

# INSTRUCTION BOOK

## TOYOTA K6 787







#### DEAR KNITTER,

Now that you own a TOYOTA 787 to get the very best from your machine, if you follow from this book as you are going you will find it a very easy machine to use.

**PART 1** Read carefully, take your time and follow the instructions step by step. In PART 1 you will learn how to set up the machine, prepare your yarns, cast on, cast off and at the end of PART 1 you will be able to knit any one of the garments on page 27. You will learn how to sew up your garments, making pompons and several other finishings.



**PART 2** And here we are, all those lovely stitch patterns you can knit on your machine. Fairisle patterns, weaving, tuck stitch, slip stitch, lace and AUTO-motif knitting. In PART 2 you will find how to use the push buttons for stitch patterns as well as the zig zag dial, and how to combine punch card knitting with push buttons and zig zag dial. Create your own stitch pattern designs, or use the punch cards ready available from TOYOTA.

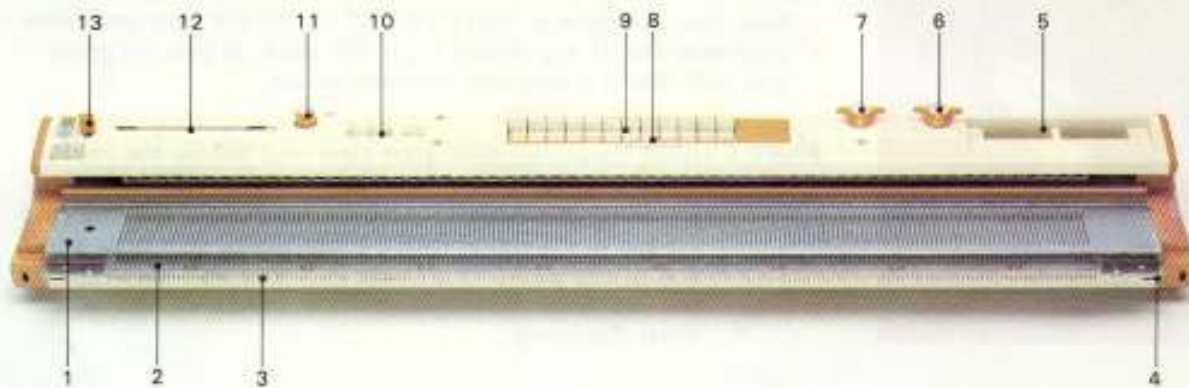


**PART 3** And here you will find all you need for practical knitting, shaping, increasing and decreasing in several different ways, knitting hems and welts, 'V' necks, round necks, darts, reversed darts, pockets with flaps, zip fastener openings, small and large buttonholes as well as a button-hole band, altogether, many things you will need to knit all the lovely garments you planned to knit for your family and friends.



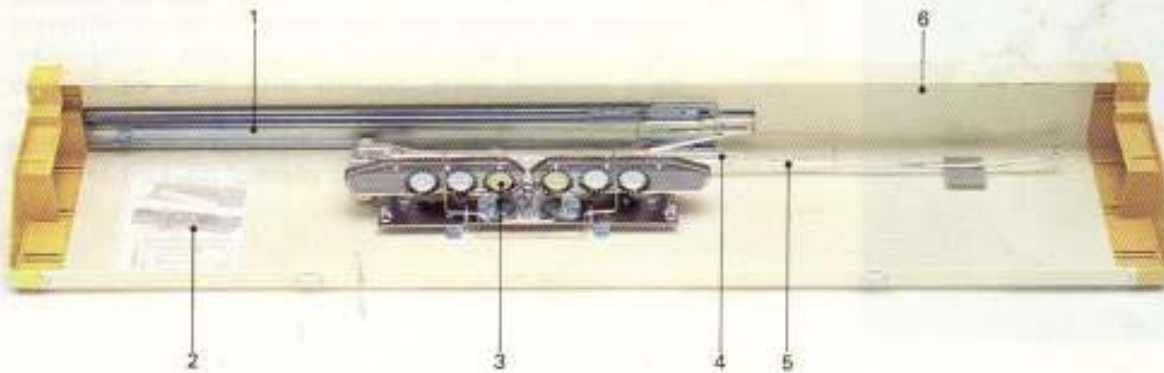
**PART 4** HINTS - PROBLEMS - MISTAKES - CORRECTIONS  
Any problem you can have during knitting refer to PART 4, here you will find many hints how your problem could happen and how to remedy. Tension problems, unravelling, changing a needle, cleaning your machine, dropped stitches and how to repair, all this and many other things that you need to know about. And last but not least how to re-pack your machine,

## MACHINE



- 1 Needle bed
- 2 Latch needles
- 3 Sinker hooks
- 4 Yarn holder
- 5 Accessory case
- 6 Auto-Motif dial
- 7 Zig-Zag dial
- 8 Zig-Zag memory
- 9 Push buttons
- 10 Row counter
- 11 Card feeding dial
- 12 Card slot
- 13 Release lever

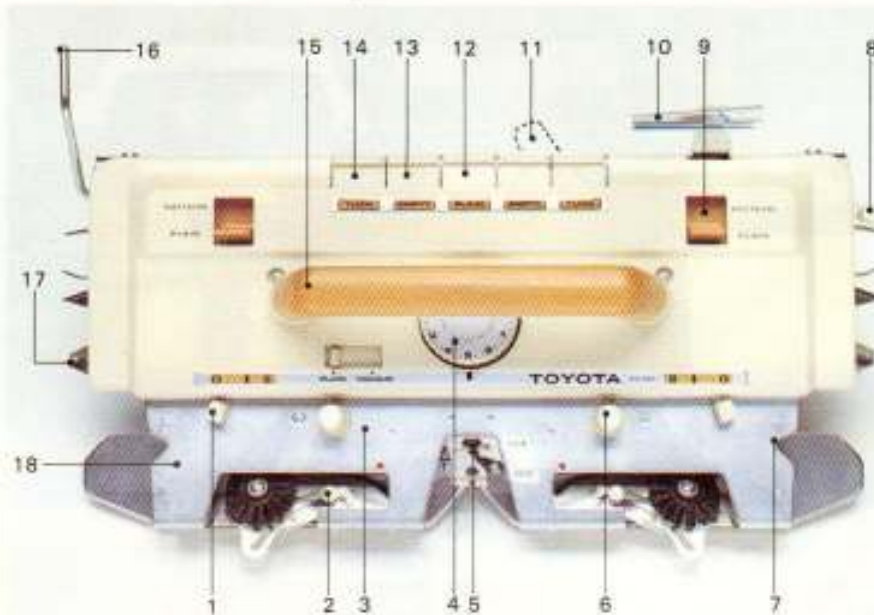
## CASE COVER



- 1 Extension rails
- 2 Packing diagram
- 3 Fabric presser
- 4 Upper tension unit
- 5 Tension rod
- 6 Cast on comb

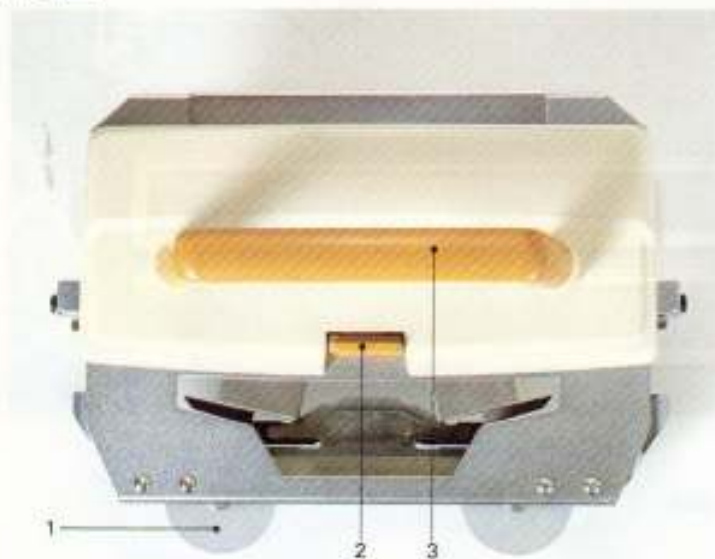


## MAIN CARRIAGE



- |                         |                                   |
|-------------------------|-----------------------------------|
| 1 Front levers          | 10 Tracer feed tripper            |
| 2 Weaving knobs         | 11 Card feed tripper              |
| 3 Fairisle switch       | 12 PLAIN button                   |
| 4 Tension dial          | 13 EMPTY buttons (right and left) |
| 5 Yarn feeder           | 14 Tuck buttons (right and left)  |
| 6 Fabric Presser screws | 15 Carriage handle                |
| 7 Weaving yarn guides   | 16 Row counter lever              |
| 8 Card feed lever       | 17 Front holders                  |
| 9 Pattern levers        | 18 Fabric presser                 |

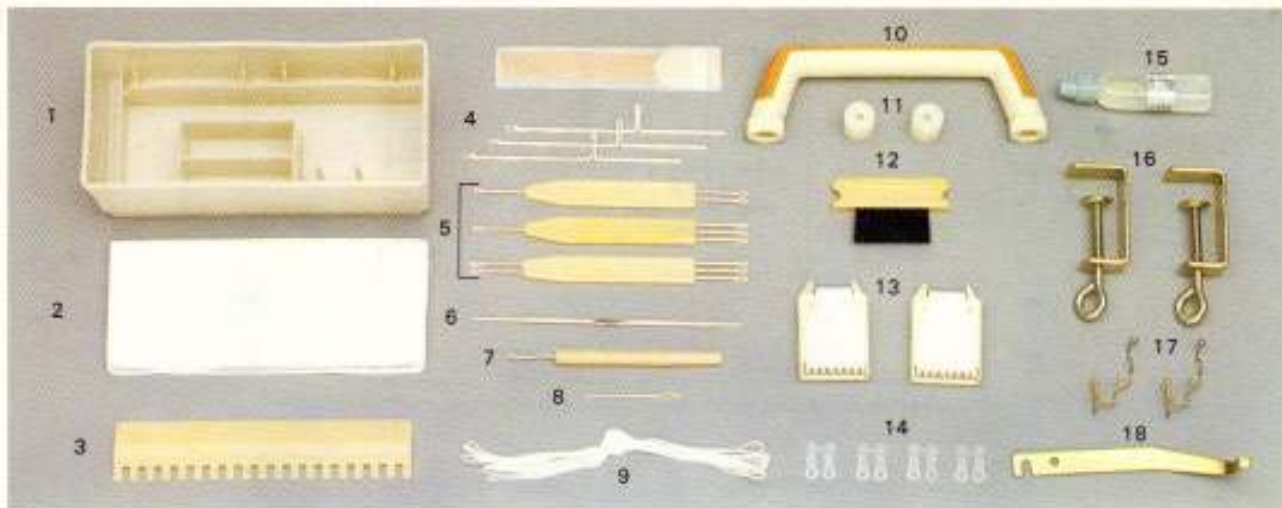
## LACE CARRIAGE



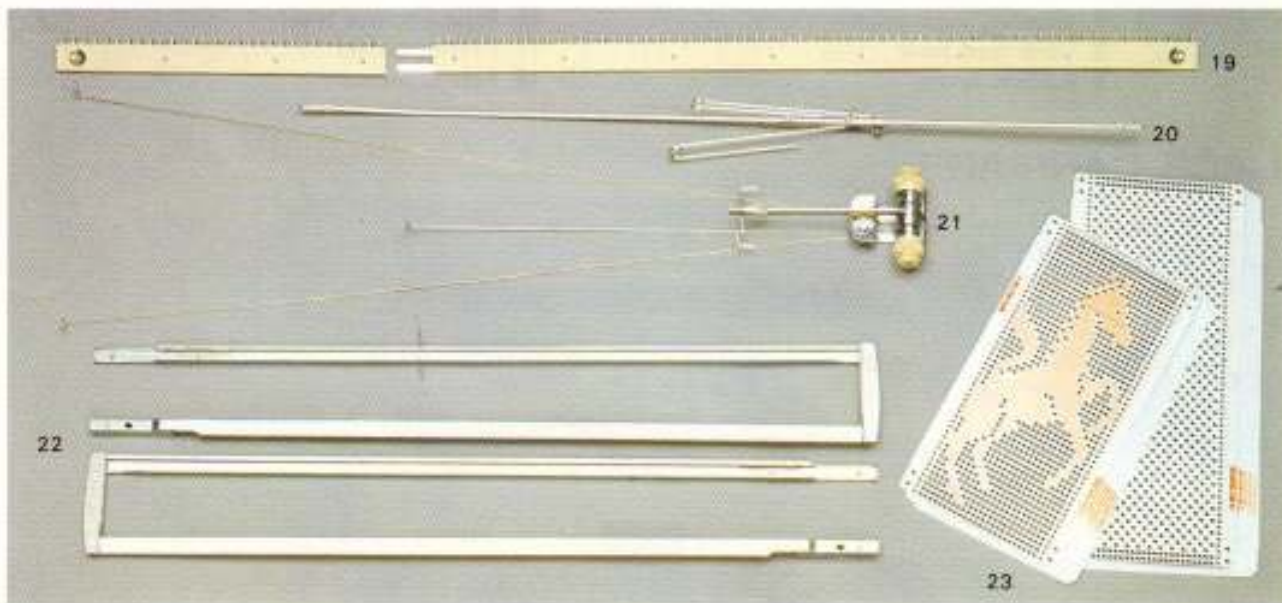
- |                   |
|-------------------|
| 1 Wheels          |
| 2 Release button  |
| 3 Carriage handle |



# ACCESSORIES

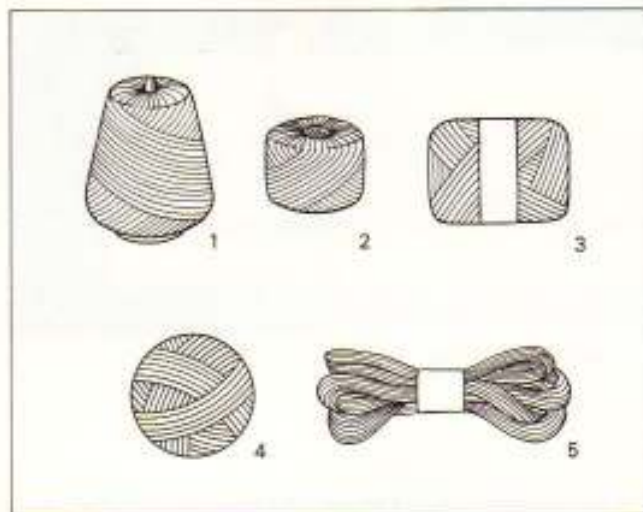


- |                       |                       |
|-----------------------|-----------------------|
| 1 Accessory box       | 10 Handle             |
| 2 Accessory bag       | 11 Paraffin wax       |
| 3 Selector comb       | 12 Brush              |
| 4 Spare latch needles | 13 Weights            |
| 5 Transfer tools      | 14 Card snaps         |
| 6 Crochet hook        | 15 Oil                |
| 7 Latch tool          | 16 Clamps             |
| 8 Tapestry needle     | 17 Extra yarn holders |
| 9 Nylon cord          | 18 Carriage lock      |



- |                            |
|----------------------------|
| 19 Cast-on comb            |
| 20 Upper tension rod       |
| 21 Upper tension wire unit |
| 22 Extension rails         |
| 23 Basic punch cards       |

## PREPARATION OF YARN

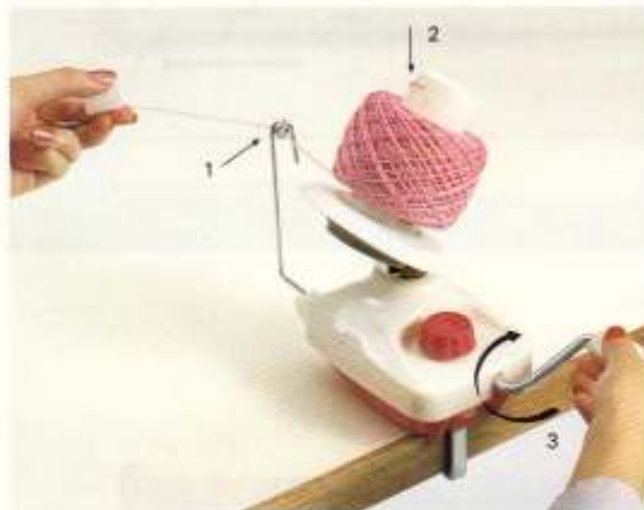


A wide range of yarns and wools can be knitted on your machine. However, if this is the first time that you are using a knitting machine, use a soft medium thickness wool to start with.

Careful preparation of yarn is important, it makes knitting more enjoyable and saves a lot of trouble. The top picture shows yarns wound up in five different ways.

1-cone and 2-wound ball are ready and suitable for machine knitting.

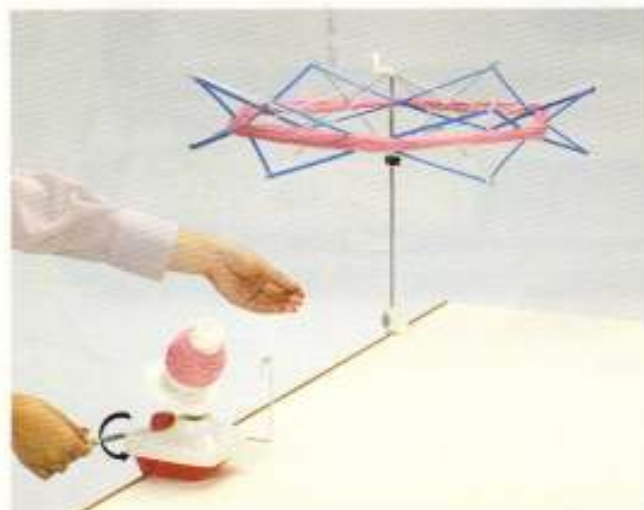
Do not use 3, 4 and 5 as they are shown in the picture, they must re-wound first.



The wool winder is a useful OPTIONAL accessory. It winds your yarns quickly ready for machine knitting.

Insert the yarn end through the guide 1 and across the top of the cone 2. Turn handle 3.

While winding let the yarn thread run over wax, this will smooth the thread. The ball will be small and tight. You should rewind a second time. First remove the yarn end from across the top of the cone, then the ball. Starting with the centre end, rewind second time but let the thread run through your hand loosely.



It is impossible to knit from a hank, 5 in top picture.

Place the hank on the skein holder, Optional. Thread one end through guide and across top of cone and wind as explained above.

You will knit so quickly that you will not have the time to catch knots and loops. **DO NOT LEAVE KNOTS** in your yarn, untie or break the thread and wind a new ball.

Knots can cause carriage jamming and faulty knitting.

The wool winder is very useful while practising, you can unravel the test samples and use the yarn again. Start unravelling by the end of the last row knitted.



## SETTING UP THE MACHINE

HOW TO USE THE MACHINE



Place the knitting machine on the table, handle of case away from you.  
Unlock both latches at rear of machine case.



Lift cover up and towards you.  
Place cover at rear of machine, lower side towards you.



On the LEFT side of the needle bed is the accessory box.  
Raise it and place it inside the cover.



Take BOTH table clamps from the accessory box.  
Turn screws until wide open.

Insert the clamps into slits underneath the machine.  
Secure the machine on the table.

Your machine should securely attached to the table top.



While not being used, the carriage is locked to the needle bed.

Turn thumb screw at RIGHT of carriage in direction of arrow.

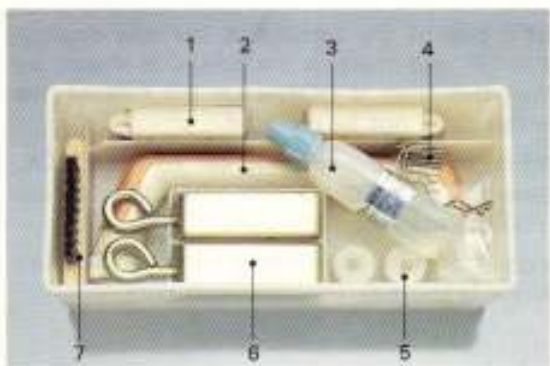
Pull carriage lock towards you and remove it from the carriage and the needle bed.

Place carriage lock into accessory box.



Take carriage handle from the accessory box and hold it over the two screws on top of the carriage.

Turning both screws SIMULTANEOUSLY attach handle to carriage (arrows).



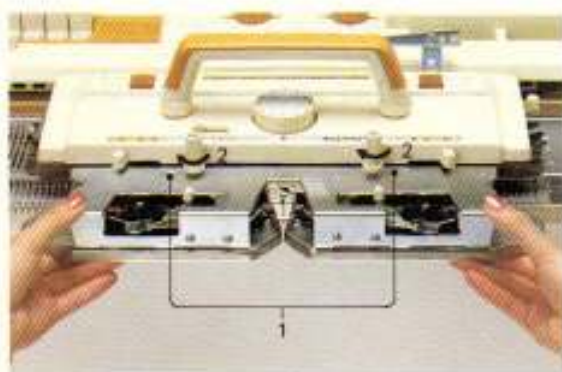
Inside the accessory box:

- 1 Weights
- 2 Handle
- 3 Oil
- 4 Extra yarn holders
- 5 Paraffin waxes
- 6 Table clamps
- 7 Brush





To remove the fabric presser from the case, pull retaining wire forward and up. Lift fabric presser from case.



