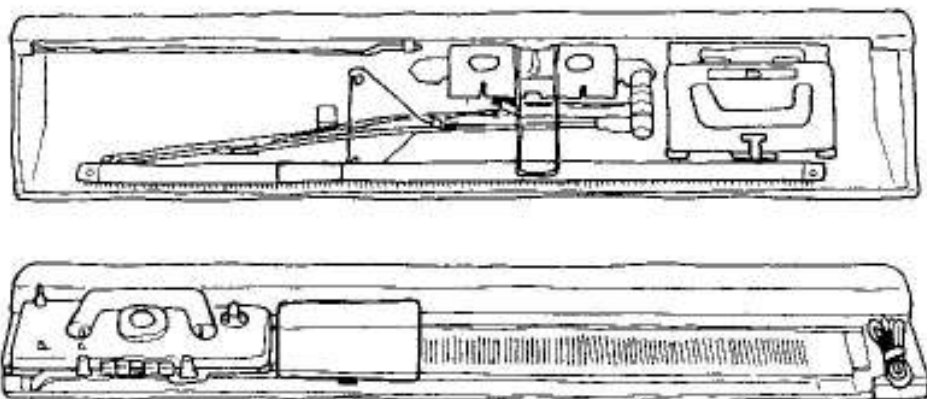


It is normal for the illustrated coloured portions of the machine to heat after long use. There is no cause for concern as long as the machine is operating normally.

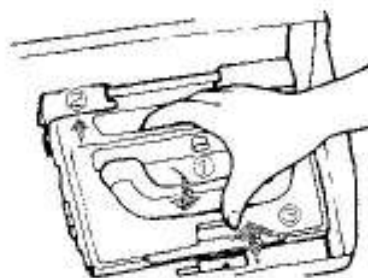


REPLACING YOUR MACHINE INTO THE CARRYING CASE

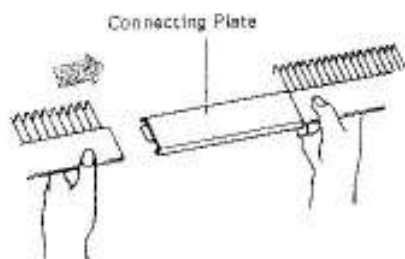
This is how your machine should look when it is packed away.



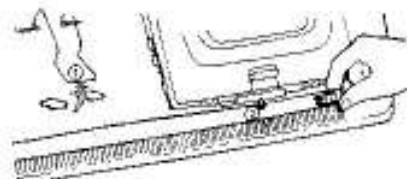
- ① Fold down the handle on the L-Carriage. Push the Release Button and replace the L-Carriage in the Carrying Case.



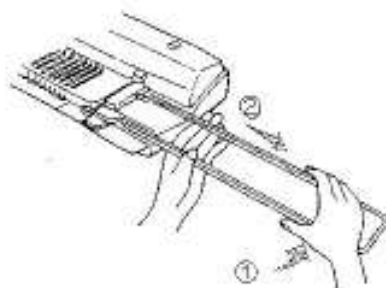
- ② Join the two sections of the Cast-on Comb.



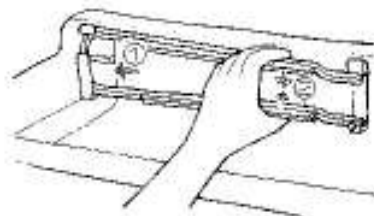
- ③ Lift the Spring and replace the Cast-on Comb back into the Lid.



- ④ To remove the Extension Rails, lift up and pull.



- ⑤ Put the Extension Rails in the Carrying Case.



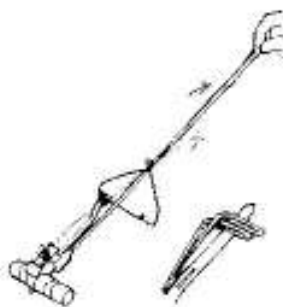
- ⑥ Remove Yarn Tension Unit and fold down the Front Guide Arm.



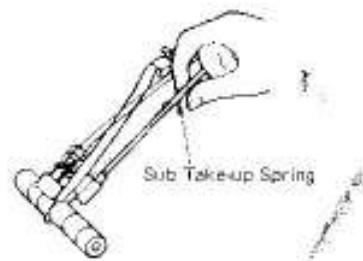
- ⑦ Next fold down the Take-up Springs.



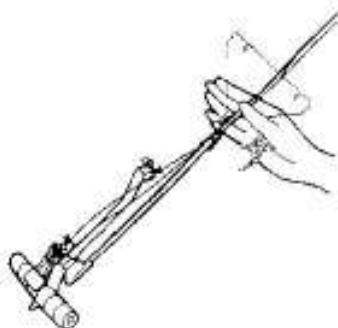
- ⑧ Wind and fix the Take-up Springs as shown in the illustration.



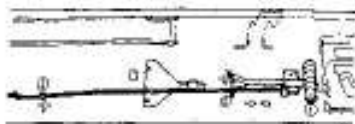
- ⑨ Put the Sub Take-up Spring on the Rod.



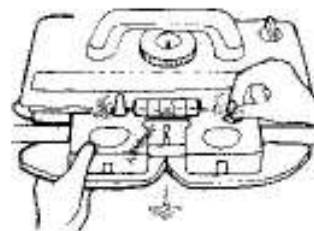
- ⑩ Fold down Rear Yarn Guide.



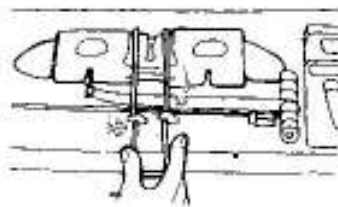
- ⑪ Replace the Yarn Tension Unit into the Case in the order 1, 2, 3, as shown.



- ⑫ Loosen knobs and remove the Sinker Plate Assembly from the K Carriage.



- ⑬ Put the Sinker Plate Assembly in the Case where indicated, and secure it with the Spring.



- ⑭ 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.



- ⑮ Unscrew the Table Clamps and put them in the Accessory Box with the other parts.



- ⑯ After you turn off the power, unplug the cord and place it on the righthand side of the needlebed.

Set the groove of accessory box onto the reel rail of needlebed and place the accessory box on the next righthand side of the K carriage.

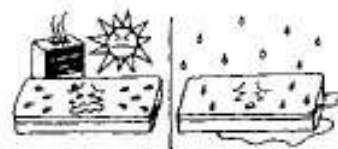


- ⑰ Hold the lid and replace it as shown. When it is in place, lock the two catches on either side of the Handle.



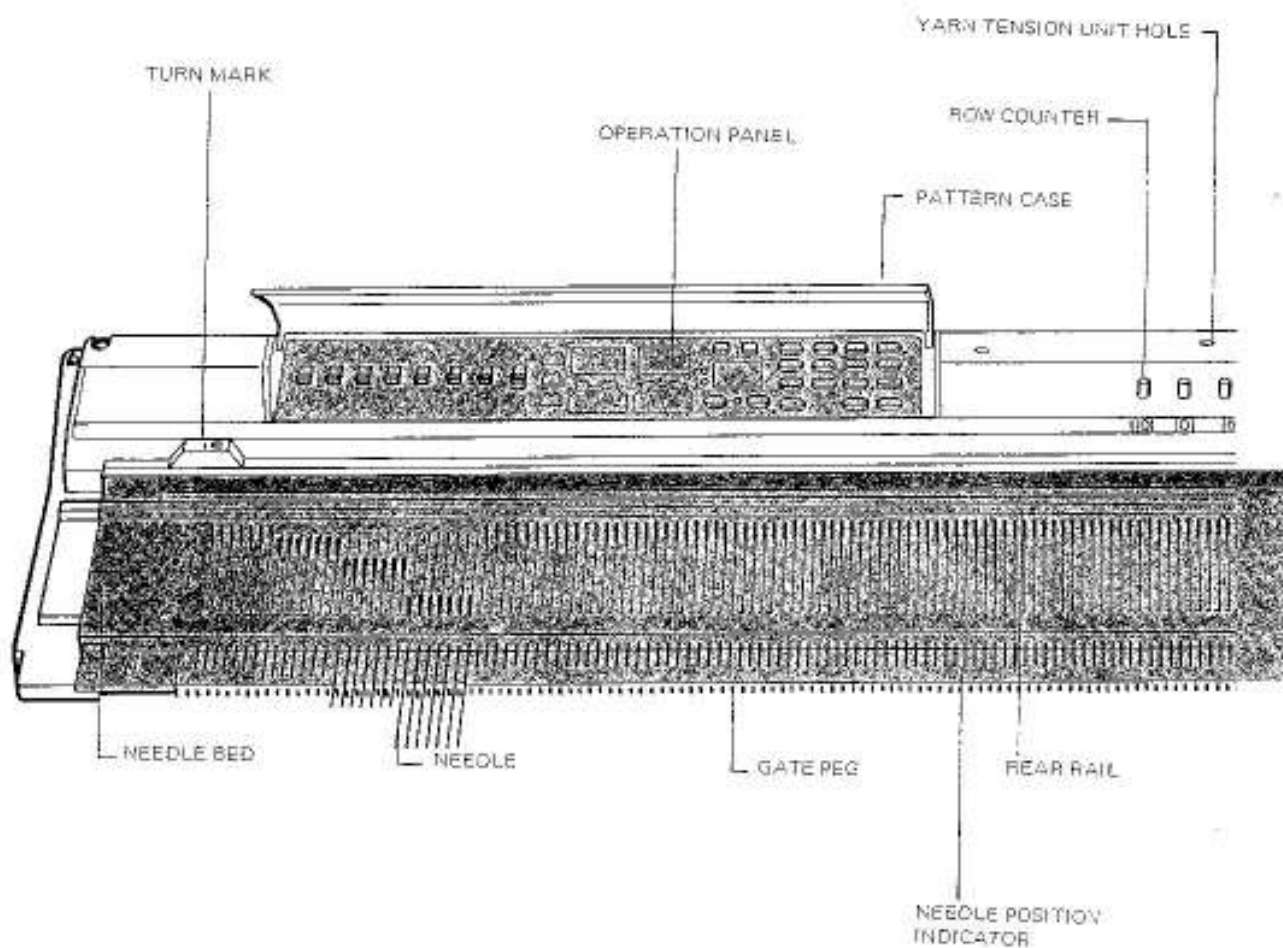
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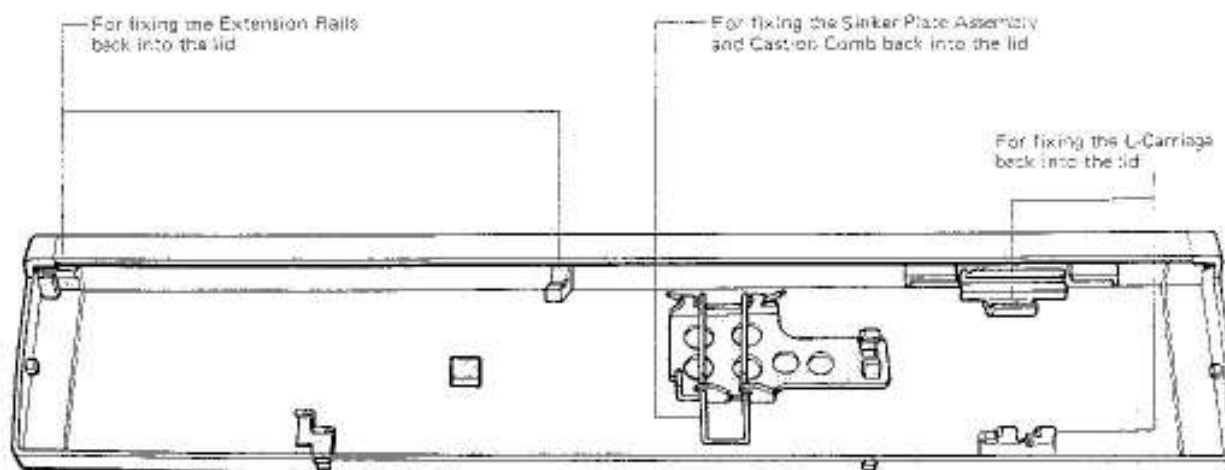


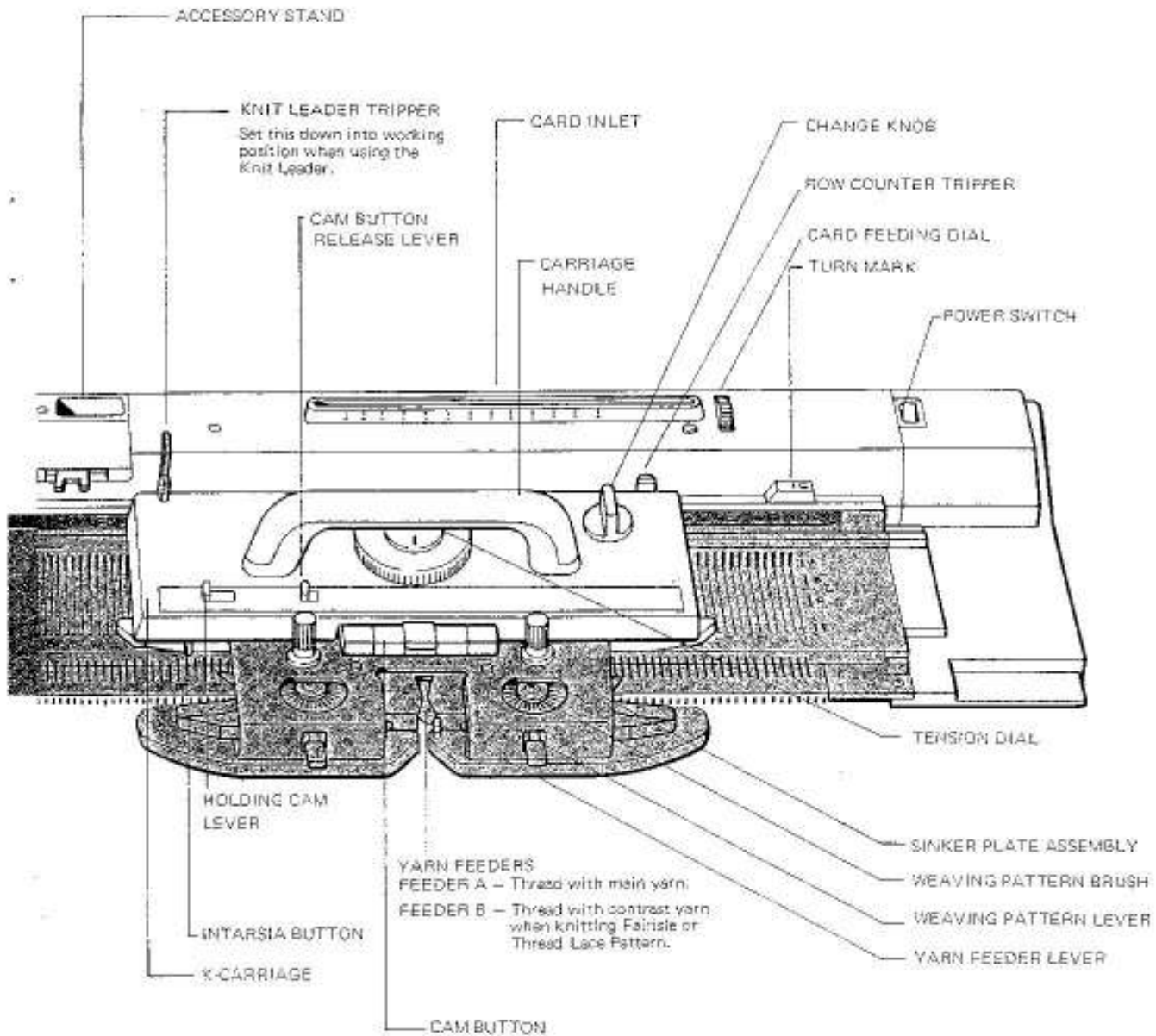
PARTS NAME

MACHINE AND K-CARRIAGE PARTS

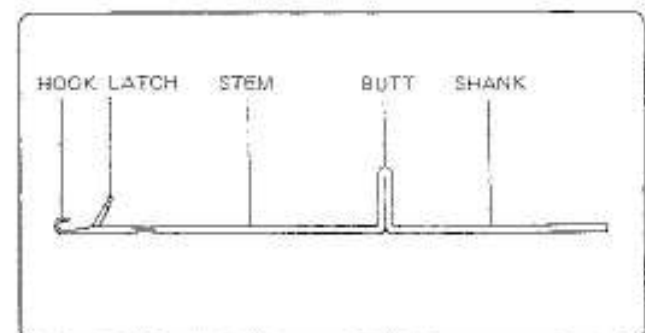


CASE





NEEDLE



ACCESSORIES

"STITCH WORLD"
(Pattern Book)



Blank Card



Design Sheet



Yarn Tension Unit



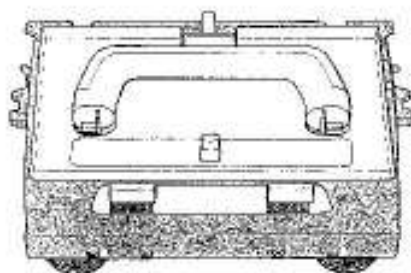
Cast-on Comb



Extension Rails



L-Carriage



Accessory Box



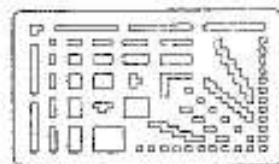
Card Holder



Card Guides



Template



Power Cord



Eraser



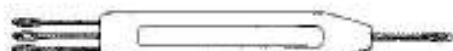
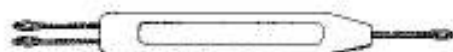
Crochet Hook



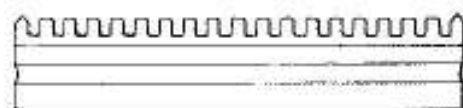
Latchet Tool



Transfer Tools



Needle Pusher



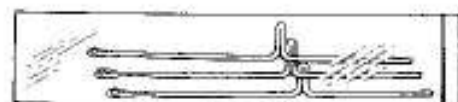
Cast-on Thread



Tapestry Needle



Spare Needles



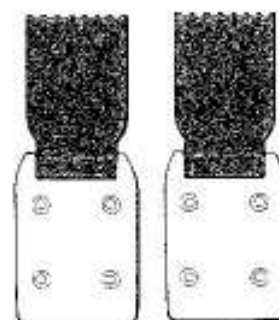
Marking Pen



Table Clamps



Claw Weights



Hand Brush



Plating Yarn Feeder



Latch Opening Plate

(For use with a Ribbing Attachment)



Oil



Yarn Wax

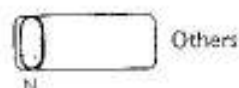


Carriage Lock



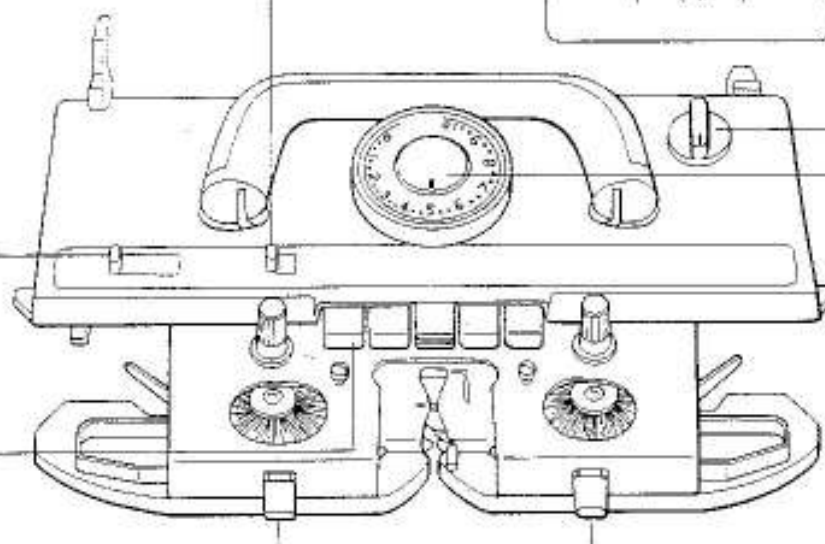
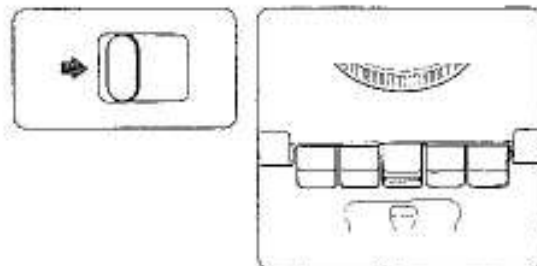
BEFORE STARTING TO KNIT

HOLDING CAM LEVER



CAM BUTTON RELEASE LEVER

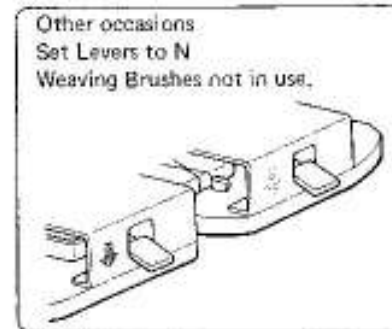
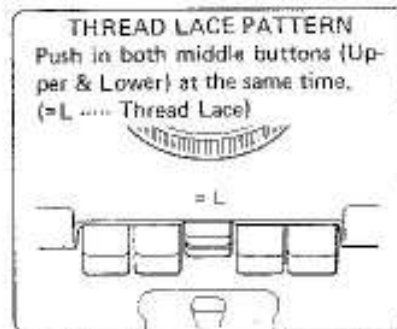
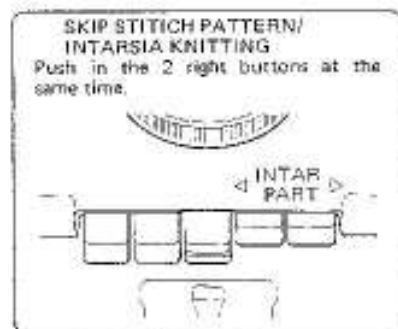
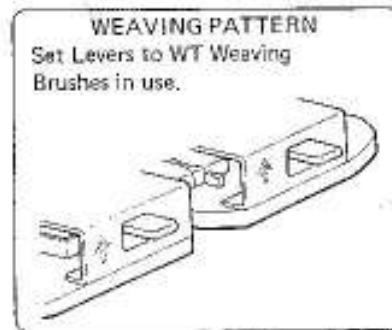
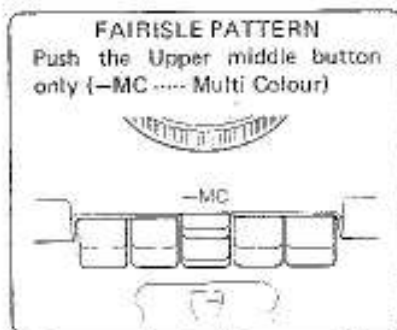
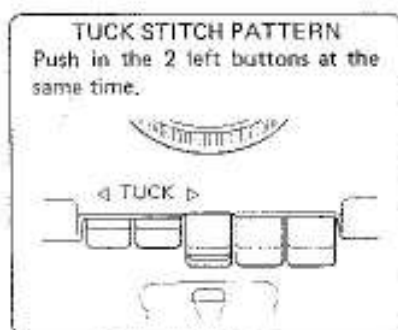
Release the Cam Buttons by sliding the Cam Button Release Lever to the right.



CAM BUTTONS

Use the Cam Buttons according to the pattern you want.

WEAVING PATTERN LEVERS



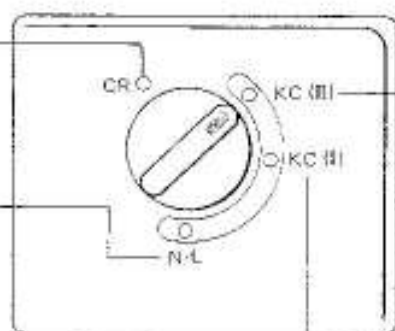
* Do not operate the K-Carriage if you have depressed both Middle Button (Upper & Lower) plus either the Tuck Button, or the Part Buttons.

CHANGE KNOB

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

N-L
This setting is used for Stocking Stitch, Lace Pattern and Intarsia.

★ The Cam Buttons are automatically released when you set the Change Knob to N-L.



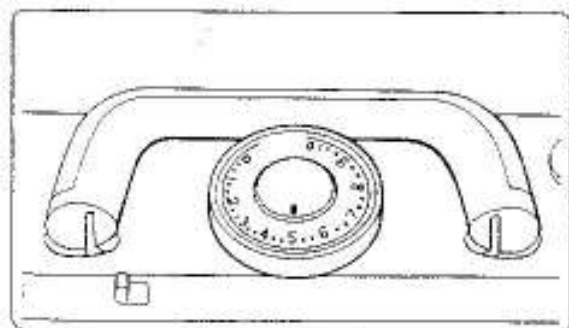
KC (II) – Knit Card
The needles are selected according to the pattern.

KC (I) – Knit Card
The end needles are automatically selected on each row regardless of the pattern sequence.

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).

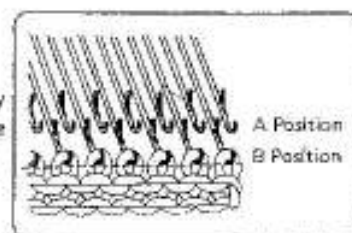
You should adjust the dial to a higher or lower number according to the thickness and type of yarn you are using.



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

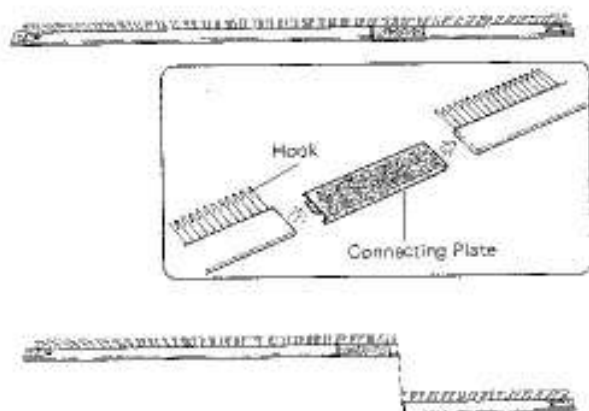
As there are so many different types of yarn, it is impossible for us to tell you which Tension Dial Number you should use. You must decide for yourself which is correct for your yarn by working sample swatches. Use the information above as a rough guide only.

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



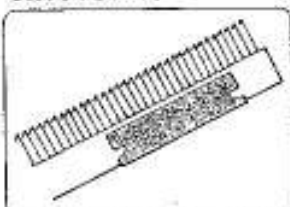
CAST-ON COMB

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.



Using the connecting plate

With a 140 or 60 stitch Cast-on Comb.



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

With a 200 stitch Cast-on Comb.

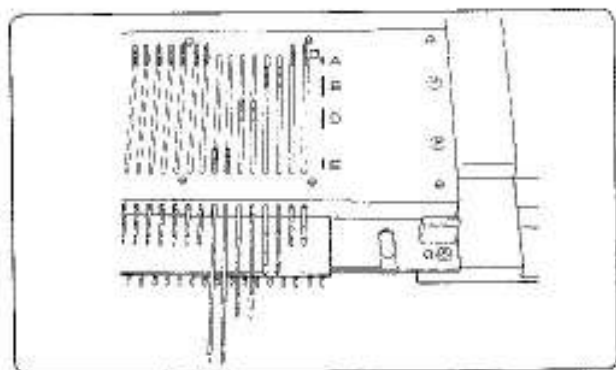


Use the Connecting Plate to join the two Cast-on Combs together.

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.

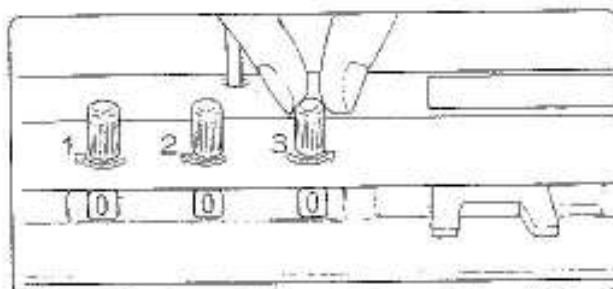


ROW COUNTER

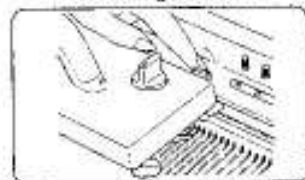
The Row Counter shows the number of rows that have been knitted with the K-Carriage.

When you want to set the number back to "000" again, turn the knobs in the direction of the arrows.

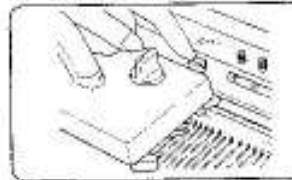
*When using the Row Counter, don't forget to set the Row Counter Tripper inot working position.



Working Position

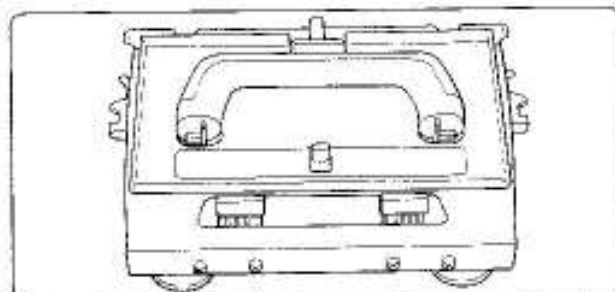


Non-working Position



L-CARRIAGE

With the L-Carriage you select and transfer stitches automatically. Use this to make Lace patterns.



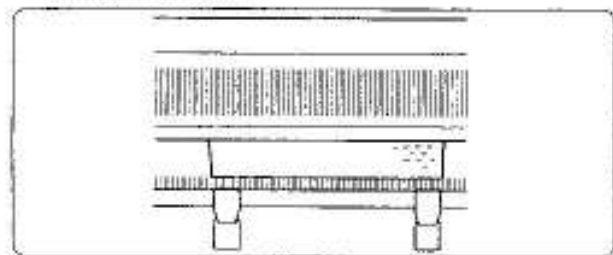
Lace Change Lever

- ⊖ N — Normal Lace pattern knitting
- ⊕ F — Fine Lace pattern knitting

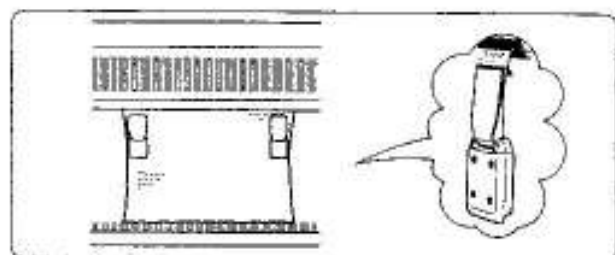
CLAW WEIGHTS

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

- Hang claw weights onto your Cast-on Comb so that your knitting hangs evenly.



If the edges of your knitting don't lie smoothly, hang Claw Weights on both edges of the actual knitting.



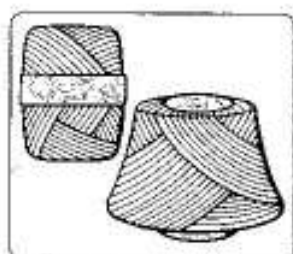
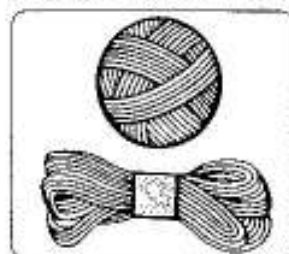
Rehang the weights every 20 rows or so.

PREPARING YOUR YARN

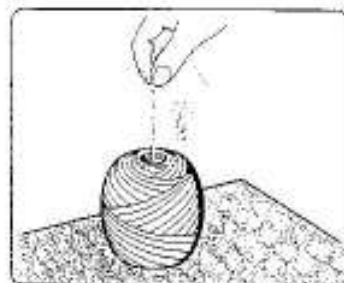
When you are new to machine knitting, you are advised to start with new yarn. Choose one that is smooth and of reasonably good quality.

Avoid hairy and harsh, poor-quality yarns as they are difficult to knit.

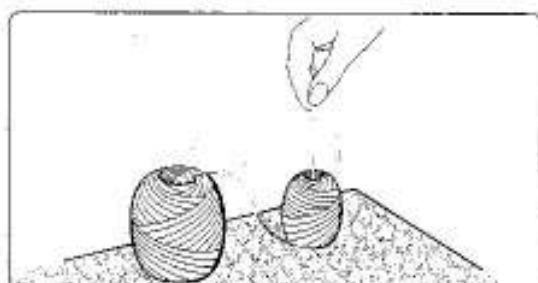
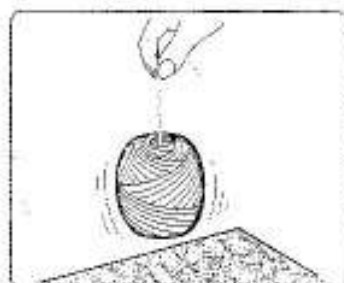
These yarns should be rewound using a Skein Winder and a Yarn Winder.



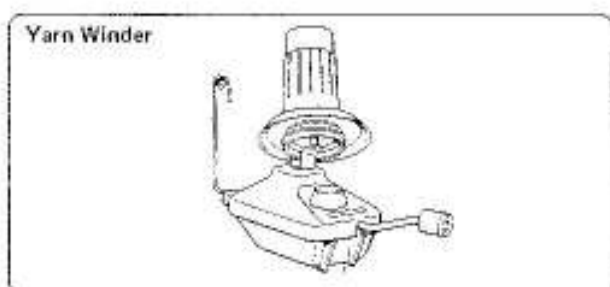
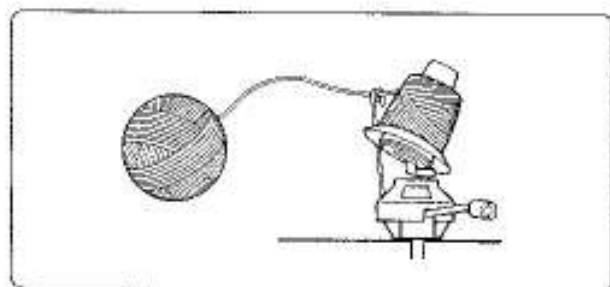
These yarns are suitable for use without rewinding.



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.

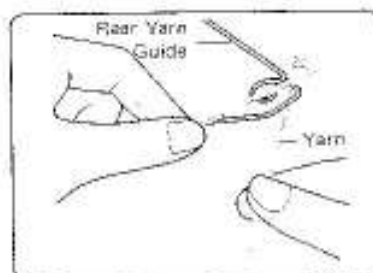
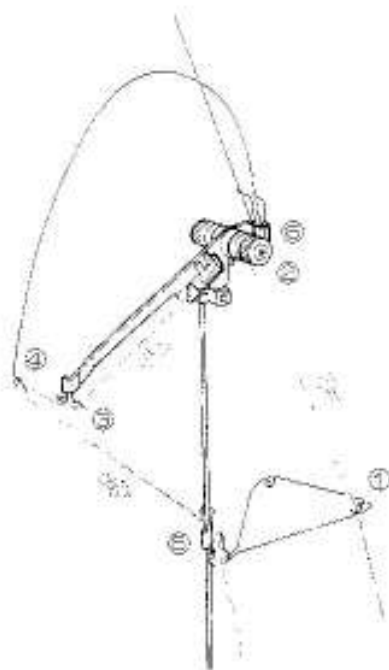


YARN WINDER can be purchased separately.

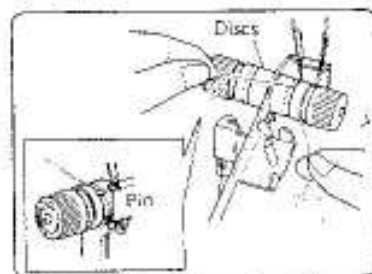
STOCKING STITCH (PLAIN KNITTING)

Stocking stitch is the most basic and simplest stitch in machine knitting.
Practice this until you can do it correctly.

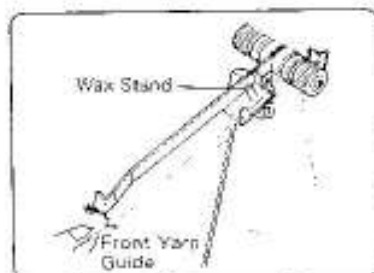
1. THREADING THE YARN



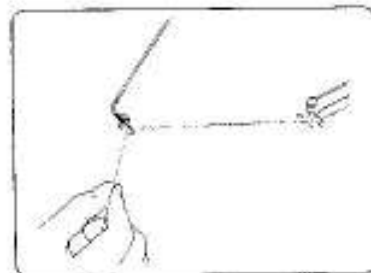
① Pass the yarn from the ball through the Rear Yarn Guide sliding the yarn through the eyelet.



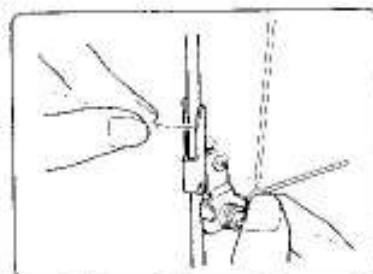
② Pass the yarn between the two discs holding it as shown above, and pull it towards you so that the yarn goes under the Pin.



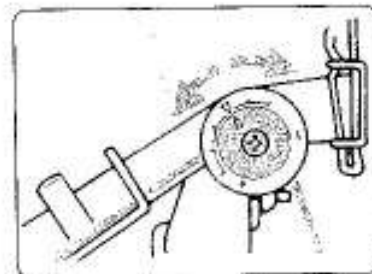
③ Thread the Front Yarn Guide.



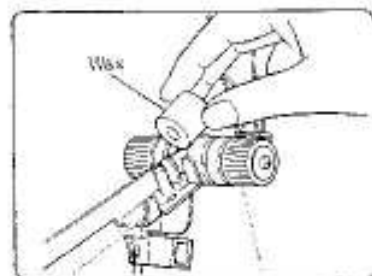
④ Thread the yarn into the eyelet of the Take-up Spring.



⑤ Clip the yarn under the Yarn Clip.



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



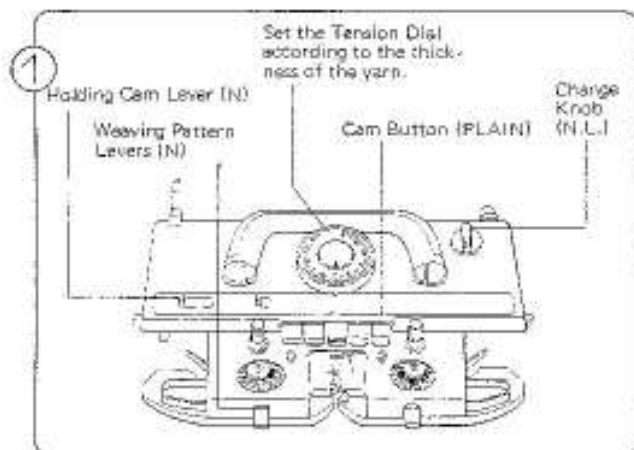
When you start to knit, place the Wax which you will find in the Accessory Box on the Wax Stand. The Wax helps the yarn to slide smoothly.

For medium yarn set as shown . . . ▶ ◀

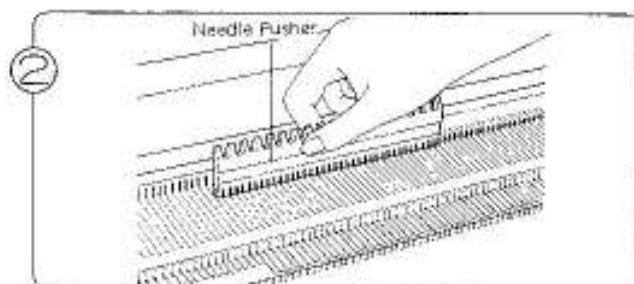
For finer yarn increase the tension by turning towards the plus sign) ▶ +

For thicker yarn decrease the tension by turning towards the minus sign ▶ -

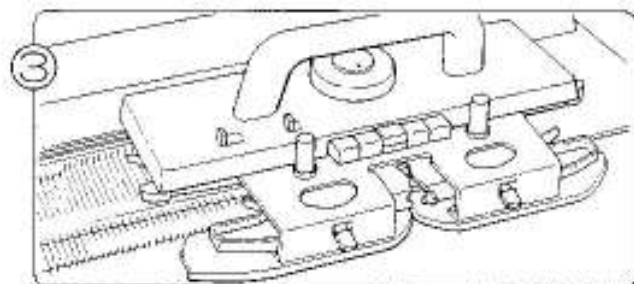
2. HOW TO CAST-ON WITH A FINISHED EDGE



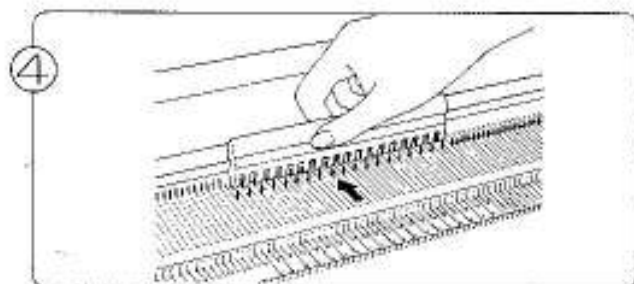
Set the K-Carriage as shown above.



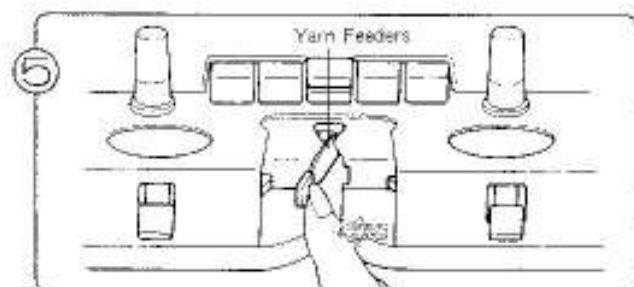
Using the flat side of the 1/1 Needle Pusher, bring forward 60 needles to B position (30 needles on either side of the centre mark "0").



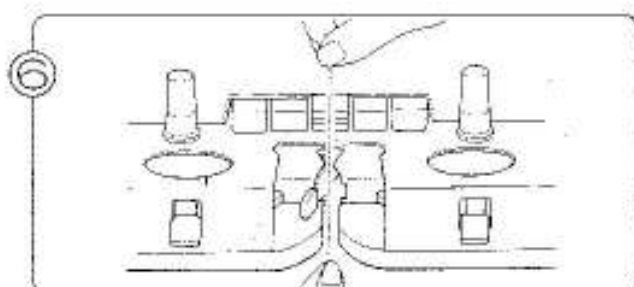
Move the K-Carriage across the needlebed a few times to align the needles, ending with the K-Carriage on the right.



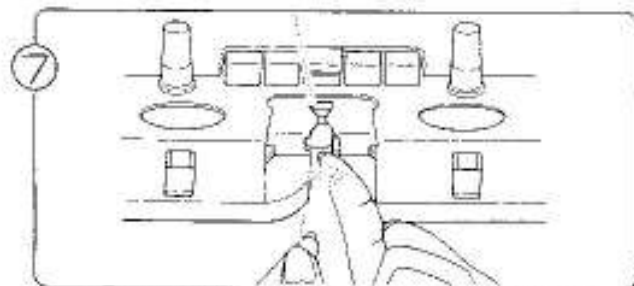
Using the 1/1 Needle Pusher, take every other needle back to B position.



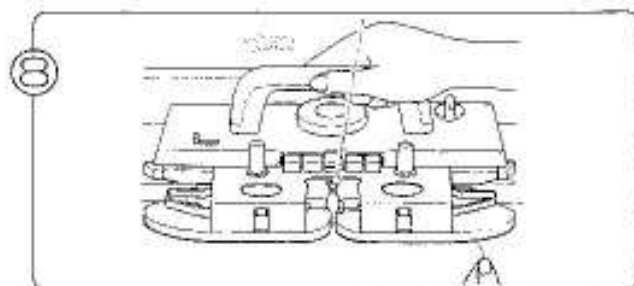
Open Yarn Feeder A by pushing the Yarn Feeder Lever to the left.



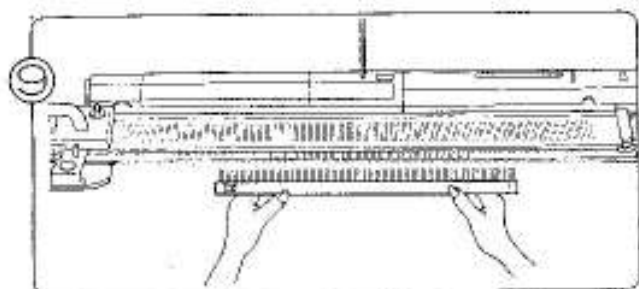
Take the yarn from the Yarn Clip and thread it into Yarn Feeder A.



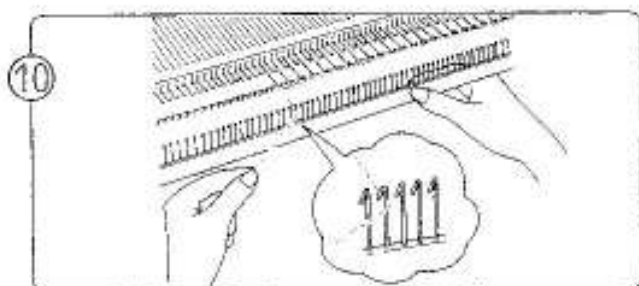
Keeping hold of the end of the yarn with your left hand, close the Yarn Feeder Lever.



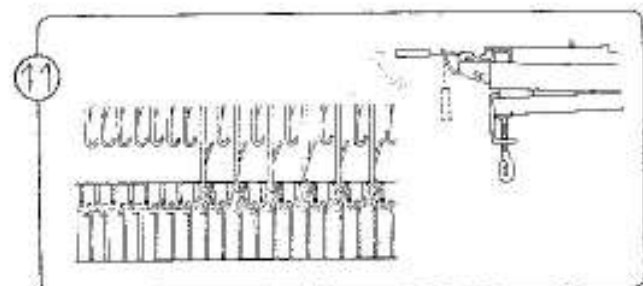
Still holding the yarn end gently, slowly move the K-Carriage to the left. Once you feel the needles catch the yarn, you can release the yarn end.



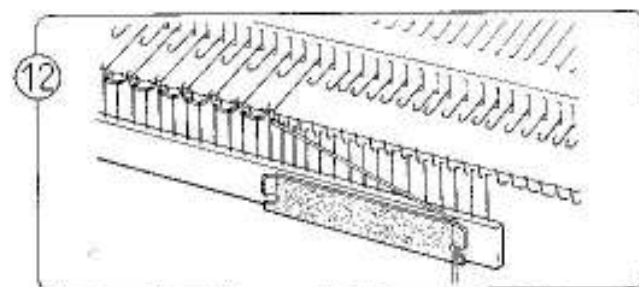
- (1) Take the Cast-on Comb out of the Case and choose the length according to the number of needles.
- (2) Hold the Cast-on Comb as shown with the hooks facing the machine.



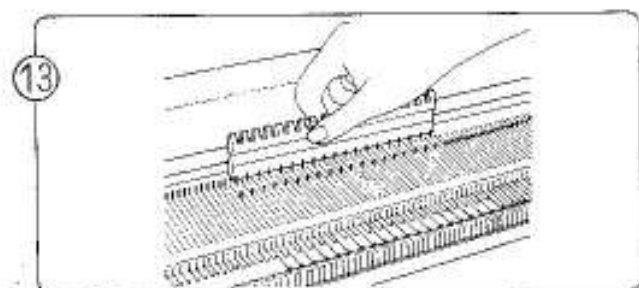
Pull the yarn through the hook towards you as illustrated.



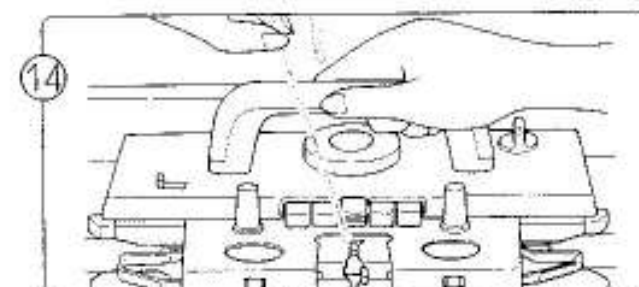
Hook the Cast-on Comb over the loops and let it hang down. Give the Comb a gentle pull downwards.



Hook the loose yarn end under the Yarn Clip on the front of the Connecting Plate.

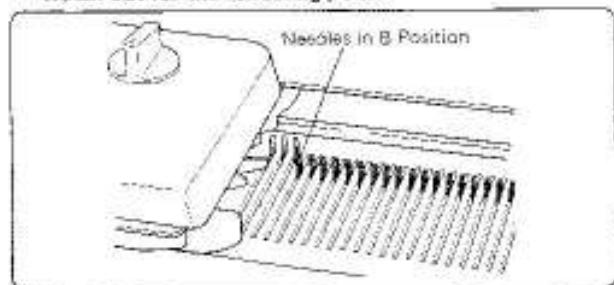


Return the needles which you took to A position in Step 4 forward to B position.



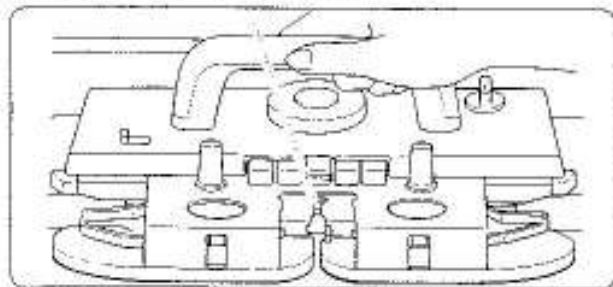
Move the K-Carriage to the right, holding the yarn as shown so that no loops are formed.

• Watch out for the following points



Make sure the K-Carriage clears the knitting before you move it back in the other direction.
You will hear a "Click" at the end of a row.

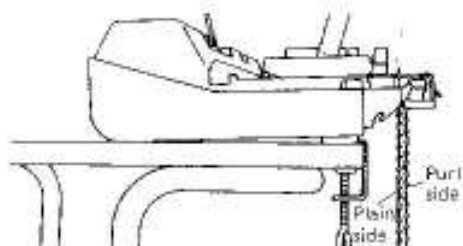
3. STOCKING STITCH



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 you prefer as the right (face) side when you sew up your garment.



• Plain side

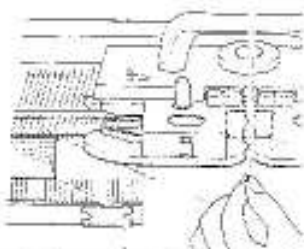


• Purl side



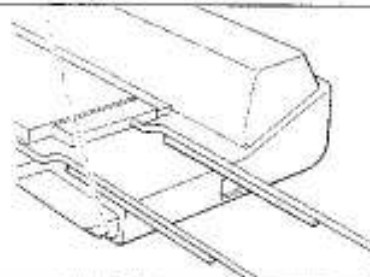
4. HOW TO REMOVE YOUR KNITTING FROM THE MACHINE

①



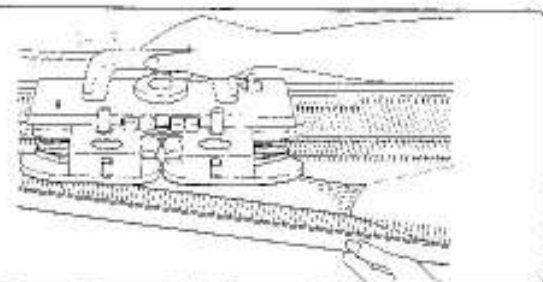
With K-Carriage at the right, remove the Claw Weights and take the yarn out of Yarn Feeder "A".

②



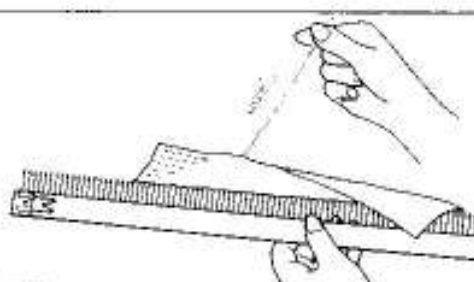
Secure the yarn by hooking it into the slot at the edge of your machine.

③



To release the knitting, move the empty K-Carriage slowly to the left, at the same time supporting the knitting with your other hand.

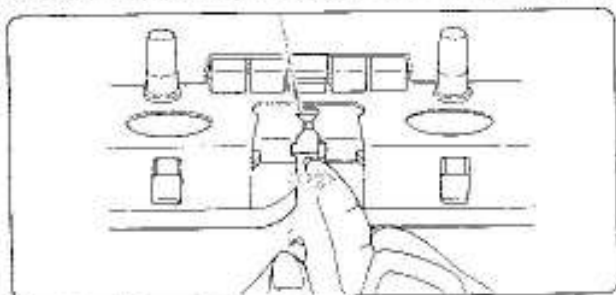
④



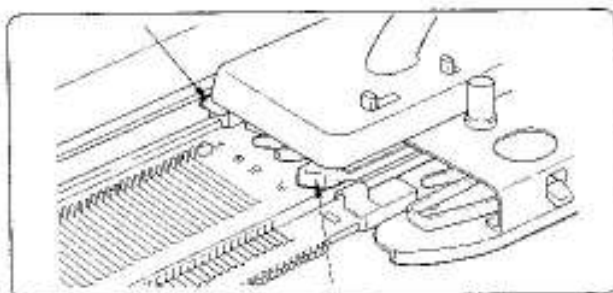
As the knitting has not been finished off and the stitches are open loops, it will unravel easily.

5. WHAT TO DO WHEN YOU CANNOT KNIT SMOOTHLY

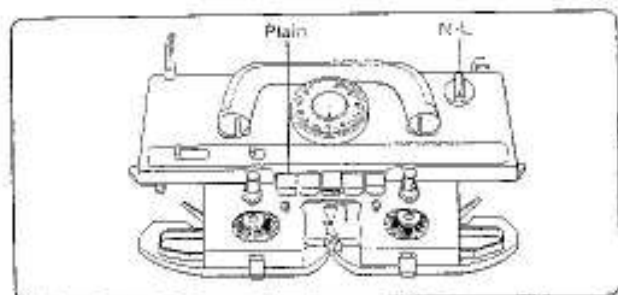
1) WHEN THE NEEDLES DON'T CATCH THE YARN PROPERLY



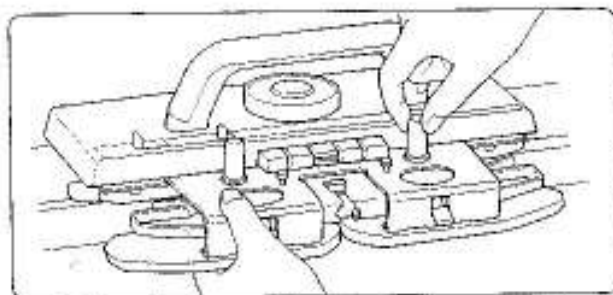
- Is the yarn correctly located in Feeder "A" ?
- Is the Yarn Feeder Lever closed ?



- Is the K-Carriage set correctly on the Needlebed ?



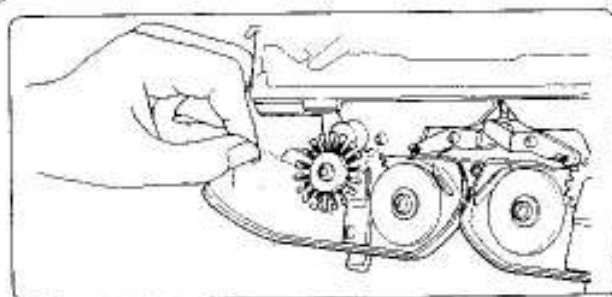
- Is the Change Knob set to N-L ?
- Has any Cam Button been pushed in ?



- Is the Sinker Plate Assembly joined correctly to the K-Carriage ?

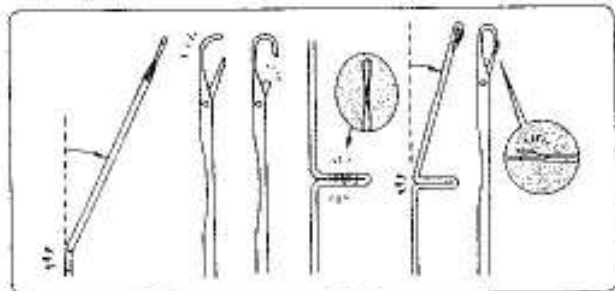
2) WHEN THE K-CARRIAGE IS HARD TO PUSH BACK AND FORTH

- Make sure that the Tension Dial and Tension Discs are adjusted according to the thickness of your yarn. (Tension Dial see page 10, Tension Disc see page 13.)
- Make sure that the machine is not damaged or dirty. If the machine needs oiling or cleaning refer to page 178.
- Make sure you have threaded the yarn correctly into the Yarn Tension Unit. (See page 13.)
- Make sure the yarn is flowing freely from the cone or ball.
- Make sure the Wheel Brushes are rotating freely. If there is yarn wrapped around these, you must remove it.

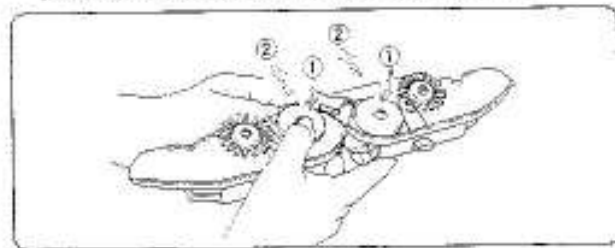


3) WHEN STITCHES ARE NOT FORMED CORRECTLY

- Is the needle bent ? If so, change it for a new one. (See page 176.)



- Place the Rubber Wheels into working position if the yarn (e.g. cotton, acrylic) doesn't knit properly.

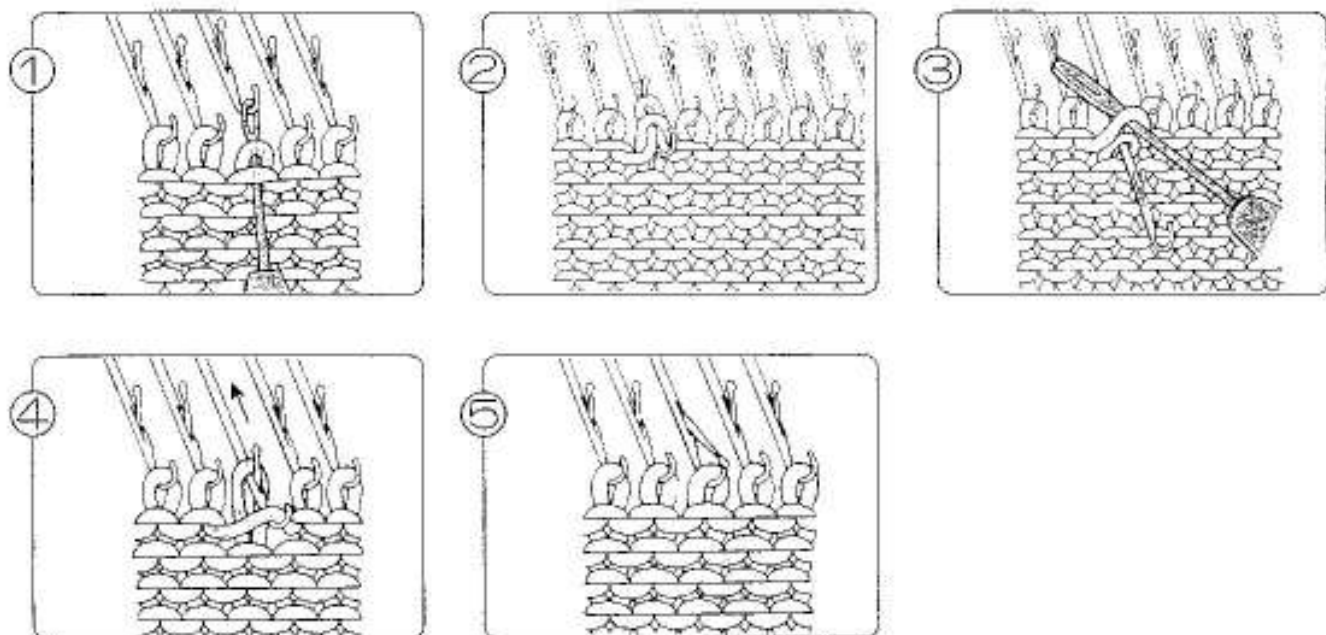


- (1) Remove the Sinker Plate Assembly from the K-Carriage, and turn it over.
 - (2) Place your thumb onto one of the Rubber Wheels and slide the Wheel forward, so that it is in line with the Brush. Do the same for the other Rubber Wheel.
- Reverse the above action to return the Rubber Wheels to non-working position.

HOW TO PICK UP A DROPPED STITCH

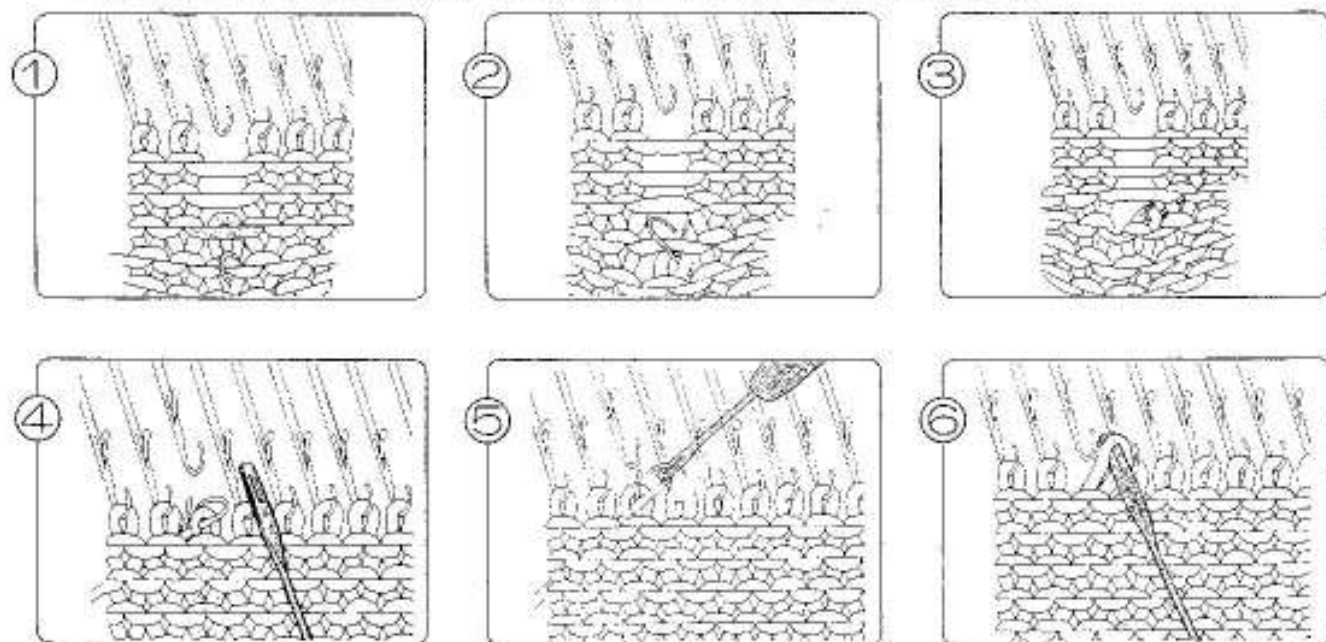
• Repairing a dropped stitch

Insert the Transfer Tool into the stitch on the row below the dropped stitch. Re-make the dropped stitch as illustrated.



• Repairing a stitch that has dropped several rows

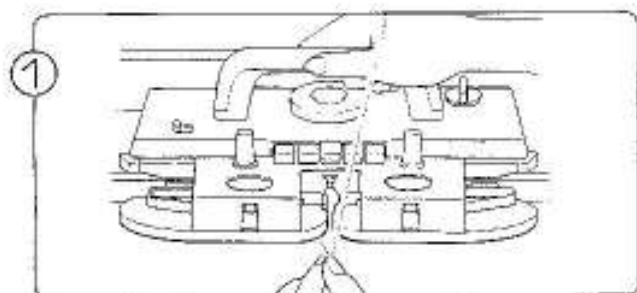
Use the Latchet Tool from behind, and hook up the bottom stitch. Remake the dropped stitches row by row. On the final row, transfer the stitch from the Latchet Tool to a Transfer Tool, and replace it onto the needle.



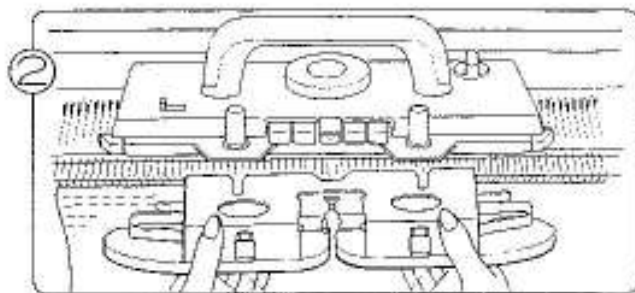
6. WHAT TO DO IF YOU MAKE MISTAKES AS YOU KNIT STOCKING STITCH AND PLATING

IF THE CARRIAGE SHOULD JAM

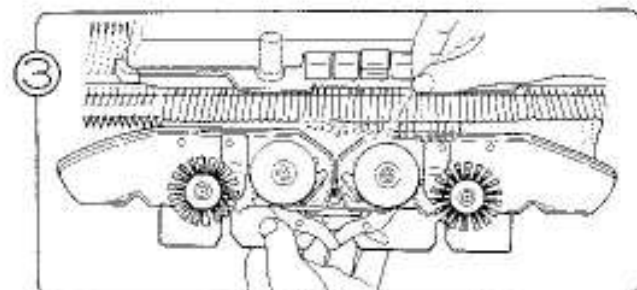
- Do not attempt to move the K-Carriage by force. Proceed as follows:



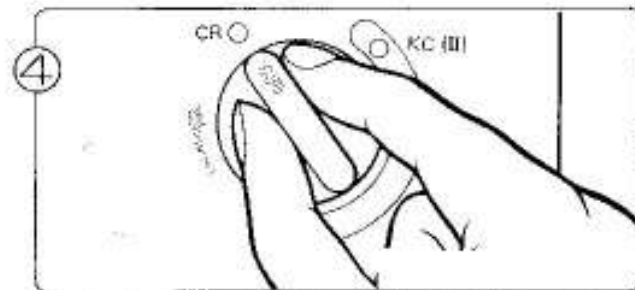
Take the yarn out of the Yarn Feeder.



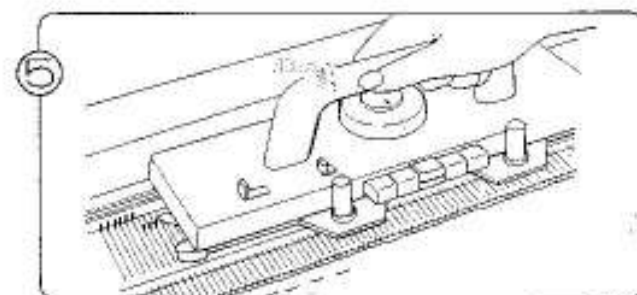
Loosen the knobs and remove the Sinker Plate Assembly.



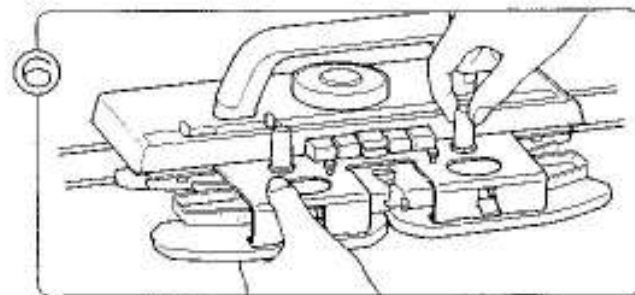
Untangle any yarn that has become wrapped around the Wheels.



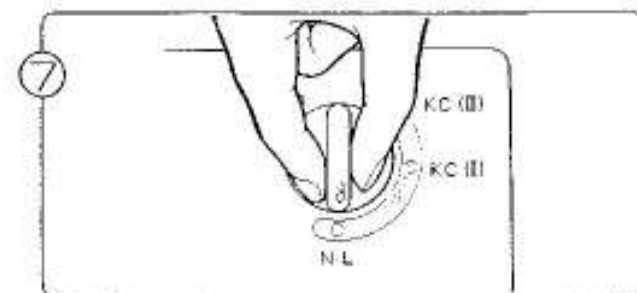
Set the Change Knob to CR to release the K-Carriage from the machine.



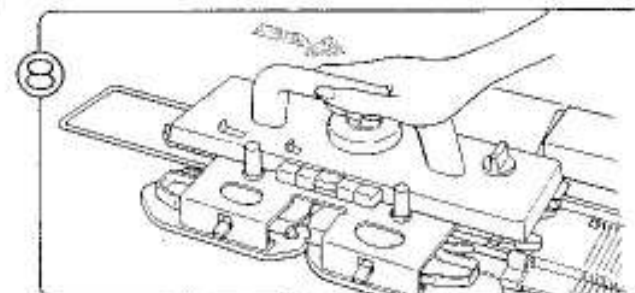
Lift up the K-Carriage towards you and remove it from the needlebed.



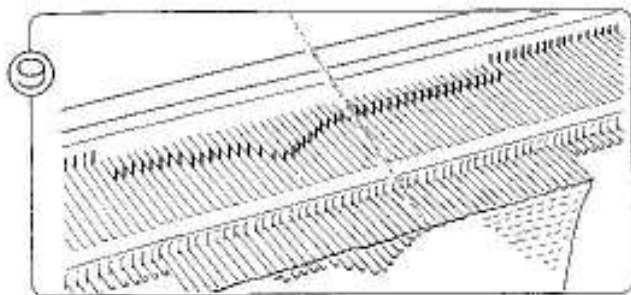
Place the K-Carriage onto either of the Extension Rails. Screw the Sinker Plate Assembly back onto the K-Carriage.



Return the Change Knob to N-L.



Slide the K-Carriage across onto the needlebed and check it is placed correctly.

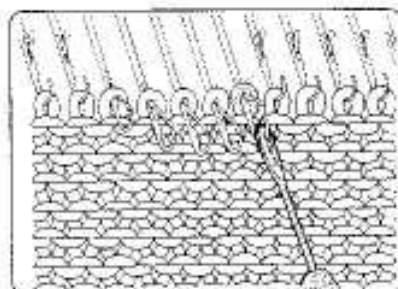


Using your Transfer Tool, replace any stitches that are on the stems of the needles back into the hooks, so that they will not drop off. (The following steps illustrate this technique).

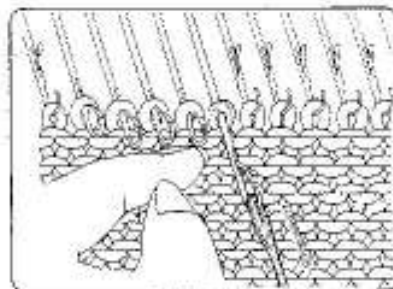
Stitch behind latch on stem of needle



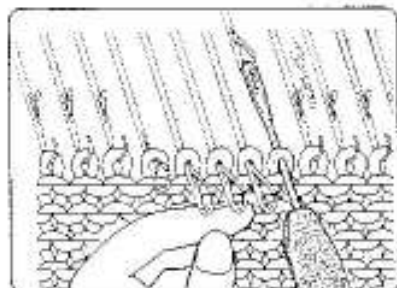
Stitch in needle hook



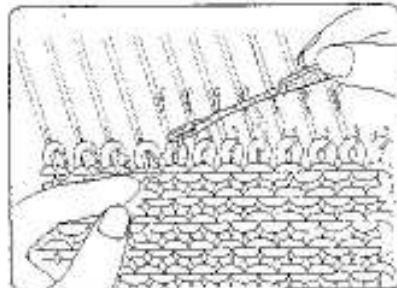
(1) Place the eye of the Transfer Tool into the hook of the needle.



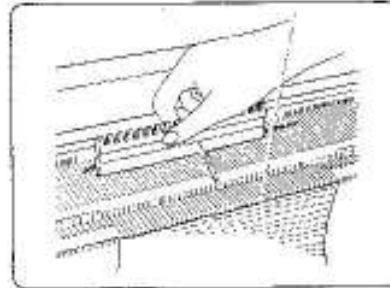
(2) Hold the Transfer Tool in line with the needle and pull it towards you.



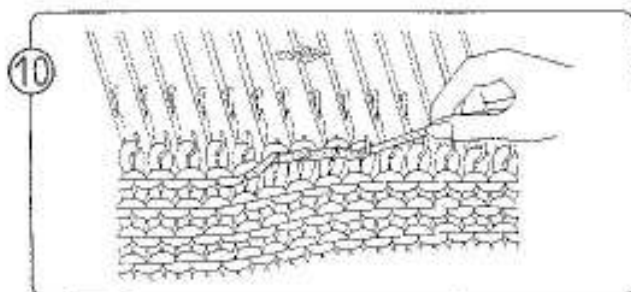
(3) Push the Transfer Tool away from you towards the machine until the stitch is on the Transfer Tool.



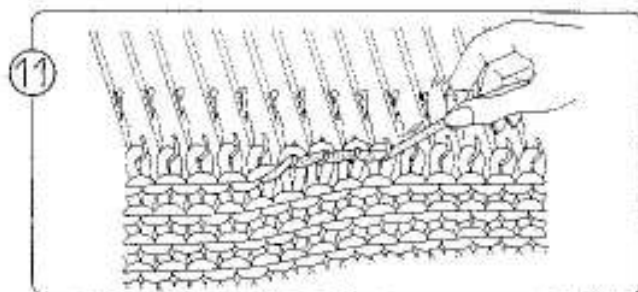
(4) Transfer the stitch into the hook of the needle.



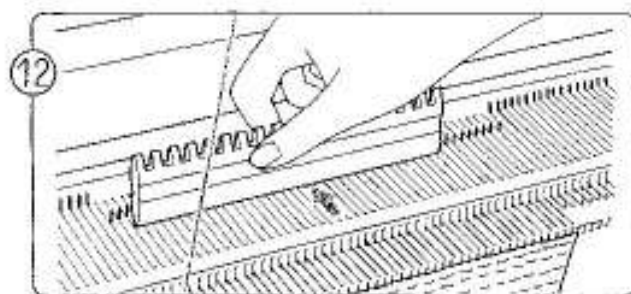
(5) When all stitches are safely in the hooks of the needles, align all needles in B position using the flat edge of the 1/1 Needle Pusher.



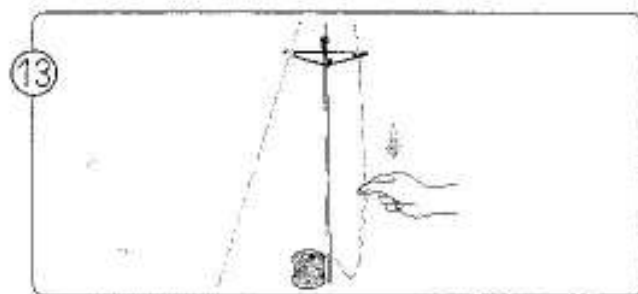
Pull the yarn sideways slightly so that it becomes tight in the needle hooks.



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 10 and 11 across the row.



After unravelling a row check that all the stitches are in the needle hooks. Using the flat side of the 1/1 Needle Pusher, align the needles in B position.



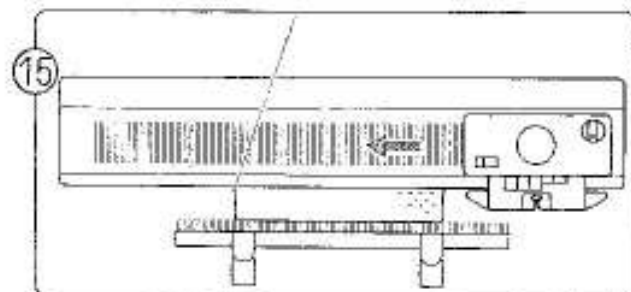
Pull down the loose unravelled yarn from behind the Rear Yarn Guide.

* To unravel several rows of knitting, repeat Steps 10 – 12

14

Don't forget to wind back the Row Counter and Knit Leader (if used) by the number of rows you have unravelled.

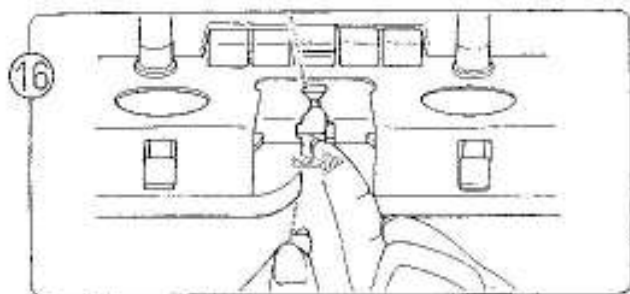
* You don't need to count the last row if the Row Counter Tripper or the Knit Leader Tripper didn't operate e.g. if you made the mistake before the K-Carriage had passed the Trippers.



If the yarn is now on the opposite side of the knitting to the K-Carriage, press the two ◀ PART ▶ buttons now you can move the carriage across the needles without knitting. Cancel the two part buttons by sliding the cam button release lever PLAIN ▶.

CHECK LIST

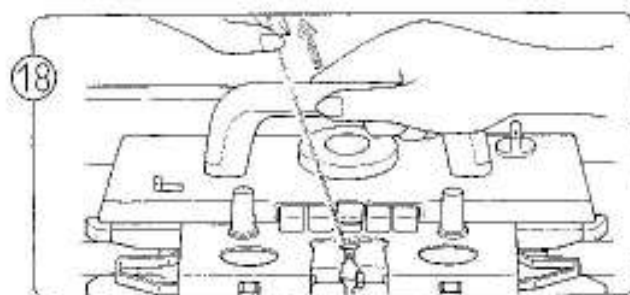
1. Make sure all the needles are in B position.
2. If you are using the Row Counter or the Knit Leader, set their Trippers to non-working position.
3. Push both Part Buttons.
4. Move the K-Carriage across to the other side of the needlebed.
5. Cancel both Part Buttons by sliding the Cam Button Release Lever.



16 Thread up the yarn into Feeder "A".

17

Put the Row Counter and/or Knit Leader Trippers back in operation.



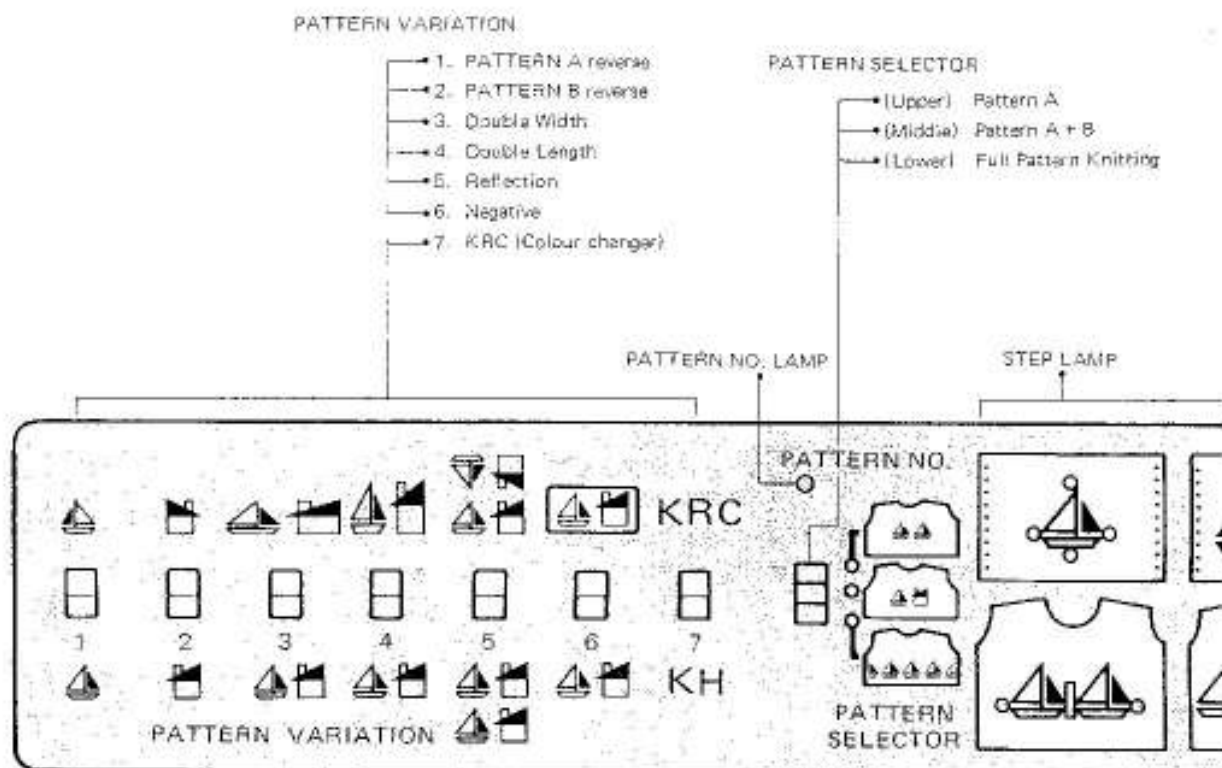
18 Continue knitting with the K-Carriage, pulling the yarn slightly on the first row to remove any slackness.

21 IF YOU WANT TO UNRAVEL SOME KNITTING

Should you wish to unravel a row or rows of knitting, for example if you find you have knitted too many, follow Steps 10 - 18 above.

PATTERN PROGRAMMING

OPERATION PANEL



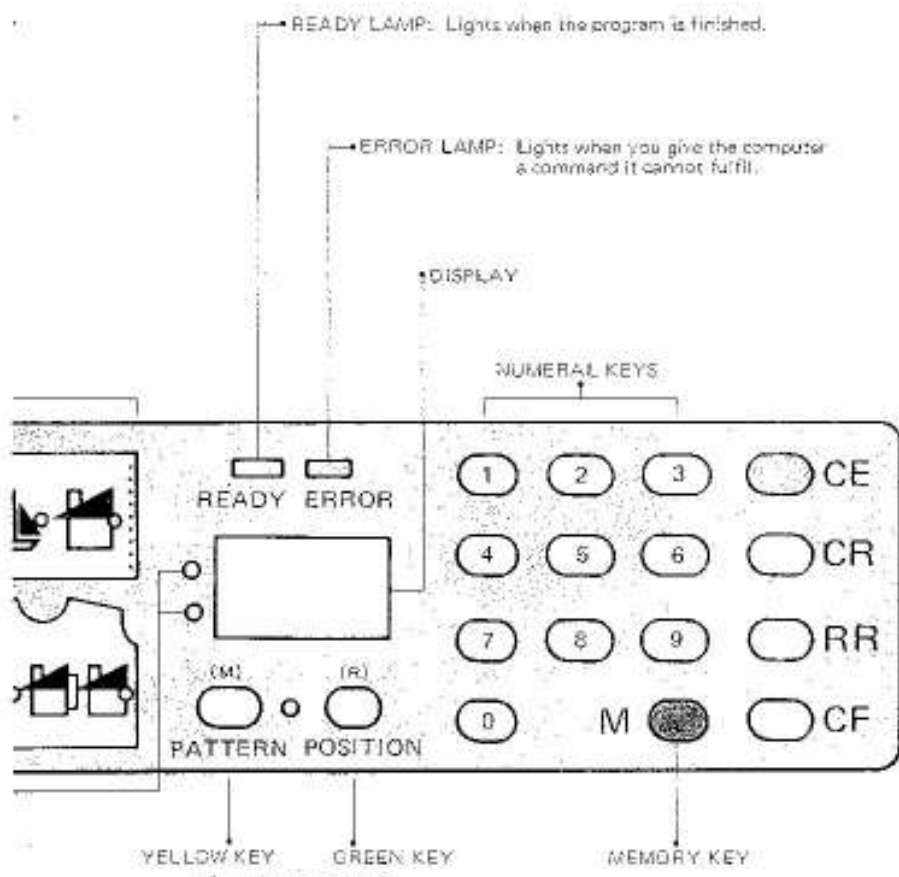
• The following Code numbers (Pattern numbers) can be programmed into your KH950.

- 1 - 555 For programming one of the 555 built in patterns from The Stitch World Book.
- 601 - 653 Will programme letters of the alphabet e.g. 601 - A, 602 - B, 627 - a, 628 - b.
This can be used in Mode 990 and 999 at all pattern selector settings.
- 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 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 For programming when using own designs from mylar sheets.

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

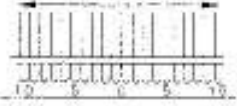
YELLOW

GREEN



- Clears the entry
- Card Return Correction, push when correcting a switch due to error while knitting.
- Roll Return, returns the Card to the SET LINE.
- Card Forward, i) When using the pattern card, feeds the card forward to the starting position of the pattern.
 ii) When knitting the memorised pattern, push this key to start this pattern from the first row.