On the carriage, loosen second thumb screw. Slide fabric presser on to front of carriage, the two cutouts must fit round screws and the two pegs of the carriage into the holes of the fabric presser 1. Tighten screws by turning in direction of arrows 2. The picture shows the carriage ready mounted.



The picture shows the carriage ready mounted.



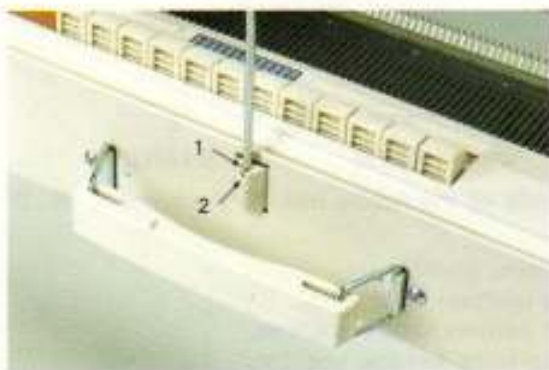
On the LEFT side of the carriage is the row counter lever. Lift it UP and towards the BACK as shown by arrow. When this lever is DOWN on the side of the carriage the rows will not be counted.

During knitting, when the lever is set to the BACK, it will automatically register a row when the carriage passes the row counter.

To set row counter back to numbers noted before turn the small screw at the top.



Remove the tension rod from the case as well as the upper tension unit.



Insert the tension rod with its curved end downwards into the socket at the rear of the machine, the small peg 1, must fit into the groove at the rear of the socket 2.



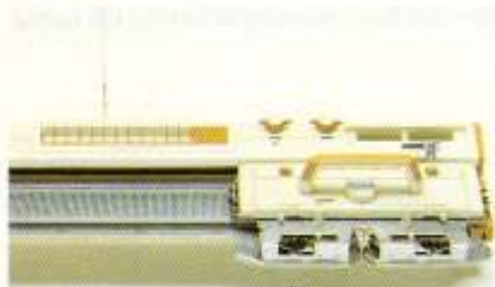
Slide upper tension unit on to rod, the end of the rod must fit firmly into the notch of the upper tension unit.



As the arrows show pull the front yarn guide 1 towards you and down, pull the rear yarn guide at the back of the rod 2 up towards the back.



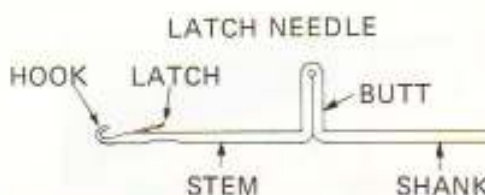
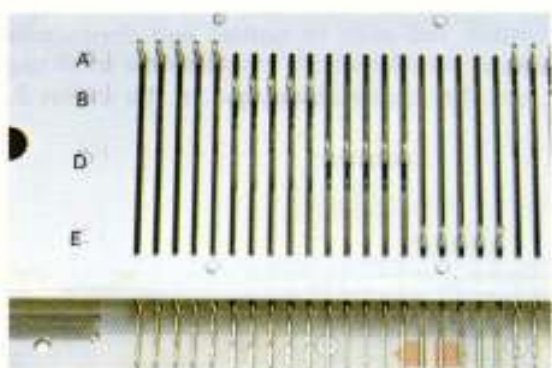
## NEEDLES AND NEEDLE POSITIONS



Carriage is set in neutral as in below.

- 1 BOTH front levers are set to 0.
- 2 BOTH weaving brushes are set to □.
- 3 Fairisle switch is set for PLAIN.
- 4 Card feed lever is set to □.
- 5 Pattern levers on PLAIN.

The knitting machine has 200 needles, 100 on each side of centre and numbered in groups of 10.



On BOTH side of the needle bed are markings A - B - D - E.

- A - Non-knitting position
- B - Working position for PLAIN.
- D - Selected pattern needle position.
- E - Partial knitting, holding position.



Take the selector comb and with straight edge push all needles clearly BACK to A position.

Place selector comb in accessory case at the RIGHT side corner at the rear of the machine.

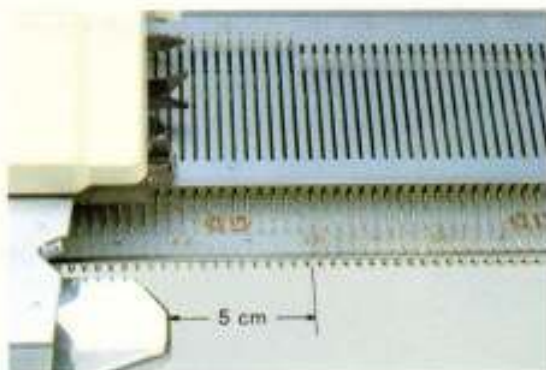
Holding the carriage by the handle slide it several times across the needle bed, finish by leaving the carriage on the RIGHT side corner of the needle bed.



With the straight edge of the selector comb bring 30 needles at each RIGHT and LEFT of the machine centre from A to E position.

Altogether 60 needles are out.

## THREADING THE MACHINE



Slide carriage towards the LEFT, past the needles in E position, leave a 5 cm gap between the needles NOW in B position and the side of the carriage.

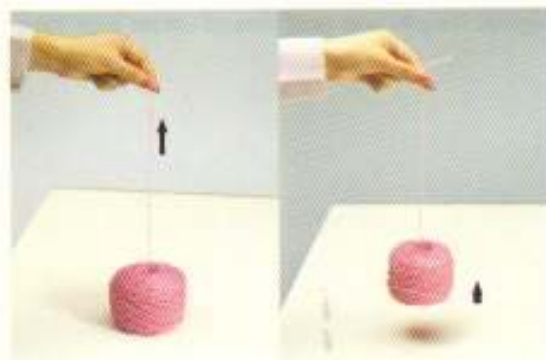
Move carriage across needles in B position several times until you slide it smoothly across. Make sure that each time you leave 5 cm space between carriage and needles before reversing the direction.

Leave carriage at RIGHT of needles. Using the straight edge of selector comb bring the 60 needles BACK from B to A position.



Place a ready wound ball of 4 ply or medium yarn behind the machine.

Pull end of yarn from the centre of the ball, it should come out easily.



The yarn end should come freely from the centre of the ball WITHOUT lifting it off the table.

Diagram Far left : Right  
Left : Wrong



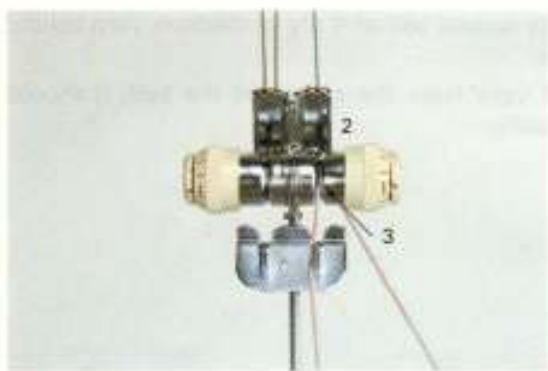
If the thread does NOT flow smoothly, pull out a small amount from the centre and start knitting with the thread end 1.



## SPINDLE SET UP



Thread the yarn end through the RIGHT side yarn guide at the rear of the rod 1.



Take thread to upper tension unit and in front of the pear pin 2.

Separate the two metal discs and pull thread between discs and UNDER the pin BETWEEN the discs 3.

The yarn MUST be UNDER the small pin.



Place wax ring on its pin and pull thread under wax ring.

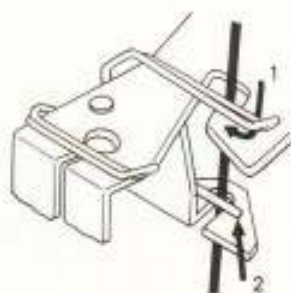


Take yarn towards the front and thread through the RIGHT side front yarn guide.

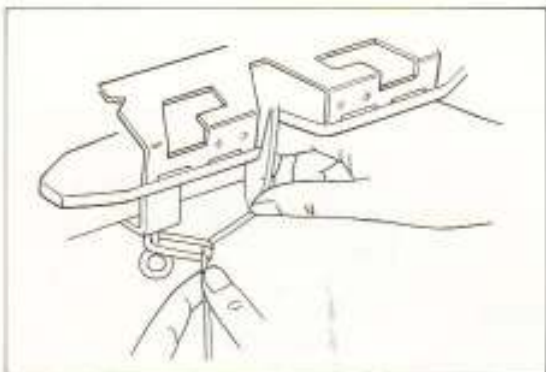
## READY FOR KNITTING



Thread the yarn through the eylet of the RIGHT side tension wire and pull it down towards the carriage.



Pull yarn UNDER spring of feeder PLAIN 1, and DOWN. Then push in backwards until you hear a little "click" 2.



Pull yarn DOWN below carriage and fasten the end to the RIGHT side table clamp.



### ADJUSTING THE UPPER TENSION UNIT

For FINE yarns that need MORE PRESSURE, turn dial with  $\updownarrow$  towards the BACK so that the + mark of the dial comes closer to the — mark 1.

For THICK yarns that need LESS PRESSURE turn dial with  $\updownarrow$  towards the FRONT so that the — mark of the dial comes closer to the — mark 2.

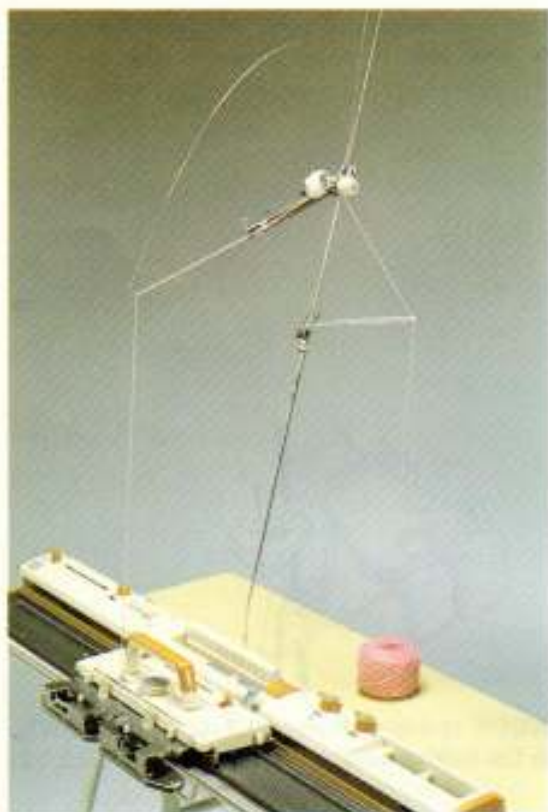
Turn dial with + or — towards the — mark until the pressure on the yarn is correct and the eylet of the RIGHT side tension wire is on level with the front yarn guide.

AT THE SAME TIME PULL DOWN YARN AT THE BACK OF THE TENSION UNIT, this way you avoid having slack yarn between carriage and yarn ball.



## TENSION DIAL

TOYOTA KNITTING MACHINE



This is the knitting machine threaded up and ready for knitting.

Please note: If the yarn is too slack you will have large loops or dropped stitches at the edges of the knitting.

The second long tension wire (LEFT) will be used at a later stage.

The short tension wire will be used when you need additional tension such as knitting lace patterns, weaving patterns, motif knitting and knitting very thick wool. How to use short tension, see page 44.

In the centre of the carriage is the stitch Tension dial. It is numbered from 0 to 10 with TWO positions inbetween the numbers.

0 is the very small stitch size and 10 is very large.

Turn Tension dial until 6 is at centre front mark.



### SOME IMPORTANT POINTS TO REMEMBER:

- 1 The more needles you use the wider your knitting will be.
- 2 Never stop and reverse the direction of the carriage in the middle of the row. If the carriage jams, see page 118.
- 3 The yarn **MUST** be UNDER the pin between the tension discs and BEHIND the pin inside the feeder **PLAIN**.
- 4 Check that yarn tension is set correctly for the yarn you are using.
- 5 There should never be any slack yarn between the ball and the table clamp.

# THE AUTOMATIC CLOSED EDGE CAST ON

Here we have four different types of cast on:

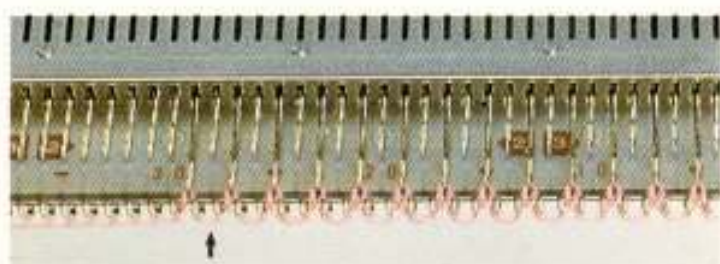
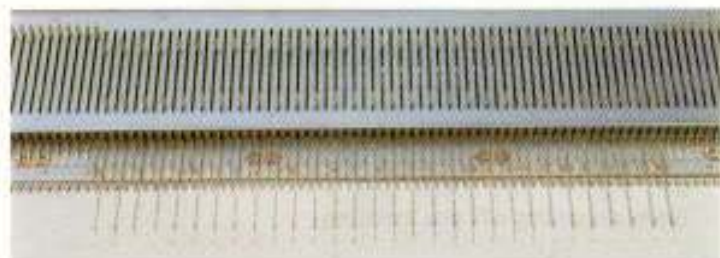
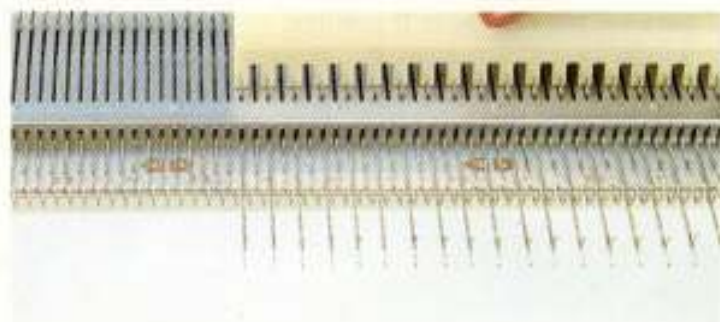
THE AUTOMATIC CLOSED EDGE CAST ON,  
THE OPEN EDGE CAST ON,  
THE CLOSED EDGE CAST ON BY WINDING LOOPS and  
THE CROCHET EDGE CAST ON.

The first method can be called "cast-on comb method" and is done without waste knitting. The rest of three methods are started with some rows of waste knitting.

By WASTE KNITTING we mean that you start a piece by knitting several rows with a yarn that is not the one you use for the garment. For waste yarn you can use any leftovers up to 4ply or medium thickness. Waste knitting is very useful and makes pinning very easy.

Cast on with closed edge will not unravel from the bottom and can be used as a finished edge of a garment.

Cast on with open edge is used for starting a garment if the edge will be turned up as a hem or trimmed in some way.



Carriage is at RIGHT and set to neutral as on top of page 10.

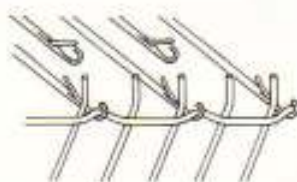
Let's say you wish to knit 60 needles. Take the selector comb, and with its 1/1 edge bring the every other needle from 30 at RIGHT to 29 at LEFT to E position.

Thread colour 1 (Main Yarn) all RIGHT side feeding points of the upper tension unit, in feeder PLAIN, and fasten the end to the table clamp.

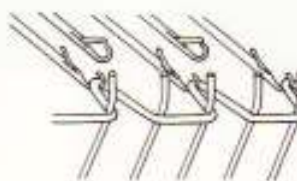
Row counter shows 000. Slowly move the carriage towards the LEFT, past the needles in E position.

Every needle in E position has been moved to B position and has a loop.

The cast on has been made.

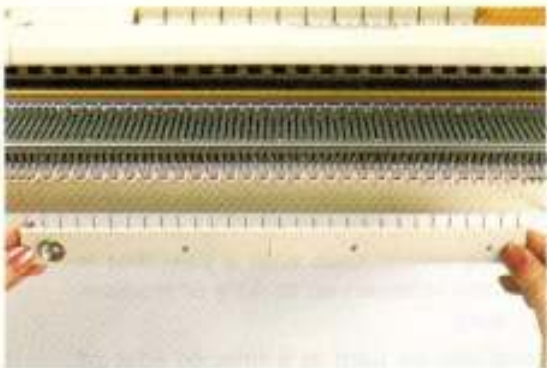


At the left edge 2 or 3 needles are pulled to the front and the yarn is straight.



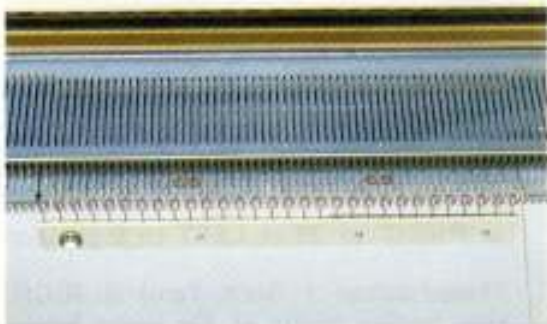
With left hand pull yarn a little towards right from feeder, and with right thumb push edge needles to B position.





Remove the cast on comb from the case cover and pull off the short piece.

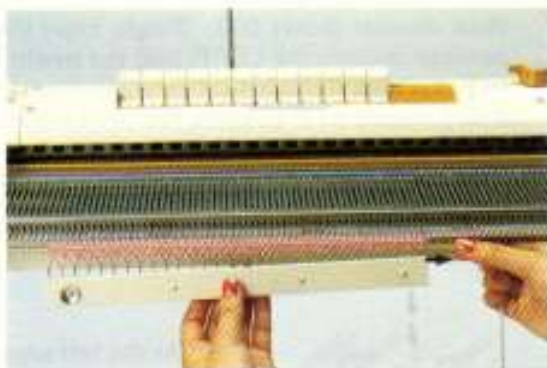
Hang the short cast on comb (starting with the first hook in the first loop at RIGHT) on to the loops, a hook in every loop.



Using straight edge of selector comb bring the inbetween needles from A to B position.

By inbetween needles we mean the needles in A position between the needles in B position.

At left edge bring needle No. 30 to E position.



Knit to the RIGHT, past the 60 needles.

Row counter shows 2.

All needles in B position have loops.

Knit 4 more rows.

Row counter at 6.

At beginning of knitting pull thread to the RIGHT, this will tighten the loops and prevent the cast on comb from dropping off the knitting.

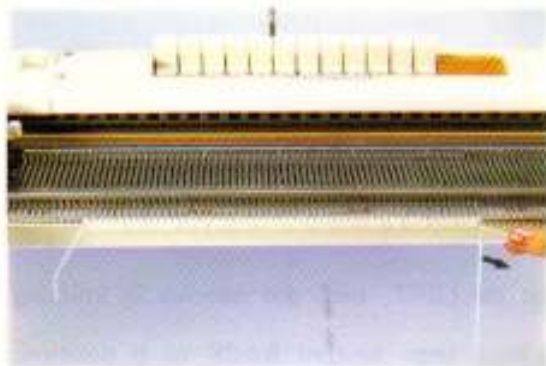
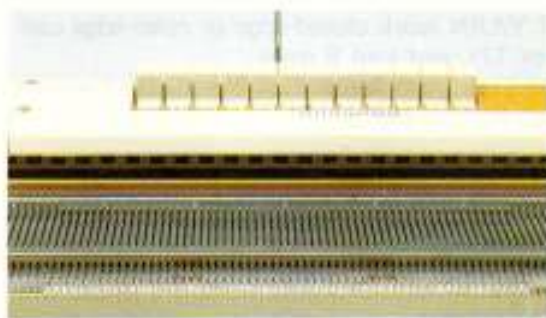


Continue knitting for a little while until accustomed to move carriage.

Pull yarn end out of the feeder PLAIN.

Slide carriage across the knitting, hold the knitting while moving the carriage. Since there was no yarn in the feeder the knitting will come off the machine.

## OPEN EDGE CAST ON



This method is started with some waste knitting.

Carriage is at RIGHT and all settings are neutral (Page 10). There are 60 needles in B position.

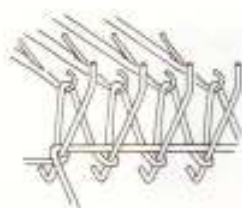
Thread waste yarn through all LEFT side feeding points of the upper tension unit, in feeder PLAIN and fasten the end to the table clamp.

Slide the carriage across and past the needles in B position.

All 60 needles have a loop.

Take the nylon cord from the accessory bag. Lay the nylon cord across the loops BETWEEN the sinker hooks and the needle hooks.

Holding BOTH ENDS TOGETHER with your LEFT hand, pull them DOWN FIRMLY.



The diagram shows that the nylon cord comes slightly lower than the needle hooks.

Hold nylon cord FIRMLY DOWN, with your RIGHT hand move the carriage to the RIGHT, past the 60 needles.

Still holding the nylon cord down knit another 4 rows. Pull and remove the nylon cord from the knitting.

Remove waste yarn from feeder.

Thread nylon cord in feeder PLAIN and knit 1 row. Thread colour 1 all RIGHT side feeding points of the upper tension unit, in feeder PLAIN, and fasten the end to the table clamp. Continue knitting with colour 1. Remove the yarn from feeder PLAIN.

The bottom edge will have open loops and no closed edge. Hold the knitting with your LEFT hand and with the RIGHT hand move the carriage across the knitting. The knitting will be removed from the machine.

If you like you can start waste knitting using cast on comb as on previous page.



## CLOSED EDGE CAST ON BY WINDING LOOPS



With WASTE YARN work closed-edge or open-edge cast on (Page 15 or 17), and knit 9 rows.

Remove waste yarn from feeder PLAIN and attach end to yarn holder on tension rod.

Thread nylon cord and knit 1 row

Thread col. 1 (main yarn) through all RIGHT side feed point of the upper tension unit, and in feeder PLAIN, attach to table clamp.

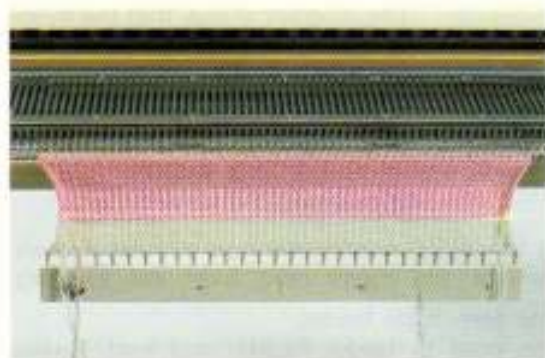
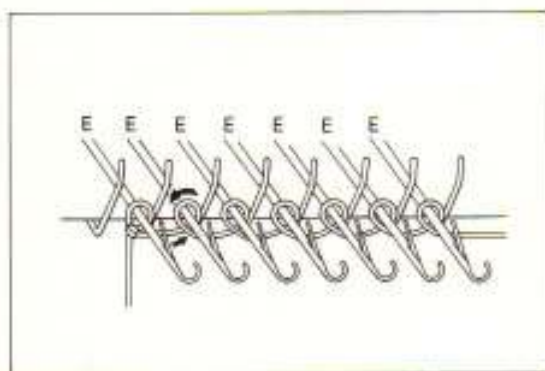
With straight edge of selector comb bring the 60 needles from B to E position.

Carriage is at the right and set neutral. Take the yarn from the table clamp and tie the end round the LEFT end needle in E position.

Take care not to wind the loops too TIGHT or too LOOSE.

NOTE: ALWAYS start winding the yarn round the needles on the OPPOSITE side of the carriage. When carriage at RIGHT, start winding at the LEFT as shown, and when the carriage at LEFT start winding at the RIGHT in clockwise direction.

Push back all loops against the sinker hooks. All needles have a loop. Check your yarn tension, page 13.



Move carriage to LEFT, past the needles in knitting position.

The needles have been knitted BACK to B position. Knit the first few rows bringing needles to E position each time, and continue knitting.

Remove yarn from feeder PLAIN and the knitting from the machine.

Pull out nylon cord and the waste yarn will be removed. The left picture shows the closed edge.

\* You could start winding cast on WITHOUT the waste yarn.



## CROCHET EDGE CAST ON

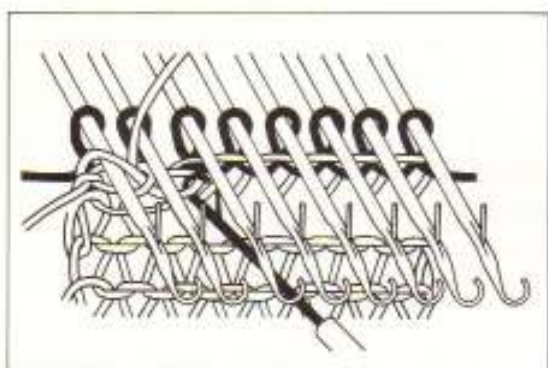


With WASTE YARN work closed-edge or open-edge cast on (Page 16 or 17), and knit 9 rows.

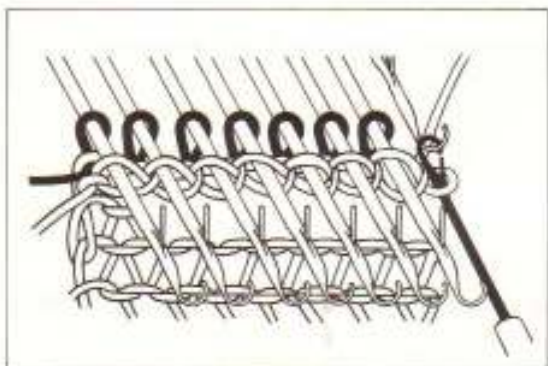
Thread col. 1 (main yarn) through all RIGHT side feed points of the upper tension unit, in feeder PLAIN, attach to table clamp.

Thread nylon cord and knit 1 row. With straight edge of selector comb bring the 60 needles from B to E position. Carriage is at the RIGHT and set neutral. Thread colour 1 through RIGHT side feed points, and tie round the LEFT end needle in E position.

Place the latch tool between the 1st and 2nd needles from the left. Make a chain over the needle and pull down the latch tool.



Move the latch tool one space towards the right, and push it up between the needles 29 and 28. Make a chain over the needle and pull down the latch tool.



Continue in this way until you reach the last needle in E position at the right. Bring this needle back to B position, and place the loop on the latch tool on to the last needle. Bring back the needle to E position.



Your crochet cast on is finished and you can continue knitting.

The last picture shows the crochet edge cast on after some rows of knitting.

Nylon cord will be pulled out later and you will get a neat closed edge.



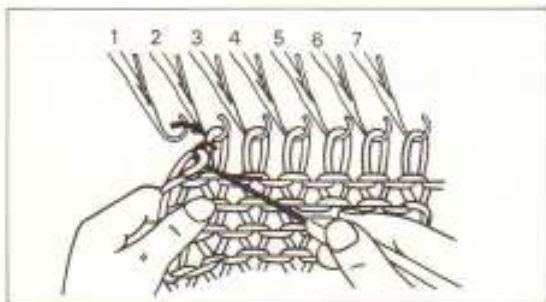
## CASTING OFF WITH BIG LOOPS

This method of casting off is called **CASTING OFF WITH BIG LOOPS**.

This method can only be used when knitting with a thin to medium thick yarn since the last row must be knitted using a large Tension setting.

The second method for casting off stitches will be shown later in this book, on page 78.

Let's assume your cast on (closed or open) is finished and that you have knitted 11 rows. The carriage is at the **RIGHT** and all settings are neutral, page 10.

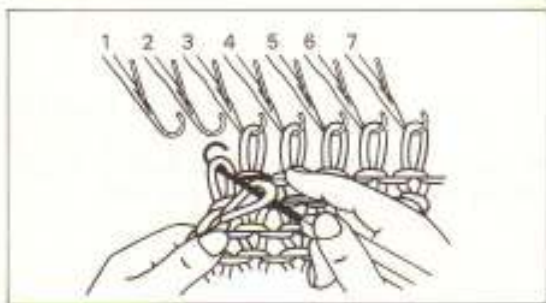


Your Tension setting is 6. Continue knitting approx. 5 more cm. Carriage at **LEFT**.

Set Tension to 9, knit 1 more row.

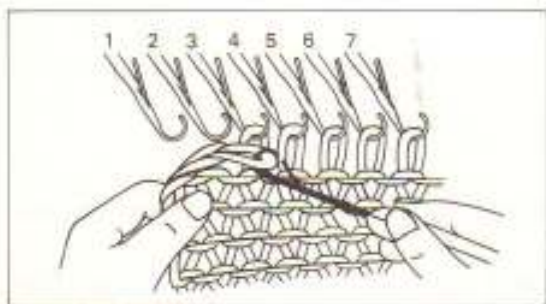
Break the yarn **BELOW** the carriage and fasten the upper end to the clip on upper tension rod.

Insert the latch tool into the **FIRST** stitch at the **LEFT**. Remove the stitch from the needle.



Push the latch tool forward until the stitch is **BEHIND** the latch.

Put your forefinger on the latch and hold down on stitch. Remove 2nd stitch from the **LEFT** off its needle.

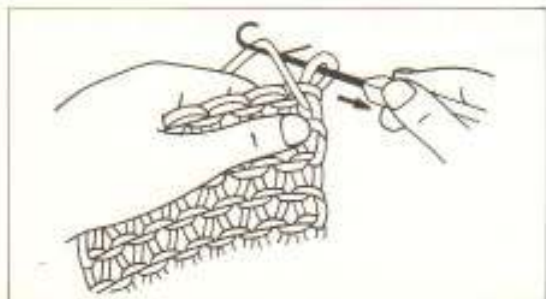


Pull 2nd stitch through the first one.

Let the 2nd stitch slide behind the latch and hold it down.

Remove the 3rd stitch from its needle and pull it through the 2nd stitch.

Continue this way until the last stitch is on the latch tool.



When you have the last stitch on the latch tool, pull the yarn end through the last stitch, this way you will cast off the last stitch.

**NOTE:** When you have knitted the last row with the loose Tension towards the **LEFT**, you must start the cast off at the **RIGHT** edge. **ALWAYS** start casting off on the opposite side of the carriage.

# YARN TYPES AND TENSIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
TYPE OF YARN ACTUAL SIZE														
NAMES	TWEED	THIN MOHAIR	BOUCLE	*WOOL 12ply	CREPE 8ply	WOOL 6ply	CREPE 4ply	THICK 3ply	THICK 2ply	MEDIUM 4ply	FIVE MEDIUM 3ply	SOFT 2ply	FINE	COTTON
TENSION	4~6	4~6	4~6	8~10	8~9	6~8	5~7	4~6	5~6	3~5	2~4	1~3	1~3	2~4
LACE KNITTING	—	4~6	4~6	—	—	17~81	6~7	5~6	5~6	5~6	4~5	3~4	3~4	4~5

\*Use every other needle.

You will soon find out that stitch patterns look much better when knitted with the correct stitch size (Tension). There are so many different types of yarn that it is impossible to tell you which Tension to use for which type of yarn.

The above chart can only be a general guide since names and types vary in each country.

When knitting double welts (hung hems) use Tension settings 2 or 3 numbers LOWER (TIGHTER) than for the main knitting.

Attach short tension wire to the long tension wire in which you have threaded very thick yarn such as type No. 4 in the above chart.

Skirts and trousers are usually knitted using a Tension 1 or 2 points TIGHTER than sweaters. A sweater is comfortable when it has some stretch, but a skirt or trousers would lose their shape unless knitted slightly tighter.

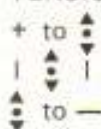
## TYPE OF YARN

Thin, fine yarn

Medium yarn

Medium to thick yarn

## UPPER TENSION UNIT



## TENSION DIAL

1 to 4

4 to 7

8 to 10

Same as for hand knitting, you need to find the correct Tension (stitch size) for the yarn you wish to use. The Tension dial gives you the choice between more than 30 settings, enabling you to knit almost all of the popular hand knitting yarns.

In the centre of the carriage is the Tension dial. Between the numbers you will see TWO LITTLE DOTS, these are Tensions as well.



When the Tension dial is set to 0, the stitches will be TIGHT (SMALL).



When the Tension dial is set to 10, the stitches will be LOOSE (LARGE).





## TENSION SWATCH

To knit perfect fitting garments you must knit tension squares or swatches. But before you knit a tension swatch you must find the suitable Tension setting for the yarn and stitch pattern you wish to use for the garment.

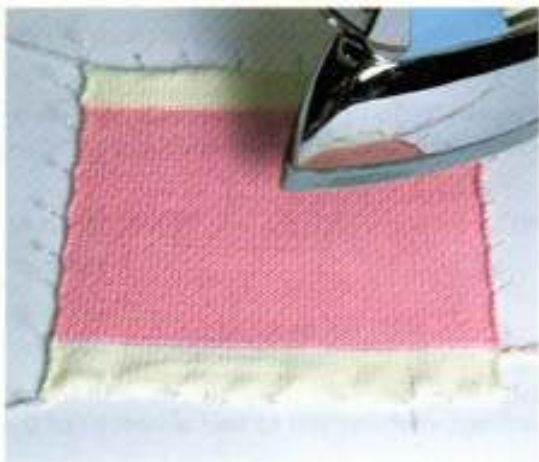
Using waste yarn, cast on 20 to 30 stitches and knit several rows. Thread the main yarn, which in future we will call col. 1, and knit several rows with a Tension setting you think suitable for the yarn.

Feel if the fabric has the right touch. If it is too loose or too tight change the Tension setting accordingly and continue this way until you have found the correct Tension setting for the yarn and stitch pattern you wish to knit.

**WRONG TENSION SETTING CAUSES:**

- 1 Jamming of carriage
- 2 Hard knitting
- 3 Faulty stitch patterns
- 4 Dropped stitches

Note Tension setting, remove sample from machine and unravel it. For tension swatch cast on 60 stitches using waste yarn and knit 11 rows. Using col. 1 and Tension you have chosen knit 60 rows. Using waste yarn knit 10 more rows and remove tension from machine.



Pull the tension swatch slightly lengthwise, this will close up the stitches.

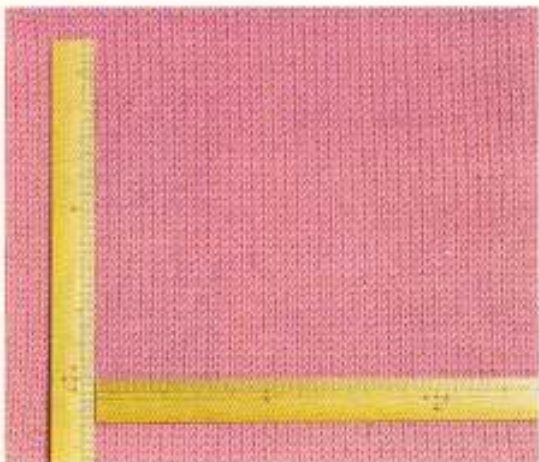
Place the tension swatch on the ironing board. If you like you can pin it on to the board.

Check the instructions on the yarn you are using before pressing your tension swatch because on man-made fibre you must not press with steam. If you do the garment will double in size with the first washing.

As a rule if the yarn is pure wool use a hot iron and a damp cloth or a steam iron, if it is a man-made fibre warm iron and a dry cloth.

In case of wool do NOT press the iron on to the tension swatch, **JUST LET THE STEAM PENETRATE THE FABRIC.**

Remove the tension swatch from the ironing board and place it, **RIGHT** side up, on to a table.



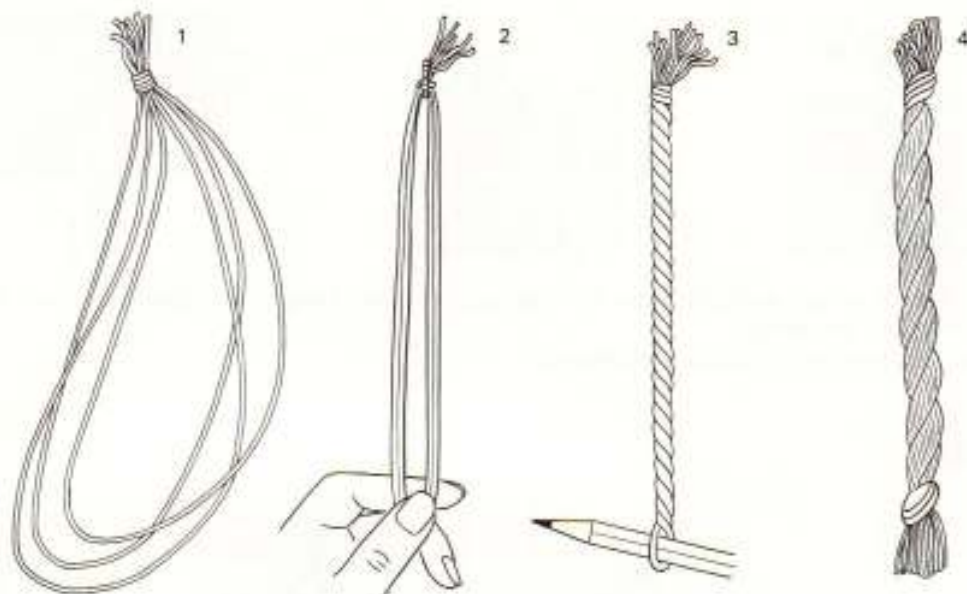
Place a ruler or a tape measure across the centre of the tension swatch and count how many stitches there are to the width of 10 cm, let's say for example 31.

Place the ruler in the other direction and count how many rows there are to 10 cm. Let's say for example 43.

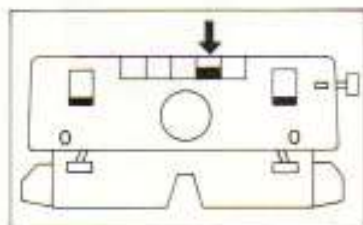
10 cm = 31 stitches  
10 cm = 43 rows.

Make a note of yarn quality used, tension setting, and stitches and rows to 10 cm.

## TWISTING A CORD



- 1 Take several strands of yarn, three times the length of the final cord. Fold strands in half and tie ends together.
- 2 Put end with knot over a hook and pull lengthwise.
- 3 Insert a pencil through the other end and twist tightly.
- 4 Fold twisted strands in half and pull lengthwise to achieve even twist. Remove knot from hook and pencil. Untie the old knot and make new knot at each end. Cut ends open and trim to make tassels.



## KNITTING A CORD

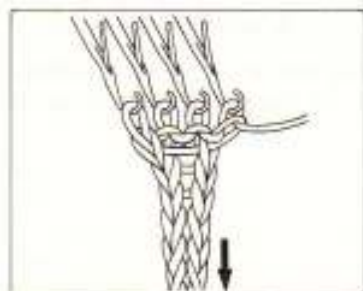
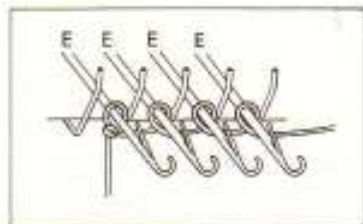
A knitted cord can be used in many different ways. We recommend that you use a rather tighter Tension for knitting a cord.

- 1 The carriage is at the RIGHT.
- 2 Push DOWN button EMPTY (arrow).
- 3 Thread up yarn.
- 4 In centre of machine bring 3 to 5 needles to E position.
- 5 Make a winding cast on round the needles.
- 6 Yarn is in feeder PLAIN.
- 7 Knit 1 row, bring needles to E position.

Repeat Step 7 several times.

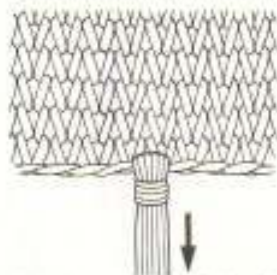
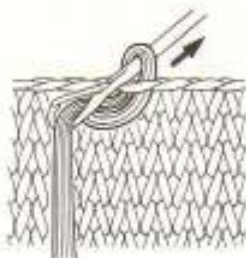
Attach a weight to end of cord.

Continue knitting cord and finish with casting off of big loops.





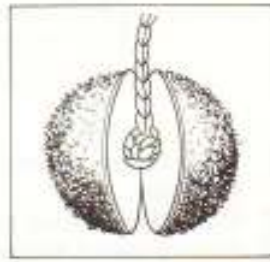
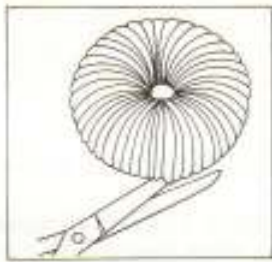
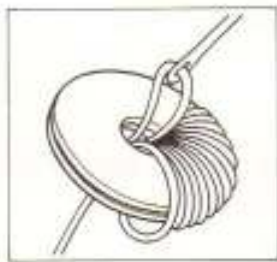
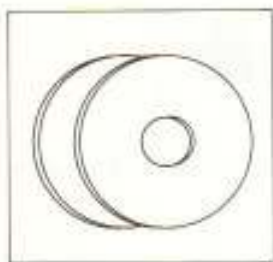
## FRINGES



The number of strands to use depends upon the thickness of your fringe. Cut threads slightly longer than **DOUBLE** the length of the fringe.

Make the fringes as shown by the above diagrams.

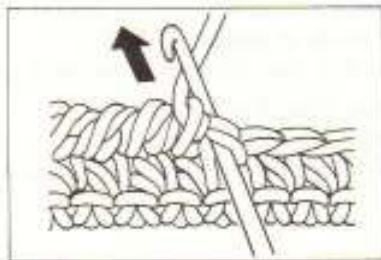
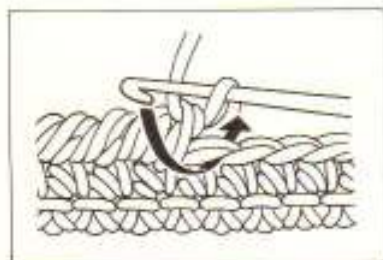
## POMPONS



- 1 Cut two round pieces of cardboard to the size you want the pompons to be.
- 2 Thread the tapestry needles with yarn for pompon and sew round both circles until centre hole is filled up.
- 3 Cut thread round outside edge and separate the circles slightly.
- 4 Take a thread or cord and tie round the centre of threads between the circles, secure end.