YELLOW KEY GREEN KEY



MEMORY KEY

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

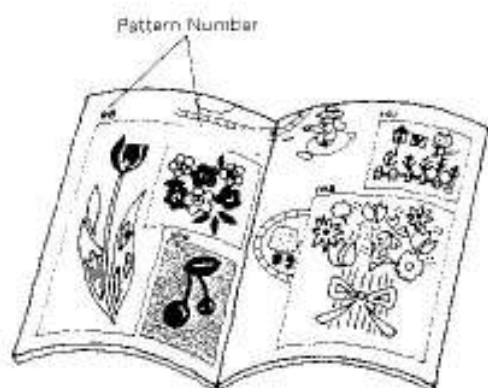
- ① Yellow Key: Green Key
 These keys are used to enter pattern positions on your needlebed. Note that the left half of the bed is numbered in yellow and the right half in green.
- ② When knitting the pattern. (The ready lamp is lit.)
 Push the YELLOW KEY (M) to show the memo data in the display.
 Push the GREEN KEY (R) to show the row number in the display.

HOW TO SELECT THE PATTERN

① "STITCH WORLD" PATTERN BOOK

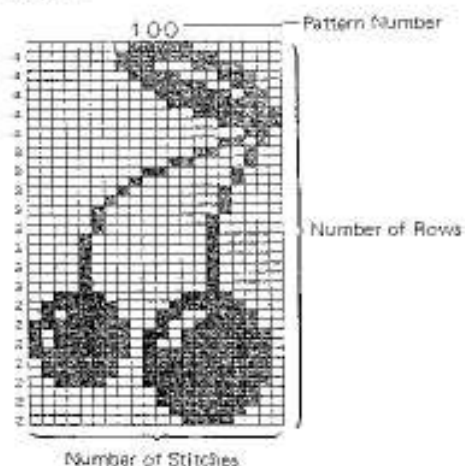
- You will have, with your machine, the special "STITCH WORLD" book. "STITCH WORLD" shows in full colour the 555 beautiful stitch pattern designs which are built into the memory of the computer. Choose your design and enter the number into the computer.

"STITCH WORLD" Pattern Book



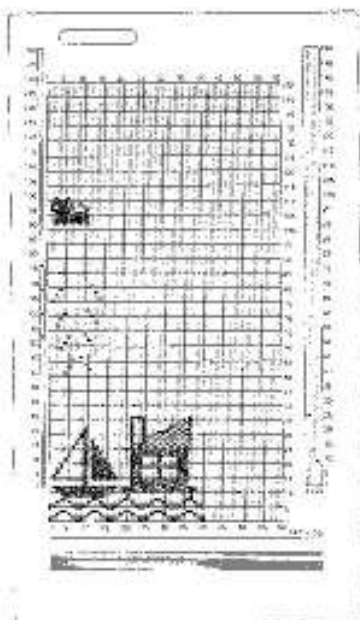
Let's say for example you would like to knit the "CHERRY" stitch pattern design. You should simply enter 100.

- You may to knit this fairisle design in more than two colours. Should this be the case, refer to the back section of "STITCH WORLD" where all the designs are clearly shown by graph, giving width and length of one pattern repeat, and showing where the yarn changes appear.

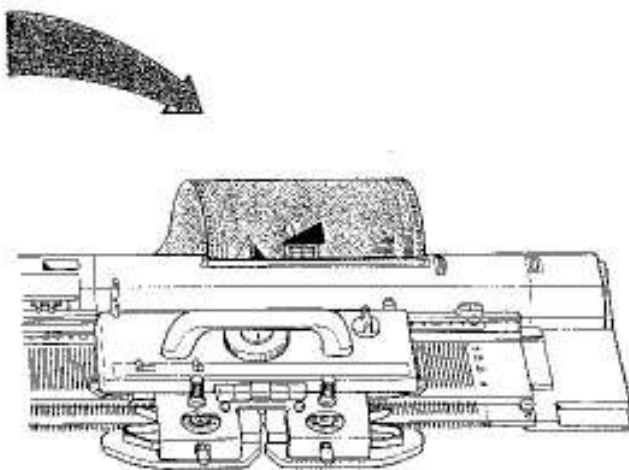


Memo Data: The cherry pattern in this example is knitted in fair-isle pattern, the display shows the memo data as the contrast colour yarn number.

② WHEN YOU KNIT YOUR ORIGINAL PATTERN



- When you knit your original pattern, you draw your design on the Design Sheet with the Marking Pen and insert the Sheet into the machine.
- *How to mark the Design Sheet see page 54.

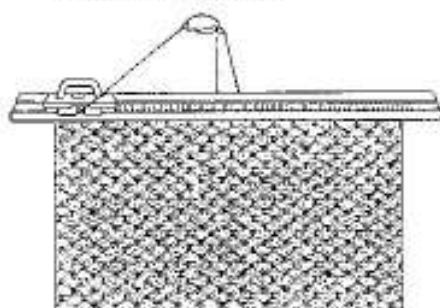


SWATCH COMPARISON

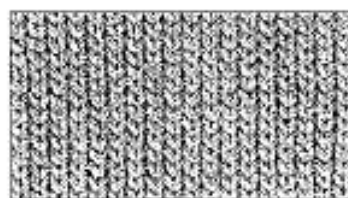
- In pattern knitting a swatch varies with the type of yarn and pattern that is used. Some patterns have a more effective reverse side rather than the right side, such as the Tuck Stitch Pattern. Choose which side is better for your purpose.

1. Plain Knitting

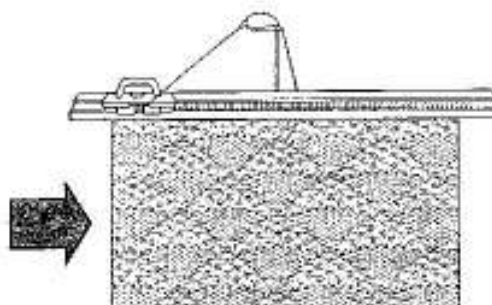
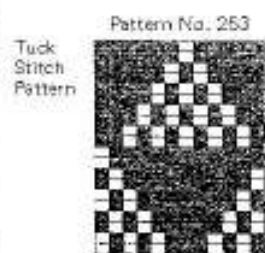
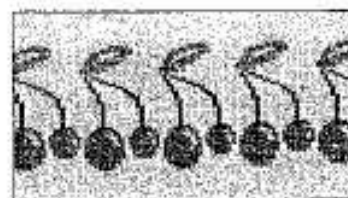
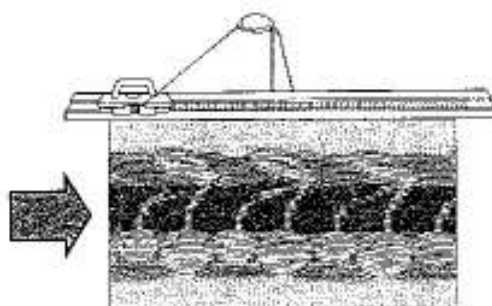
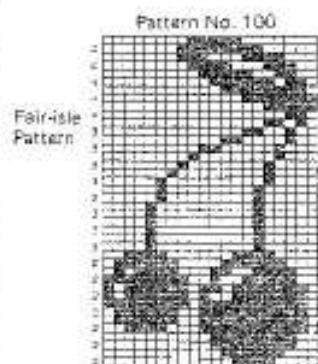
When knitting,
this side is facing you.



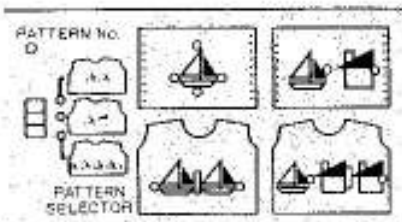
When knitting,
this side is away from you.



2. Pattern Knitting



PATTERN SELECTOR SWITCH



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



- This can be a motif or a single area of patterning e.g. a panel of fairisle, or lace.



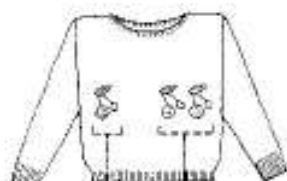
DIAGRAM



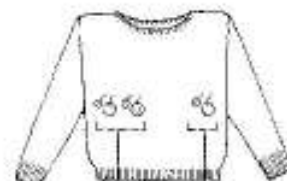
- This can be either the same pattern knitted in two different places, or any two parts of a pattern knitted in two different places or using the CARD any two different patterns shown side by side can be knitted in any position respectively.



DIAGRAM



Pattern A Pattern B (x 2)



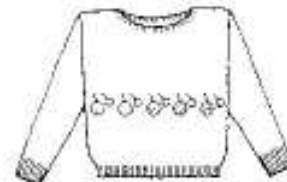
Pattern A Pattern B



- Any selected pattern or part of a pattern can be knitted repeatedly.



DIAGRAM



ALL OVER PATTERN KNITTING

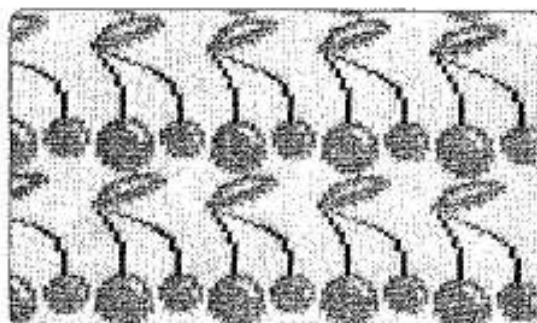
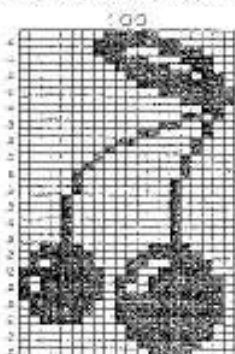
- This section takes you through basic programming of an all over design.

All over means the pattern runs from the left edge of the knitting to the right.

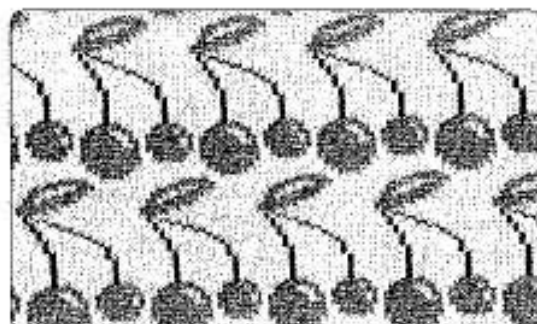
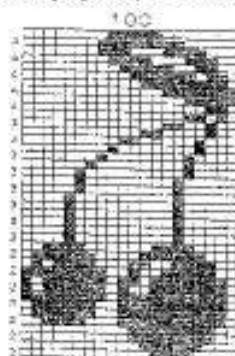
We start by taking you through programming, then explain how to knit your design in fairisle, so that you can see the results immediately.

POSSIBILITIES

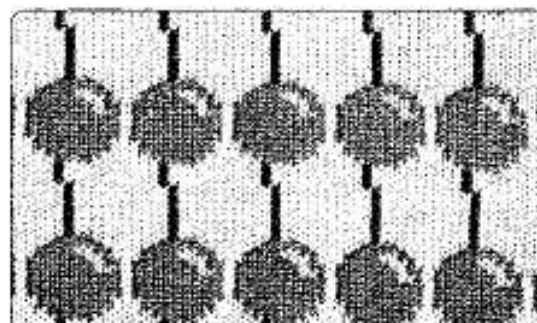
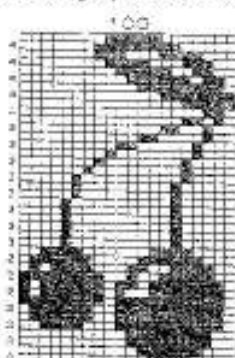
1. All over patterns as printed in Stitchworld.



2. Changing the position of the pattern on the knitting.

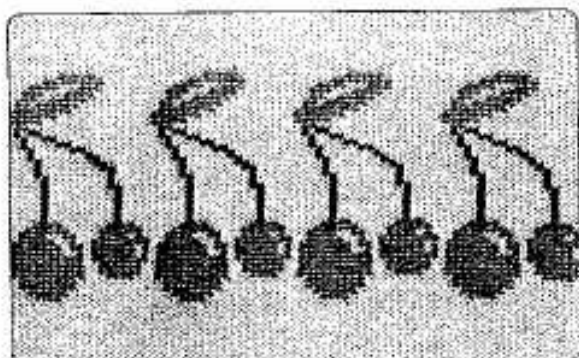


3. Selecting a portion of a Stitchworld Pattern.



PATTERN SELECTOR

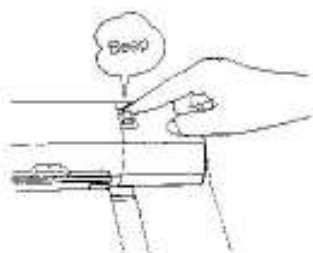
Pattern programming for an all over patterning



- The following example uses stitch design 100 from "STITCH WORLD".

- Before entering your program

Switch on the power.



When the power is turned on, the ready lamp lights up. Any information displayed on the panel relates to the last pattern used before the power was turned off.

IMPORTANT

MODES

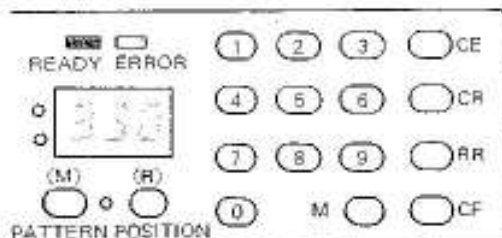
Your computer can work in two different "MODES" allowing you to have more variations in patterning. Once you have put the computer into either '990' or '999' it will stay in that mode for all future programming until you decide to alter it, therefore you do not have to put '990' or '999' in front of every programme.

As a general guide mode 990 will be used when we want a pattern as it is drawn. Mode 999 will be used when we want to select a portion of a pattern.

- Pattern programming

Operation

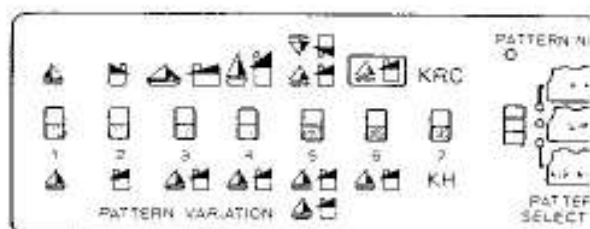
With the ready lamp on, enter 990 as the MODE number with numeral keys.



Push the M (memory) key to memorise this bit of information.

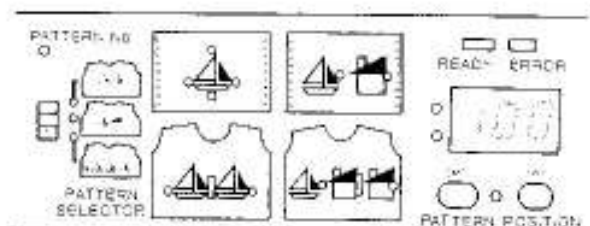
Operation 2

Set all PATTERN VARIATION Switches at the lower position.



Operation 3

Set the pattern selector switch to the lower position.



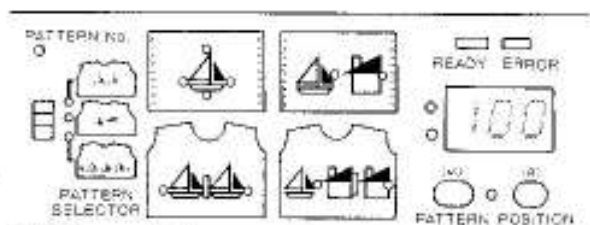
Operation 4

Push the M (memory) key.
The small red light marked pattern No. is lit.
Enter the pattern number.

1 • 0 • 0



Should you make a mistake, push the CE key and enter the correct figure.

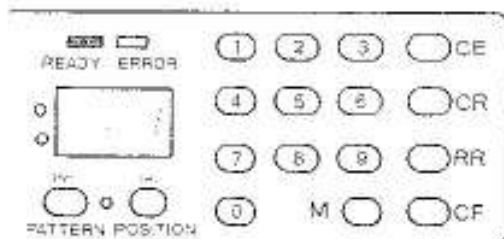


Operation 5

To complete the programme push the M (memory) key.



If you want to check what has been programmed in, you can do so by repeatedly pressing the M key.



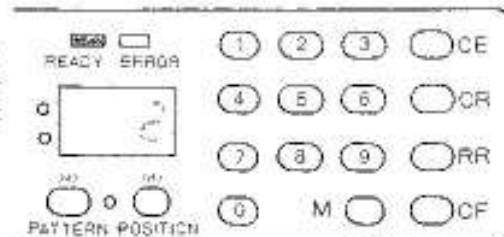
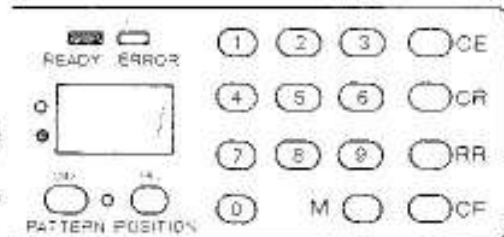
Operation 6

To start to knit from the first row, push the CF key.

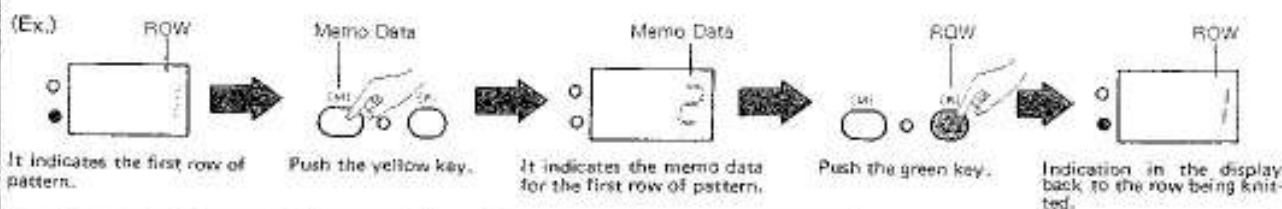


Push the green button.
The green lamp is lit and the number in the display tells you the row number of your pattern.
It indicates the first row of needles is to be selected.

Push the Yellow button.
While the yellow lamp is lit the display gives you information regarding your pattern, e.g. 2 for fairisle means put your second colour into the feeder.



You can change the indication in the display before starting to knit or during the knitting.



● PATTERN KNITTING




- When you knit pattern No. 100, you use 3 contrast yarns.
(See the right explanation.)

When you do not change the contrast yarn, push the Green key to change the indication on the Display into the row number.

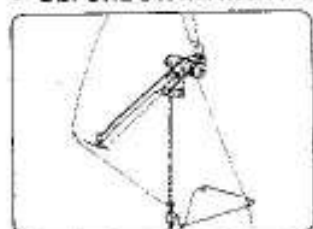
When you change the contrast yarn

- You use main yarn and 3 contrast yarns.
- After pattern programming, push the yellow key to change the indication on the Display into the memo information.
 - Follow the steps below to knit the pattern. When the indication on the Display changes, change the contrast yarn.

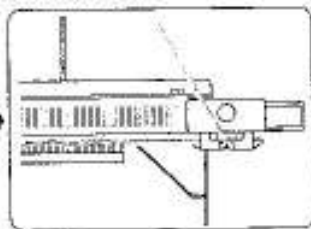
Memo information for the contrast yarn.

-  (Contrast yarn for cherry)
-  (Contrast yarn for stem)
-  (Contrast yarn for leaf)

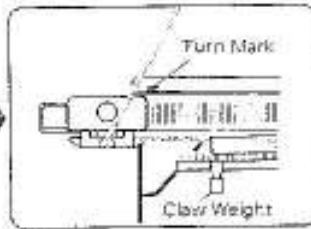
● BEFORE STARTING PATTERN KNITTING



Thread the main yarn into the righthand Yarn Tension Unit.

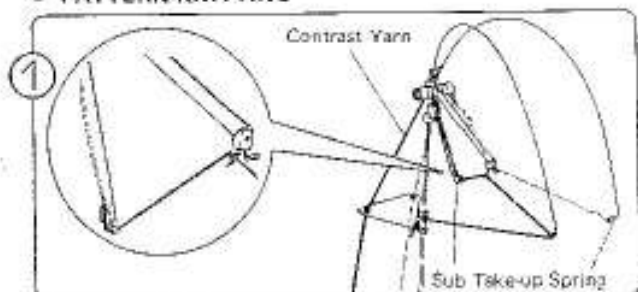


Cast on.

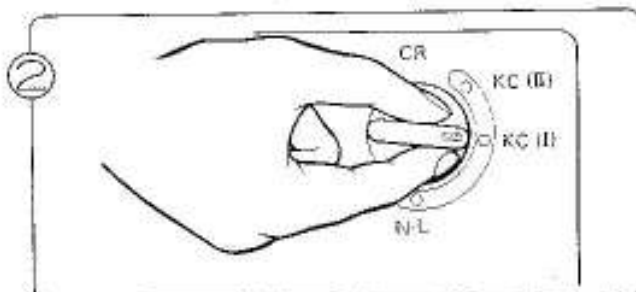


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.

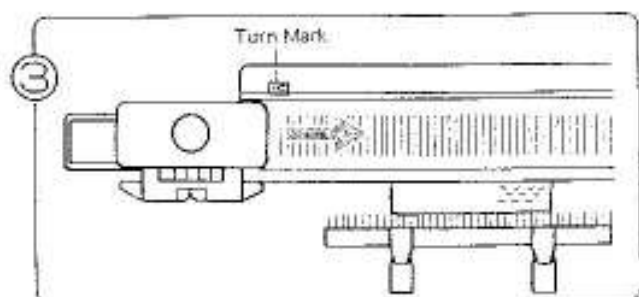
● PATTERN KNITTING



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

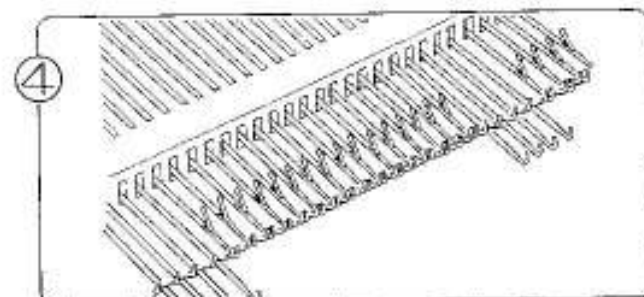


Set the Change Knob to KC (I).

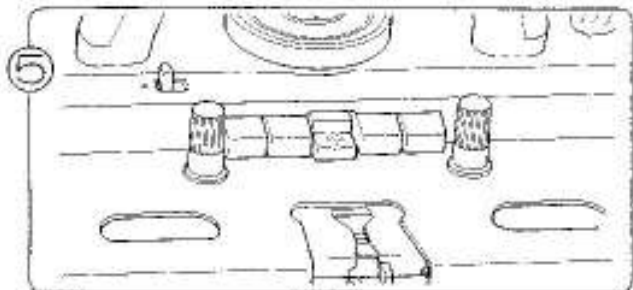


Move the K-Carriage from left to right across the left Turn Mark.

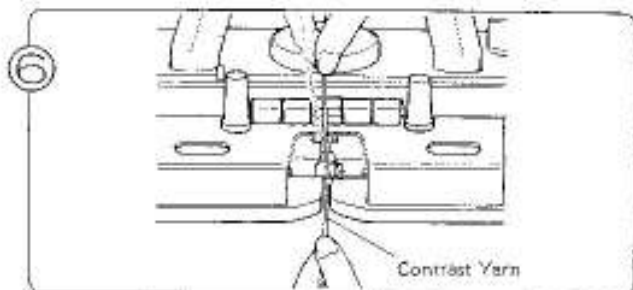
* You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



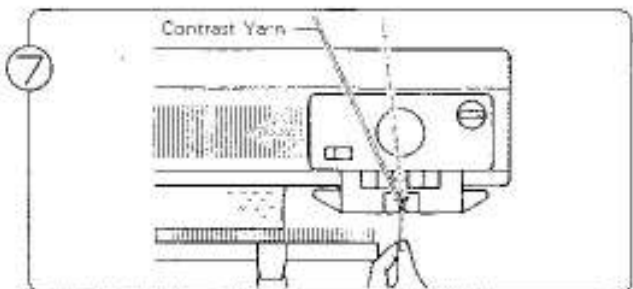
The needles are selected.



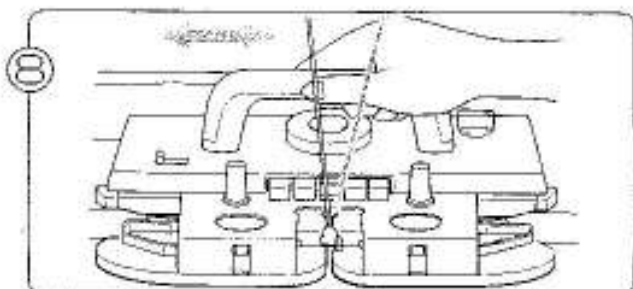
5 Push the upper MC Button.



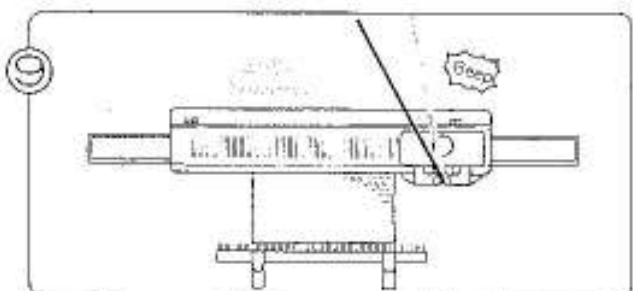
6 Thread the contrast yarn into Yarn Feeder "B" – there is no need to open the Yarn Feeder Lever when you do so.



7 Holding the yarn end with your left hand, move the K-Carriage from right to left.

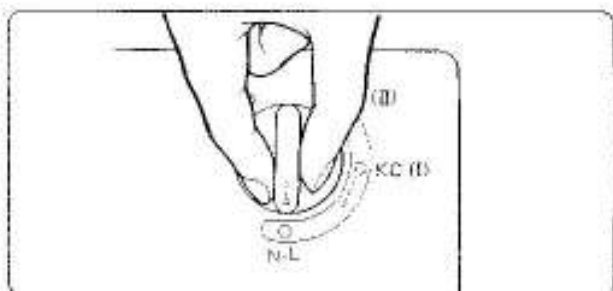


8 Move the K-Carriage to the right and then to the left. You are now knitting in Fairisle Pattern.



9 Knit in pattern until you hear the sound "Beep!". Finish the row and knit one more row. You have now knitted one complete pattern in length.

- You can either continue Repeat Steps 6 – 9.
- Or finish pattern knitting ...



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

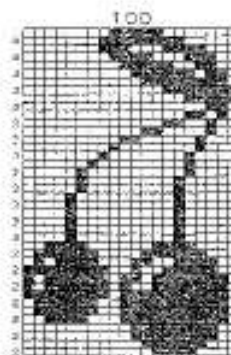


First of all we need to understand how a pattern is positioned on the knitting.
Let's take pattern 100 from stitchworld, the cherry pattern.



This is the pattern knitted as taken from page 30

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 (FN Position)

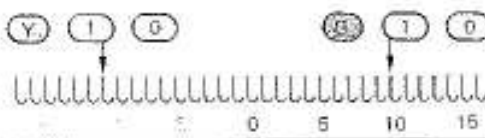


Taken from page 147

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 distinguished between two needles of the same number. For example No. 10 on the right (Green 10) and No. 10 on the left (Yellow 10).

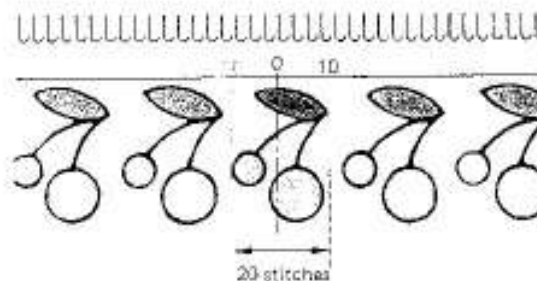


When working in Mode 990 the first needle position of an all over pattern is set automatically to place the pattern centrally on the needle bed then repeat out from there.

- 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.

Example:

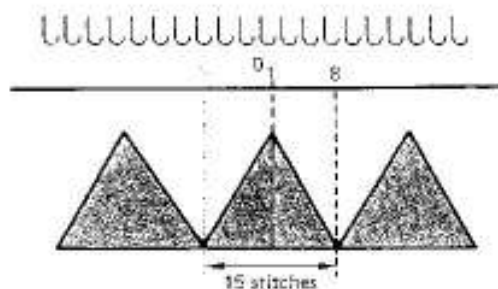
The first needle position of this pattern is automatically set at needle number Yellow 10. (Y 10)



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

Example:

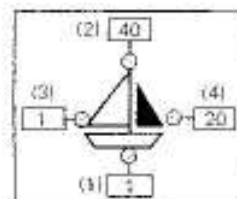
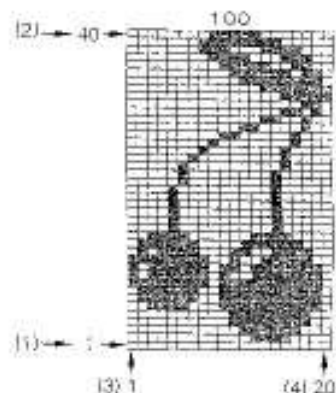
The first needle position of this pattern is automatically set at needle number Yellow 7. (Y 7)



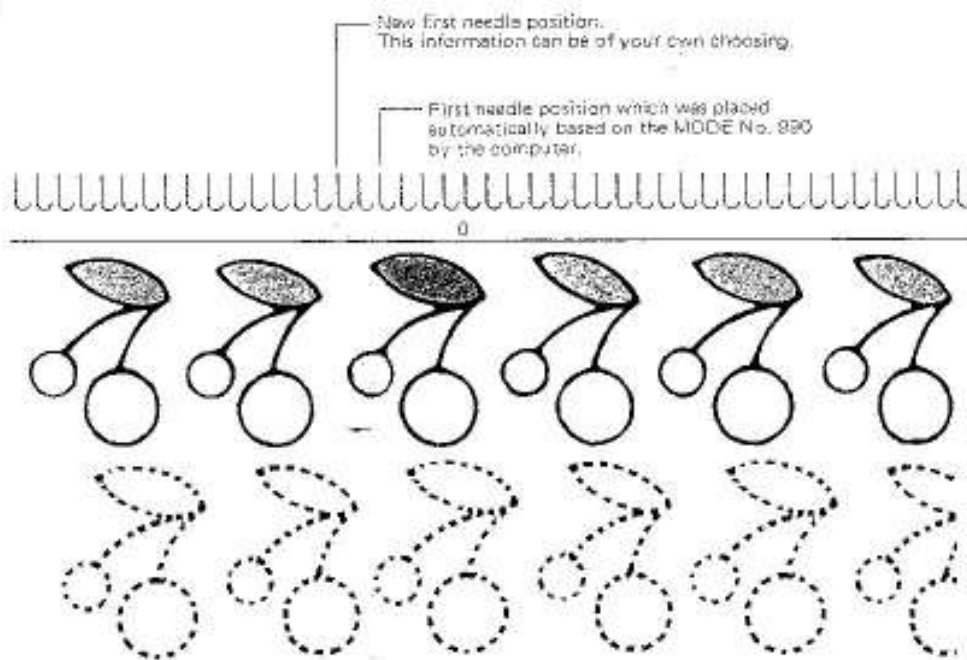
MODE No. 999 F.N. position of an all over patterning can be changed by moving it to either the right or the left.

• Pattern programming procedure

- ① Switch on the power. (Make sure the ready lamp is lit.)
- ② Enter 999 as the MODE number and push the M key.
- ③ Set all the pattern variation switches at the lower position.
- ④ Set the pattern selector switch to the lower position.
- ⑤ Push the M key. Enter the pattern number 100.
- ⑥ Push the M key.
- ⑦ The machine is now asking for a bottom line to the patterns. Push M key, and the information in the display will refer to the line number the computer is going to read from.
Step (1), Display information:
- ⑧ Push the M key. The information in the display now refers to the line number the computer is going to read to.
Step (2), Display information:
- ⑨ Push the M key. The information in the display now refers to the column number on the left that the computer is going to read from.
Step (3), Display information:
- ⑩ Push the M key. The information in the display now refers to the column number at the right of the pattern, that the machine will read to.
Step (4), Display information:
- ⑪ Push the M key. The information in the display now refers to the First needle position of the pattern repeat.
Step (5), Display information:
In order to cancel out this bit of information, push CE (Cancel Entry) button. The display window has now gone blank. Now enter by pushing the Yellow button then 15.
- ⑫ Push M key.
- ⑬ The ready lamp is lit. Push CF key.



(EXAMPLE)



- When you wish to return to **MODE 990** using the memorised patterns.

① When you have changed the F.N. position with **MODE 999** and if you now wish to knit the pattern at the centre of the machine with **MODE 990** using the pattern area which you have used in **MODE 999**, Then follow these steps.

1. The ready lamp is lit, press 990 as the mode number and push the **M** key.
2. Check all the variation switches are in the required position.
3. Push **CF** key. You are now ready to knit the pattern.

② When you have changed the F.N. position with **MODE 999** and if you now wish to knit the pattern at the centre of the machine with **MODE 990** returning the pattern area to the original one. Then follow these steps.

1. The ready lamp is lit, press 990 as the mode number and push the **M** key.
2. Check all the variation switches are in the required position.
3. Push the **M** key. Press in any pattern number other than the one you require e.g. Pattern No. 150.
4. Push the **M** key. The ready lamp is now lit.
5. Press the **M** key. The pattern number lamp is lit.
6. Press the pattern number you require.
7. Push the **M** key, Number 1 will be in the display window, you are now ready to knit the pattern.

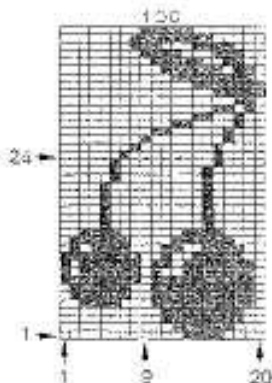


With MODE 999 it is possible to select a portion of a pattern, rather than the whole.

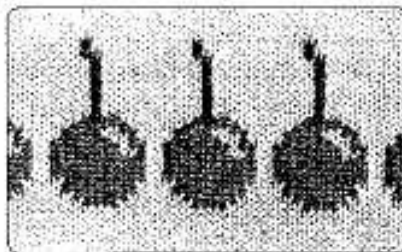
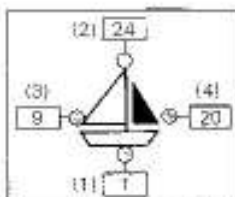
Also we can add blank spaces onto the side, up to stitch number 200, or onto the top up to row number 999. This gives the effect of a more spaced out pattern on the fabric. Before each of the following examples:—

1. Switch on the power.
2. Enter 999 as the Mode number and push M key.
3. Set all the pattern variation switches to the lower position.
4. Set the pattern selector switch to the lower position. Push M key.
5. Pattern No. lamp is lit enter the pattern number ex. 100. Push M key.

(Example 1)

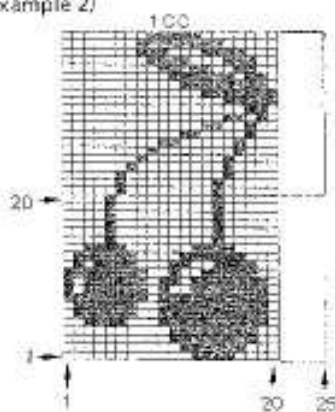


- Select the part (cherry) of pattern.

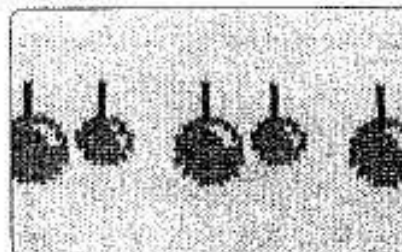
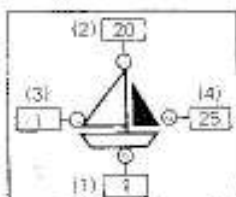


6. Step (1). The bottom row of the pattern 1
7. Step (2). The top row of the pattern 24
8. Step (3). The left end of the pattern 9
9. Step (4). The right end of the pattern 20
10. Step (5). The first needle position Y 5

(Example 2)

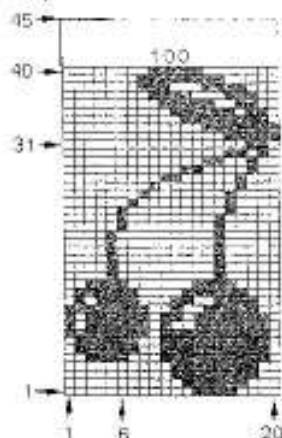


- Take five stitches between the patterns.

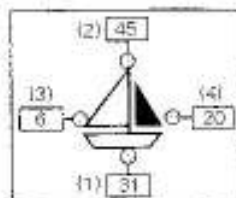


6. Step (1). The bottom row of the pattern 1
7. Step (2). The top row of the pattern 20
8. Step (3). The left end of the pattern 1
9. Step (4). The right end of the pattern 25
10. Step (5). The first needle position Y15

(Example 3)



- Take five (5) rows between the patterns.



6. Step (1). The bottom row of the pattern 31
7. Step (2). The top row of the pattern 45
8. Step (3). The left end of the pattern 6
9. Step (4). The right end of the pattern 20
10. Step (5). The first needle position Y10

SINGLE AREA OF PATTERNING

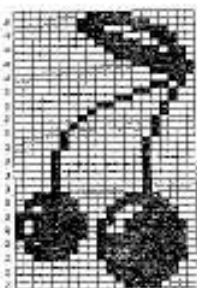
- This section takes you through programming a single area of patterning.

This may be a picture pattern as our example shows or it could be a panel of patterning positioned wherever you desire on your knitting.

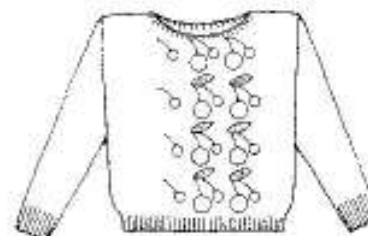
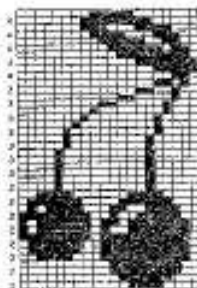
We shall take you through the programming and then explain how to knit this type of pattern using fairisle as before.

POSSIBILITIES

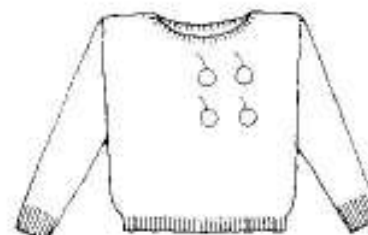
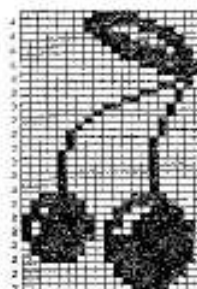
1. Single motif pattern as printed is Stitchworld.



2. Single area of patterning making a panel.



3. Selecting a portion of a Stitchworld pattern and knitting it as a single area of pattern.



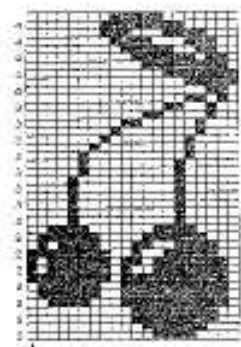
In order to knit a single area of patterning, we need to give the computer three extra bits of information, a First needle position, a left and right edge of the pattern width.

FIRST NEEDLE POSITION (F.N. Position)

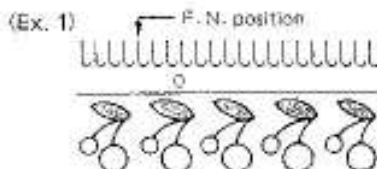
This refers to the number of the needle which corresponds to the first stitch of the pattern repeat.



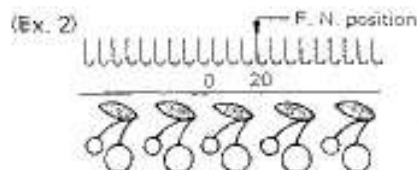
Step No. 5 lamp



First stitch of the pattern repeat



Enter Y15 as the F.N. position.



Enter G20 as the F.N. position.

PATTERN WIDTH

In the following examples we have chosen Yellow 15 (Y15) as our first needle position.

Step lamp No. 8 asks, which needle you want to start knitting your pattern on?

Step lamp No. 7 asks, which needle you want to end knitting your pattern on?

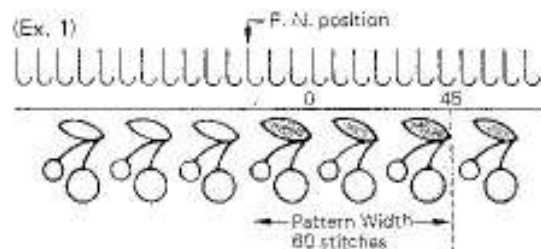
Always give the left edge of your pattern to start on and the right edge to end the pattern on.



Step No. 8 lamp

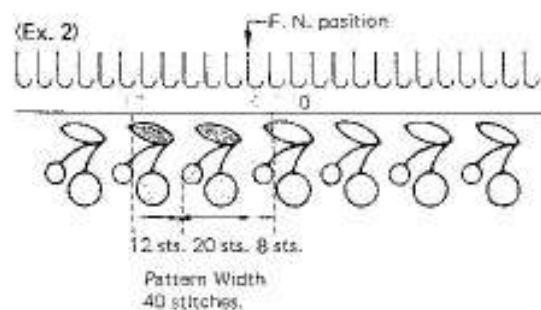
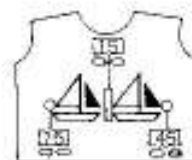


Step No. 7 lamp



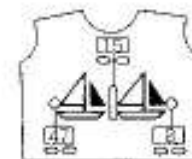
Knit three pattern repeats.
One pattern repeat is 20 stitches, so three will be 60 stitches.
We have to tell the computer to knit the pattern over sixty needles.

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



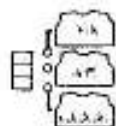
*By changing the pattern width, you can obtain various pattern combination.

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



PATTERN SELECTOR

Programming for a single area of patterning



Single motif pattern as printed in Stitchworld Pattern program



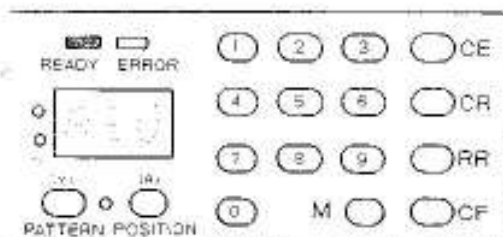
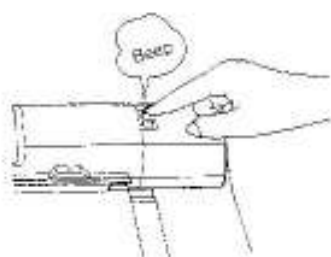
The following example uses stitch design 100 from "STITCH WORLD".



Pattern width 20 stitches.

• Before entering your program

Switch on the power.



* When the power switch is turned on, the ready lamp lights up. Any information displayed on the panel relates to the last pattern used before the power was turned off.

• Pattern programming

Operation 1

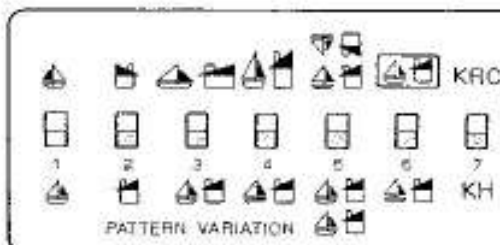
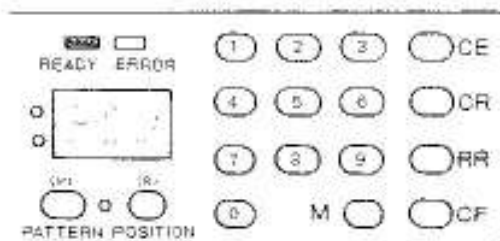
Enter 990 as the MODE number with numeral keys.



Push the M (memory) key to memorise this bit of information.

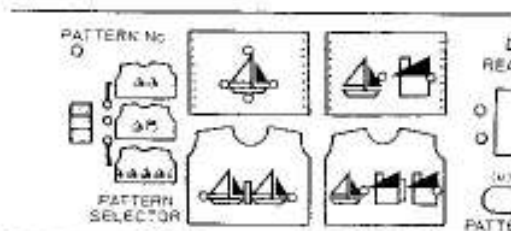
Operation 2

Set all PATTERN VARIATION Switches at the lower position.



Operation 3

Set the pattern selector switch at the upper position.



Operation 4

Push the M (memory) key.
Pattern No. lamp is lit.
Enter 100 as the pattern number.

① • ① • ①



Operation 5

Push the M (memory) key.
Step No. 5 lamp is lit. (First needle position lamp.)
Enter G6 as the F.N. position of pattern repeat.

② • ⑥



Operation 6

Push the M (memory) key.
Step No. 6 lamp is lit.
Enter G6 as the left end of pattern width.

③ • ⑥



Operation 7

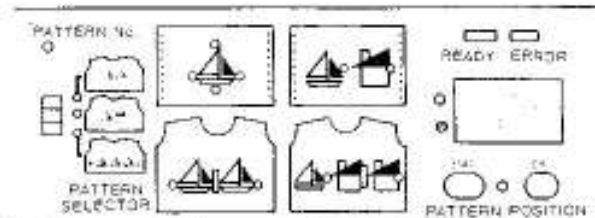
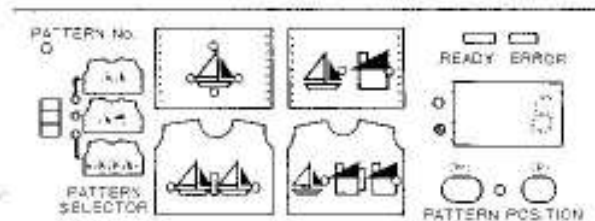
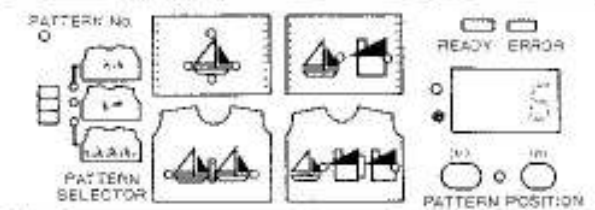
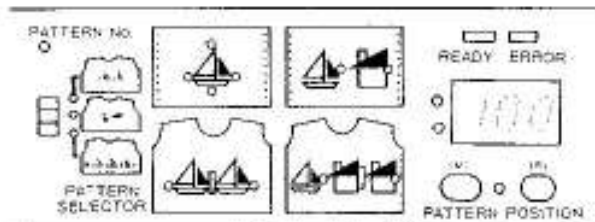
Push the M (memory) key.
Step No. 7 lamp is lit.
Enter G25 as the right end of end pattern width.

④ • ② • ⑤



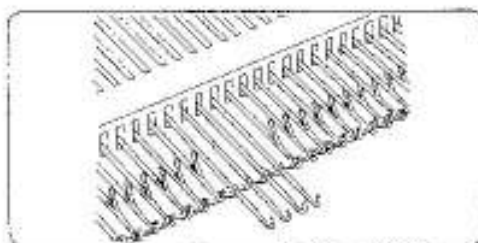
Operation 8

Push the M (memory) key to finish the programming.
Push the CF key to start to knit from row 1.



• Knitting a single motif pattern.

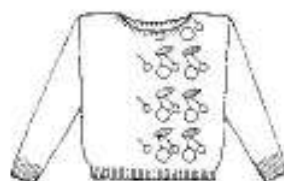
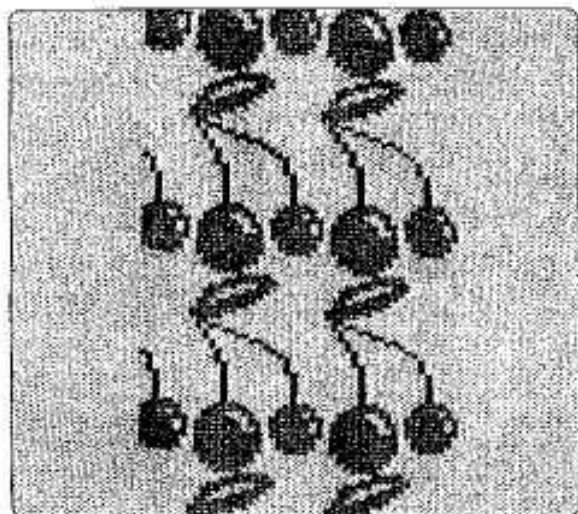
- ① Thread the main yarn through the righthand tension unit. Cast on. Knit a few rows in stocking stitch. Place the K-Carriage outside the left turn mark.
- ② Programme the pattern you require.
- ③ Thread the contrast yarn into the lefthand tension unit.
- ④ Set the Change Knob to KC (B).
- ⑤ Move the K-Carriage from left to right past the turn mark to the right side of your knitting. You now have a needle selection in the area you wish to pattern.
- ⑥ Push the upper centre button MC.
- ⑦ Thread the contrast colour into feeder 'B'.
- ⑧ Holding the end of the contrast yarn in the left hand, move the K-Carriage from right to left over the knitting. Note both colours are now knitted.
- ⑨ Continue knitting until you hear the sound 'Beep'. Finish the row and knit one more row. You have now knitted one pattern length.
- ⑩ You can now either continue to create a panel of pattern. Or finish pattern knitting. Set the Change Knob to N-L. The cam button will be released automatically. Then break off the contrast colour and secure the end in the clip on the tension mast.



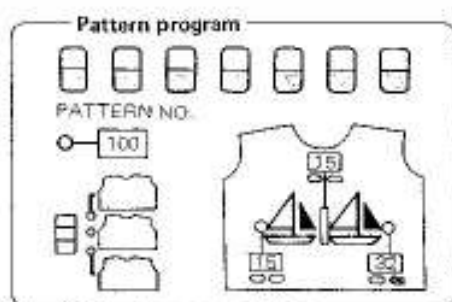
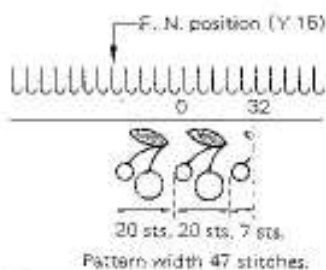
PATTERN SELECTOR



Single area of patterning, making a panel



(Ex.)



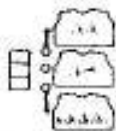
Programming procedures

- ① Switch on the power.
- ② Enter 990 as the MODE number and push the M (memory) key.
- ③ Set all the pattern variation switches to the lower position.
- ④ Set the pattern selector switch to the upper position.
- ⑤ Push the M key. Enter the pattern number 100.
- ⑥ Push the M key. Push Y15 for the first needle position of the pattern repeat.
- ⑦ Push the M key. Push Y15 for the left edge of the pattern to be knitted.
- ⑧ Push the M key. Push G32 for the right edge of the pattern.
- ⑨ Push the M key. (The ready lamp is lit.)
- ⑩ Push CF key to move to the first row of the patterns.

Now you have programmed the pattern in and are ready to start knitting it.

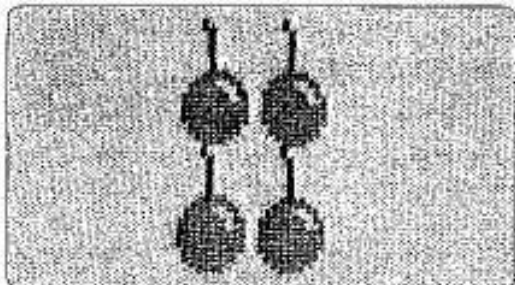
Knitting instructions

- ① Cast-on and knit a few rows in stocking stitch. Take the K-Carriage outside the left turn mark.
- ② Thread the contrast yarn into the lefthand tension unit.
- ③ Set the change knob to KC (III).
- ④ Move the K-Carriage from the left past the turn mark, across the knitting to the right side of the fabric.
- ⑤ Push the upper middle button MC.
- ⑥ Thread the contrast yarn into feeder B.
- ⑦ Holding the end of the contrast yarn in the lefthand, move the K-Carriage from right to left across the knitting. Note both colours are knitted.
- ⑧ Continue knitting until you hear the sound 'Beep', this tells you that you are about to complete repeat of the pattern. In this case we are making a Panel of patterning, so we ignore the 'Beep's and carry on knitting until you have the length of fabric required.
- ⑨ To finish pattern knitting, set the change knob to N-L, the Cam buttons will be released automatically.
- ⑩ Break off the contrast colour and secure the end in the clip on the tension mast.

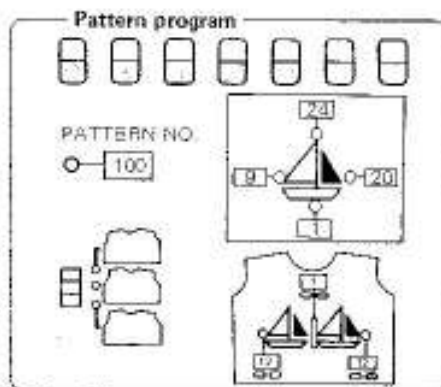
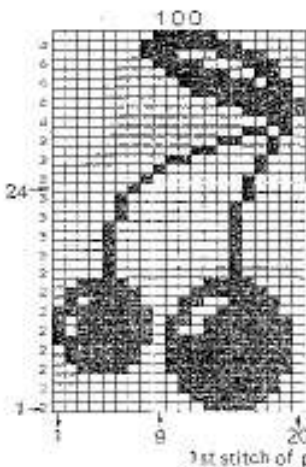
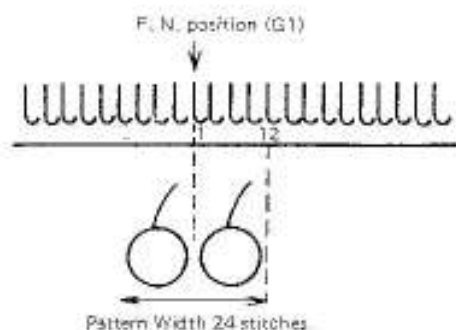
PATTERN SELECTOR

Selecting a portion of a stitchworld pattern and knitting it as a single area of patterning

When we use the MODE 999 we can extract a portion from a printed pattern.



(Ex.)



• Pattern programming procedure

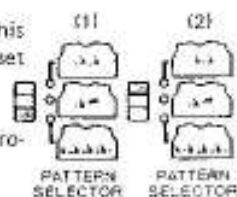
- ① Switch on the power. (Make sure that the ready lamp is lit.)
- ② Enter 999 as the MODE number and push the M (memory) key.
- ③ Set all the pattern variation switches at the lower position.
- ④ Set the pattern selector switch at the upper position.
- ⑤ Push the M key and enter 100 as the pattern number.
- ⑥ Push the M key and enter 1 as the first (bottom) row of pattern.
- ⑦ Push the M key and enter 24 as the last (top) row of pattern.
- ⑧ Push the M key and enter 9 as the left end of pattern.
- ⑨ Push the M key and enter 20 as the right end of pattern.
- ⑩ Push the M key and enter G1 as the first needle position of pattern.
- ⑪ Push the M key and enter Y12 as the left end of pattern width.
- ⑫ Push the M key and enter G12 as the right end of pattern width.
- ⑬ Push the M key. (The ready lamp is lit.)
- ⑭ Push the CF key.

PATTERN SELECTOR

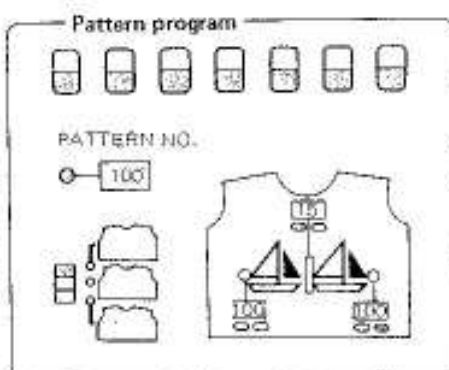
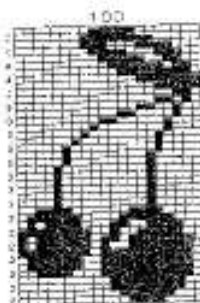
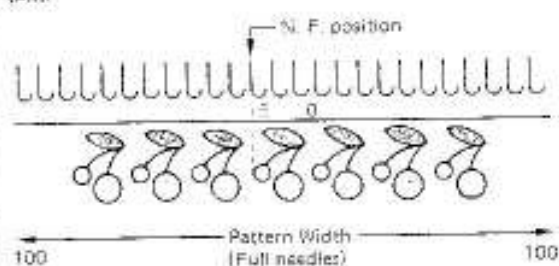
Selecting to knit an all over pattern using A pattern



Your computer is capable of retaining a programme on each of the three pattern selector settings. In this example the cherry which usually has its first needle position on yellow needle number 10, can be off set on the row above simply by using the "A" or single area setting of the computer. The first pattern information is fed into the all over pattern memory as usual (1). When the ready lamp is lit instead of knitting push the pattern selector switch to the top setting and programme as follows (2).



(Ex.)



You can change the pattern repeat position and move it to either — the right or the left to align the pattern for bodies and sleeves.

Programme

- ① Enter the MODE number 990.
Push the M (memory) key.
- ② Set all the pattern variation switches to the lower position, push the M (memory) key.
- ③ Enter the pattern number 100.
- ④ Push the M (memory) key.
Step No. 5 lamp is lit.
Enter Y15 as the F.N. position of the pattern.
- ⑤ Push the M (memory) key.
Step No. 6 lamp is lit.
Enter Y100 as the left end of the pattern knitting.
- ⑥ Push the M (memory) key.
Step No. 7 lamp is lit.
Enter G100 as the right end of the pattern width.
- ⑦ Push the M (memory) key.
- ⑧ Press the CF key.
The pattern is now ready to knit.

TWO AREAS OF PATTERNING

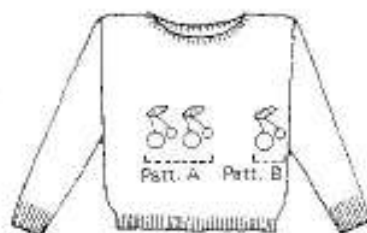
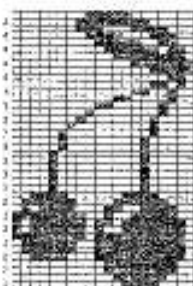
- This section explains how to programme your machine to knit two areas of patterning at the same time.

The patterns we have used in our examples are 'picture' or motif designs, you may choose to knit your design as a panel of patterning the full length your fabric.

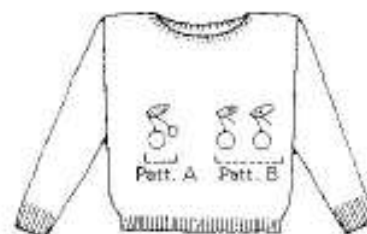
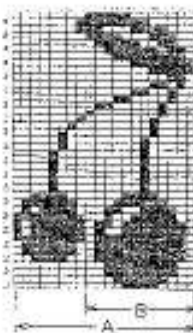
These patterns will be referred to as Pattern A and Pattern B.

POSSIBILITIES

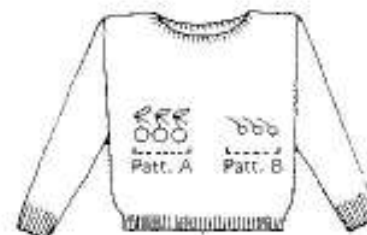
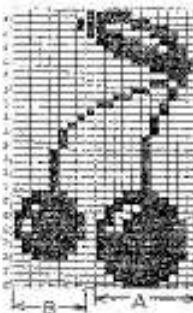
1. Select a pattern and knit it in 2 different places.



2. Select the whole of the pattern as A and position it on the knitting. Then select a portion of the same pattern as B and position that in another place.



3. Select one portion of a pattern as A and position it, select another portion of the same pattern as B and position it in another place on your knitting.

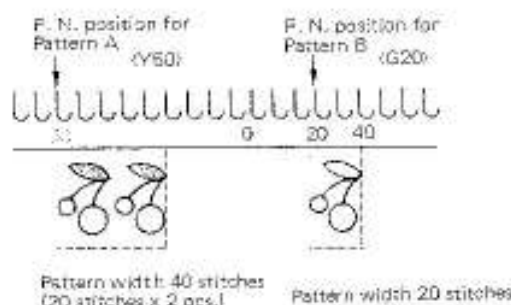
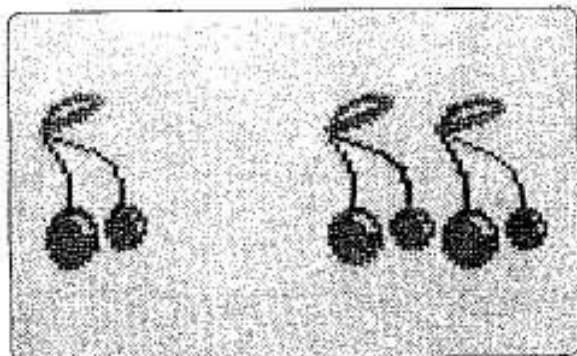


PATTERN SELECTOR

Pattern programming for Pattern A + B
Two areas of Patterning

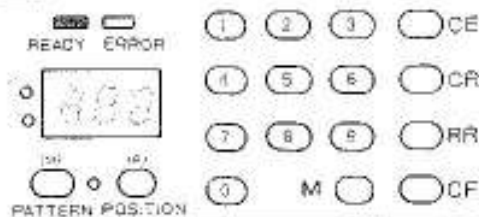
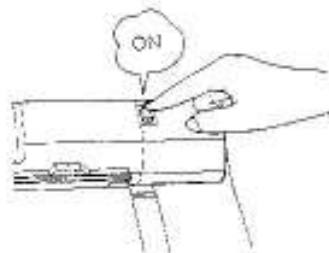


The following example uses stitch design 100 from "STITCH WORLD".



• Before entering your program

Switch on the power.

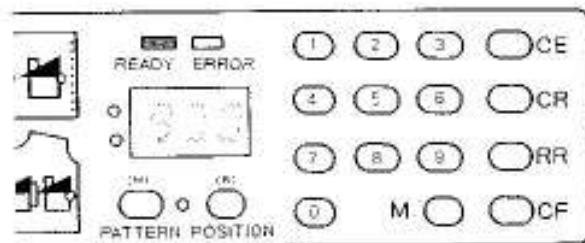


When the power switch is turned on, the ready lamp lights up. Any information displayed on the panel relates to the last pattern used before the power was turned off.

• Pattern programming

Operation 1

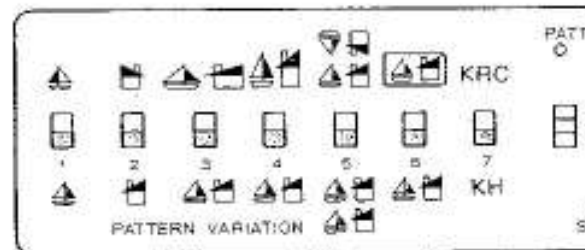
Enter 990 as the MODE number with numeral keys.



Push the M (memory) key.

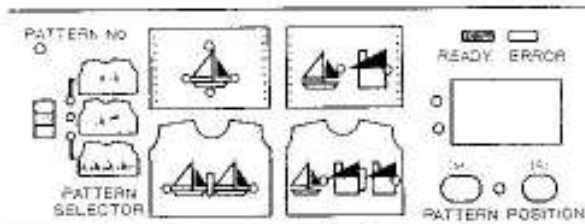
Operation 2

Set all the pattern variation switches to the lower position.



Operation 3

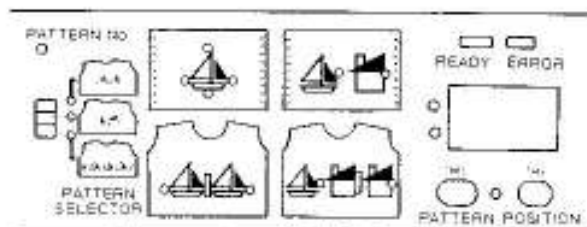
Set the pattern selector switch at the middle position.



Operation 4

Push the M (memory) key.
Pattern No. lamp is lit.
Enter 100 as the pattern number.

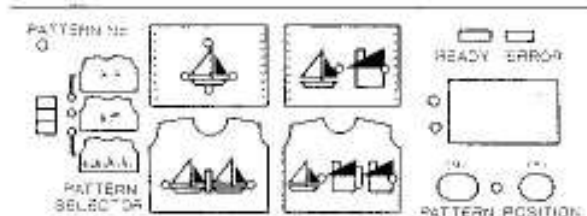
1 • 0 • 0



Operation 5

Push the M (memory) key.
Step No. 5 lamp is lit.
Enter Y50 as the F.N. position for Pattern A.

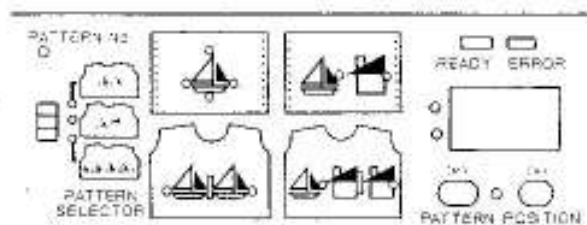
Y • 5 • 0



Operation 6

Push the M (memory) key.
Step No. 6 lamp is lit.
Enter Y50 as the left end of pattern width
for Pattern A.

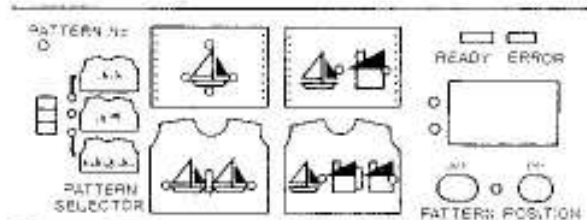
Y • 5 • 0



Operation 7

Push the M (memory) key.
Step No. 7 lamp is lit.
Enter Y11 as the right end of pattern width
for Pattern A.

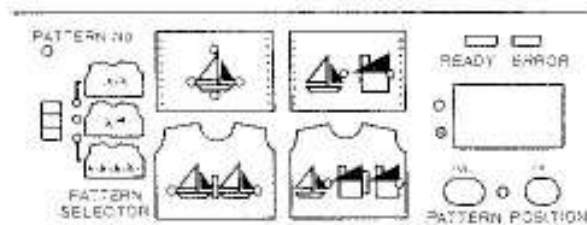
Y • 1 • 1



Operation 8

Push the M (memory) key.
Step No. 10 lamp is lit.
Enter G21 as the F.N. position for Pattern B.

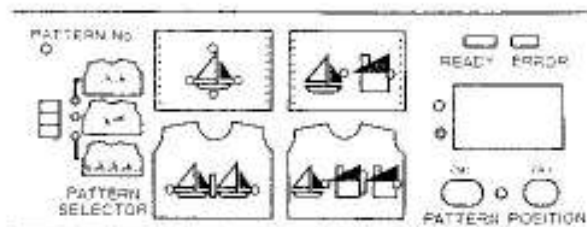
G • 2 • 1



Operation 9

Push the M (memory) key.
Step No. 11 lamp is lit.
Enter G21 as the left end of pattern width
for Pattern B.

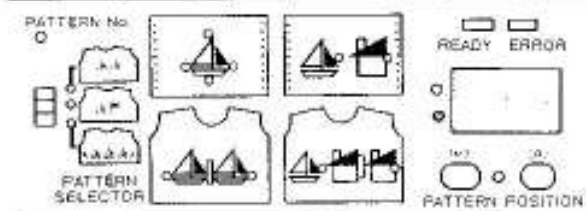
G • 2 • 1



Operation 10

Push the M (memory) key.
 Step No. 12 lamp is lit.
 Enter G40 as the right end of pattern width
 for Pattern B.

⑤ · 4 · 0



Operation 11

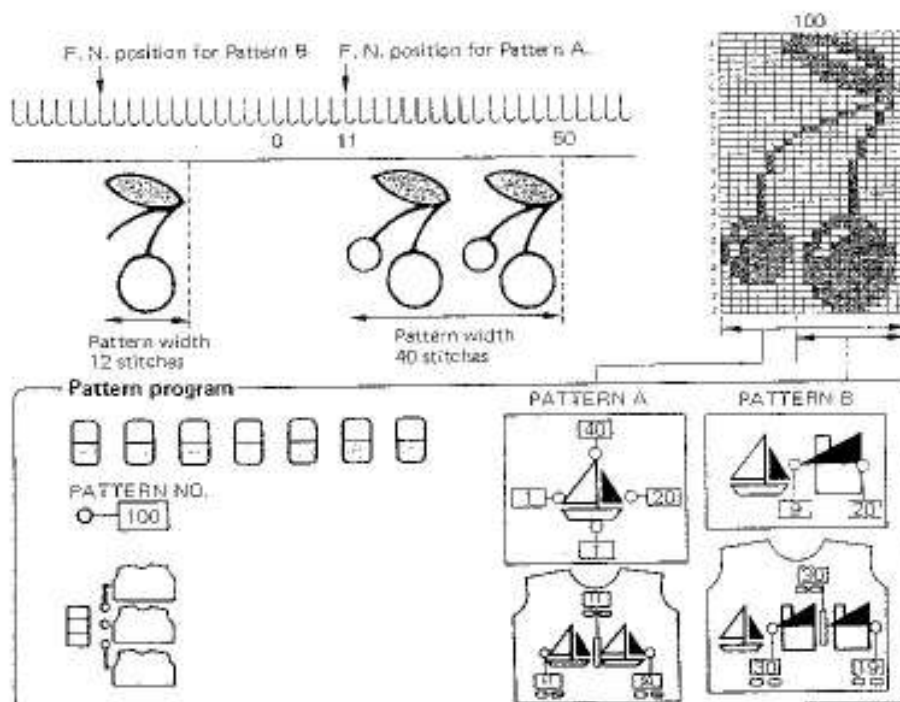
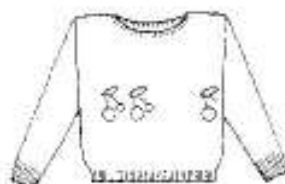
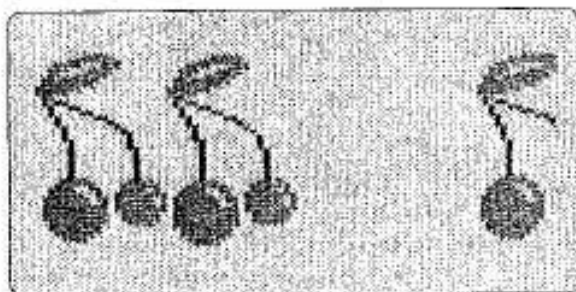
Push the M (memory) key to finish the programming.
 Push the CF key to start to knit from row 1.

* Follow knitting operation as for a single area of patterning.
 (See page 40.)

PATTERN SELECTOR



Select the whole of the pattern as A and position it on the knitting, then select a portion of the same pattern as B and position that in another place, using Mode 999.



• Pattern programming procedure

- ① Switch on the power. (Make sure that the ready lamp is lit.)
- ② Enter 999 as the MODE number and push the M (memory) key.
- ③ Set all the pattern variation switches at the lower position.
- ④ Set the pattern selector switch at the middle position.
- ⑤ Push the M (memory) key and enter 100 as the pattern number.
- ⑥ Push the M (memory) key and enter 1 as the first (bottom) row of Pattern A.
- ⑦ Push the M (memory) key and enter 40 as the last (top) row of Pattern A.
- ⑧ Push the M (memory) key and enter 1 as the left end of Pattern A.
- ⑨ Push the M (memory) key and enter 20 as the right end of Pattern A.
- ⑩ Push the M (memory) key and enter G11 as the F.N. position of Pattern A.
- ⑪ Push the M (memory) key and enter G11 as the left end of pattern width for Pattern A.
- ⑫ Push the M (memory) key and enter G50 as the right end of pattern width for Pattern A.
- ⑬ Push the M (memory) key and enter 1 as the left end of Pattern B.
- ⑭ Push the M (memory) key and enter 9 as the right end of Pattern B.
- ⑮ Push the M (memory) key and enter Y30 as the F. N. position of Pattern B.
- ⑯ Push the M (memory) key and enter Y30 as the left end of pattern width for Pattern B.
- ⑰ Push the M (memory) key and enter Y19 as the right end of pattern width for Pattern B.
- ⑱ Push the M (memory) key. (The ready lamp is lit.)
- ⑲ Push the CF key.

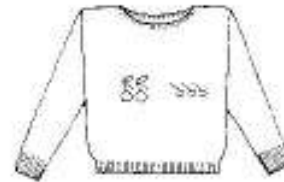
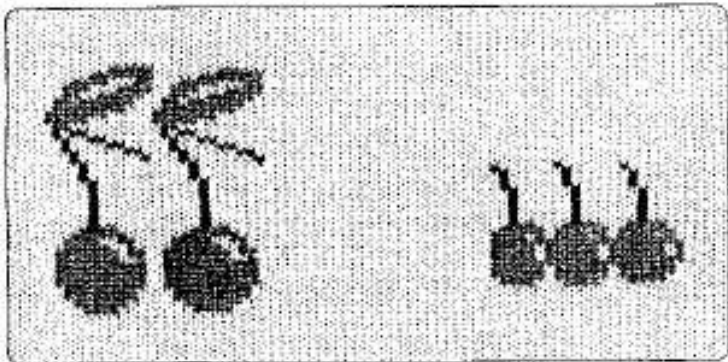
Now you are ready to knit your pattern.

Follow knitting instructions as for a single area of patterning. (See page 40.)

PATTERN SELECTOR



Select one portion of the pattern and position it, then select another portion of the pattern as B and position it in another place on your knitting.



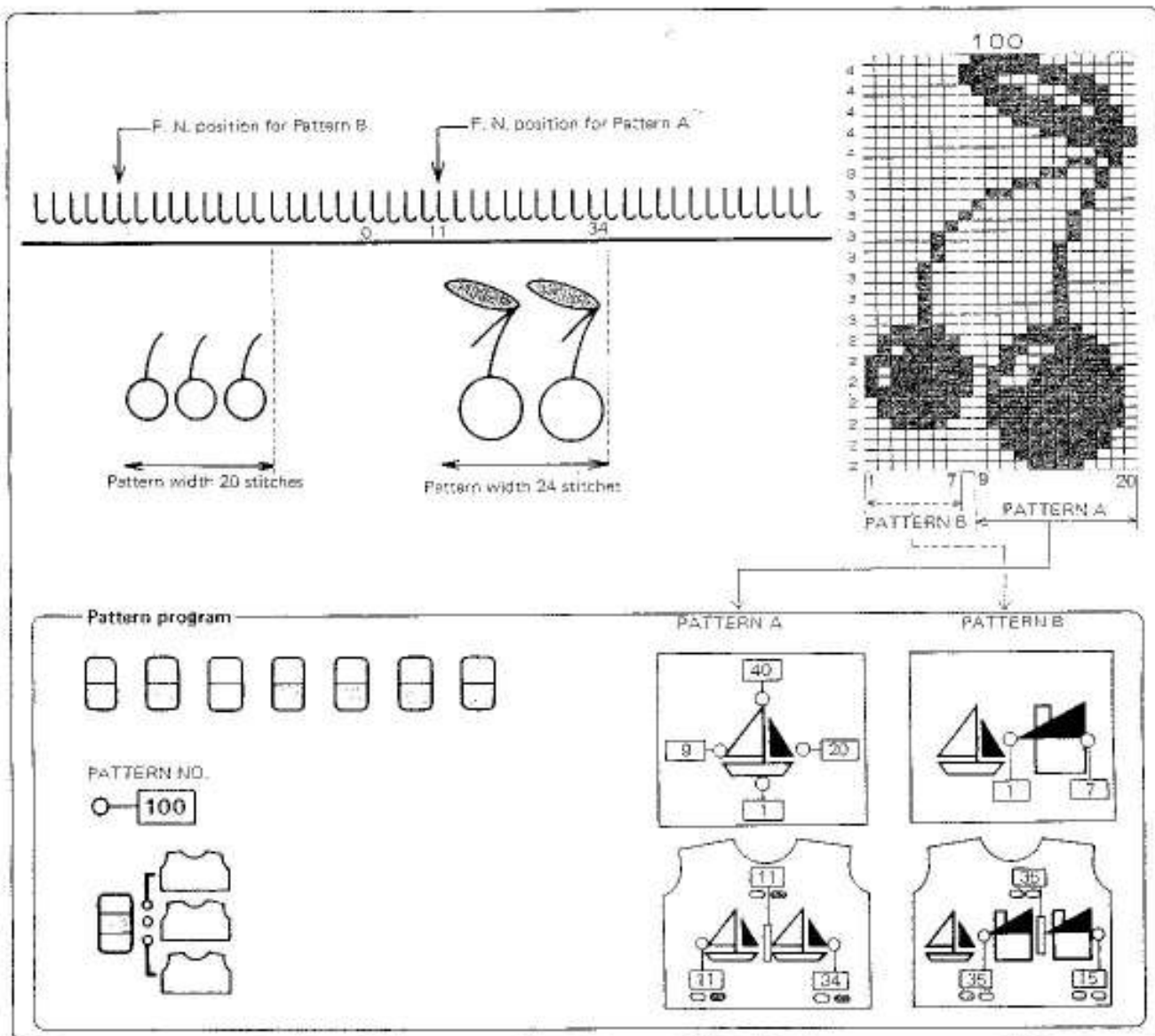
• **How to select two patterns**

- Decide the pattern size twice.

Name: 1st programming pattern is "Pattern A" and 2nd one is "Pattern B".

You can decide the size of pattern within the limits of 200 stitches (width) x 999 (height) for the Pattern A.

- For the Pattern B, you can decide the size of pattern width upto 200 stitches but the size of the height must be the same as Pattern A.



• Pattern programming procedure

- ① Switch on the power. (Make sure that the ready lamp is lit.)
- ② Enter 999 as the MODE number and push the M (memory) key.
- ③ Set all the pattern variation switches at the lower position.
- ④ Set the pattern selector switch at the middle position.
- ⑤ Push the M (memory) key and enter 100 as the pattern number.
- ⑥ Push the M (memory) key and enter 1 as the first (bottom) row of Pattern A.
- ⑦ Push the M (memory) key and enter 40 as the last (top) row of Pattern A.
- ⑧ Push the M (memory) key and enter 1 as the left end of Pattern A.
- ⑨ Push the M (memory) key and enter 20 as the right end of Pattern A.
- ⑩ Push the M (memory) key and enter G11 as the F.N. position of Pattern A.
- ⑪ Push the M (memory) key and enter G11 as the left end of pattern width for Pattern A.
- ⑫ Push the M (memory) key and enter G35 as the right end of pattern width for Pattern A.
- ⑬ Push the M (memory) key and enter 1 as the left end of Pattern B.
- ⑭ Push the M (memory) key and enter 7 as the right end of Pattern B.
- ⑮ Push the M (memory) key and enter Y40 as the F. N. position of Pattern B.
- ⑯ Push the M (memory) key and enter Y40 as the left end of pattern width for Pattern B.
- ⑰ Push the M (memory) key and enter Y15 as the right end of pattern width for Pattern B.
- ⑱ Push the M (memory) key. (The ready lamp is lit.)
- ⑲ Push the CF key.

Now you are ready to knit your pattern.

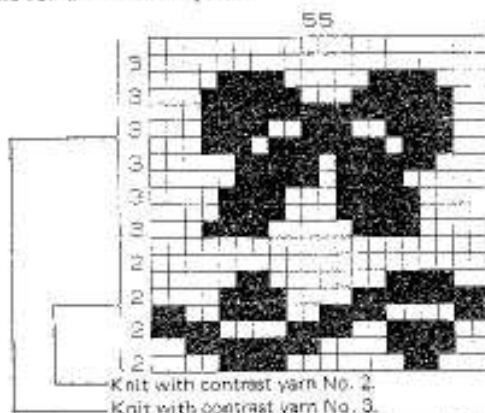
Follow knitting instructions as for a single area of patterning. (See page 40.)

MEMO INFORMATION IN THE PATTERNS IN "STITCH WORLD"

- Please refer to the Diagrams on the back pages of your "STITCH WORLD" PATTERN BOOK.
- The Memo information is shown on the left side of the diagram, when you are knitting the pattern, Memo information appears in the display, when you push the Yellow key.
- The Memo information will have different meanings depending on the stitch you are knitting.

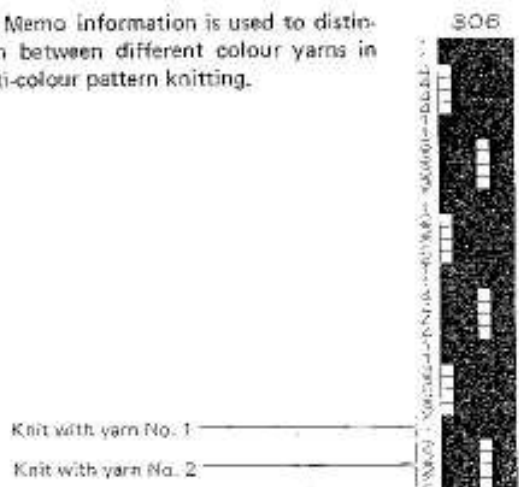
FAIRISLE PATTERN

- 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.



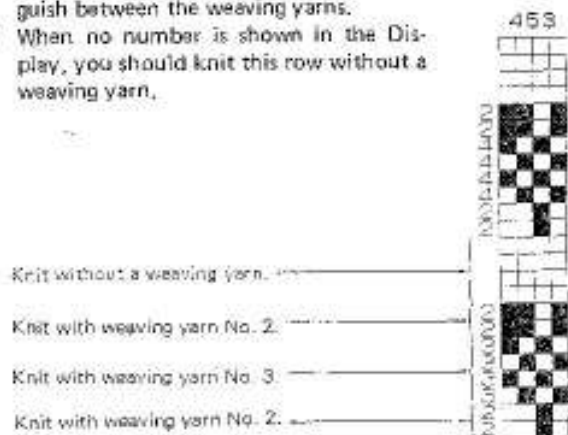
TUCK & SKIP STITCH PATTERN

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



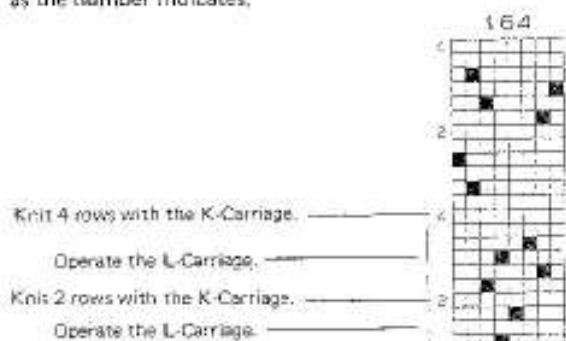
WEAVING PATTERN

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



LACE & FINE LACE PATTERN

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



LACE & FINE LACE PATTERNS MIXED

- Use the L-Carriage and the K-Carriage as indicated by the symbol or number in the Display.

Flashing 0 means

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

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

Flashing 1 means

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



DRAWING YOUR OWN PATTERNS

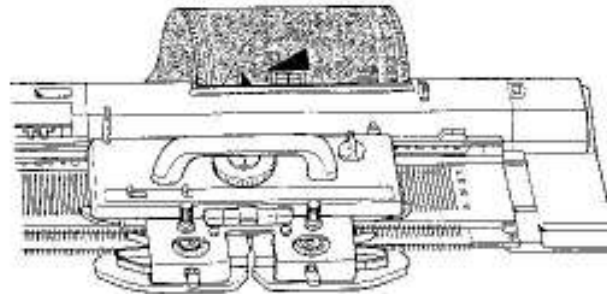
This section explains how to put your own ideas onto the Mylar sheets, those are the plastic type graph sheets, and how to programme these patterns so you have a truly original design.

To do this you will need the silver and black pen to mark the cards, the pencil/rubber in case you make a mistake and the blue template, all out of your accessory box.

It is always a good idea to draw your design on the paper design sheets first, with an ordinary pencil or pen, you will find those in the packet with the Mylar sheets.

Then all you have to do is trace the finished design onto the Mylar sheet and you are set to programme your machine.

The pattern sheets feed into your machine at the righthand side, as shown in the diagram, and the machine reads the card according to the instructions you give it.