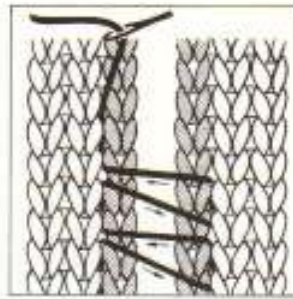
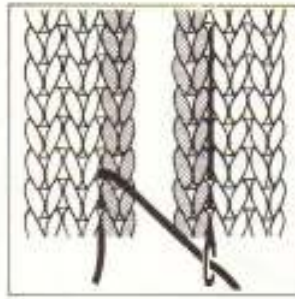
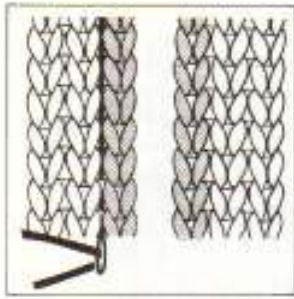


## CRAB STITCH



Many times the make-up instructions for garments will tell you to work a row of crab stitch along the edge. First work a row of double crochet (American single crochet) along the edge. At the end of the row work **BACKWARDS**, making double crochet stitches from **LEFT** to **RIGHT**.

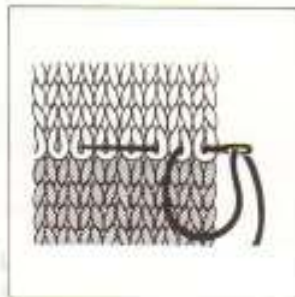
## MATTRESS STITCH



Always take one edge stitch of each piece of knitting.  
Take the bars of two rows alternately several times.  
Hold the seam and pull the sewing thread so that the edges are pulled together and leave an invisible seam.



## BACKSTITCH

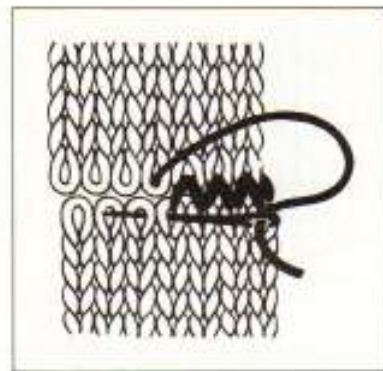
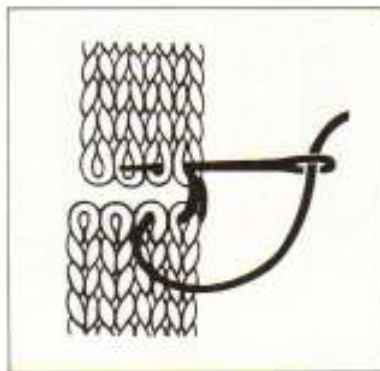
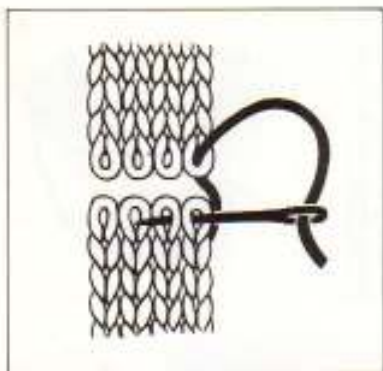


Insert needle through both layers of knitting and come out through 2nd stitch.  
Insert needle in first stitch, through knitting and come out through 3rd stitch.  
Insert needle through 2nd stitch, through the knitting and come out through the 4th stitch. Continue this way.



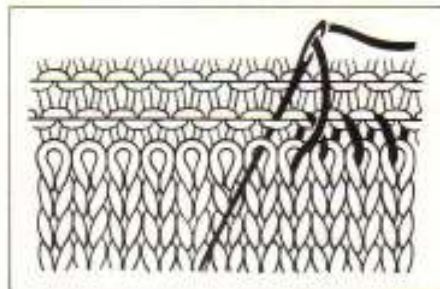
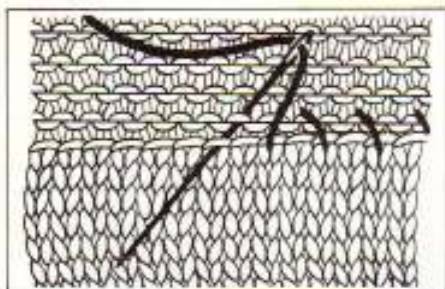


## GRAFTING



Grafting can be used for sewing together open stitches such as for shoulder seams. After a little practice you will be able to graft stitches so that the seams will become practically invisible.

## SEWING UP HEM

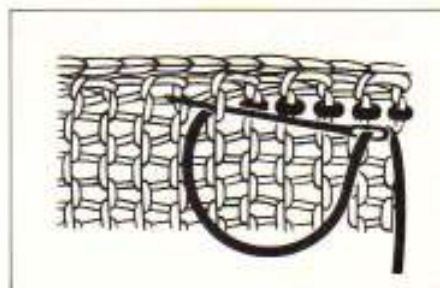


When sewing up hem, open stitches or closed edge cast on, make sure you always sew through the stitches of the SAME row otherwise the hem will not be straight.

## THE CROCHET SEAM



## THE BACKSTITCH SEAM



## SPECIAL "MY WAY" STARTER DESIGNS



You may believe it or not but, with what you have learned in STEP 1 you can knit any one of these easy starter designs.

Before you start STEP 2, knit one or two of these easy and lovely "MY WAY" garments, you will have fun making them.

You can of course use other colours than the ones we have used, you can knit stripes too, just try your own colour combinations.





## GENEAL HINTS



I – is the sign for FRONT  
II – is the sign for BACK  
III – is the sign for SLEEVES

In some cases you will find a diagram marked I x 2 or III x 2, this means that this pattern is to be knitted TWICE.

We usually knit the BACK-II FIRST, then only the FRONT-I and SLEEVES-III.

Please prepare all the required yarns before you start knitting, it will save you a lot of time and trouble.

If your yarn is NOT threaded properly, you may have dropped stitches or big loops at the edges of the knitting. So make sure the yarn runs correctly UNDER the pin between the tension discs and through the feeder at the carriage.

As waste yarn you can use any type if thin smooth yarn up to 4ply or medium thickness. By starting the knitting with a few rows of waste knitting, your garment panels will be much easier to pin down on the pressing board.

The instructions on the following pages will tell you to make a closed edge cast on (Page 18). By this closed edge cast on we mean the cast on that you make by winding col. 1 (main yarn) round the needles in E position, AFTER you made the cast on using waste yarn.

While knitting, move the carriage just 5 cm out of the knitting, if you move the carriage TOO FAR AWAY FROM THE KNITTING THE RESULT WILL BE DROPPED STITCHES OR LARGE LOOPS at the edge of the knitting.

When pressing the pieces follow pressing instructions on page 22.

WRONG side UP means that the INSIDE of the garment must be facing you when you pin it down on the pressing board.

If the PLAIN side of the knitting is the outside, the WRONG side is the PURL side.

If the PURL side of the knitting is the OUTSIDE, the WRONG side is the PLAIN side.

Always pin out the knitted pieces exactly to size using at least a pin every second cm.

To remove the waste yarn from a knitted piece cut open the edge loops of the last row knitted in waste yarn. Pull thread out of knitting, this will automatically separate the waste yarn from the main knitting. TAKE CARE NOT TO CUT LOOPS KNITTED in col. 1.

The instructions for garment Nos. 5, 7 and 8 tell you to work a row of double crochet and a row of crab stitch along the bottom edge of the garment. You can, if you like, make another finish at the bottom of the garment, just turn up 2 or 3 cm towards the inside of the garment and sew down the edge as shown by the diagrams on page 26. This will of course reduce the length of the garment by 2 or 3 cm.

If you have any problem such as carriage jamming, dropped stitches please refer to STEP 4 in this book, there you will find all the information needed to repair little mistakes.

Always keep your tension swatches and notes, they are very useful at a later stage.

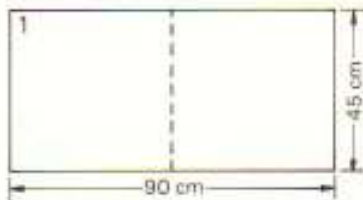
## HOW TO CALCULATE THE TENSION SWATCH MEASUREMENT

If for example the tension swatch measurements are the same as mentioned on page 22, 10 cm = 31 stitches and 43 rows. (The instructions on this and following three pages are given for the 4ply or medium thickness yarn which are knitted in or around this gauge)

You wish to knit a cushion cover and must cast on enough stitches for 45 cm and knit enough rows for 90 cm.

31 stitches x 4.5 (45 cm) = 139.5 stitches, let's make it 140 stitches.

43 rows x 9 (90 cm) = 367 rows.



### 1 – CUSHION COVER, plain side out, one piece.

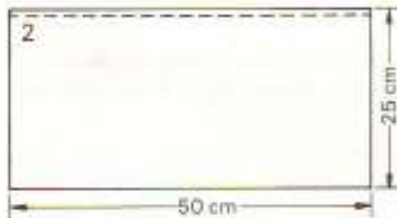
**MATERIAL :** Approx. 230 grms 4ply yarn.

**TENSION :** Knit tension swatch. Measure stitches and rows to

**SIZE :** 10 cm Calculate how many stitches you must cast on for 45 cm and how many rows you must knit for 90 cm Note.

**KNITTING :** Using waste yarn cast on required stitches for 45 cm and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 90 cm. Cast off with big loops (Page 20).

**MAKE UP :** Wrong (plain) side UP, pin out piece to size and press. Plain (wrong) side facing, graft Using mattress stitch close one side seam. Remove waste yarn. Graft stitches of cast on and cast off. Insert the cushion. Mattress stitch last side seam. Twist a cord if you like and sew it along the edge, tie ends and trim to make a tassel. Or make and attach pompons or fringes.



### 2 – BONNET, purl side out, one piece.

**MATERIAL :** Approx. 70 grms 4ply yarn.

**TENSION :** Knit tension swatch. Measure stitches and rows to 10 cm.

**SIZE :** Calculate how many stitches you must cast on for 25 cm and how many rows you must knit for 50 cm Note.

**KNITTING :** Using waste yarn cast on required stitches for 25 cm and knit 11 rows. Using col. 1 (main yarn) knit 47 cm. Using waste yarn knit 10 rows. Remove knitting.

**MAKE UP :** Wrong (plain) side UP, pin out piece to size and press. Plain (wrong) sides facing, graft stitches of FIRST and LAST row knitted in col. 1. Remove waste yarn. Working 1 stitch away from the edge and plain side facing, pull a thread through the knitting, tie together and make a knot. This will pull together the knitting for the top of the bonnet. Turn purl (right) side out. Make a pompon of 5 cm across and attach to top of bonnet. Turn out bottom edge as much as you like.



### 3 – CHILD'S SCARF, purl side out, one piece

**MATERIAL :** Approx. 210 grms 4ply yarn.

**TENSION :** Knit tension swatch. Measure how many stitches you must cast on for 30 cm and how many rows you must knit for 160 cm. Note.



**KNITTING** : Using waste yarn cast on required stitches for 30 cm and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 150 cm. Cast off with big loops (Page 20).

**MAKE UP** : Wrong (plain) side UP, pin out piece to size and press. Purl (RIGHT) side facing, fold knitting in half lengthwise (dotted line). Mattress stitch long seam. Remove waste yarn. At short ends work one row of double crochet through both layers. Turn to top 15 cm at each end and join side edges. This way you will make a pocket at each end of the scarf.

#### 4 – ADULT'S SCARF, plain side out, one piece.



**MATERIAL** : Approx. 350 grms 4ply yarn.

**TENSION** : Knit tension swatch. Measure stitches and rows to 10 cm. Note.

**SIZE** : Calculate how many stitches you must cast on for 40 cm and how many rows you must knit for 180 cm. Note.

**KNITTING** : Using waste yarn cast on required stitches for 40 cm, and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 180 cm. Cast off with big loops (Page 20).

**MAKE UP** : Wrong (purl) side UP, pin out piece to size and press. Plain (RIGHT) side facing, fold knitting in half lengthwise (dotted line). Mattress stitch long seam. Remove waste yarn. At short ends work one row of double crochet joining both layers. Work fringes, thickness and length at your taste.



#### 5 – CHILD'S SLIP OVER; purl side out, two pieces.

**MATERIAL** : Approx. 90 grms 4ply yarn.

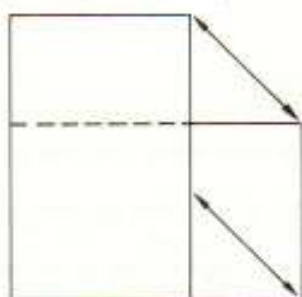
**TENSION** : Knit tension swatch. Measure stitches and rows to 10 cm. Note.

**SIZE** : For 56 (60-64) cm chest, final width 60 (64-68) cm chest. Length 36 (38-40) cm. Calculate how many stitches you must cast on for 30 (32-34) cm and how many rows you must knit for 36 (38-40) cm. Note. The measurement of 30 (32-34) cm width is for each FRONT-I and BACK-II.

**KNITTING** : Using waste yarn cast on required stitches for 30 (32-34) cm and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 36 (38-40) cm. Cast off with big loops (Page 20). Knit second piece alike.

**MAKE UP** : Wrong (plain) side UP, pin out pieces to size and press. Purl sides facing, place FRONT-I on to BACK-II, cast off edges at the top. Starting at side edges backstitch for shoulders approx. 6 to 8 cm (dotted lines in diagram). Press both seams.

Starting at bottom edge and purl side facing, mattress stitch side seams, at top leave approx. 12 to 14 cm open for armholes. Remove waste yarn. Work one row of double crochet and one row of crab stitch along armholes and bottom edge. Using a contrasting colour yarn, embroider 3 or 4 large cross stitches over shoulder seams, see picture on page 27. If you like repeat cross stitches on side seams.



### 6 – CHILD'S PONCHO, plain side out, two pieces.

**MATERIAL** : Approx. 400 gms 4ply yarn.

**TENSION** : Knit tension swatch. Measure how many stitches and rows to 10 cm. Note.

**SIZE** : Calculate how many stitches you must cast on for 30 (35–40) cm and how many rows you must knit for 60 (65–70) cm. Note. Knit TWO pieces alike.

**KNITTING** : Using waste yarn cast on required needles for 30 (35–40) cm and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 60 (65–70) cm. Cast off with big loops (Page 20). Knit second piece alike.

**MAKE UP** : Wrong (purl) side UP, pin out both pieces to size and press. Remove waste yarn. Plain sides facing and starting at a corner, place a short edge along a long edge of the 2nd piece. Backstitch seam. Place the 2nd short edge along the other long edge, backstitch seam and press both seams. Along neck edge work one row of double crochet. Along bottom edge work one row double crochet or, finish with fringes, thickness and length to your taste.



### 7 – LADY'S CARDIGAN, plain side out, five pieces.

**MATERIAL** : Approx. 470 gms 4ply yarn.

**TENSION** : Knit tension swatch. Measure how many stitches and rows to 10 cm. Note.

**SIZE** : For 84 (90–94) cm bust, width of finished garment 88 (94–100) cm bust. Length 60 (65–70) cm.

**BACK-II** : Calculate how many stitches you must cast on for 44 (47–50) cm and how many rows you must knit for 60 (65–70) cm. Note.

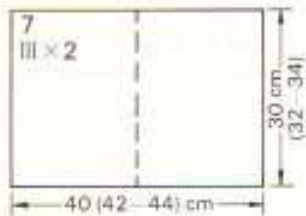
**FRONT-I** : TWO pieces alike. Calculate how many stitches you must cast on for 22 (23.5–25) cm. HALF the width of the BACK-II but same number of rows.

**SLEEVES-III** : TWO pieces alike. Calculate how many stitches you must cast on for 40 (42–44) cm and how many rows you must knit for 30 (32–34) cm.

**KNITTING** : Knit BACK-II first. Using waste yarn cast on required stitches for 44 (47–50) cm and knit 11 rows. Bring the needles to E position. Using col. 1 (main yarn) make the closed edge cast on (Page 18). Knit 60 (65–70) cm. Cast off with big loops (Page 20). Knit BOTH FRONT-I panels, use HALF the amount of needles as used for the BACK-II but knit same number of rows.

**SLEEVES** : BOTH alike. Using waste yarn cast on required stitches for 40 (42–44) cm and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 30 (32–34) cm. Cast off with big loops (Page 20).





**MAKE UP** : Wrong (purl) side UP, pin out the five pieces to size and press. Plain (RIGHT) sides facing, place both FRONTS on to BACK, cast off edges matching. Starting at the outside edges, backstitch approx. 10 (11-12) cm for shoulders. Press seams. Fold sleeves lengthwise in centre (dotted line).

Place centre fold of sleeve on top of shoulder, plain sides facing. Pin centre of sleeve to shoulder seam. Pin evenly divided the 20 (21-22) cm of each half of the sleeve down the FRONT and BACK matching widths. Backstitch sleeves into position. Press seams. Remove waste yarn. Plain (RIGHT) side facing, mattress stitch the side seams and the under arm seams. Remove waste yarn. Work one row of double crochet and one row of crab stitch along the sleeve edges and the front edges as well as the bottom edge.

You can if you like turn up 2 or 3 cm of the sleeve and bottom edge towards the inside of the garment and catch down the edge as shown on page 26. This will of course reduce the length of the sleeves and the garment for 2 or 3 cm. In this case you will do the crocheting along the front edge and neck edge after having turned up the hem.

At top of front corners turn to outside the corner (see picture page 27) approx. to height of armhole. From here down sew zip fastener into position. Give final pressing.



**8 - LADY'S SWEATER, purl side out, four pieces.**

**MATERIAL** : Approx. 470 grms 4ply yarn.

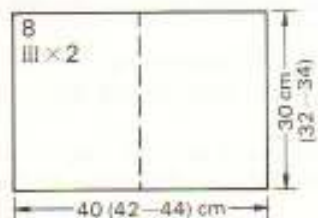
**TENSION** : Knit tension swatch. Measure how many stitches and rows to 10 cm. Note.

**SIZE** : For 84 (90-96) cm bust. Width of finished garment 88 (94-100) cm bust. Length 60 (65-70) cm.

**BACK+FRONT** : BOTH alike. Calculate how many stitches you must cast on for 44 (47-50) cm and how many rows you must knit for 60 (65-70) cm. Note.

**SLEEVES-III** : BOTH alike. Calculate how many stitches you must cast on for 40 (42-44) cm and how many rows you must knit for 30 (32-34) cm. Note.

**KNITTING** : BACK-II and FRONT-I. Using waste yarn cast on the required stitches for 44 (47-50) cm and knit 11 rows. Bring needles to E position. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 60 (65-70) cm. Cast off with big loops (Page 20). Knit second piece alike.



**SLEEVES-III** : BOTH alike. Using waste yarn cast on required stitches for 40 (42-44) cm and knit 11 rows. Using col. 1 (main yarn) make closed edge cast on (Page 18). Knit 30 (32-34) cm. Cast off with big loops (Page 20).

**MAKE UP** : Wrong (plain) side UP, pin out four pieces to size and press. Purl (RIGHT) sides facing, place FRONT on to BACK, cast off edges matching. Starting at the side edge backstitch 10 (11-12) cm for shoulder seam.

Press seams. Fold sleeves lengthwise (dotted line) and place centre fold on to shoulder seams, plain sides facing. Pin the 20 (21-22) cm of each sleeve half down the FRONT and BACK on same measurements. Backstitch sleeves into position. Press seams. Remove waste yarn. Mattress stitch sides seams and under arm seams. Work one row of double crochet and one row of crab stitch along neck edge, sleeves and bottom edge. You can if you like turn up 2 - 3 cm at sleeves or bottom edge, this will of course reduce the length. Give final pressing.



FAIRISLE



WEAVING



TUCK



Dear knitter,

By now you have mastered the elementary stage of machine knitting and are ready to do some of the lovely stitch patterns that can be knitted on your machine.

Part 2 will show you how to do this, it is very easy and child's play. Just try and read the instructions, set the machine and you are ready for stitch pattern knitting.

You will soon realise that there are many ways for knitting punch card patterns, first, as they are on the punch cards, second, by extending them and third, by combining punch card knitting with push buttons and zig zag dial.

SLIP



LACE



SINGLE MOTIF





## PATTERN CHART

CARD NO.	FAIRISLE	WEAVING	TUCK		SLIP	LACE
			BUTTON	LEVER		
1	(X)	X	X		X	
2	(X)	X	X	X		(X)
3	X					
4	X					
5	(X)					
6	(X)					
7	X					
8	(X)					
9	(X)					
10	(X)					
11	X	X				
12	X	X				
13	(X)	X		X		
14	X			X		
15	(X)			(X)		
16	X		X		X	
17	X		X		X	
18	X	X		X	X	
19						X
20						(X)

This chart shows which type of stitch pattern can be knitted with each punch card.