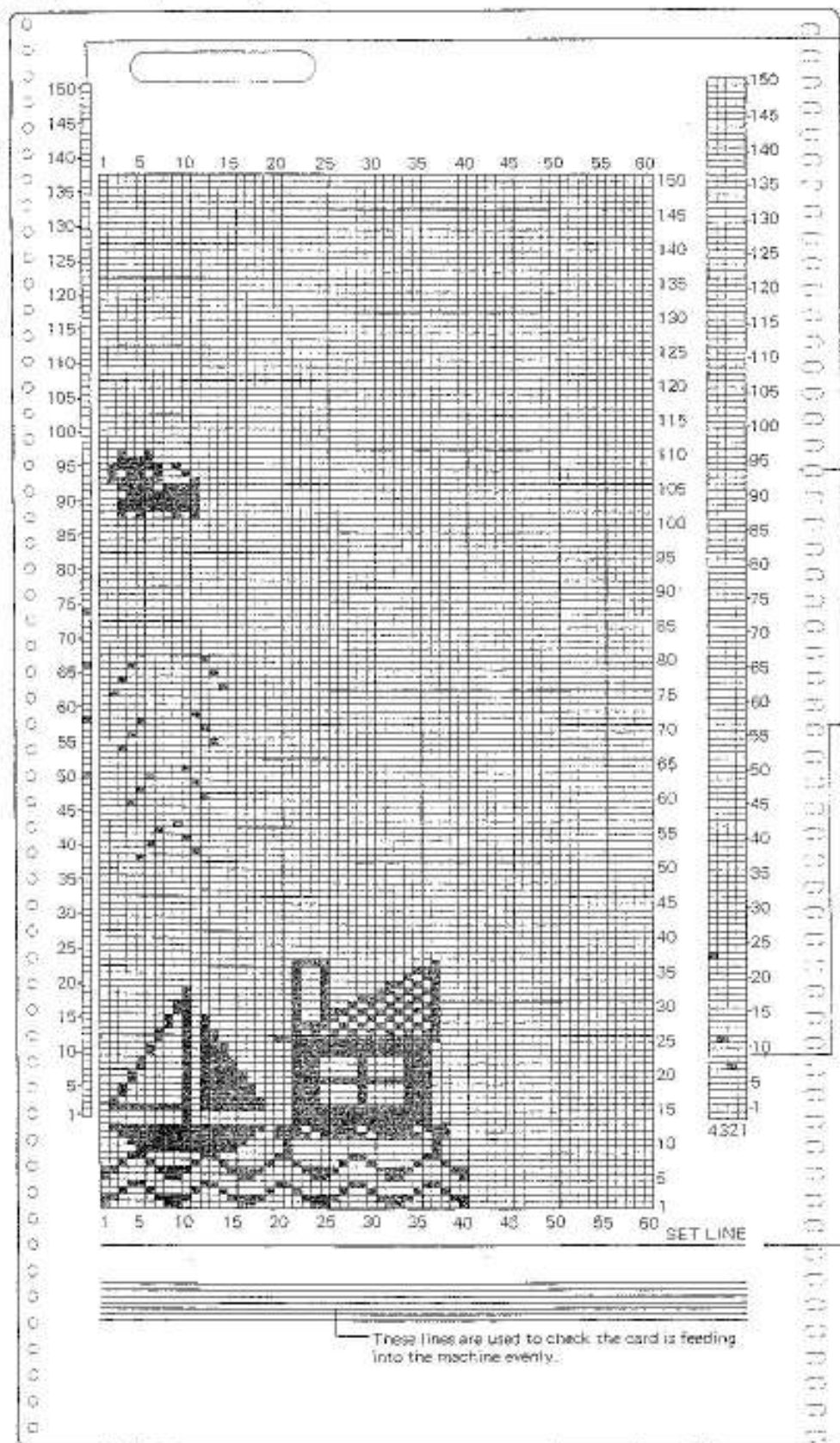
Take time to learn how to make your own design and pattern programming so that you can enjoy the full freedom your machine can give you.

Once you have programmed one or two of your own designs you will realize that you can take any part of any design to give you endless possibilities.

THE PATTERN CARD (MYLAR SHEET)

NOTE:

The size of the pattern on the knitting, will be different to the size of the pattern on the card, this will vary according to the yarn and tension used.



L WINDOW
Use for Lace Knitting

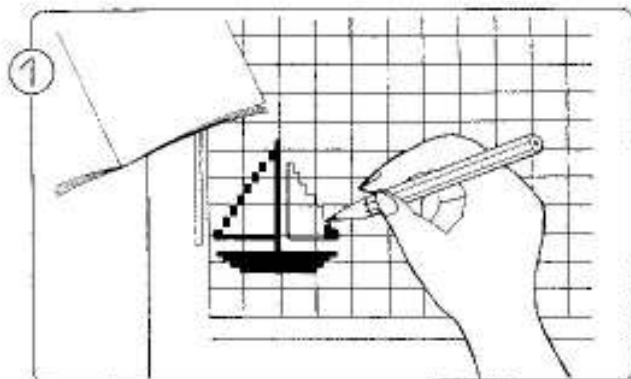
FEEDING PERFORATION

MEMO WINDOW
For example, when the second colour yarn has to be changed to another colour yarn at the 9th row, fill in one of the blanks at No. 9, so that you can easily find where the yarn should be changed.

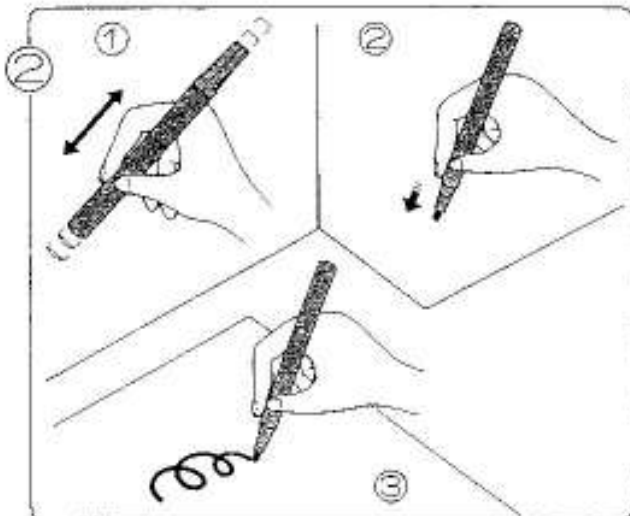
SET LINE
The **PATTERN CARD** has to be set at the **SET LINE**.

- You will need to keep these cards clean and flat, as creased and oil marked cards do not read correctly, and your pattern will be spoilt.

HOW TO MARK THE PATTERN CARD



Each square of the graph represents a stitch of knitting. Draw your own design onto the paper design sheet.



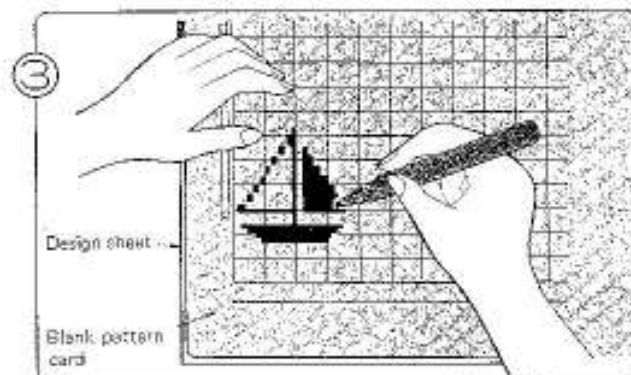
When you use the marker pen for the first time,

1. With the cap on, shake vigorously, you will hear the ball bearing inside bounce back and forth.
2. To prime the tip, press on a piece of paper so that the tip retracts, repeat until the nib turns black with ink.
3. Test on paper before actual use.

From the second time, shake the pen with the cap on, then press on a piece of paper before marking the card.

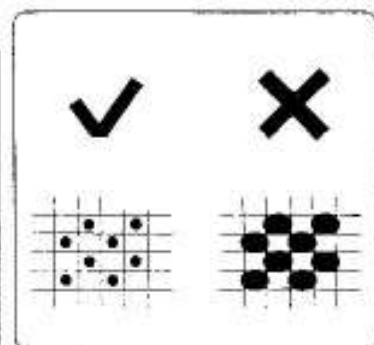
NOTE:

Keep the cap firmly on to prevent the nib from drying out between use.

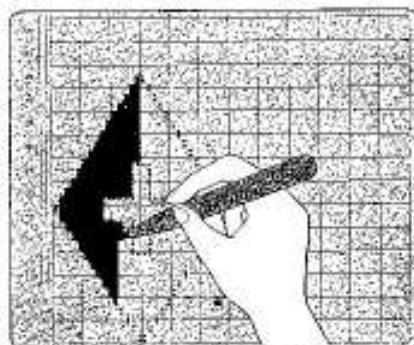


Put the blank pattern card onto the design sheet and trace the pattern with a marking pen which comes with machine. Draw your pattern on the card face.

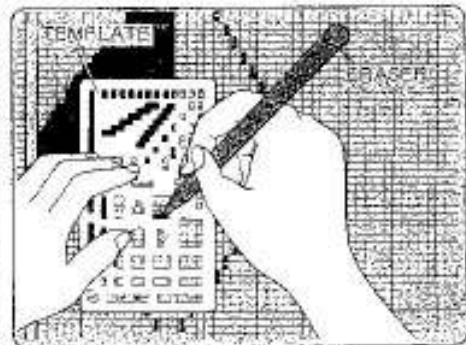
Marking the pattern card



Mark the card by dot just in the center of each block. Do not protrude beyond the line of next block.



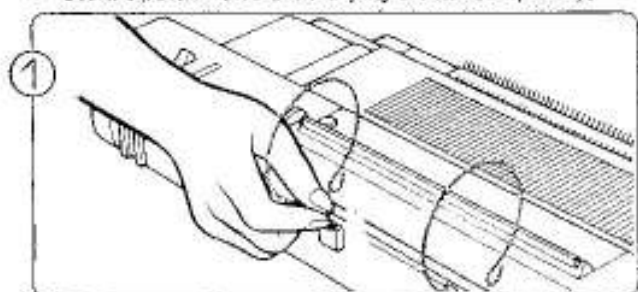
To block out the Pattern, first mark the outline by dots. Then fill in the space to be marked.



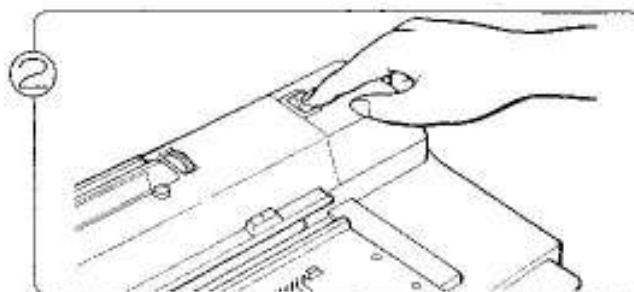
To correct pattern, erase with the accessory ERASER. Do not rub too strongly. The template is useful to erase small areas of pattern.

HOW TO SET PATTERN CARD

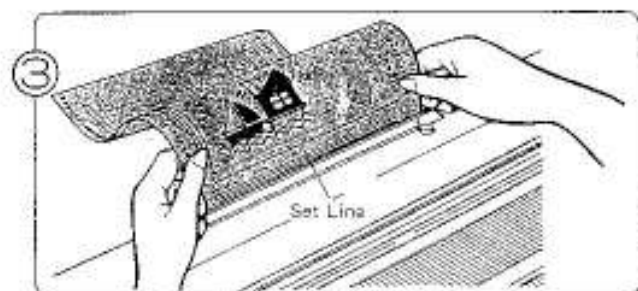
- Use the pattern card after drying the ink completely.



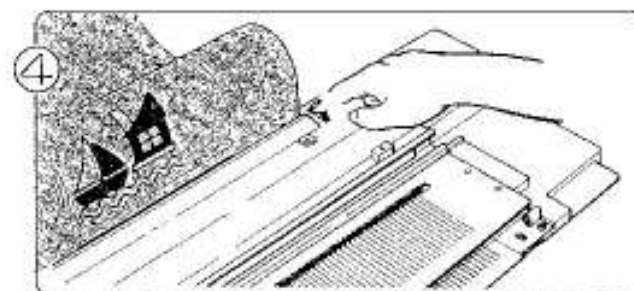
Insert **PATTERN CARD GUIDES**.



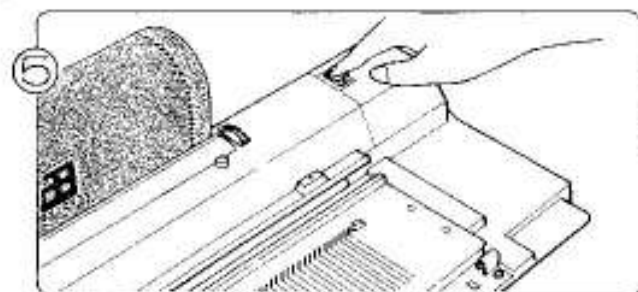
Turn off the **POWER SWITCH**.



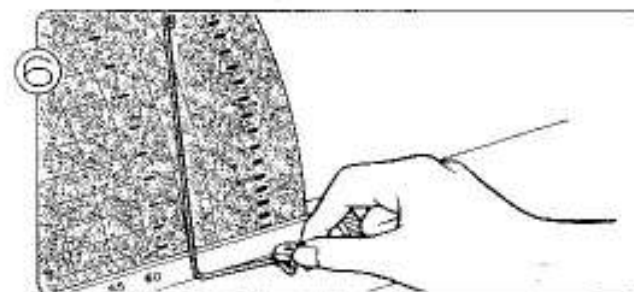
Insert the **PATTERN CARD** into the **CARD INLET** in a straight line with the pattern facing you.



IMPORTANT:
Turn the card feeder dial towards you until the **SET LINE** sits on the edge of the card inlet.



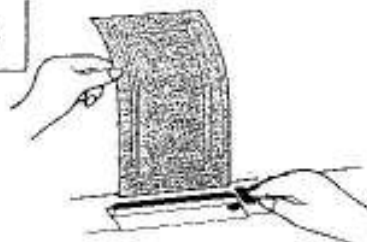
Turn on **POWER SWITCH**.



Set the card holder — this will stop the card from flopping forward as it feeds in.

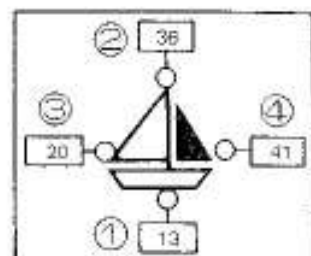
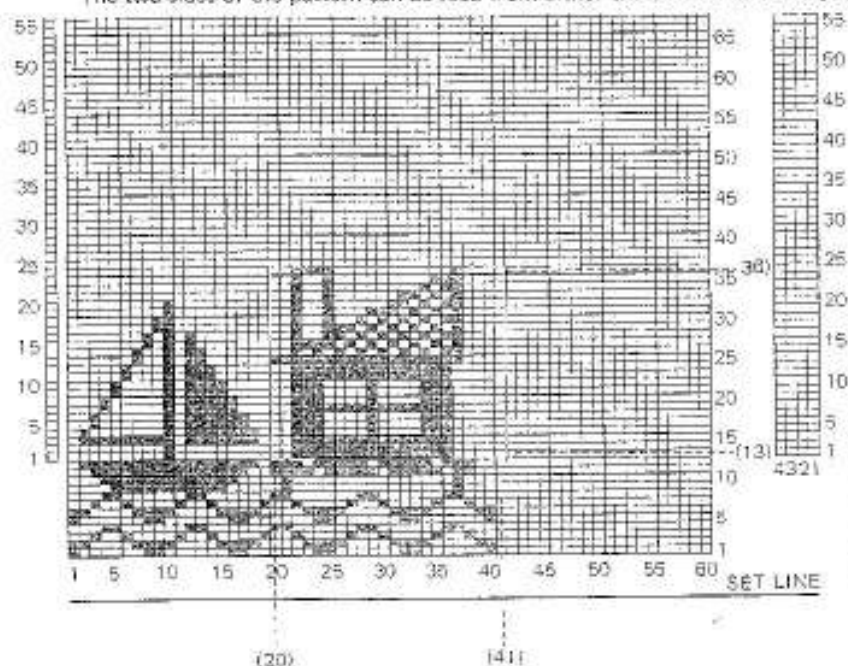
HOW TO REMOVE THE PATTERN CARD AFTER USE

- ① Push the **RR** key.
The pattern card returns to the set line.
- ② Turn off the power.
- ③ Remove the pattern card with the card feeding dial.



READING THE PATTERN CARD

- When reading the card note the numbers refer to squares not lines.
 - Always read the bottom and top information from the right.
- The two sides of the pattern can be read from either the bottom or the top of the card.



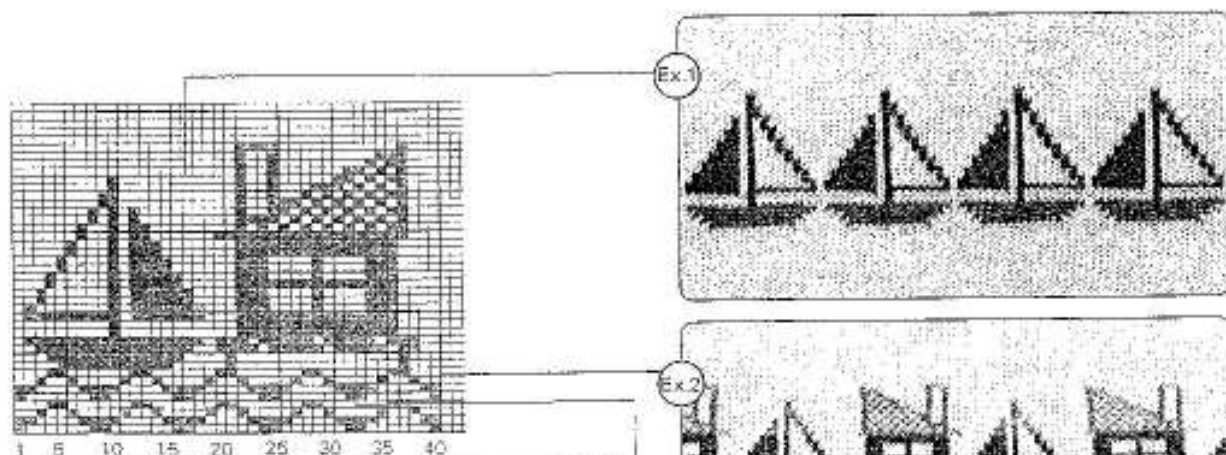
You can select a complete pattern, or any part of a pattern from anywhere on the pattern card.

In the programming, these four step lights are lit in order.

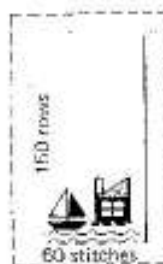
- ① Asks for the bottom row of the pattern.
- ② Asks for the top row of the pattern.
- ③ Asks for the left edge of the pattern.
- ④ Asks for the right edge of the pattern.

Pattern selection possibilities.

- You can make many different patterns from one pattern repeat, by selecting different pattern areas.



- When knitting the pattern from the pattern card with MODE No. 999 or No. 990. You can select the right end of pattern upto the 200. Ex. when you use the 60 stitches of the card and enter 65 as the right end of the pattern, you will have 5 blanks between the repeats.



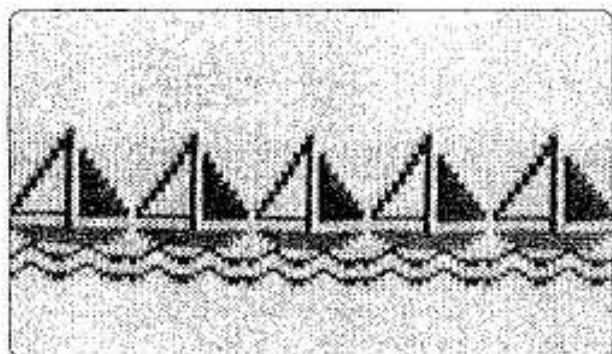
The needle selection on this part will be done as the white (blank)

upto 200

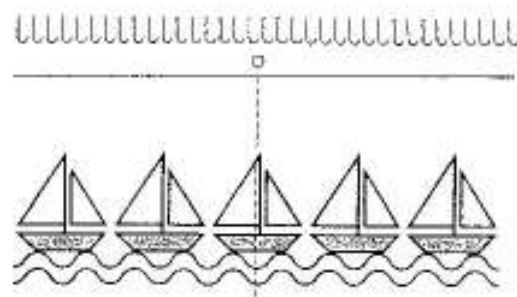
PATTERN SELECTOR



Programming an all over pattern using a Mylar sheet design

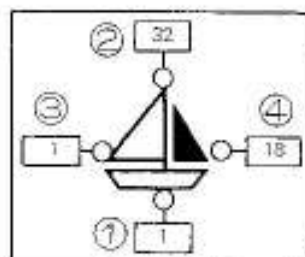
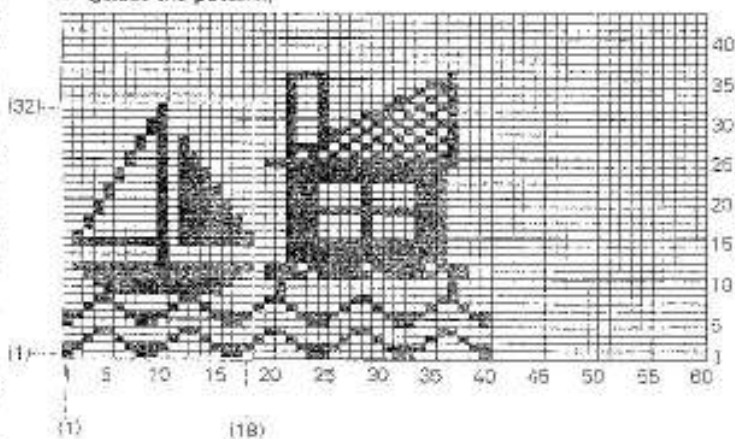


- The pattern repeat is automatically placed over the centre of the needlebed.



Ex.

- Select the pattern.



- ① First (bottom) row of pattern (1)
- ② Last (top) row of pattern (32)
- ③ Left end of pattern (1)
- ④ Right end of pattern (18)

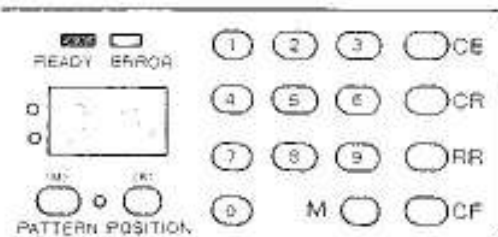
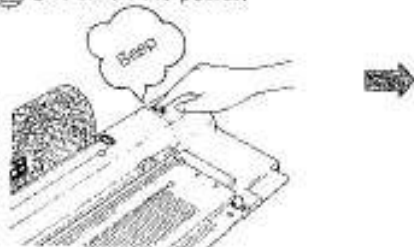
- Before entering your program

- While you are using the same card, return it to the set line by pushing the RR key if you have not already done so.

- ① Turn off the power.
Insert the pattern card into the card inlet and set it to the set line correctly.



- ② Switch on the power.



When the power is turned on, the READY Lamp lights up. Any information displayed on the PANEL relates to the last pattern used before the power was turned off.

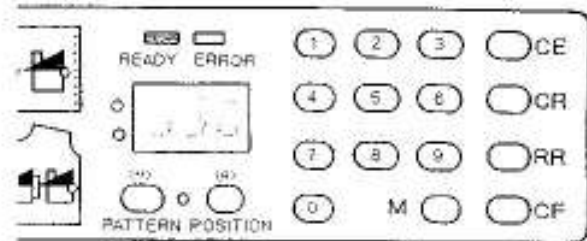
• Pattern programming

Operation 1

Enter 990 as the MODE number with numeral key.

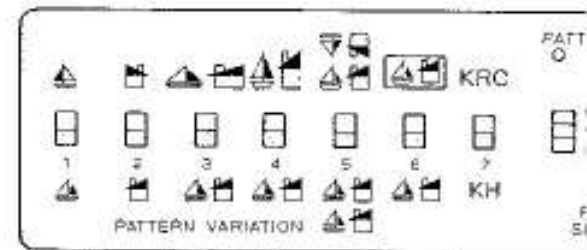
9 • 9 • 0

Push the M (memory) key.



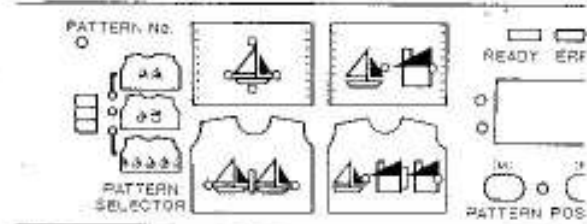
Operation 2

Set all PATTERN VARIATION Switches at the lower position.



Operation 3

Set the pattern selector switch to the lower position.

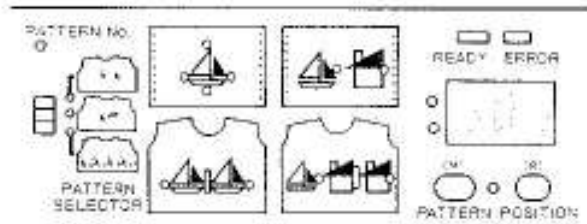


Operation 4

Push the M (memory) key.
The pattern No. lamp is lit.
Enter 901 as the pattern number.

9 • 0 • 1

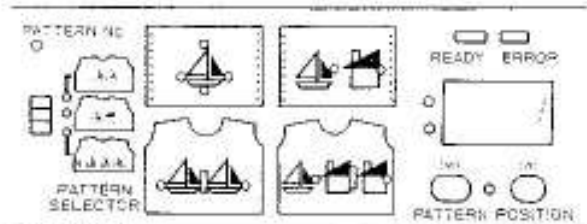
[901 informs the computer that we are using a pattern card]



Operation 5

Push the M (memory) key.
Step No. 1 lamp is lit.
Enter the figure 1 as the first (bottom) row of pattern.

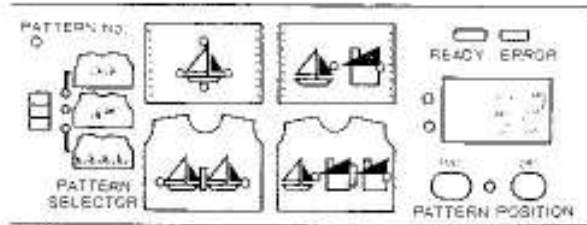
1



Operation 6

Push the M (memory) key.
Step No. 2 lamp is lit.
Enter the figure 32 as the last (top) row of pattern.

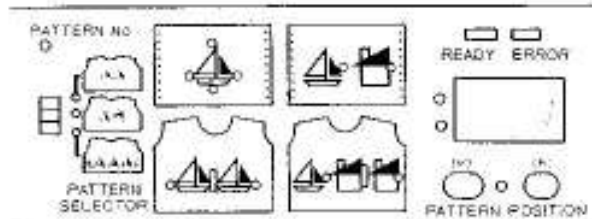
3 • 2



Operation 7

Push the M (memory) key.
Step No. 3 lamp is lit.
Enter the figure 1 as the left end of pattern.

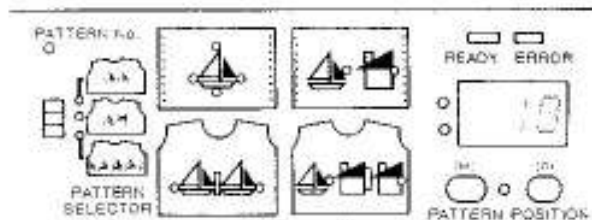
①



Operation 8

Push the M (memory) key.
Step No. 4 lamp is lit.
Enter the figure 18 as the right end of pattern.

① · ⑧



Operation 9

Push the M (memory) key.
The ready lamp is lit and you have completed the program.

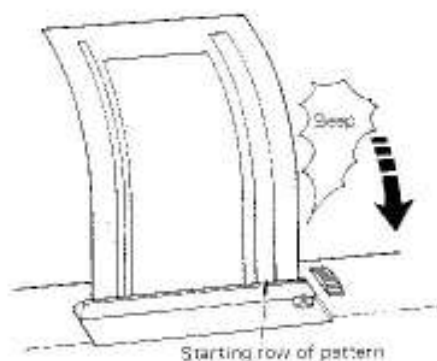
Operation 10

Push the CF key.

CF



The computer reads all pattern area which is programmed, then the pattern card is fed to the starting position of pattern. (Refer to the memo window of the pattern card.)

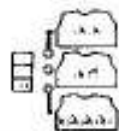


• Knitting your Pattern

- ① Thread the main yarn through the righthand tension unit.
Cast on.
Knit a few rows in stocking stitch.
Place the K-Carriage outside the left turn mark.
- ② Programme the pattern you require.
- ③ Thread the contrast yarn into the lefthand tension unit.
- ④ Set the change Knob to KC (I).
- ⑤ Move the carriage past the turn mark and across the knitting to the right side.
You now have a needle selection.
- ⑥ Push the upper centre button in, MC.
- ⑦ Thread the contrast yarn into feeder "B".
- ⑧ Holding the end of the contrast colour in the lefthand, move the carriage from right to left over the knitting. Note both colours are being knitted.
- ⑨ Continue knitting until you hear the sound "beep", finish the row and knit one more row. You have now knitted one complete pattern length.
- ⑩ You can either continue to knit ignoring the beep's and create the pattern all over the fabric, or if you wish you can finish the patterning. To do so turn the change knob back to N.L., the cam button will automatically be released. Break off the contrast colour and secure the end in the clip on the tension mast.
- ⑪ Push the button marked RR (roll return). Your card will return to the set line.
- ⑫ Turn the machine OFF if you wish to take the card out of the machine.

PATTERN SELECTOR

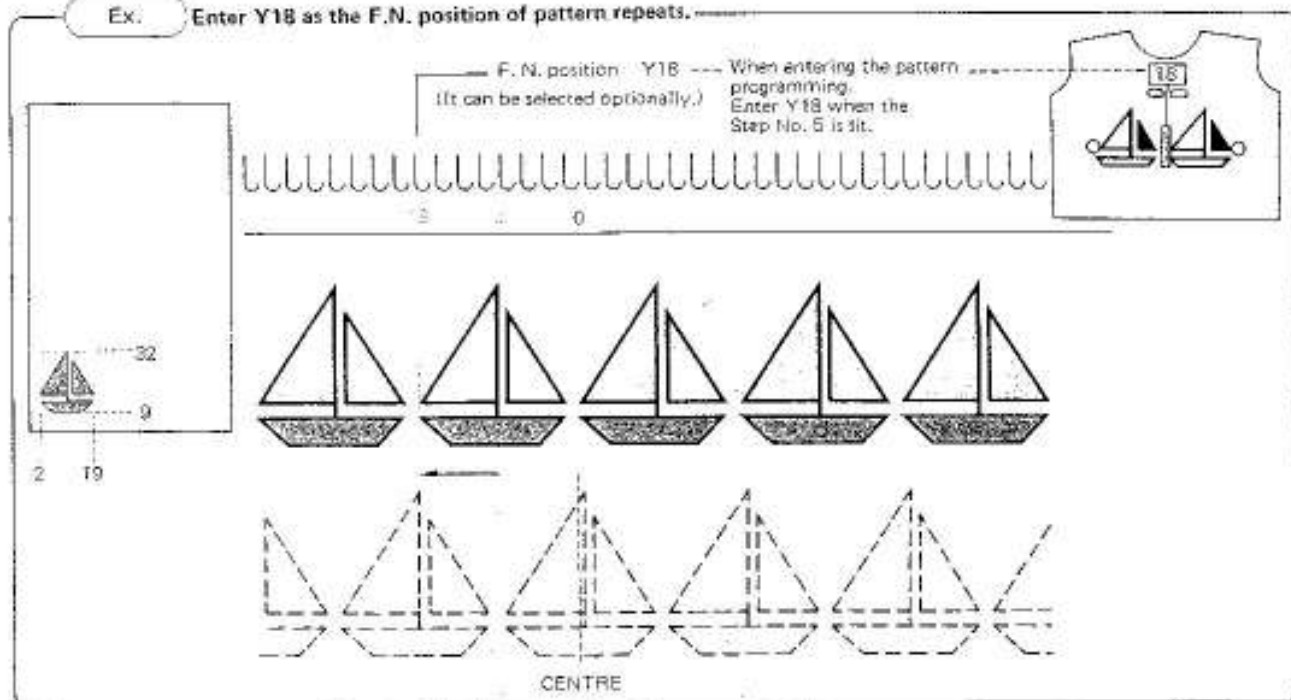
Change the F.N. position of an all over pattern.



- **MODE No. 990** F.N. position of an all over patterning is set automatically by the computer to place the pattern repeats over the centre of the needlebed.

MODE No. 999 F.N. position of an all over patterning can be changed by moving it to either the right or the left.

Ex. Enter Y18 as the F.N. position of pattern repeats.

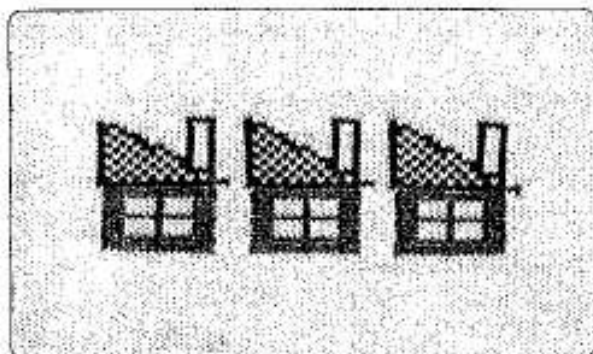


• Pattern programming procedure,

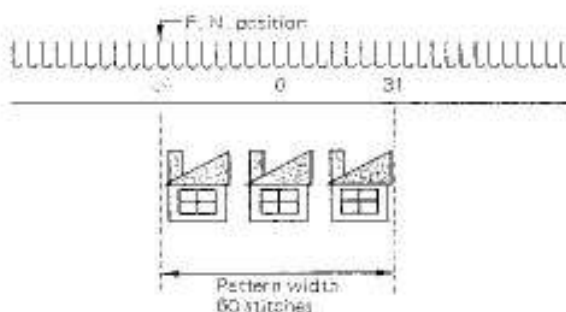
- ① Switch on the power, make sure the ready lamp is lit.
- ② Enter 999 as the MODE number and push the M (memory) key.
- ③ Set all the pattern variation switches at the lower position.
- ④ Set the pattern selector switch to the lower position.
- ⑤ Push the M (memory) key. The pattern No. lamp is lit. Enter 901 as the pattern number.
- ⑥ Push the M (memory) key. Step No. 1 is lit, enter 9 as the first (bottom) row of the pattern.
- ⑦ Push the M (memory) key. Step No. 2 is lit, enter 32 as the last (top) row of the pattern.
- ⑧ Push the M (memory) key. Step No. 3 is lit, enter 2 as the left end of the pattern.
- ⑨ Push the M (memory) key. Step No. 4 is lit, enter 19 as the right end of the pattern.
- ⑩ Push the M (memory) key. Step No. 5 is lit, enter Y19 as the F.N. position.
- ⑪ Push the M (memory) key. The ready lamp is lit.
- ⑫ Push CF key. The computer reads all the pattern area which is programmed at steps 6 – 9 and the pattern card is fed to the starting position of the pattern.

PATTERN SELECTOR

Programming a single motive or area of pattern using a Mylar sheet design.

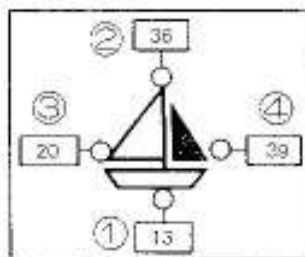
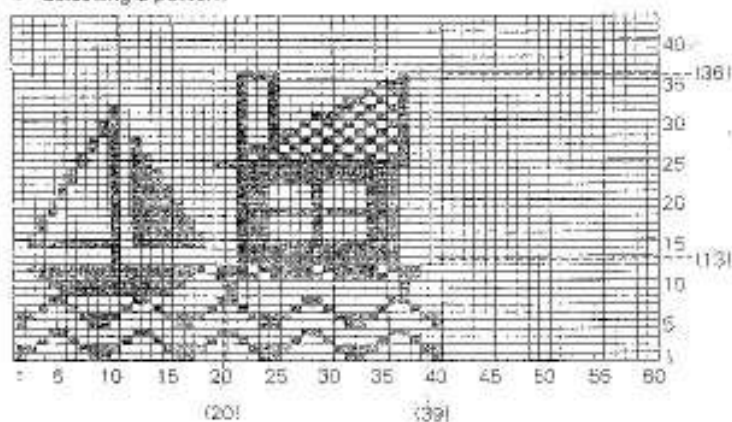


- By changing the F.N. position and pattern width, you can obtain various pattern combinations.



Ex.

- Selecting a pattern



- ① First (bottom) row of pattern (13)
- ② Last (top) row of pattern (36)
- ③ Left end of pattern (20)
- ④ Right end of pattern (39)

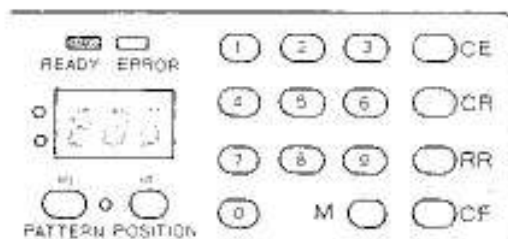
- Before entering your program

- While you are using the same card, return it to the set line by pushing the RR key if you have not already done so.

- ① Turn off the power. Insert the pattern card into card inlet and turn it to the SET LINE correctly.



- ② Switch on the power.



When the power is turned on, the READY Lamp lights up. Any information displayed on the PANEL relates to the last pattern used before the power was turned off.

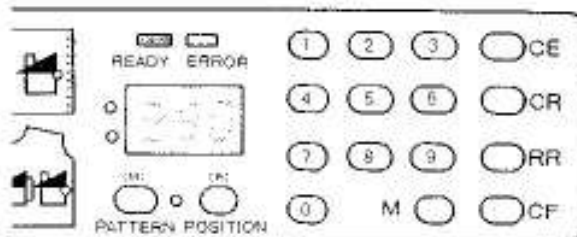
• Pattern Programme.

Operation 1

Enter 990 as the MODE number with the numeral keys.

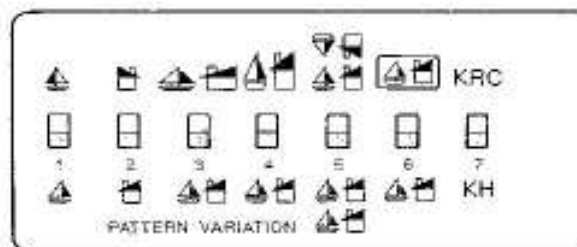
9 • 9 • 0

Push the M (memory) key.



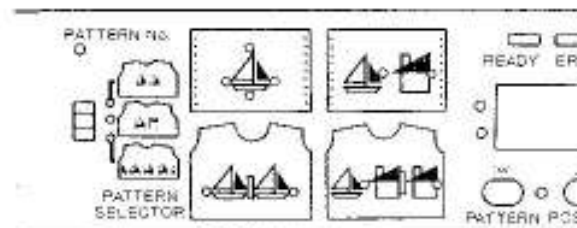
Operation 2

Set all PATTERN VARIATION Switches at the lower position.



Operation 3

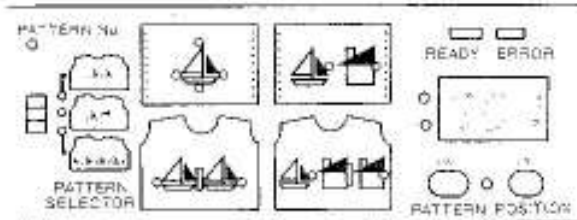
Set the pattern selector switch to the upper position.



Operation 4

Push the M (memory) key.
The pattern No. lamp is lit.
Enter 901 as the pattern number.

9 • 0 • 1

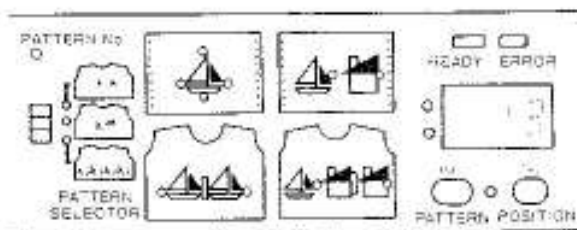


Operation 5

Select the pattern from the pattern card.
(Refer to the example on page 61.)

Push the M (memory) key.
Step No. 1 lamp is lit.
Enter the figure 13 as the first (bottom) row of pattern.

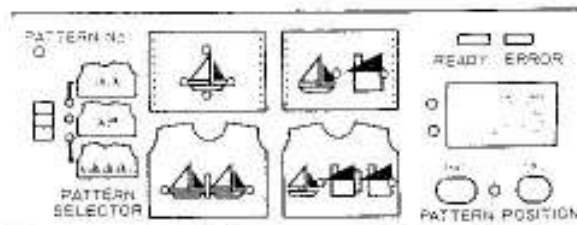
1 • 3



Operation 6

Push the M (memory) key.
Step No. 2 lamp is lit.
Enter the figure 36 as the last (top) row of pattern.

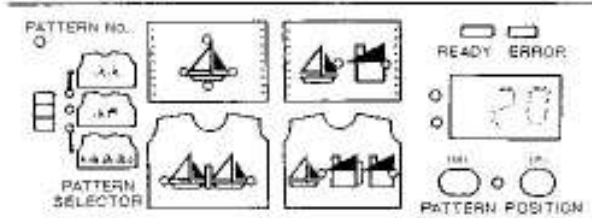
3 • 6



Operation 7

Push the M (memory) key.
Step No. 3 lamp is lit.
Enter the figure 20 as the left end of pattern.

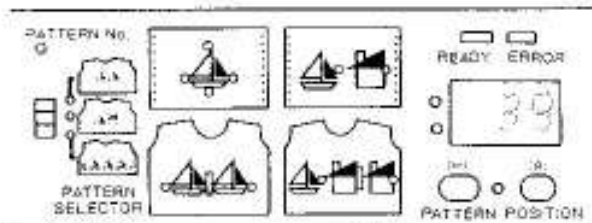
2 • 0



Operation 8

Push the M (memory) key.
Step No. 4 lamp is lit.
Enter the figure 39 as the right end of pattern.

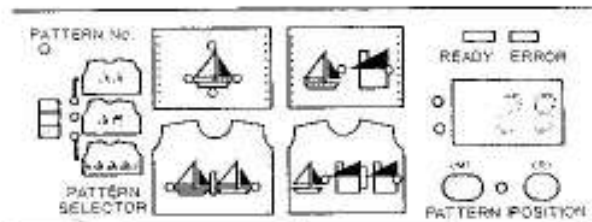
3 • 9



Operation 9

Push the M (memory) key.
Step No. 5 lamp is lit.
Enter Y 29 as the F.N. position of pattern.

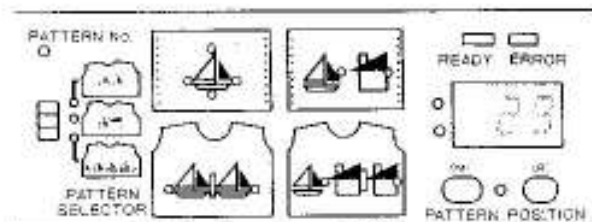
Y • 2 • 9



Operation 10

Push the M (memory) key.
Step No. 6 lamp is lit.
Enter Y29 as the left end of pattern width.

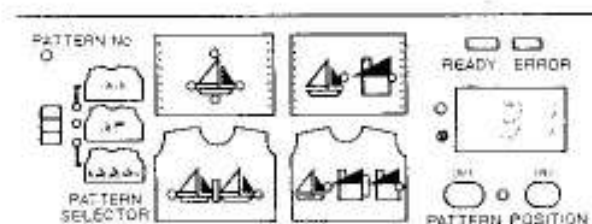
Y • 2 • 9



Operation 11

Push the M (memory) key.
Step No. 7 lamp is lit.
Enter G31 as the right end of pattern width.

G • 3 • 1



Operation 12

Push the M (memory) key.
The ready lamp is lit and you have completed the program.

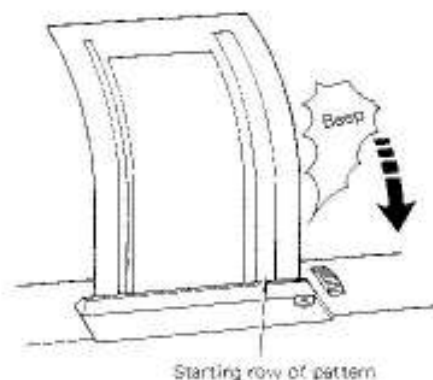
Operation 12

Push the CF key.

 CF



The computer reads all pattern data are which is programmed and the pattern card is fed to the starting position of the pattern, (Refer to the memo window of the pattern card.)



Starting row of pattern

• Knitting your pattern

- ① Thread the main yarn through the righthand tension unit.
Cast on.
Knit a few rows in, stocking stitch.
Place the K-Carriage outside the left turn mark.
- ② Programme the pattern you require.
- ③ Thread the contrast yarn into the lefthand tension unit.
- ④ Set the Change Knob to KC (II).
- ⑤ Move the carriage from left to right, past the turn mark and across the knitting. Note you have a needle selection.
- ⑥ Push the upper centre button in. MC button.
- ⑦ Thread the contrast yarn into feeder "B"
- ⑧ Holding the contrast yarn in the left hand, move the carriage across the knitting. Note both colours are being knitted.
- ⑨ Continue knitting until you hear the sound "beep", finish the row and knit one more row. You have now knitted one complete pattern length.
- ⑩ You can continue to knit the pattern, to create a panel, by ignoring the "beeps", or if you wish to finish the pattern, turn the Change Knob to N-L, and the cam buttons will be released automatically.
Break off the contrast yarn and secure the end in the clip on the tension mast.
- ⑪ Push the RR (roll return) button to return the card to the set line.
- ⑫ Turn the machine OFF if you wish to take the card out of the machine.

PATTERN SELECTOR

Pattern programming for pattern A+B (two areas of patterning) from the Mylar sheet.



• Possibilities.

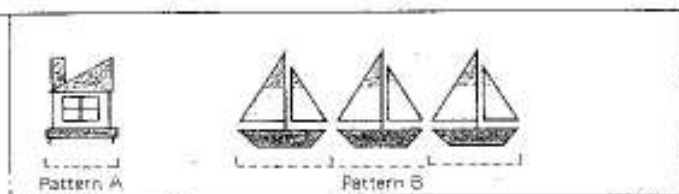
Two patterns which are shown side by side on a pattern sheet can be knitted in any position along side each other on your knitting. Alternatively you can select the same pattern and knit it in two separate places. Or you can select one pattern and a portion of that pattern and knit them in two different places.

Ex.

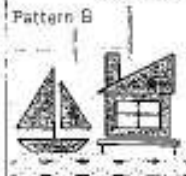
Pattern B Pattern A



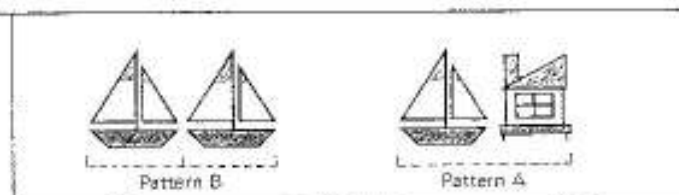
- Select the taller pattern as the "Pattern A".



Pattern B Pattern A



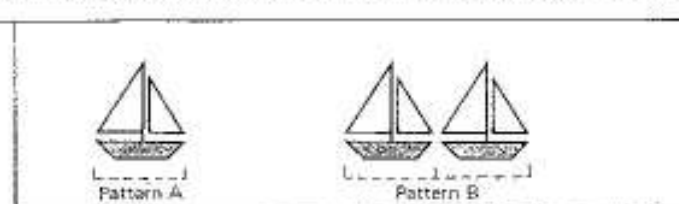
- It is essential to enter the tallest pattern as A and the shorter pattern as B.



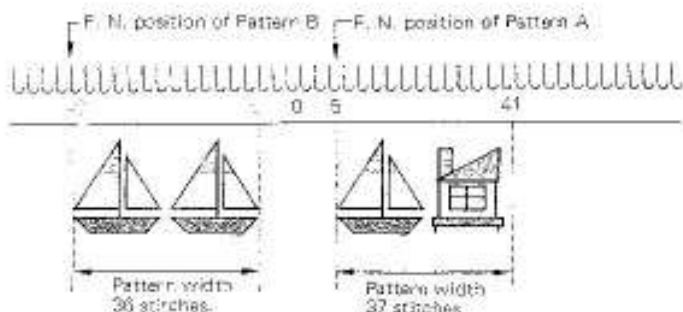
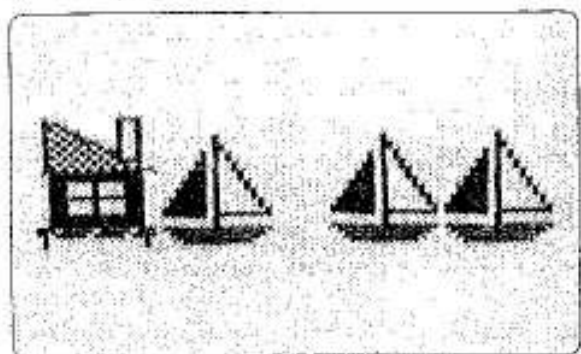
Pattern A-B



- You can select the same pattern as the Pattern A and Pattern B.



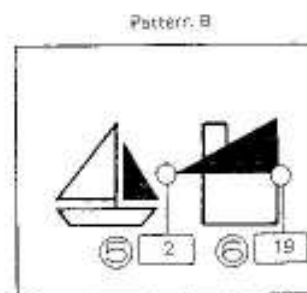
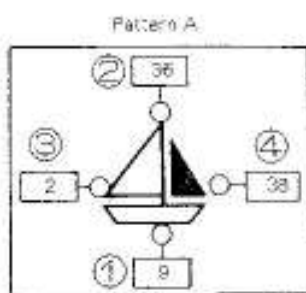
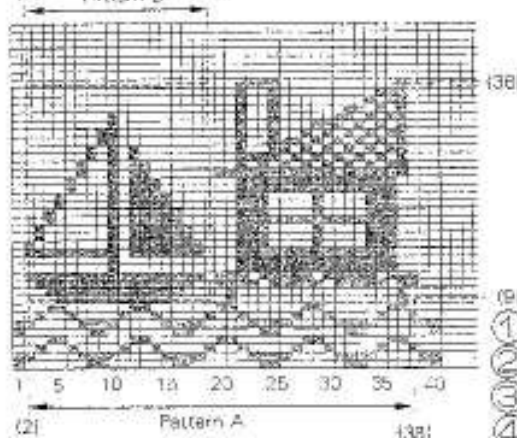
• Pattern programme.



Ex.

• Selecting a patt

(2) Pattern B (19)



- ① First (bottom) row of pattern (9)
- ② Last (top) row of pattern (36)
- ③ Left end of pattern (2)
- ④ Right end of pattern (38)
- ⑤ Left end of pattern (2)
- ⑥ Right end of pattern (19)

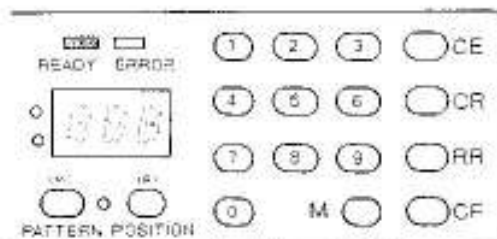
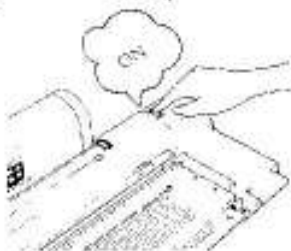
• Before entering your program

• While you are using the same card, return it to the set line by pushing the RR key, if you have not already done so.

① Turn off the power. Insert the pattern card into the card inlet and turn it to the set line.



② Switch on the power.



When the power is turned on, the READY Lamp lights up. Any information displayed on the PANEL relates to the last pattern used before the power was turned off.

• Pattern Programme.

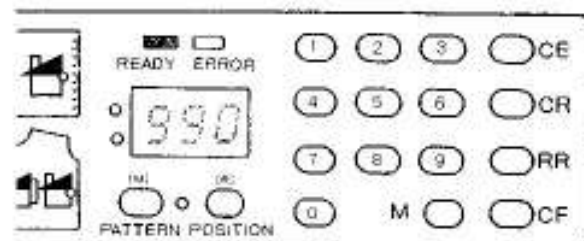
Operation 1

Enter 990 as the MODE number with the numeral keys.

9 • 9 • 0

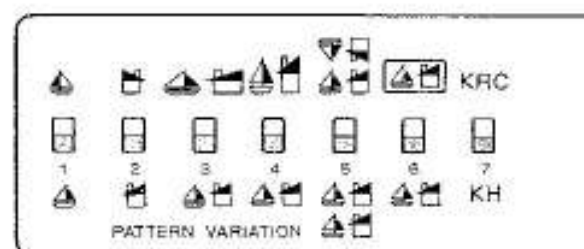


Push the M (memory) key.



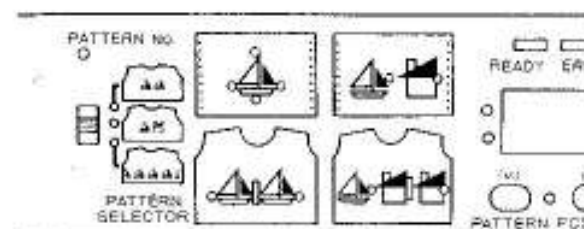
Operation 2

Set all PATTERN VARIATION Switches at the lower position.



Operation 3

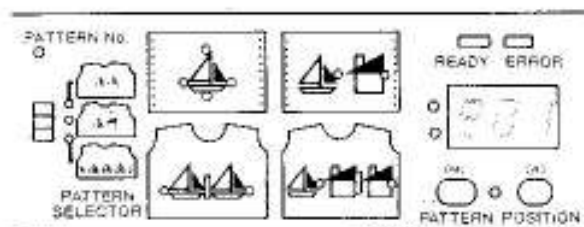
Set the pattern selector switch to the middle position.



Operation 4

Push the M (memory) key.
The pattern No. lamp is lit.
Enter 901 as the pattern number.

9 • 0 • 1

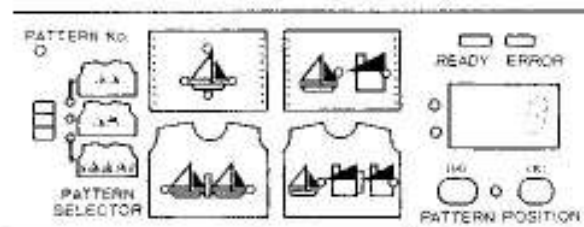


Operation 5

Select the pattern A from the pattern card.
(Refer to the example on page 66.)

Push the M (memory) key.
Step No. 1 lamp is lit.
Enter the figure 9 as the first (bottom) row of pattern A.

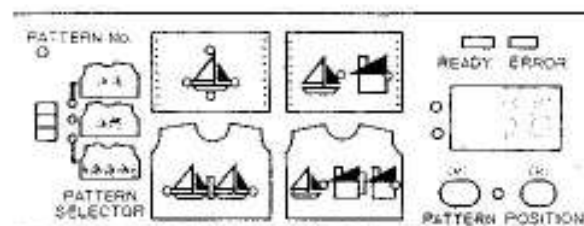
9



Operation 6

Push the M (memory) key.
Step No. 2 lamp is lit.
Enter the figure 36 as the last (top) row of pattern A.

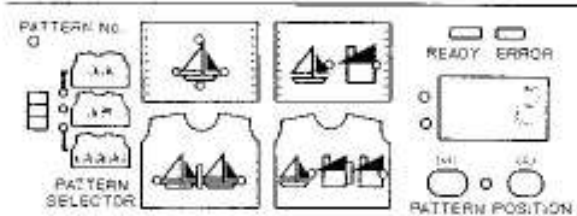
3 • 6



Operation 7

Push the M (memory) key.
Step No. 3 lamp is lit.
Enter the figure 2 as the left end of pattern A.

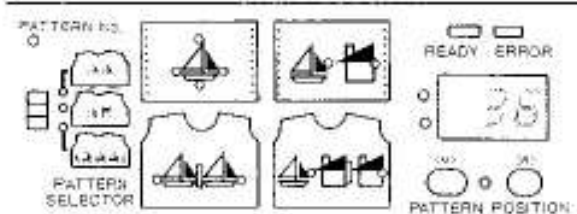
2



Operation 8

Push the M (memory) key.
Step No. 4 lamp is lit.
Enter the figure 38 as the right end of pattern A.

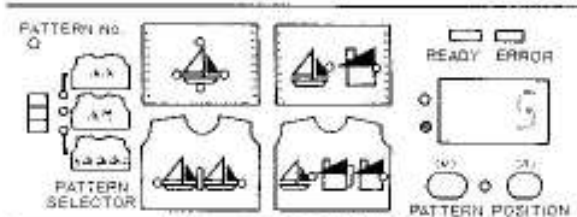
3 • 8



Operation 9

Push the M (memory) key.
Step No. 5 lamp is lit.
Enter G5 as the F.N. position of pattern A.

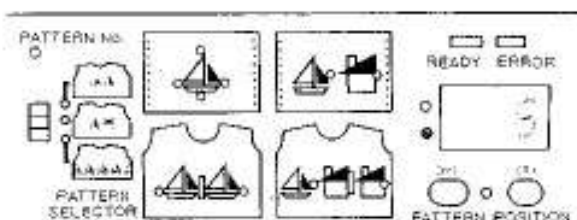
G • 5



Operation 10

Push the M (memory) key.
Step No. 6 lamp is lit.
Enter G5 as the left end of pattern width of A.

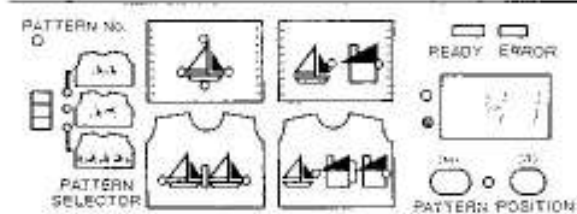
G • 5



Operation 11

Push the M (memory) key.
Step No. 7 lamp is lit.
Enter G41 as the right end of pattern width.

G • 4 • 1

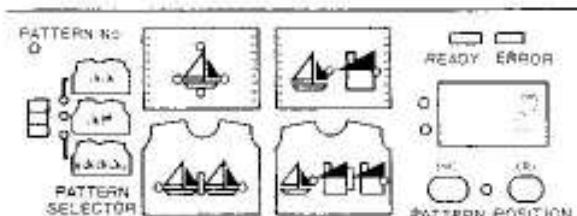


Operation 12

Select the pattern B from the pattern card.
(Refer to the example on page 66.)

Push the M (memory) key.
Step No. 8 lamp is lit.
Enter the figure 2 as the left end of pattern B.

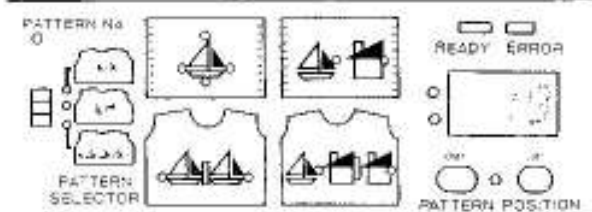
2



Operation 13

Push the M (memory) key.
Step No. 9 lamp is lit.
Enter the figure 19 as the right end of pattern B.

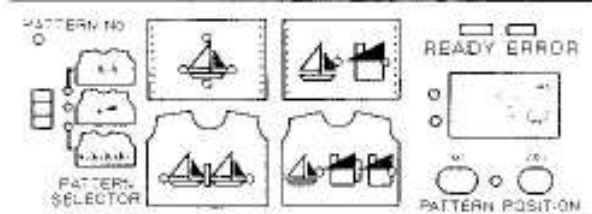
(1) · (9)



Operation 14

Push the M (memory) key.
Step No. 10 lamp is lit.
Enter Y40 as the F.N. position of pattern B.

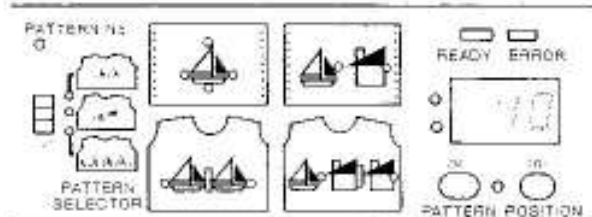
(Y) · (4) · (0)



Operation 15

Push the M (memory) key.
Step No. 11 lamp is lit.
Enter Y40 as the left end of pattern width of B.

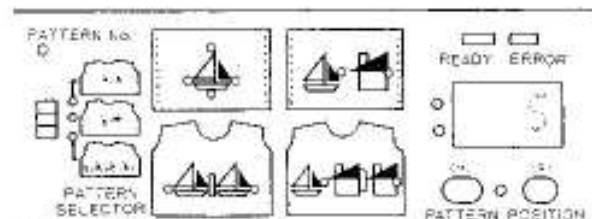
(Y) · (4) · (0)



Operation 16

Push the M (memory) key.
Step No. 12 lamp is lit.
Enter Y5 as the right end of pattern width of B.

(Y) · (5)



Operation 17

Push the M (memory) key.
The ready lamp is lit and you have completed the program.

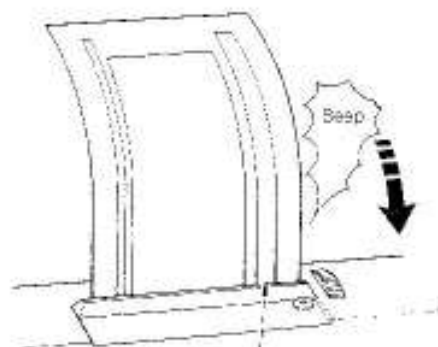
Operation 18

Push the CF key.

(CF)



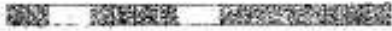



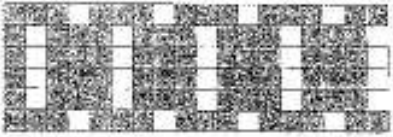

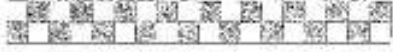


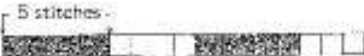
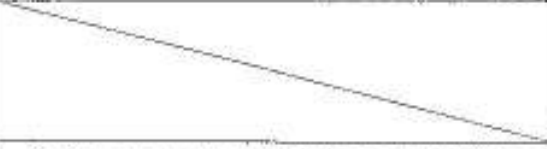


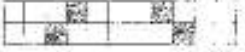
The computer reads all pattern data which is programmed and the pattern card is fed to the starting position of the pattern. (Refer to the memo window of the pattern card.)



Now you are ready to knit your pattern.
Follow the knitting instructions as for a single motive or area of patterning. See page 64.

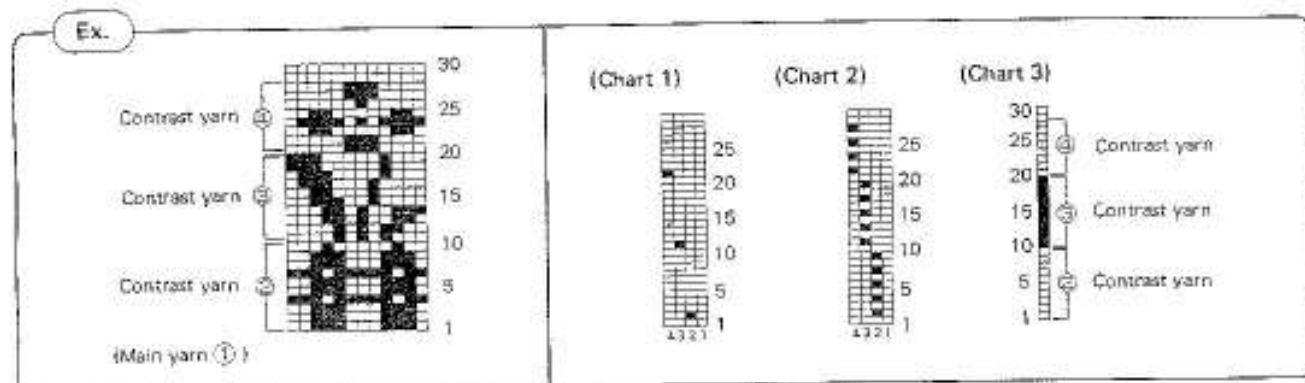
GUIDELINES WHEN MAKING YOUR OWN PATTERNS

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

	STITCHES	ROWS
<p>TUCK STITCH PATTERN MULTI-COLOUR TUCK STITCH PATTERN</p> <p><input type="checkbox"/> Tuck Stitch <input checked="" type="checkbox"/> Stocking Stitch</p>	<p>On single bed work it is advisable to tuck over one stitch at a time. It is possible for the more experienced knitter to tuck over two stitches at a time. It is not possible to tuck over three or more stitches at a time.</p>  <p>It is possible to mark your mylar sheet in reverse, marking the squares where you wish to tuck. To knit this, pattern variation switch No. 6 has to be in the upper position. In this way</p>  <p>VARIATION SWITCHES</p> 	<p>(1) When you want stocking stitch between 2 rows of 1 x 1 tuck stitch.</p> <p>* Don't repeat the 1 x 1 tuck stitch more than 4 times, or have more than 4 stocking stitches between the 1 x 1 tuck stitches.</p>  <p style="text-align: center;">4 tuck stitches 4 stocking stitches</p> <p>This gives a seersucker effect.</p> <p>(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.</p> 
<p>PLATED TUCK STITCH PATTERN</p> <p><input type="checkbox"/> Tuck Stitch</p>	<p>You can't have two tuck stitches together.</p> 	<p>You can only pull up the stitch one row.</p> 
<p>WEAVING PATTERN</p> <p><input checked="" type="checkbox"/> Knit on 2 needles selected to D position</p>	<p>Don't weave the yarn more than five stitches.</p> <p>5 stitches</p> 	
<p>THREAD LACE PATTERN</p> <p><input checked="" type="checkbox"/> Knit on 2 needles selected to D position</p>	<p>Don't select more than 5 needles to D position.</p> <p>5 stitches</p> 	
<p>LACE PATTERN RVC LACE PATTERN</p> <p><input checked="" type="checkbox"/> Transferred Stitch</p>	<p>You can't transfer two stitches together.</p> 	<p>Don't try to transfer the same stitch over more than one row.</p>  <p>Don't try to transfer 2 stitches diagonally.</p> 
<p>KNIT-COLOUR RIB</p>	<p>Multi Coloured Rib. - (Jacquard) this type of work is achieved by using a ribbing attachment and colour changer with your machine. By pushing up the KRC No. 7, button you can use ordinary single bed fairisle designs. When programming use even row patterns so that your carriage is on the correct side of your machine to pick up the yarn for the colour changer.</p>	

HOW TO USE L WINDOW AND MEMO WINDOW ... TO KNOW TIME OF CHANGING YARN

- Time of changing yarn depends on pattern variation.



- (1) When Pattern variation switches No. 4, 5 and 7 are in the lower position, ...



- Mark on the memo window as shown in chart 1.
Mark the same graduation as pattern graduation where you want to change the yarn. (For example, if you want to change a yarn from the 11th row of pattern, mark in the 11th of memo window.)
- While knitting, change the yarn when the mark in the memo window comes to the card inlet.

- (2) When using the pattern variation switch No. 7 (KRC) ...



- Mark on the memo window as shown in the chart 2.
- Check the memo window when the carriage comes to the side of the colour changer.
Knit with main yarn when there is no mark in the memo window at the card inlet.
Knit with contrast colour when there is mark in the memo window at the card inlet.

- (3) When using the pattern variation switch No. 4 (Double Length) ...



- Fill in the L window according to the colour of contrast yarns as shown in the chart 3.
(It is convenient to use a colour pencils.)

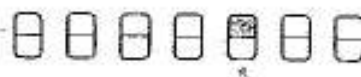
① In case of changing a yarn at the right

- Place the K-Carriage at the left side of the machine.
Push the CF key and operate the K-Carriage from left to right to select the needles.
- Thread the contrast colour yarn according to the L window into the yarn feeder and start the pattern knitting.
- Check the color of L window when the K-Carriage comes to the right side, change the contrast colour yarn according to the colour of L window.

② In case of changing a yarn at the left (using colour changer)

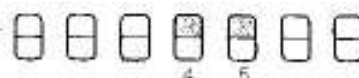
- Operate the K-Carriage from right to left to select the needles.
- Thread the contrast colour yarn according to the L window into the yarn feeder and start the pattern knitting.
- Check the colour of L window when the K-Carriage comes to the left side, change the contrast colour yarn according to the colour of L window.

(4) When using the pattern variation switch No. 5 (Reflection)



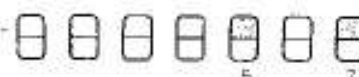
- Fill in the L window according to the colour of contrast colour yarn as shown in the chart 3.
- A mark of L window is ahead one by one.
Knit another row after changing the colour of the L window at the card inlet, and change the yarn.
- In case of using the pattern variation switch No. 5, the side of changing yarn depends on the direction (the side is opposite). Because the point of contact between patterns is overlapped for one row.
 - *When the direction turns up, change the yarn at the right.
 - *When the direction turns down, change the yarn at the left.

(5) When using the pattern variation switch No. 4 (Double Length) and No. 5 (Reflection)



- Do the same way as (3) on page 167.
- Even the direction turns, change the yarn at the same side.

(6) When using the pattern variation switch No. 5 (Reflection) and No. 7 (KRC)



- Mark on the memo window as shown in the chart 2.
- Do the same way as (2) on page 167.
 - ① In case of starting to knit a pattern up
 - When the direction turns down, the time of changing yarn lags one row.
Change the yarn at the right.
 - ② In case of starting to knit a pattern down
 - When there is a mark in the memo window, knit with main yarn.
When there is no mark in the memo window, knit with contrast colour yarn.
 - Change the yarn at the next row which the mark passed. It means the first row without the mark.
For example, when 18th row of memo window comes to the card inlet, change the yarn and knit 2 rows.
You can knit the 20th, 19th rows of the pattern.
 - When the direction turns up, the time of changing yarn lags one row.
Change the yarn at the right.

(7) When using the pattern variation switch No. 4 (Double Length) and No. 7 (KRC)



- Fill in the L window according to the colour of contrast yarn as shown in the chart 3.
- Change the yarn at the left every two rows operation of the K-Carriage regardless of L window.
- Make sure of the L window when change the main yarn to the contrast yarn and knit according to the L window at the card inlet.

(8) When using the pattern variation switch No. 4 (Double Length), No. 5 (Reflection) and No. 7 (KRC).



- Do the same way as (7) on this page.

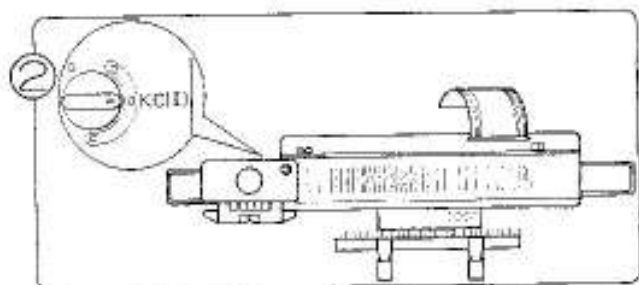
PATTERN KNITTING AND MOVEMENT OF PATTERN CARD

While knitting the pattern card is fed by the movement of the K-Carriage or the Lace-Carriage.
The movement of the pattern card changes when the No's 4, 5 or 7 pattern variation switch is in the upper position.

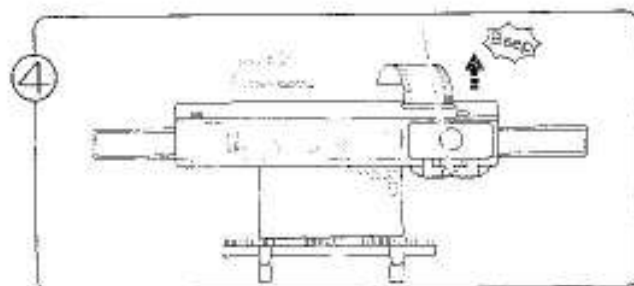
● Pattern knitting with the K-Carriage



Ex. When the Double Length (No. 4), the Reflection (No. 5) and the KRC (No. 7) switches are set at the lower position.



Set the change knob to KC (I) or (II), move the K-Carriage to the other side across to the turn mark to select the needles. At this time, the pattern card does not feed.



At the row before the last row of pattern, the pattern card is automatically returned to the one row below the starting row of pattern with the sound 'beep'.

*When you hear the 'beep' to tell you the card is returning, SLOW DOWN. Allow the card to return to the start line before knitting the last row of your pattern.

You have now knitted one complete pattern.

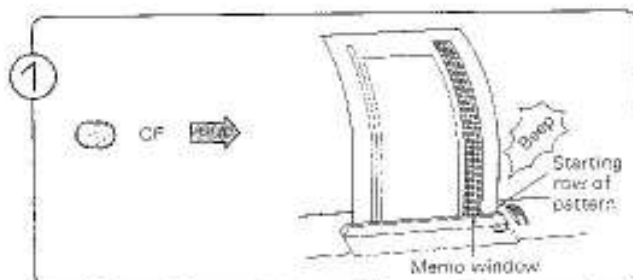
When you want to knit the sequel of the pattern after taking out the pattern card

*To take out the pattern card. (Do not press RR.):

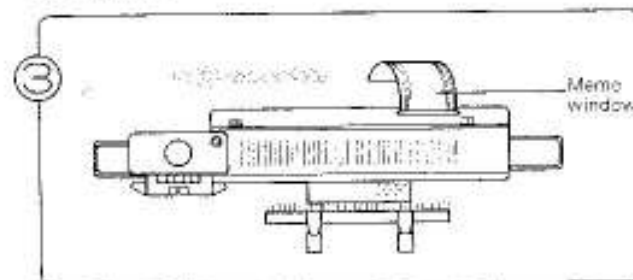
1. Turn off the power switch.
2. Take out the pattern card manually, by turning the card Feeding Dial back.

*To start knitting again:

1. Insert the pattern card. Turn the card Feeding Dial and set the card on the first row in the L window.
2. Turn on the power switch.
3. Enter the number '1' and push the RR key. The card returns to the correct position for you to start knitting again.

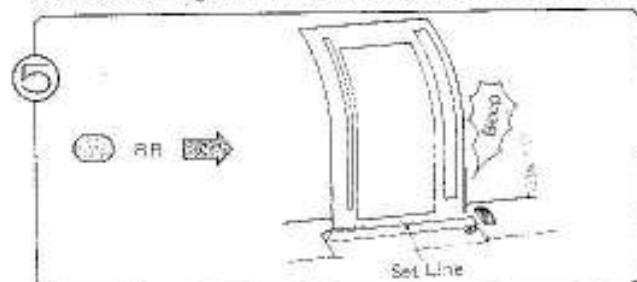


Push the CF key after finishing the pattern programming. The computer reads all pattern area which is programmed and the card is fed to the starting position of pattern. The starting row of the pattern on the memo window comes to the card inlet.






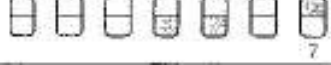
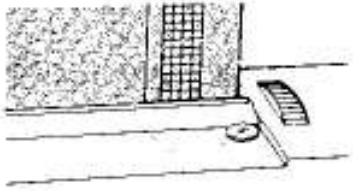




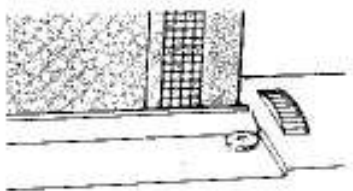
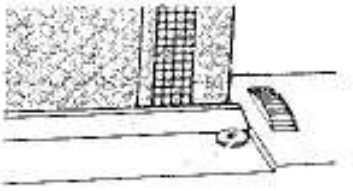
Check the Memo window of the pattern card before moving the K-Carriage. Set the K-Carriage according to the pattern and thread the yarn into the feeder. Then continue knitting. As the carriage turns the pattern card is fed one row forward, the K-Carriage must pass the centre of the machine G1 needle, on every row.

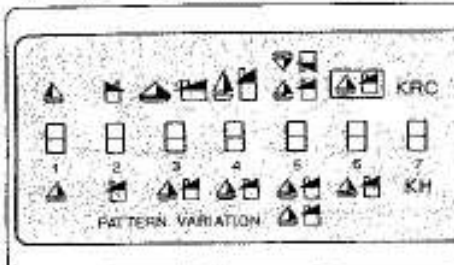
The row number in the Memo window at the card inlet is the next knitting row. (The needle selection has been made.)



Push the RR (Roll Return) key after finishing the pattern knitting, the pattern card returns to the set line.

- The movement of the pattern card when using the Double Length (No. 4), the Reflection (No. 5) the KRC (No. 7) variation switches.

Condition of variation switches	The row number of memo window at the card inlet when pushing the CF key	The movement of pattern card while pattern knitting
<p>Double Length Upper Position</p>  <p>Double Length Reflection Upper Position</p>  <p>Reflection KRC ... Upper position</p>  <p>KRC Upper Position</p> 	<p>One row below the starting row of the pattern</p> 	<p>The movement of the pattern card while pattern knitting</p> <p>Two rows operation of the K-Carriage equal one complete row of the pattern.</p> <p>The pattern card is fed one row forward at every other row of the K-Carriage operation.</p> <p>After the first row's needle selection the pattern card is fed one row forward when changing direction of the K-Carriage.</p> <p>After that, the pattern card is fed one row of the K-Carriage operation.</p>
<p>Double Length Reflection KRC Upper Position</p>  <p>Double Length KRC Upper Position</p> 	<p>One row below the starting row of the pattern</p> 	<p>Four rows operation of the K-Carriage equals one row of patterning.</p> <p>Four rows operation of the K-Carriage equals one complete row of pattern.</p> <p>The pattern card is fed one row forward at every fourth row of the K-Carriage operation.</p> <p>After the first row's needle selection, the card is fed one row forward, at the third row of the K-Carriage operation.</p> <p>After that, the pattern card is fed one row forward at every fourth row of the K-Carriage operation.</p>
<p>Reflection Upper Position</p> 	<p>When knitting the pattern from the bottom to top. Starting row of pattern.</p>  <p>When knitting the pattern from top to bottom. (Enter the last (top) row of the pattern and push the CF key.) Two rows below the starting row of the pattern.</p> 	<p>After the first row's needle selection, the pattern card is fed one row at every row of the K-Carriage operation.</p>



This section deals with the pattern variation switches which you will find on the left of the computer panel.

There are seven in all, each button is numbered and illustrated to help you remember their function.

The pictures below the switches relate to the original pattern, the picture above the switch indicates how the pattern is changed when that switch is used.

These switches give you the freedom to change your pattern without having to reprogramme, and will work on all your patterns from the Stitch World Book and your own designs from the mylar sheets.

The selected pattern is varied with these switches, you can have fun making lots of different pattern combinations with them. The patterns change when the variation switches are set to the upper positions. Set the pattern variation switches while the ready lamp is lit, or if you want to change a pattern while knitting. (See page 87.)

① PATTERN A REVERSE (No. 1 SWITCH)



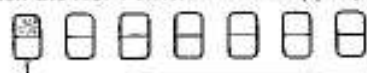
• The direction of the Pattern A is changed.

• When the No. 1 switch is set at lower position.

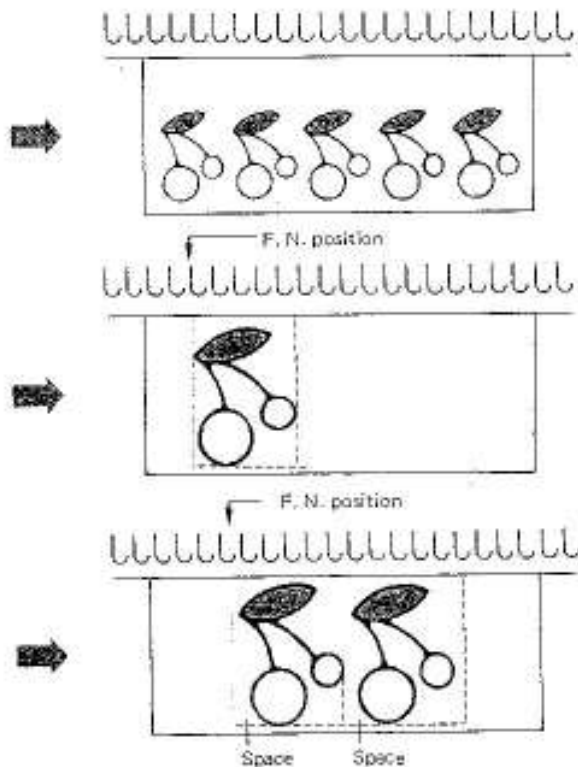
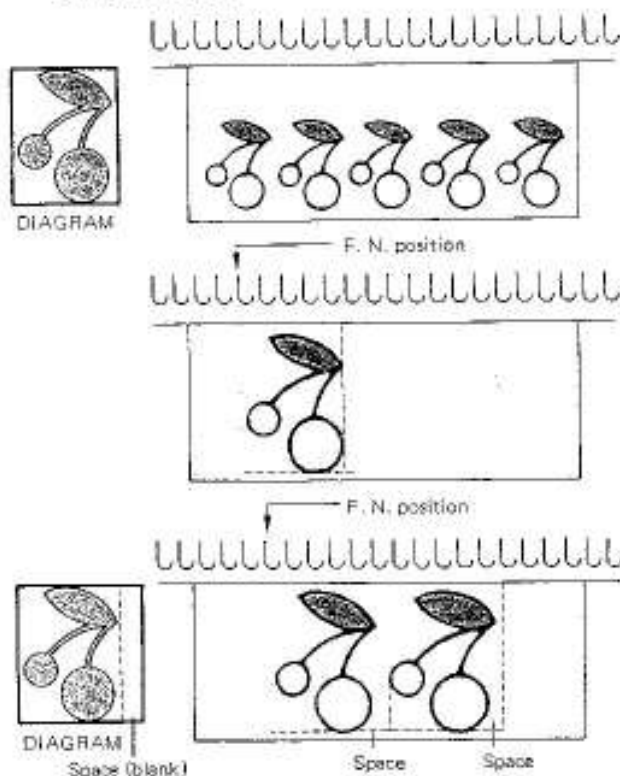


• The pattern made on your knitting (as seen from the purl side) is in the same direction as the diagram on "STITCH WORLD".

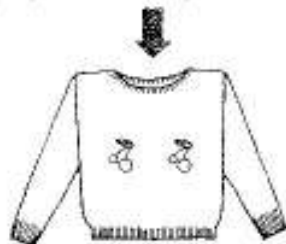
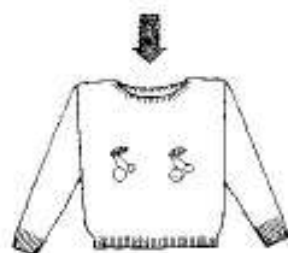
• When the No. 1 switch is set at upper position.



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

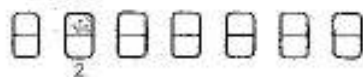


* In this case, the right end of selected pattern will appear on the F.N. position of pattern. When selecting of pattern with same spaces (blanks), the pattern will be started from the space (blank).



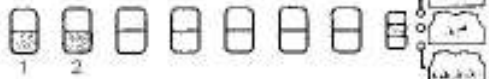
REMEMBER: The pattern direction is different when you view it from the plain side and purl side.

② PATTERN B REVERSE (No. 2 SWITCH)



- The direction of the Pattern B is changed.
- This No. 2 switch works only when the pattern selector switch is setting at the middle position.

- When the No. 1 and No. 2 switches are set at the lower position.



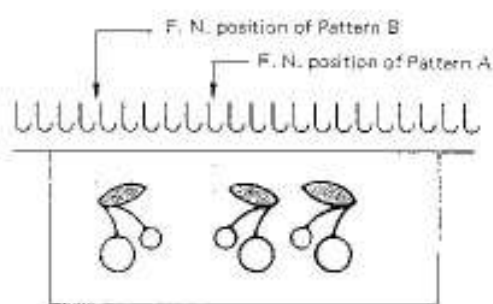
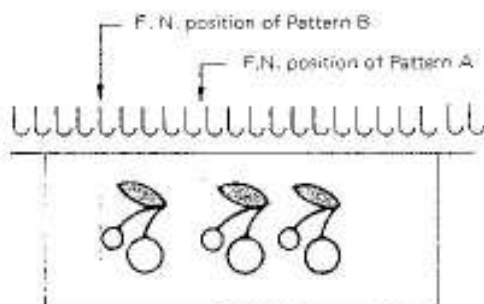
- When the No. 2 switch is set at the upper position



- The direction of the Pattern B is changed.



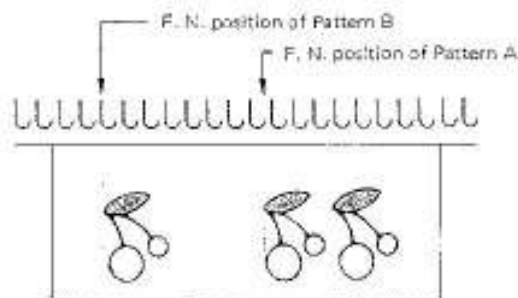
DIAGRAM



- When the No. 1 and No. 2 switches are set at the upper position.



- The direction of both Pattern A and B are changed.



By using "A" and "B" pattern selector switch together with No. 1 and No. 2 variation switches you can change the direction after knitting each pattern repeat if you wish.

You can also reflect a pattern sideways by drawing half a symmetrical pattern, for example if you draw half a butterfly and programmed it as the "A" pattern, then programme it again as the "B" pattern, place it beside your "A" pattern on your knitting, by putting up the number 2 switch you will get a complete butterfly.

③ DOUBLE WIDTH (No. 3 SWITCH)



• The pattern is knitted in Double Width.

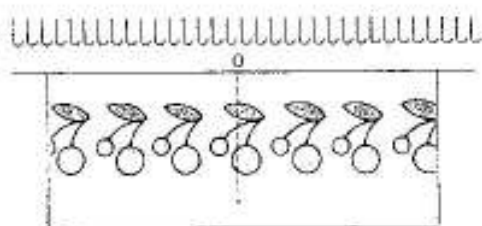


In case of an all-over patterning

• When the No. 3 switch is set at the lower position



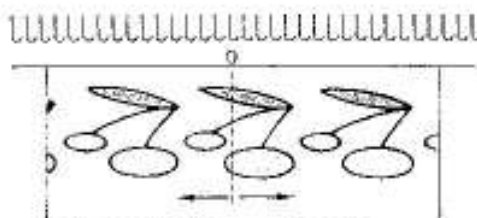
① Using the MODE No. 990 -----



• When the No. 3 switch is set at the upper position

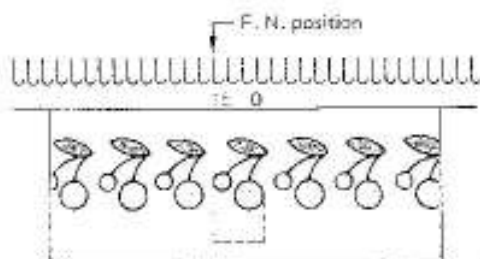


• Pattern position automatically placed by the computer.

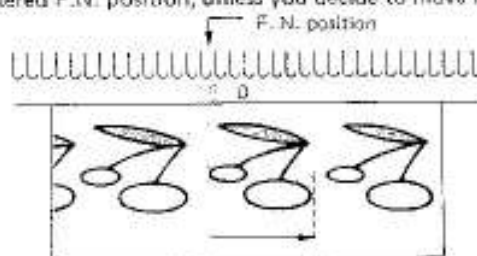


The centre of the pattern is placed at the centre the needle-bed.

② Using the MODE No. 999 -----



• The Double Length pattern is placed to the right of the entered F.N. position, unless you decide to move it.



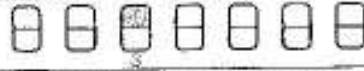
In case of Pattern A or A + B

*When used with pattern programme A+B switch 3 doubles the width of both patterns.

• When the No. 3 switch is set at the lower position

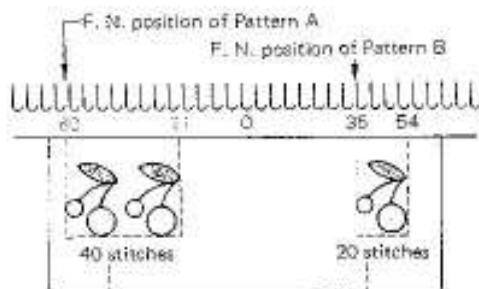


• When the No. 3 switch is set at the upper position



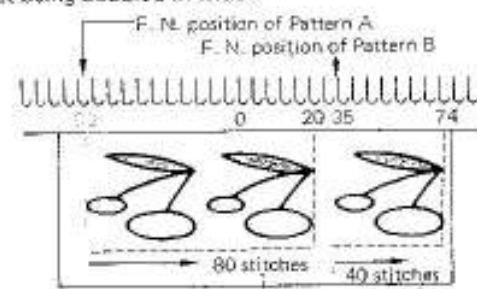
The doubled width pattern is placed to the right of the F.N. position.

Take care when entering the pattern width to allow for the repeat being doubled in width.



Pattern width of A
2x repeat 40 stitches

Pattern width of B
1 repeat 20 stitches



Pattern width of A doubled
2 repeats x2 widths = 80 stitches

Pattern width of B doubled
1 repeat x2 widths = 40 stitches

Please remember to give the computer twice the amount of stitches to knit your pattern over when using the No. 3 Double Width button with "A" or "A" and "B" patterns, or you will not get only half a pattern.

④ DOUBLE LENGTH (No. 4 SWITCH)



• The pattern is knitted in Double Length.

• In the case of all over patterning

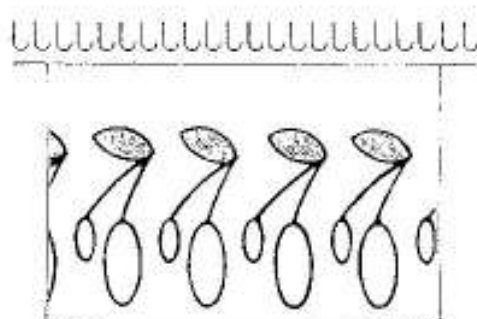
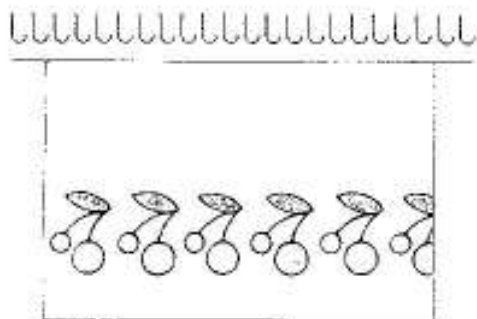
• When the No. 4 switch is set at the lower position,



• When the No. 4 switch is set at the upper position,



• Pattern position automatically placed by the computer.



• In the case of Pattern A and Pattern A + B

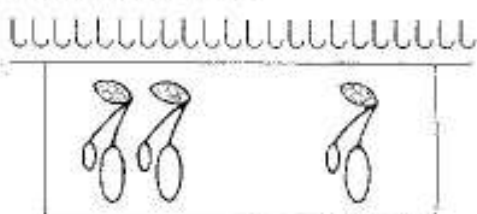
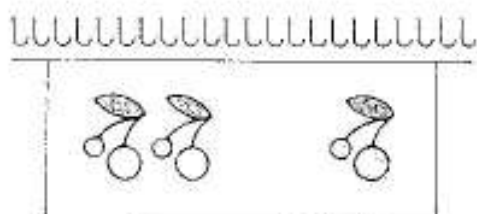
• When the No. 4 switch is set at the lower position,



• When the No. 4 switch is set at the upper position,



• When knitting the Pattern A + B, both Pattern A and B are knitted in Double Length.

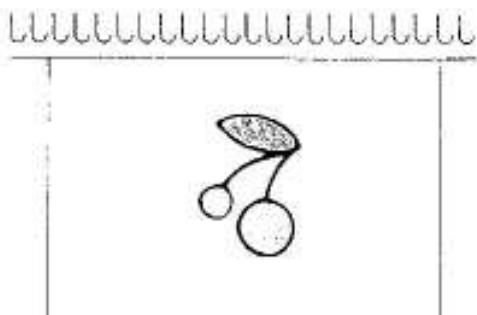


(APPLICATION)

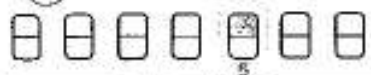
• When both the No. 3 and No. 4 switches are set at the upper position,



• The pattern is knitted in Double Width and Double Length.



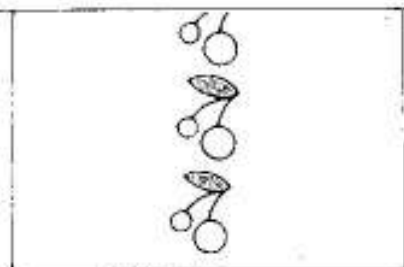
⑤ REFLECTION (No. 5 SWITCH)



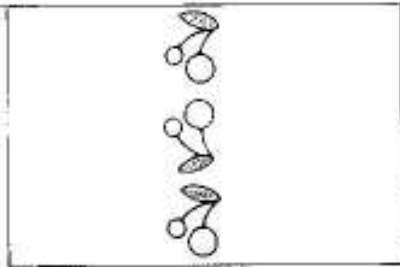
- The pattern is knitted the right way up, then upside down.

- When using MODE 990, the following applies.

- When the No. 5 switch is set at the lower position.



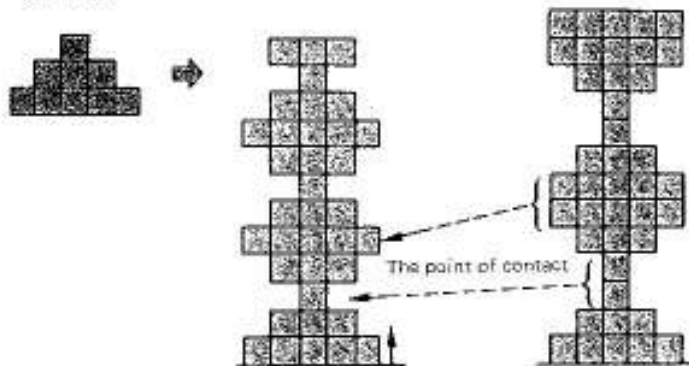
- When the No. 5 switch is set at the upper position.



*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.

NOTE

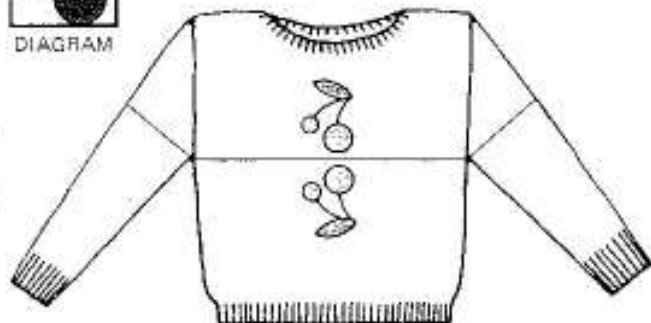
The point of contact between patterns is overlapped for one row.



- How to knit the pattern from the last (top) row.



DIAGRAM



Pattern program

- MODE NO. 990



PATTERN NO.

100

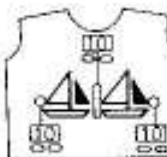
100

100

100

100

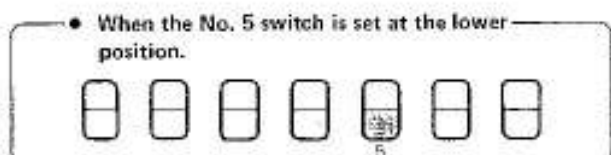
100



1. Program the pattern as above.
2. Enter the number of last (top) row of pattern and push the CF key.

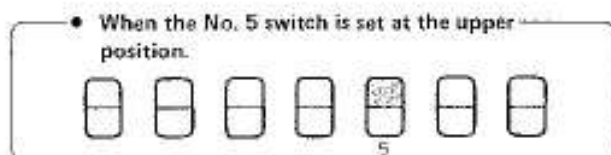
4 0 CF

- When using MODE 999 with switch No. 5.
In this case the computer will knit the pattern upside down all the time.



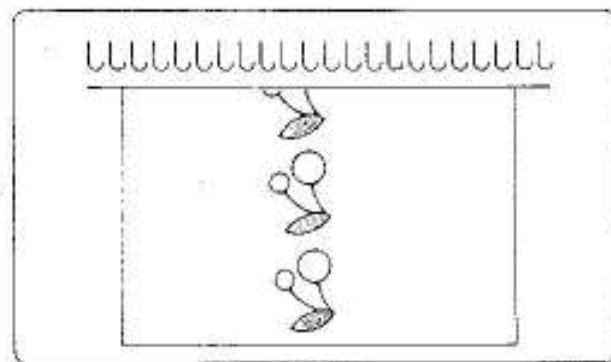
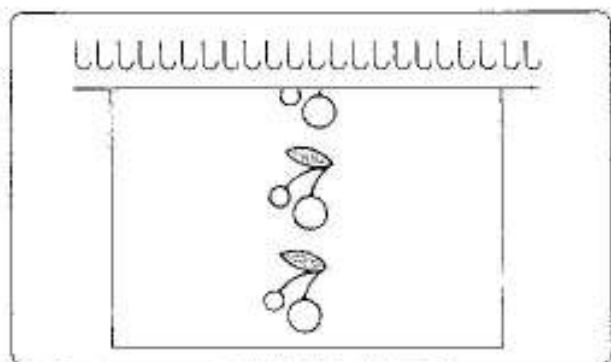
DIAGRAM

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

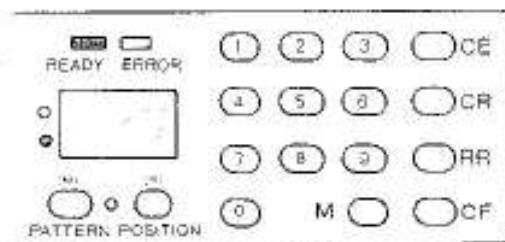
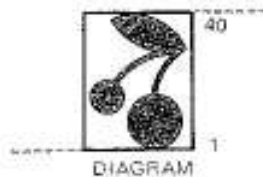
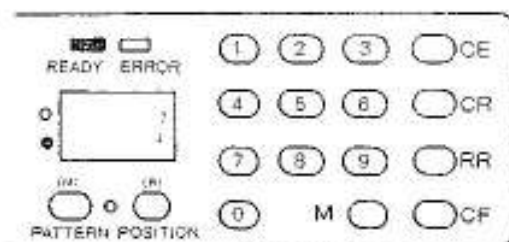


DIAGRAM

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



- When push the CF key after finishing the pattern programming, the display shows (1) as the first knitting row of pattern.
- When push the CF key after finishing the pattern programming, the display shows (40) as the first knitting row of pattern.



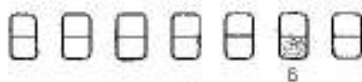
This facility applies to all types of pattern, both memorised and patterns taken from your Mylar sheets.

⑥ NEGATIVE (No. 6 SWITCH)



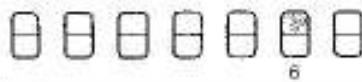
- The pattern is knitted in negative.

- When the No. 6 switch is set at the lower position.



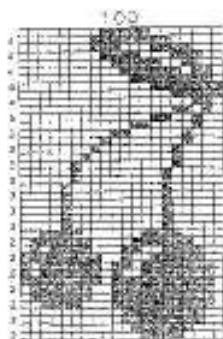
- Needles corresponding to the black square (■) in the diagrams on "STITCH WORLD" are selected to D position, and the other needles remain in B position.

- When the No. 6 switch is set at the upper position.

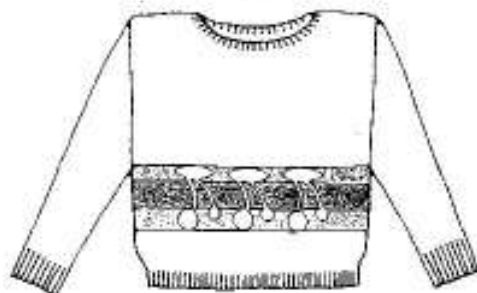
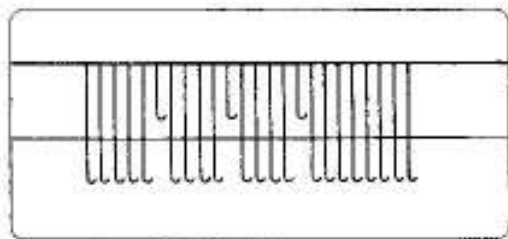
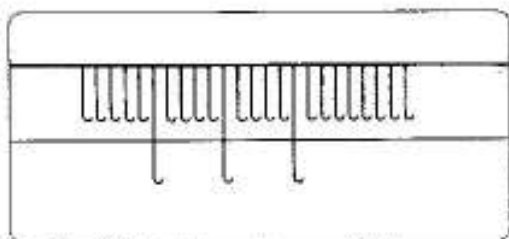


- Needles corresponding to the black square (■) in the diagrams on "STITCH WORLD" remain at B position and the other needles are selected to D position.

This also applies to the black squares you have drawn when using a mylar sheet.



DIAGRAM

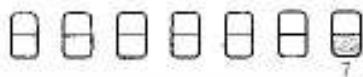


⑦ KRC (No. 7 SWITCH)



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

- When the No. 7 switch is set at the lower position.



- When the No. 7 switch is set at the upper position.

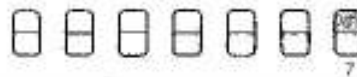
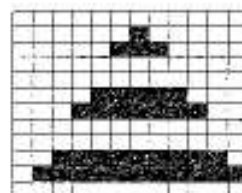


Chart for single bed Fairisle Pattern



■ C-Knitted with Contrast Yarn
□ M-Knitted with Main Yarn

One Sequence

Chart for Multi-colour Rib Pattern

In Multi-colour Rib Pattern, the main yarn and contrast yarn are knitted separately. 4 rows of knitting makes 2 rows of pattern.

* For further information on Multicolour rib patterns please turn to the section headed Double Bed Colour Changer, Page 138.

LIST OF PATTERN VARIATION COMBINATIONS (UPPER POSITION)

Where pattern variation stitches can be used with the respective stitch type, the square is marked with ✓.

Patterns Variation	Fairisle pattern	Tuck Stitch pattern	Skip Stitch pattern	Weaving pattern	Thread Lace pattern	Plating – tuck stitch pattern	Multi-colour Rib pattern
1 Pattern A Reverse	✓	✓	✓	✓	✓	✓	✓
2 Pattern B Reverse	✓	✓	✓	✓	✓	✓	✓
3 Double Width	✓	—	—	✓ *3	✓ *3	—	✓
4 Double Length	✓	✓ *1	✓	✓	—	—	—
5 Reflection	✓	✓	✓	✓	✓	—	✓
6 Negative	✓	— *2	— *2	✓	—	— *2	✓
7 KRC	—	—	—	—	—	—	✓ *4

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

*1 – Do not use the double length switch when the pattern tucks over three or more rows.

*2 – When knitting the tuck stitch, plated tuck stitch and skip stitch pattern from "STITCH WORLD", set the No. 6 (KHC) switch at the lower position.

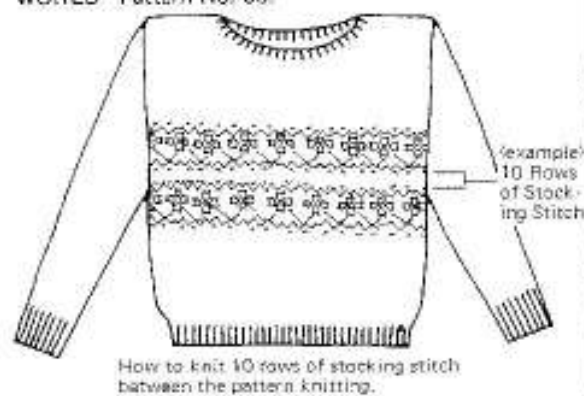
*3 – Do not use the No. 3 (Double Width) switch for patterns which have more than 3 selected needles next to each other. (See page 70, under weaving and thread lace pattern)

*4 – Always use the No. 7 (KRC) switch when you knit multi-colour rib.

HOW TO KNIT SEVERAL ROWS OF STOCKING STITCH BETWEEN PATTERN KNITTING

Ex.

This fairisle example was knitted using "STITCH WORLD" Pattern No. 60.



- To knit plain rows when using your own design on a mylar sheet:

Example 1. Programme one empty row at the top of your pattern. Before you knit this row turn the change knob back to NL and take the contrast yarn out of the feeder. Knit 9 plain rows, before knitting the tenth turn the change knob back to KC. Make sure the carriage is outside the turn mark. Knit one row. The needles are selected for the first row of pattern.

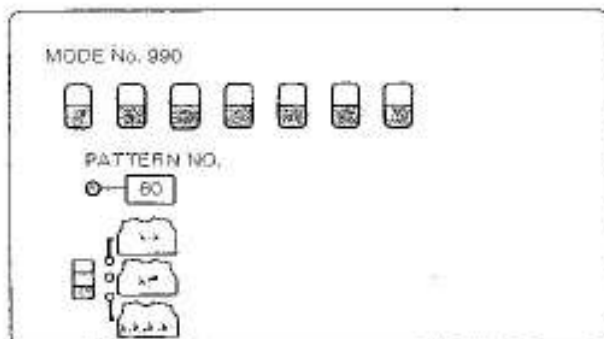
Push the MC button and thread the contrast yarn into Yarn Feeder "B". Now knit the second pattern.

Example 2. If there is no space to programme one empty row at the top of pattern knit until buzzer sounds. Then knit one more row.

Push the RR button for mylar sheet to return to set line. Turn the change knob back to NL and take out the contrast yarn. Knit 9 rows before knitting the tenth row push the CF button. The machine will then feed the pattern back to the beginning. Take the carriage outside the turn mark. Switch the change knob to KC and knit one row to select the needles. Push in the MC button and thread the contrast yarn into Feeder "B". Now knit the second pattern.

- How to knit

(1) Program the pattern as follows and knit the 1st pattern.



(2) Now set the Change Knob to N.L. Take the contrast yarn out of Yarn Feeder "B". Knit 9 rows of stocking stitch and place the K-Carriage outside the Turn Mark. The last (10th) row is the needle selection row for the first row of the next pattern.

(3) Check the information shown in the Display.

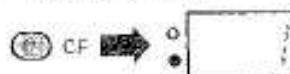
1)



This indicates the needle selection for the first row has been done.

* It means the needle selection for the 1st row of the second pattern has been done when knitting the last row of the first pattern.

2) Push the CF Key.



When pushing the CF key, the needle selection will be started from the 1st row of the pattern. The number in the display does not change.

(4) Make sure the K-Carriage is outside the Turn Mark. Now set the Change Knob to (I) and knit one row. The needles are selected for the first row of the next pattern.

(5) Push the MC Button and thread the contrast yarn into Yarn Feeder "B". Now knit the second pattern.

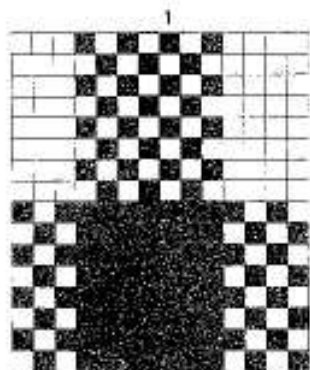
HOW TO BEGIN KNITTING MIDWAY THROUGH A PATTERN

Ex.

- The following example uses stitch design 1 from "STITCH WORLD".



Begin the pattern midway through a design.



Begin knitting the pattern from 11th row

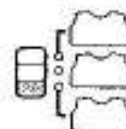
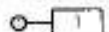
- Begin the pattern in different place so that the sleeves and body match.

Pattern program

- MODE NO. 990



PATTERN NO.



- Program the pattern as shown above.
(The ready lamp is lit.)
- Push the green key to show the row number in the display.



(Green key)

The display shows the number 1 or the next knitting row number of previous pattern.

- Enter the row number which you want to start and push the CF key.




Needle selection will start from 11th row of pattern.

Continue pattern knitting in normal way.

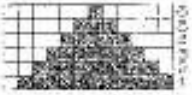
- When the double length, the reflection switch is set at the upper position.

(a)

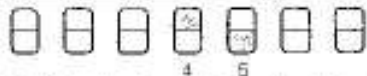


- When the double length, the reflection and the KRC switches are set at the lower position.

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




(b)




- When the double length switch is set at the upper position.

The same row is knitted twice with double length pattern.

Enter the row number which you want to start and push the CF key, the needle selection is started from the 1st row of double length pattern for the entered row.




(c)



- When the reflection switch is set at the upper position. The pattern programming is different when knitting the pattern from bottom to top to bottom.

1. When knitting the pattern from bottom to top.




1) Push the CF key.

2) Enter the row number which you want to start and push the CF key.

③ - CF

2. When knitting the pattern from top to bottom.



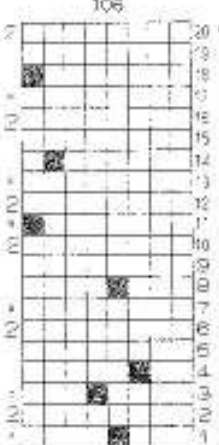
1) Enter the last (top) row of pattern and push the CF key.

⑥ - CF

2) Enter the row number which you want to start and push CF key.

③ - CF

- When working in Lace or Fine lace pattern, take care over 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 ...)

HOW TO CHANGE A VARIATION SWITCH WHILST YOU ARE KNITTING IN PATTERN

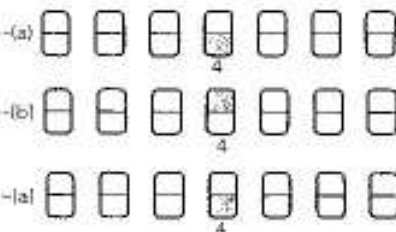
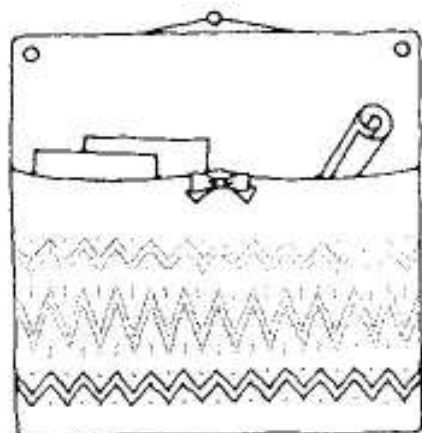


- Change the Variation Key one row before you want the pattern to be altered.
- Change the program in this way anywhere on the pattern to create different effects.

Ex.

Change the Double Length Key in the middle of the pattern as follows:

- This example was knitted using "STITCH WORLD" fairisle Pattern No. 73.



• How to knit

- (1) Program pattern (a) as follows:-

Pattern program

- MODE NO. 990



PATTERN NO.

73



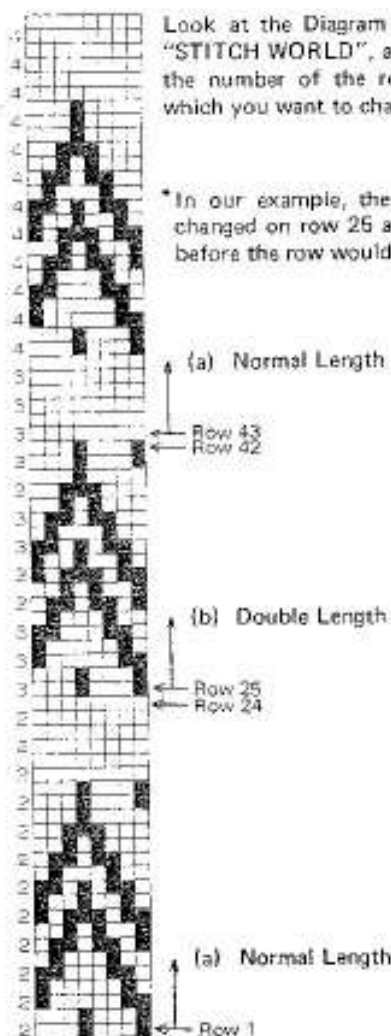
- (2) Push the Green key to change the indication on the Display into the row number.



(3)

Look at the Diagram for the pattern in "STITCH WORLD", and make a note of the number of the row before that on which you want to change the pattern.

- * In our example, the pattern would be changed on row 25 and 43, so one row before the row would be row 24 and 42.



- (4) Knit pattern (a) in fairisle.

Continue knitting until the memorized number row 24 appears in this display.



- (5) Now change the Double Length switch to the upper position.



- (6) When you operate the K-Carriage for the next row, the needles are selected for the first row of pattern (b). (Double Length). Change the contrast yarn for the No.3 and continue knitting until the memorized number row 42 appears in the display window.



Then operate the K-Carriage one more row.
The number in the display does not change.
It means the pattern (b) is knitted in double so the same row is knitted twice.

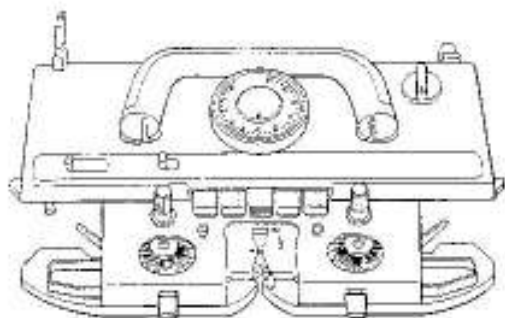
- (7) Now change the Double Length switch to the lower position.



- (8) When you operate the K-Carriage for the next row, the needles are selected for the first row of pattern (a). (Normal length pattern). Only both end needles are selected to D-position, because the first row of pattern (a) row 43, is blank in this example.

When the display shows the row number 49, change the contrast yarn to No. 4, and continue knitting.

PATTERN KNITTING



This section deals with the various stitches of which the machine is capable.

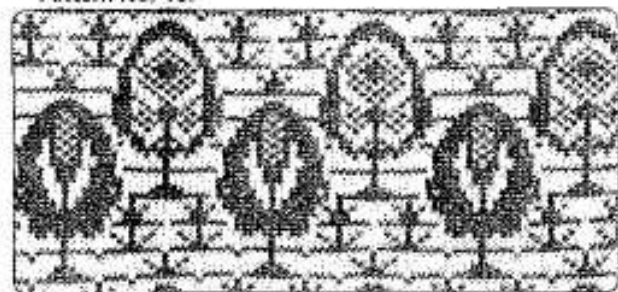
It explains how to achieve such patterns as Fairisle, Tuck stitch, Intarsia, Plating, Weaving, Skip stitch, and even various ways of making Lace and face effects.

This is the section where you find out what those mysterious buttons on the front of the carriage are for, and the other levers on the carriage and sinker plate.

FAIRISLE PATTERN

FULL PATTERN KNITTING

- This example was knitted using "STITCH WORLD" Pattern No. 19.



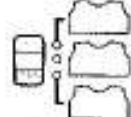
Ex. PATTERN PROGRAM

- MODE NO. 990

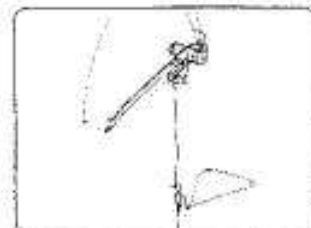


PATTERN NO.

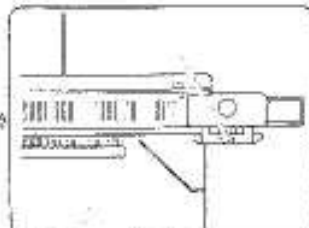
19



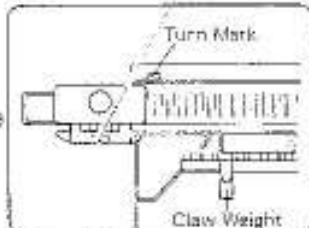
• BEFORE STARTING PATTERN KNITTING



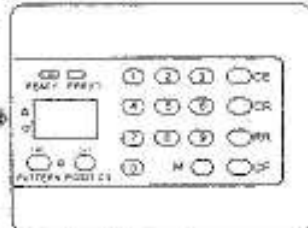
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.

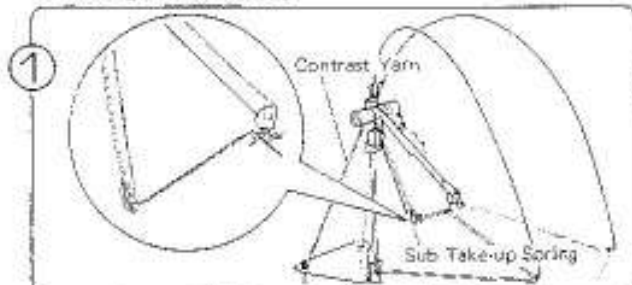


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.

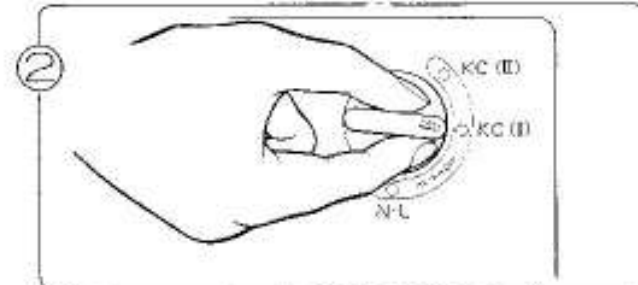


Program your pattern. (See page 29.)

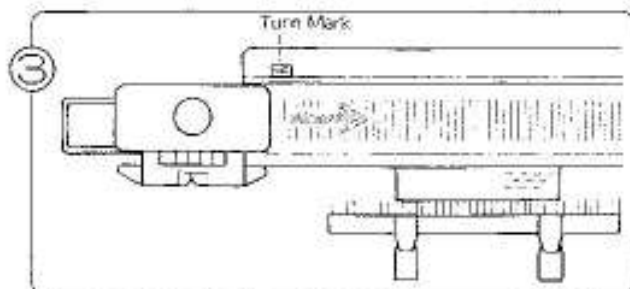
• PATTERN KNITTING



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

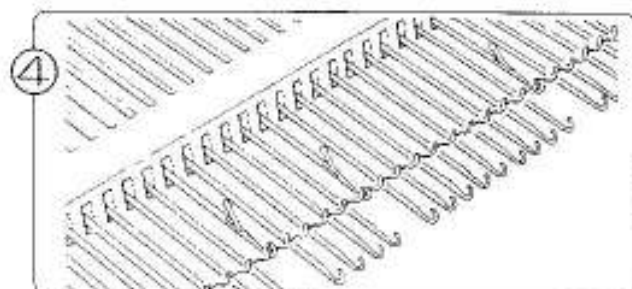


Set the Change Knob to KC (I).

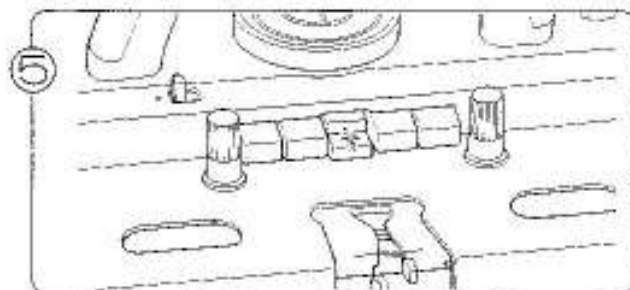


Move the K-Carriage from left to right across the left Turn Mark.

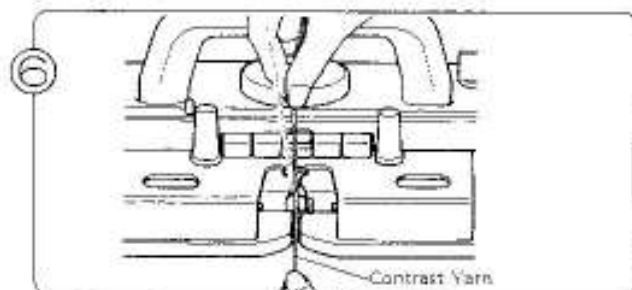
* You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



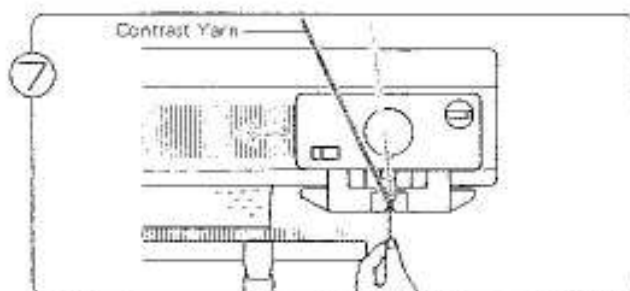
The needles are selected.



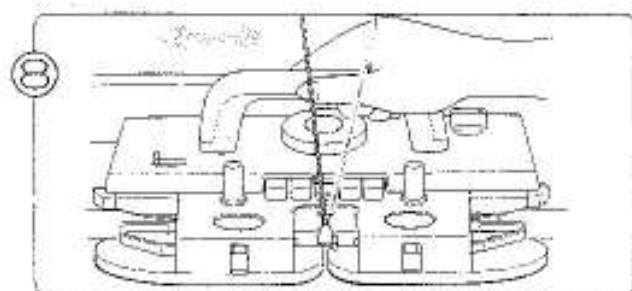
Push the upper MC Button.



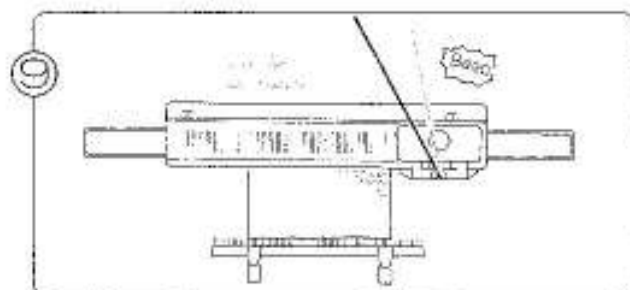
Thread the contrast yarn into Yarn Feeder "B" – there is no need to open the Yarn Feeder Lever when you do so.



Holding the yarn end with your left hand, move the K-Carriage from right to left.

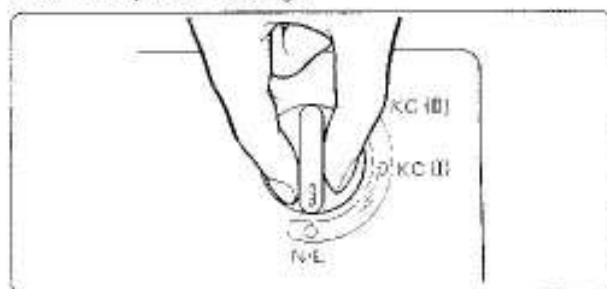


Move the K-Carriage to the right and then to the left. You are now knitting in Fairisle Pattern.



Knit the pattern till you hear the sound "beep".
Finish the row and knit one more row. You have now knitted one complete pattern length.

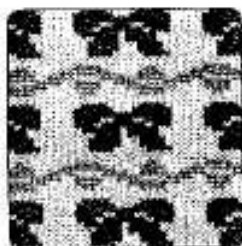
- You can either continue ... Repeat Steps ③-⑤.
- Or finish pattern knitting ...



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

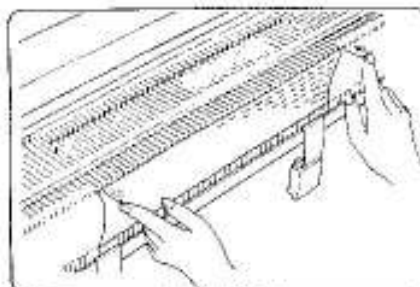
- While you are pattern knitting, take the K-Carriage past the centre of the machine (green needle 1) on every row. This informs the computer it needs to turn to the next row.
- If using one of the built in patterns from the Stitch World book, when you are using more than two colours in a pattern, change the information in the display window to the memo data by pushing the Yellow key and watch the number in the display and change yarns as it indicates as you knit the pattern.

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

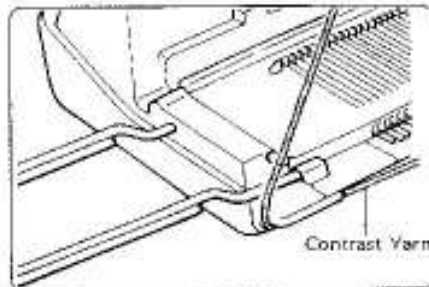


The end needles only will be selected to D position. When this happens, you should do the following:—

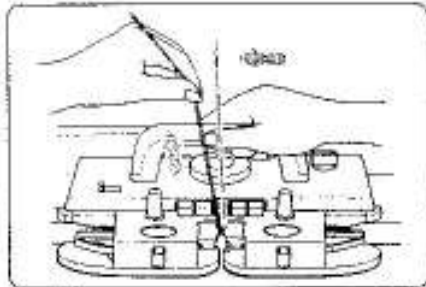
Example pattern 55 STITCH WORLD.



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 as shown so that no loops form at the edges.

PATTERN A

This example was knitted using "STITCH WORLD" Pattern No. 86.



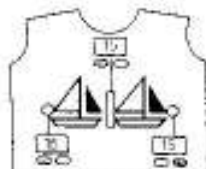
Ex. PATTERN PROGRAM

- MODE NO. 990

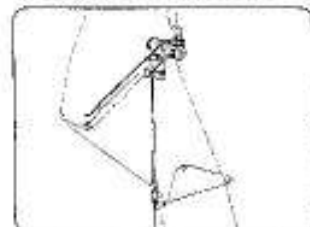


PATTERN NO.

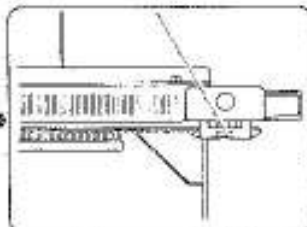
86



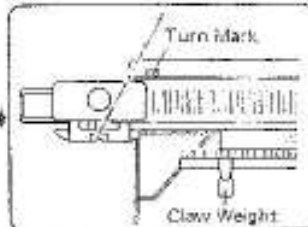
• BEFORE STARTING PATTERN KNITTING



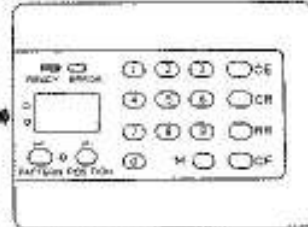
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.



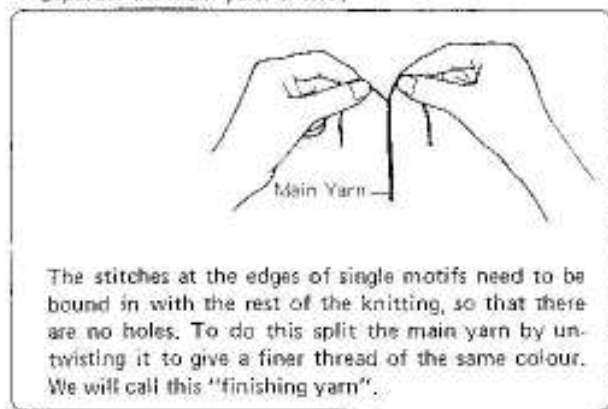
Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.



Program your pattern. (See page 39.)

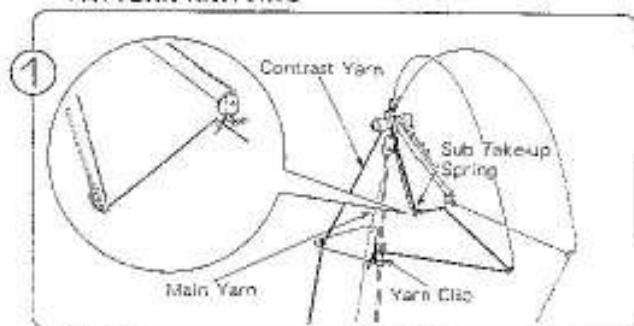
• **HOW TO KNIT SINGLE MOTIFS**

Separate the main yarn in two.

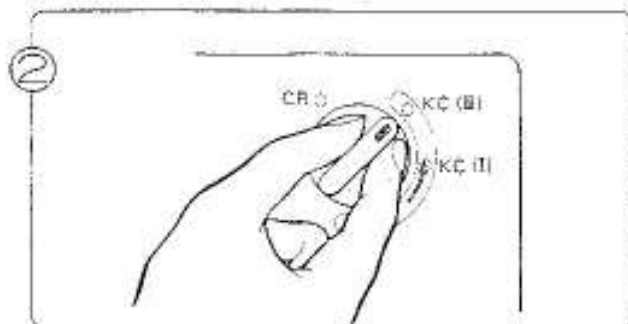


The stitches at the edges of single motifs need to be bound in with the rest of the knitting, so that there are no holes. To do this split the main yarn by un-twisting it to give a finer thread of the same colour. We will call this "finishing yarn".

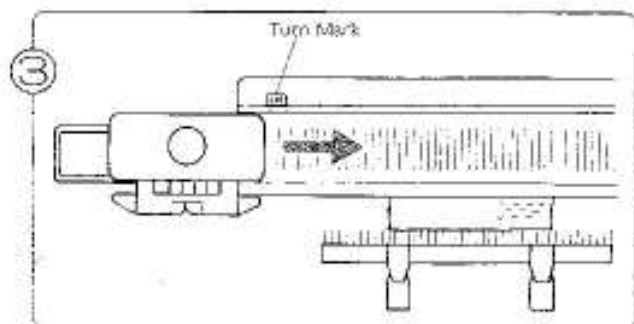
• **PATTERN KNITTING**



Thread the contrast yarn into the lefthand Yarn Tension Unit, including the Sub Take-up Spring.

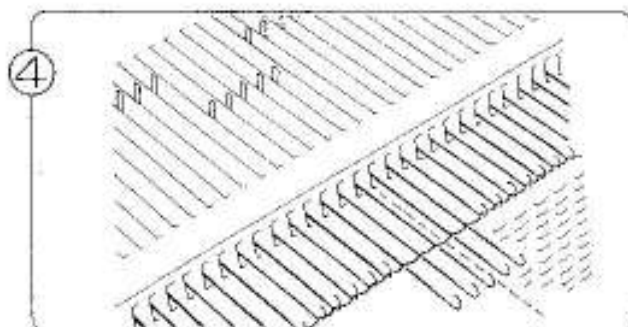


Set the Change Knob to KC (II).

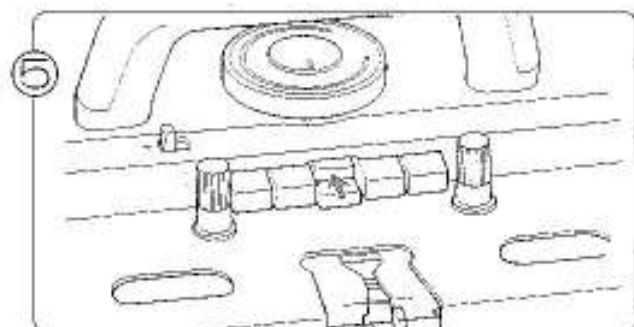


Move the K-Carriage from left to right across the left Turn Mark.

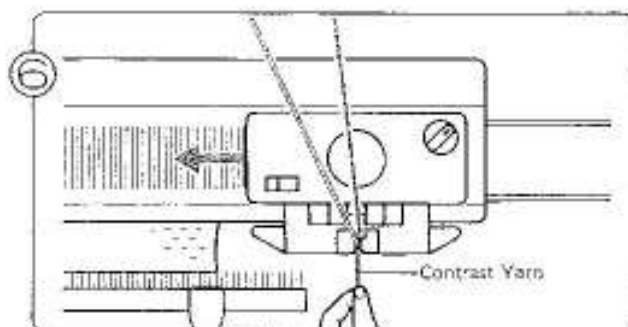
*You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



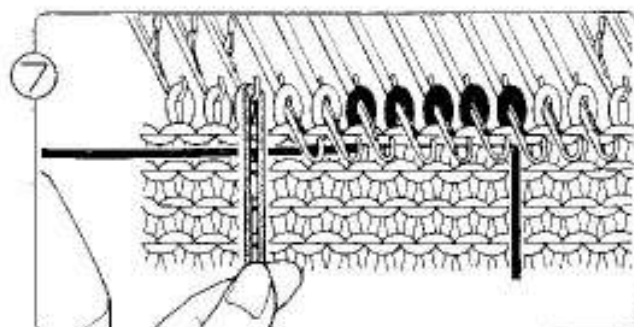
The needles are selected.



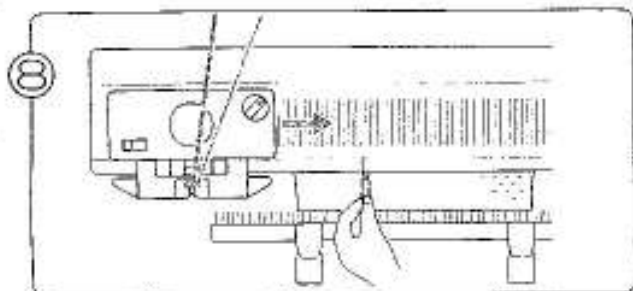
Push the upper MC Button.



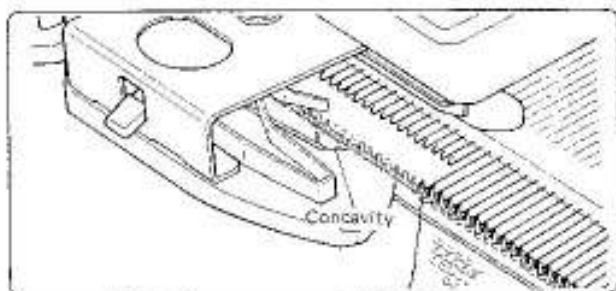
Thread the contrast yarn into Yarn Feeder "B" — there is no need to open the Yarn Feeder Lever when you do so. Move the K-Carriage from right to left.



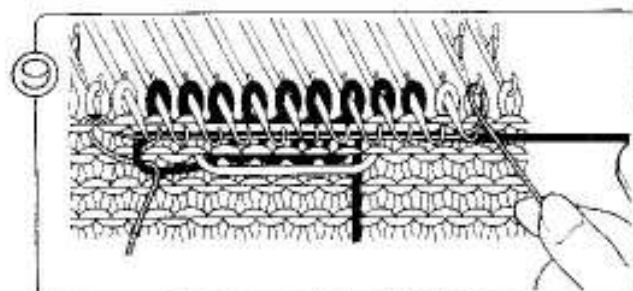
Fold a separate piece of "finishing yarn" in half and place it over the needle next to the last needle selected, on the left side of the pattern.



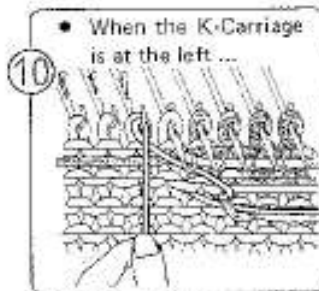
8 Holding the end of the finishing yarn, move the K-Carriage to the right.



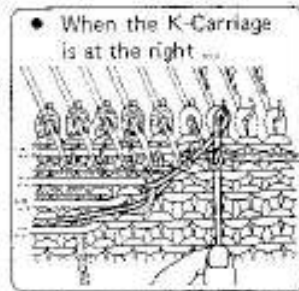
9 *Make sure the contrast yarn goes under the concavity in the Sinker Plate.



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

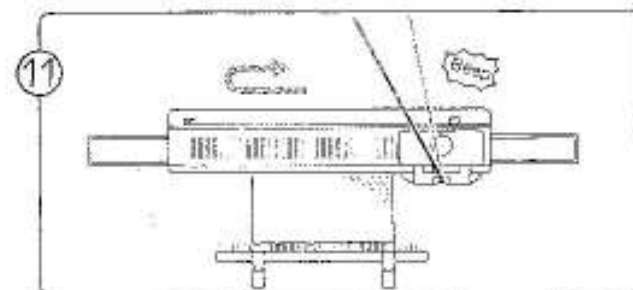


11 • When the K-Carriage is at the left ...

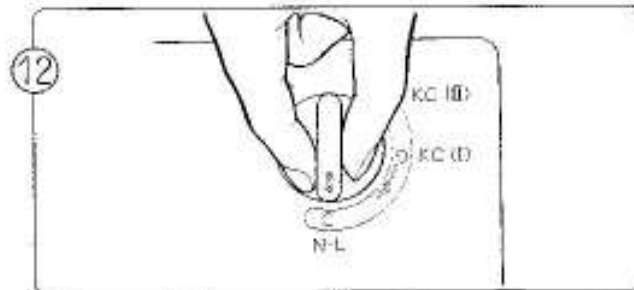


• When the K-Carriage is at the right ...

Wrap the finishing yarn around the back 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.



12 Knit the pattern until you hear the sound "beep" finish the row you are knitting and knit one more row.



Set the change knob to N-L. The cam button will be automatically released.

* Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row. This informs the computer it needs to turn to the next row.

* When your pattern requires more than two colours, change the indication in the display to the memo data by pushing the Yellow key and watch the number in the display and change the colours accordingly as you are knitting. (For patterns from *Stitch World Book*).

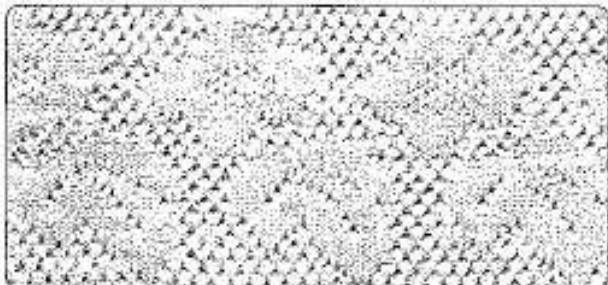
THREAD LACE PATTERN

FULL PATTERN KNITTING

You can obtain this pattern by using a combination of medium yarn and very fine yarn.

Use medium (or fine) yarn as the main yarn, and very fine yarn in a similar colour to the main yarn, for the contrast.

- This example was knitted using "STITCH WORLD" Pattern No. 397.



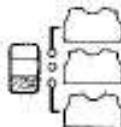
Ex. PATTERN PROGRAM

- MODE NO. 990

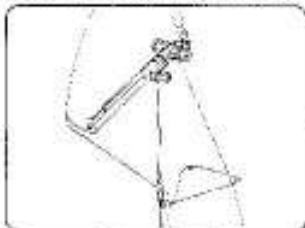


PATTERN NO.

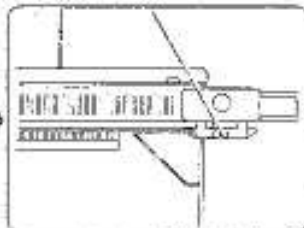
397



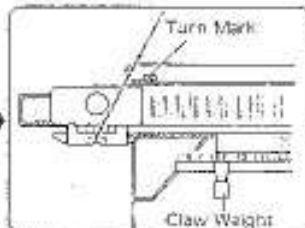
• BEFORE STARTING PATTERN KNITTING



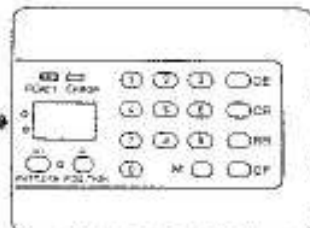
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.

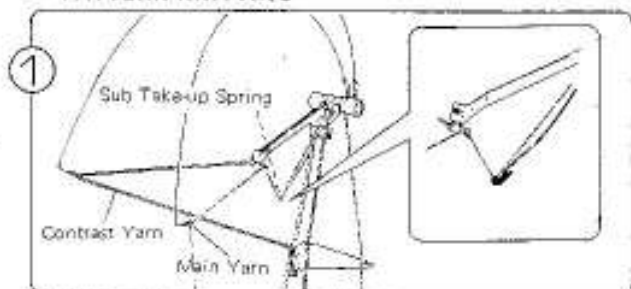


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hand the Claw Weight evenly along the Cast-on Comb.

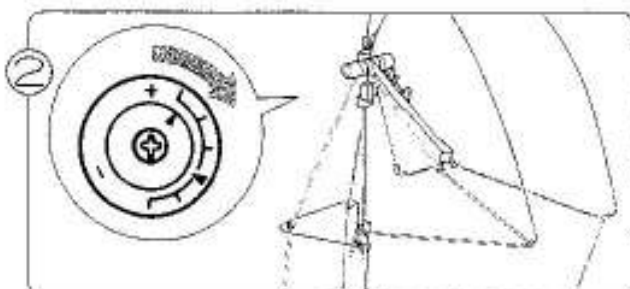


Program your pattern. (An example is given). (See page 29.)

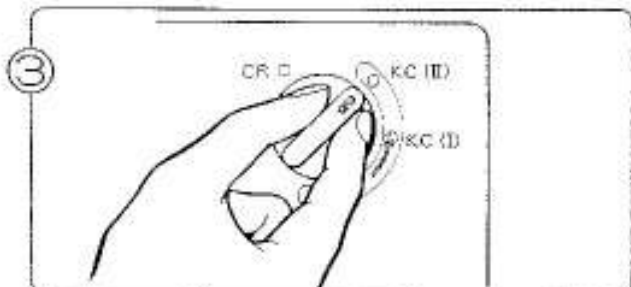
• PATTERN KNITTING



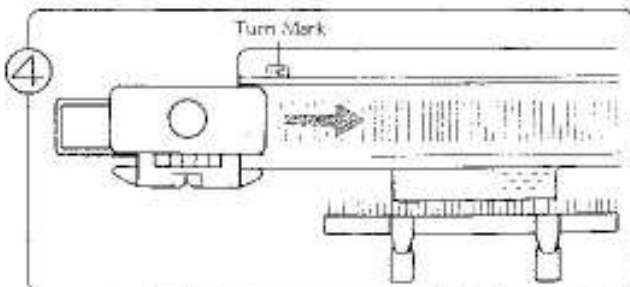
Thread the very fine contrast yarn into the lefthand Yarn Tension Unit. Thread the main yarn into the Sub Take-up Spring.



Adjust the Tension Disc to the thickness of the contrast yarn.

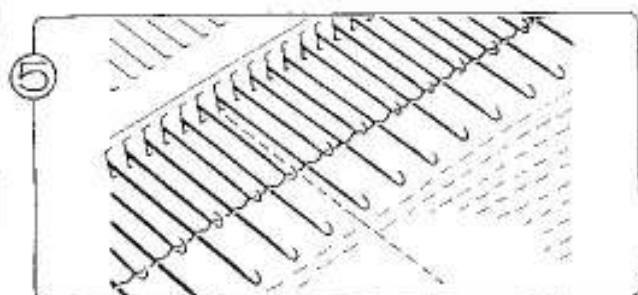


Set the Change Knob to KC (II).

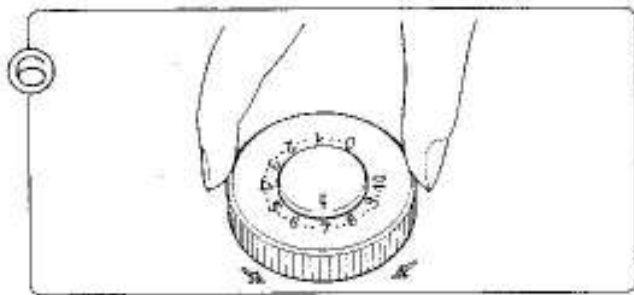


Move the K-Carriage from left to right across the left Turn Mark.

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



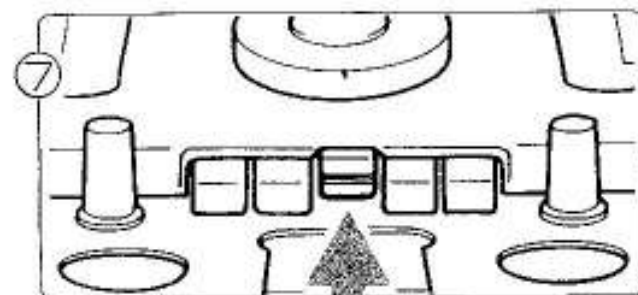
5 The needles are selected.



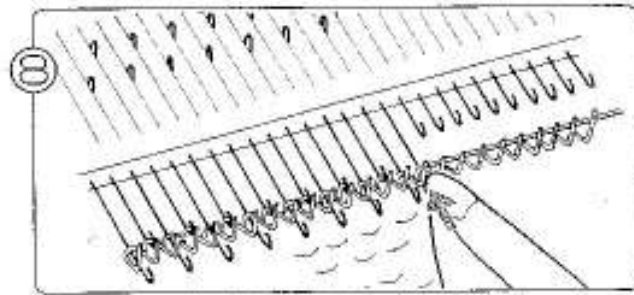
6 Set the Tension Dial using the Tension Chart on page as a guide.

APPROXIMATE TENSION CHART

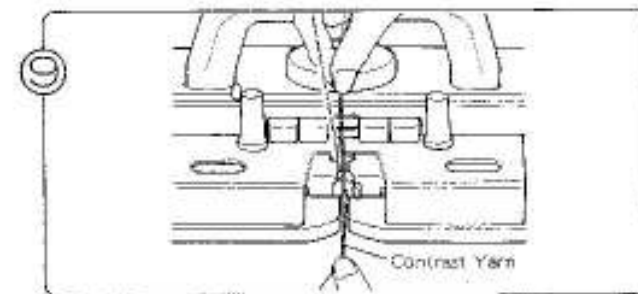
MAIN YARN	CONTRAST YARN	DIAL
Fine Yarn	Very fine yarn	4 - 9
Medium Yarn	Very fine yarn	6 - 9



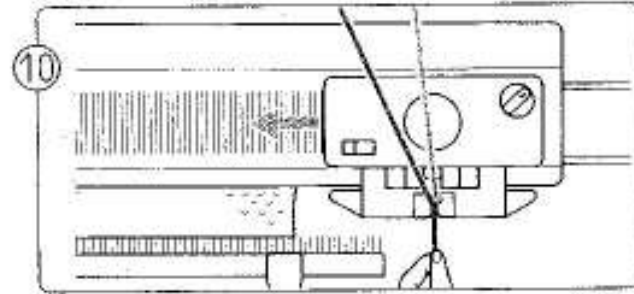
7 Push both upper and lower buttons (L) at the same time.



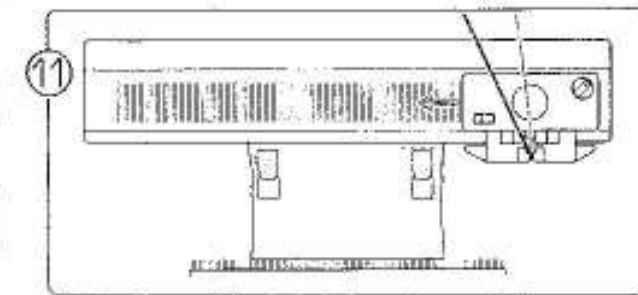
8 If an end needle is in D position, bring it back to B position.



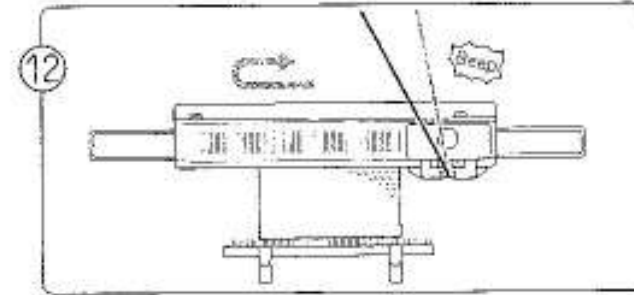
9 Thread the contrast yarn into Yarn Feeder "B" - there is no need to open the Yarn Feeder Lever when you do so.



10 Knit a row with the K-Carriage, at the same time holding the yarn end with your left hand.



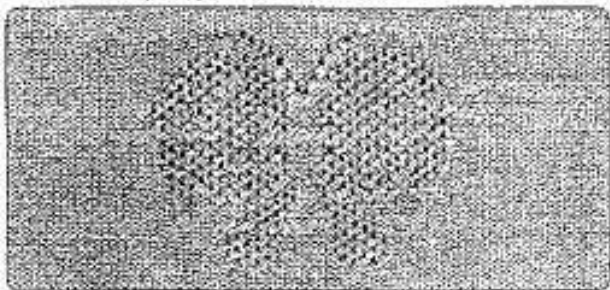
11 Continue knitting, remembering to bring the selected end needle back to B position (See Step 8).
* Rehang the Claw Weights every 20 rows or so.



12 Knit in pattern until you hear the sound "beep" finish the row you are knitting, and knit one more row. You have now completed one pattern length. To finish the pattern turn the Change Knob back to N-L.

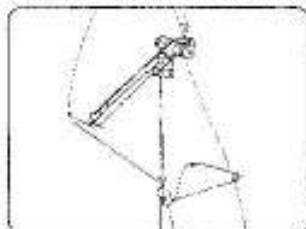
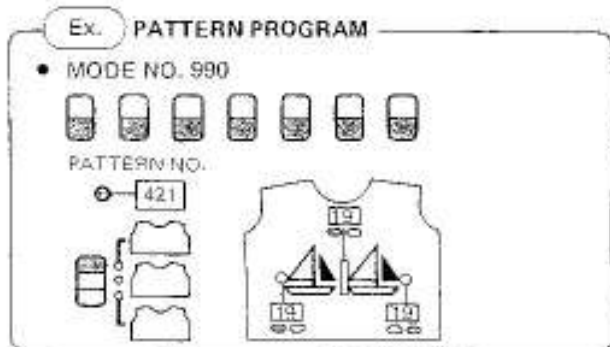
PATTERN A

- This example was knitted using "STITCH WORLD" Pattern No. 421.

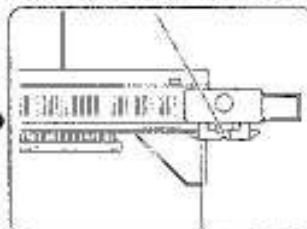


• BEFORE STARTING PATTERN KNITTING

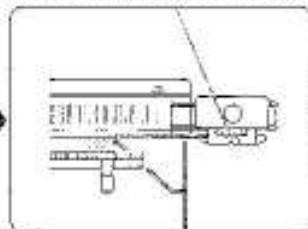
The contrast yarn is knitted in with the main yarn throughout threadlace knitting. So should you knit areas instocking stitch only, you should use main and contrast yarns together so that these will match those in Threadlace pattern.



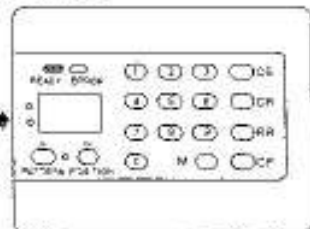
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.

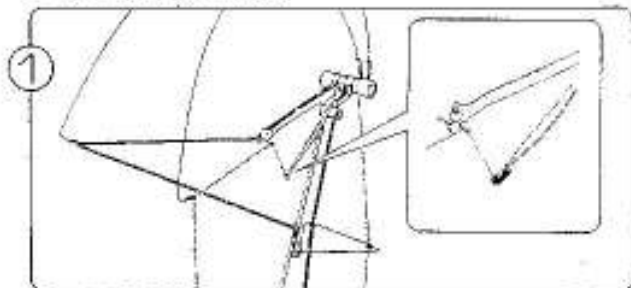


Knit a few rows in stocking stitch. Hang the Claw Weight evenly along the Cast-on Comb.

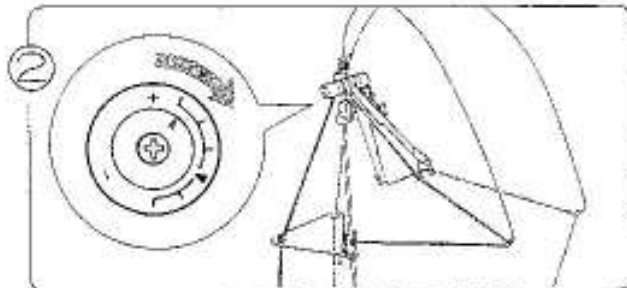


Program your pattern. (An example is given). (See page 39.)

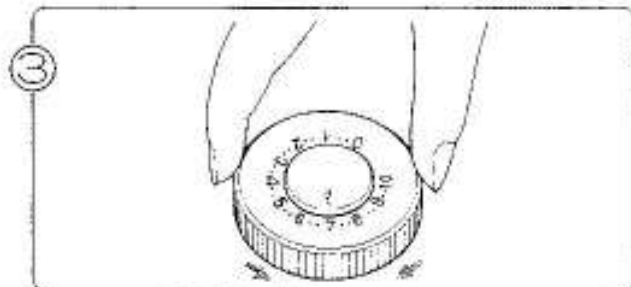
• PATTERN KNITTING



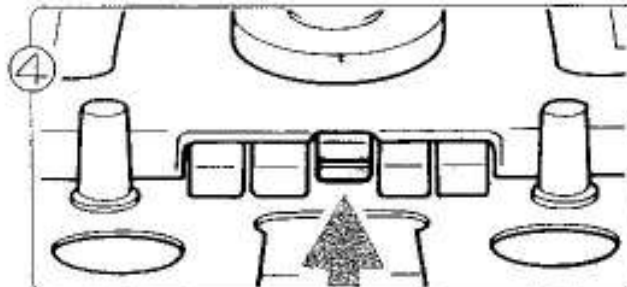
Thread the very fine contrast yarn into the lefthand Yarn Tension Unit. Thread the main yarn into the Sub Take-up Spring.



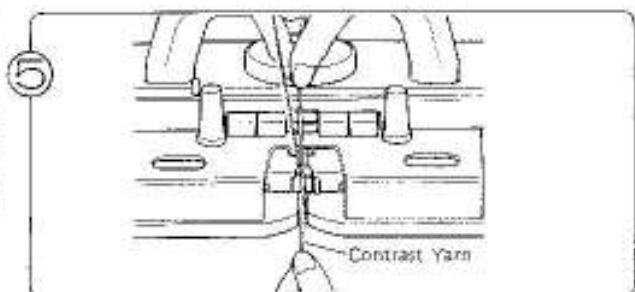
Adjust the Tension Disc to the thickness of the contrast yarn.



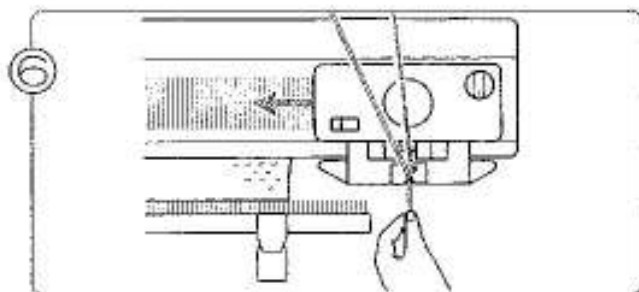
Set the Tension Dial using the Tension Chart on page 95 as a guide.



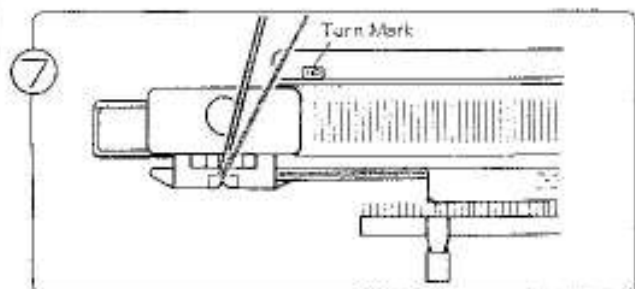
Push both upper and lower buttons (L) at the same time.



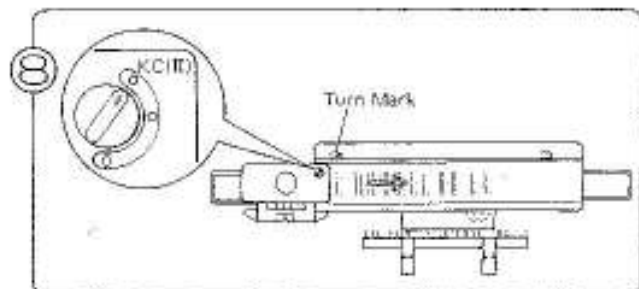
5 Thread the contrast yarn into Yarn Feeder "B" — there is no need to open the Yarn Feeder Lever when you do so.



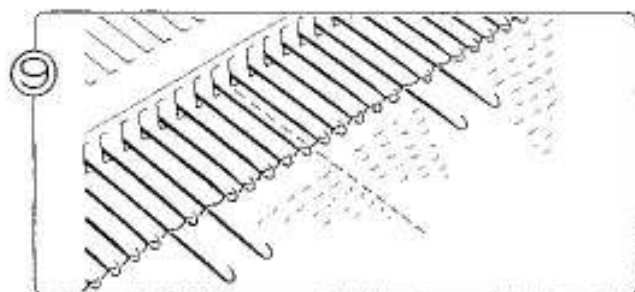
6 Knit a row with the K-Carriage, at the same time holding the yarn end with your lefthand.



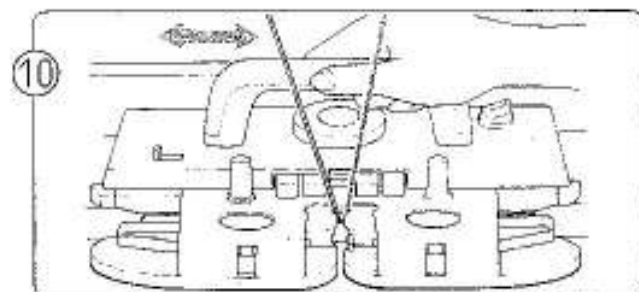
7 Continue knitting until you want to begin Thread Lace Knitting. Place the K-Carriage outside the left Turn Mark.



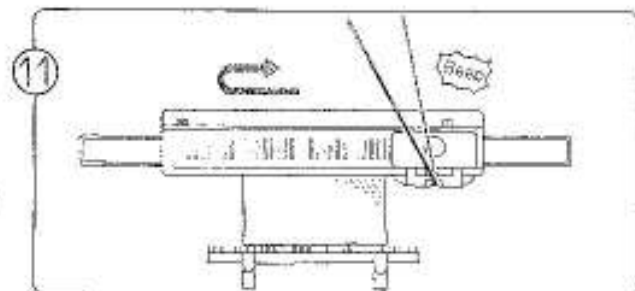
8 Set the Change Knob to KC (II). Move the K-Carriage from left to right across the left Turn Mark.
*You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



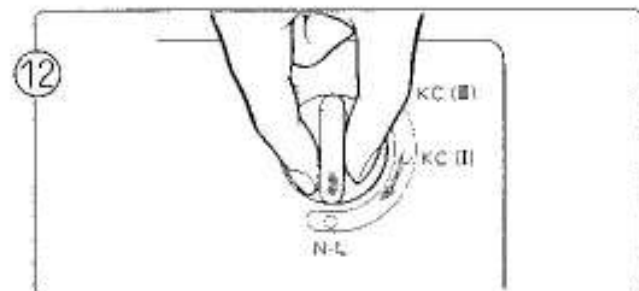
9 The needles are selected.



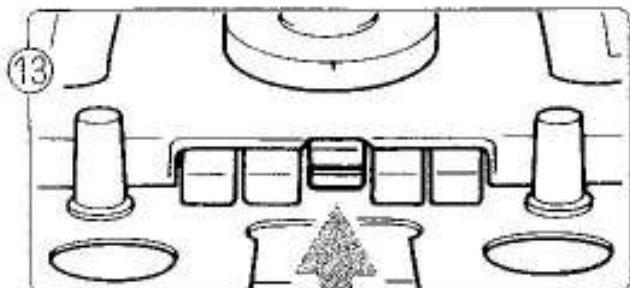
10 Move the K-Carriage back and forth. You are now knitting in Thread Lace Pattern.



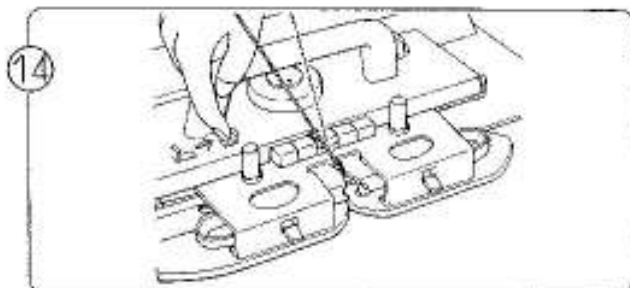
11 Knit in pattern until you hear the sound "Beep". If you are operating the K-Carriage from right to left when you hear the sound, finish the row and knit one more row.



12 Set the Change Knob to N-L. The Cam Buttons will be released automatically.



13 Push both upper and lower buttons (L) at the same time, and bring the selected needles to B position. Then continue knitting until you want to finish.

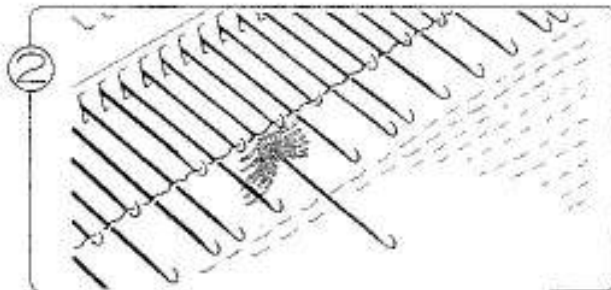
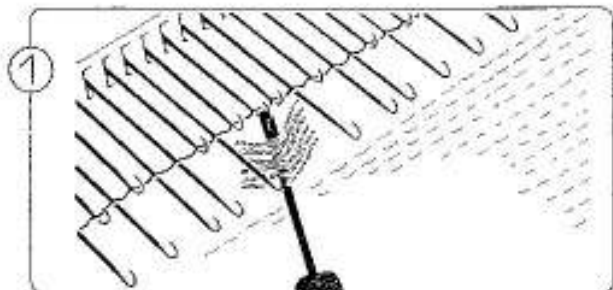
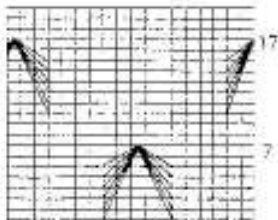


14 Slide the Cam Button Release Lever to the right to release the Cam Buttons.

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.

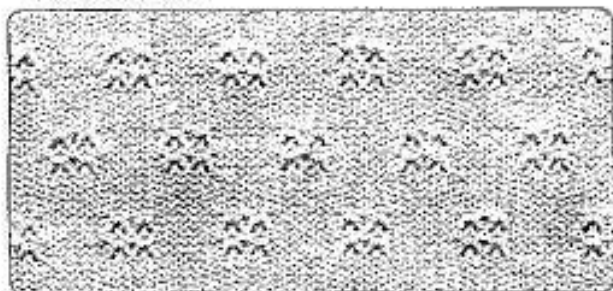


Bring the needles containing the strands of yarn forward to E position and continue knitting.

*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 page 2.

TUCK STITCH PATTERN

- This example was knitted using "STITCH WORLD" Pattern No. 240.



Ex. PATTERN PROGRAM

- MODE NO. 990

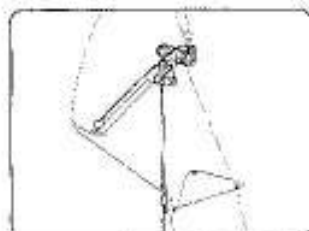


PATTERN NO.

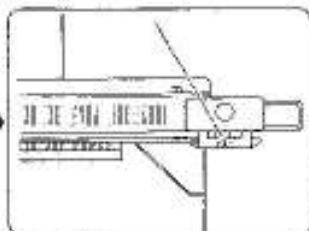
240



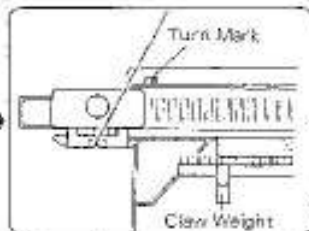
• BEFORE STARTING PATTERN KNITTING



Thread the main yarn into the righthand Yarn Tension Unit.

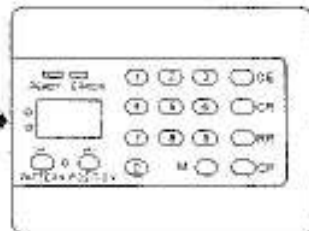


Cast on.



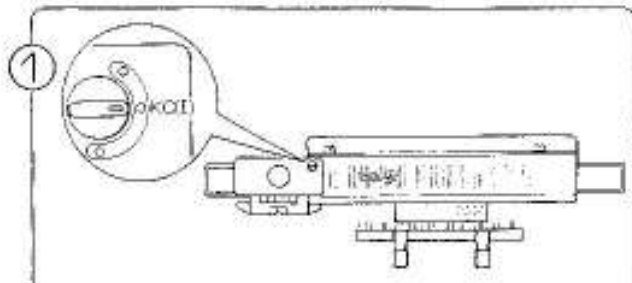
Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark.

Hang the Claw Weight evenly along the Cast-on Comb.



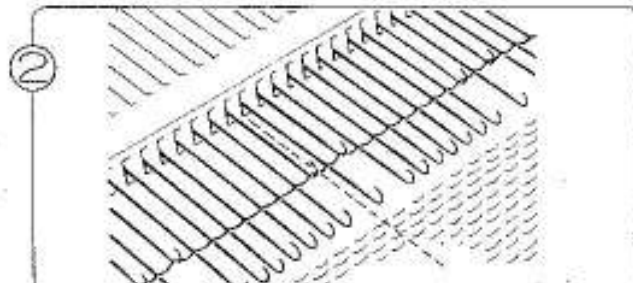
Program your pattern. (See page 29.)

• PATTERN KNITTING

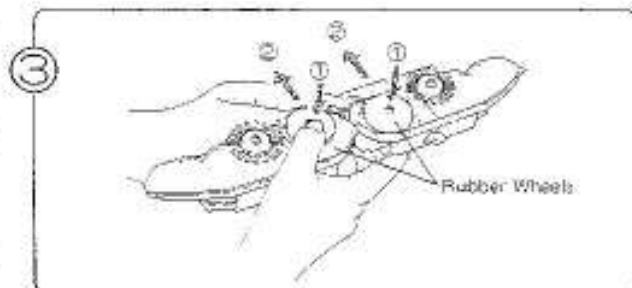


Set the Change Knob to KC (II). Move the K-Carriage from left to right across the left Turn Mark.

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

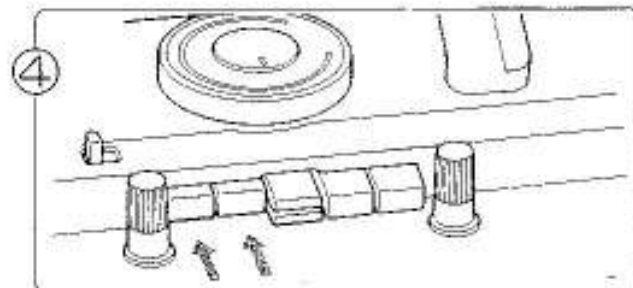


The needles are selected.

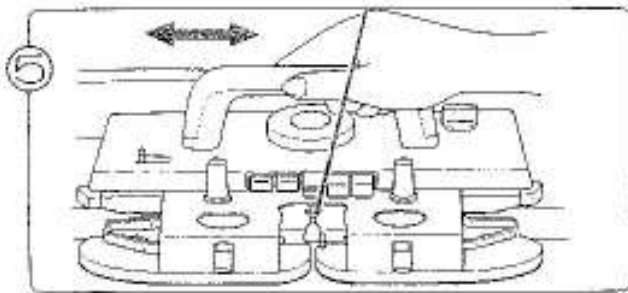


Remove the Sinker Plate Assembly from the K-Carriage and turn it over. Put the Rubber Wheels into working position

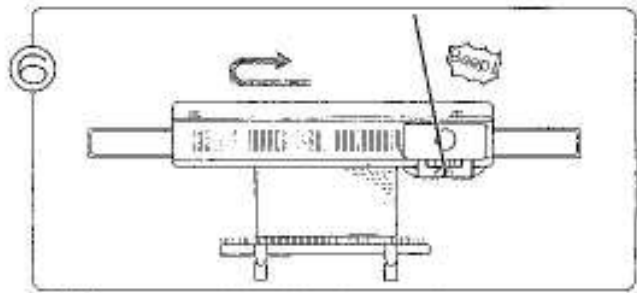
2 as shown. Attach the Sinker Plate Assembly back on the K-Carriage again.



Push both Tuck Buttons at the same time.

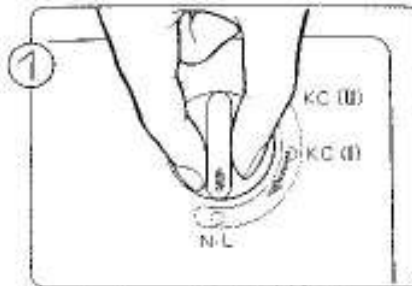


5 Move the K-Carriage back and forth. You are now knitting in Tuck Stitch Pattern.

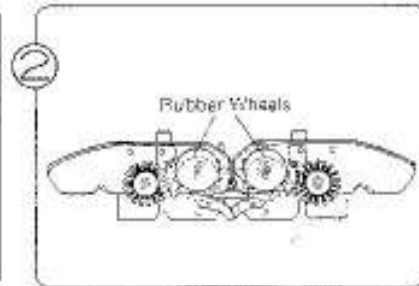


6 Knit in pattern until you hear the sound "beep". Finish knitting the row you are on and knit one more row.

- 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.

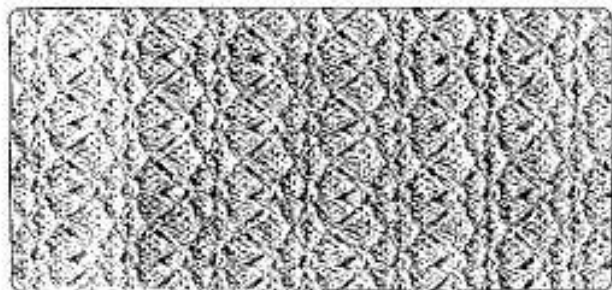


2 Place the Rubber Wheels in non-working position.

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

- This example was knitted using "STITCH WORLD" Pattern No. 292.



Ex. PATTERN PROGRAM

- MODE NO. 990

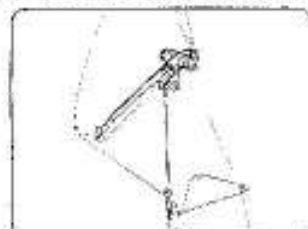


PATTERN NO.

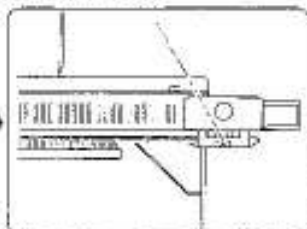
292



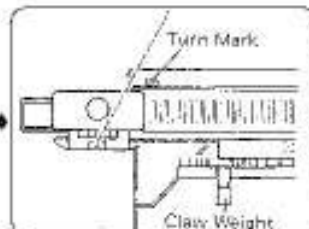
BEFORE STARTING PATTERN KNITTING



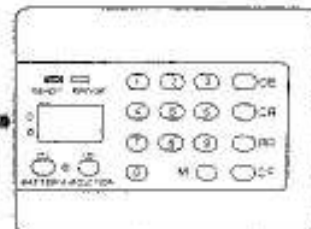
Thread main Yarn into the righthand Yarn Tension Unit.



Cast on.