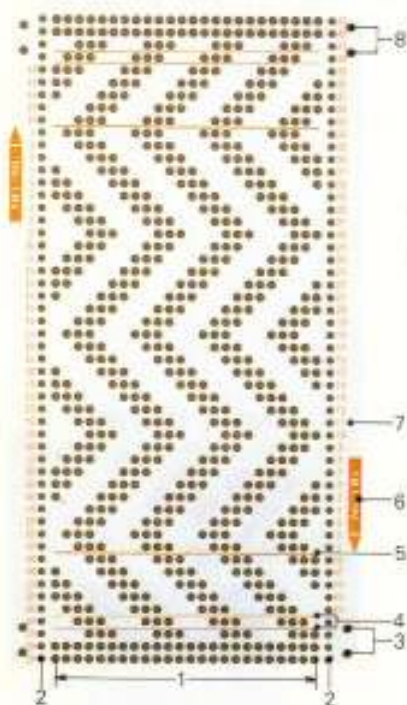
The mark X means that this card can be knitted in this type of stitch pattern.

The mark (X) means that the card can be knitted also in **SINGLE MOTIF**.

For example:

Card No. 1 – Fairisle,  
Single Motif,  
Weaving,  
Tuck and  
Slip patterns.

## PUNCH CARD

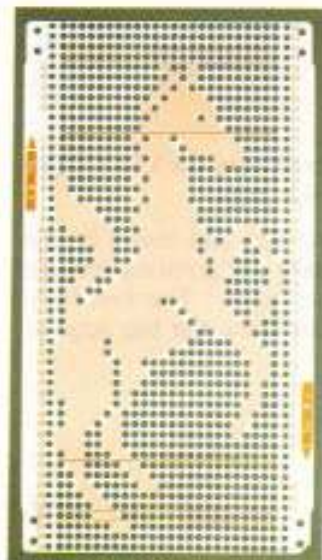


- 1 – 24 needles width of punch card pattern
- 2 – Feeding holes
- 3 – Snap holes – bottom
- 4 – Card match lines
- 5 – Starting line of stitch pattern
- 6 – Card number
- 7 – Number of rows
- 8 – Snap holes – top

### MARKINGS ON CARDS

- – Change colours, on cards No. 7, 9 and 10.
- – Set front levers to 0, on card No. 13, 14 and 15.
- – Switch settings of pattern levers and remove lace carriage to place it on the opposite side, on card No. 20.
- – Indicates in which direction you should slide lace carriage across the knitting to transfer the stitches.

\* Each punch card pattern is 24 holes wide, this means 24 needles will knit the stitch pattern width and this over the 24 CENTRE needles of the machine, 12 at each RIGHT and LEFT of centre.



Cards which have a gap below row number 1 are ideal for single motif knitting.



Cards which are numbered until row number 1 can be used as revolving cards.

- ★ There are 20 ready punched cards supplied with your knitting machine. They are numbered 1 to 20. More ready punched cards are available.
- ★ Next to the card number are the A and B letters. They are of importance so far as they enable you to knit a pattern up side down just by inserting the card end B instead of card end A. For normal stitch pattern knitting insert side A.
- ★ Please take care not to break or fold your punch card, this could result in faulty stitch pattern knitting.

## WHAT THE NEEDLES DO

**FAIRISLE PATTERNS** : PUNCH CARDS — Non punched position will be selected and knit col. 2.  
 PUSH BUTTON — Button down needle will be selected and knit col. 2.

**WEAVING PATTERNS** : PUNCH CARDS — Non punched position will be selected and weave in the thread.  
 PUSH BUTTON — Button down needle will be selected and weave in the thread.

**TUCK PATTERN** : PUNCH CARDS — Non punched position will be selected and knit.  
 Tuck button : Non selected needles will remain in B position with yarn in needle hook.  
 Front lever : PUNCH CARDS — Non punched position will be selected and tuck yarn.  
 Non selected needles will remain in B position and knit.

Tuck button : PUSH BUTTON — Button down needles will be selected, and knit.

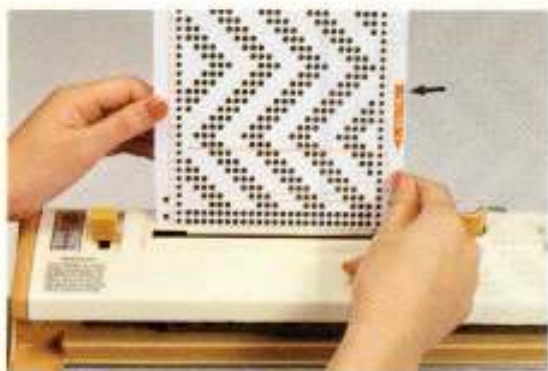
Front lever : PUSH BUTTON — Button down needles will be selected and tuck yarn.  
 Non selected needles will remain in B position and knit.

**SLIP PATTERNS** : PUNCH CARDS — Non punched position will be selected and knit.  
 PUSH BUTTON — Button down needles will be selected and knit.

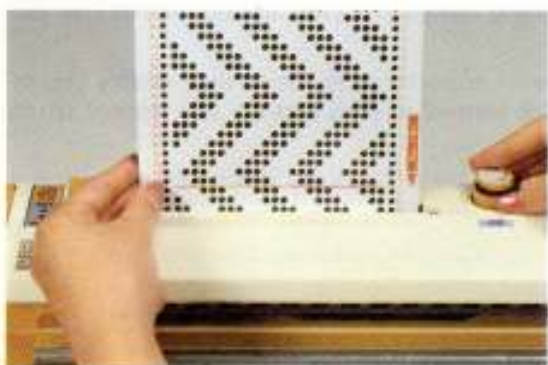
**LACE PATTERNS** : PUNCH CARDS — Non punched position will be selected for transferring stitches.  
 PUSH BUTTON — Button down needles will be selected for transferring stitches.



## INSERTING THE PUNCH CARD



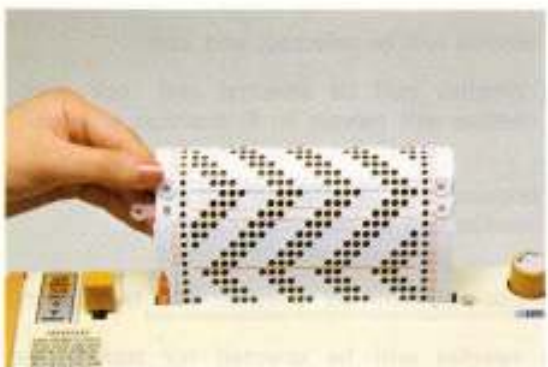
1. Take punch card No.18 and hold it at the LEFT edge, number 18 A at the RIGHT side edge.
2. Hold the card above the card slot and insert it, the triangle at the RIGHT of the card slot pointing towards the row numbers of the punch card. The first horizontal red card match line runs along the top edge of the card slot.



3. Turn feeding dial for 2 or 3 positions to lock card in anti-clockwise direction as shown by the arrow.



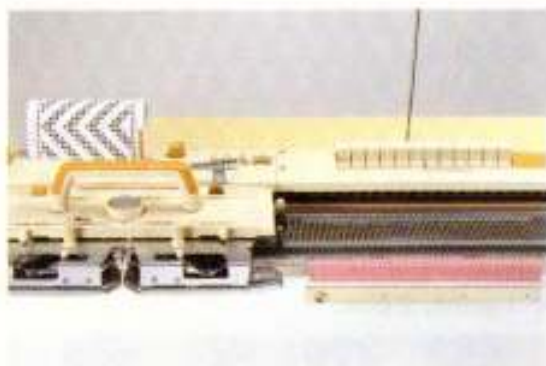
4. Release card at LEFT and push the release lever at the LEFT of the punch card towards the BACK. While you keep holding the release lever towards the BACK, turn with your RIGHT hand the feeding dial as before until the punch card is half way through the card slot.



5. Overlap the card ends, front end on top of back end and adjust the snap holes.
  6. Join the ends with two card snaps.
- ★ Make sure no Push buttons are set, otherwise the combined pattern of punch card and push buttons will be knitted. See page 69 for combined patterns.

## FAIRISLE PATTERNS WITH PUNCH CARDS

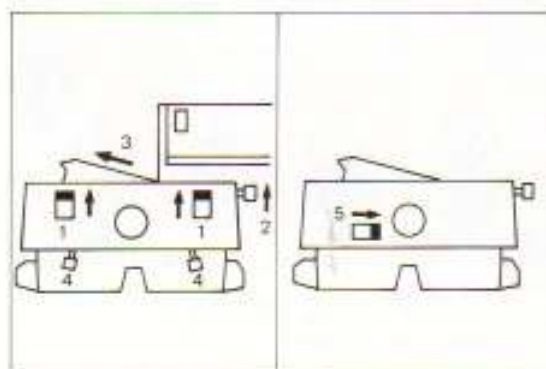
- ★ For Fairisle patterns you will knit TWO different colours in ONE row automatically. To make matters simple we will call the main yarn – col. 1 and the contrasting yarn – col. 2. Every additional colour will have the following up number.
- ★ We recommend that all colours for Fairisle patterns should be of the same thickness yarn.
- ★ For knitting Fairisle patterns use a Tension setting slightly looser than for plain knitting, it will make the fabric softer.
- ★ When knitting Fairisle pattern with more than two colours you will need to feed the additional colours by hand. Just insert the col. 3 in the feeder after having removed the col. inside and while knitting, hold the thread above the carriage as for knitting in the nylon cord.
- ★ Always have your yarns prepared in advance.



Cast on the 60 centre needles as explained on pages 15–16 using the cast on comb.

Knit several rows finishing with the carriage at the LEFT. Insert punch card No 18 A.

Hold release lever to the BACK and turn feeding dial to LEFT until the red line of row 1 runs along the top edge of the card slot.



- 1 Set BOTH pattern levers to PATTERN.
- 2 Set card feed lever BACK to C.
- 3 Set card feed tripper to LEFT as shown in diagram.
- 4 Set BOTH front levers to 0.

Knit 1 row towards the RIGHT.

The needles have been selected in groups of 3 needles in B and 3 needles in D position and all have been knitted.

- 5 Set Fairisle switch to COLOUR.

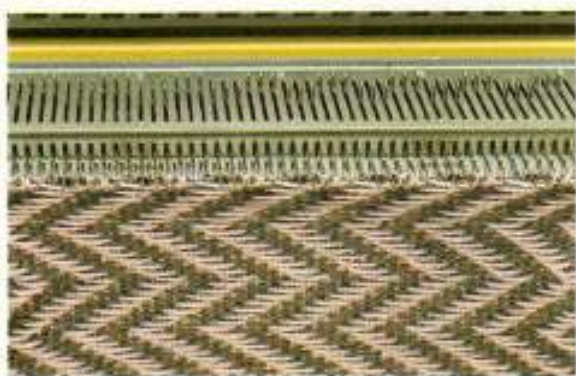


Set row counter lever to working position.

Thread col. 2 through all the LEFT side threading points of upper tension unit.

Thread col. 2 in yarn feeder, well BEHIND the spring. Fasten the end of col. 2 on to the table clamp, together with col. 1.





Knit 1 row to the LEFT, the needles in B position have knitted col. 1 and the needles in D position have knitted col. 2. Continue knitting this way.

- \* If you want neat edges on your knitting, it would be suggested to push the edge needle up to E position at the beginning of each row.
- \* To stop Fairisle pattern, set pattern levers to PLAIN, card feed lever to , fairisle switch to PLAIN, and remove col. 2 from colour feeder.



Card No. 1-A  
1 pattern = 2 stitches, 2 rows.  
Col. 1-white, 2-blue



Card No. 2-A  
1 pattern = 2 stitches, 4 rows.  
Col. 1-white, 2-pink.



Card No. 3-A  
1 pattern = 24 stitches, 60 rows  
Col. 1-green, 2-dark green



Card No. 4-A  
1 pattern = 24 stitches, 30 rows  
Col. 1-pink, col. 2-blue.



Card No. 5-A  
1 pattern = 24 stitches, 33 rows  
Col. 1-blue, col. 2-white



Card No. 6-A  
1 pattern = 24 stitches, 15 rows  
Col. 1-red, col. 2-white





Card No. 7-A  
1 pattern = 24 stitches, 60 rows  
Col. 1-red, col. 2-white



Card No. 8-A  
1 pattern = 24 stitches, 46 rows  
Col. 1-white, col. 2-red



Card No. 9-A  
1 pattern = 24 stitches, 58 rows  
Col. 1-orange, col. 2-brown



Card No. 10-A  
1 pattern = 24 stitches, 46 rows  
Col. 1-blue, col. 2-white



Card No. 11-A  
1 pattern = 24 stitches, 60 rows  
Col. 1-white, col. 2-green



Card No. 12-A  
1 pattern = 24 stitches, 20 rows  
Col. 1-pale blue, col. 2-dark blue



Card No. 13-A  
1 pattern = 4 stitches, 8 rows  
Col. 1-pink, col. 2-red



Card No. 14-A  
1 pattern = 24 stitches, 48 rows  
Col. 1-yellow, col. 2-blue

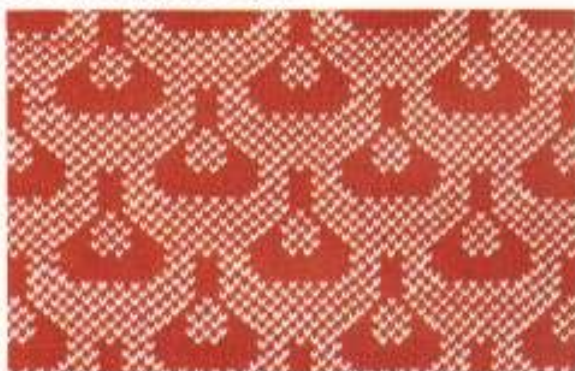




Card No. 15-A  
1 pattern = 24 stitches, 58 rows  
Col. 1-yellow, col. 2-green



Card No. 16-A  
1 pattern = 12 stitches, 24 rows  
Col. 1-white, col. 2-blue



Card No. 17-A  
1 pattern = 24 stitches, 24 rows  
Col. 1-white, col. 2-red



Card No. 18-A  
1 pattern = 6 stitches, 16 rows  
Col. 1-brown, col. 2-pink

There are many more stitch pattern possibilities for your standard punch cards, this and the following pages will give you some ideas on how to do about it.

Play with colours, whether you wish to change colours in feeder 1 or 2 is entirely left to your choice. Changing colour and finding new combinations and variations is the fun of Fairisle knitting.

Keep the samples you like and press them, then store them in some reference book for later use.



Card No. 1-A Col. 1-white  
Knit 8 rows col. 2-grey in feeder 2  
Knit 4 rows col. 3-black in feeder 2  
Knit 8 rows col. 2-grey in feeder 2  
Knit 8 rows col. 4-red in feeder 2



Card 2-A Col. 1-black  
Knit 2 rows col. 2-yellow in feeder 2  
Knit 2 rows col. 3-green in feeder 2  
Knit 2 rows col. 4-red in feeder 2  
Knit 2 rows col. 5-blue in feeder 2





Card No. 4-A  
Col. 1-navy  
Knit 15 rows col. 2-yellow in feeder 2.  
Knit 15 rows col. 3-green in feeder 2.



Card No. 7-A  
Change to any col. in feeder 2.  
when at ○ mark during knitting.



Card No. 9-A  
Change to any col. in feeder 2  
when at ○ mark during knitting.



Card No. 10-A  
Change to any col. in feeder 2  
when at ○ mark during knitting.



Card No. 5-A Knit in grey and white.  
1 - 12 rows col. 1-grey  
13 - 21 rows col. 1-white  
22 - 33 rows col. 1-grey



Card No. 13-A  
Col. 2-red in feeder 2.  
Knit 4 rows col. 1-white in feeder 1.  
Knit 4 rows col. 3-grey in feeder 1.



Card No. 18-A Col. 1-white  
Start knitting at 5 on card.  
Knit 8 rows col. 2-sky blue in feeder 2  
Knit 8 rows col. 3-blue in feeder 2



Card No. 16-A Start at 3. Col. 1-purple  
6 rows col. 2-white in feeder 2  
6 rows col. 3-pink in feeder 2  
6 rows col. 4-violet in feeder 2





Card No. 5-A. Col. 1-ivory

1- 5 col. 2-yellow  
 6-10 col. 3-orange  
 11-15 col. 4-rost  
 16-18 col. 5-purple  
 19-23 col. 4-rost  
 24-28 col. 3-orange  
 29-33 col. 2-yellow



Card No. 10-A

1-10 col. 1-dark blue, col. 2-white  
 11-18 col. 1-pink, col. 2-white  
 19-38 col. 1-blue, col. 2-white  
 39-46 col. 1-blue, col. 2-pink

## EXTENDING THE PUNCH CARD PATTERNS

There is one more pattern possibility when using the punch cards. You can extend the stitch patterns by setting the card feed lever to  position, this will stop the punch card from revolving and therefore knit the selected row until you set the card feed lever to C position again.

All THREE of the below stitch patterns are knitted in the following way :

Knit 2 rows card feed lever to C position.

Knit 2 rows card feed lever to  position.



Card No. 3-A



Card No. 18-A



Card No. 11-A



## WEAVING PATTERN WITH PUNCH CARDS

- ★ Weaving is many peoples favourite type of stitch. It can be knitted using from the fine to the heavy type yarns.
- ★ You just can't imagine what can all be made out of woven fabrics, fashionable garments, carpets, cushion covers as well as fabric for covering your furniture. You can even knit it by the metre and cut it just like material.
- ★ When knitting weaving materials we recommend that you use a fine to medium type of yarn for knitting and as weaving yarn from the fine to the heavy type yarns. The knitting yarn should not be too thick or your fabric will become too heavy and stiff.

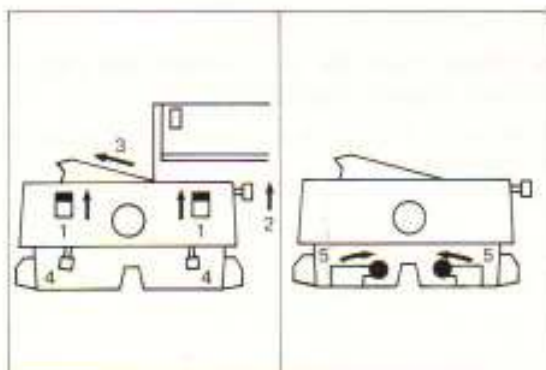


Cast on the 60 centre needles as explained on pages 15–16 using the cast on comb.

Knit several rows finishing with the carriage at the LEFT.

Insert punch card No. 13-A as explained on page 36 and secure the ends.

Hold release lever to the BACK and turn feeding dial to LEFT until the red line of row 1 runs along the top edge of the card slot.



1 Set BOTH pattern levers to PATTERN.

2 Set card feed lever to C.

3 Set card feed tripper to LEFT as shown in the diagram.

4 Set BOTH front levers to 0.

Knit 1 row towards the RIGHT.

The needles have been selected in groups of 3 needles in B and 1 needle in D position, all needles have been knitted.

5 Set BOTH weaving knobs to ●.

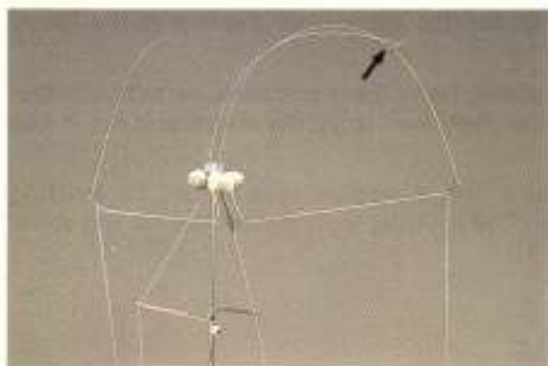


Set row counter lever to working position.

Thread weaving yarn through all LEFT side threading points of upper tension unit.

Pull thread down between knitting and carriage and secure end to table clamp.





Adjust the tension discs, the LEFT side one to the thickness of the weaving thread.

If you think the tension on the main yarn is still too loose, hook the short tension wire to the main yarn tension wire, and set upper tension towards +.

At RIGHT edge bring the FIRST needle to D position.



Take the weaving thread and lay it across the selected needles towards the LEFT, just in FRONT of the sinker hooks.



Hook the weaving thread into the yarn holder at the LEFT.

Knit 1 row to the LEFT.

Remove the thread from the yarn holder and pass it under the carriage towards the RIGHT.

Let the thread loose, the tension wire will pull it up at the LEFT of the knitting.

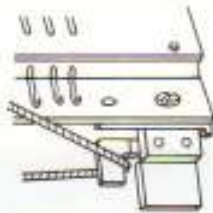


At LEFT edge bring the FIRST needle to D position.

Knit 1 row to the RIGHT.

Be sure the weaving yarn is caught in WEAVING YARN GUIDE (arrow).

★ Instead of threading weaving yarn through upper tension unit, you can place the ball of yarn on your knees or floor, and lay it over needles in front sinker hooks every after knitted 1 row.



Again remove the weaving thread and bring it to the LEFT of the carriage.

Let the thread go, the tension wire will pull it up.

At RIGHT edge bring FIRST needle to D position. Move carriage towards the LEFT and let the thread slide into the weaving yarn guide.

Continue knitting, always bring the thread to the edge of the knitting and the first needle to D position.