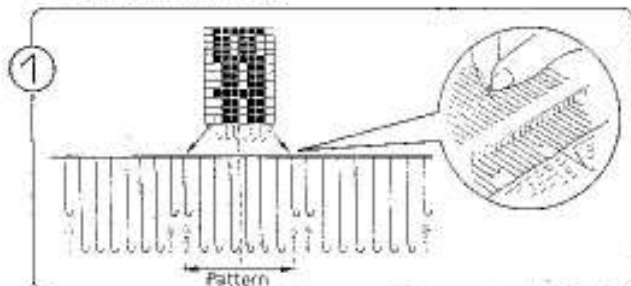


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.

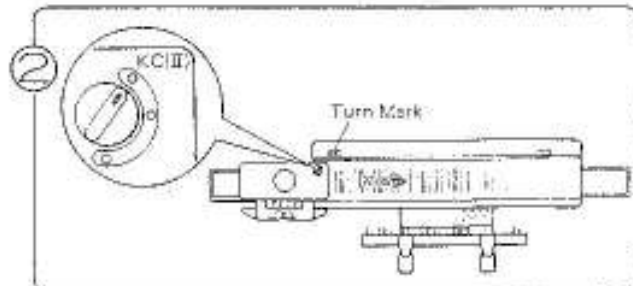


Program your pattern. (See page 29.)

PATTERN KNITTING



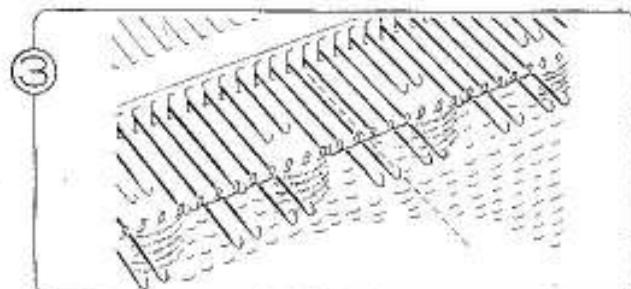
Bring the needles marked with "O" in the Diagram in "STITCH WORLD" forward to E position and back to A position. This will drop these stitches. If you were knitting a garment you can transfer the left marked stitch to the needles at its left side, and the right one out to the right. Then take the empty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



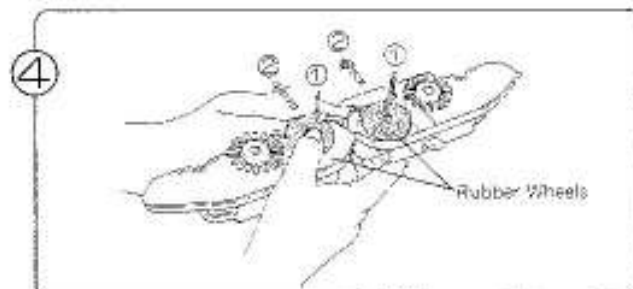
Set the Change Knob to KC (II). (It is important to select KC (II) or your pattern don't knit correctly.)

Move the K-Carriage from left to right across the left Turn Mark.

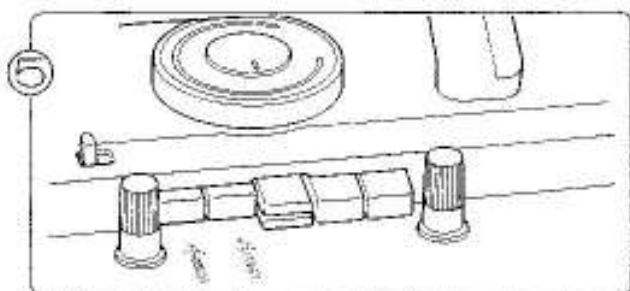
* You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



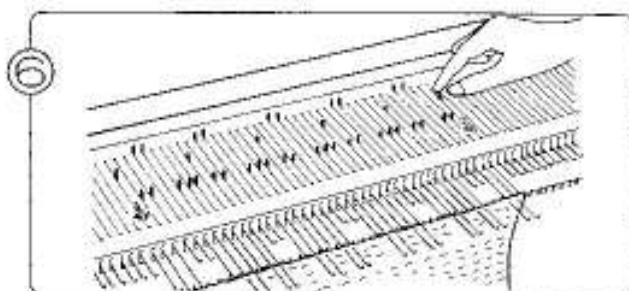
The needles are selected.



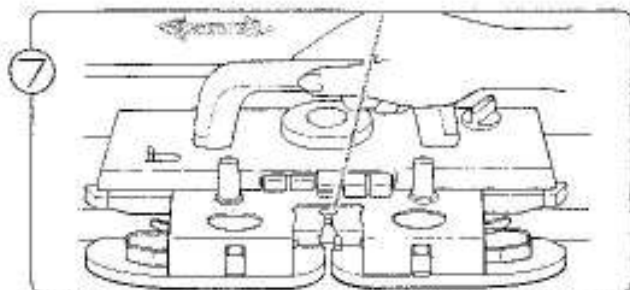
Remove the Sinker Plate Assembly from the K-Carriage and turn it over. Put the Rubber Wheels into working position ② as shown. Attach the Sinker Plate Assembly back on the K-Carriage again.



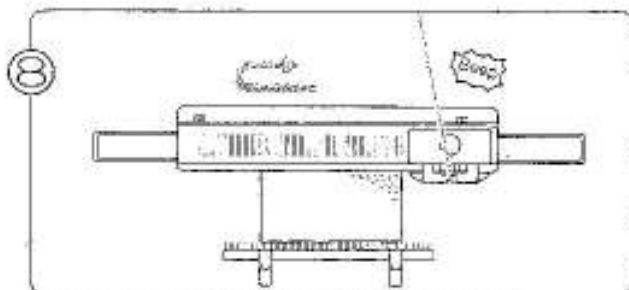
Push both Tuck Buttons at the same time.



Bring the end needles forward to D position if they are not already in this position.

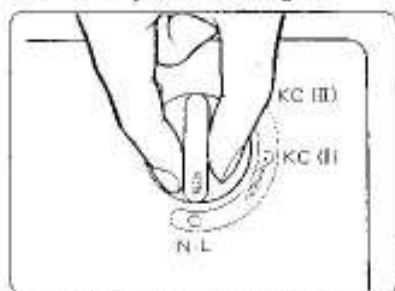


Move the K-Carriage back and forth, You are knitting in Open Tuck Stitch Pattern.
(Don't forget the end needles must always be in D position.)

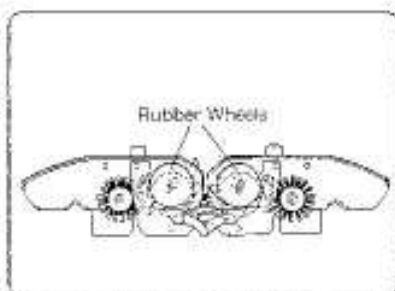


Knit in pattern until you hear the sound "Beep".
Complete the row you are knitting, then knit one more row.

- You can either continue ...
Repeat Steps ⑦ - ⑧
- Or finish pattern knitting ...



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



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.

MULTI-COLOUR TUCK STITCH PATTERN

- This example was knitted using "STITCH WORLD" Pattern No. 296.



- This pattern is worked the same as tuck stitch pattern, except the yarn is changed according to indication of memo data.

Ex. PATTERN PROGRAM

- MODE NO. 990



PATTERN NO.

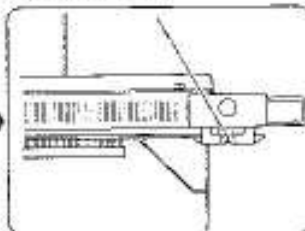
296



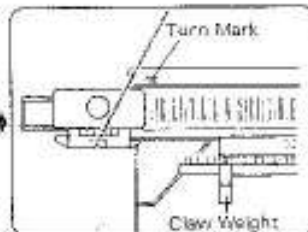
BEFORE STARTING PATTERN KNITTING



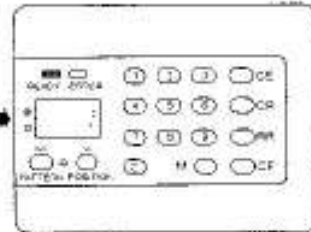
Thread the yarn 1 into the righthand Yarn Tension Unit.



Cast on.

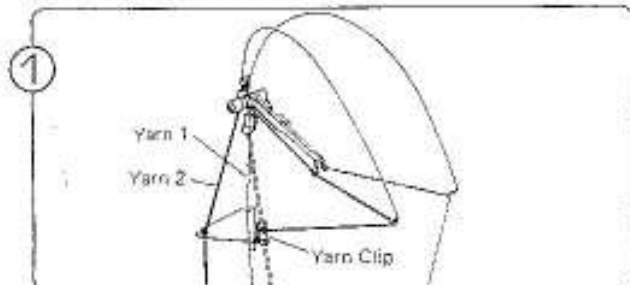


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.

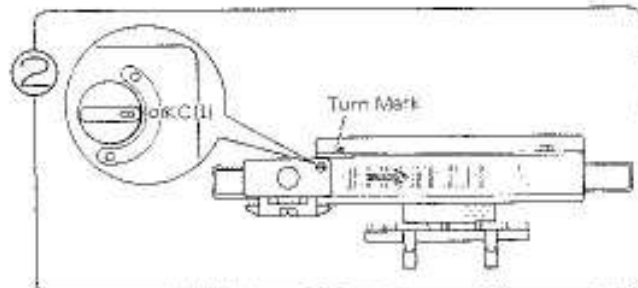


Program your pattern. (See page 29.) Push the yellow key to show the memo data in the display.

PATTERN KNITTING

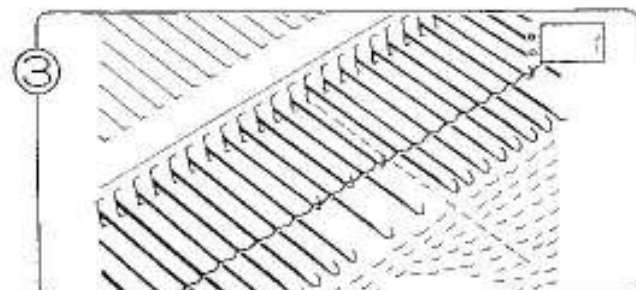


Thread Yarn 2 into the lefthand Yarn Tension Unit.

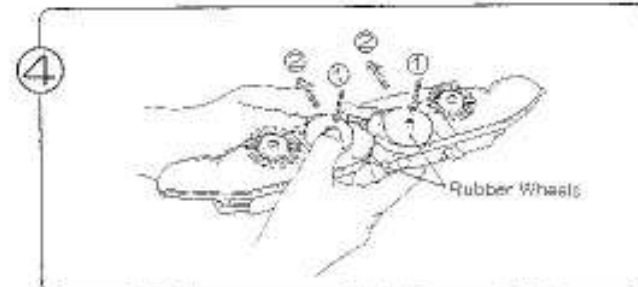


Set the Change Knob KC (I). Move the K-Carriage from left to right across the left Turn Mark.

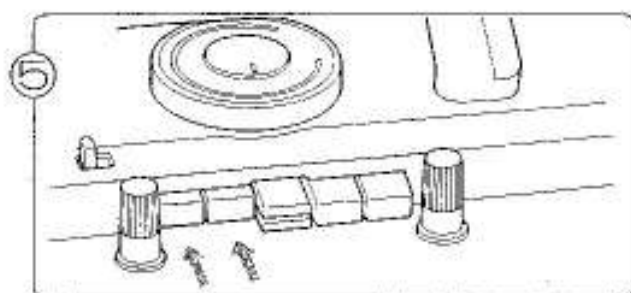
* You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



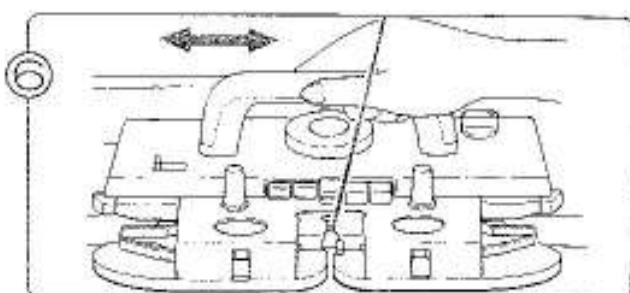
The needles are selected. Number 1 in the Display tells you to knit with Yarn 1.



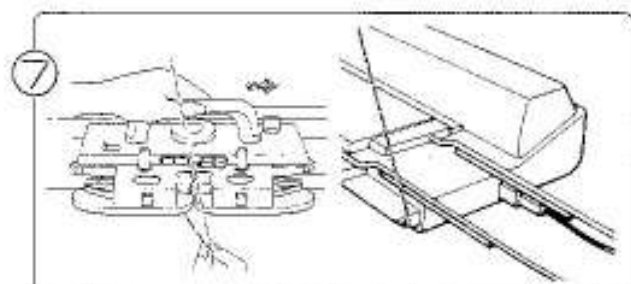
Remove the Sinker Plate Assembly from the K-Carriage and turn it over. Put the Rubber Wheels into working position as shown. Attach the Sinker Plate Assembly back on the K-Carriage again.



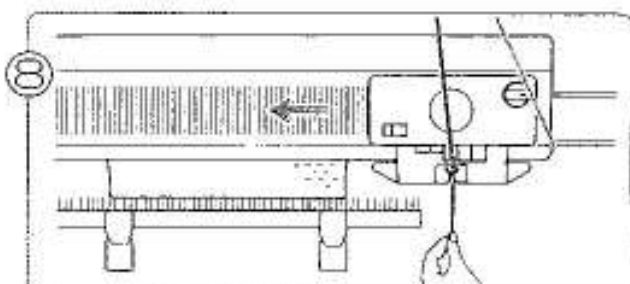
Push both Tuck Buttons at the same time.



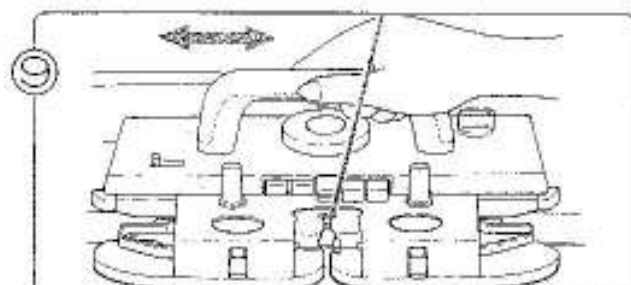
Move the K-Carriage back and forth until the number 2 appears in the display, this means change to the second colour.



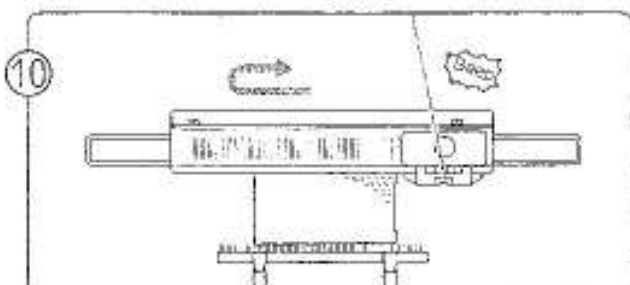
Take Yarn 1 out of Yarn Feeder "A". If you slide the K-Carriage slightly to the right the yarn can be removed easily. Hook Yarn 1 around the notch at the end of your machine.



Thread Yarn 2 into Yarn Feeder "A" and continue knitting until Number 1 appears in the Display.

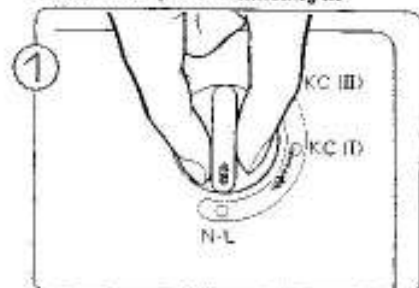


Continue knitting, changing the yarns according to the number in the Display. (When you change the yarns, take care not to cross them over each other.)

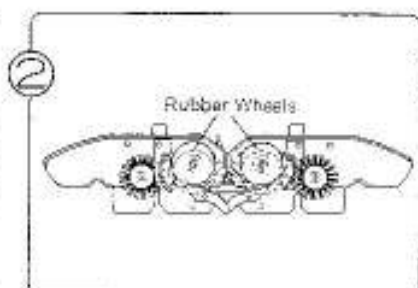


Knit in pattern until you hear the sound 'beep' finish the row you are knitting then knit one more row. You have now completed one pattern length.

- You can either continue ...
Repeat Steps 5 - 10.
- Or finish pattern knitting ...



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

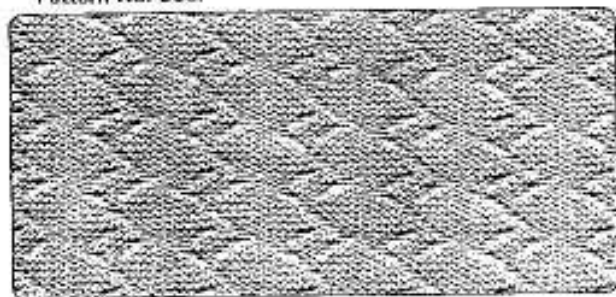


Place the Rubber Wheels in non-working position.

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

SKIP STITCH PATTERN

- This example was knitted using "STITCH WORLD" Pattern No. 363.



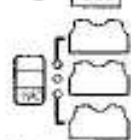
Ex. PATTERN PROGRAM

- MODE NO. 990



PATTERN NO.

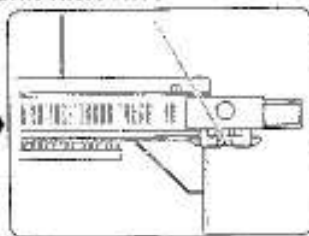
363



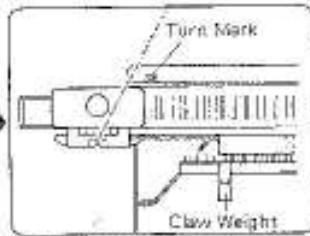
• BEFORE STARTING PATTERN KNITTING



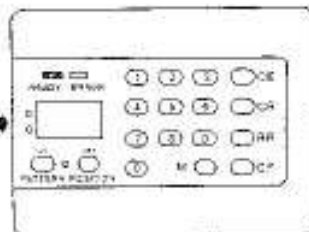
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.

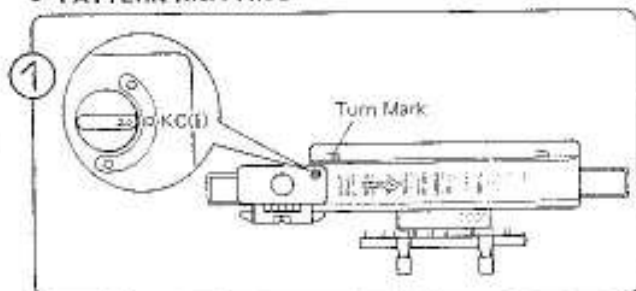


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.



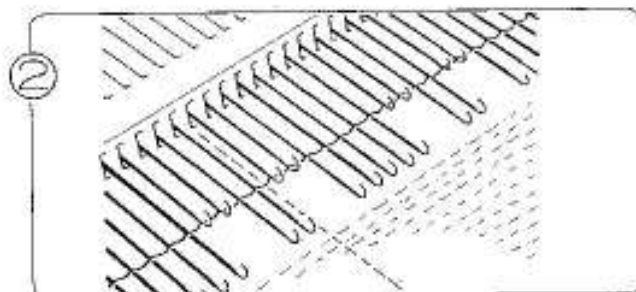
Program your pattern. (An example is given.) (See page 29.)

• PATTERN KNITTING

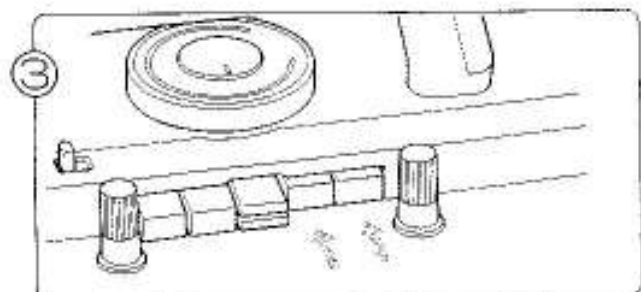


Set the Change Knob to KC (I). Move the K-Carriage from left to right across the left Turn Mark.

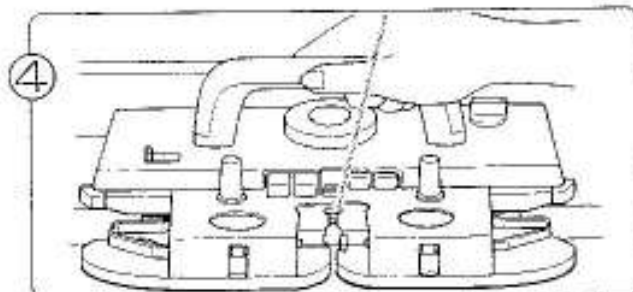
*You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



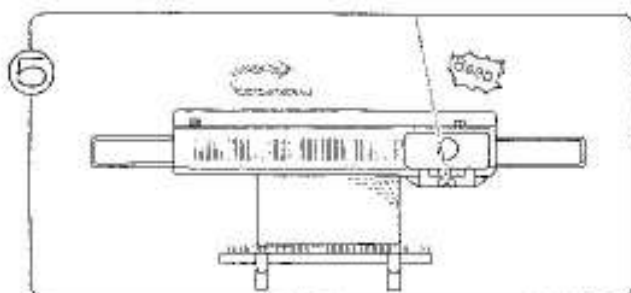
The needles are selected.



Push both Part Buttons at the same time.

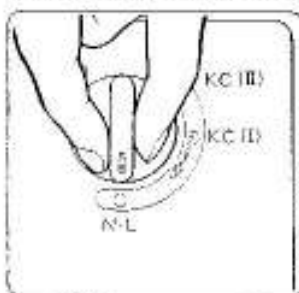


Move the K-Carriage back and forth. You are knitting in Skip Stitch Pattern.



Knit in pattern until you hear the sound "beep".
Finish the row you are knitting and knit one more row.
You have now completed one pattern length.

- You can either continue ...
Repeat Steps ④ - ⑤
- Or finish pattern knitting ...

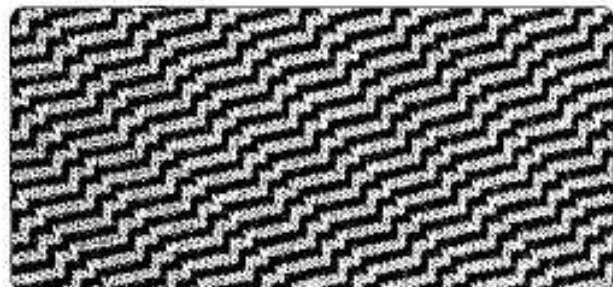


Set the Change Knob to N-L. The Cam Buttons will be automatically released.

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

MULTI-COLOUR SKIP STITCH PATTERN

- This example was knitted using "STITCH WORLD" Pattern No. 383.



This pattern is worked the same as Skip Stitch Pattern, except the yarn is changed according to the numbers in the Display. Pattern No. 383 requires yarn in two colours (colour 1 and colour 2) and these are represented by the Number 1 and 2 in the Display. So, to start, decide which yarn corresponds to which number.

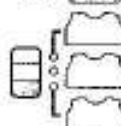
Ex. PATTERN PROGRAM

- MODE NO. 990

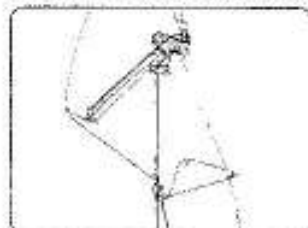


PATTERN NO.

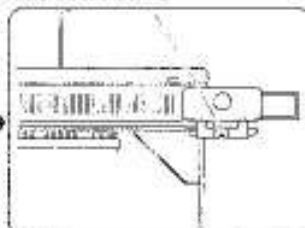
383



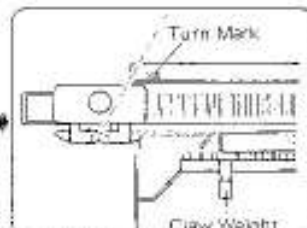
- BEFORE STARTING PATTERN KNITTING



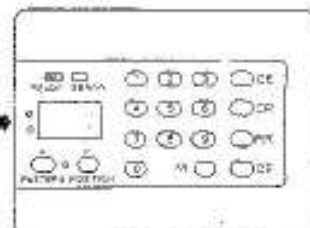
Thread Yarn 1 into the right-hand Yarn Tension Unit.



Cast on.

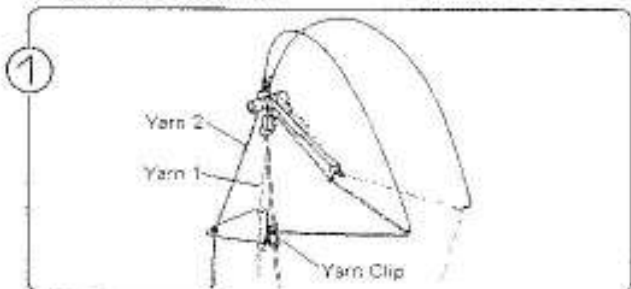


Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on comb.

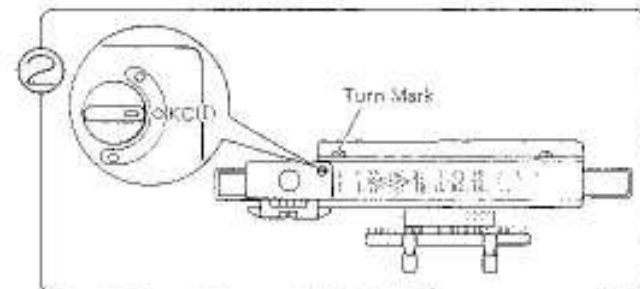


Program your pattern. (See page 29.) (An example is given). Push the yellow key to show the memo data in the display.

- PATTERN KNITTING

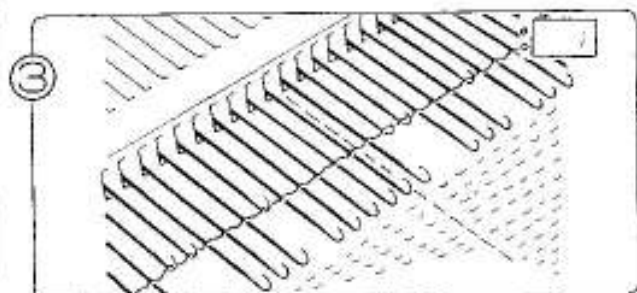


Thread Yarn 2 into the lefthand Yarn Tension Unit.

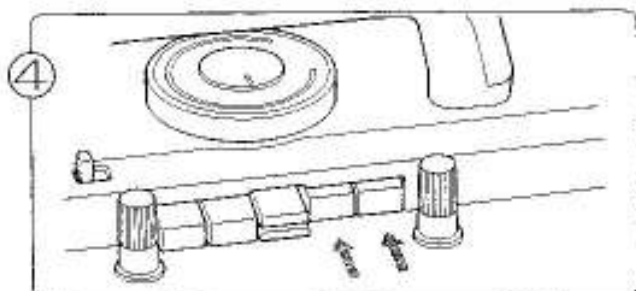


Set the Change Knob to KC (II). Move the K-Carriage from left to right across the left Turn Mark.

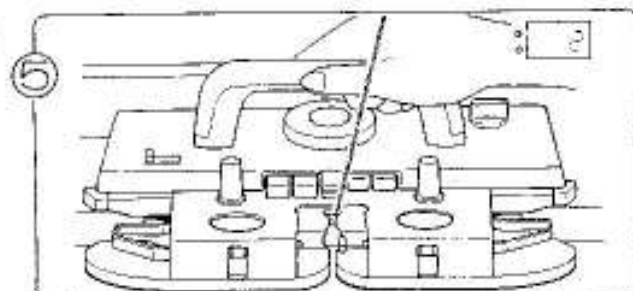
* You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



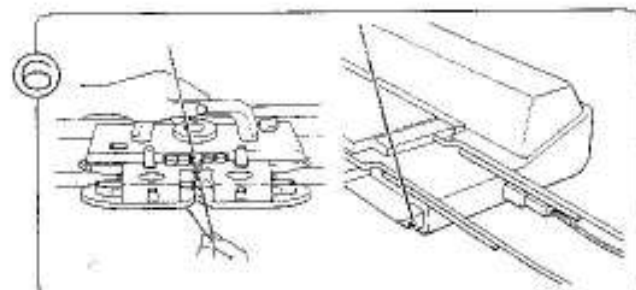
The needles are selected.
Number 1 in the Memo Display tells you to knit with Yarn 1.



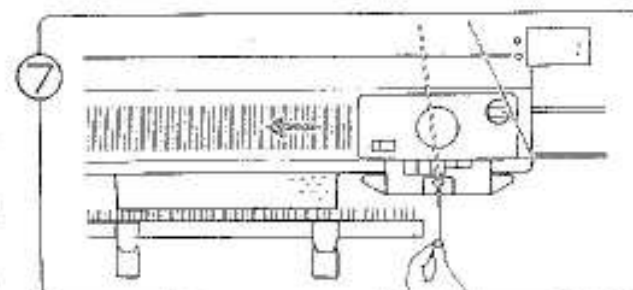
Push both Part Buttons at the same time.



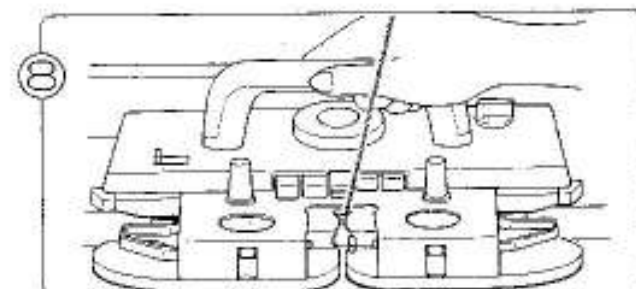
Move the K-Carriage back and forth until the Number 2 appears in the Display.
Number 2 in the Display tells you to knit with Yarn 2.



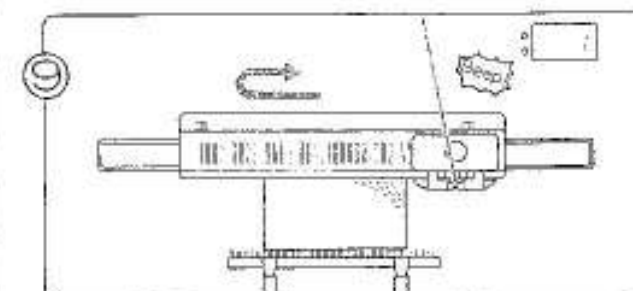
Take Yarn 1 out of Yarn Feeder "A". If you slide the K-Carriage, slightly to the right, the yarn can be removed easily.
Hook Yarn 1 around the notch at the end of your machine.



Thread Yarn 2 into Yarn Feeder "A" and continue knitting until Number 1 appears in the Display.

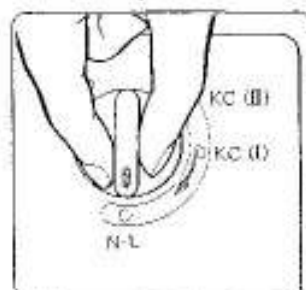


Continue knitting, changing the yarns according to the number in the Display. (When you change the yarns, take care not to cross them over each other.)



Knit in pattern until you hear the sound "beep".
Finish the row you are knitting and knit one more row.
You have now completed one pattern length.

- You can either continue ...
Repeat Steps ☺ - ☺
- Or finish pattern knitting ...

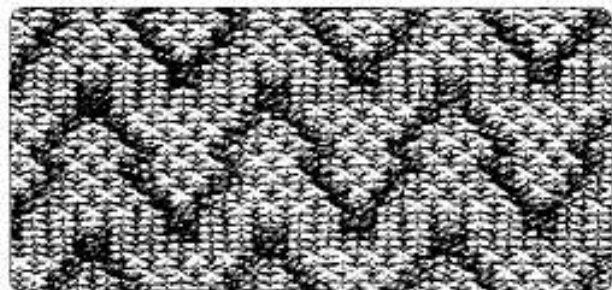


Set the Change Knob to N-L.
The Cam Buttons will be released automatically.

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

WEAVING PATTERN

- This example was knitted using "STITCH WORLD" Pattern No. 435.



Ex. PATTERN PROGRAM

- MODE NO. 990

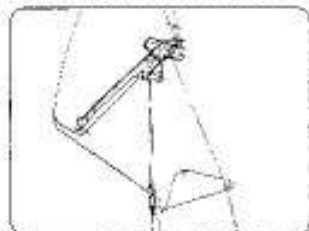


PATTERN NO.

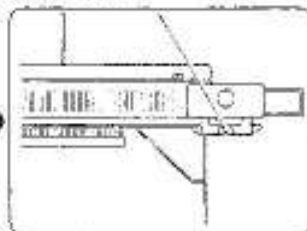
435



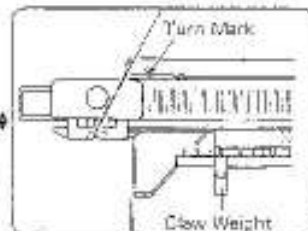
BEFORE STARTING PATTERN KNITTING



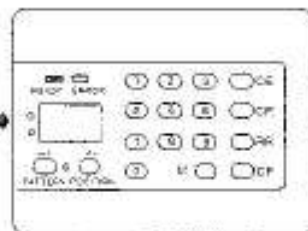
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.



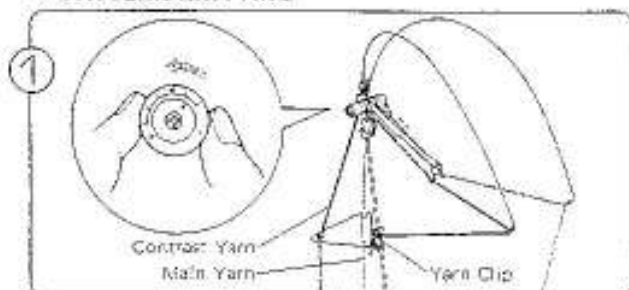
Knit a few rows in stocking stitch and place the K-Carriage outside the left Turn Mark. Hang the Claw Weight evenly along the Cast-on Comb.



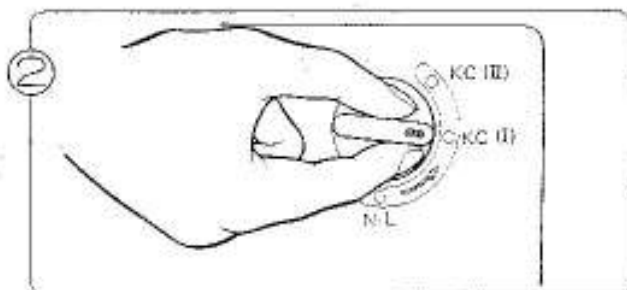
Program your pattern. (An example is given.) (See page 29.)

Pattern No. 435 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.

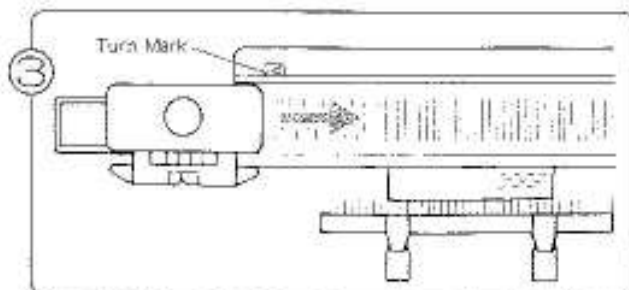
• PATTERN KNITTING



Thread the weaving yarn into the left Yarn Tension Unit. Adjust the Tension Dial as shown according to the thickness of the weaving yarn.

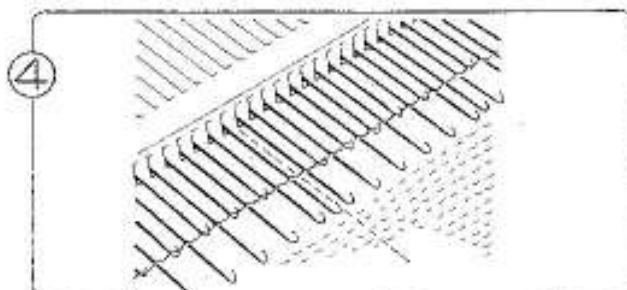


Set the Change Knob to KC (II).

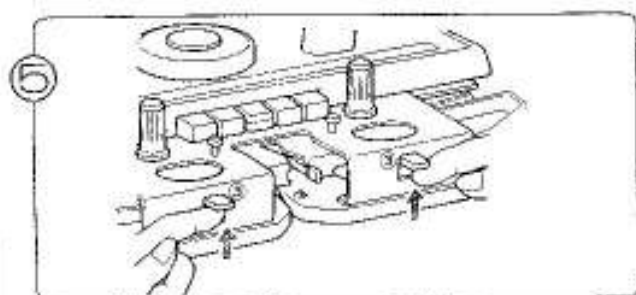


Move the K-Carriage from left to right across the left Turn Mark.

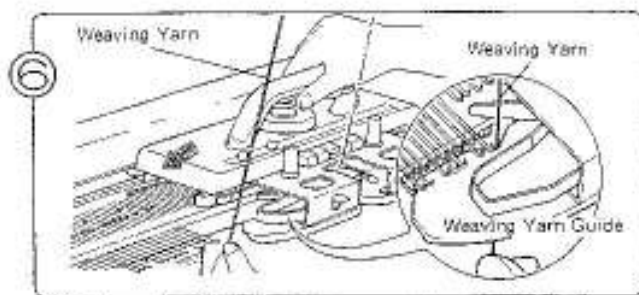
* You only need to operate the K-Carriage once across the Turn Mark when you start pattern knitting.



The needles are selected.

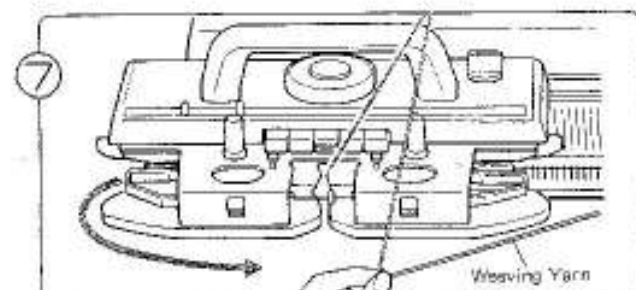


5 Set the Weaving Pattern Levers to W.T.

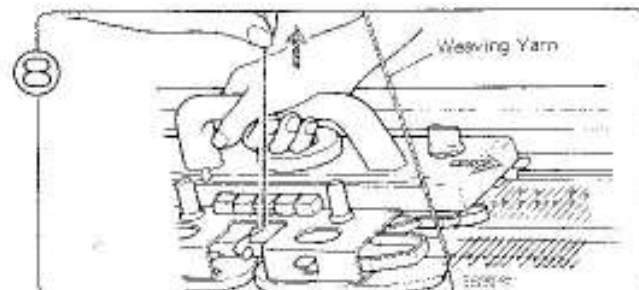


6 Hold the end of the weaving yarn with your left hand, and thread it into the Weaving Yarn Guide on the left side of the K-Carriage. Then move the K-Carriage across the needle-bed.

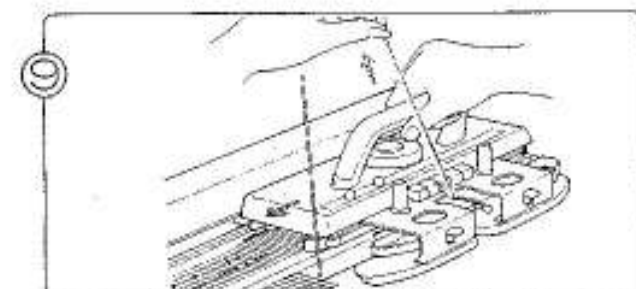
* Release the yarn end after knitting one row.



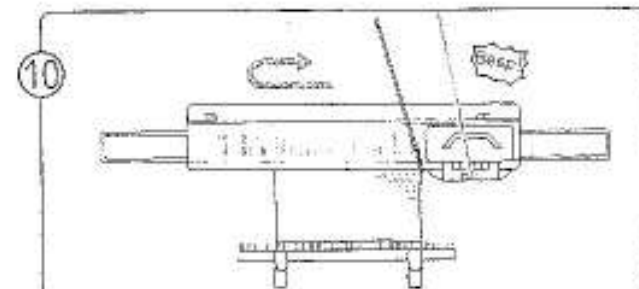
7 Remove the weaving yarn from the left Weaving Yarn Guide by moving the K-Carriage slightly to the left. Pass the weaving yarn under the K-Carriage to the righthand side.



8 Move the K-Carriage to the right, pulling the main yarn upwards slightly – ensure that the weaving yarn is in the right Weaving Yarn Guide.



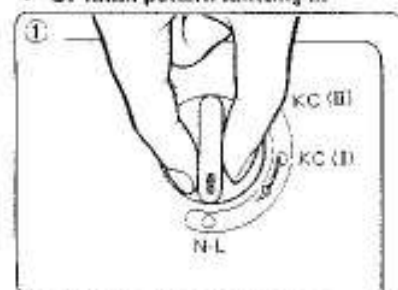
9 Continue knitting at the same time placing the weaving yarn into the left or right Weaving Yarn Guide according to the direction of the K-Carriage, and pulling the main yarn upwards slightly.



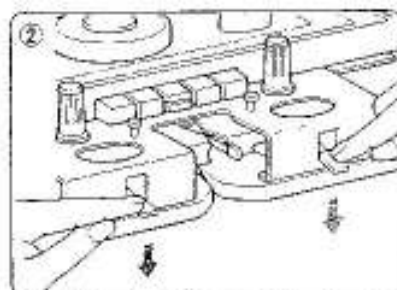
10 Knit the pattern until you hear the sound "beep". Finish the row you are knitting and knit one more row. You have now completed one pattern length.

- You can either continue ...
Repeat Steps 9 – 10 .

- Or finish pattern knitting ...



11 Set the Change Knob to N-L.



12 Set the Weaving Pattern Levers to N.

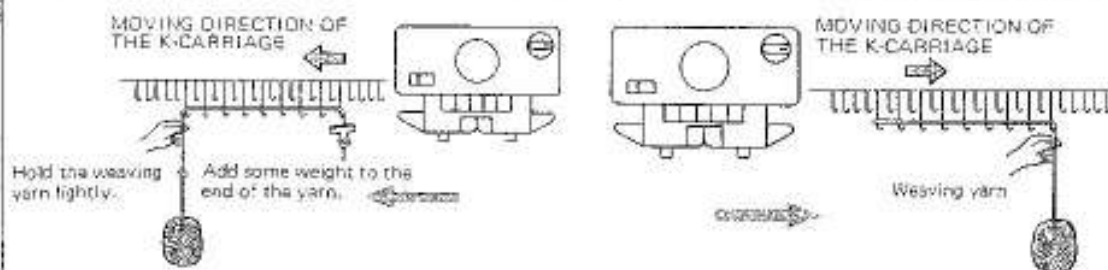
Whilst knitting in pattern, you must take the K-Carriage past the centre of the machine (Green 1 needle) on every row.

• WHEN USING MORE THAN TWO WEAVING YARNS ...

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

Second method ...

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

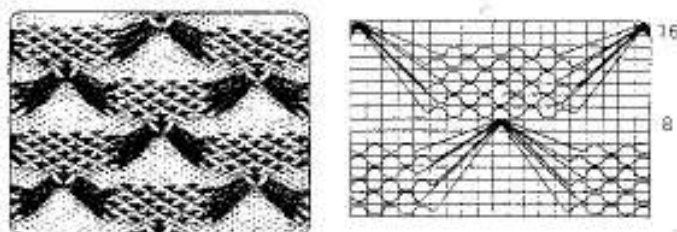


WOVEN PULL-UP STITCH

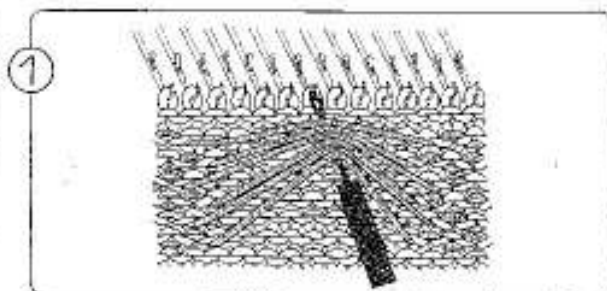
Special method for use with Weaving Patterns.

Knit "STITCH WORLD" Pattern No. 458, 460, 462 by pull-up method.

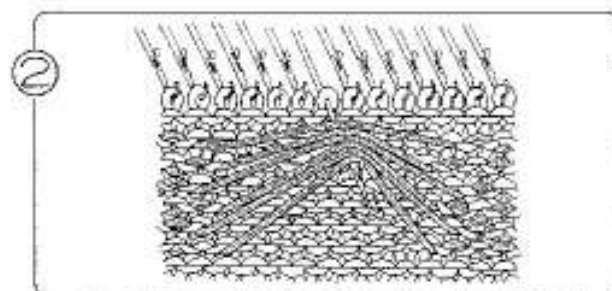
- This example shows how to knit "STITCH WORLD" Pattern No. 460 by pull-up method.



Push the green key to show the row number in the display and start to knit.
When both end needles are selected to D position, knit without the weaving yarn.



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.

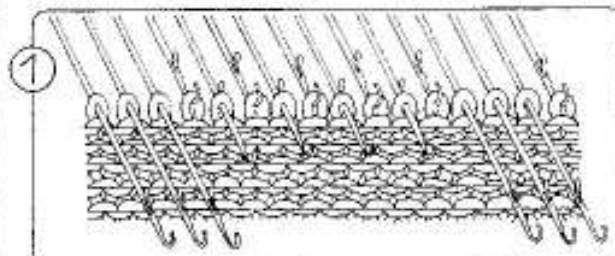
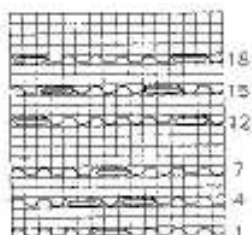
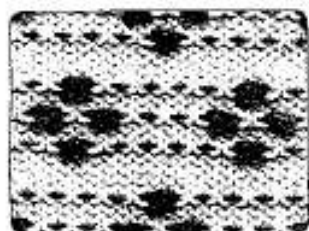


Now bring these needles forward to E position and continue knitting.

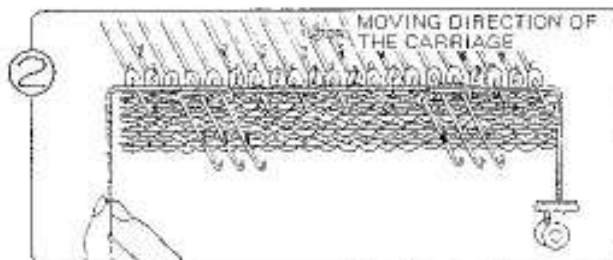
WINDING METHOD

Special method for use with Weaving Patterns.

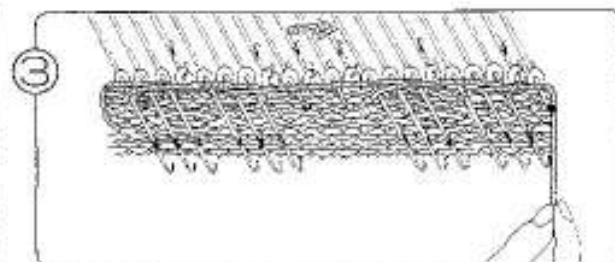
★ This example shows how to knit "STITCH WORLD" Pattern No. 463 by winding the yarn around the selected needles.



When the needles are selected, bring the three selected needles which are next to each other forward from D to E position.



Wind the weaving yarn around the stem of the E position needles and operate the K-Carriage until the needles are selected again.



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.

Repeat Steps ① - ③.

HOW TO KNIT SOME ROWS WITH THE MAIN YARN ONLY.



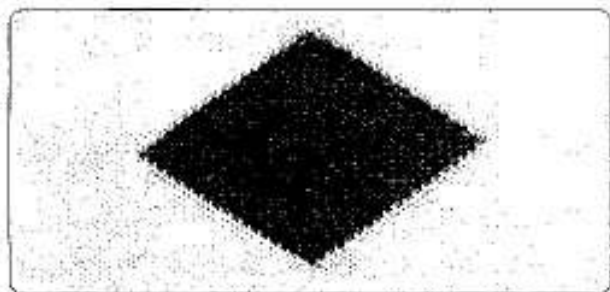
• This example was knitted using "STITCH WORLD" Pattern No. 439.

Push the yellow key to show the memo data in the display and start to knit.
When the number appears in the display, you should knit using the weaving yarn.
When there is no number in the display, knit without the weaving yarn.

INTARSIA KNITTING

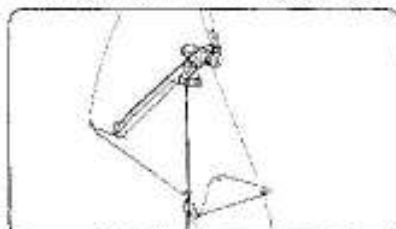
With Intarsia Knitting there are no long floats at the back of the fabric, and several colours can be knitted in one row. Prepare sufficient separate balls of yarn according to the changes in the pattern and place these on the floor at your feet.

Draw a diagram of your design.

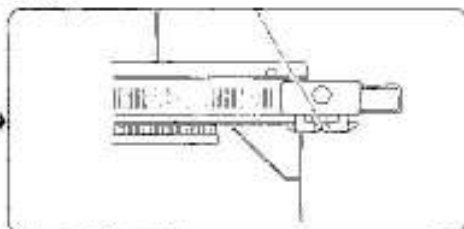


When you do Intarsia Knitting, the tension may differ about 1 and can even vary according to how firmly you hold the yarn with your hand. Bear in mind this possible difference when making your tension swatches.

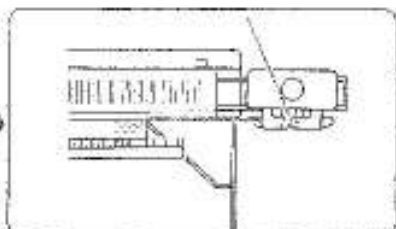
• BEFORE STARTING PATTERN KNITTING



Thread the main yarn into the right-hand Yarn Tension Unit.

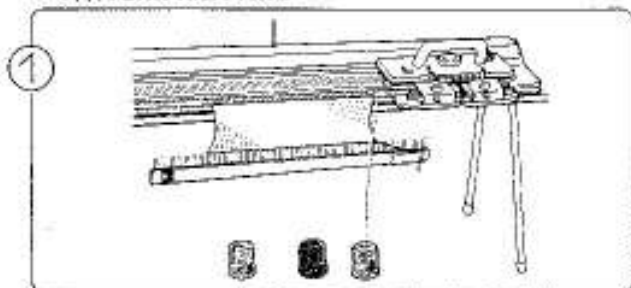


Cast on.

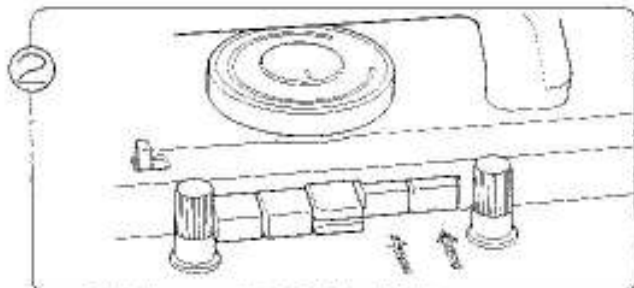


Knit a few rows in stocking stitch until you want to begin Intarsia Knitting, ending with K-Carriage at right.

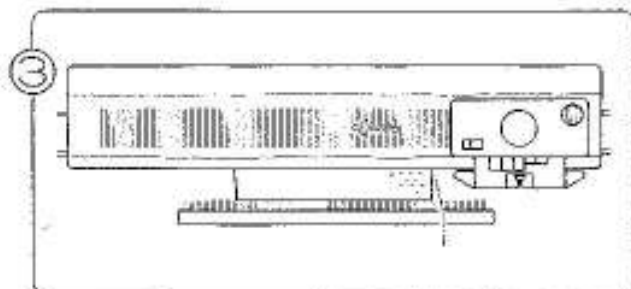
• PATTERN KNITTING



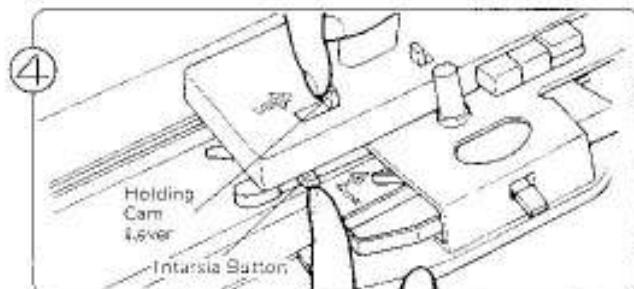
Take the yarn out of the Yarn Feeder and the Yarn Tension Unit. Prepare the other balls of yarn, and place them on the floor at your feet.



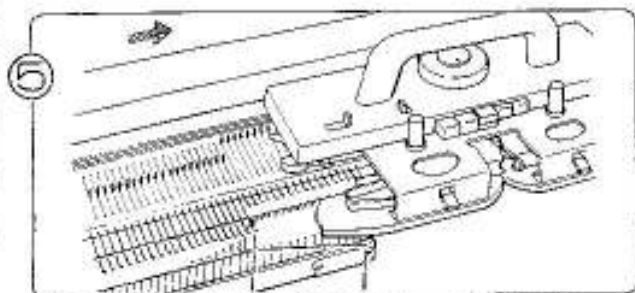
Push both Part Buttons at the same time.



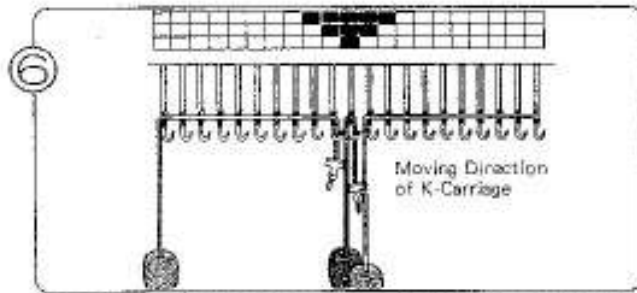
Move the K-Carriage once across the needlebed from right to left.



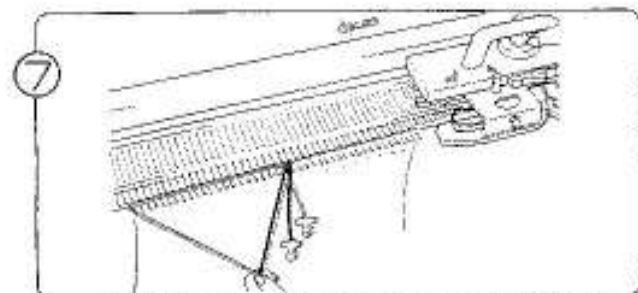
Set the Holding Cam Lever to I. To do this, slide the Holding Cam Lever to the right at the same time press in the Intarsia Button.



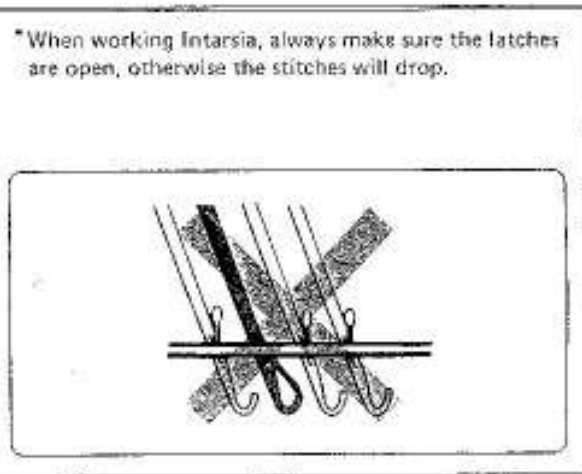
5 Move the K-Carriage from left to right, without knitting, to align the needles in D position. Make sure that all the latches are open. If not, open them. Wind the Row Counter and Knitleader back by 2 rows.



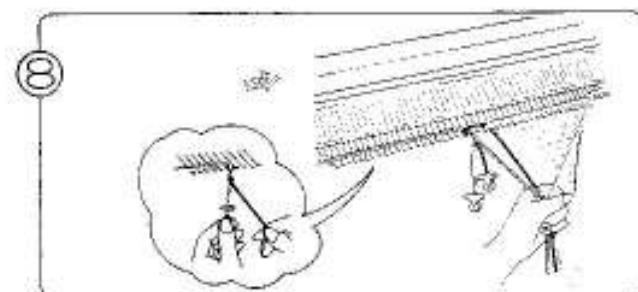
6 Beginning at the side nearest to the K-Carriage, and working away from the K-Carriage, lay the yarns in the open needle hooks as illustrated.



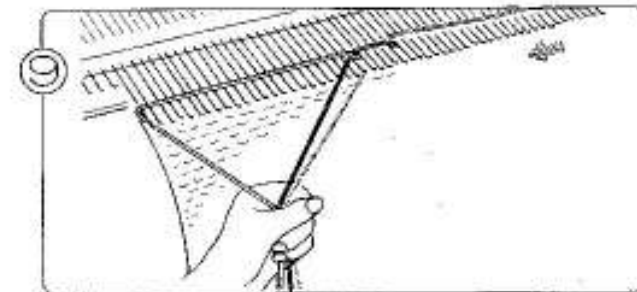
7 Move the K-Carriage slowly across the needlebed, at the same time gently pull the yarns downwards with your other hand to take up any looseness.



*When working Intarsia, always make sure the latches are open, otherwise the stitches will drop.

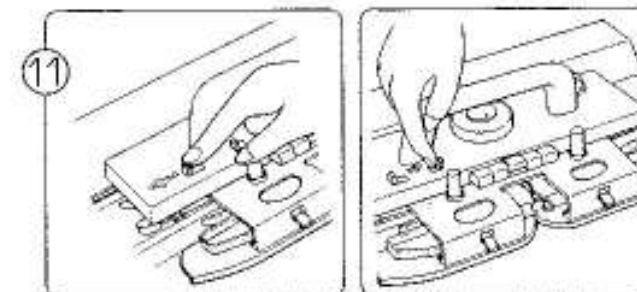


8 Working in the opposite direction (again away from the K-Carriage) lay the yarns in the open needle hooks for the next row. To avoid a hole appearing where the yarns meet, cross one over the other as illustrated. Now slowly move the K-Carriage across the needlebed.



9 Lay the yarns and knit the third row.

10 Continue knitting in this way, laying your yarns according to your pattern chart. (Repeat Steps 5 - 9.)



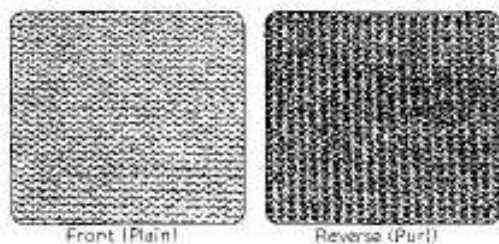
11 When you want to finish Intarsia Knitting, set the Holding Cam Lever to N and release the Cam Buttons with the Cam Button Release Lever.

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 your two yarns – use fine or very fine yarn.



Front (Plain)

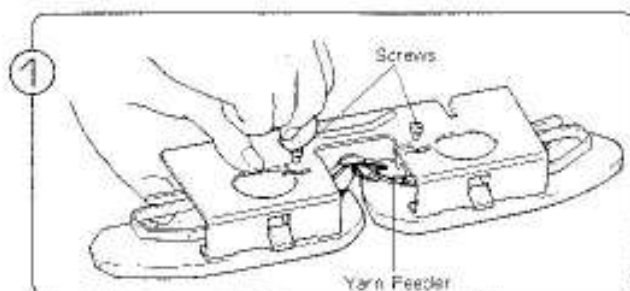
Reverse (Purl)

APPROXIMATE TENSION CHART

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

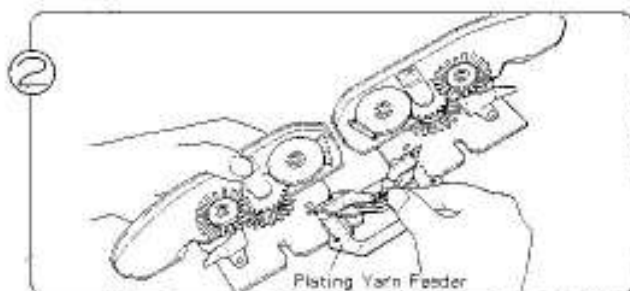


Plating Yarn Feeder

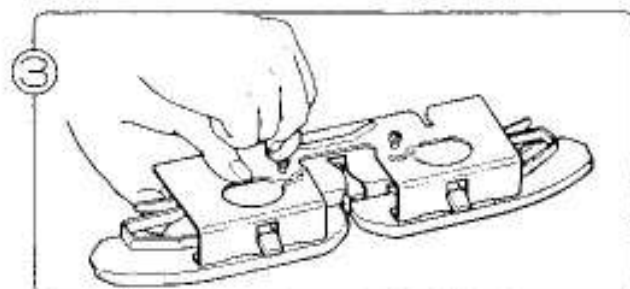


Remove the two screws and the Yarn Feeder from the Sinker Plate Assembly.

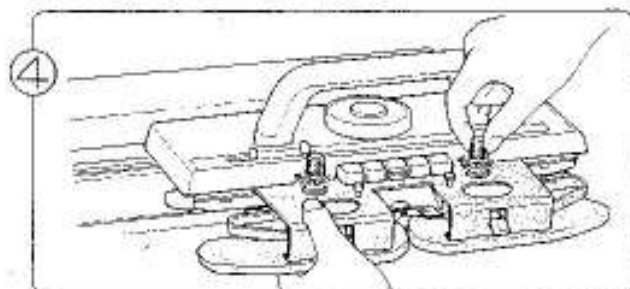
*Be sure to keep the screws safely!



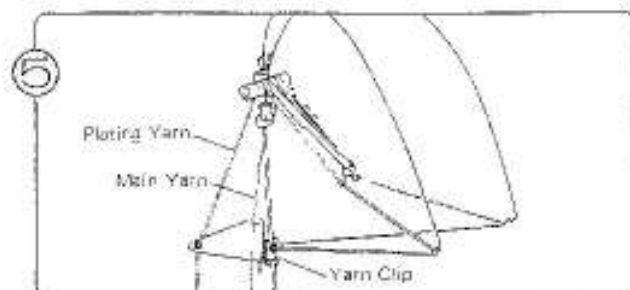
Take the Plating Yarn Feeder out of the Accessory Box and fit it into the Sinker Plate Assembly as shown above.



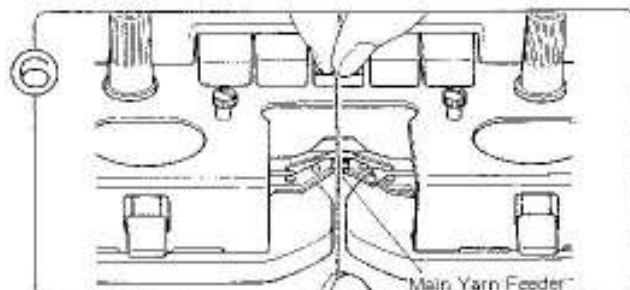
Fasten the two screws.



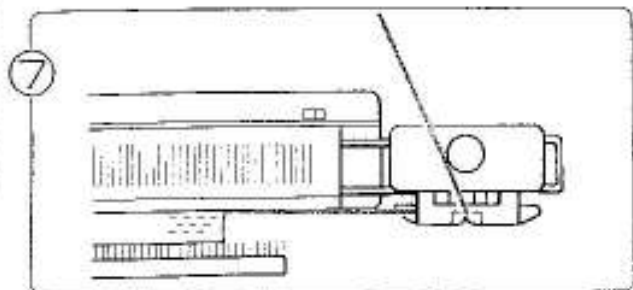
After you have changed the Yarn Feeder, screw the Sinker Plate Assembly back on the K-Carriage.



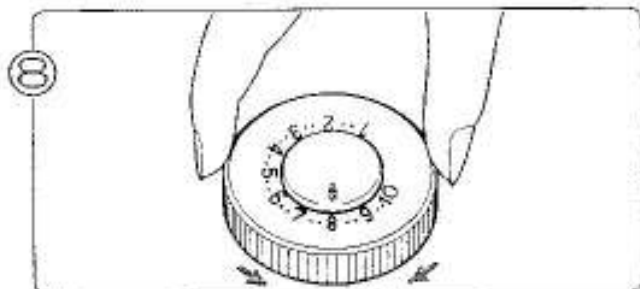
Thread the yarns into the Yarn Tension Unit as shown.



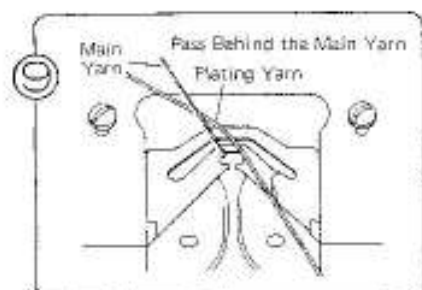
Thread the main yarn into the Main Yarn Feeder.



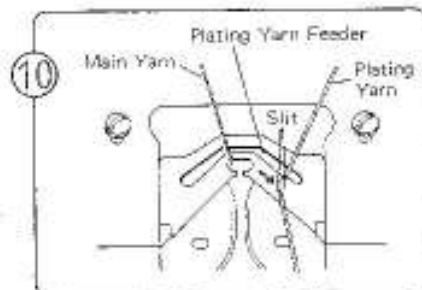
Knit a few rows in stocking stitch, ending with the K-Carriage on the right of the machine.



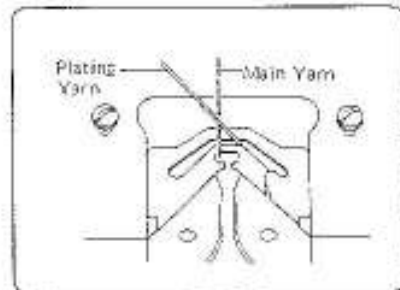
Set the Tension Dial according to the yarn you are using.



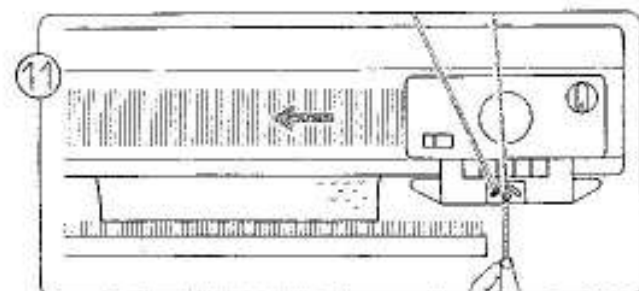
Pass the end of the plating yarn behind the main yarn.



Now thread the plating yarn into the Plating Yarn Feeder. There is an opening at the side and you can pass the yarn through this slit.



Make sure the two yarns are not crossed.



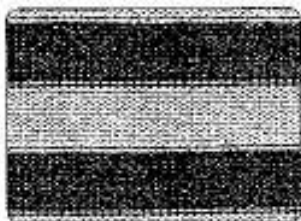
Hold the end of the plating yarn with your left hand, and move the K-Carriage to the left. Once the needles have caught the yarn, you can release the yarn end. Continue knitting in this way. You are now knitting plating.

CHANGING THE MAIN YARN AND THE PLATING YARN

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

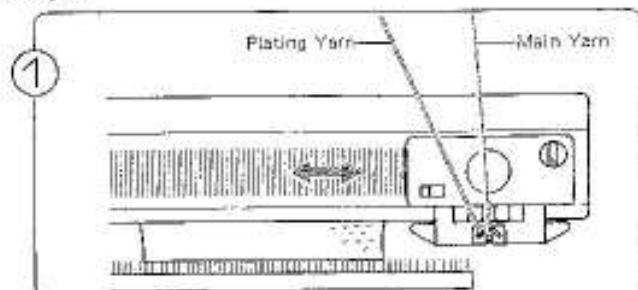


Front (Plain)



Reverse (Purl)

*Set the Tension Dial using the Approximate Tension Chart on page 114 as a guide.



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

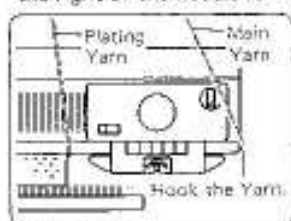
② To change the yarn, do as follows:—

(1) When the K-Carriage is on the left of the needlebed.

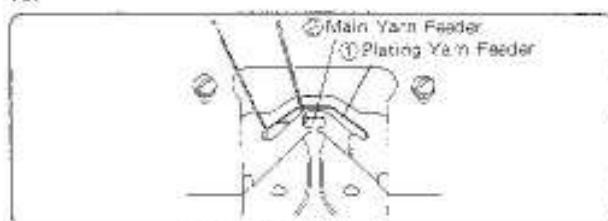


1. Take the yarn out of the Main Yarn Feeder.
2. Take the yarn out of the Plating Yarn Feeder.
 - * Hook the yarn in the right Yarn Tension Unit into the righthand notch.
 - * Hook the yarn in the left Yarn Tension Unit into the lefthand notch.

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



(2)



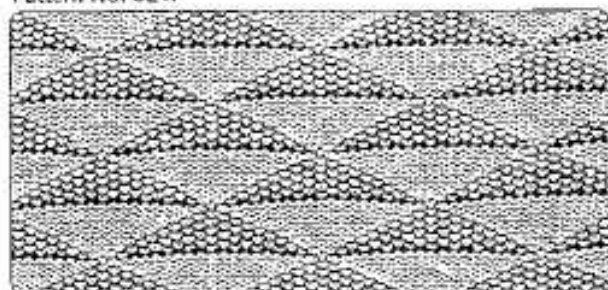
1. Thread up the Plating Yarn Feeder.
2. Thread up the Main Yarn Feeder.

③ Continue knitting, changing the yarn when you wish.

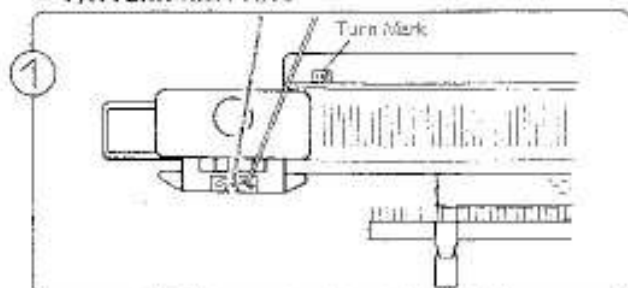
PLATED TUCK STITCH PATTERN

This is knitted the same as Tuck Stitch Pattern, using the Plating Yarn Feeder.

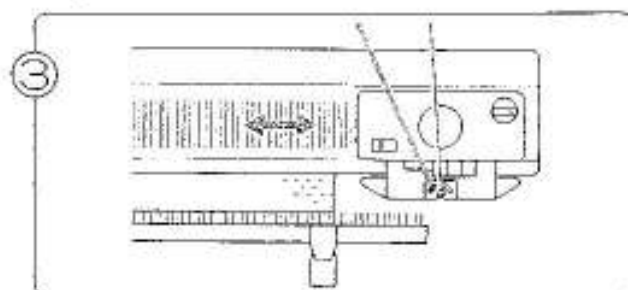
This example was knitted using "STITCH WORLD"
Pattern No. 321.



• PATTERN KNITTING



After knitting several rows in Plating, place the K-Carriage outside the left Turn Mark. Hang the Claw Weights evenly along the Cast-on Comb.



Continue knitting, following instructions for Tuck Stitch Pattern. (Refer to page 99.)

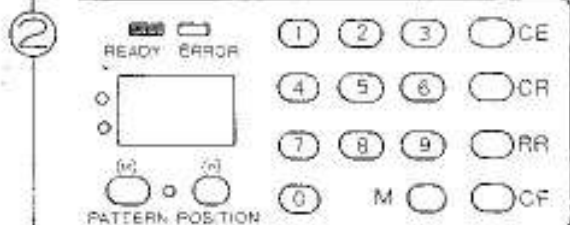
Ex. PATTERN PROGRAM

- MODE NO. 990

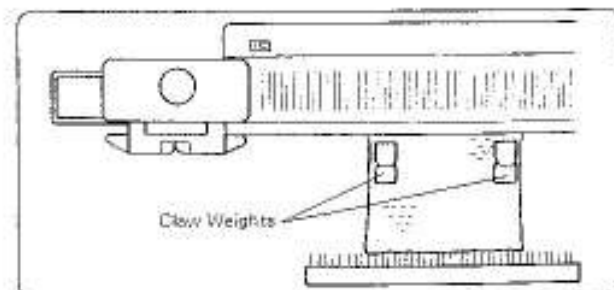


PATTERN NO.

321



Program your pattern.
(Refer to page 29.)

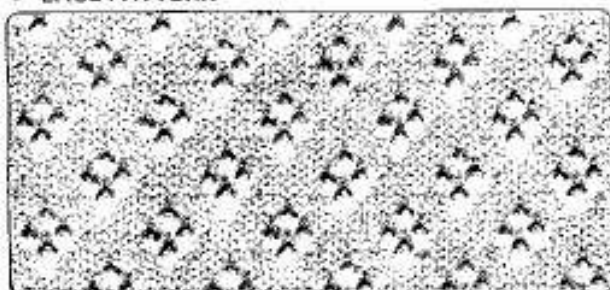


* Rehang the Claw Weights every 20 rows or so.

LACE PATTERN AND FINE LACE PATTERN USING MEMORISED PATTERNS

FULL PATTERN KNITTING

• LACE PATTERN



This example was knitted using "STITCH WORLD" Pattern No. 106.

• FINE LACE PATTERN



This example was knitted using "STITCH WORLD" Pattern No. 206.

Ex. PATTERN PROGRAM

• MODE NO. 990



PATTERN NO.

106



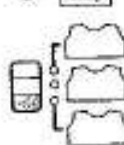
Ex. PATTERN PROGRAM

• MODE NO. 990



PATTERN NO.

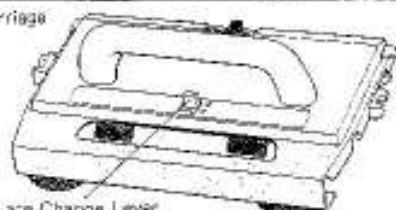
206



You must use the Lace Carriage (L-Carriage) for Lace or Fine Lace Pattern.

The methods for knitting Lace and Fine Lace Patterns are identical except the setting of the Lace Change Lever is different.

L-Carriage



Lace Change Lever

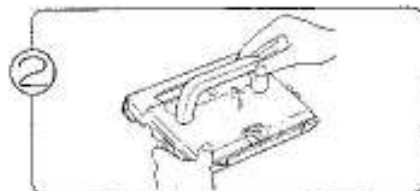
APPROXIMATE TENSION CHART

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

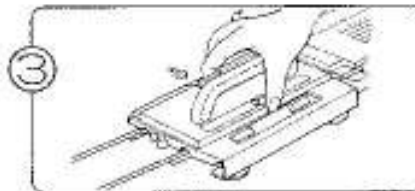
• HOW TO SET THE L-CARRIAGE



Remove the L-Carriage by pushing the Release Button.



Raise the L-Carriage Handle.

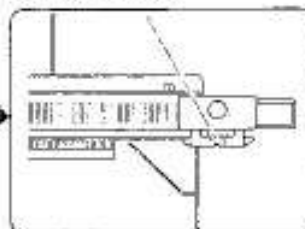


Push the Release Button and place the L-Carriage securely on the left Extension Rail.

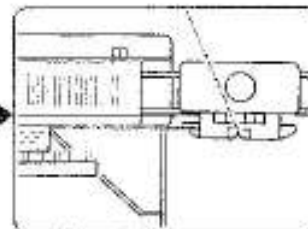
• BEFORE STARTING PATTERN KNITTING



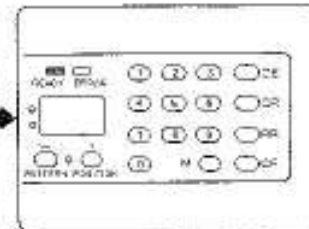
Thread the main yarn into the righthand Yarn Tension Unit.



Cast on.



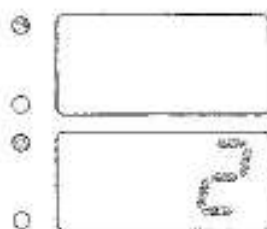
Knit a few rows in stocking stitch and place the K-Carriage on the righthand Extension Rail. Hang the Claw Weight evenly along the Cast-on Comb.



Program your pattern. (An example is given.) (See page 29.)

• PATTERN KNITTING

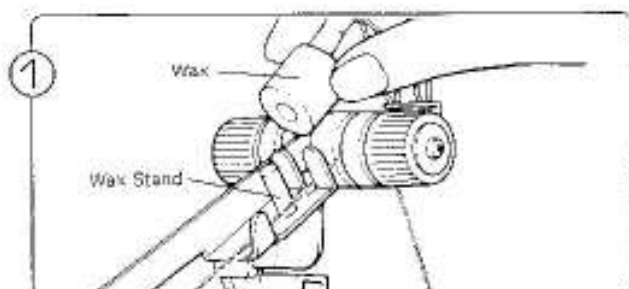
Operate the K- and L-Carriages according to the memo data in the display in Lace or Fine lace pattern knitting. Before to start knitting, change the indication in the display to the memo data by pushing the yellow key.



If no number appears:
Operate the L-Carriage until a number shows in the Display.

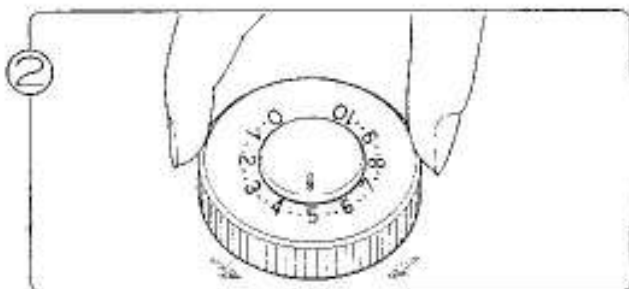
When a number appears:
Knit as many rows with the K-Carriage as the number indicates, then move the L-Carriage from left to right.

Please note that when knitting these patterns it is the Lace Carriage which moves the pattern card and selects/transfers stitches. The main carriage knits and moves the row counter.

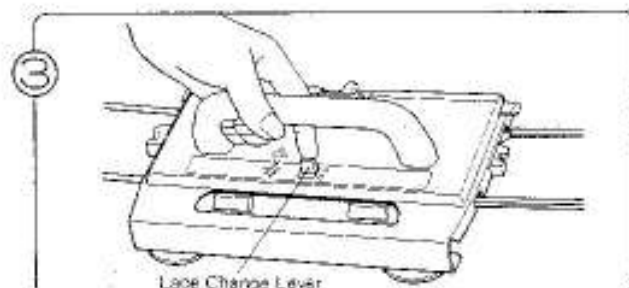


Take the Wax out of the Wax Case and place it on the Wax Stand.

*You need to use the Wax when you are knitting Lace or Fine Lace Patterns.

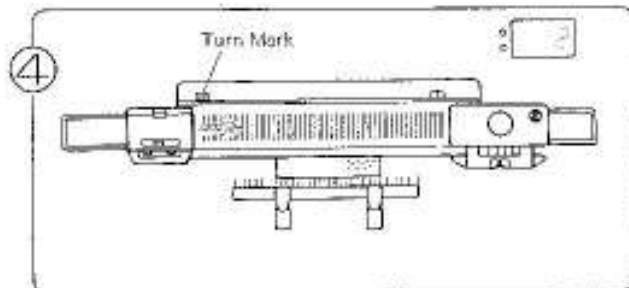


Set the Tension Dial according to the yarn you are using. (Refer to the Approximate Tension Chart on page 117.)



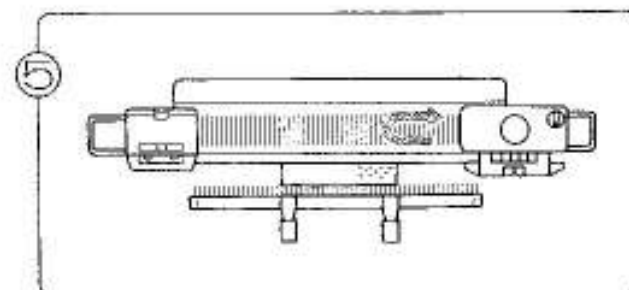
Set the Lace Change Lever to either N or F according to the pattern you are going to knit.

N - Normal Lace Pattern
F - Fine Lace Pattern

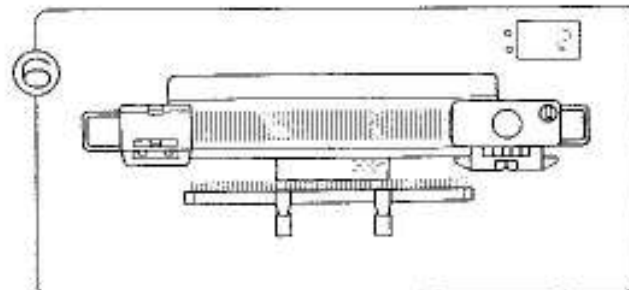


Move the L-Carriage from outside the left Turn Mark to the right. Then operate the L-Carriage backwards and forwards across the knitting until the number 2 appears in the Display.

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

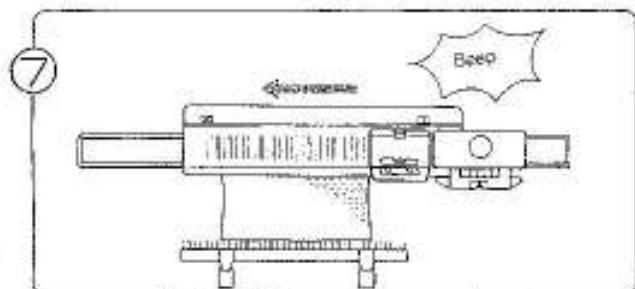


Knit two rows with the K-Carriage.



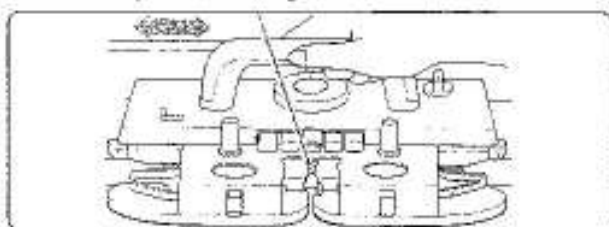
Operate the L-Carriage until a number appears in the Display.

Operate the K- and L-Carriages according to the Display.



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

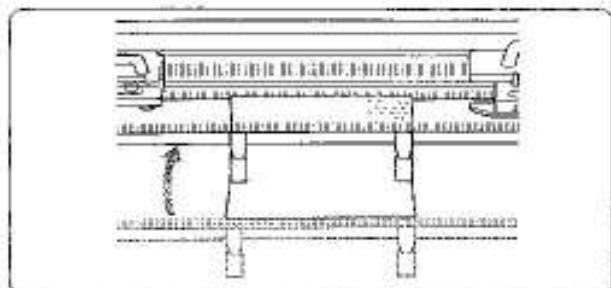
- You can either continue ...
Repeat Steps ⑥ - ⑦ -
- Or finish pattern knitting ...



Knit as many rows as you wish in stocking stitch.

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.



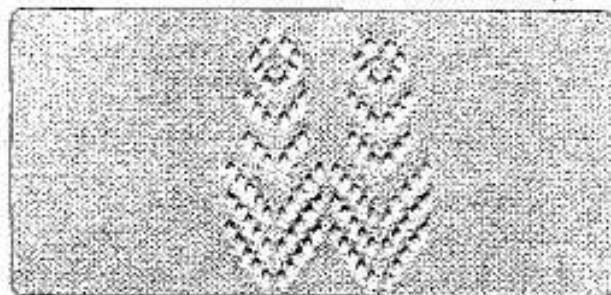
Rehang the Cast-on Comb and Claw Weights if the knitting becomes too long.

* Should the knitting lift, pull it down with your other hand whilst you knit.

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

PATTERN A

This example is a single motif Lace Pattern using "STITCH WORLD" Pattern No. 112.
(You can also knit Fine Lace Patterns in the same way.)



The procedure is the same as that for Full Pattern Knitting so refer to page 117.

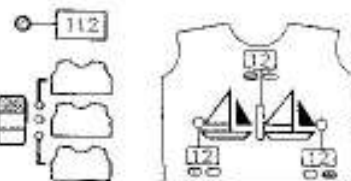
(When programming the pattern, refer to page 39.)

Ex. PATTERN PROGRAM

- MODE NO. 990

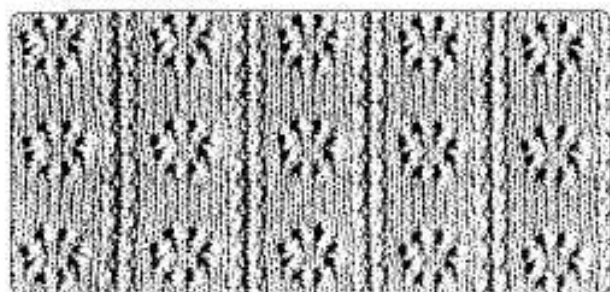


PATTERN NO.



LACE AND FINE LACE MIXED

- This example was knitted using "STITCH WORLD" Pattern No. 222.



Ex. PATTERN PROGRAM

- MODE NO. 990






PATTERN NO.