★ In case of weaving when the ribber is attached to the main knitter, hook the thread round the plate as in diagram, instead of bringing it in the weaving yarn guide. The extra yarn holder is also very handy, see page 51.

★ To stop the weaving pattern, set BOTH pattern levers to PLAIN, the card feed lever to , BOTH weaving knobs to  and remove the weaving thread.



Card No. 1-A  
1 pattern = 2 stitches, 2 rows



Card No. 2-A  
1 pattern = 2 stitches, 4 rows



Card No. 11-A  
1 pattern = 24 stitches, 60 rows

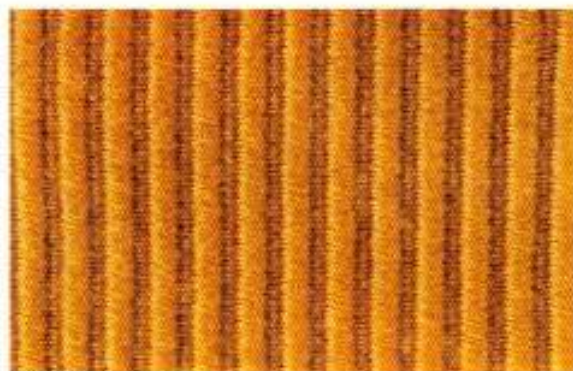


Card No. 12-A  
1 pattern = 24 stitches, 20 rows





Card No. 13-A  
1 pattern = 4 stitches, 8 rows



Card No. 13-A  
After selection, set card feed lever to □



Card No. 1-A  
Change col. of weaving yarn every 10 rows.



Card No. 18-A  
1 pattern = 6 stitches, 16 rows.



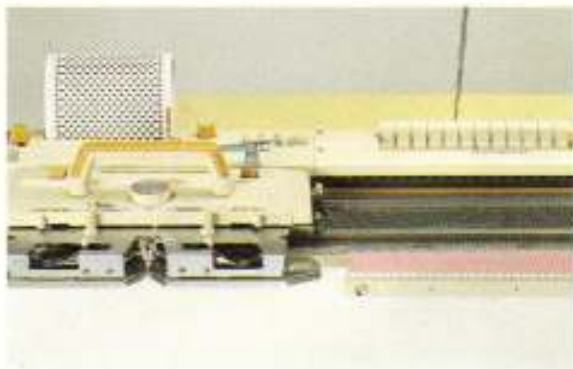
Card No. 13-A  
Knit nice colour effects by  
using random dyed yarns.



Card No. 13-A  
Change col. of weaving yarn every 4 rows.



## TUCK STITCH PATTERNS WITH PUNCH CARD-TUCK BUTTONS

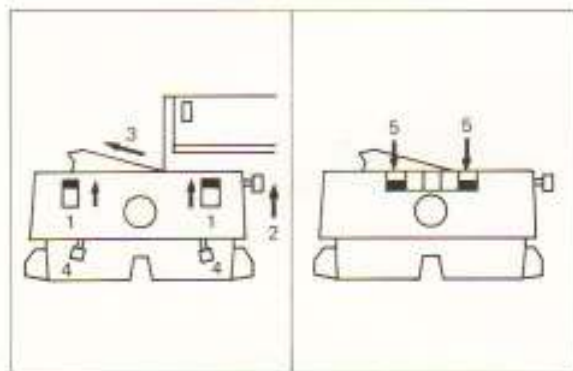


Using cast on comb, cast on 60 centre needles as explained on page 15–16.

Knit several rows, finish with carriage at LEFT.

Insert punch card No. 1-A as explained on page 36 and secure ends.

Hold release lever BACK and turn feeding dial to LEFT until the red line or row 1 runs along the top edge of the card slot.



- 1 Set BOTH pattern levers to PATTERN.
- 2 Set card feed lever to C.
- 3 Set card feed tripper to LEFT as in diagram.
- 4 Set BOTH front levers to 0.

Knit 1 row to the RIGHT.

The needles have been selected in groups of 1 needle in B and 1 needle in D position. All needles have been knitted.

- 5 Set BOTH TUCK buttons IN. Attach weights through edges of knitting. Set row counter to working position and continue knitting.



Card No. 1-A



Card No. 1-A Change col. 1 in every 2 rows.



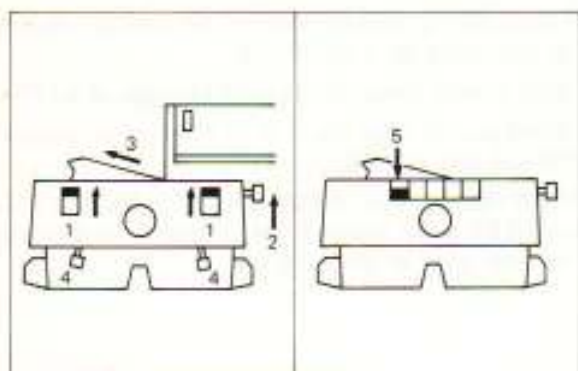
Card No. 16-A



Card No. 17-A



## TUCK STITCH PATTERN VARIATIONS USING LEFT SIDE TUCK BUTTON ONLY



Set carriage as in diagram



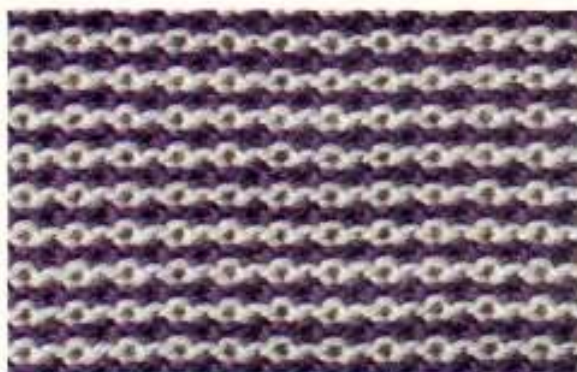
Card No. 1-A



Card No. 2-A



Card No. 16-A



Card No. 2-A Change col. every 2 rows.



Card No. 2-A Change col. every 2 rows.



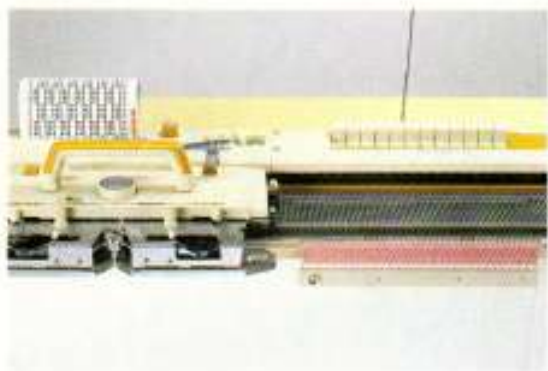
NOTE: When knitting TUCK patterns and depending upon the elasticity of yarn it may happen that the 1st or 2nd stitch may not be knitted.

In this case we recommend to bring the 1st and 2nd needles at BOTH ends to D position. When knitting a tension swatch you can judge if this is necessary.

★ To stop TUCK stitch patterns set pattern levers to PLAIN, card feed lever to  and push IN the PLAIN button.



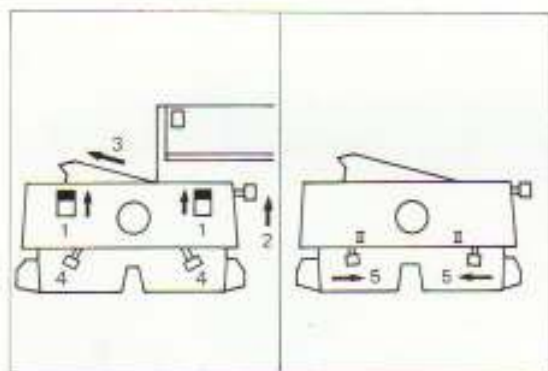
## KNITTING TUCK STITCH PATTERNS USING PUNCH CARDS TUCKING WITH FRONT LEVERS



Using cast on comb, cast on 60 centre needles as explained on pages 15–16.

Knit several rows, finishing with the carriage at the LEFT. Insert punch card No. 13-A as explained on page 36 and secure ends.

Hold release lever BACK and turn feeding dial to LEFT until the red line of row 1 runs along the top edge of the card slot.

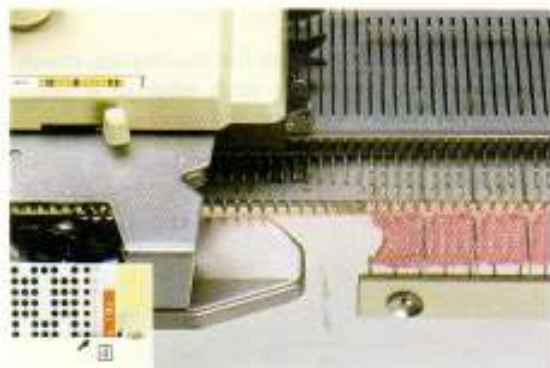


- 1 Set BOTH pattern levers to PATTERN.
- 2 Set card feed lever to C.
- 3 Set card feed tripper to LEFT as in diagram.
- 4 BOTH front levers are set to 0.

Knit 1 row to the RIGHT.

The needles have been selected in groups of 1 needle in D and 3 needles in B position. All needles have been knitted.

- 5 Set BOTH front levers to II. Attach weights to edges of knitting. Set row counter lever to working position.



Knit 3 rows, carriage at LEFT.

The yarn has been tucked by the needles in E position and row 4 appears in the .

The latter means that for the next row you must set the front lever in direction of knitting to 0 position.

Set RIGHT side front lever to 0.

Knit 1 row to the RIGHT.



The needles previously in E position have been knitted BACK to B position and a new needle selection has been made.

Set RIGHT side front lever to II.

Continue knitting 3 rows with both front levers on II and 1 row with RIGHT side lever on 0 when the row number appears in .

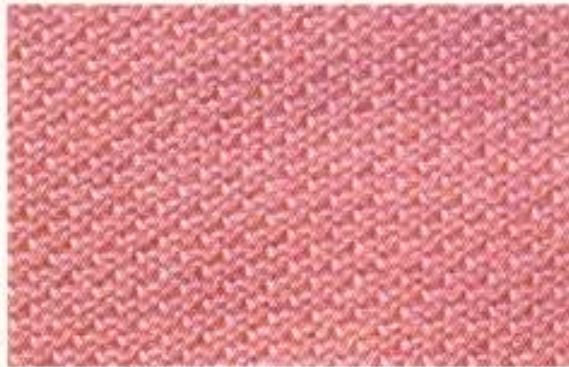




Card No. 13-A  
1 pattern = 4 stitches, 8 rows.



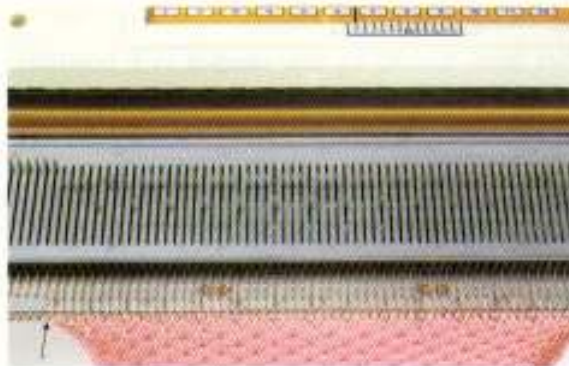
Card No. 14-A  
1 pattern = 24 stitches, 48 rows.



Card No. 2-A  
Leave RIGHT front lever on 0 mark

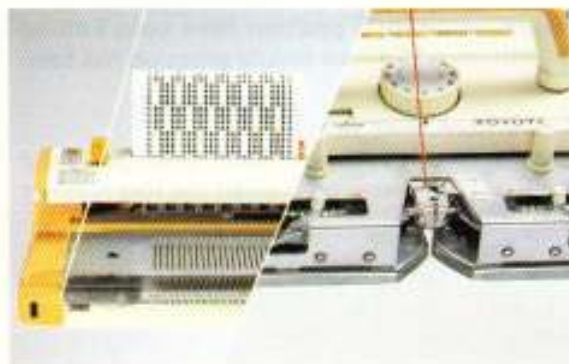


Card No. 15-A  
Leave RIGHT front lever on 0 mark.



NOTE: To have neat edges for sewing up, move the first needle at each edge to B position before knitting the next row.

★ To stop the pattern set BOTH pattern levers to PLAIN, card feed lever to  and BOTH front levers to 0.



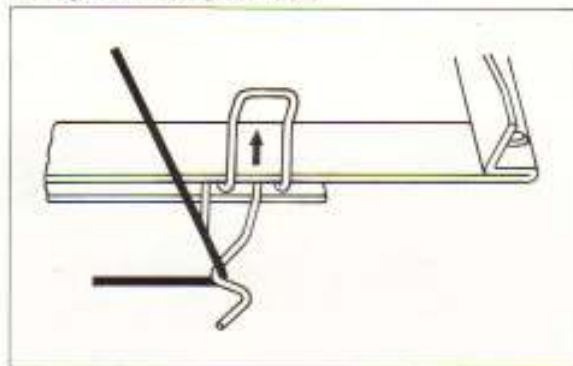
NOTE: When changing colours during tuck stitch patterns, the yarn threaded through the LEFT side feed points of the upper tension unit is hooked on the LEFT side yarn holder and the one threaded through the RIGHT side feed points is hooked to the RIGHT side yarn holder.

All additional colours are fed by hand as for knitting in the nylon cord shown on page 80.





Card No. 13-A  
Change col. every 4 rows.

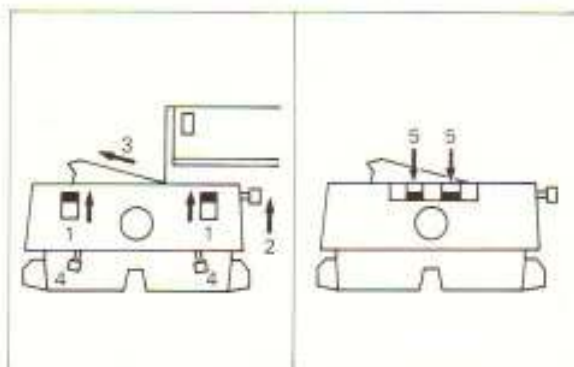


Card No. 13-A  
Change col. every 4 rows.

★ You can if you like attach the extra yarn holders to the extension rails when knitting tuck stitch patterns with several colours.

For how to attach the extension rails to the machine see page 53.

## SLIP STITCH PATTERNS WITH PUNCH CARDS



Using cast on comb cast on 60 centre needles as explained on pages 15–16.

Knit several rows finishing with the carriage at the LEFT.

Insert punch card No. 18-A as explained on page 36 and secure ends.

Hold release lever BACK and turn feeding dial to LEFT until the red line of row 1 runs along the top edge of the card slot.

- 1 Set BOTH pattern levers to PATTERN.
2. Set card feed lever to C.
- 3 Set card feed tripper to LEFT as in diagram.
- 4 Set BOTH front levers to 0.

Knit 1 row to the RIGHT.

The needles have been selected in groups of 3 needles in B and 3 needles in D position. All needles have been knitted.

5 Push IN BOTH EMPTY buttons. Set row counter to working position and continue knitting.





NOTE: To have neat edges for sewing up, move the first two needles at each edge to D position before knitting the next row.

- ★ To stop the pattern set BOTH pattern levers to PLAIN, card feed lever to  and push IN the PLAIN button.



Card No. 18-A  
1 pattern = 6 stitches, 16 rows



Card No. 1-A  
1 pattern = 2 stitches, 2 rows



Card No. 2-A  
1 pattern = 2 stitches, 4 rows



Card No. 16-A  
1 pattern = 12 stitches, 24 rows



Card No. 17-A  
1 pattern = 24 stitches, 24 rows

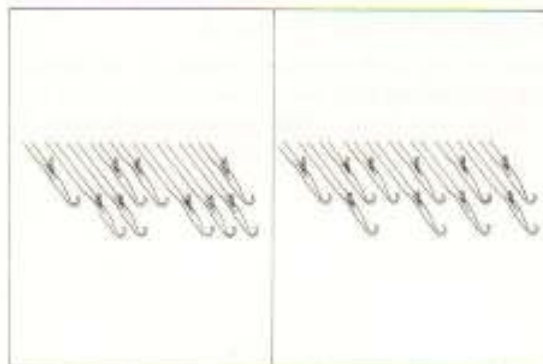
## LACE STITCH PATTERNS WITH PUNCH CARDS

This is the real thing, the real lace pattern for which stitches are transferred on to their adjacent needles.  
WHAT CAN YOU KNIT USING LACE PATTERN ?

Well, there are thousands of designs for garments made of lace patterns. Just think of all the lovely, light summer garments you can knit for your family.

Knit sophisticated and fashionable party and evening gowns or shawls, use all the fancy yarns in fine and thin qualities that you can find.

Knit bed spreads, lamp shades, cushion covers and window curtains of lace patterns, there are so many things to be made for your home.



NOTE: When knitting lace patterns, NEVER should there be TWO or MORE ADJACENT needles in D position.

Diagram, Far left : WRONG  
Left : RIGHT



Remove BOTH extension rails from the machine cover. One is marked L and the other R. Take rail L and hold it to the LEFT side corner of the machine.

Insert the flat rail into the needle bed front, on top of the needle press bar.

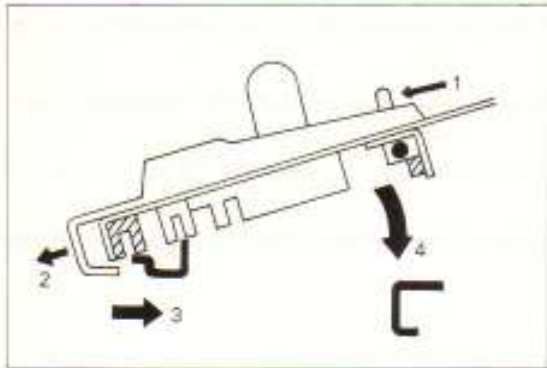
The back rail under the small metal pin as shown in the picture and push IN front and rear rails. Repeat with RIGHT side R rail.



Remove the lace carriage from its case and fix the handle to it.

To place the lace carriage on to the needle bed or the extension rails, push IN the release button, see diagrams on next page.

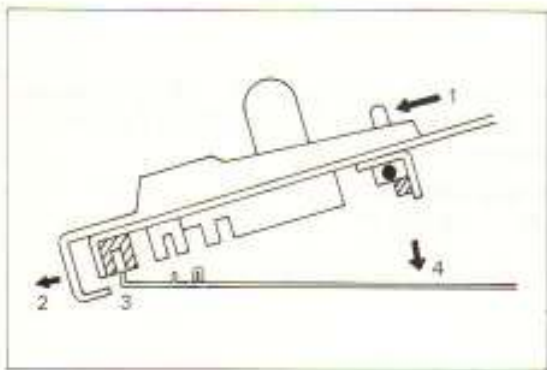




**Placing lace carriage on to extension rails**

Push IN release button of lace carriage 1, this will open the gap at the rear of the lace carriage 2.

Lower the back of the lace carriage groove 3, on to the back rail of the extension rail and lower the front of the lace carriage on to the front rail 4, then let go the release button.



**Placing lace carriage on to needle bed**

Push IN release button of lace carriage 1, this will open the gap at the rear of the lace carriage 2.

Lower the back of the lace carriage, groove 3, on to the rear rail of the needle bed and now lower the front of the lace carriage on to the front edge of the needle bed 4.



Bring in the centre of the machine 20 to 30 needles to B position and slide the lace carriage across the needles several times. This is to ensure that the lace carriage slides properly on the needle bed.

Each time the lace carriage has passed the needles in B position you will hear a small "click".

Slide the lace carriage on to the LEFT side extension rail.

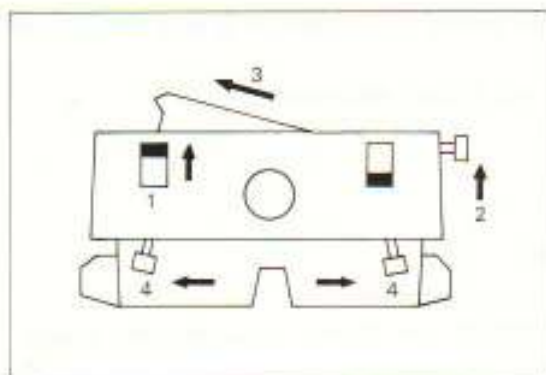


Using cast on comb cast on 60 centre needles as explained on pages 15-16.

Knit several rows (5 cm) finishing with the carriage at the LEFT.

Insert punch card No. 20-A as explained on page 36 and secure ends.

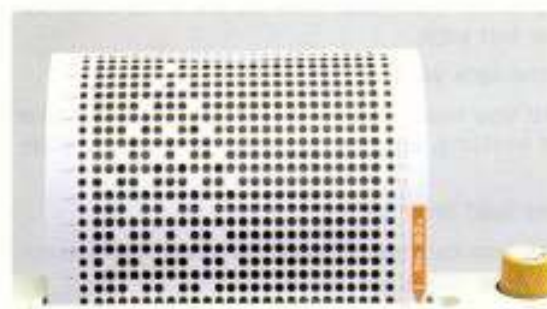
Hold release lever BACK and turn feeding dial to LEFT until the red line of row 1 runs along the top edge of the card slot.




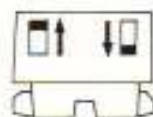
- 1 Set LEFT pattern lever to PATTERN.
- 2 Set card feed lever to C.
- 3 Set card feed tripper to LEFT as in diagram.
- 4 Set BOTH front levers to 0.

Attach weights through edges of knitting.

### POSITION OF PATTERN LEVERS




The FIRST half of the punch card No. 20-A shows the arrows pointing to the RIGHT until row 27 in  mark. This means that during the FIRST half of the punch card you slide the lace carriage from LEFT to RIGHT.



Main carriage setting for moving lace carriage from LEFT to RIGHT:  
LEFT side pattern lever set.



The SECOND half of punch card No. 20-A shows the arrows pointing to the LEFT until row 60 in  mark. This means that during the SECOND half of the punch card you slide the lace carriage from RIGHT to LEFT.




Main carriage setting for moving lace carriage from RIGHT to LEFT:  
RIGHT side pattern lever set.





Knit 1 row to the RIGHT. The needles have been selected in groups of 1 needle in B and 1 needle in D position.

Set row counter to working position. The main carriage is on the RIGHT side extension rail.

- ★ Hook the short tension wire to the one used for the lace yarn.
- ★ For knitting the edge stitches neatly turn tension disc of lace yarn towards +.
- ★ Check all tension points of lace yarn and stitch size, set TENSION dial a little looser than for normal knitting.
- ★ The weights are attached through the knitting 5 cm below the top row.
- ★ After having knitted 10 cm of lace pattern move up the weights for 5 cm, and after 20 cm or so move up the cast on comb and insert through the knitting 5 cm below top edge.
- ★ Slide wax ring on to pin in front of the tension disc where the lace yarn is threaded.
- ★ Remember that when the  mark appears on the punch card you must reverse the setting of the pattern levers and place the lace carriage on the opposite side of the knitting, also the direction in which to slide the lace carriage.
- ★ To stop the lace pattern set pattern lever to PLAIN, and card feed lever to .
- ★ When moving lace carriage do not clear the knitting with the lace carriage, if you just clear the pattern needles hearing "click" sound the lace carriage will return on free move.



Push BOTH edge needles at EACH side BACK to B position if they have been selected to D position.

This will give a neat plain stitch edge which will be easy to sew up.

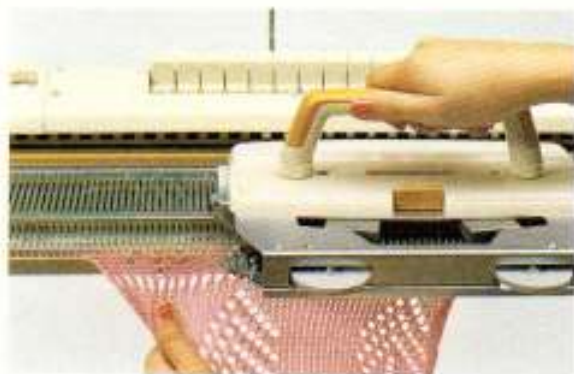


SLOWLY slide the lace carriage across the knitting towards the RIGHT, out of the knitting and at the LEFT of the main carriage.

While sliding the lace carriage across press it on to the needle bed as for ironing.

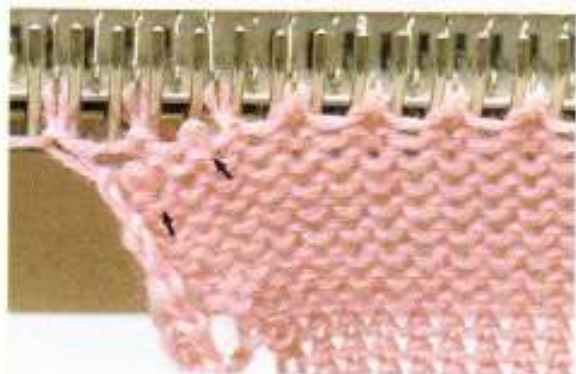
The stitches of the selected needles have been transferred on to the adjacent needles to the LEFT.





DO NOT TOUCH THE KNITTING, THE CAST ON COMB AND WEIGHTS while you slide the lace carriage across for transferring the stitches, this would result in dropped stitches.

Slide the lace carriage BACK across the knitting towards the LEFT and on to the extension rail.



Knit 2 rows, moving the main carriage slowly. The first row will have put new loops in the empty needles and the second row will have formed the new stitches, and the new needle selection has been made.

Slide the lace carriage across for transferring the stitches and then BACK.

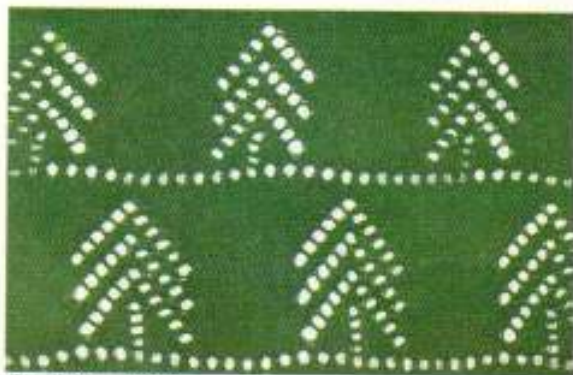
Again knit 2 rows. Continue this way until you must reverse the carriage settings and transferring of stitches. If the lace carriage jams see page 122.



Card No. 19-A

1 pattern = 8 stitches, 24 rows

Below are lace patterns knitted using optional punch cards available.



Card No. 20-A

1 pattern = 24 stitches, 60 rows



Card No. 911-A

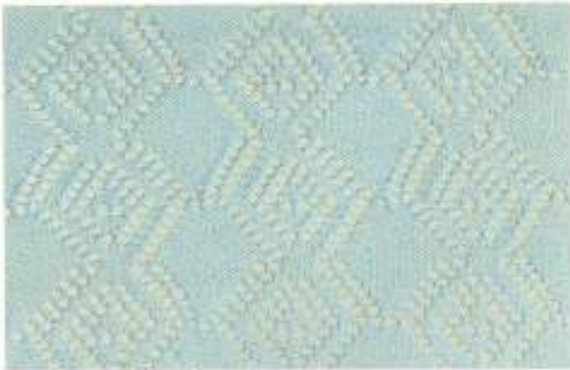
1 pattern = 24 stitches, 30 rows



Card No. 919-A

1 pattern = 24 stitches, 58 rows





Card No. 912-A  
1 patterns = 24 stitches, 27 rows



Card No. 917-A  
1 pattern = 24 stitches, 54 rows



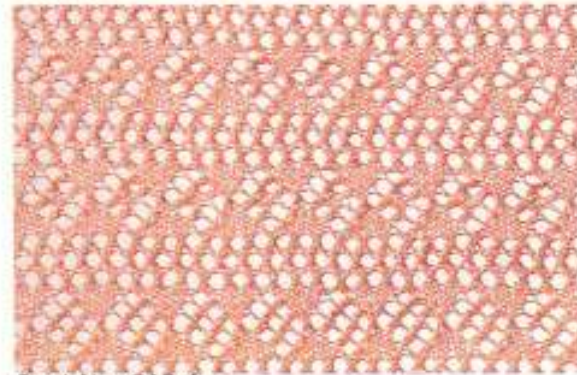
Card No. 914-A  
1 pattern = 24 stitches, 30 rows



Card No. 916-A  
1 pattern = 24 stitches, 54 rows



Card No. 920-A  
1 pattern = 12 stitches, 24 rows



Card No. 913-A  
1 pattern = 6 stitches, 20 rows



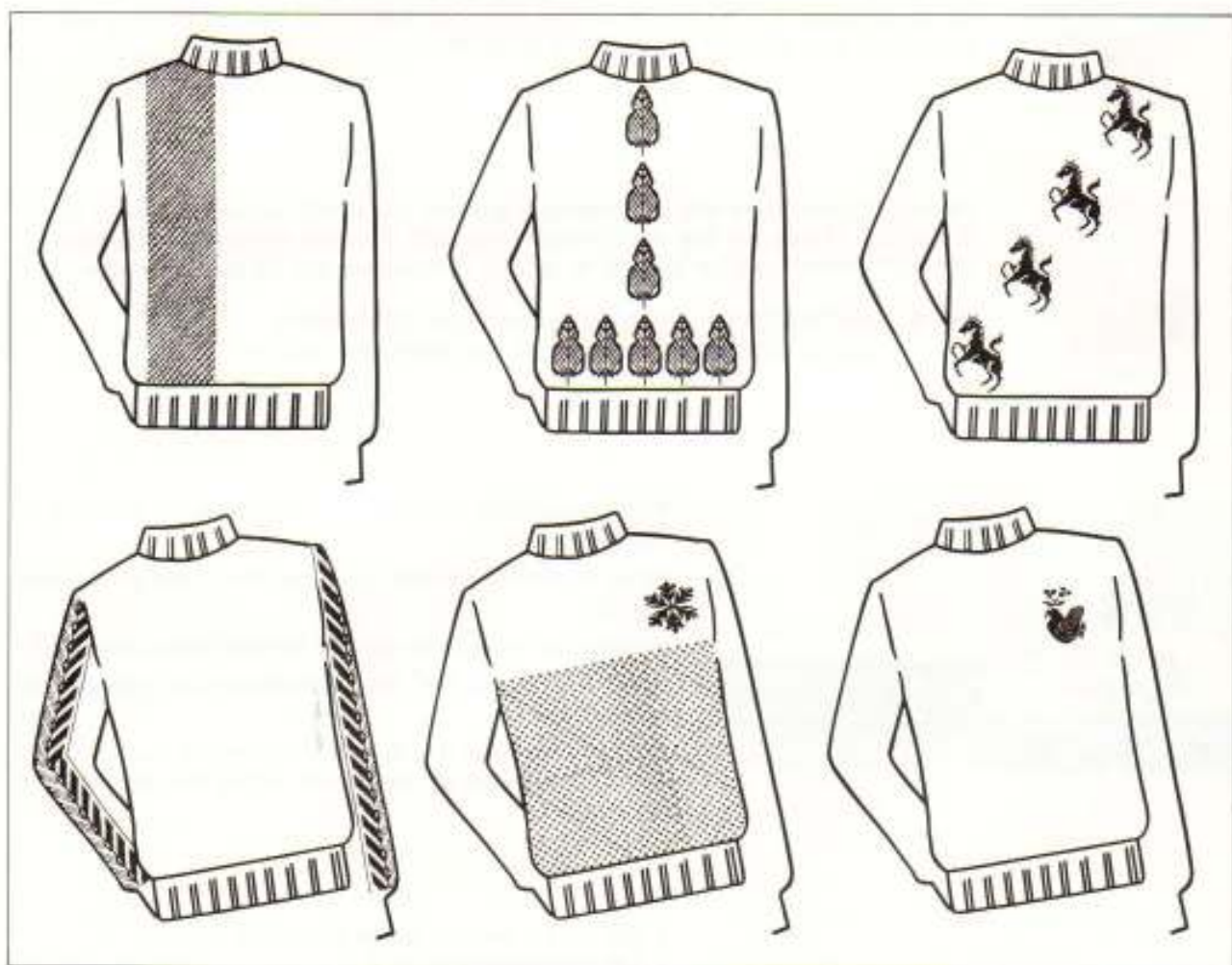
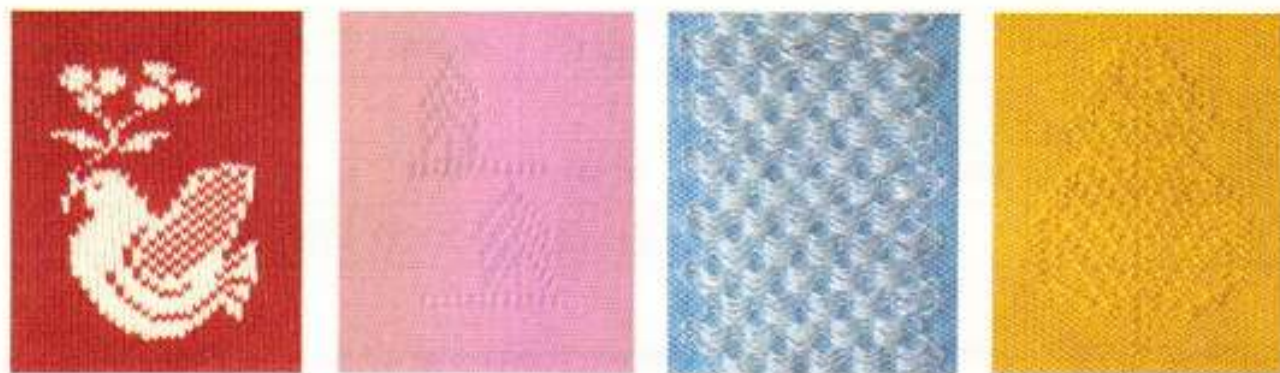
Card No. 918-A  
1 pattern = 24 stitches, 48 rows



Card No. 915-A  
1 pattern = 8 stitches, 54 rows



## AUTO MOTIF KNITTING



AUTO-motif knitting is a fantastic feature of your knitting machine, knit AUTO-motifs here or there in your garments or as vertical pattern bands, or combine normal patterns with AUTO-motif bands, you just can't imagine how many possibilities there are.

The diagrams on this page show just a few ideas on how to use the AUTO-motif dial.



# AUTO-MOTIF

		FAR LEFT	LEFT	CENTRE	RIGHT	FAR RIGHT
POSITION OF AUTO-MOTIF DIAL	0	1	2	3	4	5
MOTIF NEEDLE SECTION	100-0-100	60-37	36-13	12-12	13-36	37-60
		1 < 1	2 < 2	3 < 3	4 < 4	5 < 5

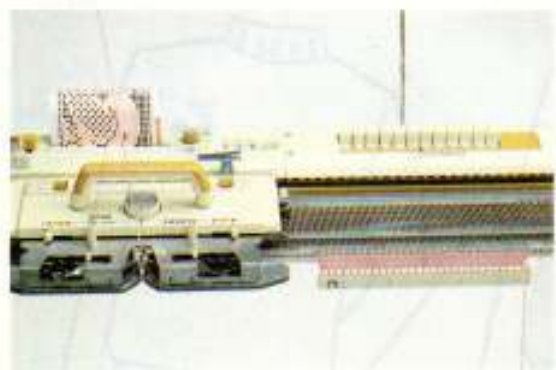


AUTO-motif knitting is divided over 5 sections on the needle bed, each section comprising 24 needles and the section numbers are printed on the transparent film lying under the needle latches. When the number 0 of AUTO-motif dial is set to the front  mark, NO MOTIF WILL BE KNITTED but the pattern will be knitted over the full width of the garment.



The AUTO-motif dial will automatically transfer the stitch pattern to one of the 5 sections. If you set the AUTO-motif dial with 3 to the centre front  mark, the AUTO-motif will be knitted in section 3, these are the 24 centre needles.

NOTE: AUTO-MOTIF to 0, stitch pattern over full knitting.  
 AUTO-MOTIF to 1 to 5, motif over respective needles.

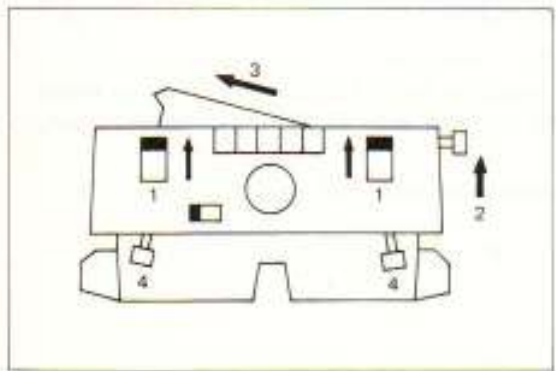


The instructions are given for AUTO-motif knitting in Fairisle pattern.

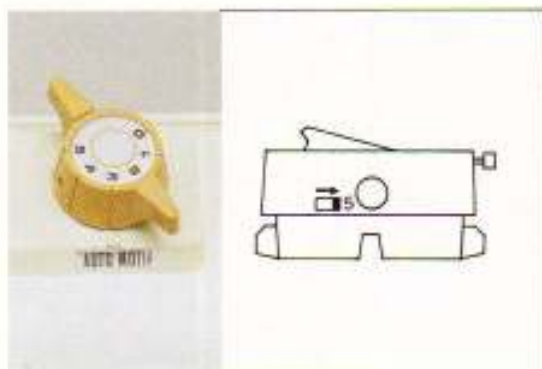
Using cast on comb cast on 60 centre needles as on pages 15-16.

Knit several rows finishing with the carriage at the LEFT. Insert punch card No. 10-A as explained on page 36 and secure ends.

Hold release lever BACK and turn feeding dial to LEFT until the red line of row 1 runs along the top edge of the card slot.



- 1 Set BOTH pattern levers to PATTERN.
  - 2 Set card feed lever to C.
  - 3 Set card feed tripper to LEFT as in diagram.
  - 4 Set BOTH front levers to 0.
- \* Attach weights through edges of knitting at AUTO-motif position, especially when knitting lace patterns.

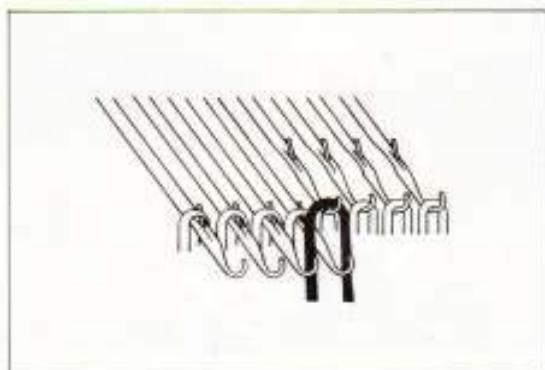


Turn the AUTO-motif dial with 3 to the centre front  mark. Knit 1 row to the RIGHT. The AUTO-motif needles have been selected in the centre of the knitting and all needles have been knitted. Set row counter to working position.

Thread col. 2 through all LEFT side feed points of the tension unit, through the COLOUR feeder and fasten the end to the table clamp.

5 Set Fairisle switch to COLOUR.

Move carriage to the LEFT. Prepare two pieces of thread of col. 1 about 80 cm long each.



Take one piece of col. 1 and place it over needle in B position at RIGHT of AUTO-motif needles and over the FIRST of the selected AUTO-motif needles. Let about 10 cm hang down from the needle in B position and the rest from the AUTO-motif needle.

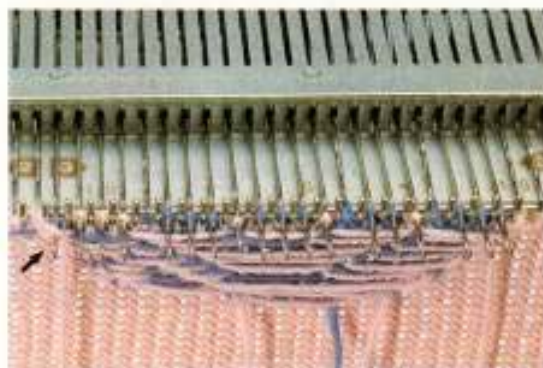


Knit 1 row to the RIGHT. Repeat the same procedure as above at LEFT of auto-motif needles.

\* Pull up col. 2 yarn lightly above yarn feeder as you start to knit especially for wide-knitting or when thick yarn is used.

Turn tension disc of col. 2 to +.

Hook short tension wire to the one of col. 2.



Below AUTO-motif needles hold the threads slightly down with your LEFT hand. Knit 1 row to the LEFT.

The AUTO-motif needles have knitted col. 2 and the thread secured round the edge stitches of AUTO-motif.

The new needle selection has been made. From outside of AUTO-motif towards the inside of pattern bring thread piece over the two needles before you knit each next row.