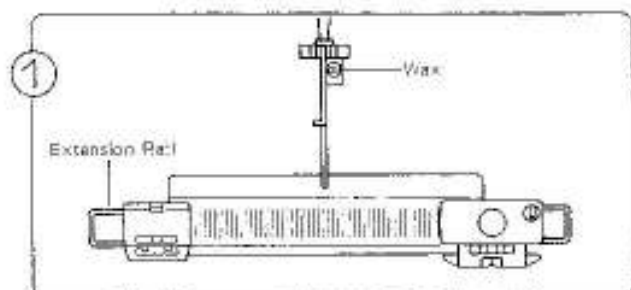
222



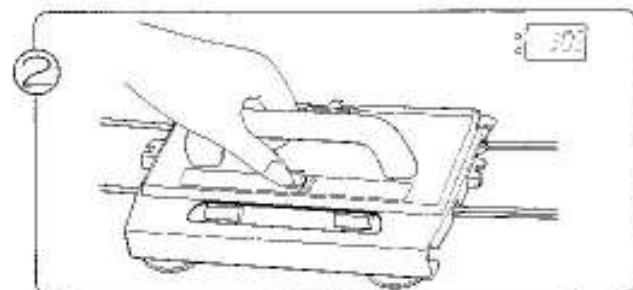
• PATTERN KNITTING


Operate the K- and L-Carriages according to the memo data in the display in Lace or Fine lace pattern knitting.

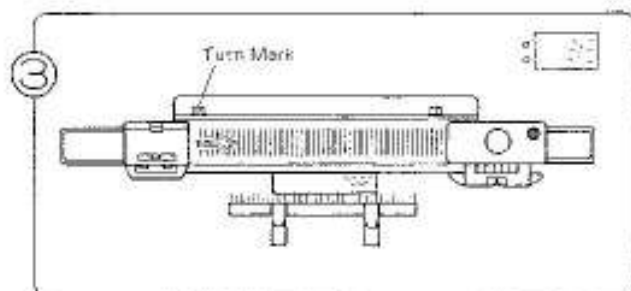
- ①  Before to start knitting, change the indication in the display to the memo data by pushing the yellow key. When the number "0" flashes on and off in the display, set the Lace change lever to N and operate the L-Carriage until the number "0" in the display changed.
- ②  When the number "1" flashes on and off in the display, set the lace change lever to F and operate the L-Carriage until the number "1" in the display changed.
- ③  When the even number is indicated in the display, knit as many rows with the K-Carriage as the number indicates, and then move the L-Carriage from left to right.



Set the L-Carriage by referring to page 117 and follow Steps ① - ② on page 118.

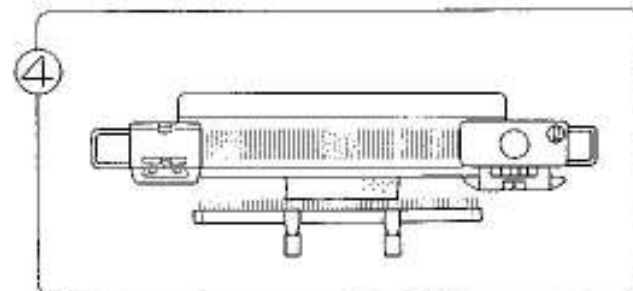


Set the Lace Change Lever to N which corresponds to the symbol "  " in the Display.



Move the L-Carriage from outside the left Turn Mark to the right. Then operate the L-Carriage backwards and forward across the knitting until the symbol in the Display changes.

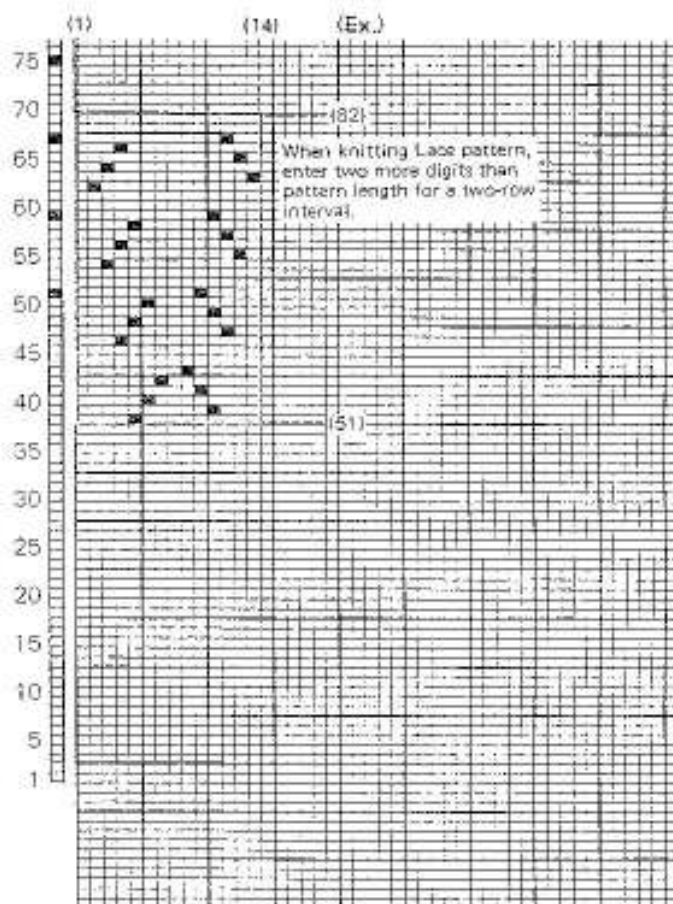
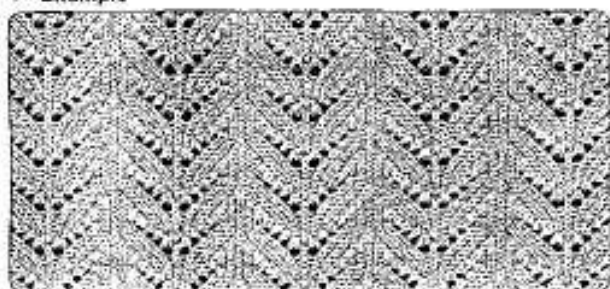
* You only need to operate the L-Carriage once across the Turn Mark when you start pattern knitting.



Operate the K- and L-Carriages according to the Display.

LACE AND FINE LACE KNITTING USING YOUR OWN PATTERNS OFF MYLAR SHEETS.

• Example

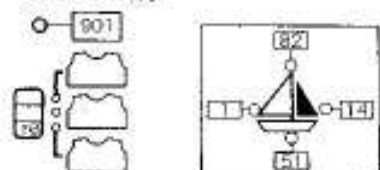


Ex. PATTERN PROGRAM

• MODE NO. 990



PATTERN NO.



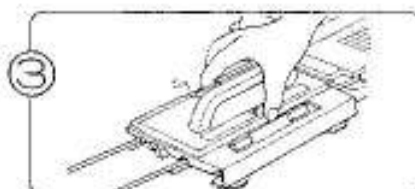
• HOW TO SET THE L-CARRIAGE



Remove the L-Carriage by pushing the Release Button.



Raise the L-Carriage Handle.

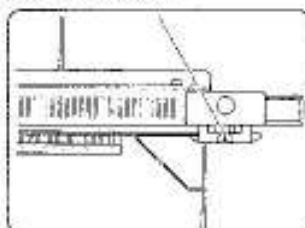


Push the Release Button and place the L-Carriage securely on the left Extension Rail.

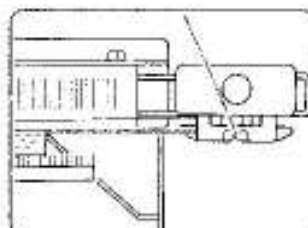
• BEFORE STARTING PATTERN KNITTING



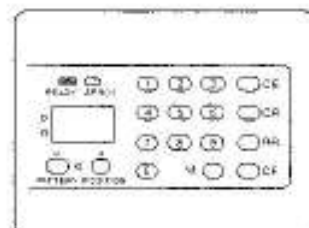
Thread the main yarn into the righthand Yarn Tension Unit.



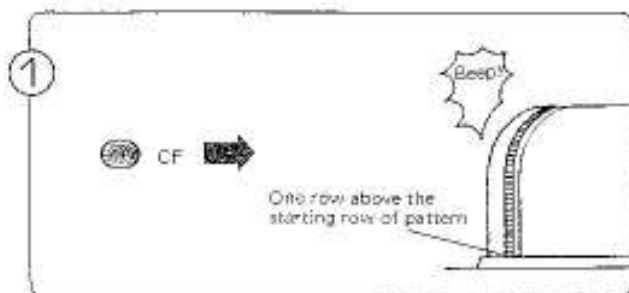
Cast on.



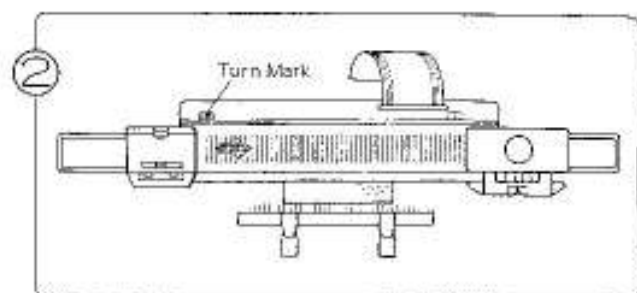
Knit a few rows in stocking stitch and place the K-Carriage on the righthand Extension Rail. Hang the Claw Weight evenly along the Cast-on Comb.



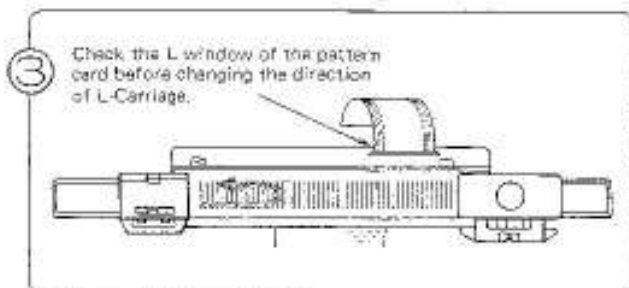
Set the pattern card and program your pattern. (An example is given.) (See page 55.)



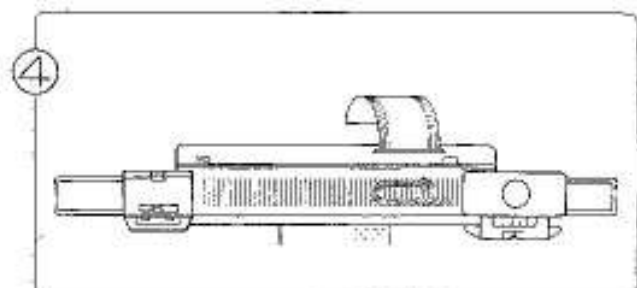
Push the CF key after entering the pattern program.
The computer reads all the pattern area which is programmed and the pattern card is fed to the starting row of pattern.
The one row above the starting row of pattern on the L window comes to the card inlet.



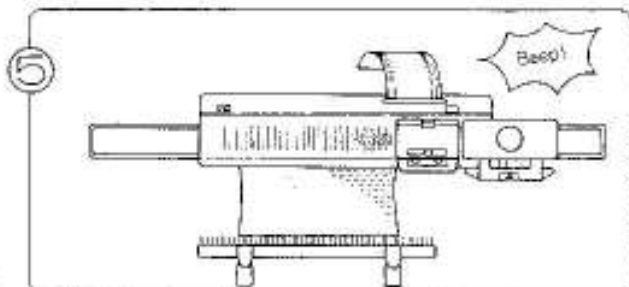
Set the Lace change lever according to the pattern, and move the L-Carriage to the other side across to the turn mark.
At this time, the pattern card does not feed.



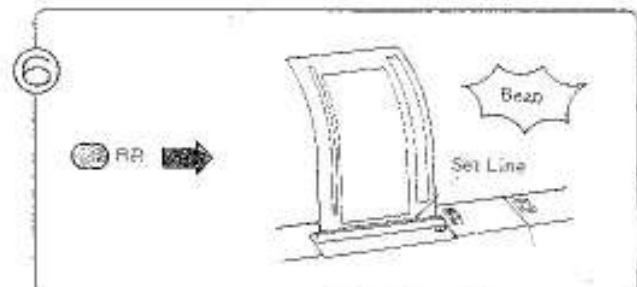
The pattern card is fed one row forward at every row of the L-Carriage operation. Operate the L-Carriage until the (■) mark on the L window of the pattern card comes to the card inlet. The row number of the L window at the card inlet is the next needle selecting row.



When the (■) mark on the L window comes to the card inlet, knit necessary rows with the K-Carriage.
(The pattern card is not fed forward when operating the K-Carriage.)
The pattern card is fed forward by operating the L-Carriage.



At the last row of pattern, the pattern card is automatically returned to the starting row of pattern.
Move the L-Carriage to the left side at this row.
Knit the necessary rows with the K-Carriage, then you can knit one complete pattern.



Push the RR key after finishing the pattern knitting, and the pattern card returns to the set line.

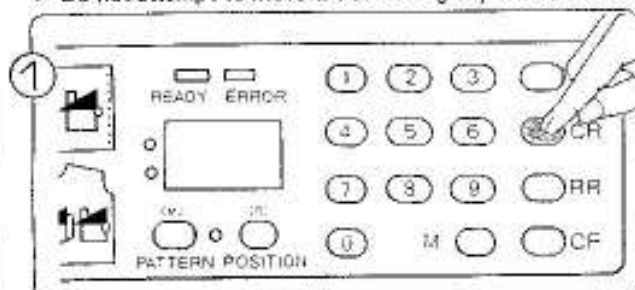
- Operate the K- and L-Carriages according to the information in the L window of the pattern card.

- White squares indicate to move the Lace carriage.
- Black squares indicate to move the knitting.
Where there is a number next to the square, this tells you the number of rows to knit.
- Where there is a mixture of Normal and Fine Lace, it is necessary to distinguish which setting to have the Lace carriage on.
- Squares filled in colour or a dot indicates Fine Lace.
- Squares left empty indicate Normal Lace.
- Squares blacked out indicate Knitting rows.

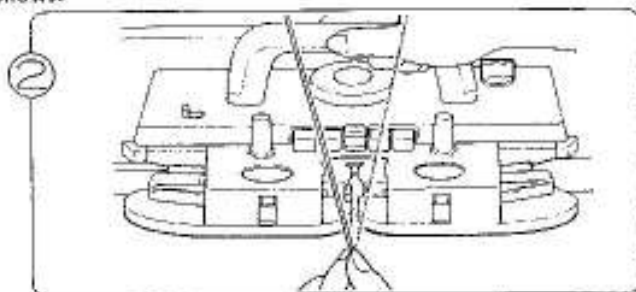
WHAT TO DO IF YOU MAKE MISTAKES AS YOU KNIT PATTERN KNITTING

1. IF THE K-CARRIAGE SHOULD JAM

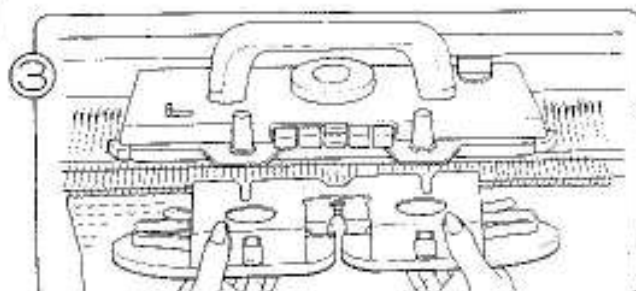
- Do not attempt to move the K-Carriage by force. Proceed as follows:



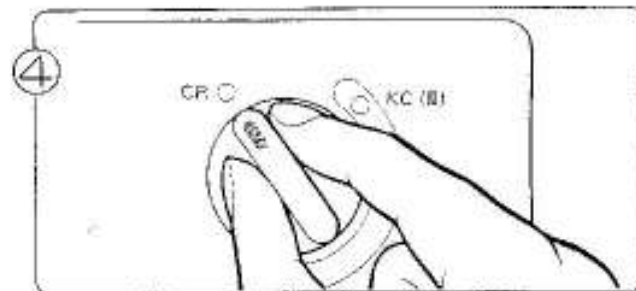
Push the CR Key. The Error Lamp flashes on and off.



Take the yarn out of the Yarn Feeder.

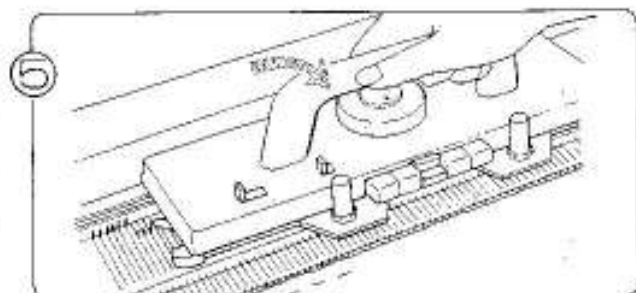


Loosen the knobs and remove the Sinker Plate Assembly.

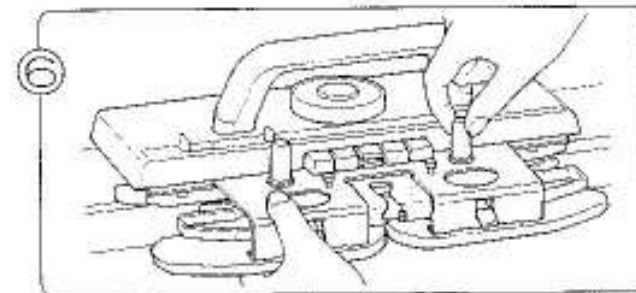


Set the Change Knob to CR to release the K-Carriage from the machine.

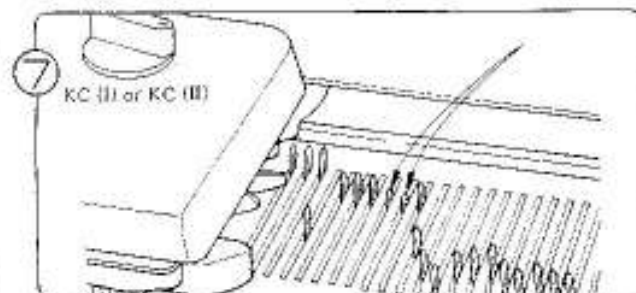
*WHEN WORKING IN THREAD LACE PATTERN
Do not release the Cam Buttons before removing the K-Carriage. If you do release them, push the Buttons again after you have removed the K-Carriage without sliding it.



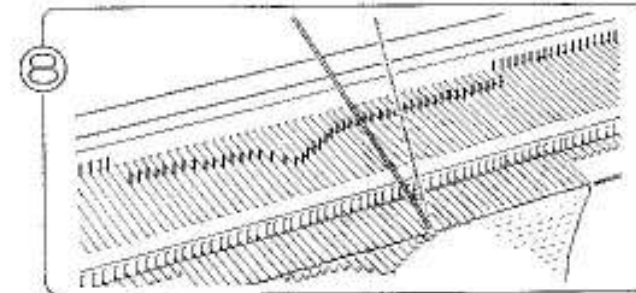
Lift up the K-Carriage to remove.
Place the K-Carriage onto either of the Extension Rails.
Set the Change Knob to N-L.



Screw the Sinker Plate Assembly back onto the K-Carriage.



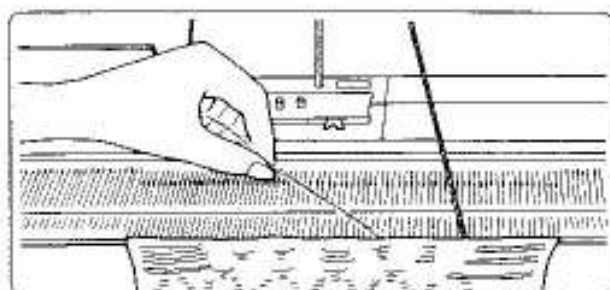
If some stitches have slipped back down the Needlebed, set the Change Knob to KC (I) or KC (II) and slide the K-Carriage back and forth across the Needlebed. At the side of your knitting, do not go over needles in working position. This will bring the needles back into the correct position.



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. (Refer to Step ⑤ (1) - (5) on page 20.) And make sure all needles are now in "B" position.

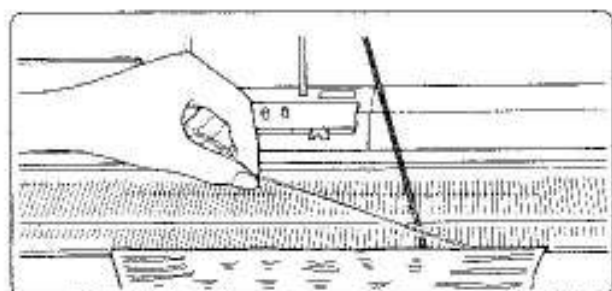


9 Unravel the row.

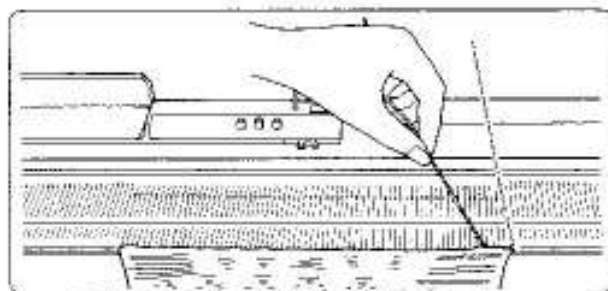


When knitting Fairisle patterns or Weaving patterns, unravel the second color yarn too.

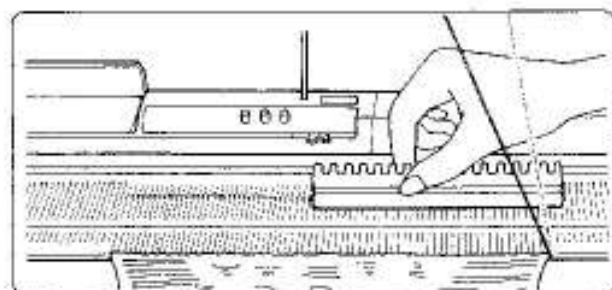
- 1) Hold the main yarn parallel with the Gate Pegs.



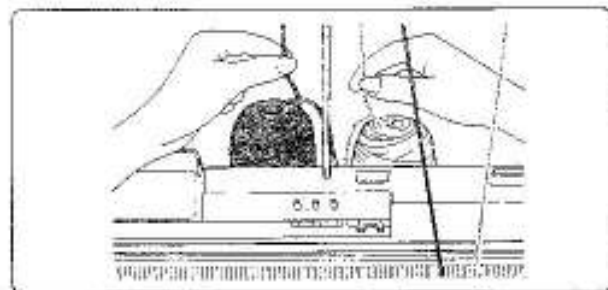
- 2) Pull the main yarn slightly sideways and up to unravel the swatch.



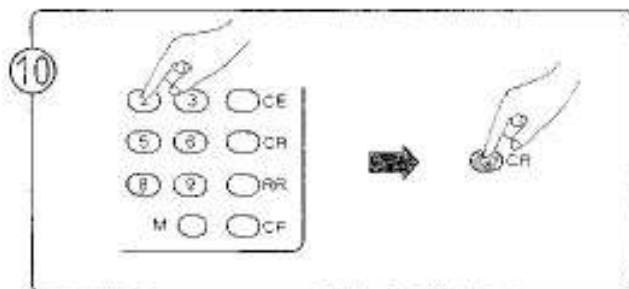
- 3) Unravel the second color yarn in the same way as the main yarn.



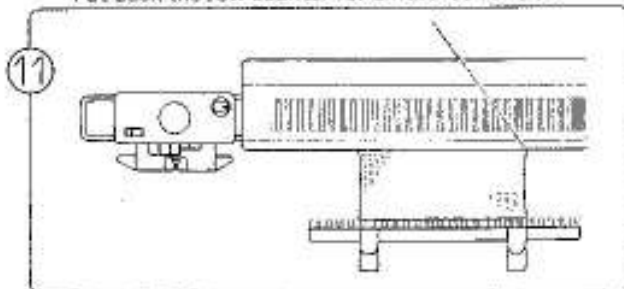
- 4) After unravelling the swatch, make sure that the stitches are on the hooks of the needles and return the needles to position B by using the flat edge of the 1/1 needle pusher.



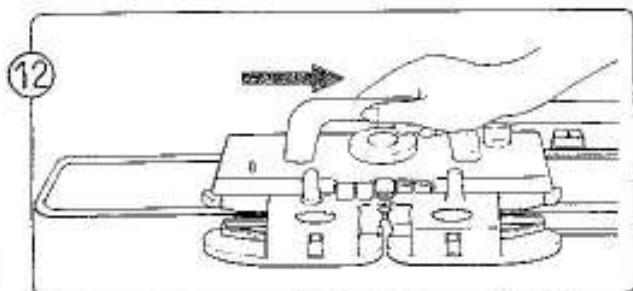
- 5) Pull the unraveled yarn down from under the Rear Yarn Guide to take up the slack. (until the tension springs are bent.)
When unravelling several rows of a swatch, repeat procedure ⑨ - 1) ~ 4).
Put back the row counter for unravelled row(s).



Enter the number of unraveled rows and push the CR key. The error lamp goes off and the pattern will be returned to the correct row of the pattern automatically. Do not forget to wind back the row counter and knit-leader (if used) by the number of rows you have unraveled.
* You do not need to count the last row if the row counter tripper and knit-leader tripper did not operate e.g. if you made mistake before the K-Carriage has passed the tripper.



Make sure the K-Carriage is placed outside the Turn Mark. To select the needles depress 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 the knit-leader, set their trippers to NON working position.

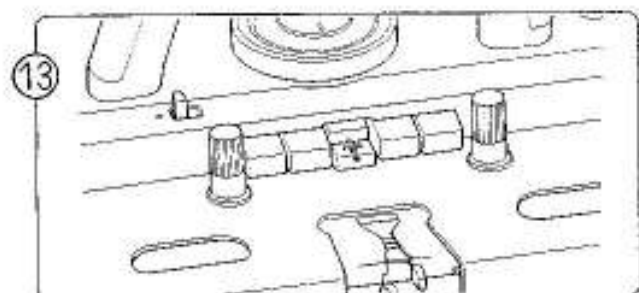


Move the K-Carriage across the knitting until the pattern needles are selected.

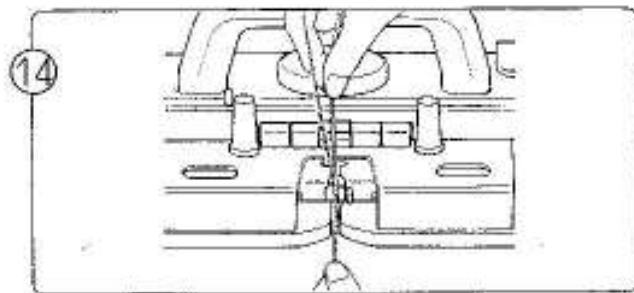
When the K-Carriage is on the opposite side of the yarn, needles will be selected after one row, and when the K-Carriage is at the side of the yarn, needles will be selected after two rows.

* In the latter case, if you are setting Change Knob at KC (II), push back both end needles to position B by hand after first row, then move the K-Carriage for one more row.

Position B needles are selected.

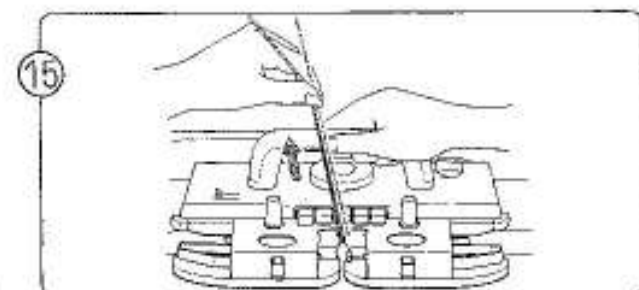


Push a Cam Button according to the pattern you are going to knit.



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.



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

* Put the Row Counter and/or Knit Leader Trippers back in operation.

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

Follow Steps ⑨ - ⑮ on page 124.

3. 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 ⑪ - ⑮ on page 124.

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

- ① When the error lamp is flashing on and off. Push the CE key. (The error lamp goes off.)
- ② When using the pattern card, push the RR key to return it to the set line.
- ③ Set the change knob to N-L and push both PART buttons.
- ④ Examine the switch to find which row should be knitted next by referring to the diagram or pattern card. (Except when using the KRC switch.)
- ⑤ Now follow the instructions according to the setting of the variation switch(es).
 - (1) When the double length reflection and KRC switches are in the lower positions.
 - Move the K-Carriage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark.
 - Enter the next knitting row number and push the CF key.
 - (2) When the double length switch is set to the upper position.
 - *When you knit double length patterns, each row is knitted twice.
 - *Check whether your next row is the first or second row of the double length.
 - A. If the next row is the first row of the double length.
 - Move the K-Carriage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark.
 - Enter the next knitting row number and push the CF key.
 - B. If the next knitting row is the second row of the double length.
 - Move the K-Carriage to the same side of the needlebed as the yarn end and place it outside the Turn Mark.
 - Enter the next knitting row number and push the CF key.
 - Enter '0' and push the CR key.
 - (3) When the reflection switch is set at the upper position.
 - *Check and find the knitting direction.
 - *Move the K-Carriage to the opposite side of the needlebed to the yarn end and place it outside the Turn Mark.
 - A. If you are knitting the pattern from bottom to top.
 - Enter the next knitting row number and push the CF key.
 - B. If you are knitting the pattern from the top to bottom.
 - Enter the last row of the pattern and push the CF key.
 - Enter the next knitting row number and push the CF key.

- (4) When the double length and reflection switches are set to the upper position.

* 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.

- A. If you are knitting the pattern from bottom to top and the next knitting row is the first row of the double length.
Enter the next knitting row number and push the CF key.
- B. If you are knitting pattern from top to bottom and the next row is the first row of the double length.
Enter the last (top) row of the pattern and push the CF key.
Enter the next knitting row number and push the CF key.
- C. If you are knitting the pattern from bottom to top and the next row is the second row in the double length.
Push the CF key.
Enter the next knitting row number and push the CF key.
Enter '0' and push the CR key.
- D. If you are knitting the pattern from top to bottom and the next row is the second row of the double length pattern.
Enter the last (top) row of the pattern and push the CF key.
Enter the next knitting row number and push the CF key.
Enter '0' and push the CR key.

In this case the next knitting row is the row below the corresponding row.

- (5) When the KRC switch or KRC and double length switches are set at the upper position.

Unravel the knitting until the yarn comes to the right side of the knitting.

Place the K-Carriage outside the left Turn Mark.

Check the contrast colour stitches to find out which row number should be knitted next by referring to the diagram or the pattern card.

Enter the next knitting row number and push the CF key.

- (6) When the KRC and reflection switches or KRC and double length switches and reflection switch are set in the upper position.

Unravel the knitting until the yarn comes to the right side of the knitting.

Place the K-Carriage outside the left Turn Mark.

Check the contrast colour stitches to find out which row number should be knitted next by referring to the diagram.

* If you find the corresponding row number on the swatch and it is the first (bottom) row of the pattern, the next row is the second row from the bottom of the pattern. If it is the last (top) row of the pattern, the next row is the second row from the top of the pattern.

* If you are knitting the pattern from bottom to top.
Push the CF key and Enter the next knitting row number.
Push the CF key.

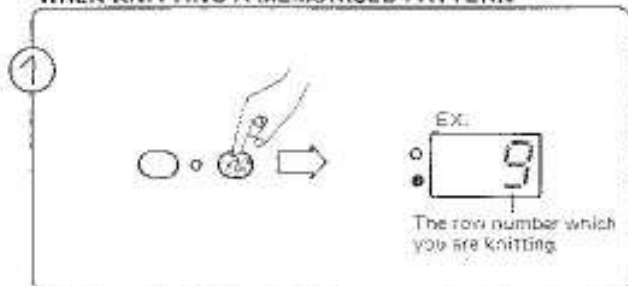
* If you are knitting the pattern from top to bottom,
Push the CF key.
Enter the last (top) row of the pattern and push the CF key.
Enter the next knitting row number and push the CF key.

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

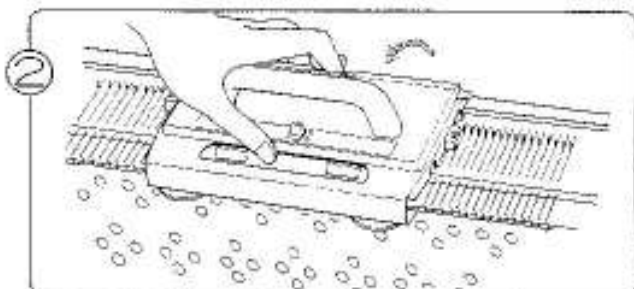
IF THE L-CARRIAGE SHOULD JAM

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

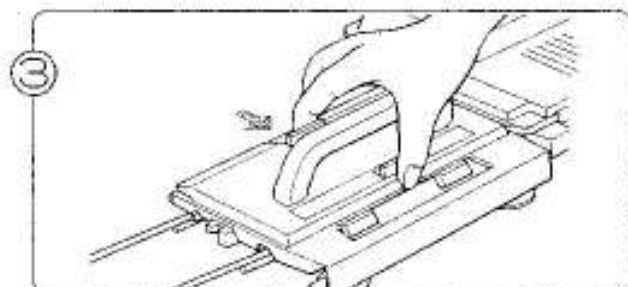
WHEN KNITTING A MEMORISED PATTERN



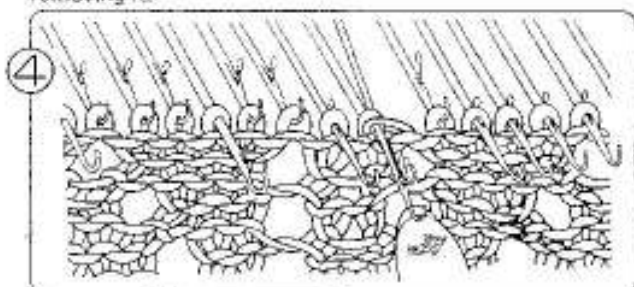
Push the green key to show the row number in the display. Check the row number which you are knitting.



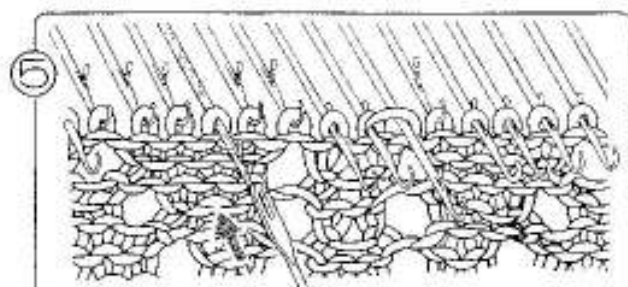
Remove the L-Carriage by pushing the Release Button. If the L-Carriage is caught on the needles, take care when removing it.



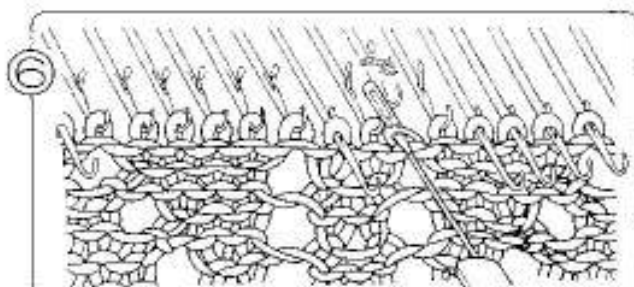
Place the L-Carriage securely on the left Extension Rail using the Release Button.



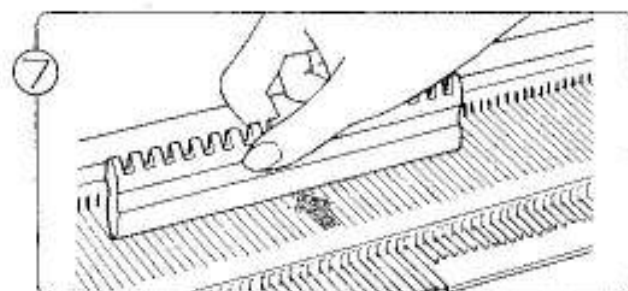
If the needles are caught over each other, separate them by lifting the tips as shown above.



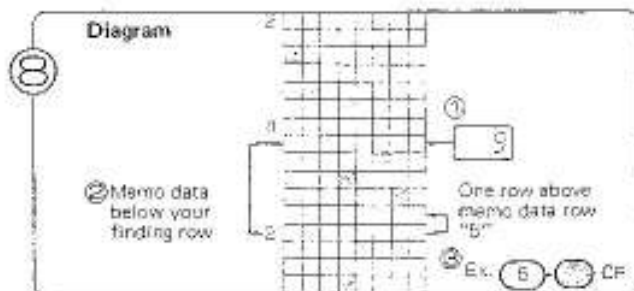
Use the Transfer Tool to replace any stitches on the stems of the needles back into the hooks.



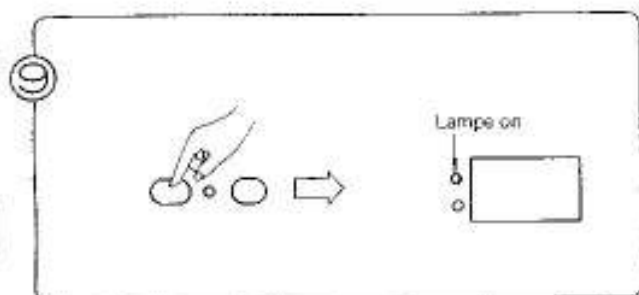
Return any stitches that have been transferred back onto the adjacent needles using the Transfer Tool.



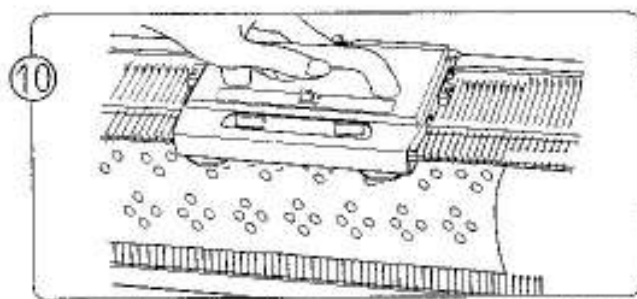
Bring all needles back to B position.



- Check the diagram on "STITCH WORLD" and find the corresponding row which is indicated in the display.
- Find the row number of memo data below your finding row at the above step ①.
- Enter the row number which is one row above the memo data row.

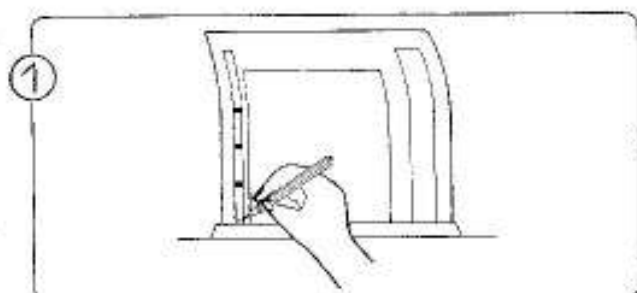


Push the yellow key to show the memo data in the display.

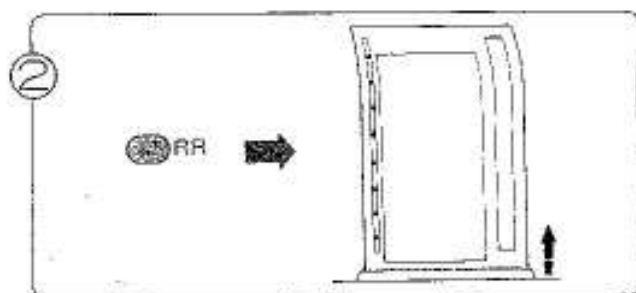


Operate the K- and L-Carriages according to the memo data in the display.

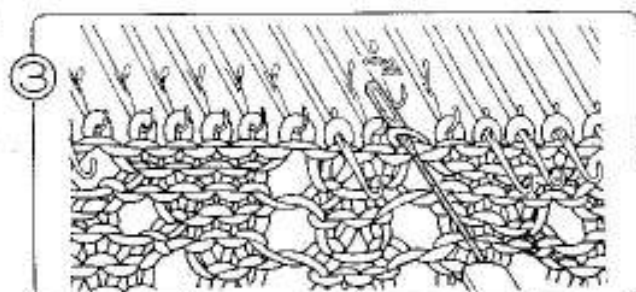
WHEN KNITTING THE PATTERN FROM THE PATTERN CARD



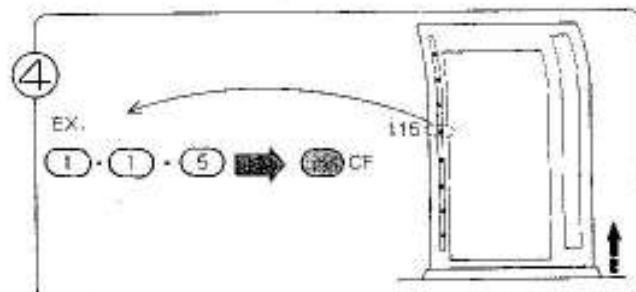
Mark "v", in the L-window at the card inlet.



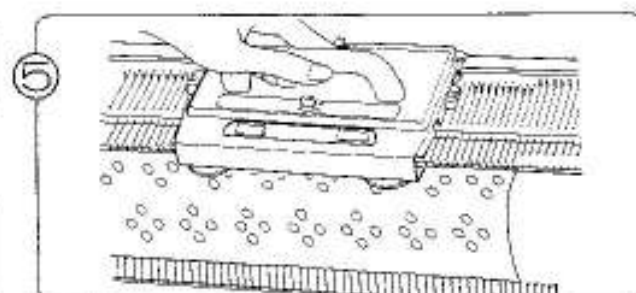
Push the RR key – Card returns to the set line.



Remove the L-Carriage and return any stitches that have been transferred back to the adjacent needles. Refer to Steps ② to ⑦ on the previous page.



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

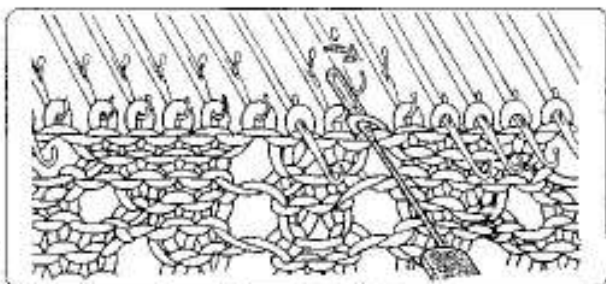


Operate the L-Carriage and the K-Carriage according to the marks (■) in the L-window.

2. IF YOU WANT TO UNRAVEL SOME KNITTING (in case of the L-Carriage is placed outside of the switch).

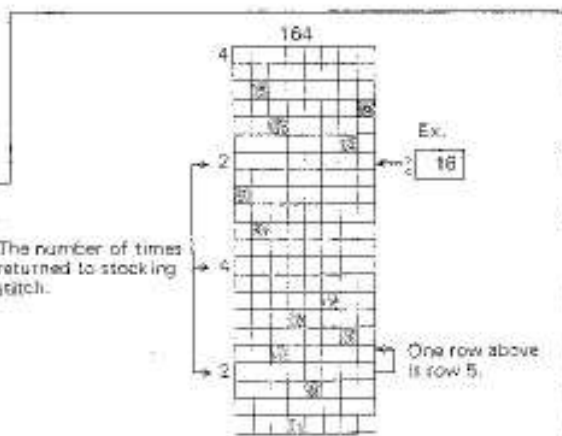
IF YOU ARE KNITTING WITH MEMORISED PATTERNS

- ① Push the green key to show the row number in the display. Check the row number which you are knitting.
- ② Unravel the knitting in the following manner.
 - 1) Return any stitches that have been transferred back to the adjacent needles using the transfer tool and put all needles in B position.
 - 2) Unravel the stocking stitch rows.
 - 3) Repeat Steps 1) and 2) above as necessary.
 - * At this time, bear in your mind how many times you returned the stitches to the stocking stitch.



- ③ Working backwards from the row number at which you stopped. Find the row number of memo data below the indicated row number in the display. According to the number of times you returned the stitches to stocking stitch, count down that number of memo data positions, on the 'STITCH WORLD' diagram.

- ④ Enter the row number which is one row above the memo data row and push the CF key.
- ⑤ Push the yellow key to show the memo data in the display. Operate the K- and L-Carriages according to the memo data.



Ex. If the display shows the row number "16" and you returned the stitches to stocking stitch twice,
Enter "5" and push the CF key.

The number of times returned to stocking stitch.

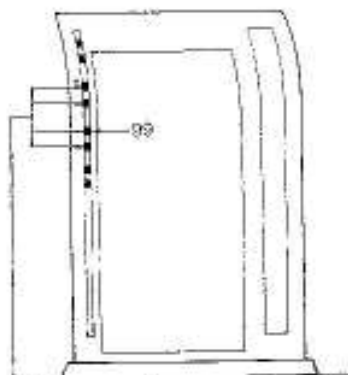
Ex.
16

One row above is row 5.

IF YOU ARE KNITTING A PATTERN FROM A PATTERN CARD

- ① Put the reference V mark beside the L-window of the pattern card at the card inlet.
Return the pattern card to the set line by pushing RR key.
- ② Return any transferred stitches back to the adjacent needles using the transfer tool and put all the stitches back to B position.
Unravel the stocking stitch rows.
* At this point, bear in mind the number of times you have returned the stitches to stocking stitch.
- ③ Find the row number of the mark (■) in the L-window below your reference mark.
According to the number of times you returned the stitches to stocking stitch, count down that number of (■) positions.
Enter the row number of the mark (■) and push the CF key.
- ④ Continue to knit by operating the K- and L-Carriages according to the marks in the L-window of the card.

Ex. If you returned the stitches to stocking stitch three times. The (■) mark in the L-window is row 99.
Enter "99" and push the CF key.



The number of times returned to stocking stitch.

3. 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 put it outside the left Turn Mark.
- ③ Enter '2' and push CR key.
- ④ Operate the K-Carriage according to the memo data.
If you cannot find the number of rows for knitting with K-Carriage when knitting a memorized pattern.
 - 1) Push the green key to find the row number.
 - 2) By referring to the diagram on "STITCH WORLD", check one row below of indicated row number so that you can find the number of row for knitting with K-Carriage.
 - 3) Change the indication in the display to the memo data by pushing the yellow key.
- ⑤ Operate the L-Carriage and the K-Carriage according to the Display or the mark (■) in the L-window on the pattern card.

4. IF THE SELECTED NEEDLES ARE PUSHED BACK BY MISTAKE

- ① Bring the selected needles from D to B position.
- ② Enter '1' and push CR key.
- ③ Operate the L-Carriage until the needles are selected.
- ④ Operate the L-Carriage and the K-Carriage according to the Display or the mark (■) in the L-window on the pattern card.

WHAT TO DO IF YOU MAKE MISTAKES AS YOU KNIT INTARSIA KNITTING

1. IF THE K-CARRIAGE SHOULD JAM

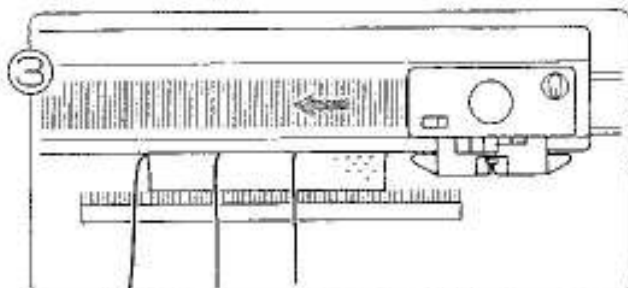
- Do not attempt to move the K-Carriage by force. Proceed as follows:

①

Follow Steps ② – ⑫ on page 92.

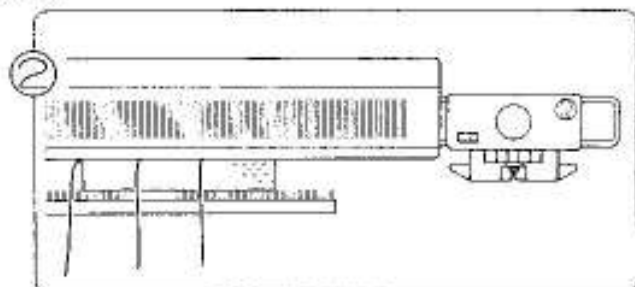
* Wind back the Row Counter and Knit Leader (if used) by the number of rows you have unravelled.

* 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 Trippers.

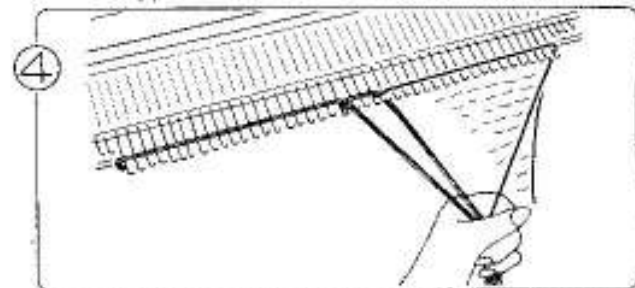


Push both PART buttons and move the K-Carriage across to the other side of the needlebed.

* If you are using the row counter or the Knit Leader, set their tripper to non-working position.



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.



Lay the yarns according to the pattern and continue knitting.

2. IF YOU WANT TO UNRAVEL SOME KNITTING

- ① Follow steps ⑨ (1) – ⑫ on page 20 then follow Steps 1. ② – ④ on this page.

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) Move the K-Carriage to select the needles.
 - (2) Work out the number of rows you are short. (In this example, it is "1".)
Enter the worked out number and push the CR key.
 - (3) Bring back all the selected needles to B position, then move the K-Carriage to select the needles again.
- 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.
 - (6) When using the pattern card.
 - a. Make sure that the pattern card is set correctly.
 - b. Make sure that you have allowed the pattern card to return to the starting point of the pattern before operating the K-Carriage.
 - c. Enter the row number of the L-window at the card inlet and push the RR key.
The pattern card will be back to the correct position automatically when it is not set correctly.
 - d. Make sure the pattern card is not soiled.
 - e. Make sure the pattern is drawn on the card correctly. (Refer to page 54.)

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

Check the following points:

- Make sure you have set the K-Carriage correctly and that you began with it outside a Turn Mark on the first row of the pattern.
- Make sure that the CF key is pushed before starting the pattern knitting.
- 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 didn't 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.

IF THE ERROR LAMP LIGHTS UP

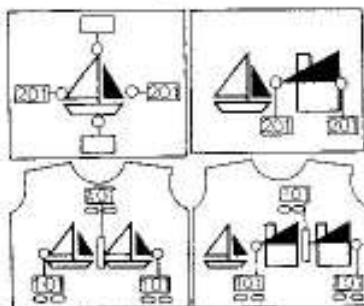
① Push the CE key. (The error lamp goes off.)

② Enter the correct programme.

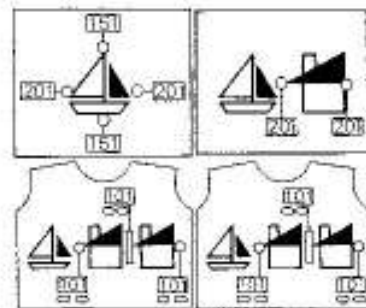
* In the following cases the Error lamp lights up.

If extra figures are entered when programming.

• When knitting the memorized pattern.



• When knitting the pattern from the pattern card.



- In the case where more or less figures than the pattern required are entered and the CF key pushed.
- In the case where zero ("0") is entered and the RR key pushed.
- 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 unraveled row by mistake, refer to page 133.)
- When knitting the pattern from the pattern card, When the CF key is pushed repeatedly. (Refer to the instruction on this page.)

IF THE ERROR LAMP LIGHTS UP WHEN ENTERING THE STARTING ROW OF PATTERN AND PUSH THE CF KEY

- If extra figures beyond pattern area are entered when programming, error lamp lights up. Push the CE key and enter the correct programming.
- If the programming is correct,
 - Make sure that the pattern programming is done correctly.
 - When knitting the memorized pattern with MODE No. 990, enter 999 as the MODE number and check the pattern area by referring to the diagram. Return the programme to 990 before starting to knit.

IF THE ERROR LAMP LIGHTS UP WHEN PUSHING THE CF KEY

- ① Push the CE key. (The error lamp goes off.)
- ② Push the RR key. (The set line of pattern card is not set at the card inlet correctly.)
- ③ Turn off the power and set the pattern card to the correct row by turning the card feeding dial.
- ④ Turn on the power.
- ⑤ Push the CF key. (The pattern card will be fed correctly.)

*To avoid this trouble, make sure that the set line of pattern card is set at the card inlet before pushing the CF key.

When taking out the pattern card, return the pattern card to the set line by pushing the RR key and turn off the power. Then take the pattern card out of the machine by turning the card feeding dial.

IF THE PATTERN CARD IS NOT FED CORRECTLY WHEN ENTERING THE NUMBER OF STARTING ROW OF PATTERN AND PUSH THE CF KEY

- 1 Enter the row number of L window at the card inlet and push the RR key. The pattern card will be fed correctly.
- 2 Enter the number of starting row of pattern and push the CF key.

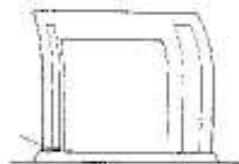
*Take the pattern card out the machine in the correct manner to avoid this trouble.

When finishing the pattern knitting, return the pattern card to the set line by pushing the RR key before turning off the power.

Then take the pattern card out the machine by turning the card feeding dial.

IF THE PATTERN CARD IS FED BY MISTAKE WHILE THE POWER IS TURNED OFF AND YOU WANT TO TAKE IT BACK TO THE CORRECT POSITION

- 1 Turn on the power.
- 2 Enter the row number of L window at the card inlet and push the RR key.
The pattern card will be back to the correct position.
- 3 Move the carriage to the outside of the turn mark and pass it to the turn mark. Then continue knitting.



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 error lamp lights up.)
 - d) Unravel the knitting down to a row of correct pattern knitting.
 - e) Enter '0' and push the CR key. (The error lamp goes off.)
 - f) Push both part buttons and operate the K-Carriage until the needles are selected.* If the Change knob is set to KC (I) and both end needles are selected to D position, push them back to B position by hand.
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 according to the pattern.
3. If the electric power is cut off when the L-Carriage is operating.
 - a) Finish the row you are working, and place the L-Carriage outside the Turn Mark.
 - b) Turn on the power.
 - c) Push the CR key. (The error lamp lights up.)
 - d) Bring back all the selected needles to B position.
 - e) Enter '1' and push the CR key. (The error lamp goes out.)
 - f) Operate the L-Carriage twice.
 - g) Operate the K and L-Carriage according to the memo data in the display or the L window of the pattern card.

COLOURCHANGERS

This section deals with the two colourchanger attachments and how they work on your electroknit machine.

The Singlebed colour changer is used for Multicolour patterns, for example Multicolour Tuck stitch or skip stitch and Multicolour fairisle among others. It enables you to knit these patterns quicker and easier than you would normally.

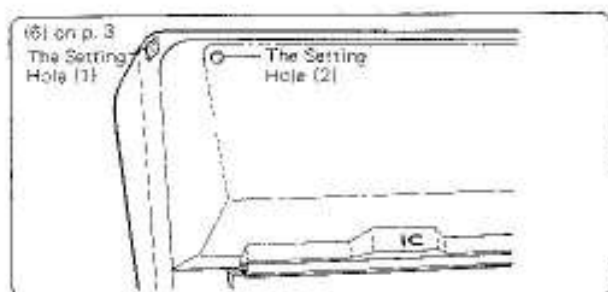
The Doublebed colourchanger is used in conjunction with your machine and the ribber, and aids you in creating Multicolour rib patterns. The most popular of these is a multicolour rib fairisle combination, commonly known as jaquard fabric.

WHEN YOU USE THE SINGLE BED COLOUR CHANGER (KHC)

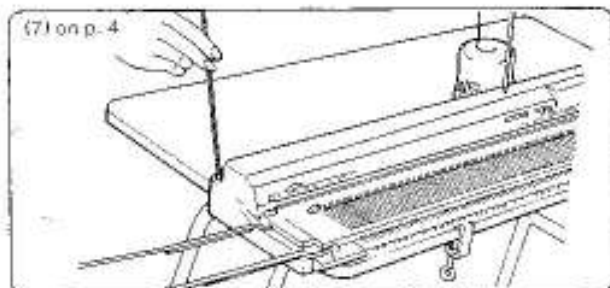
This can be fitted to both electronic and punchcard machines. Please read the original instruction manual for the KHC in conjunction with the following instructions.

- **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 (6) on page 3 and (7) on page 4.



You don't have to set the Yarn Tension Stand. You can use the setting hole on the corner of your knitting machine.



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**

- All the patterns shown in the KHC instruction manual are also memorized in the computer, so you should select the pattern you require from "STITCH WORLD". (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.	NO. 6 SWITCH
512~519-521	520	Upper
43~84		Upper
293~312		Lower
366~394		Lower

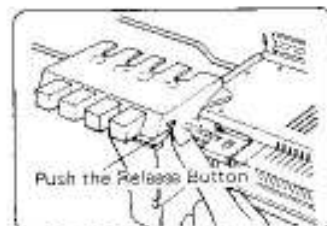
- You can also use the KHC with your own designs. Using the pattern variation switch No. 6 negative as suggested above.

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

Example "STITCH WORLD" Pattern No. 514

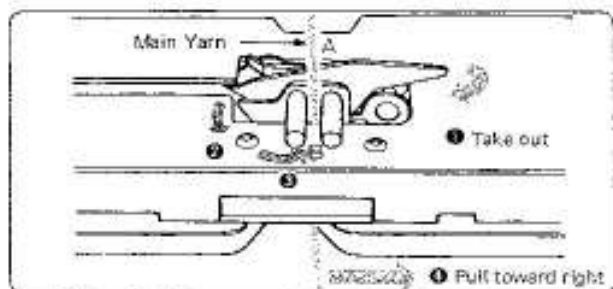
When the knitting row numbers 5, 19, 25, and 39, all the needles are selected to D position.

- Push the Release Button on the KHC and knit two rows with the main yarn only.

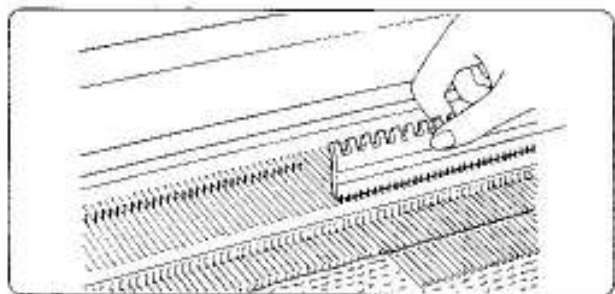


■ Fairisle pattern

- ① Refer to your KHC instruction manual and thread up main 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 righthand side of the machine.
- ③ Program the pattern and push the yellow key to show the memo data in the display.
- ④ Transfer the main yarn from yarn feeder "A" into yarn feeder "B".



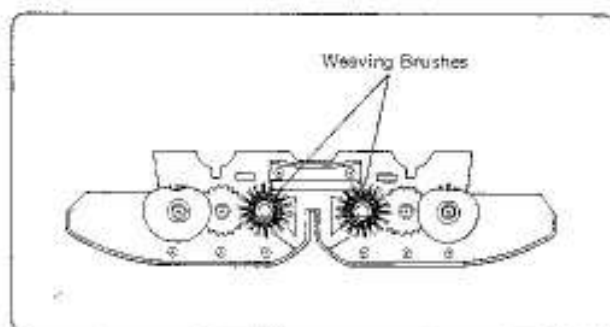
- ⑤ Take the main yarn off roller 1 and cancel the changer button 1.
- ⑥ Bring all the needles forward from B to E position.



- ⑦ Move the K-Carriage to outside the right turn mark. Set the change knob to KC (I) or (II) 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 display.

■ Multi-colour tuck and skip stitch pattern

- 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 the other pattern.)



- 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 and push the yellow key to show the memo data in the display.
- ④ Set the change knob to KC (I) or (II) 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 display.

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

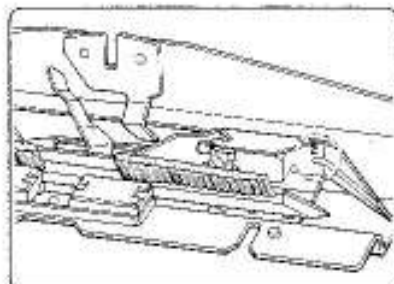
- All the patterns shown in the KRC Instruction Manual are also memorized in the computer, so you should select the pattern you require from "STITCH WORLD". (The punchcards that come with the KRC are not used.)
- You can knit Multi-colour rib pattern using the pattern number of Fairisle, Multi-colour Fairisle, and single motif patterns built in the computer with setting the KRC (No. 7) switch to the upper position.
- You can use any of the other pattern variation switches at the same time as the KRC switch if you wish.

• Pattern Program

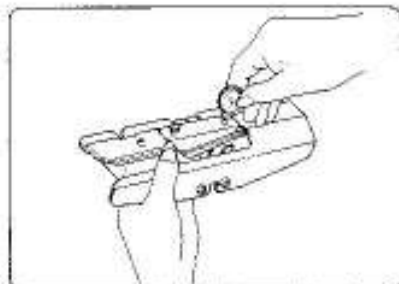
- Set the KRC (No. 7) switch to the upper position.
- You can knit any of your own fairisle pattern in this construction (Multi-colour rib) by setting the No. 7 pattern variation switch to the upper position.
- You can use the KRC switch to make single motif in conjunction with Pattern A or A+B. (Please disregard the instruction on page 17 of the KRC Instruction Manual.)

• ADJUSTMENTS TO RIBBER CONNECTING ARM ASSEMBLY

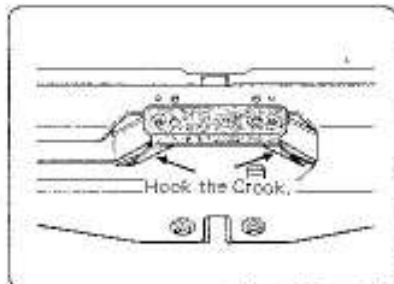
Should your Ribber be one with which you can knit plated stitch pattern, and also the figure '2' is not marked on the underside of the connecting arm assembly, you should make the following adjustments.



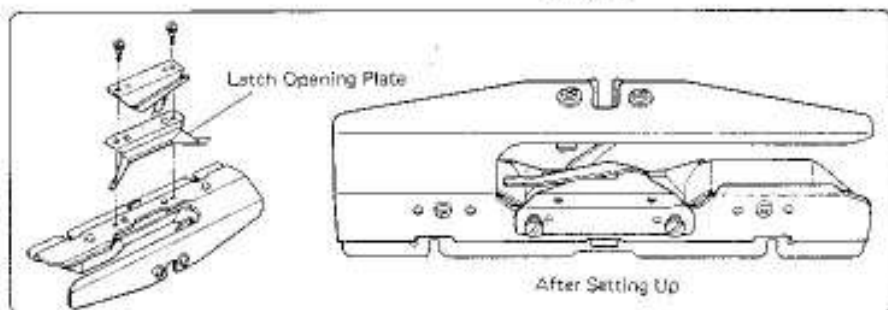
If you want to knit Multi-colour rib pattern, connect the Latch Opening Plate to the connecting arm assembly.



(1) Remove the screw to take out the Yarn Feeder.



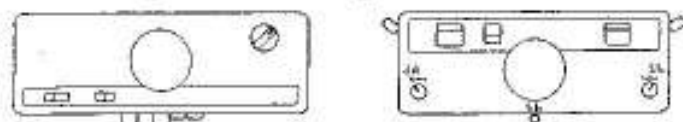
(2) Put the Latch Opening Plate on the Connecting Arm Assembly, and then screw up the Yarn Feeder.



KNITTING MULTI-COLOUR RIB PATTERNS

- (1) Refer to your KRC Instruction Manual and set up the ribber and KRC onto your machine.
- (2) Refer to your KRC Instruction Manual and thread up main and contrast yarns.
Button 1 – main yarn, 2/3/4 – contrast yarns.
- (3) Fit the Fine Knitting Bar on the main bed.
- (4) Arrange the needles for full needle rib and knit 10 rows with the main yarn in full needle rib. Place the K-Carriage outside the lefthand Turn Mark.
- (5) Choose the pattern.
- (6) Program the pattern. Push the yellow key to show the memo data in the display.
- (7) Set the Change Knob to KC (II).
- (8) Move the K-Carriage across the needlebed from left to right using the main yarn, so that the needles have been selected.

(9) Set the K-Carriage and the KR Carriage as shown in the illustration.



(10) Move the Carriages to the left until you hear a "Click". Now push the Changer Button according to the number shown in the Display.

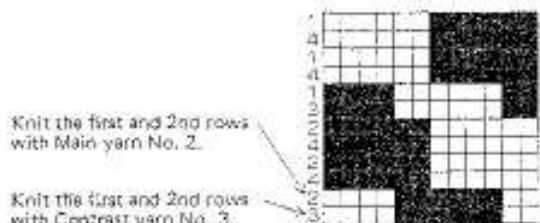
(11) Knit two rows.

(12) Continue knitting. When the Carriages are at the lefthand side, push the Changer Button according to the number shown in the Display.

- Push the Changer Button after you hear the "Click".
- * For correction of mistakes, refer to page 123.

MEMO INFORMATION IN "STITCH WORLD" PATTERN BOOK

- For Multi-colour Rib, the Memo information is used as follows:—
- Memo Information on odd numbered rows — distinguishes between different coloured contrast yarns.
- Memo information on even numbered row — distinguishes between different coloured main yarns.



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

- Knit with only one main yarn and one contrast yarn.
- The number 1 in the 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.

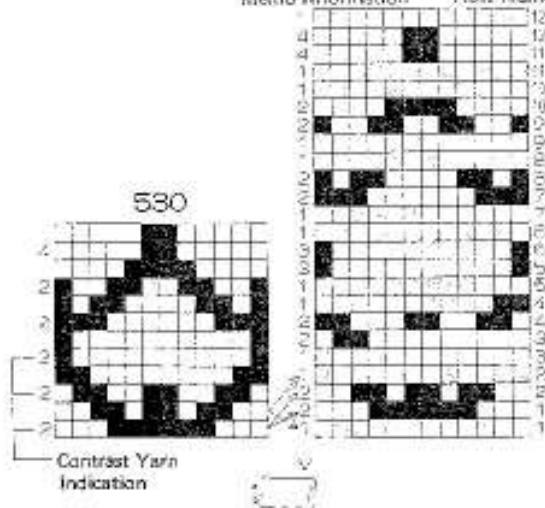
Memo Information Row Number



(2) When the Memo information is on the odd row only:—

- Knit with only one main yarn but several contrast yarns.
- The number 1 in the Display tells you to knit with the main yarn, and the other numbers distinguish between the contrast yarns.

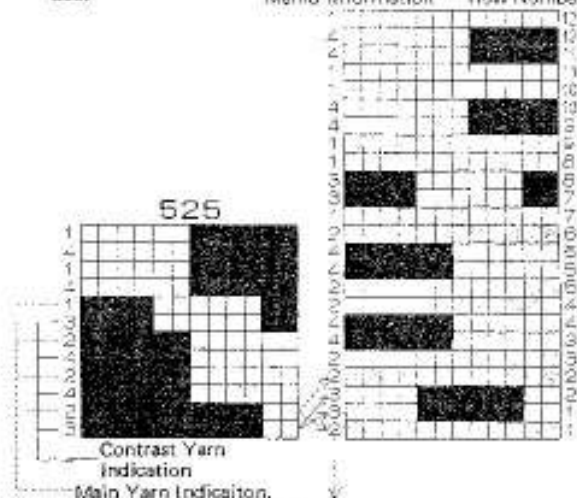
Memo Information Row Number



(3) When the Memo information is on both the odd numbered rows and even numbered rows:—

- Knit with several main yarns and several contrast yarns.
- The numbers in the Display indicate which yarns to use.

Memo Information Row Number



- When the No. 7 switch is set at the lower position



Chart for single bed Fairisle Pattern

- When the No. 7 switch is set at the upper position

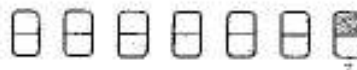


Chart for Multi-colour Rib Pattern

- C – Knitted with Contrast Yarn
 - M – Knitted with Main Yarn
- One Sequence

In Multi-colour Rib Pattern, the main yarn and contrast yarn are knitted separately. 4 rows of knitting makes 2 rows of pattern.

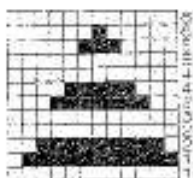
BEGINNING MIDWAY THROUGH A PATTERN



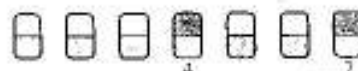
When the KRC switch is set at the upper position,

One row knitted with main yarn and one row knitted with contrast yarn equal one complete row of multi-colour rib pattern. Enter the row number which you want to start and push the CF key; the needle selection is started from the row for the main yarn of the row entered.

When you start knitting Multi-colour rib pattern from midway through, begin from the odd numbered row, as 4 rows equal one pattern sequence.



Odd numbered rows



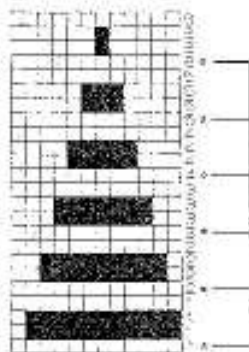
When both double length and KRC switches are set to the upper position,

The double length –

This type of pattern takes 4 rows to make one pattern sequence.

Enter the row number which you want to start on, and push the CF key.

The needle selection is started from the first Main yarn row. (i.e. those marked with #)



First row of main yarn colour.

GARMENT MAKING

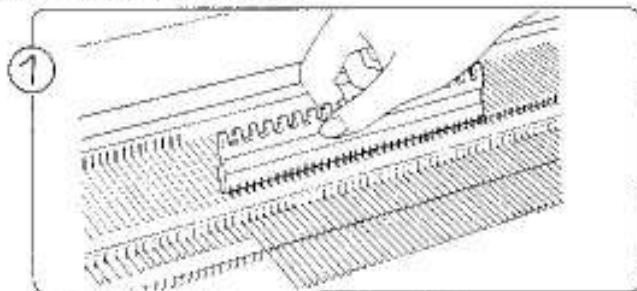
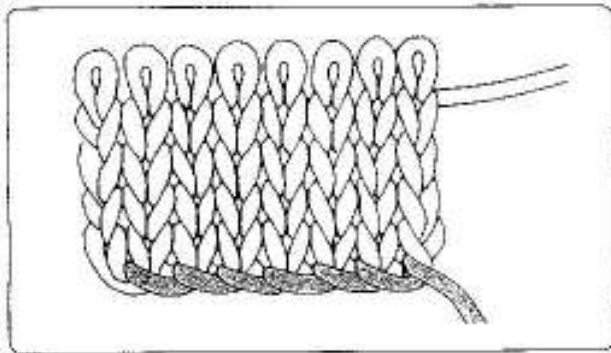
This section deals with various techniques which you will require in order to complete your garments.

It takes you through casting on methods, increasing, decreasing, casting off, and how to create the neckline shapings, and sewing your garments together.

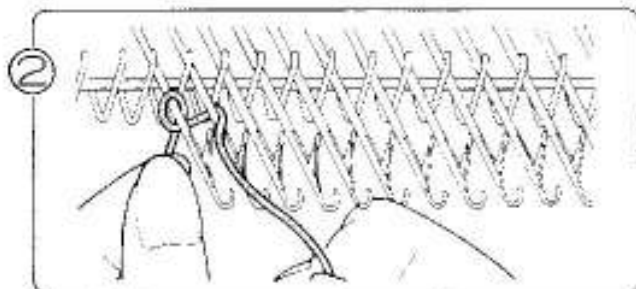
HOW TO CAST ON WITH A FINISHED EDGE (CLOSED EDGE CAST ON)

'E' WRAP METHOD

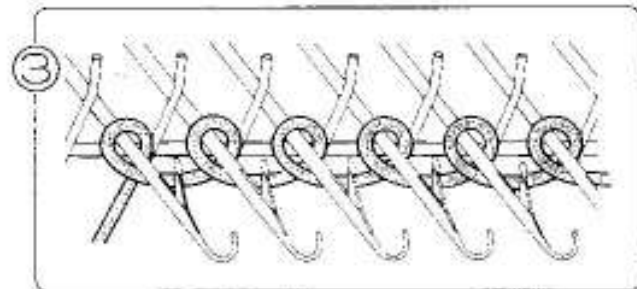
- With this method you will achieve a thin, elastic edge so it is suitable for any type of knitting.



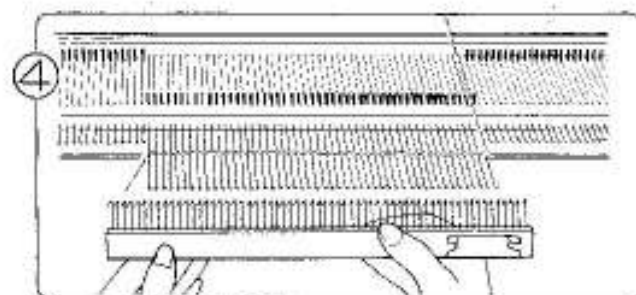
Place the K-Carriage at the right. Using the flat side of the 1/1 Needle Pusher, bring the needles forward to E position.



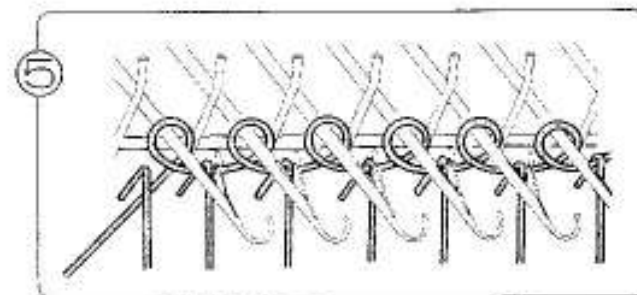
Beginning at the left, and working from left to right, wind the yarn around the needles in an anticlockwise direction. Do not wind the yarn too tight.



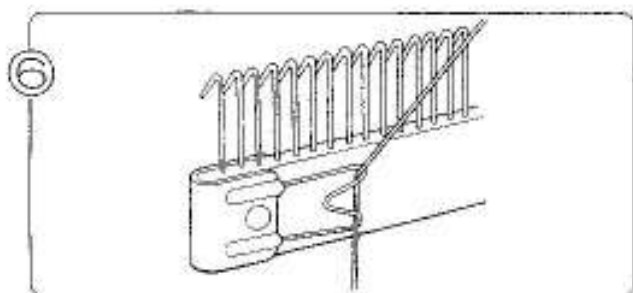
The loops should be behind the latches as shown. The looser the wrap, the stretchier the cast on edge.



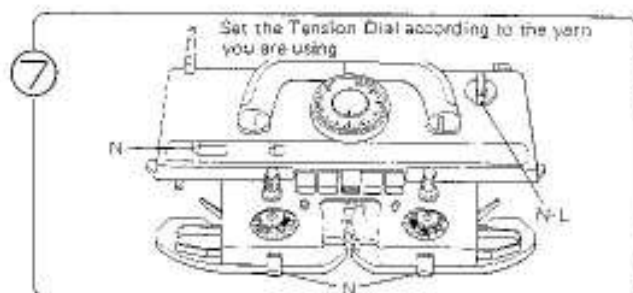
- (1) Take the Cast-on Comb out of the case and choose the length according to the number of needles. (Refer to page 11.)
- (2) Hold the Cast-on Comb as shown with the hooks facing the machine.



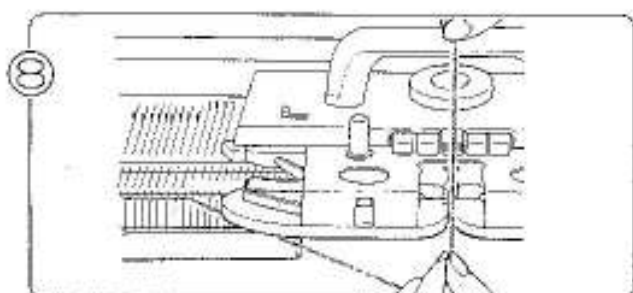
Pull the yarn through the edge hook. Hang the Cast-on Comb over the loops and gently pull it downwards.



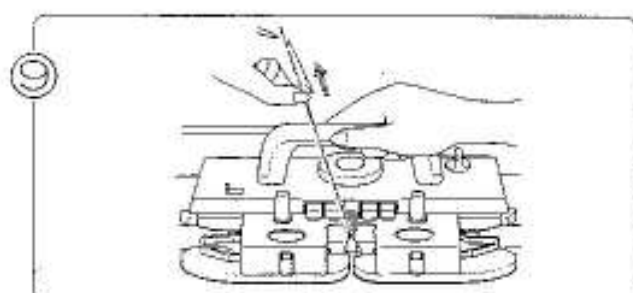
Hook the loose yarn end under the Yarn Clip from the front.



Set the K-Carriage as shown above.



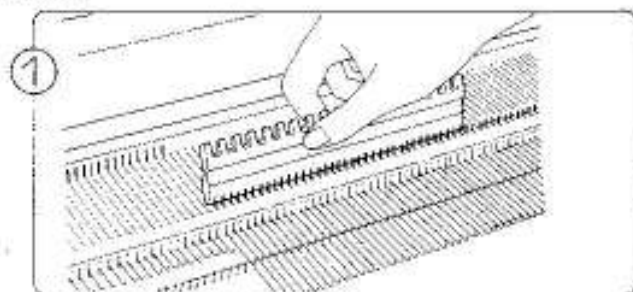
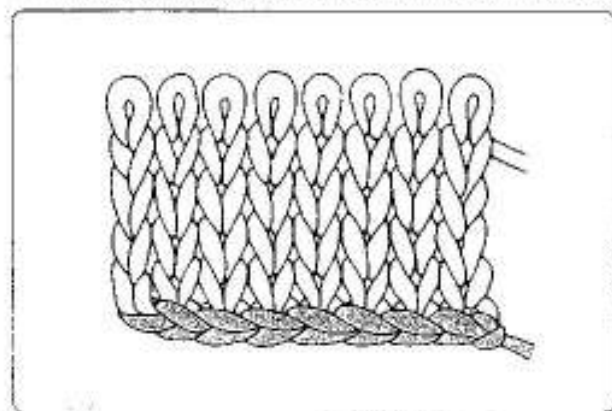
Open the yarn feeder gate, thread the yarn into feeder A and close the gate.



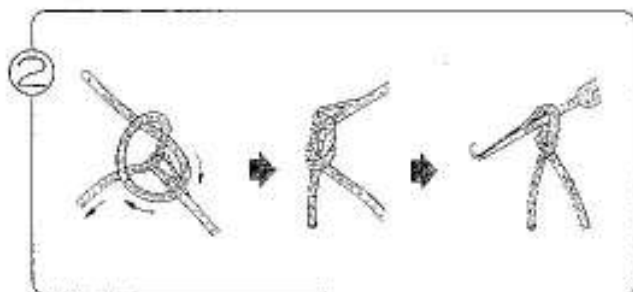
Move the K-Carriage to the left, holding the yarn as shown so that no loops are formed.

USING THE LATCHET TOOL (CHAIN STITCH CAST ON)

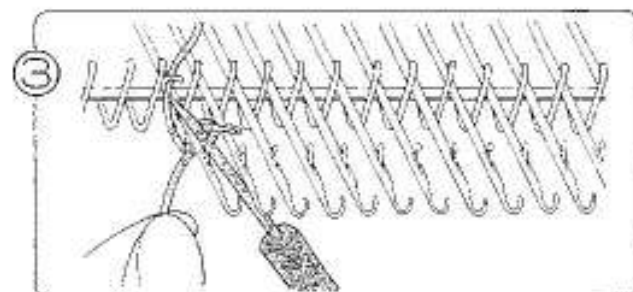
- With this method you will achieve a firm edge which is not very elastic.



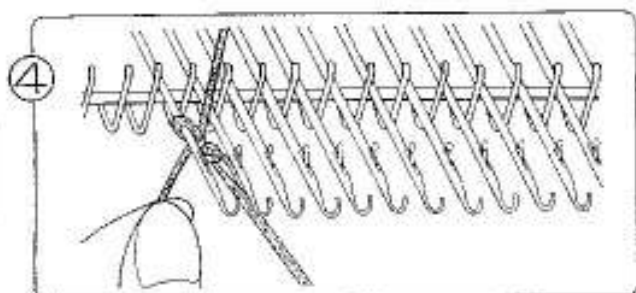
Place the K-Carriage at the right. Using the flat side of the 1/1 Needle Pusher, bring the needles forward to E position.



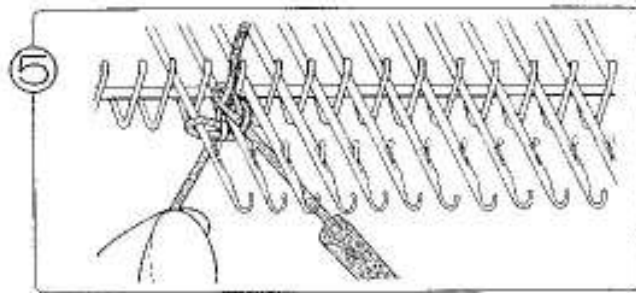
Thread the yarn into the Yarn Tension Unit. Now make a chain stitch using the Latchet Tool as shown.



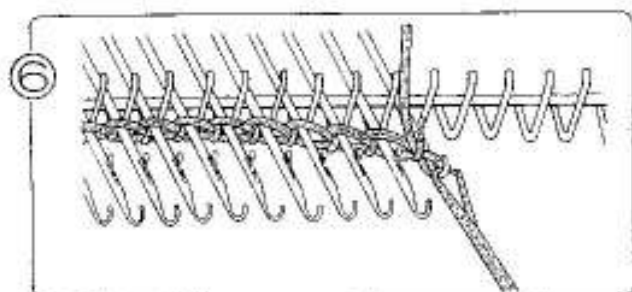
With the loop behind the latch, insert the Latchet Tool between the first and second needles on the left. Catch the yarn with the Latchet Tool.



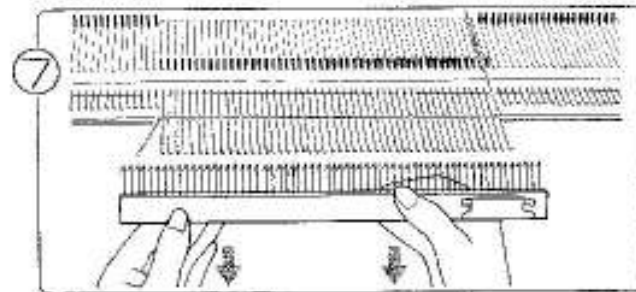
Keeping the yarn in the hook of the Latchet Tool, pull the yarn down through the chain loop, and slip the loop off the Latchet Tool. This makes one stitch.



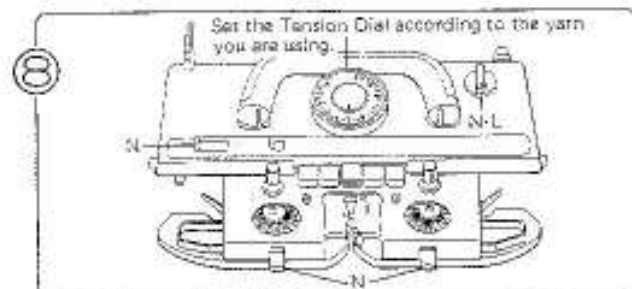
Repeat this across the needles until you reach the last needle.



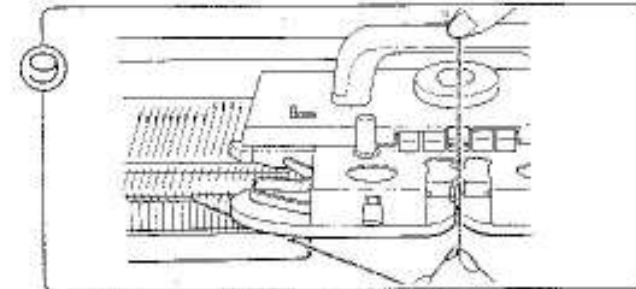
When you get to the last needle, transfer the loop from the Latchet Tool into the needle hook.



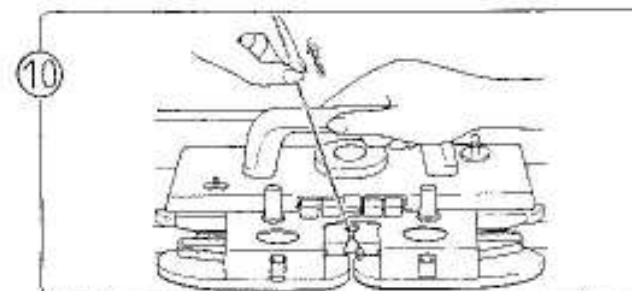
- (1) Take the Cast-on Comb out of the case and choose the length according to the number of needles. (Refer to page 11.)
- (2) Hold the Cast-on Comb as shown with the hooks facing the machine. Hang the Cast-on Comb over the loops and gently pull it downwards.



Set the K-Carriage as shown above.



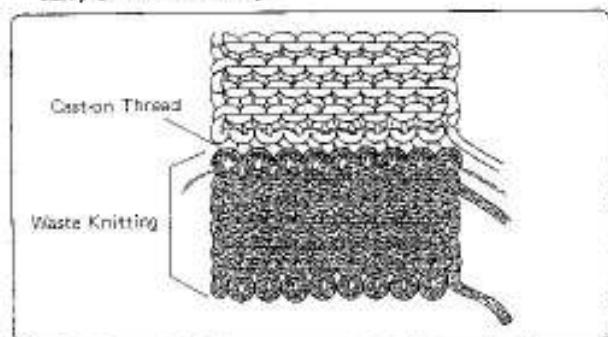
Thread the yarn into Yarn Feeder "A".



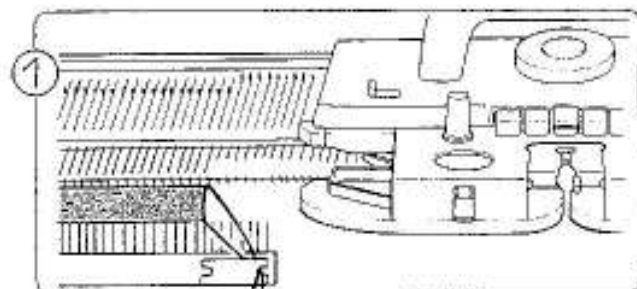
Move the K-Carriage to the left, holding the yarn as shown so that no loops are formed.

HOW TO CAST ON WASTE KNITTING

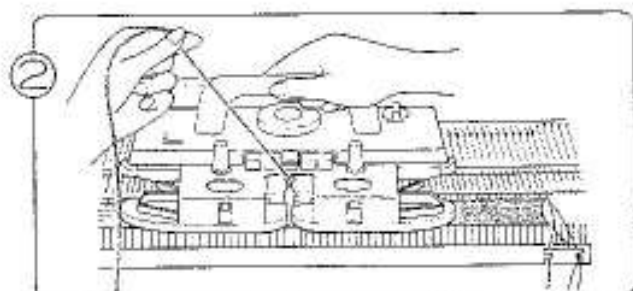
- Waste knitting is the term used to describe knitting that will be removed when the garment is completed, or to enable you to carry out the next step.



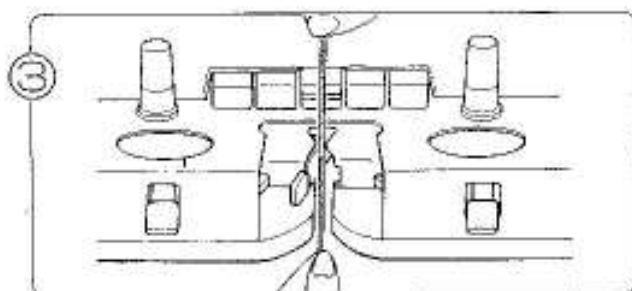
Waste yarn is a smooth yarn in a different colour to that of the main yarn.



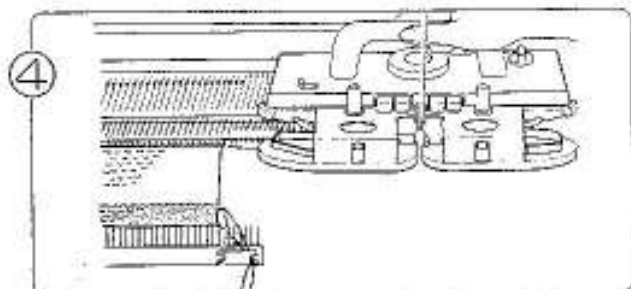
Knit 10 rows in stocking stitch using waste yarn ending with the K-Carriage at the right of the needlebed. Remove waste yarn from Yarn Feeder and cut the yarn.



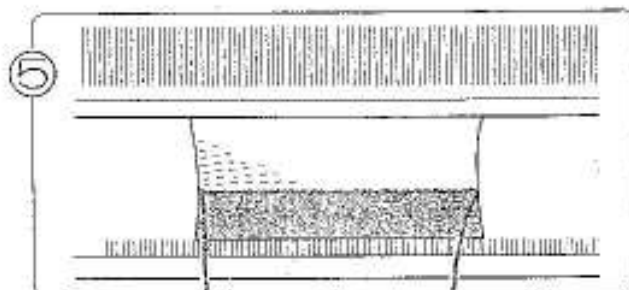
Thread the Cast-on Thread into Yarn Feeder "A". Hold the end as shown and knit one row. Remove Cast-on Thread from Yarn Feeder "A".



Thread the main yarn into Yarn Feeder "A".



Knit several rows.



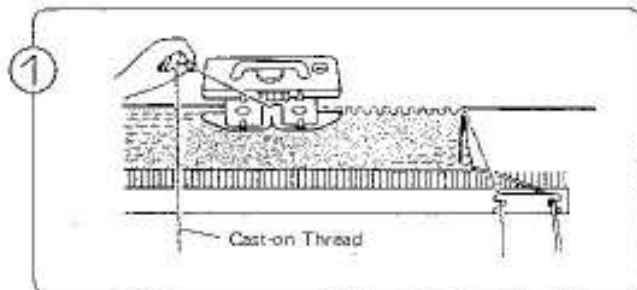
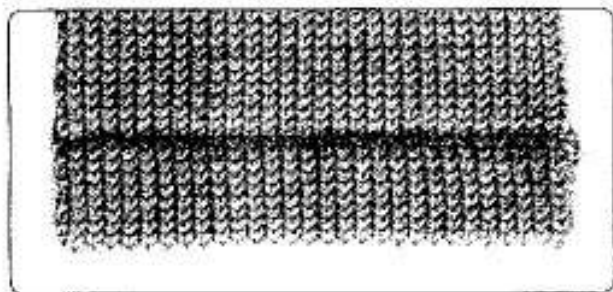
One row has been knitted with the Cast-on Thread and this separates the waste knitting from the main knitting.



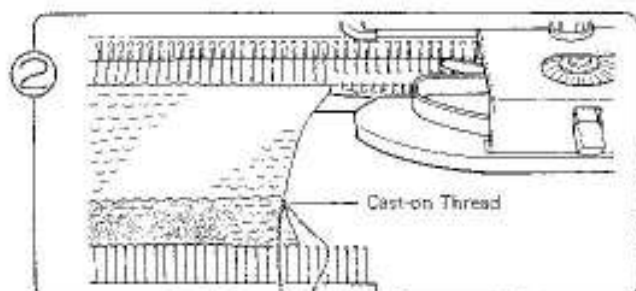
If you pull out the Cast-on Thread, the waste knitting will drop away.

HOW TO MAKE A HEM

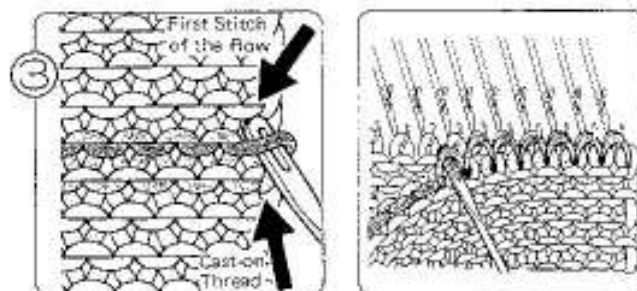
PLAIN HEM



Knit several rows with waste yarn and then knit one row with the Cast-on Thread. (Refer to previous page.)

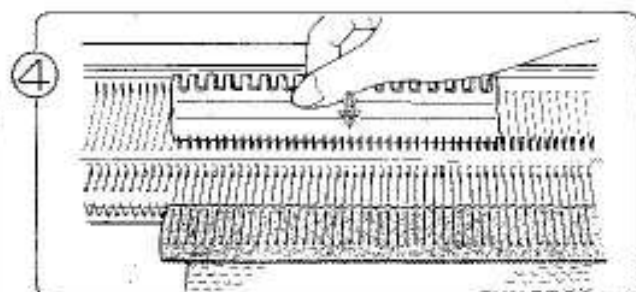


Working in stocking stitch, knit the number of rows required for double the depth of the hem [e.g. if hem is to be folded under 2.5 cms (1") then knit 5 cms (2")].

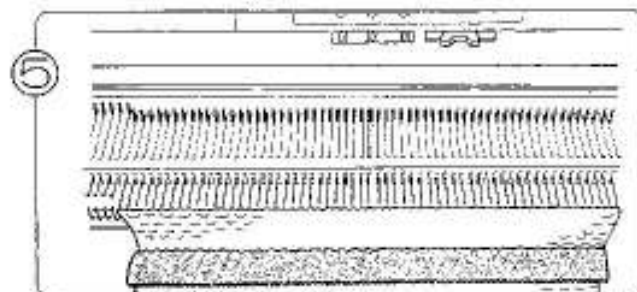


Using your Transfer Tool, pick up the first stitch of the row above the Cast-on Thread. Continue picking up stitches across the row.

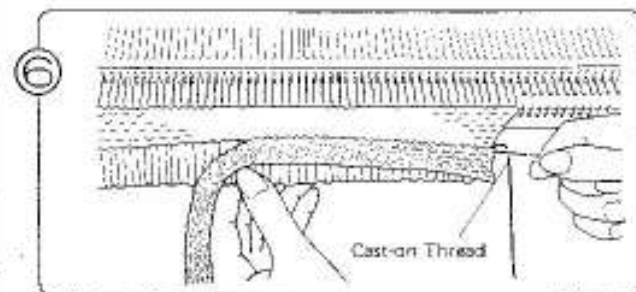
(Note: There will be one less stitch to be picked up than there are needles.)



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

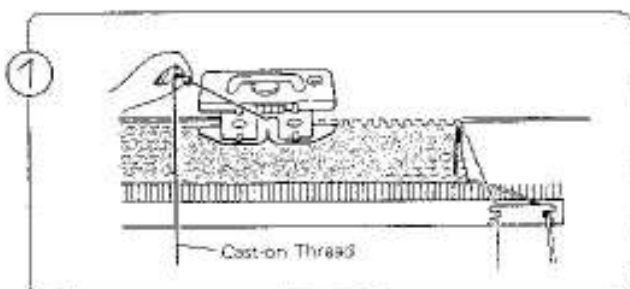
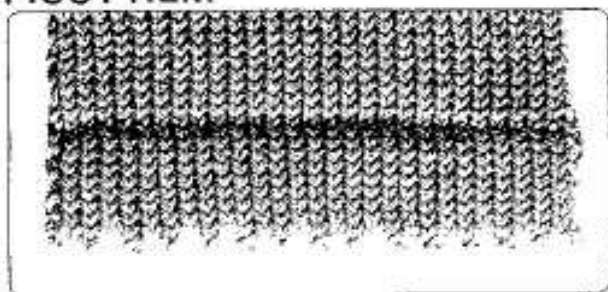


Knit one row with the K-Carriage. Continue knitting in stocking stitch.

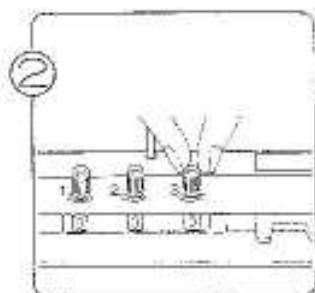


When you have knitted several rows you can pull out the Cast-on Thread. The waste knitting will fall away.

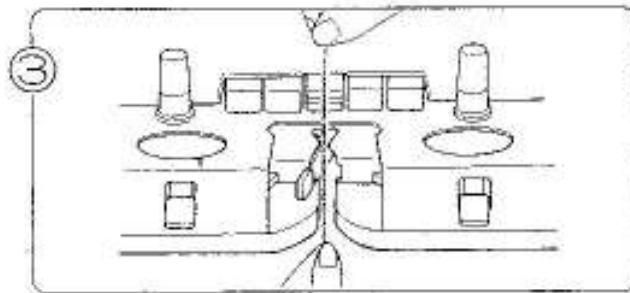
PICOT HEM



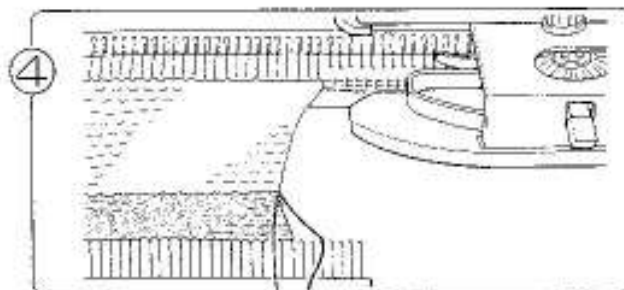
Knit several rows with waste yarn and then knit one row with the Cast-on Thread. (Refer to page 144.)



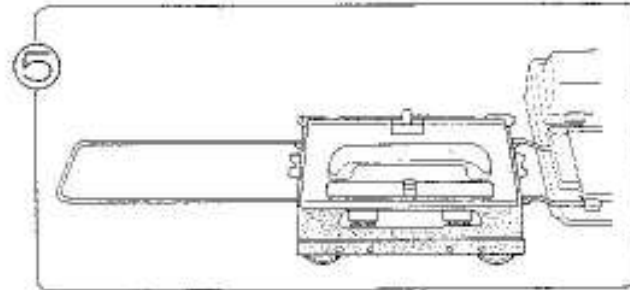
Set the Row Counter to 000 and the Row Counter Tripper to working position.



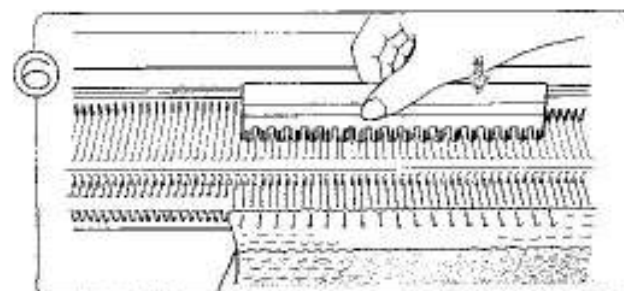
Thread the yarn into Yarn Feeder "A".



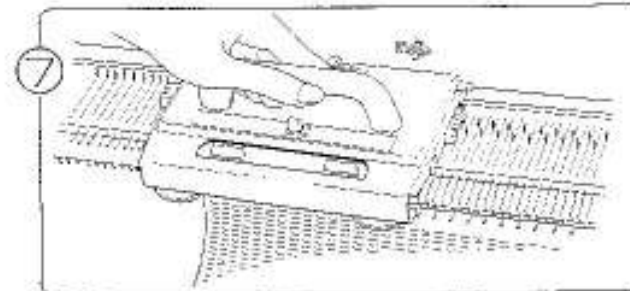
Knit half the depth of the hem (e.g. to what will be the foldline). Place the K-Carriage on the Extension Rail at the right. Note the number showing on the Row Counter.



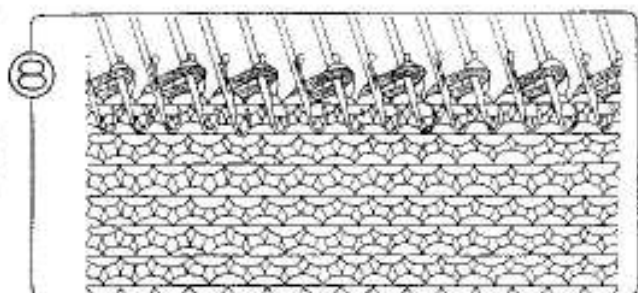
Place the L-Carriage securely on the Extension Rail at the left.



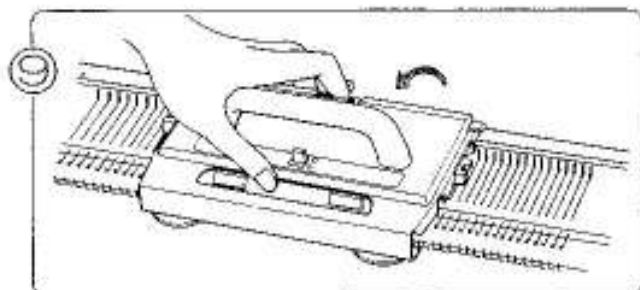
Starting with the second needle in from either end, bring every alternate needle forward D position using the 1/1 Needle Pusher. The end needles must remain in B position.



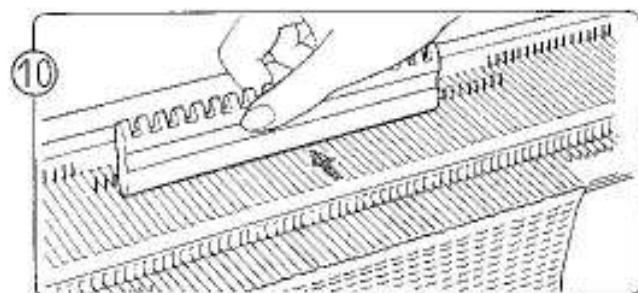
Set the Lace Change Lever to N and move the L-Carriage to the right.



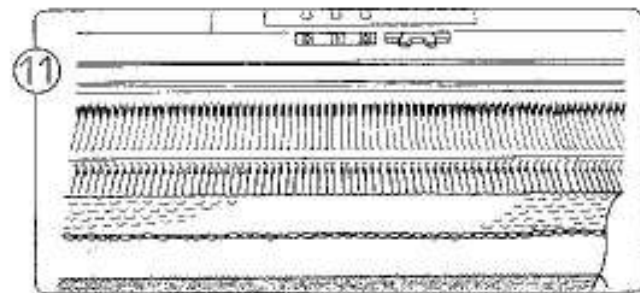
8 Every second stitch has now been transferred to the adjacent needle.



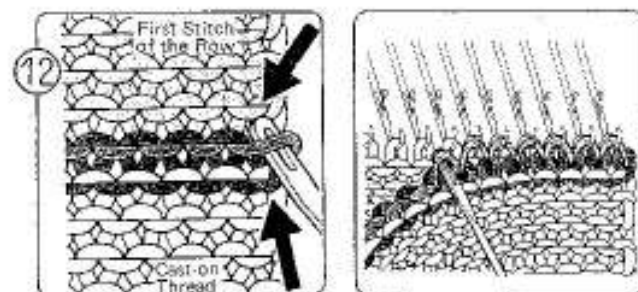
9 Remove the L-Carriage from the machine by depressing the Release Button.



10 Return the needles to B position using the flat side of the 1/1 Needle Pusher.

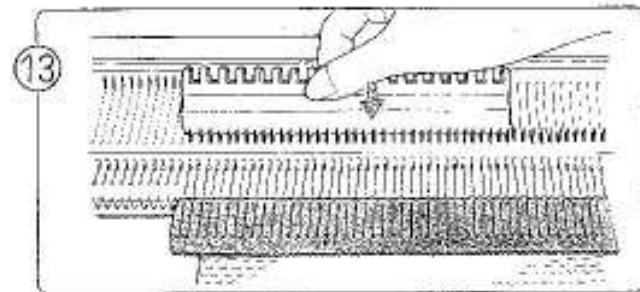


11 Set the Row Counter to 000 and knit the second half of the hem (i.e. the same number of rows as for the first half.)

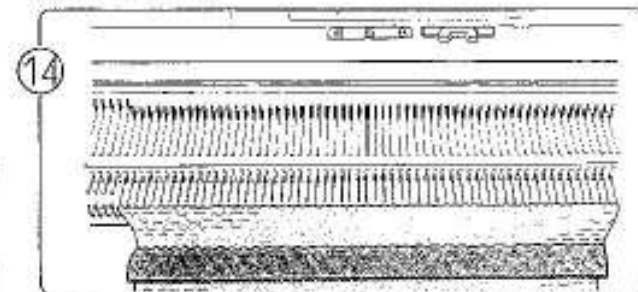


12 Using your Transfer Tool, pick up the first stitch of the row above the Cast-on Thread. Continue picking up stitches across the row.

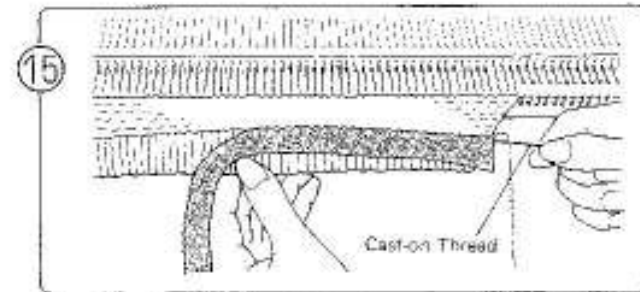
(Note: There will be one less stitch to be picked up than there are needles.)



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



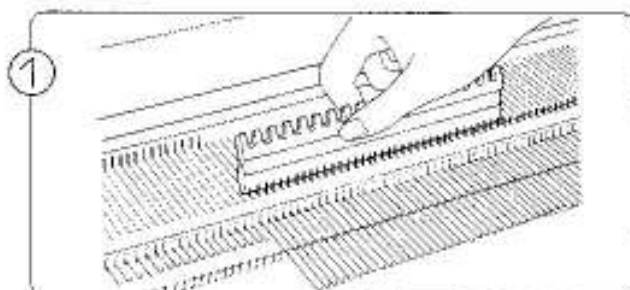
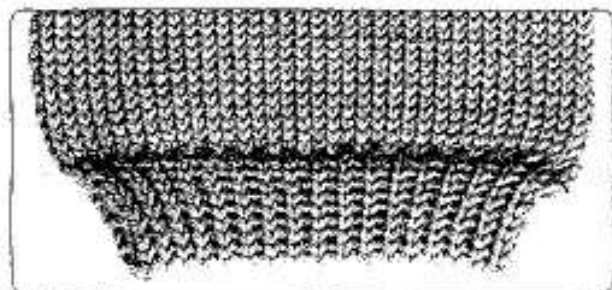
14 Knit one row with the K-Carriage. Continue knitting in stocking stitch.



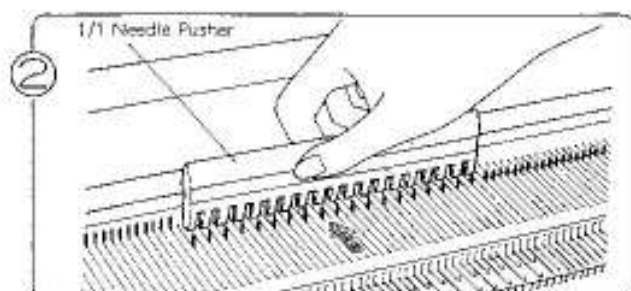
15 When you have knitted several rows you can pull out the Cast-on Thread. The waste knitting will fall away.

1 x 1 ELASTIC HEM

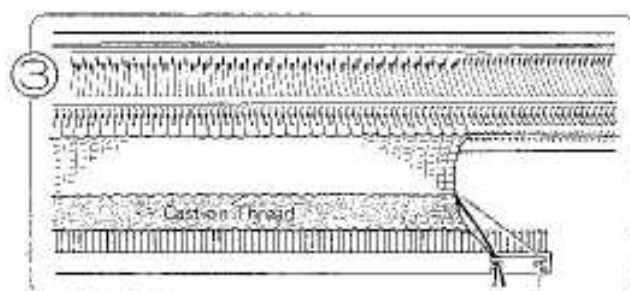
This type of hem is also referred to as "Mock Ribbing" or "Continental Ribbing".



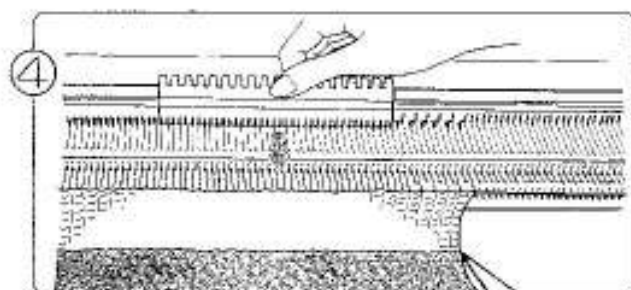
Using the flat side of the 1/1 Needle Pusher, bring forward the required number of needles to B position.



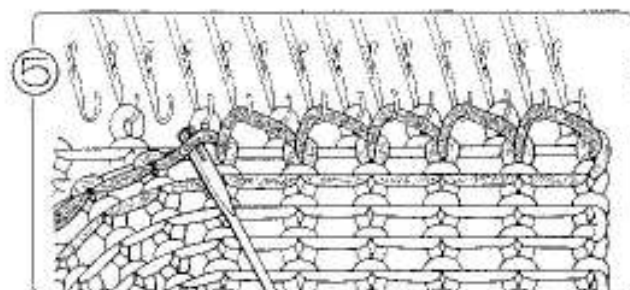
With the 1/1 Needle Pusher take every other needle back to A position. Knit several rows in waste yarn. Then one row with cast on cord. Thread the main yarn into feeder A.



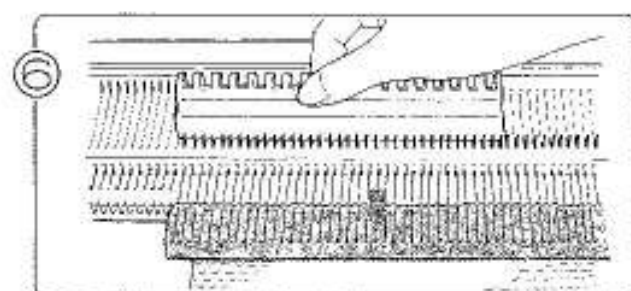
Turn the Tension down three whole numbers, from the stocking stitch tension. Knit the number of rows required for double the length of hem.



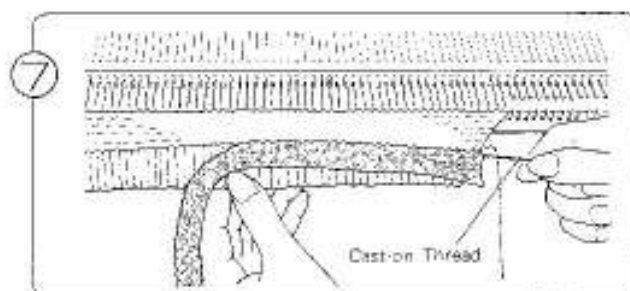
With the flat side of the 1/1 Needle Pusher, bring the needles in A position forward to B position.



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



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



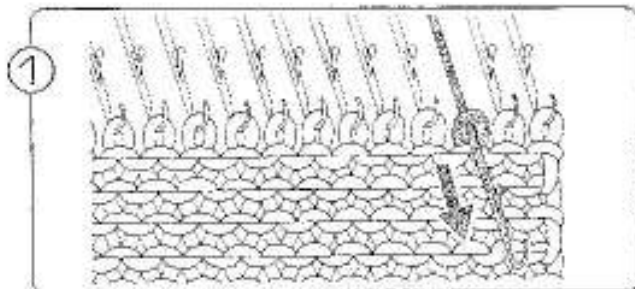
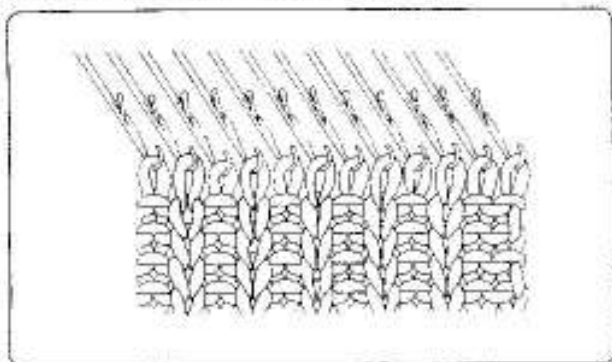
After you have knitted several rows, pull out the Cast-on Thread. The waste yarn drops away.

A mock 2 x 1 hem can be knitted in the same way by leaving every 3rd needle back in "A" position.

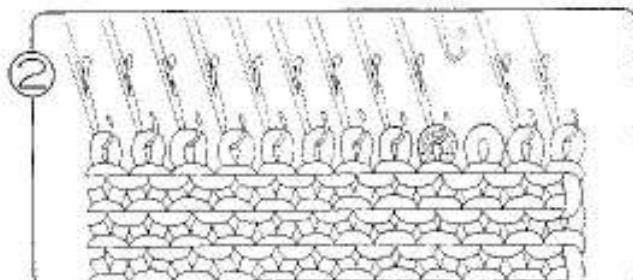
HOW TO USE THE LATCHET TOOL

Use the Latchet Tool to pick up dropped stitches or to reform stitches e.g. plain stitches into purl stitches to make ribbing.

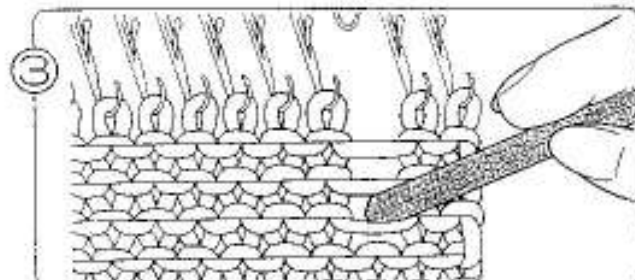
MAKING RIB BY HAND



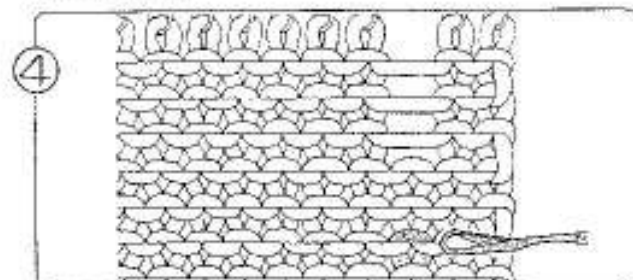
1 Bring the needle for your first "purl" stitch forward to E position by hand.



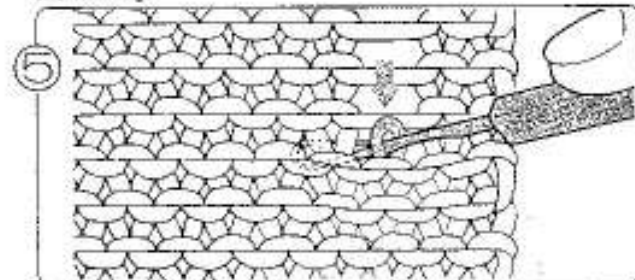
2 Take the needle back to A position so that the stitch drops off the needle.



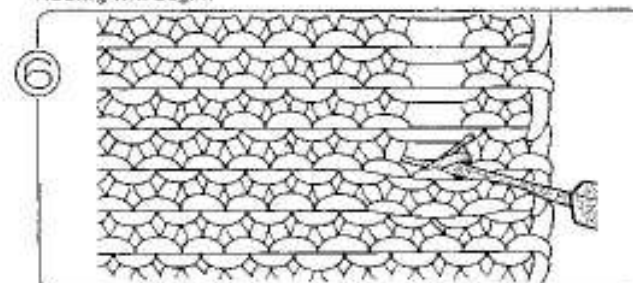
3 Using the tip of your Latchet Tool, ladder the stitch down to within a few rows of the point where you want to start the ribbing.



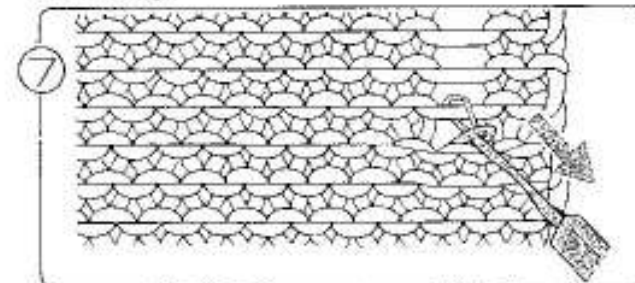
4 With the Latchet Tool hook the bottom stitch where the ribbing will begin.



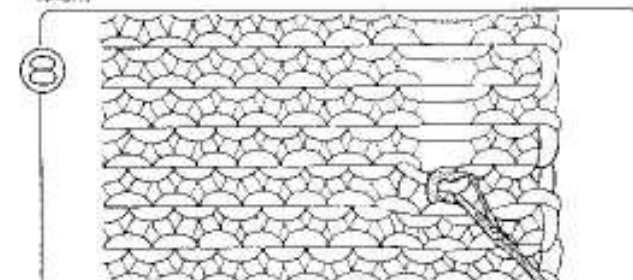
5 Push down with the Latchet Tool so that the last few stitches drop.



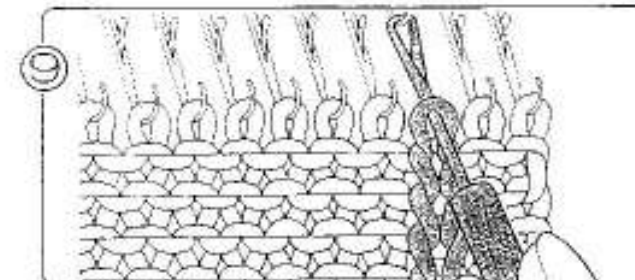
6 Hold the knitting firmly with your other hand. Push the Latchet Tool forward to put the bottom stitch behind the latch.



7 Catch the next horizontal bar above with the hook of the Latchet Tool. Pull the Latchet Tool towards you.

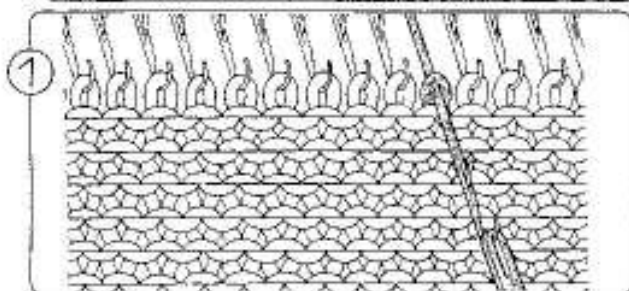


8 The latch closes with this new stitch in the hook. Gently slip the old stitch off the end of the Latchet Tool. A purl stitch has been formed.

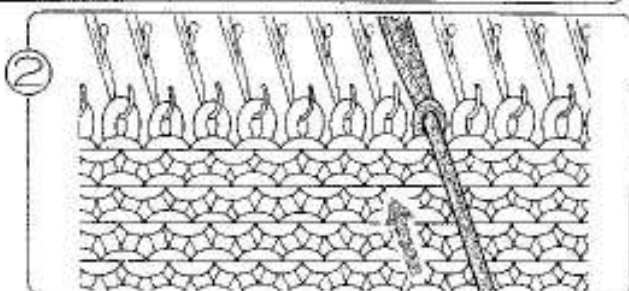


9 Continue in this way until you reach the top, then hook the last stitch onto the needle as shown.

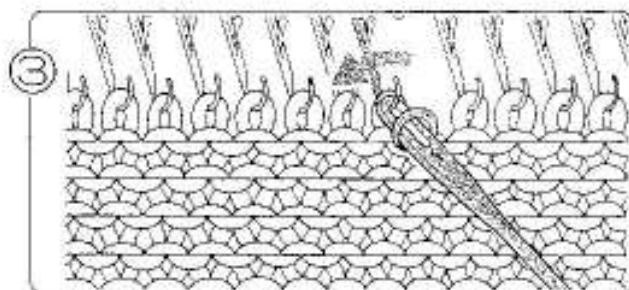
HOW TO TRANSFER STITCHES



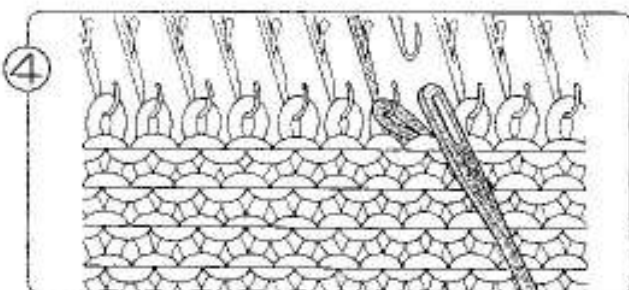
1 Place the eye of a single Transfer Tool over the needle hook, and pull the needle towards you until the stitch passes behind the latch.



2 Holding the Transfer Tool in line with the needle, use it to push the needle back so that the stitch slips onto the Transfer Tool.



3 Lift the Transfer Tool together with the stitch, and place it onto the adjacent needle.



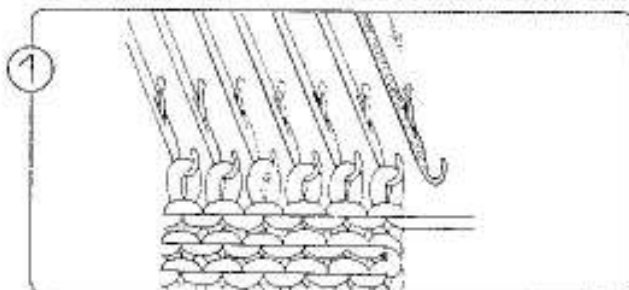
4 Lift the Transfer Tool slightly so that the stitch slides off into the hook of the needle. Then remove the Transfer Tool. One stitch has been transferred.

HOW TO INCREASE STITCHES

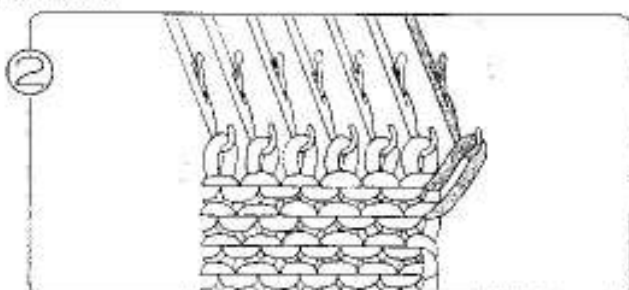
INCREASING ONE STITCH

- Simple method

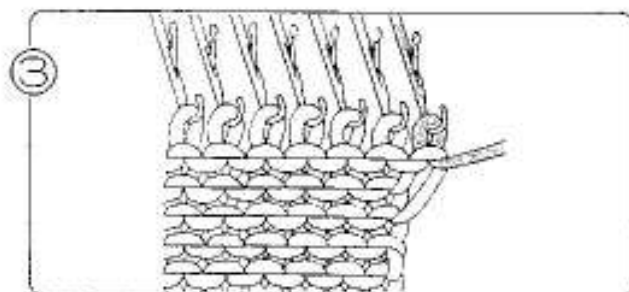
The K-Carriage and yarn are at the side where you wish to increase the stitch.



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



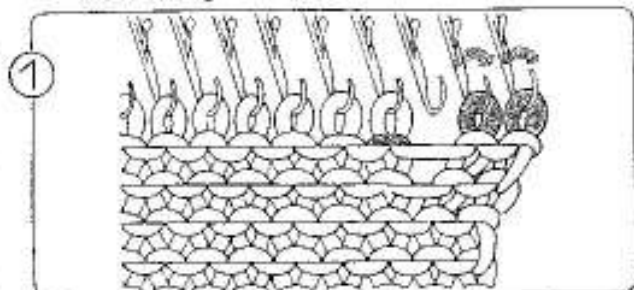
2 Knit one row to the left. The empty needle picks up the yarn.



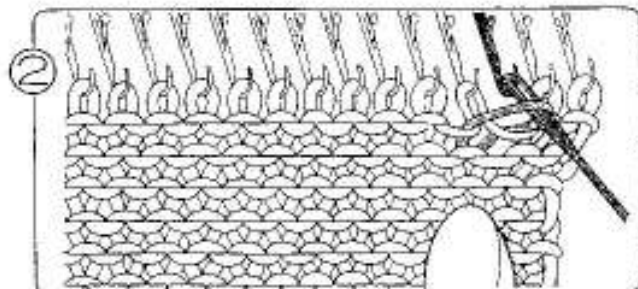
3 Knit one row to the right. The new stitch knits.

• Fully fashioned method

*The K-Carriage can be at either end of the needlebed.



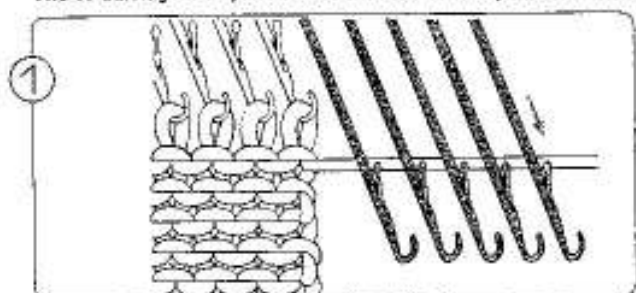
Using the 1 x 2 Transfer Tool, move two stitches out by one needle, so that the third needle from the edge becomes empty.



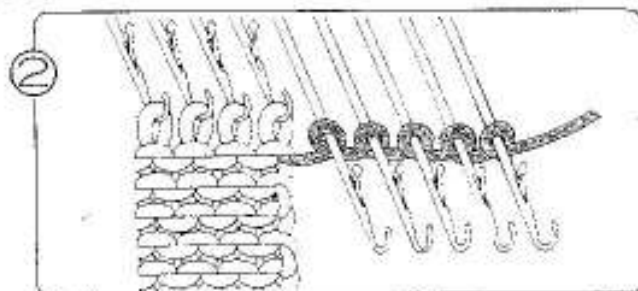
Pick up the loop as shown using the Transfer Tool. Place this loop onto the empty needle and continue to knit.

INCREASING SEVERAL STITCHES

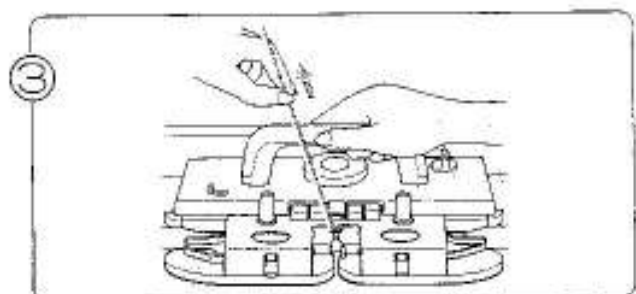
The K-Carriage and yarn are at the side where you wish to increase the stitches.



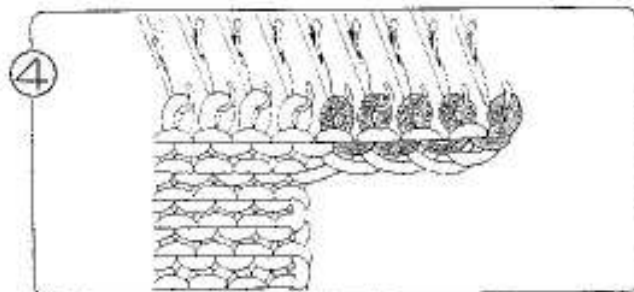
On the K-Carriage side, bring the needles to be increased forward from A position to E position.



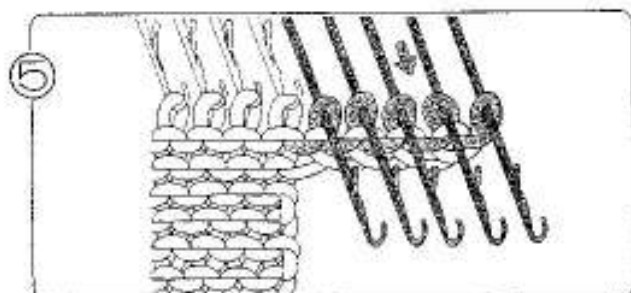
Wind the yarn loosely around the stem of each needle as shown.



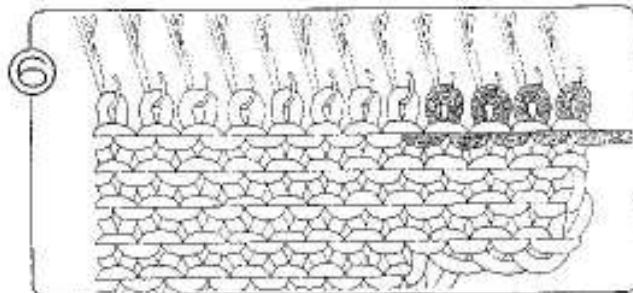
Pull up any loose yarn with your hand, and knit one row.



The needles in E position have knitted.



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

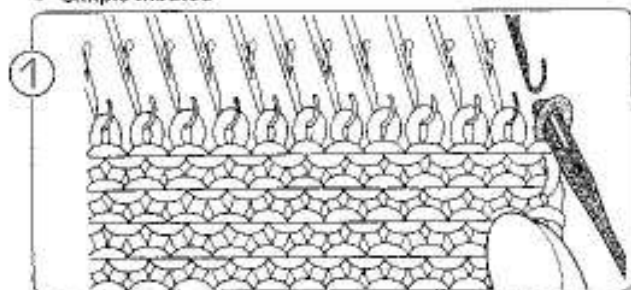


Knit two or three more rows in the same manner as Step 5, then continue knitting normally.

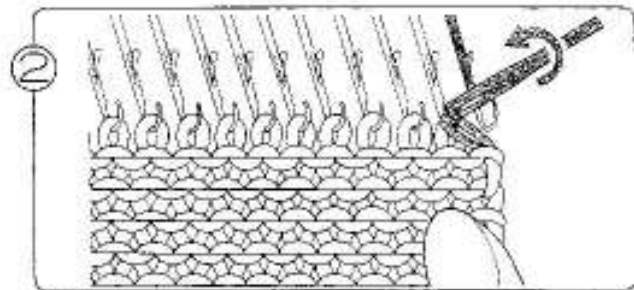
HOW TO DECREASE STITCHES

DECREASING ONE STITCH

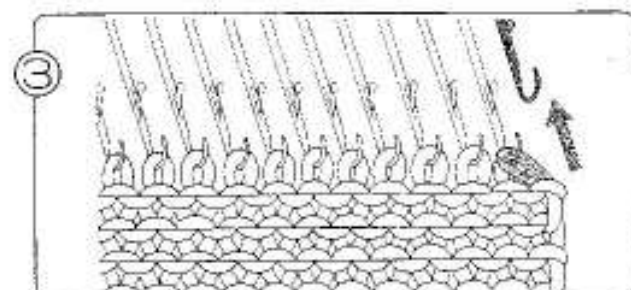
• Simple method



Remove one stitch at the edge onto your Transfer Tool.

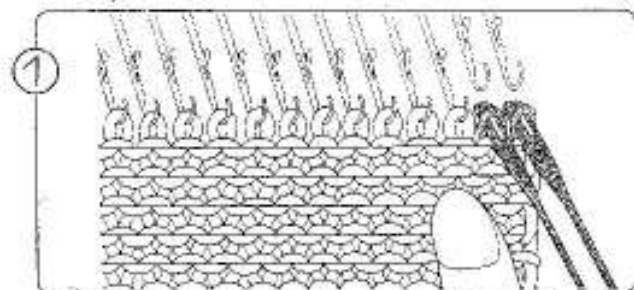


Place the Transfer Tool onto the hook of the adjacent inside needle, and transfer the stitch.

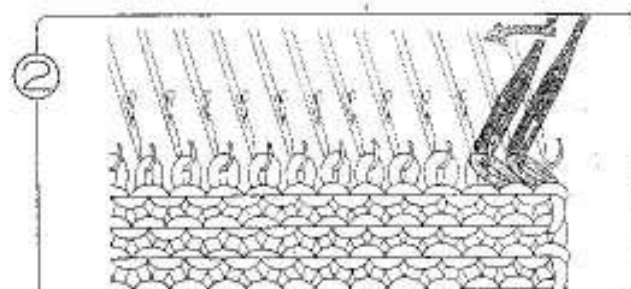


Return the empty needle to A position.

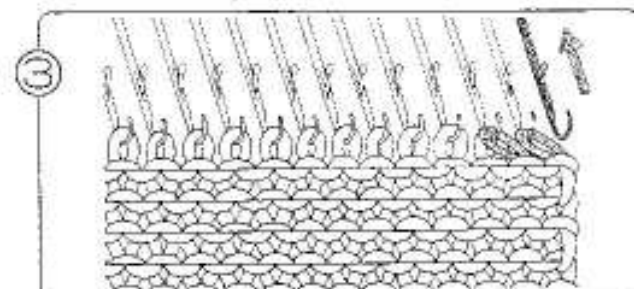
• Fully fashioned method



Remove two stitches at the edge using a 2 eyed Transfer Tool.



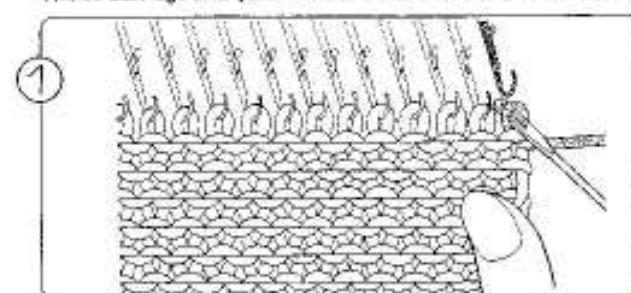
Place the Transfer Tool onto the hooks of the adjacent inside needles, and transfer the stitches.



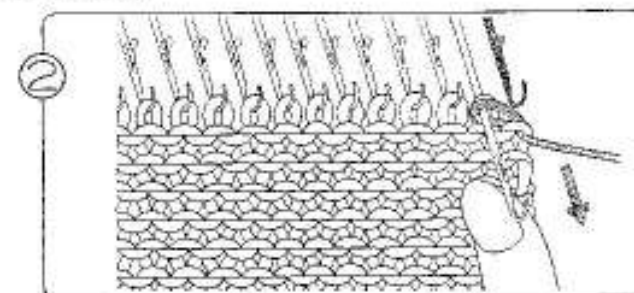
Return the empty needle to A position.

DECREASING SEVERAL STITCHES

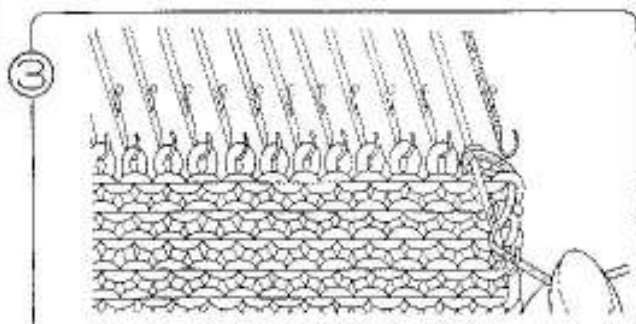
The K-Carriage and yarn are at the side where you wish to decrease the stitches.



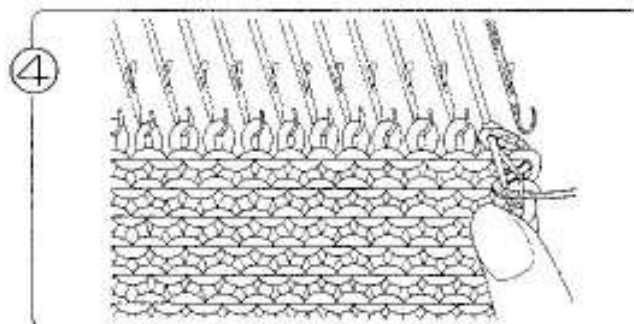
On the K-Carriage side, transfer the end stitch onto the adjacent inside needle.



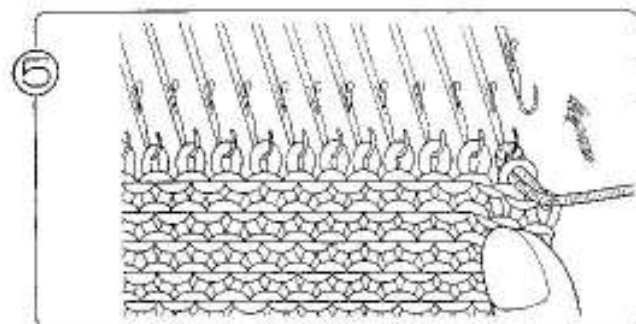
Bring this needle forward so that the two stitches are behind the latch.



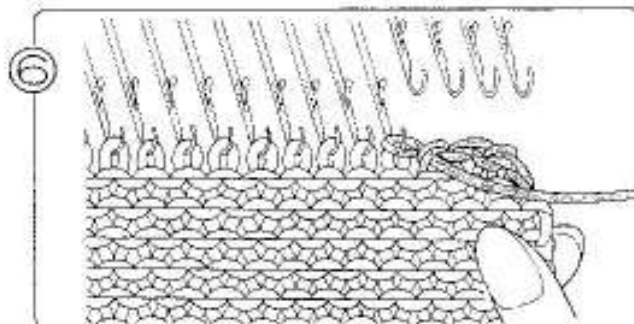
Loop the yarn around the needle hook in front of the latch as illustrated.



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



Return the empty needle to A position.



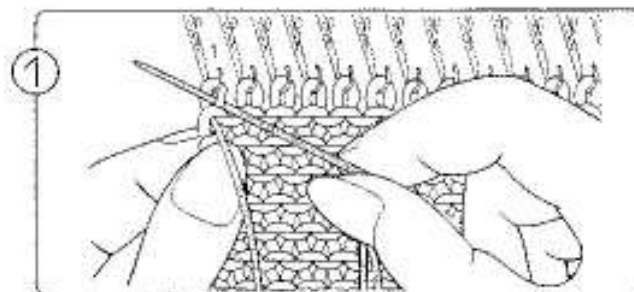
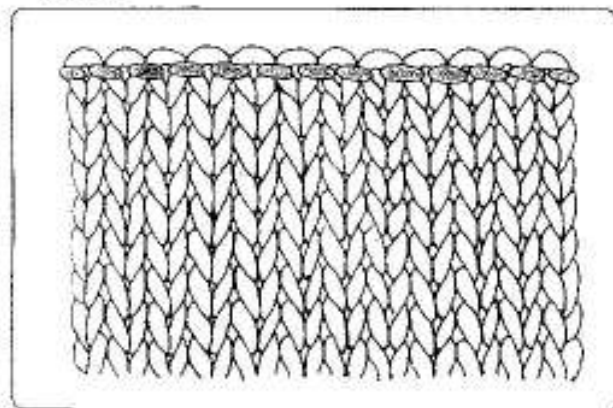
Repeat Steps ① - ⑤, but on the last stitch work Step ① only.

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

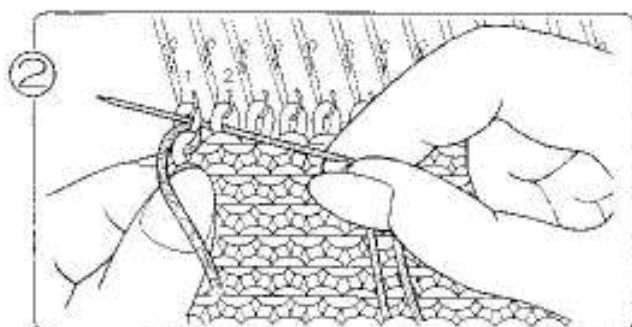
BACKSTITCH CASTING OFF (BINDING OFF)

USING THE TAPESTRY NEEDLE (ENDING WITH K-CARRIAGE ON THE LEFT)

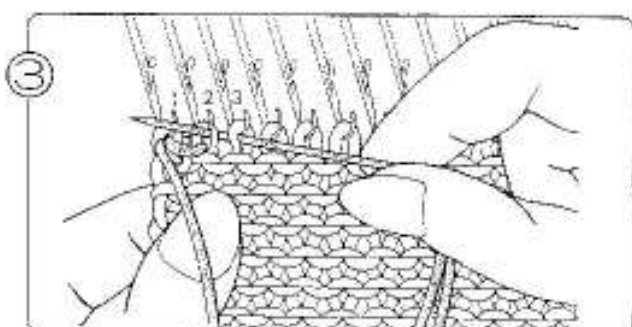
- With this method you will achieve a thin, elastic edge so it is suitable for any type of knitting.
- The yarn is on the lefthand side. Take yarn out of the Yarn Feeder and cut it leaving a length three times the width of the knitting.



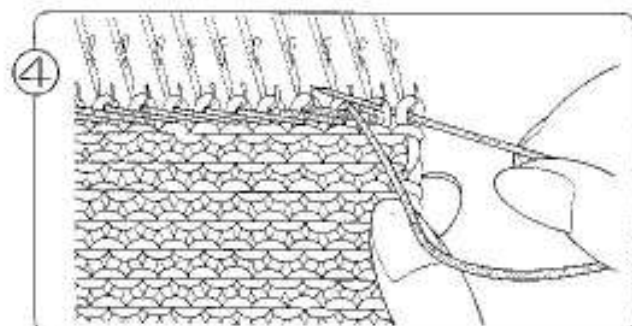
Thread yarn end into a Tapestry Needle. From the back, pass needle through the first stitch at the left (1).



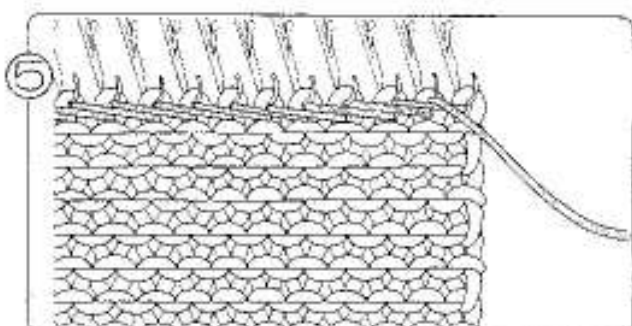
From the front, insert the needle in through the second stitch (2) and back out through the first stitch (1).



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



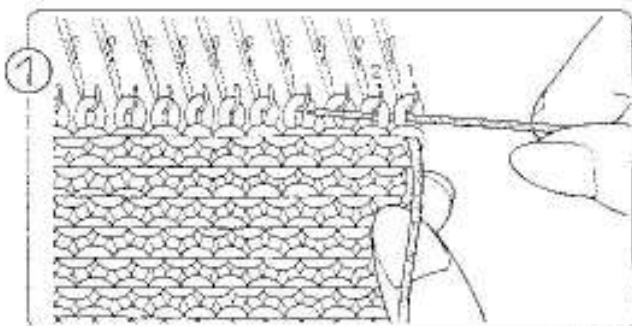
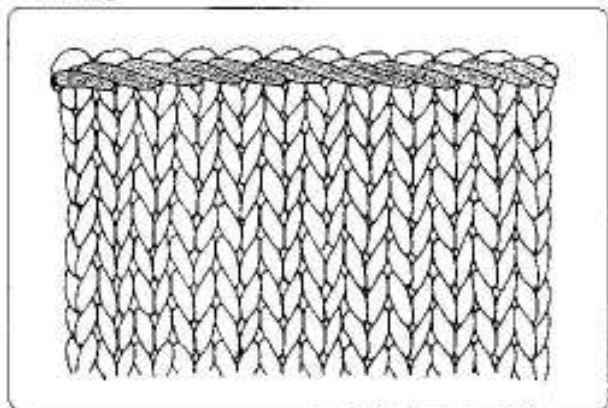
Continue in this way until you reach the righthand edge of the knitting.



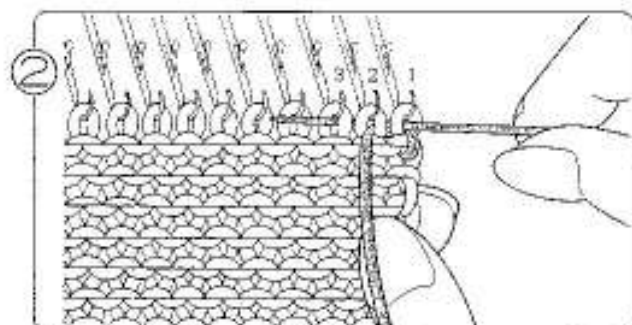
The casting off (binding off) is now completed and you can remove the knitting from the machine. If you find it easier, you can remove the stitches a few at a time whilst you work, so that you can place your left hand behind the knitting.

USING THE TAPESTRY NEEDLE (ENDING WITH K-CARRIAGE ON THE RIGHT)

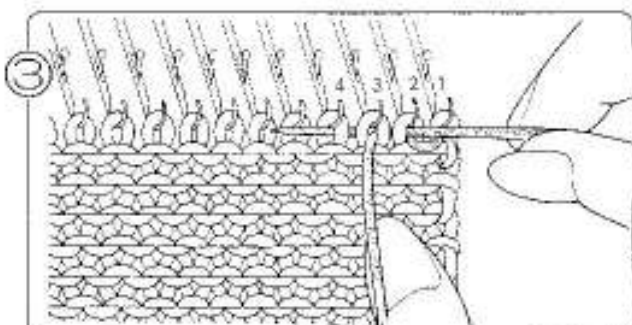
- With this method you will achieve a thin, elastic edge so it is suitable for any type of knitting.
- The yarn is on the righthand side. Take yarn out of the Yarn Feeder and cut it leaving a length three times the width of the knitting.



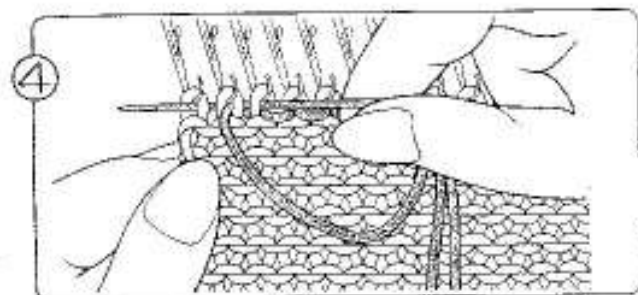
Thread yarn end into a Tapestry Needle. From the front, pass needle through the first stitch at the right (1), and back out through the second stitch (2).



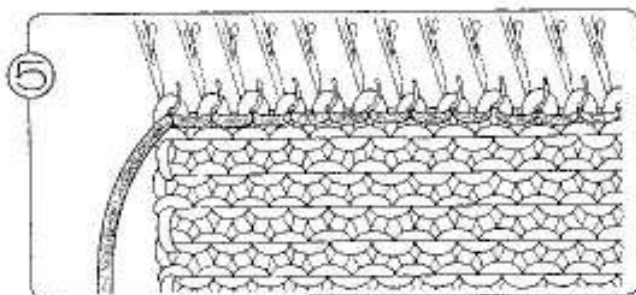
From the front, insert the needle in through the first stitch (1) and back out through the third stitch (3).



From the front, insert the needle in through the second stitch (2) and back out through the fourth stitch (4).



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

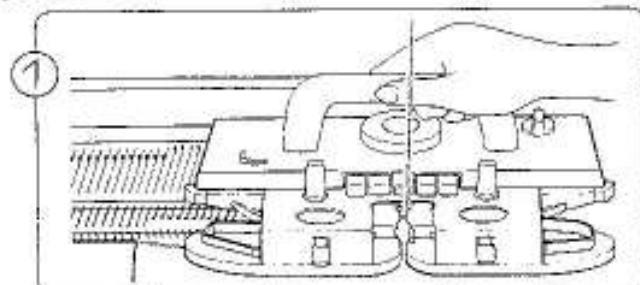
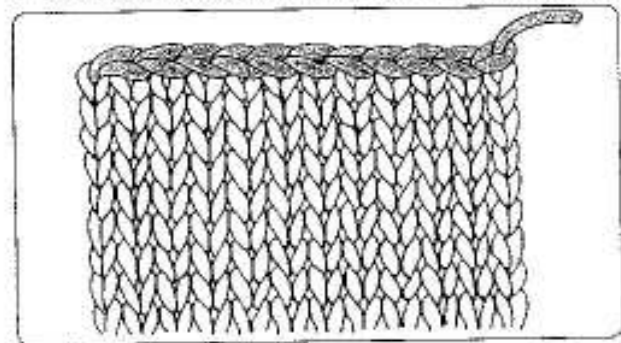


5 The casting off (binding off) is now completed and you can remove the knitting from the machine.

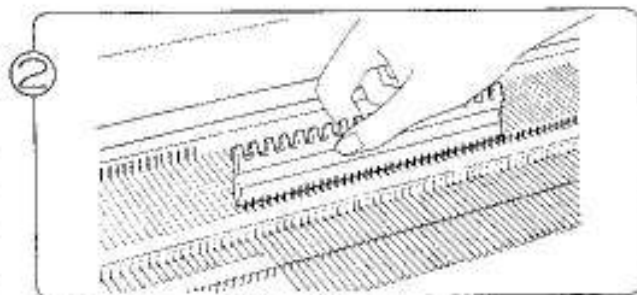
CHAIN STITCH CAST OFF (BINDING OFF)

USING THE LATCHET TOOL

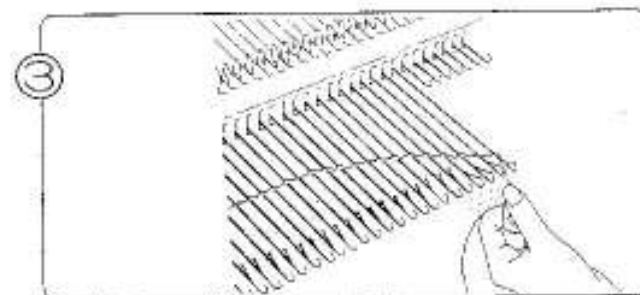
- With this method you will achieve a firm edge which is not very elastic.



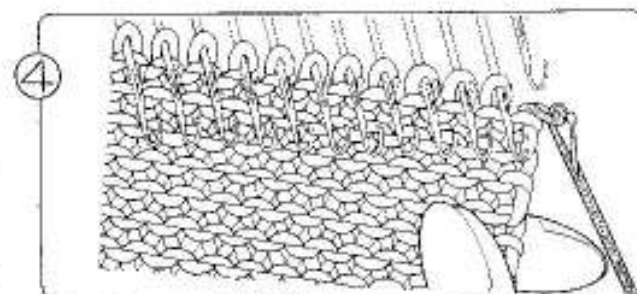
2 Knit the final row from right to left. Loosen the Tension Dial for this row (e.g. if main tension is say 4 – 6, knit the final row at tension 9 – 10).



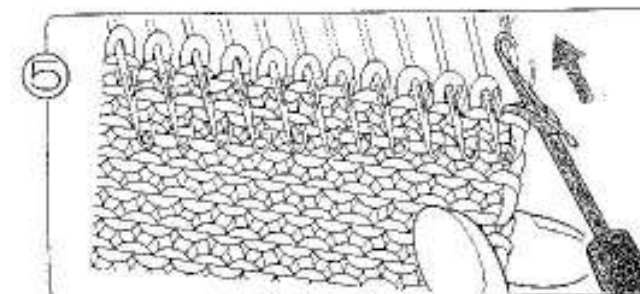
3 Bring the needles forward to E position.



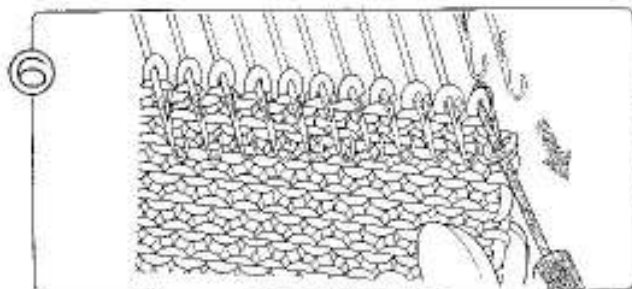
4 Gently bring the knitting towards you, taking care not to drop any stitches.



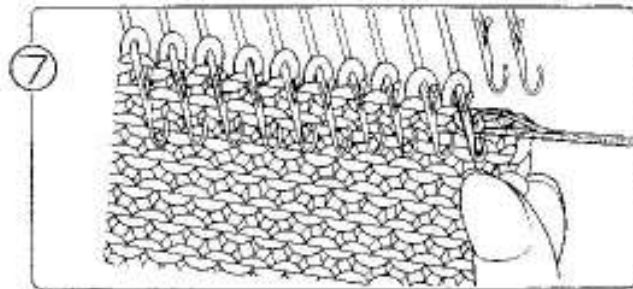
5 Beginning at the righthand edge, hook the first stitch onto the Latchet Tool.



6 Put the stitch behind the latch of the Latchet Tool.

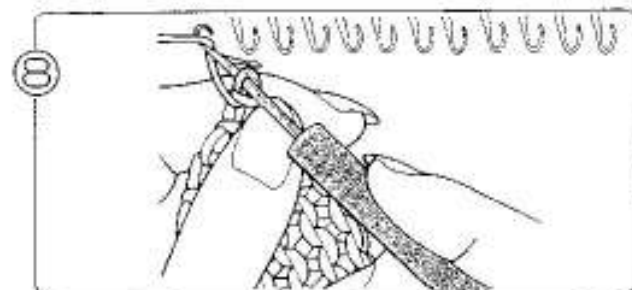


Now hook the second stitch with the Latchet Tool, keeping this stitch in the hook.



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

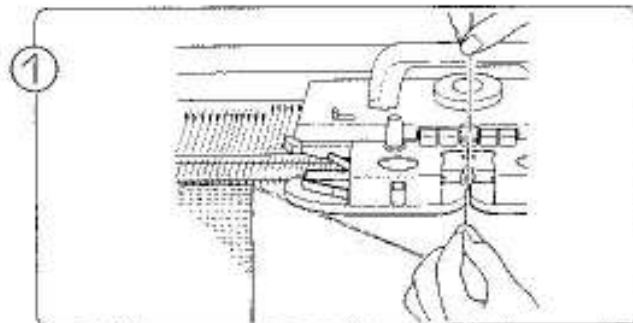
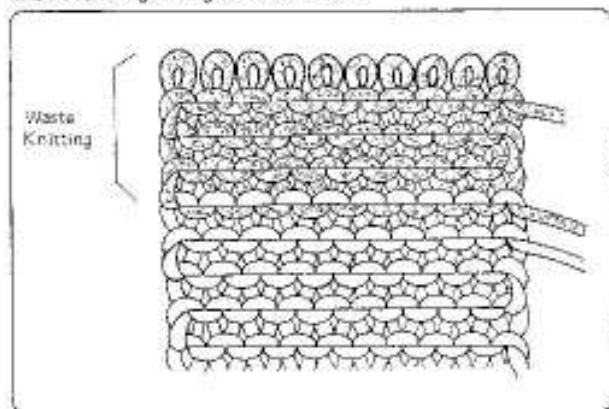
*Take care not to drop any of the other stitches from off the needles whilst you work.



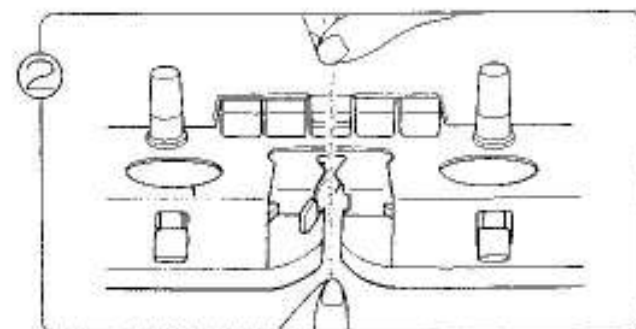
Repeat this until you reach the last stitch. Now hook the yarn end with the Latchet Tool as shown, and pull this through the last stitch.

WASTE KNITTING

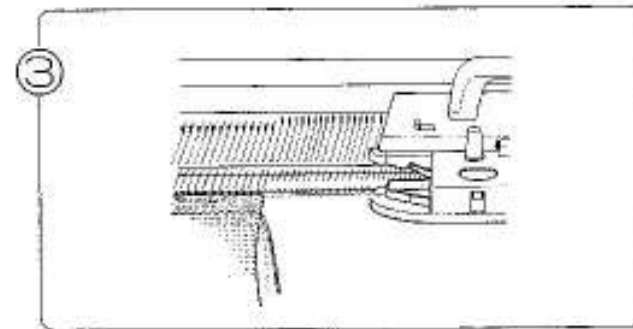
You can remove your knitting from the machine with rows of waste knitting. Use this when you want to return the stitches to the needles again e.g. to knit a cuff.



Take the yarn out of Yarn Feeder "A".



Thread the waste yarn into Yarn Feeder "A".

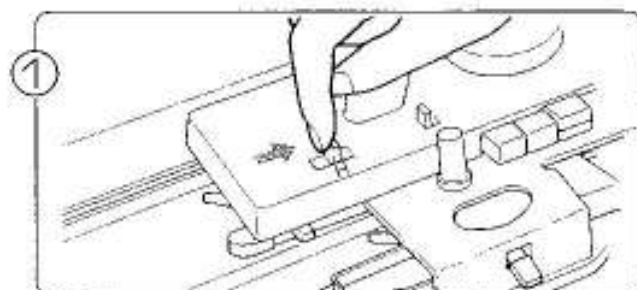
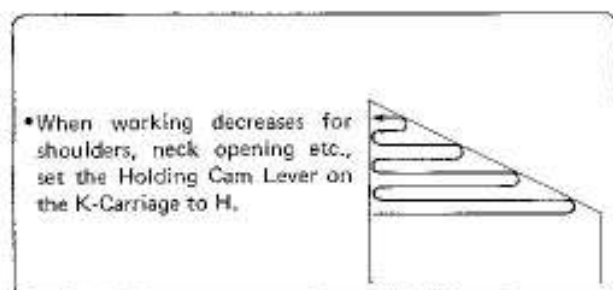


After knitting several rows with waste yarn, remove the Knitting by passing the empty carriage across the stitches.

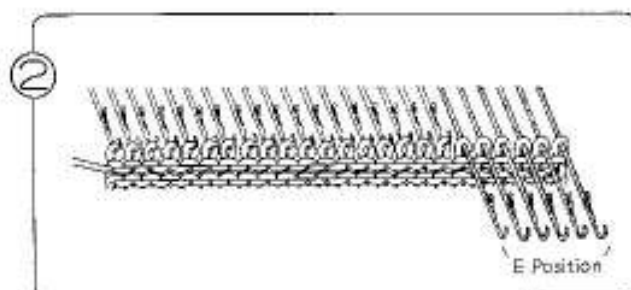
PARTIAL KNITTING

1. PLAIN STOCKING STITCH AND PATTERN KNITTING

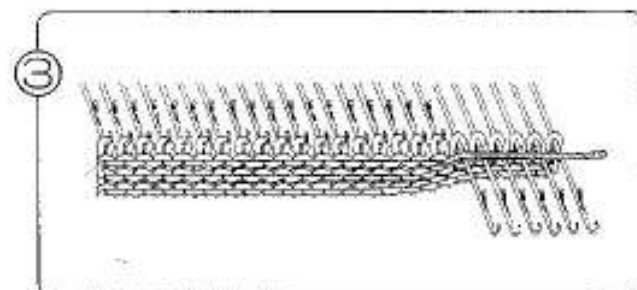
- Decreasing stitches using the Holding Position (H.P)



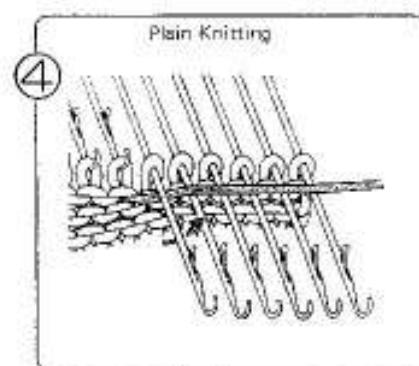
Set the Holding Cam Lever to H and the Cam Buttons and Change Knob according to the pattern.



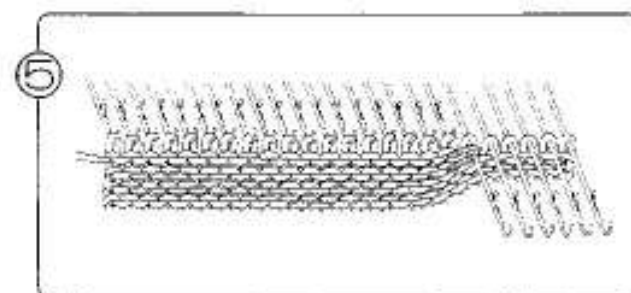
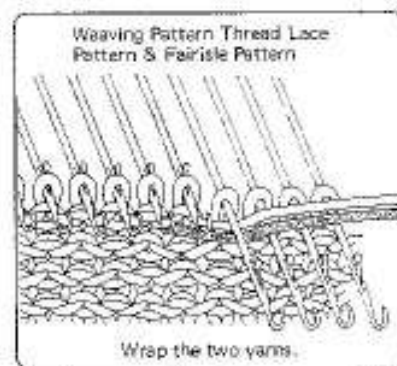
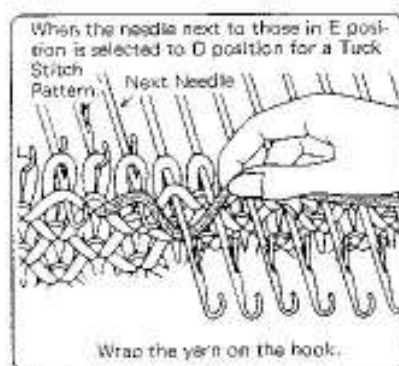
On the opposite side to the K-Carriage, bring the needles you want to decrease forward to E position.



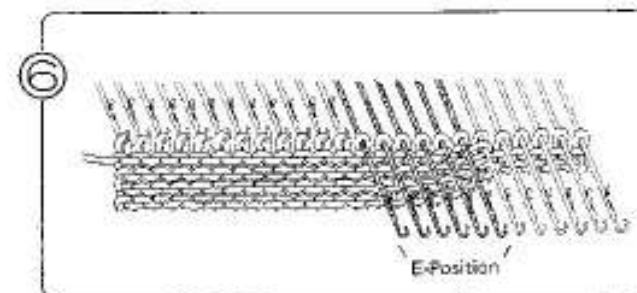
Knit one row. The needles in B position (B and D position in the case of pattern knitting) have been knitted and those in E position have not been knitted.



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



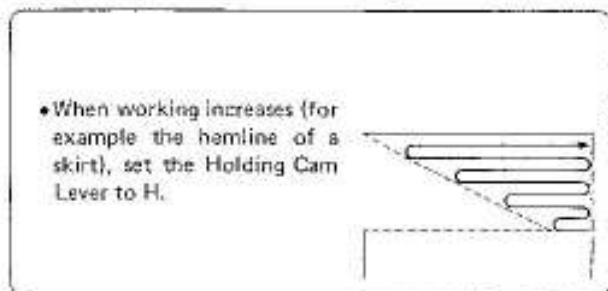
Pull up any loose yarn with your hand and knit one row. The yarn is wrapped around the end needle in Holding Position as shown above.



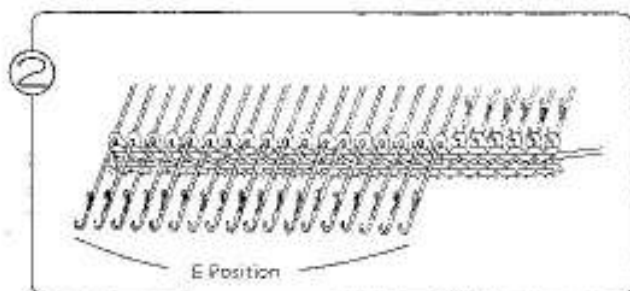
Continue moving needles to be decreased into E position, repeating Steps ③ - ⑤.

* After partial knitting is complete, return the Holding Cam Lever to N.

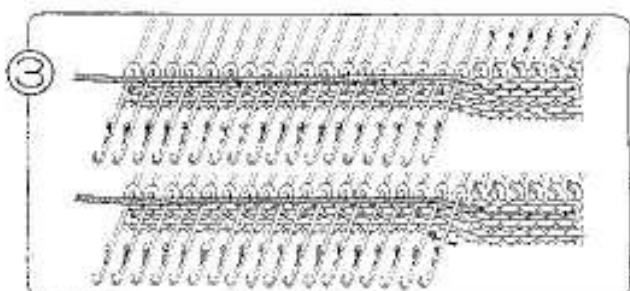
• Increasing stitches from the Holding Position (H.P)



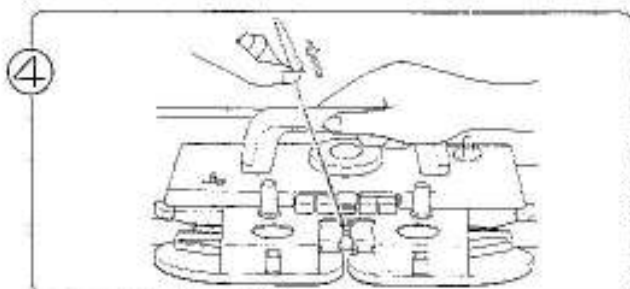
Set the Holding Cam Lever to H and the Cam Buttons and Change Knob according to the pattern.



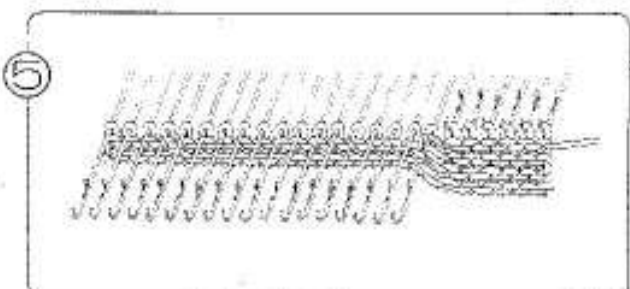
On the opposite side to the K-Carriage, bring forward to E position (H.P) those needles that you do not want to knit.



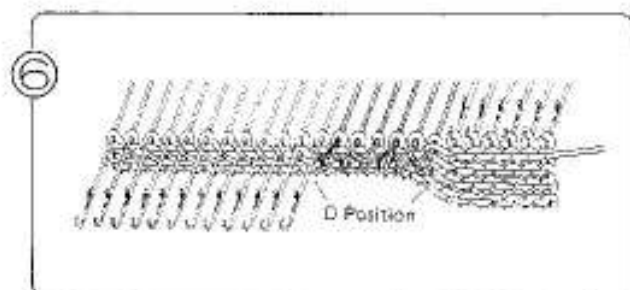
Knit one row. The needles in B position (B and D position in the case of pattern knitting) have been knitted, and the yarn has passed over those in E position. Wrap the yarn under the stem of the first needle in E position. (In the case of pattern knitting, refer to Step ④ on previous page 157.)



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

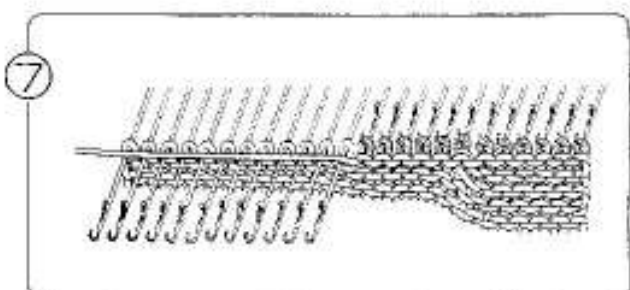


The yarn is wrapped around the end needles in Holding Position as shown above.



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

* For pattern knitting, put the appropriate needles to B position according to the pattern. When you return these needles from D to B position, place the stitches into the needlehooks using the Transfer Tool.



1) Knit one row and the needles you brought to D position will have been knitted.

2) Repeat Steps ③ - ⑥.

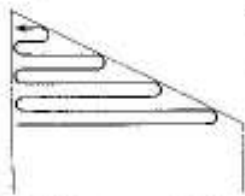
* After partial knitting is complete, return the Holding Cam Lever to N.

2. LACE OR FINE LACE PATTERN KNITTING

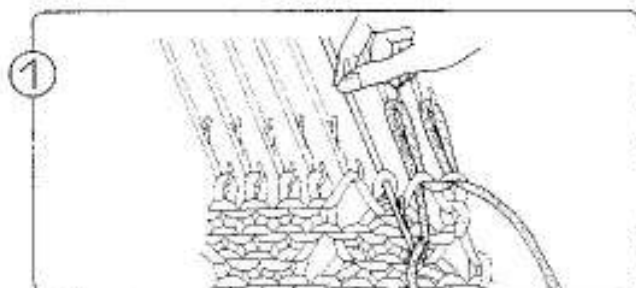
The method you use will depend on which side you work your partial knitting.

• Decreasing stitches

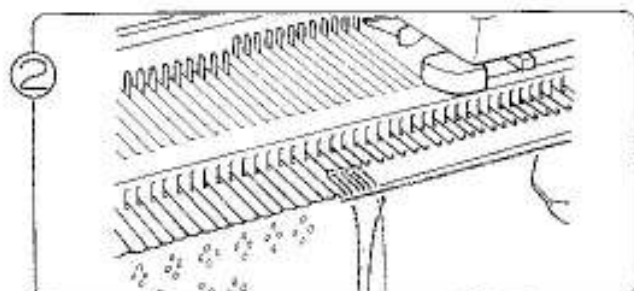
- When you want to decrease on the right hand side ...
Move the K-Carriage to the left when the number appears in display or the mark (■) in the L-window comes to the card inlet, and then start partial knitting.



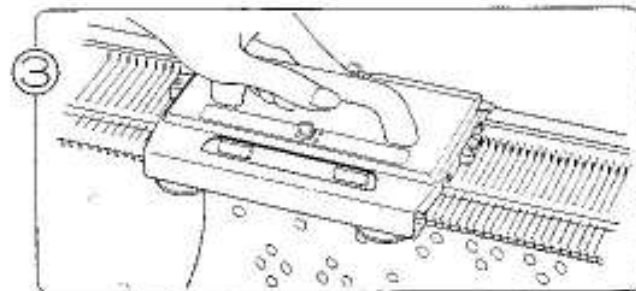
Starting with the K-Carriage on the left.



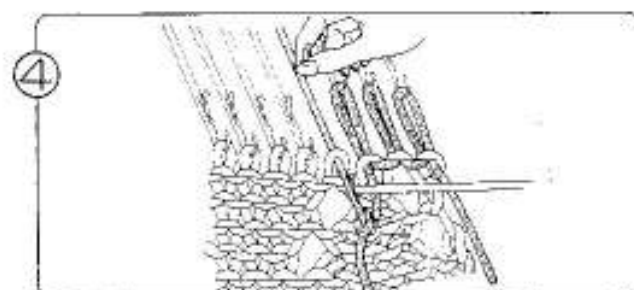
On the opposite side to K-Carriage manually knit the needles you want to decrease back to A position using the Cast-on Thread.



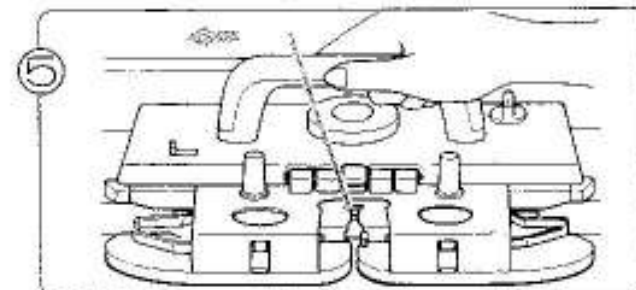
Knit one row with the K-Carriage.



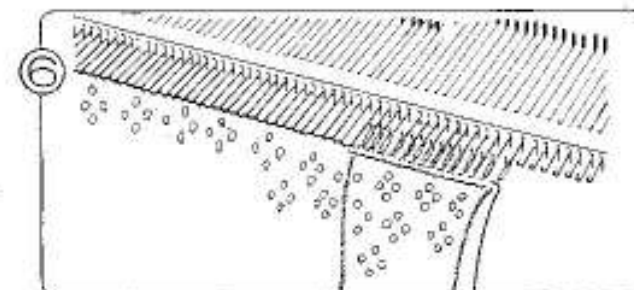
Operate the L-Carriage until the number appears in the display.
When using the pattern card, operate the L-Carriage until the mark (■) in the L-window comes to the card inlet.



On the K-Carriage side, manually knit the next needles back to A position using the Cast-on Thread.



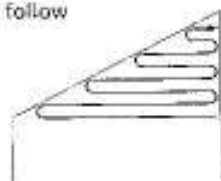
Knit one row with the K-Carriage.



Repeat Steps ① - ⑤.

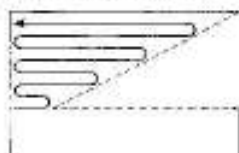
* After partial knitting, transfer the stitches in A position back into the hooks of the needles and remove the Cast-on Thread. Place needles in B position.

- When you want to decrease on the left hand side
Operate the L-Carriage until the number appears in the display or the mark (■) in the L-window comes to the card inlet, and then follow Steps 1, 2, 4, 5, 3, 6 above.

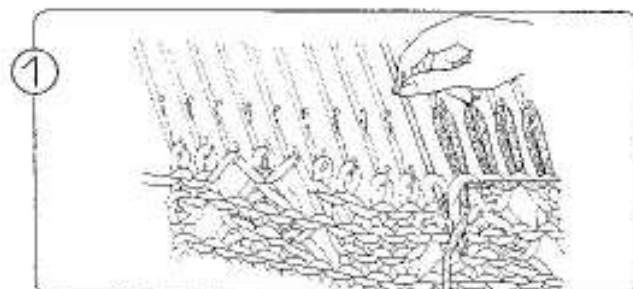


• Increasing stitches

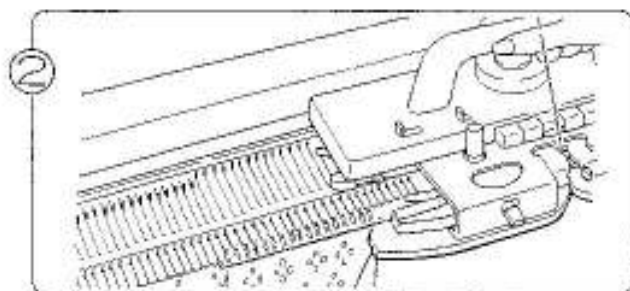
• When you want to increase on the right hand side ...
Move the K-Carriage to the left when the number appears in the display or the mark (■) in the L-window comes to the card inlet and then start partial knitting.



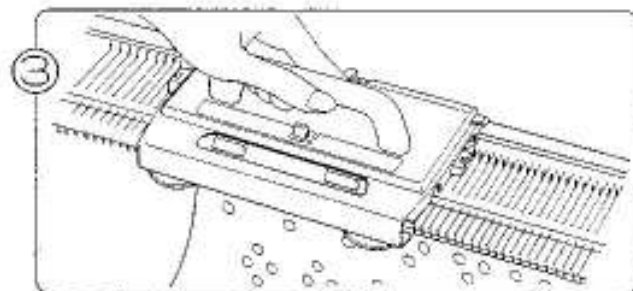
Starting with the K-Carriage on the left.



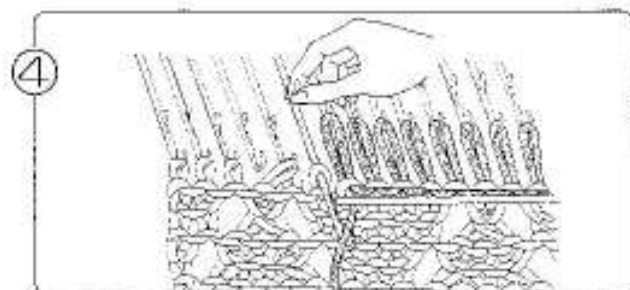
Using the Cast-on Thread manually knit the needles you want to decrease back to A position.



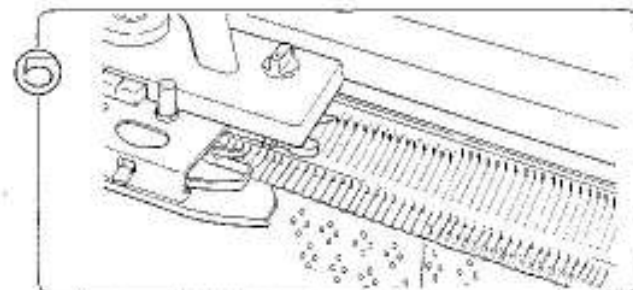
Knit one row with the K-Carriage.



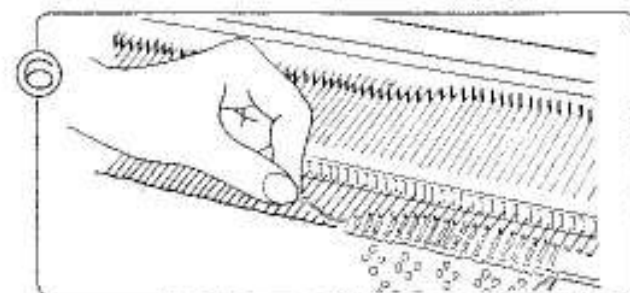
Operate the L-Carriage until the number appears in the display.
When using the pattern card, operate the L-Carriage until the mark (■) in the L-window comes to the card inlet.



Manually knit the next needle of B position back to A position using the Cast-on Thread.



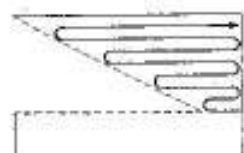
Knit one row with the K-Carriage.



Transfer the first block of stitches in A position back into the hooks of the needles, removing the Cast-on Thread from these, and placing them in B position. Knit one row with the K-Carriage.

⑦ Repeat Steps ③ - ⑥.

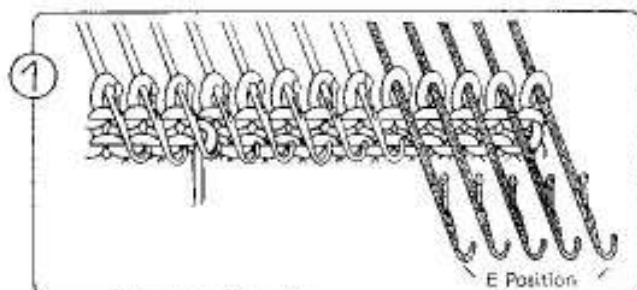
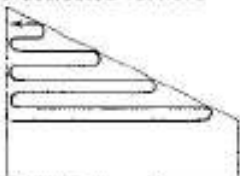
• When you want to increase on the left hand side
Operate the L-Carriage until the number appears in the display or the mark (■) in the L-window comes to the card inlet, and then follow Steps 1, 2, 4, 5, 3, 6, above.



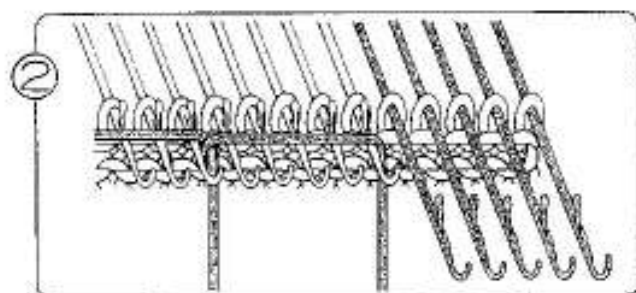
3. INTARSIA KNITTING

• Decreasing stitches

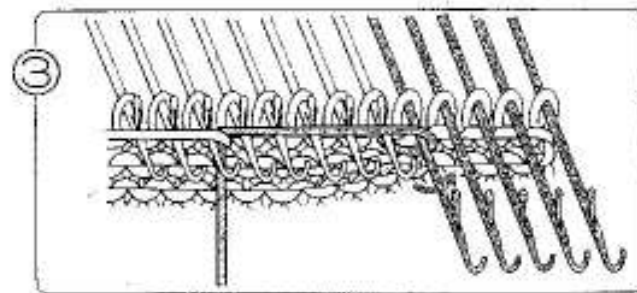
• When working decreases for shoulders, neck opening etc., bring the needles to be decreased forward to E position.



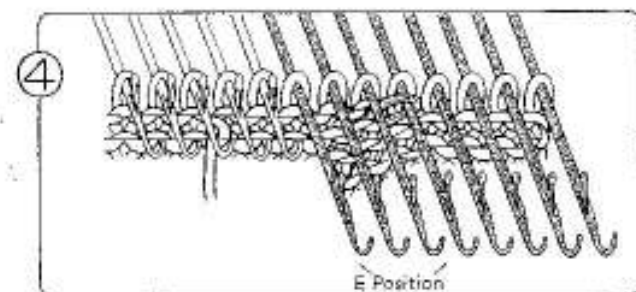
On the opposite side to the K-Carriage, bring forward to E position (H.P.) those needles that you want to decrease.



Lay the yarns for the intarsia pattern and knit one row.



Wrap the yarn under the stem of the first needle in E position as shown, then lay the yarns for the intarsia pattern. Knit one row.

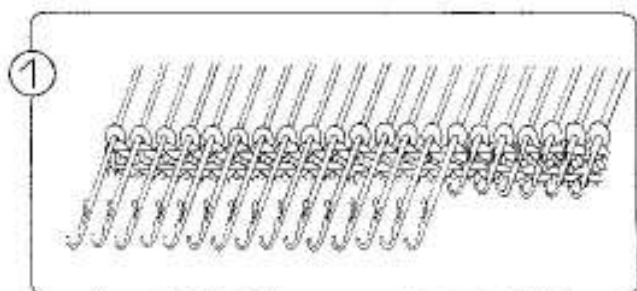
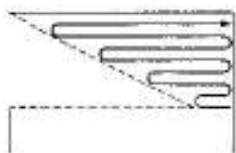


Continue to bring the needles to be decreased into E position and repeat Steps ② - ④.

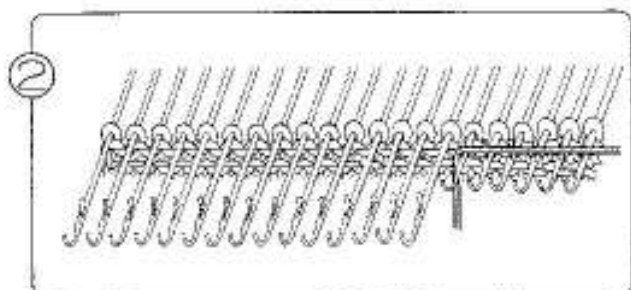
* After partial knitting is complete, return the needles from E position to D position and continue knitting.

• **Increasing stitches**

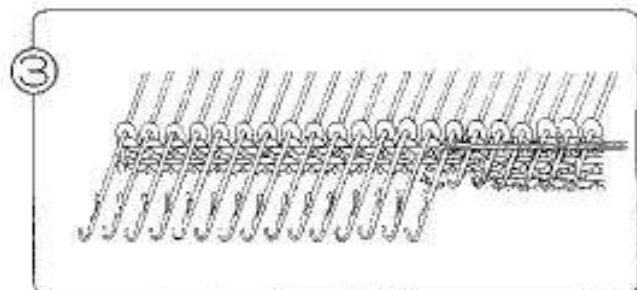
- When working increases (for example the hemline of a skirt) bring the needles to be increased back from E to D position.



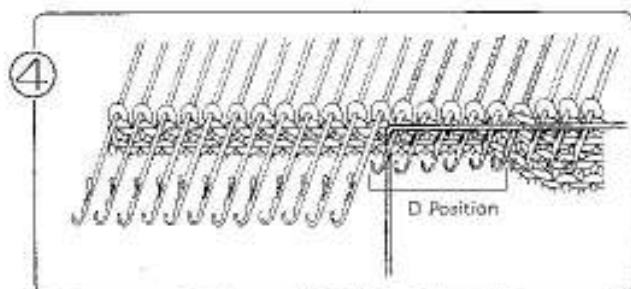
On the opposite side to the K-Carriage, bring forward to E position (H.P) those needles which you want to decrease.



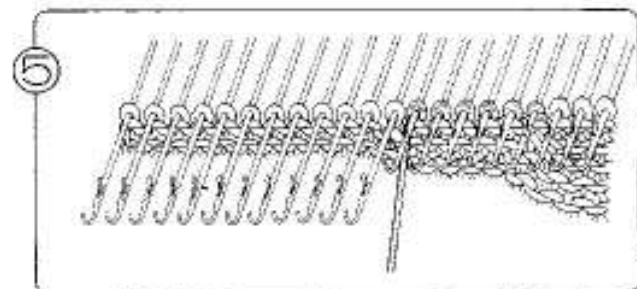
Lay the yarns for the Intarsia pattern and knit one row.



Wrap the yarn under the stem of the first needle in E position as shown, then lay the yarns for the Intarsia pattern. Knit one row.



Bring the needles to be increased from E to D position and lay the yarns for the Intarsia pattern. Knit one row.



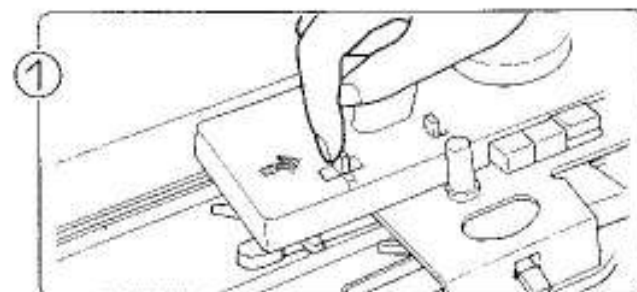
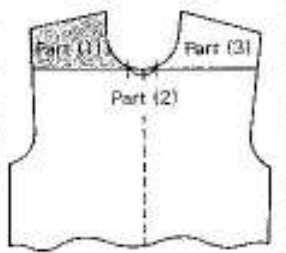
Continue to bring the needles to be increased from E to D position and repeat Steps ③ → ④.

HOW TO SHAPE A ROUND NECKLINE

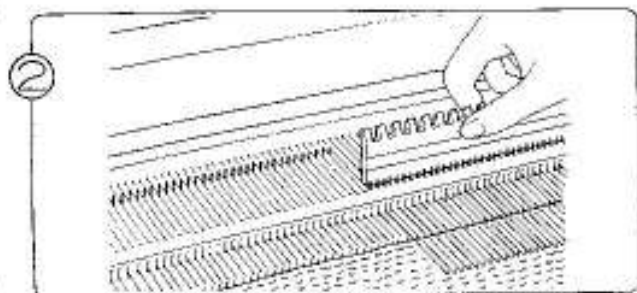
USING THE HOLDING CAM LEVER

• **STOCKING STITCH AND PLATING**

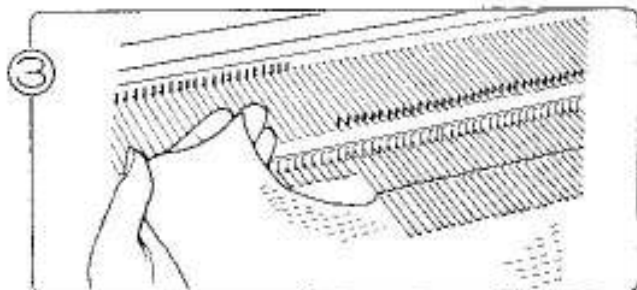
- The following example begins with the yarn and K-Carriage at the left. Reverse the instructions (e.g. read left for right) if beginning with yarn and K-Carriage at the right.



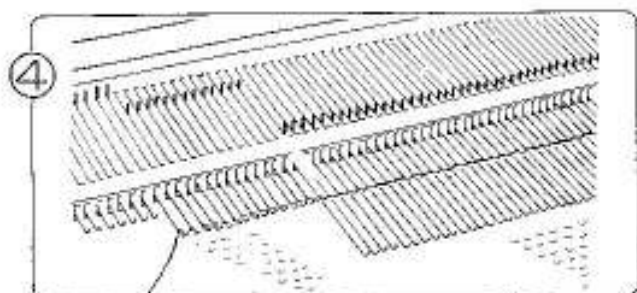
On the K-Carriage, set the Holding Cam Lever to H.



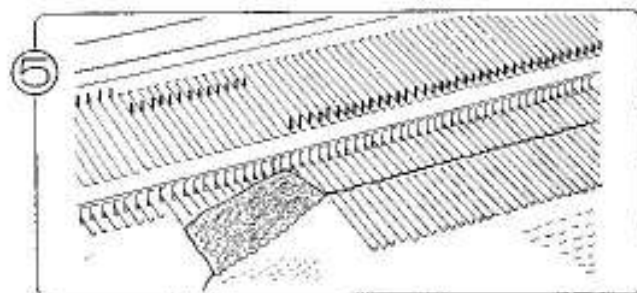
Using the flat side of the 1 x 1 Needle Pusher, bring the needles for Parts (2) and (3) forward to E position. These needles will not knit.



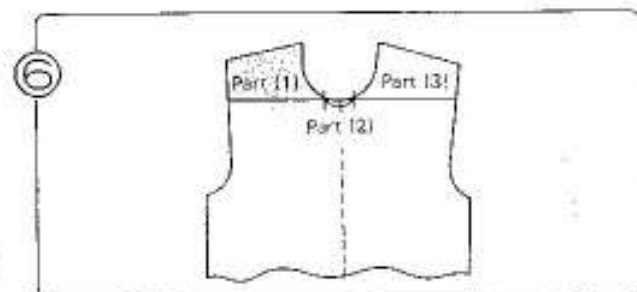
Knit Part (1) according to your pattern, and return needles to A position.



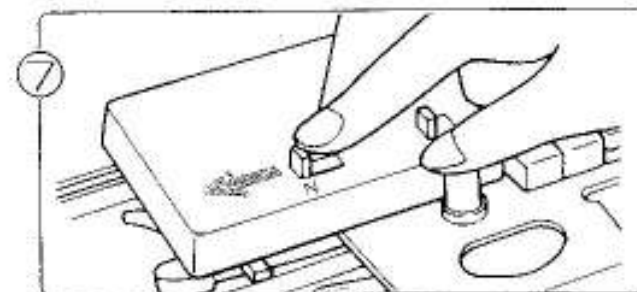
Bring needles from Part (2) to B position at the same time replacing the stitches into the needle hooks.



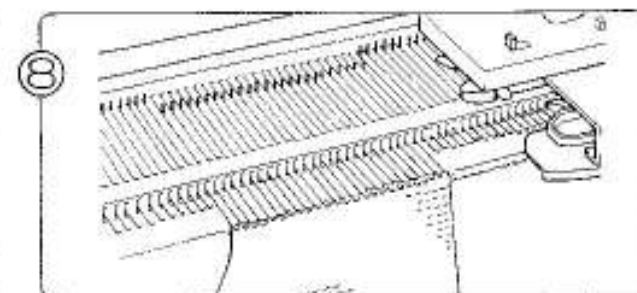
Waste knit Part (2) and remove this from machine. Return needles to A position.



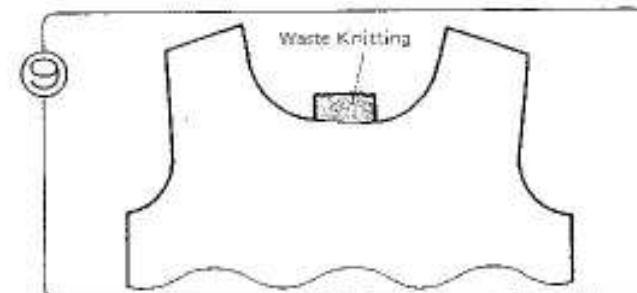
Now only the needles for Part (3) are left in E position.



Set the Holding Cam Lever on the K-Carriage to N.



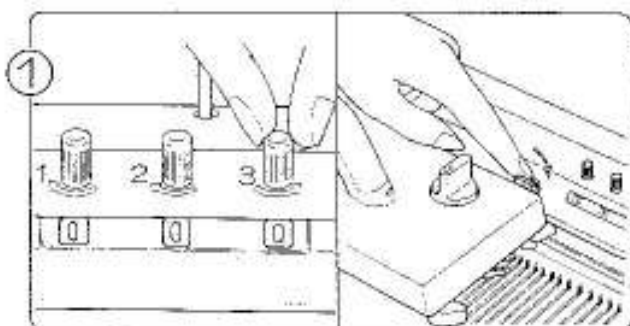
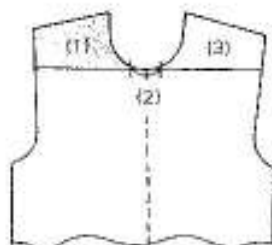
Knit Part (3) according to your pattern.



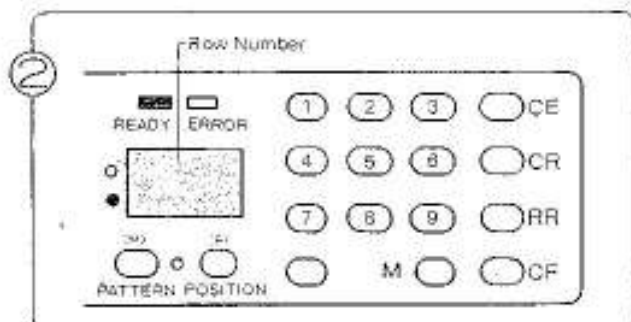
The neckline shaping has now been completed.

• **PATTERN KNITTING (Using the Holding Cam Lever)**

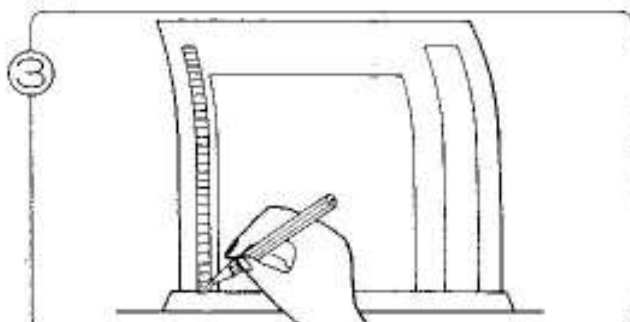
- The following example begins with the yarn and K-Carriage at the left. Reverse the instructions (e.g. read left for right), if beginning with yarn and K-Carriage at the right.



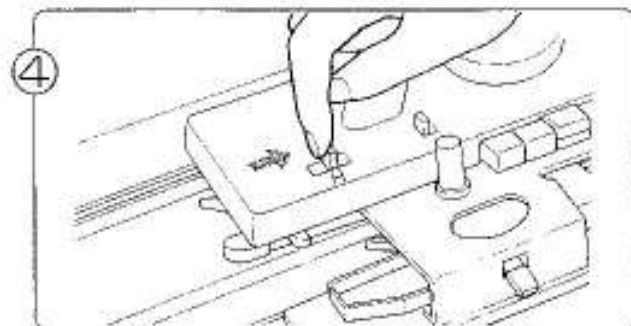
Before you start knitting the first side (1), set the figure of row counter to "0".
Set the row counter tripper to the working position.



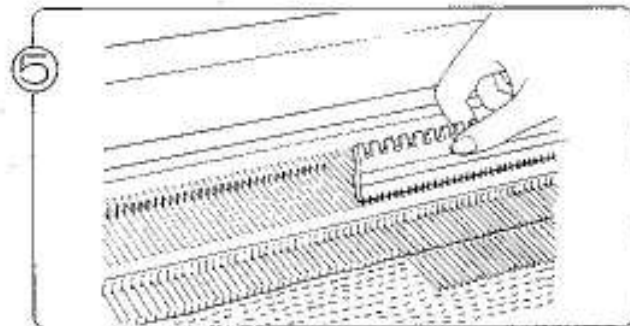
When knitting the memorized pattern, check the row number in the display. If the display shows the memo data, change the indication in the display by pushing the green key. After checking the row number in the display, back it to the memo data by pushing the yellow key.



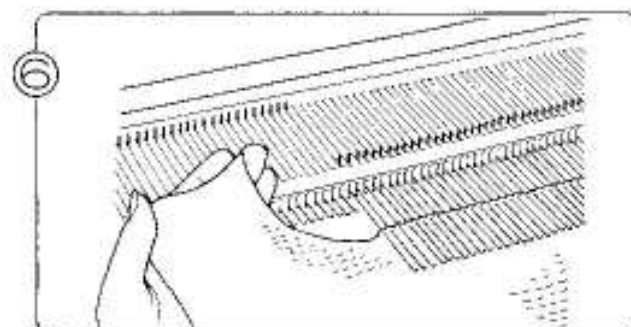
When knitting with the pattern card, put the reference mark beside the L-window of pattern card at the card inlet.



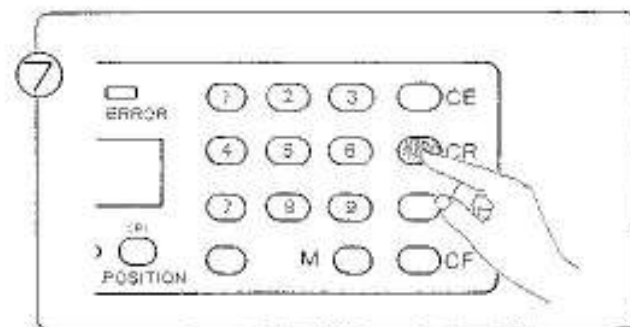
Set the holding lever to H.



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 knit.

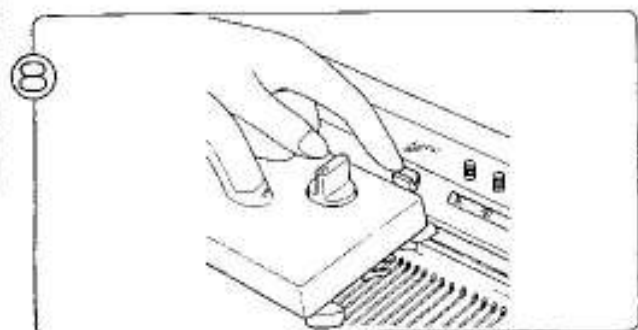


Knit part (1) according to your pattern, and return the needles to A position.

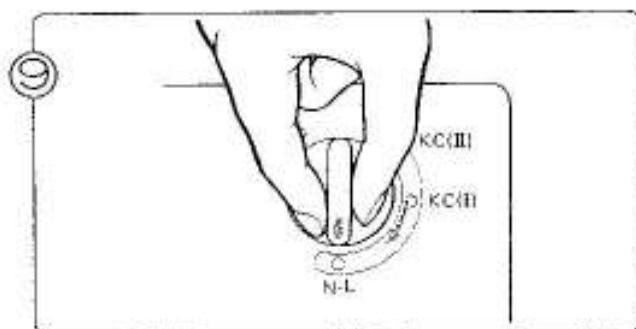


Push the CR key before changing the direction of the K-Carriage. (The error lamp flashes on and off.)

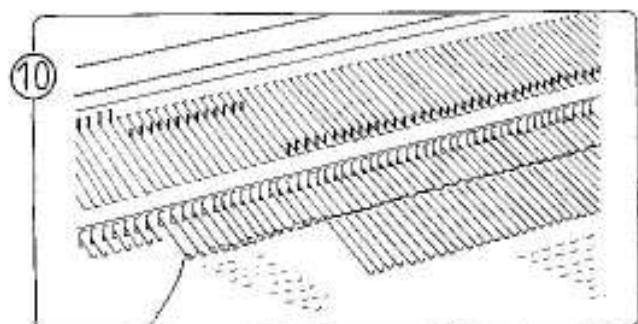
* If you change the direction of the K-Carriage before pushing the CR key, add one row to the figure which is shown in the row counter at the Step (13).



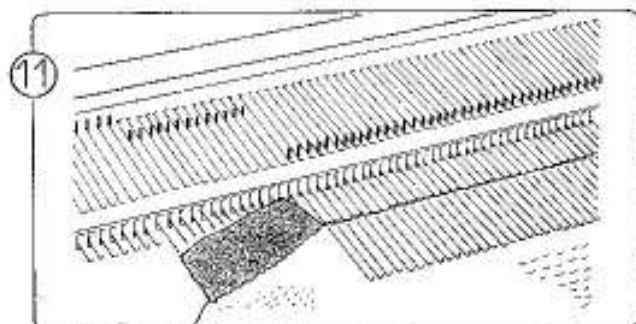
Set the row counter tripper to non-working position.



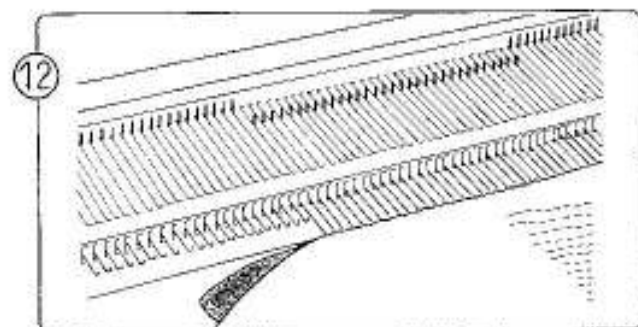
Set the change knob to N-L.



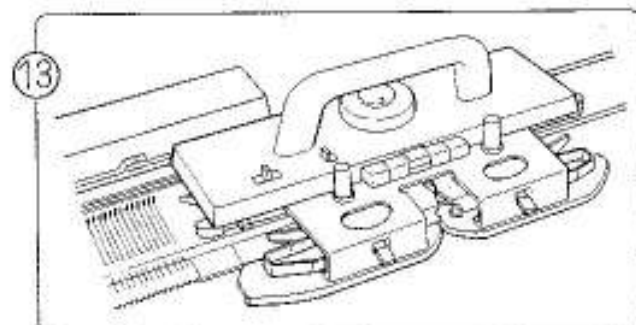
Bring needles from Part (2) to B position at the same time replacing the stitches into the needle hooks.



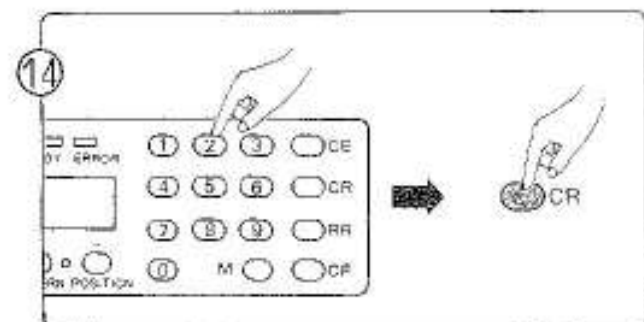
Waste knit Part (2) and remove this from machine. Return needles to A position.



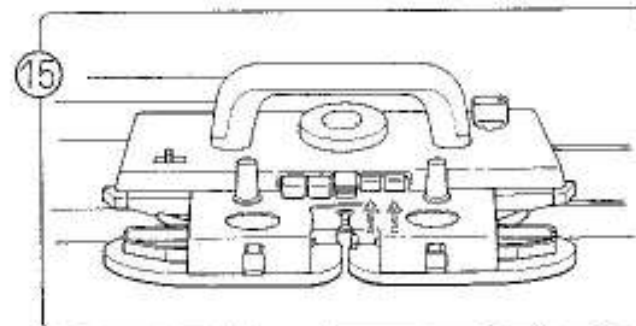
Now only the needles for Part (3) are left in E position. Bring these needles to B position in the same way as you did for Part (2).



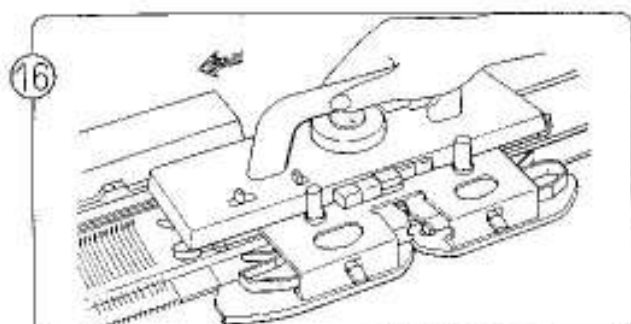
Place the K-Carriage outside the right turn mark.



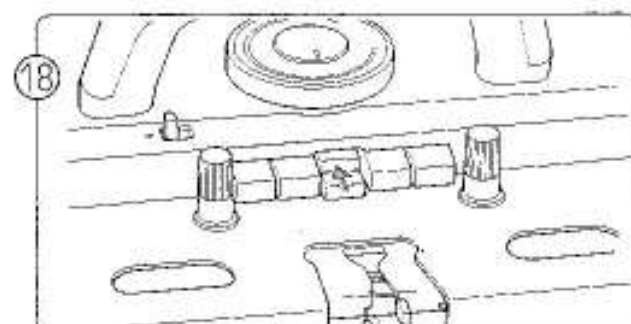
Enter the figure which shows the row counter and push the CR key. (e.g. The row counter shows the 054, enter 54 and push the CR key.)



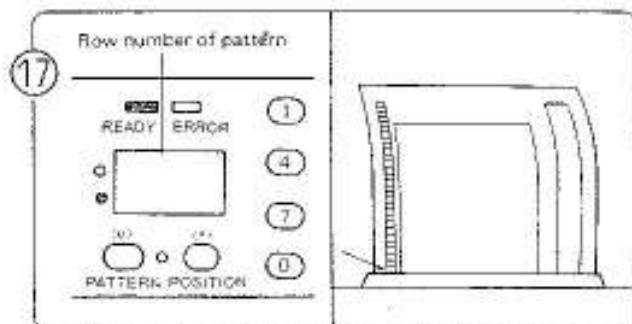
Push both PART buttons. Set the change knob to KC (I) or (II).



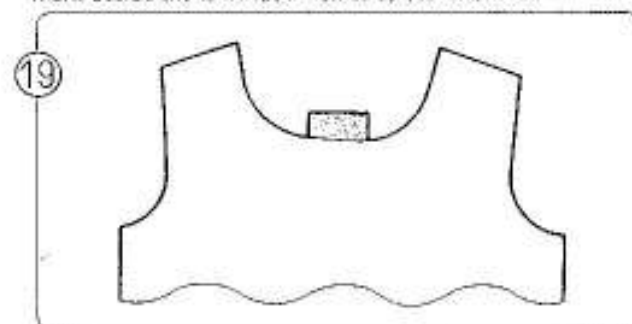
16 Move the K-Carriage from right to left across the right Turn Mark.



18 Push the cam button(s) according to the pattern. Thread the yarn into the yarn feeder and knit Part (3).



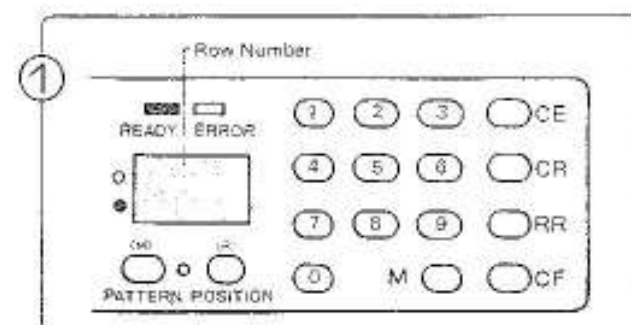
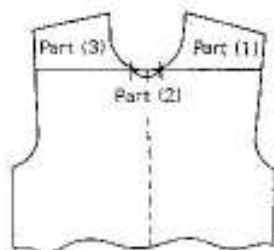
17 After the needles are selected, make sure that the row number in the display is the same number which you checked at Step ②. When using the pattern card, make sure that the reference mark beside the L-window comes to the card inlet.



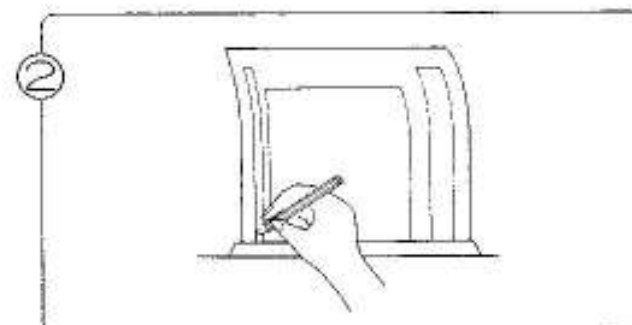
19 The neckline has now been completed. Set the holding cam lever to N.

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

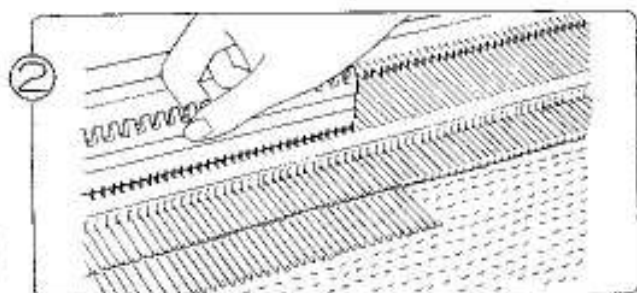
• When shaping a neckline in Lace Pattern, knit the right side first. If the yarn end is at the left, knit one more row so that the K-Carriage is at the righthand side.



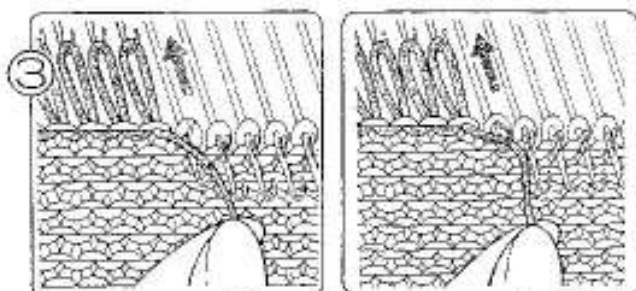
1 When knitting the memorized pattern, check the row number in the display. If the display shows the memo data, change the indication in the display by pushing the green key. After checking the row number in the display, back it to the memo data by pushing the yellow key.



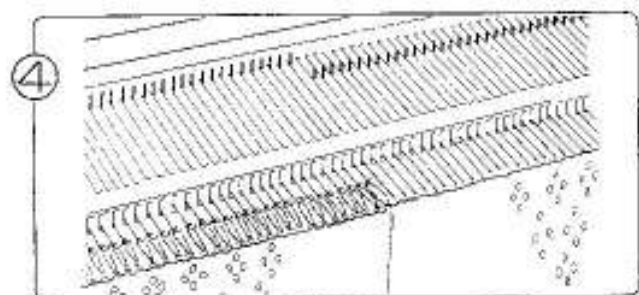
2 When knitting the pattern from the pattern card. Put the reference mark beside the L-window of pattern card at the card inlet.



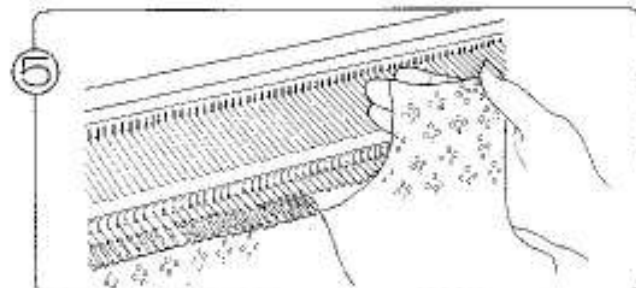
Using the flat side of the 1 x 1 Needle Pusher, bring the needles for Parts (2) and (3) forward to E position.



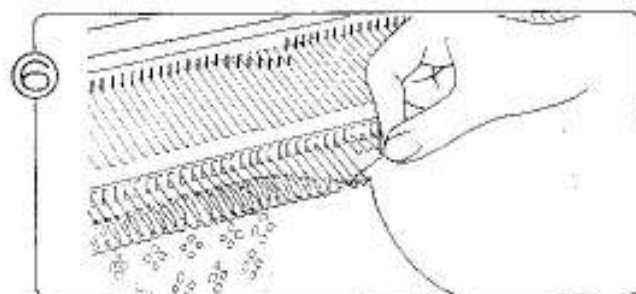
Hang the Cast-on Thread over the hooks of the needles in E position, and knit them back to A position by hand.



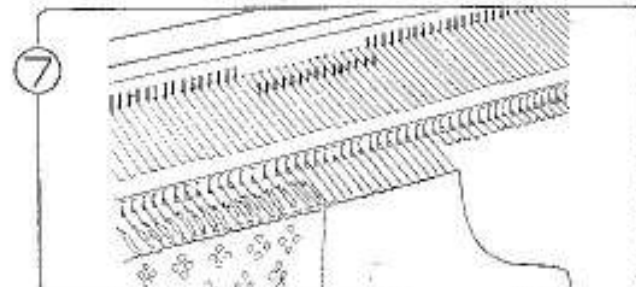
These needles in A position will not knit.



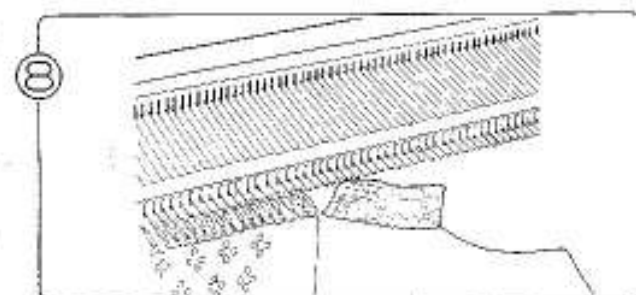
Knit Part (1) according to your pattern using both L- and K-Carriages, and return empty needles to A position.



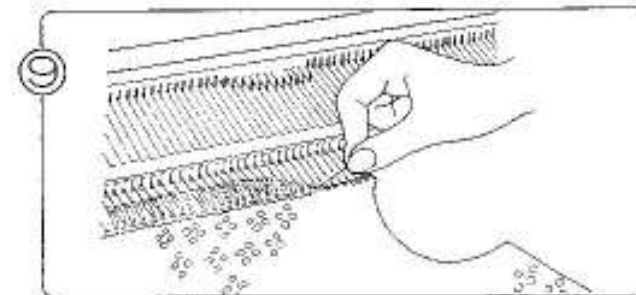
Bring needles from Part (2) from A to B position at the same time replacing the stitches into the needle hooks and removing the Cast-on Thread.



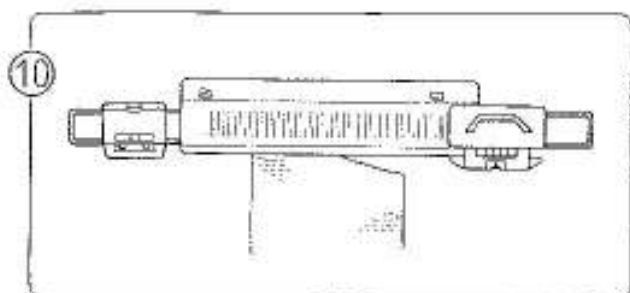
The needles for Part (3) are still left in A position.



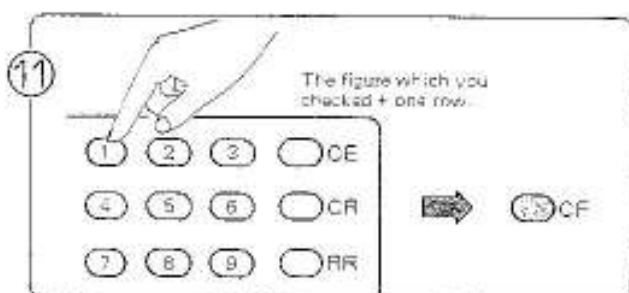
Knit Part (2) ending with waste knitting and remove this from machine. Return needles to A position.



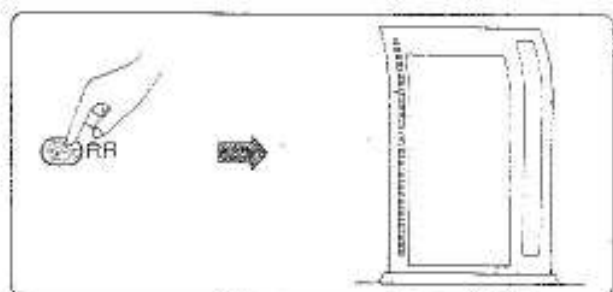
Now only the needles for Part (3) are left in A position. Bring these to B position the same as you did for Part (2).



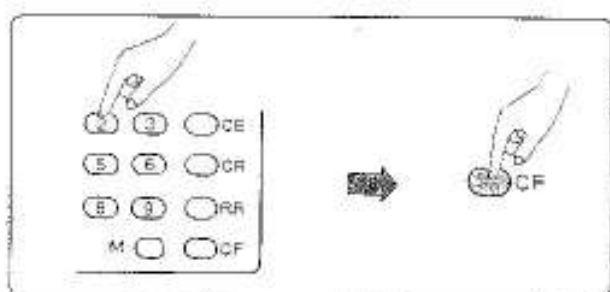
Place the K-Carriage outside the right Turn Mark and the L-Carriage outside the left Turn Mark.



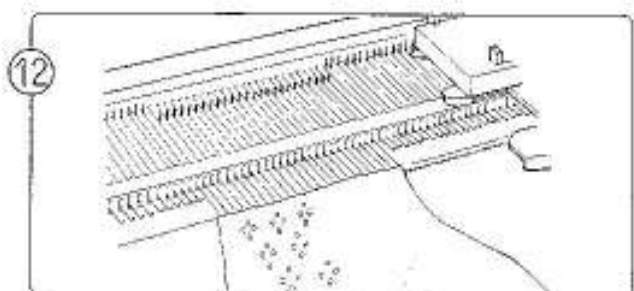
When knitting the memorized pattern, Add one row to the figure which you checked at the Step ①, and enter this figure and push the CF key.



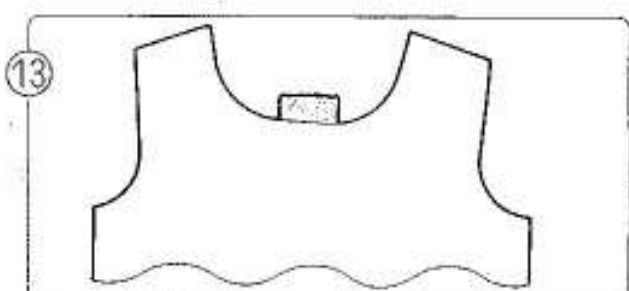
When knitting the pattern from the pattern card,
 (1) Push the RR key. (The pattern card returns to the set line.)



(2) Enter the figure of the mark which is shown beside the L-window of the pattern card and push the CF key. The pattern card will be fed to the one row above of the marked row.



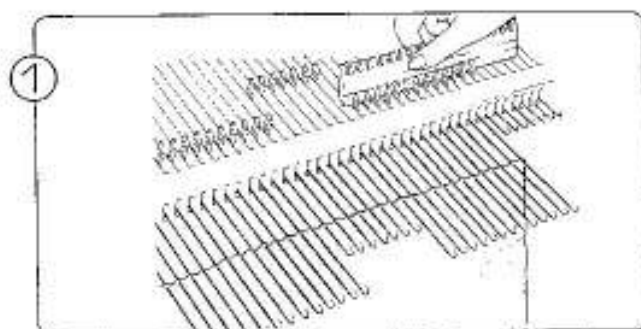
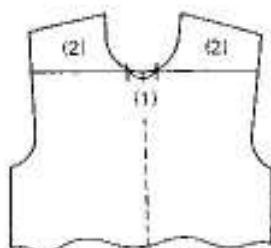
Knit Part (3) according to your pattern, using the K- and L-Carriages.



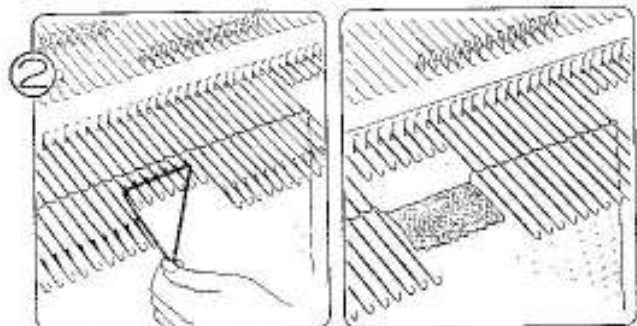
The neckline shaping has now been completed.

• INTARSIA

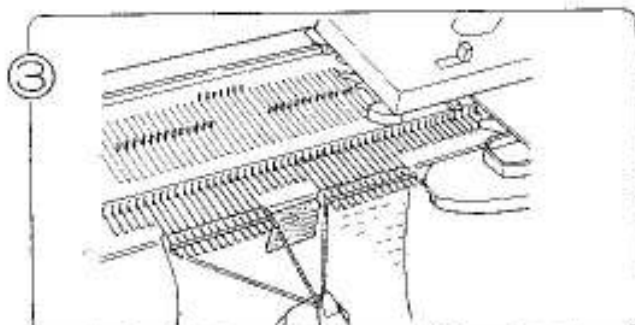
- Knit both shoulders at the same time.



Bring the two sets of needles for Part (2) into E position.



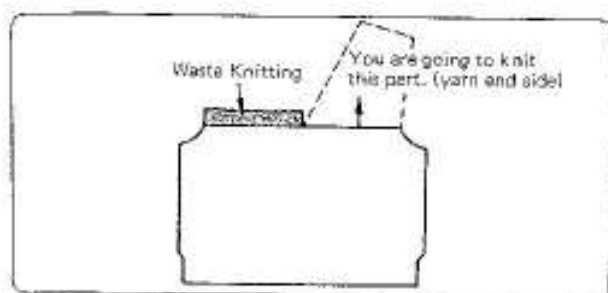
While knit the stitches for Part (1) only and return needles to A position.



Return the Part (2) needles from E to D position and knit both shoulders according to your pattern.

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.



When knitting in stocking stitch,

- 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.

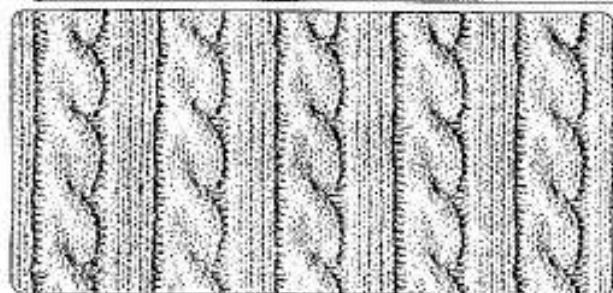
When knitting in Lace and Fine lace,

- 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 Take the left shoulder off onto waste yarn. (Refer to the Steps 1 – 6 of stocking stitch.)
- ③ Return the needles in E position to B position using the transfer tool to replace the stitches into hooks.
- ④ When knitting the memorized pattern, check the row number in the display. If the display shows the memo data, change the indication in the display by pushing the green key.
* After checking the row number, return the display to the memo data by pushing the green key.
* When knitting the pattern from a pattern card, put the reference mark beside the L-window of the pattern card at the card inlet.
- ⑤ Thread the yarn into the yarn feeder, operate the K- and L-Carriage according to the pattern card, and knit the first shoulder.
- ⑥ Replace the stitches for the left side back onto the needles using the transfer tool and place the needles in B position.
- ⑦ When knitting the memorized pattern, Add one row to the figure which you checked at Step 4, and enter this figure, push the CF key.
When knitting the pattern from the pattern card,
a) Push the RR key, and the pattern returns to the set line.
b) Enter the figure of the mark which is shown beside the L-window of the pattern card, and push the CF key.
The pattern card will be fed to the one row above the marked row.
- ⑧ Knit the left side of the neck and shoulder using the K- and L-Carriage according to your pattern.
- ⑨ Set the Holding cam lever to N.

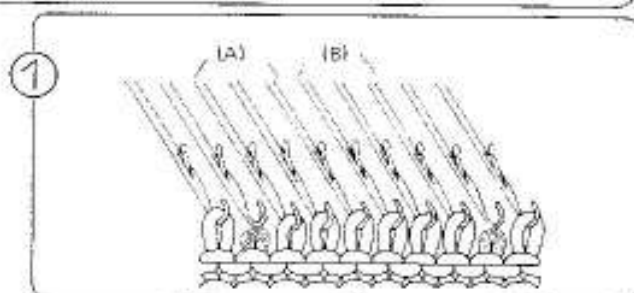
In the case of Pattern knitting,

- ① Push the CR key. (The error lamp lights up.)
- ② Set the change knob to N-L.
- ③ Take part of the knitting off onto waste yarn. (Refer to the Steps 1 – 6 of 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.
- ⑥ Set the change knob to KC (I) or KC (II) and push both Part buttons to select the needles without yarn.
- ⑦ Enter '0' and push the CR key.
- ⑧ Move the K-Carriage from outside the Turn Mark until the needles are selected.
- ⑨ Set the figure of row counter to '000' and the row counter tripper to working position.
- ⑩ When knitting the memorized pattern, check the row number in the display. If the display shows the memo data, change the indication in the display by pushing the Green key.
 - * After checking the row number, push the Yellow key to return to the memo data.
 - * When knitting the pattern card, put the reference mark beside the L-window of the pattern card at the inlet.
- ⑪ Push the cam button(s) according to your pattern.
- ⑫ Thread the main yarn into the yarn feeder and knit the first part of the neck and shoulder.
- ⑬ After knitting the last row of the first side, place the K-Carriage the side to which it was moving. Do not alter the carriage setting.
- ⑭ Replace the stitches from waste knitting back onto the needles using the transfer tool and place the needles in B position.
- ⑮ Enter the figure which shows in the row counter, and push the CR key.
- ⑯ Push both Part buttons. The change knob is set at KC (I) or KC (II).
- ⑰ Move the K-Carriage from outside the Turn Mark across the needles, to make a selection.
- ⑱ After selecting the needles, make sure that the row in the display is the same number which you checked at Step 10.
 - * When knitting the pattern from the pattern card, make sure that the reference mark is beside the L-window of the pattern card comes to the card inlet.
- ⑲ Push the cam button(s) according to your pattern and thread the yarn into the yarn feeder. Then knit the second part of the neck and shoulder.
- ⑳ Set the holding cam lever to N.

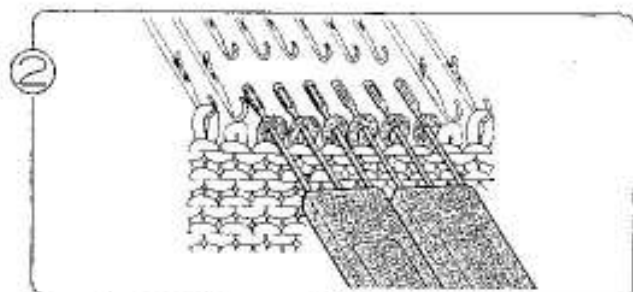
CABLE STITCH PATTERN



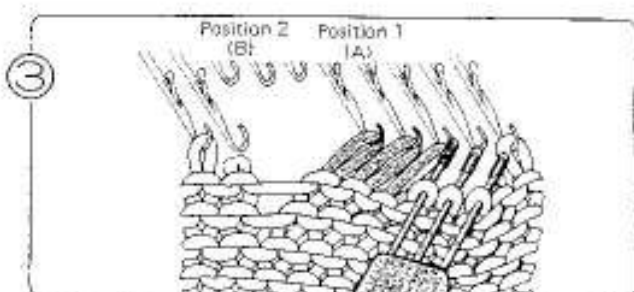
- Cables are made by crossing two sets of stitches using two Transfer Tools. The following example uses two 3-eyed Transfer Tools.



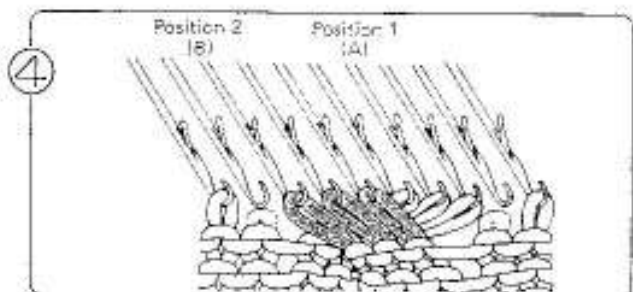
Knit until you reach the point for your first cable cross-over. Drop one stitch on either side of the cable pattern stitches.



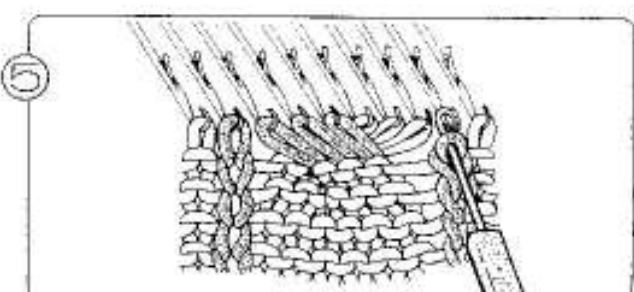
Transfer 3 stitches onto both 3-eyed Transfer Tools as shown.



Transfer the stitches marked (A) to Position 1.



Transfer the stitches marked (B) to Position 2.

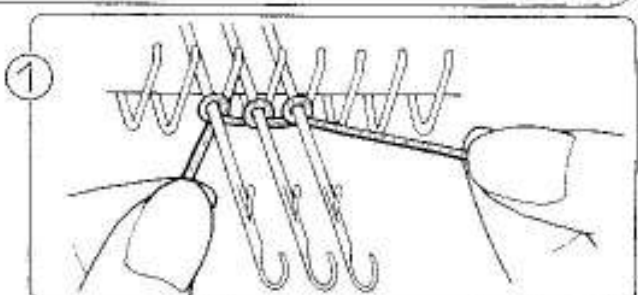


Allow the stitches on either side of the cable which you dropped in Step ①, to ladder down, and using the Latchet Tool reform them into purl stitches.

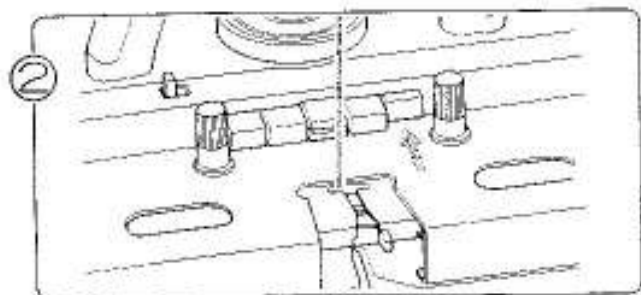
TUBE KNITTING



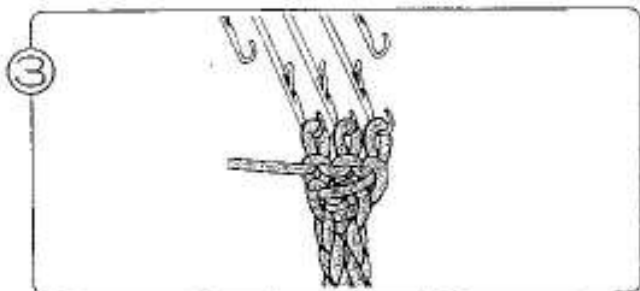
- Using the Skip Stitch facility, you can make seamless tubes. Set the Tension Dial to approx. one number lower (tighter) than you did for the same yarn in stocking stitch.



Using the "e" wrap method, cast on 3 or 4 stitches.

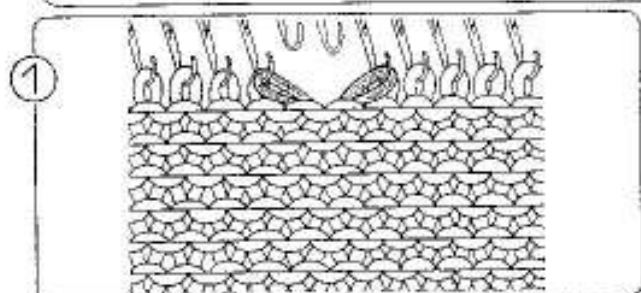


Place the K-Carriage on the right of the machine and push in either the right or the left Part button.

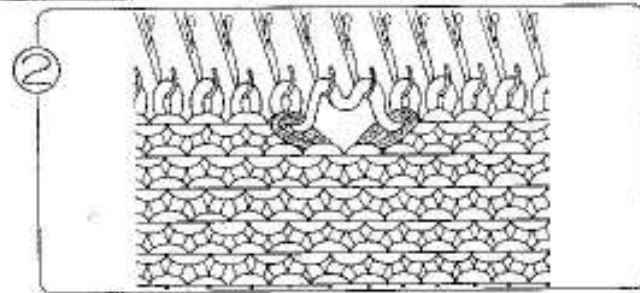


Operate the K-Carriage at the same time pull down the knitting with your other hand.

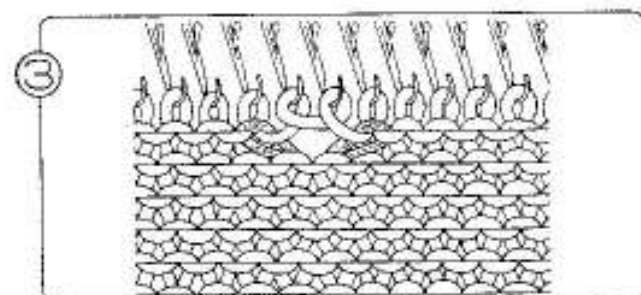
HOW TO MAKE A BUTTONHOLE



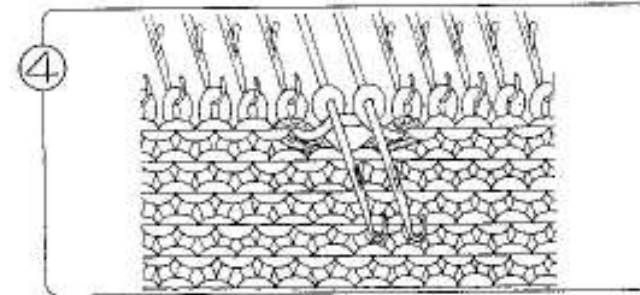
Using the 1/2 Transfer Tool, move the two stitches onto adjacent needles as illustrated.



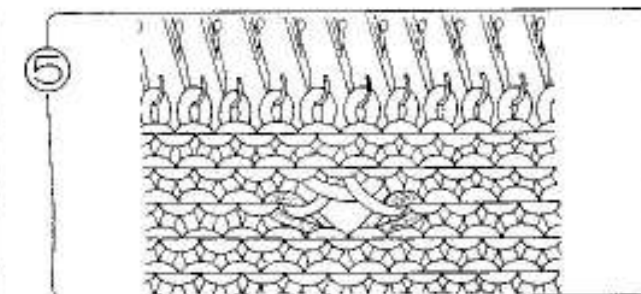
Place empty needles in B position and knit one row. The yarn has hooked over these two needles.



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



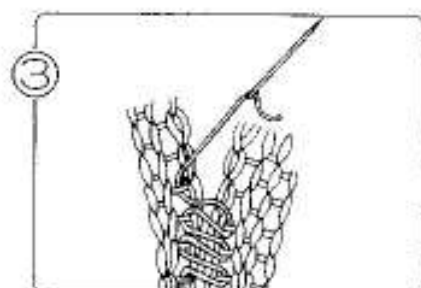
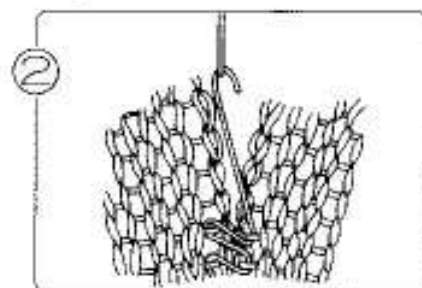
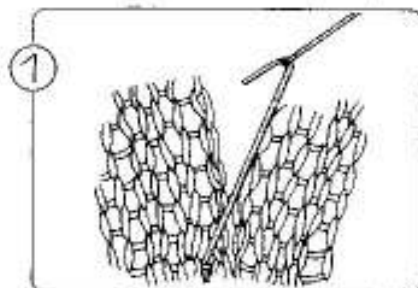
Bring the two needles forward to E position and knit one row.



You have now made a buttonhole.

SEAMING

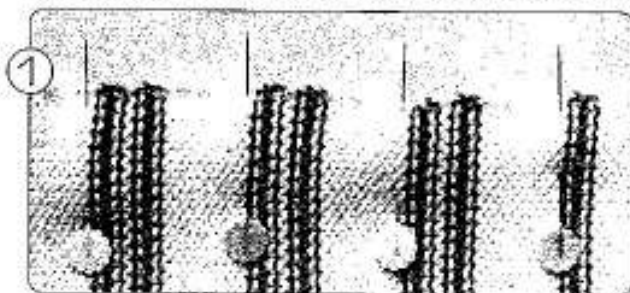
- Using a tapestry needle, pick up half of the edge stitch as shown below.



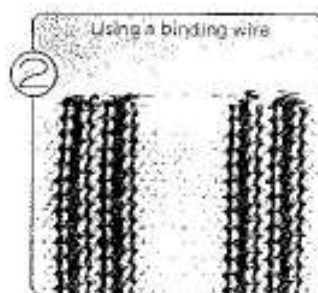
USING A SEWING MACHINE FOR MAKE-UP

You can use your sewing machine to join your garments together. Either a straight stitch or a zigzag stitch machine is suitable, but it is best to use sewing thread which stretches and is specially made for sewing knitwear. Choose a colour to match your yarn.

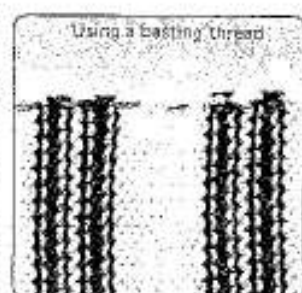
1 - BEFORE YOU BEGIN TO SEW



Pin together the parts to be basted.

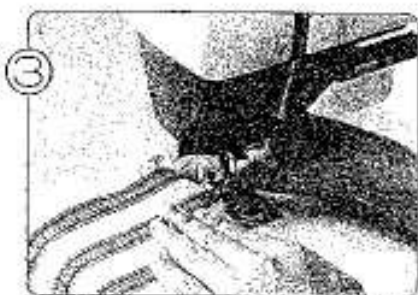


Using a binding wire



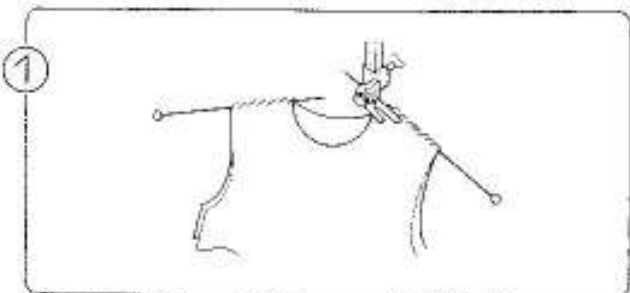
Using a basting thread

Baste the seams using either a basting thread or the binding wire included with your KL-116 (Knit Leader).

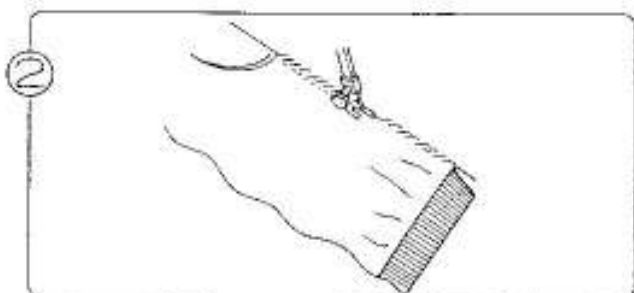


Slowly sew seam with your sewing machine easing the seam slightly whilst you sew, and taking care not to stretch the fabric too much. Allow a seam of approx. 3 – 5 mm.

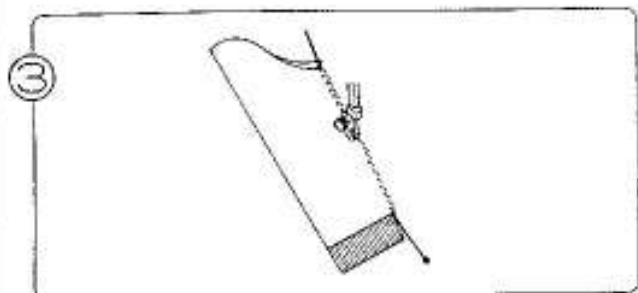
• ORDER OF MAKE-UP



Shoulders (right and left).

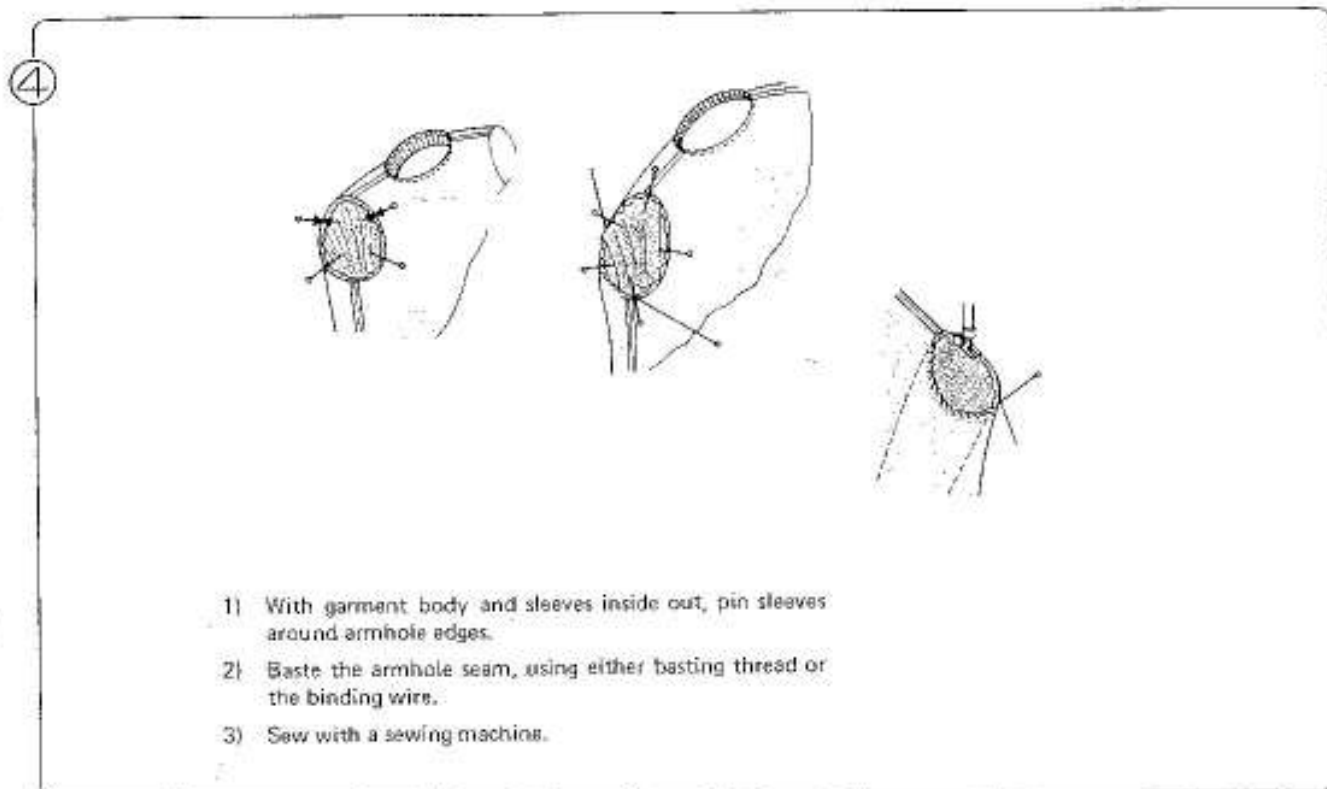


Side seams.



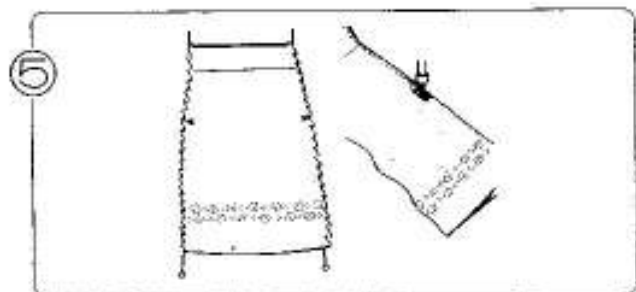
Sleeve seams.

* Sew ribbing together by hand.



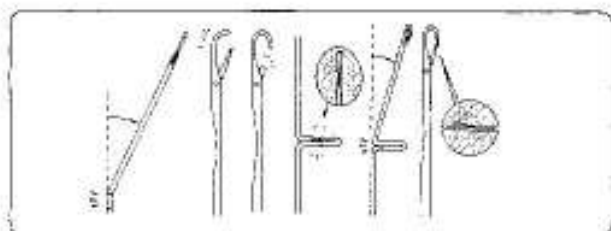
- 1) With garment body and sleeves inside out, pin sleeves around armhole edges.
- 2) Baste the armhole seam, using either basting thread or the binding wire.
- 3) Sew with a sewing machine.

How to set in the sleeves.

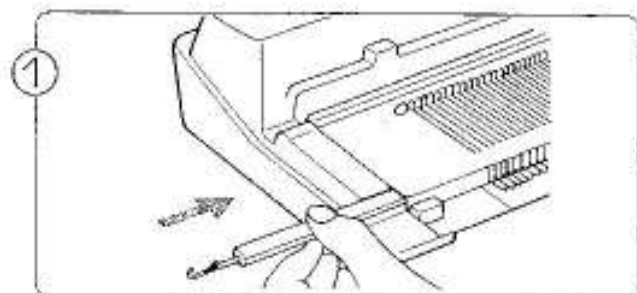


How to sew a skirt.

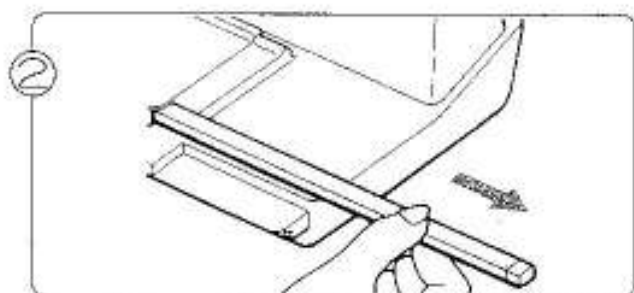
REPLACING A NEEDLE



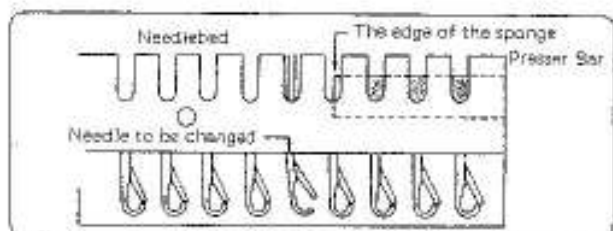
- Needles that are bent, broken or damaged will cause problems during knitting. If you experience dropped or badly knitted stitches you should check the needles and replace any faulty ones immediately. In an emergency if you have no spare needles, use one from the extreme edge of the needlebed.



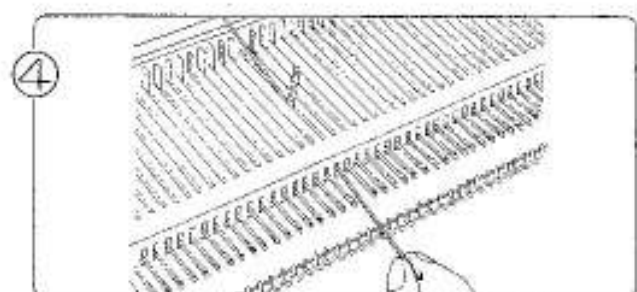
1 Push one end of the sponge Presser Bar with the handle of your Latchet Tool until it appears at the other end.



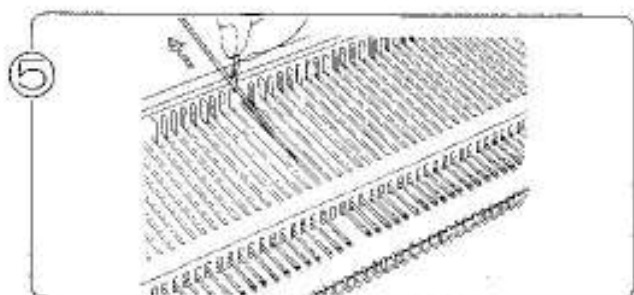
2 Draw the Bar out by hand until it passes the needle to be replaced.



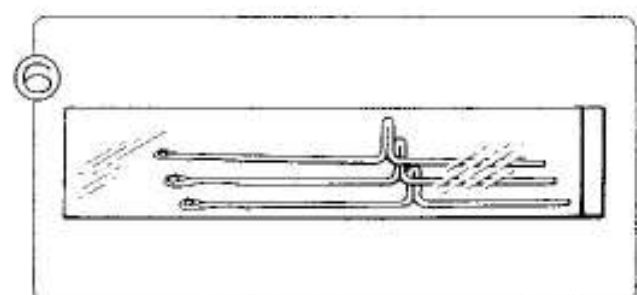
3 Push the faulty needle forward to E position as far as it will go.



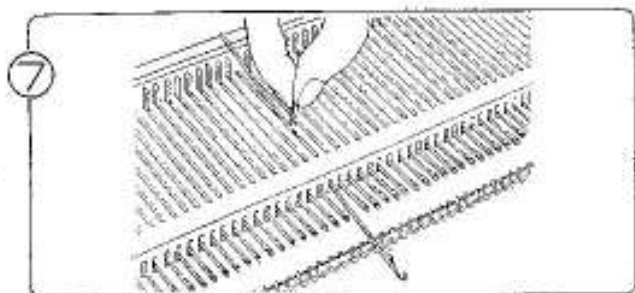
4 Press down at the hook end so that the shank end of the needle is raised clear of the needlebed.



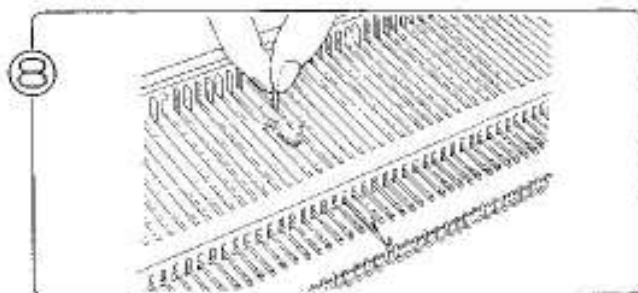
5 Catch hold of the shank end and lift the faulty needle out from the needlebed.



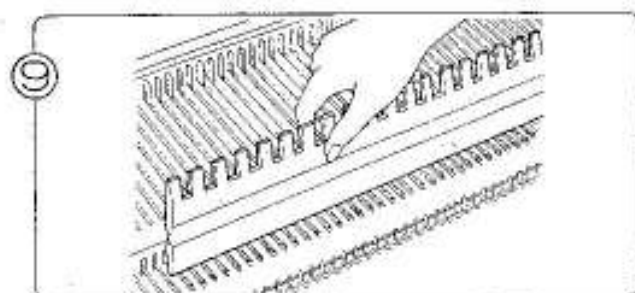
6 Take a spare needle out of the Accessory Box.



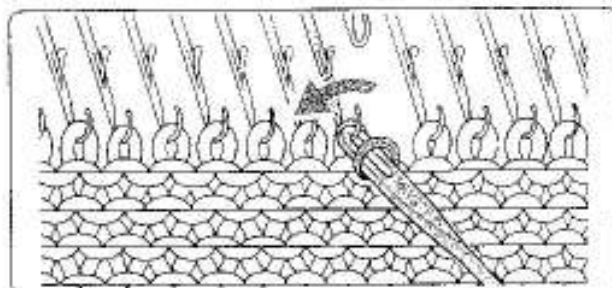
7 With the fatch open, insert the new needle as shown.



8 Return needle to A position.

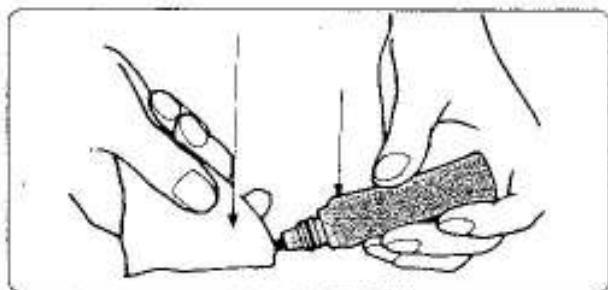


9 Holding the needles down with your hand or the flat side of your 1/1 Needle Pusher, push the sponge Presser Bar back in place.

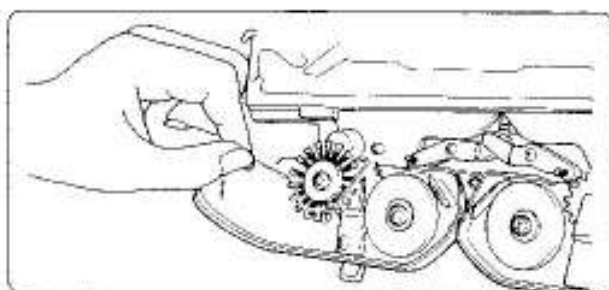


* If you need to replace a needle whilst you have knitting on the machine, transfer the stitch from the faulty needle onto an adjacent needle. Replace the stitch after you have completed the replacement.

CLEANING AND MAINTENANCE

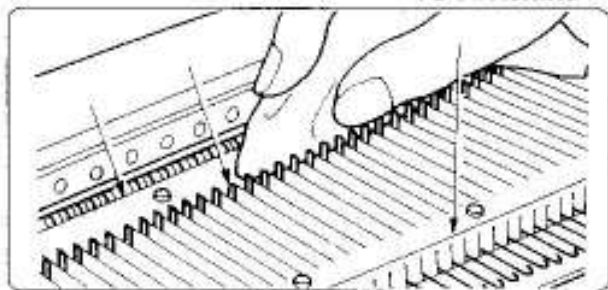


Wipe the metal parts with an oily cloth and clean plastic parts with a soft cloth and mild, neutral detergent.

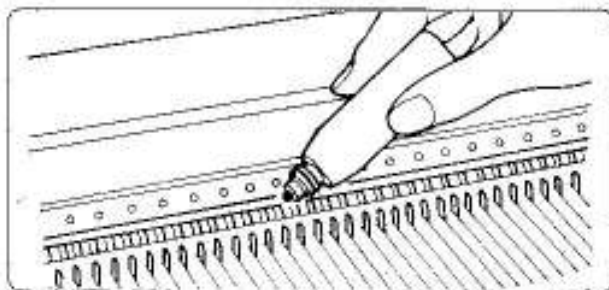


Remove the K- and L-Carriages from the needlebed and brush away any dust or fluff. Check that the brushes are free from fluff or strands of yarn, and that they revolve smoothly.

DO NOT USE SILICONE SPRAY ON YOUR MACHINE !

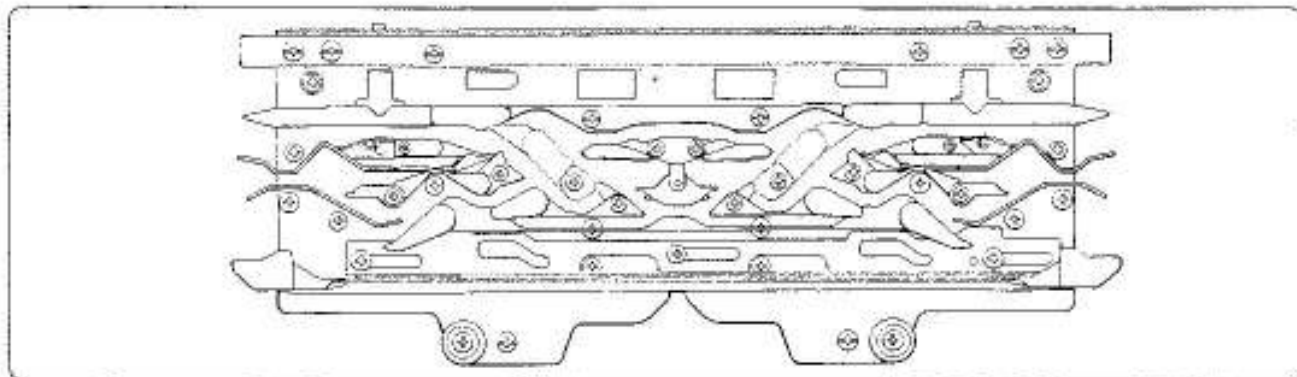


Arrange all needles in B position and clean the butts, rear and front rails as shown, using an oily cloth.



Do not put oil directly onto the machine.

Do not use alcohol, benzine, thinners or petrol !



Should the K-Carriage feel heavy to operate, you should clean and lubricate the areas indicated above, using an oily cloth. If you regularly clean and lightly oil your machine, it will make knitting easier and help to prevent excessive wear.

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