Card No. 5-A  
1 pattern = 24 stitches, 33 rows



Card No. 6-A  
1 pattern = 24 stitches, 15 rows



Card No. 10-A  
1 pattern = 24 stitches, 46 rows



Card No. 8-A  
1 pattern = 24 stitches, 46 rows



Card No. 9-A  
1 pattern = 24 stitches, 58 rows



Card No. 15-A  
1 pattern = 24 stitches, 58 rows



Card No. 20-A  
1 pattern = 24 stitches, 60 rows



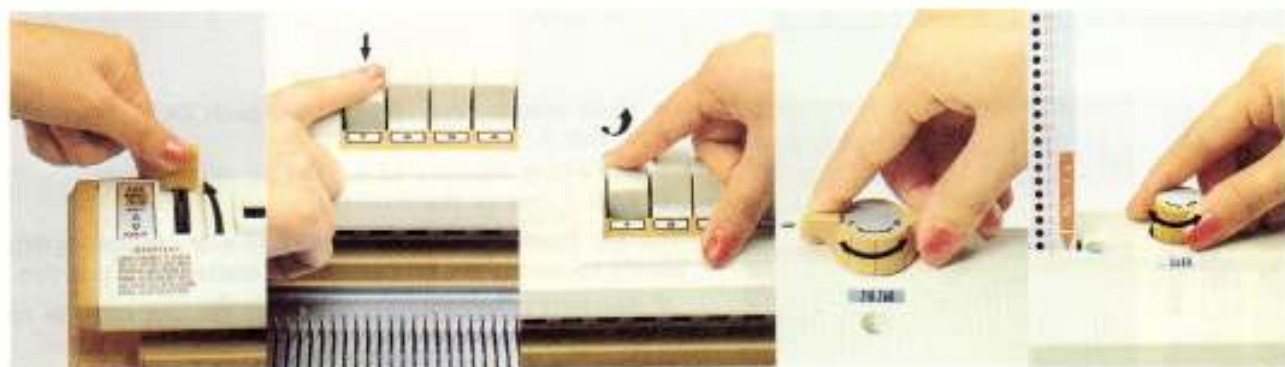
Card No. 2-A  
1 pattern = 2 stitches, 4 rows



## PUSH BUTTONS AND ZIG ZAG DIAL

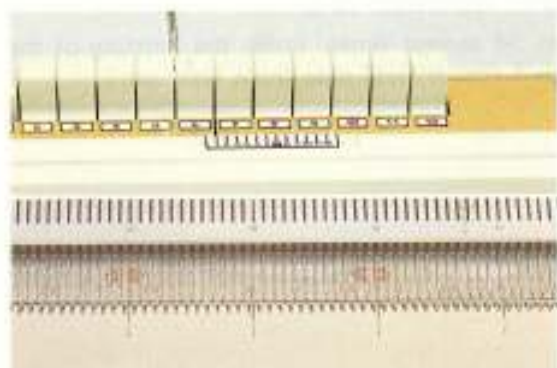
Many times you will want to knit a small band or border in stitch pattern but wish to avoid punching a card, at that stage the existence of the push buttons and the zigzag dial comes in very handy indeed. These two features add much to the versatility of your knitting machine, use the push buttons on their own, with the zigzag dial or, combine both with the punch card knitting.

The settings of the zigzag dial affect the settings of the push buttons **ONLY**, not the needle selection of the punch cards.



- 1 ALWAYS hold the release lever BACK when pushing DOWN or RELEASING push buttons, TURNING zigzag dial or TURNING card feeding dial.
- 2 To set push buttons for needle selections, hold the release lever BACK while pushing the respective push buttons DOWN.
- 3 To release push button settings, hold release lever BACK and push buttons forward and upwards.
- 4 When turning zigzag dial to set zigzag memory, hold release lever BACK.
- 5 To insert or remove a punch card ALWAYS hold the release lever BACK.

**NOTE:** Before you start knitting a stitch pattern using a punch card, make sure there are NO push buttons DOWN since this would affect your stitch pattern. There are however times when you wish to combine punch card needle selections with push button selections, we will show some ideas on the later pages.

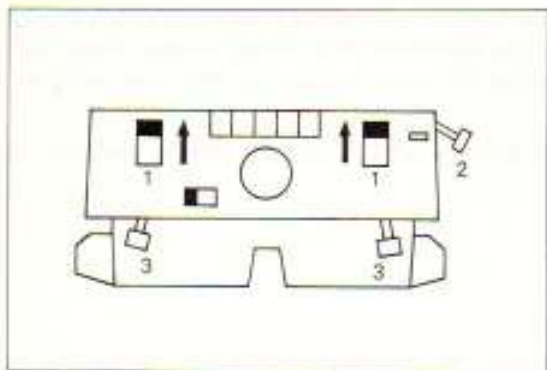


The picture shows the 12 numbered push buttons and the zigzag memory. When push button 1 is DOWN the

The picture shows the 12 numbered push buttons and the zigzag memory. When push button 1 is DOWN and the zigzag memory at 1, the FIRST needle at the RIGHT of centre and every following 12th needle to each side will be selected.



## TUCK STITCH PATTERNS WITH PUSH BUTTONS AND ZIG ZAG DIAL



Let's assume the cast on over 60 needles is finished and that you have knitted several rows, the carriage is at the LEFT.

- 1 Set BOTH pattern levers to PATTERN.
- 2 Card feed lever remains on □.
- 3 Set BOTH front levers to 0.



- 4 Hold release lever BACK and push DOWN buttons 1 and 7.
- 5 Set zigzag memory to 4. Let go release lever.
- 6 Knit 1 row to the RIGHT.

The 3rd needle from the RIGHT and every following 6th needle towards the LEFT has been selected to D position.

- 7 Set BOTH front levers to II and the row counter to working position.



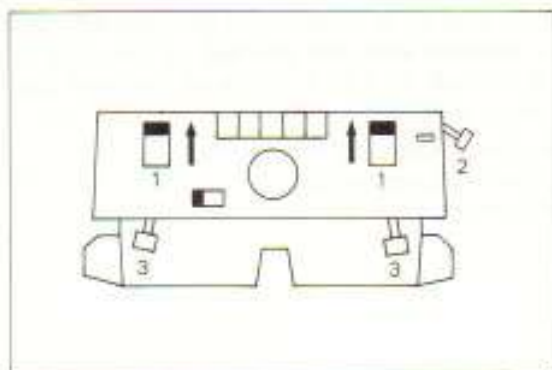
- 8 Knit 3 rows.
- 9 Set RIGHT front lever to 0.
- 10 Hold release lever BACK and set zigzag memory to 1.
- 11 Knit 1 row.

If the edge needles are selected, push them BACK to B position before knitting the next row.



- 12 Set RIGHT front lever to II.
- 13 Knit 3 rows.
- 14 Set RIGHT front lever to 0.

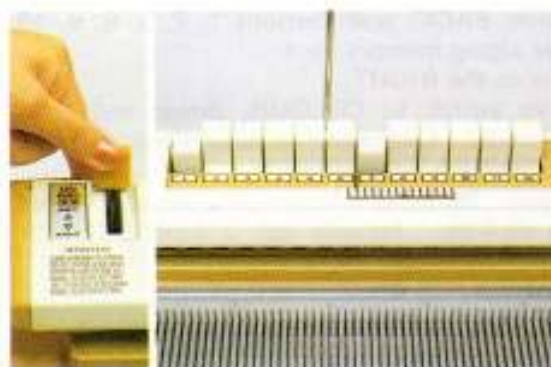
Repeat 5 to 14 several times, finish the knitting of the pattern with 1 row RIGHT side front lever on 0.



### Pattern 1

Let's assume the cast on is finished using 60 needles and you have knitted several rows, the carriage is at the LEFT.

- 1 Set BOTH pattern levers to PATTERN.
- 2 Card feed lever remains on □.
- 3 Set BOTH front levers to 0.



- 4 Hold release lever BACK and push DOWN buttons 1 and 7, check that zigzag memory is at 1 and let go release lever.
- 5 Knit 1 row to the RIGHT.

The 6th needle at the RIGHT from machine centre and every following 6th needle to each LEFT and RIGHT have been selected.

- 6 Set BOTH front levers to II.
- Set row counter to working position.

- 7 Knit 3 rows.
- 8 Set RIGHT front lever to 0.
- 9 Hold release lever BACK, turn zigzag dial for 1 position, and zigzag memory will be on 2.
- 10 Knit 1 row.
- 11 Set RIGHT front lever to II.

Repeat steps 7 to 11 five more times, turning the zigzag dial to the next larger number.

- 12 Knit 3 rows.
- 13 Set RIGHT front lever to 0.
- 14 Knit 1 row.



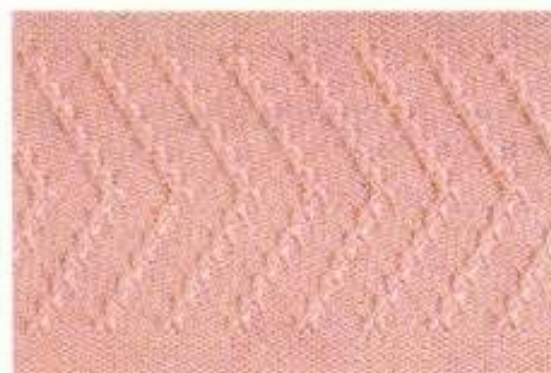
### Pattern 2

Follow the above steps 1 to 13.

- 14 Hold release lever BACK, turn back zigzag dial for 1 position and zigzag memory will be on 6.
- 15 Knit 1 row.
- 16 Set RIGHT front lever to II.
- 17 Knit 3 rows.
- 18 Set RIGHT front lever to 0.

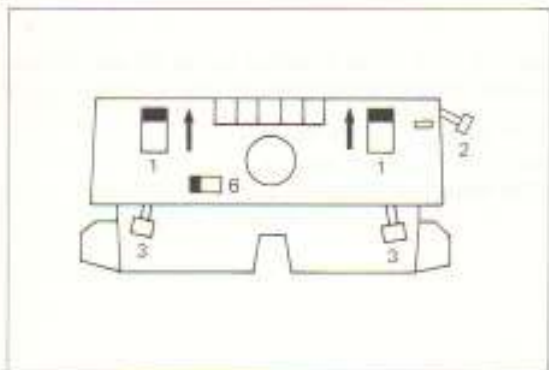
Repeat steps 14 to 18 five times, turning the zigzag dial to the next smaller number.

- 19 Knit 1 row.



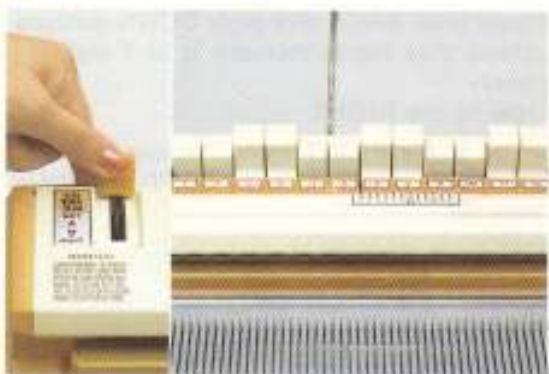


## FAIRISLE PATTERNS WITH PUSH BUTTONS AND ZIG ZAG DIAL



Let's assume the cast on is finished and you have knitted several rows, finished with the carriage at the LEFT. Thread col. 2 through all LEFT side feed points of the tension unit, hook end to clip on rod.

- 1 Set BOTH pattern levers to PATTERN.
- 2 Card feed lever remains in □.
- 3 Set BOTH front levers to 0.



- 4 Release lever BACK, push buttons 1, 2, 5, 6, 9, 10 DOWN, set zigzag memory to 1.
- 5 Knit 1 row to the RIGHT.
- 6 Set Fairisle switch to COLOUR, thread col. 2 in COLOUR feeder. Fasten end to table clamp. Set row counter to working position.
- 7 Knit 14 rows. Set pattern levers to PLAIN and Fairisle switch to PLAIN. Remove col. 2 from COLOUR feeder. Knit 6 rows.

The Fairisle pattern has been knitted straight up.



- 1-5 Follow the above.
- 6 Set Fairisle switch to COLOUR and thread col. 2 in COLOUR feeder.
- 7 Knit 1 row.
- 8 Release lever BACK, set zigzag memory to 2.
- 9 Knit 2 rows.



Repeat 8-9, set zigzag memory 1 number higher until about to set to 8, set to 6, knit pattern back to 1, knit 3 rows on 1.

Remove col. 2 from the COLOUR feeder, set Fairisle switch to PLAIN, knit 6 rows.

Carriage is on the left.

- 1 Set BOTH pattern levers to PATTERN.
- 2 Card feed lever remains in □.
- 3 Set BOTH front levers to 0.
- 4 Hold release lever BACK, push buttons 1, 2, 3, 7, 8 and 9. Check that zigzag memory is on 1.
- 5 Knit 1 row to the RIGHT, the needles have been selected in groups of 3 needles in B and 3 needles in D position.



- 6 Set Fairisle switch to COLOUR, and thread col. 2 in feeder COLOUR.
  - 7 Knit 3 rows.
  - 8 Hold release lever BACK, set zigzag memory to 4.
  - 9 Knit 4 rows.
  - 10 Hold release lever BACK, set zigzag memory to 1.
  - 11 Knit 4 rows.
- Repeat steps 8–11, finish with knitting 5 rows when zigzag memory on 1.



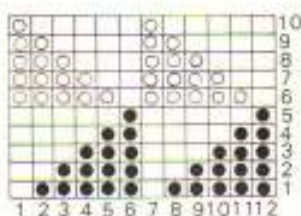
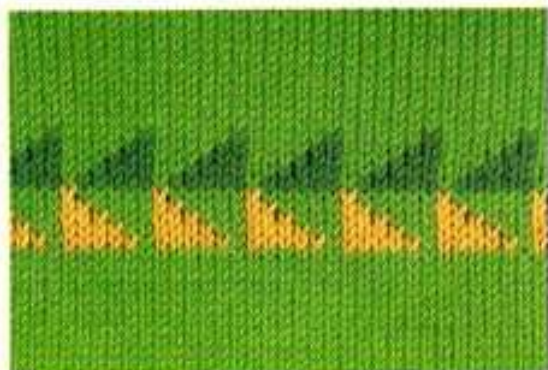
- 1–5 Follow the above.
  - 6 Set Fairisle switch to COLOUR, and thread col. 2 in COLOUR feeder.
  - 7 Knit 1 row.
  - 8 Hold release lever BACK, set zigzag memory to 3.
  - 9 Knit 2 rows.
  - 10 Hold release lever BACK, set zigzag memory to 1.
  - 11 Knit 2 rows.
- Repeat 8–11, finish with knitting 3 rows when doing step 11.



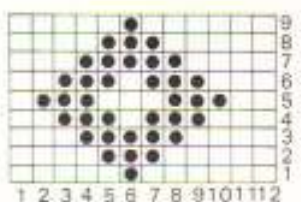
- 1–5 Follow the above
  - 6 Set Fairisle switch to COLOUR, and thread col. 2 in COLOUR feeder.
  - 7 Knit 1 row.
  - 8 Hold release lever BACK, set zigzag memory to 2.
  - 9 Knit 2 rows.
- Repeat 8 and 9 transferring zigzag memory 1 position higher until you are about to transfer to 5. Transfer to 3 and knit the zigzag pattern back to 1. Repeat from the step 8 and continue knitting.



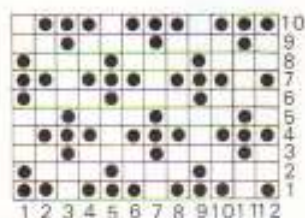
## FAIRISLE PATTERNS WITH PUSH BUTTONS



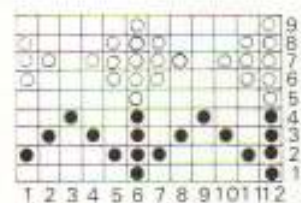
This border is knitted 10 rows up. Change settings of push buttons before knitting the first and after every following row. Change col. after 5th row.



This border is knitted 9 rows up. Change settings of push buttons before knitting the first and after every following row. Change col. after 5th row.



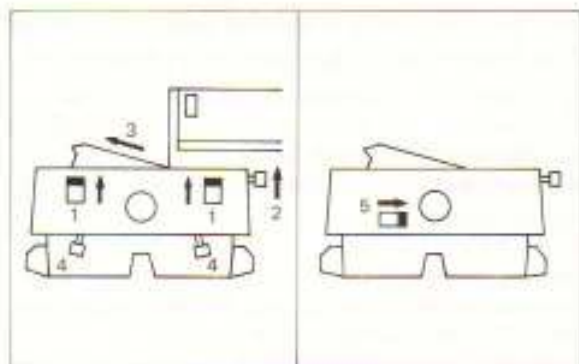
This border is knitted 10 rows up. Change settings of push buttons before knitting the first and after every following row.



This border is knitted 9 rows up. Change settings of push buttons before knitting the first and after every following row. Change col. after 4th row.



## COMBINING PUNCH CARD KNITTING WITH PUSH BUTTON AND ZIG ZAG DIAL



Let's assume the cast on is made, knitted some rows and the carriage is at LEFT. Release lever BACK, insert punch card No. 1-A and secure ends, turn to row 1. Push DOWN buttons 1, 2, 3 and check that zigzag memory is on 1.

- 1 Set BOTH pattern levers to PATTERN.
- 2 Set card feed lever to C.
- 3 Set card feed tripper as in diagram.
- 4 Set BOTH front levers to 0.



Knit 1 row to the RIGHT.

5 Set Fairisle switch to COLOUR.

6 Thread col. 2 through all LEFT side feed points of tension unit, into COLOUR feeder, and fasten end to table clamp.

Set row counter to working position. Knit Fairisle pattern, needles 1, 2 and 3 will knit a stripe through the pattern.



Card No. 17-A  
Push button-7, Zigzag-1



Card No. 17-A  
Push button-1, Zigzag-1



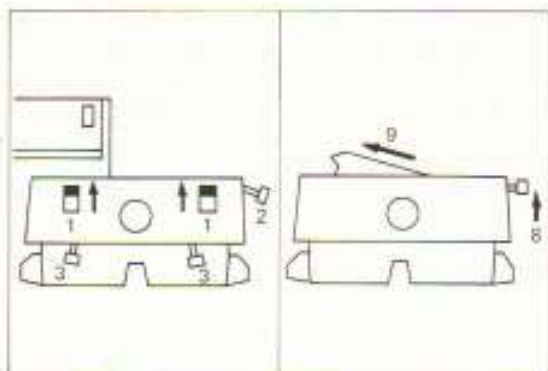
Card No. 4-A  
Push buttons-1 and 7, Zigzag-4



Card No. 8-A  
Push button-1, Zigzag-12-1, 12-1,...

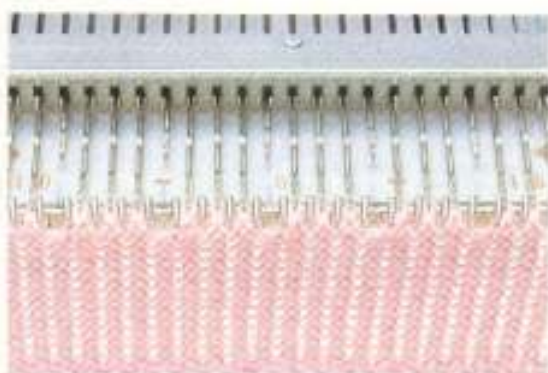


## TUCK LACE PATTERNS



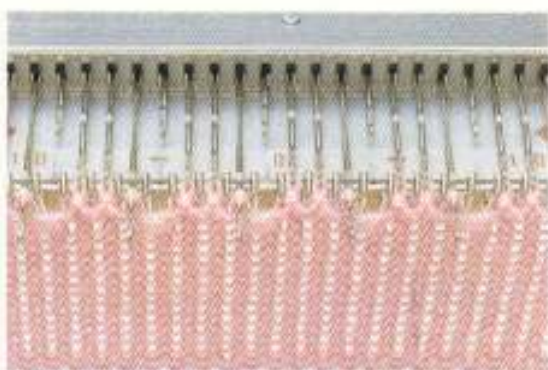
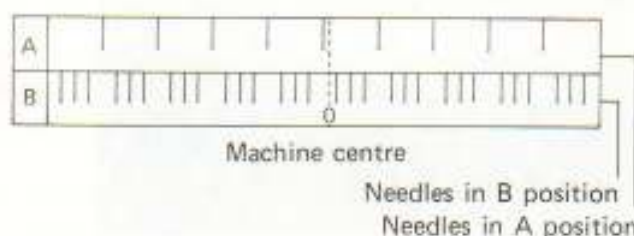
Let's assume your cast on is made and you have knitted several rows finishing with the carriage at the RIGHT.

- 1 Set BOTH pattern levers to PATTERN.
- 2 Set card feed lever to □.
- 3 Set BOTH front levers to 0.
- 4 Release lever BACK, set push buttons 4, 8 and 12, and zigzag memory at 1.
- 5 Knit 1 row to the LEFT.
6. Take lace carriage and slide it from RIGHT to LEFT. The stitches on the selected needles are transferred onto the adjacent needles on the RIGHT. Push back the empty needles to A position.



To transfer stitches you can use transfer tool instead of lace carriage.

Needle setting is made as below.



7. Release lever BACK, push back the buttons, insert punch card No. 13-A and secure the ends. Set it to row 1.
- 8 Set card feed lever at C.
- 9 Card feed tripper as in diagram.
- 10 Knit 1 row to the RIGHT. All the needles in B position have been knitted and the RIGHT edge needle of each group has been selected.
- 11 Attach weights through edges of knitting and set row counter to working position.



12. Knit 3 rows with front levers at II.
- 13 Set zigzag memory at 3.
- 14 Knit 1 row with RIGHT side front lever at 0.
- 15 Knit 3 rows with front levers at II.
- 16 Set zigzag memory at 1.
- 17 Knit 1 row with RIGHT side front lever at 0.

Repeat 12-17, pushing back the edge needles when selected for pattern, thus you will avoid dropped stitches at the edges.

This type of stitch patterns are frequently used for baby garments.

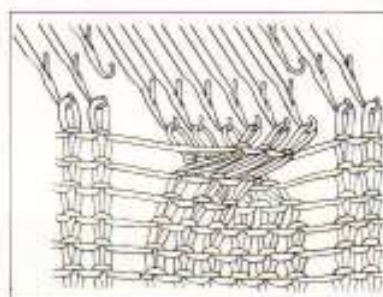
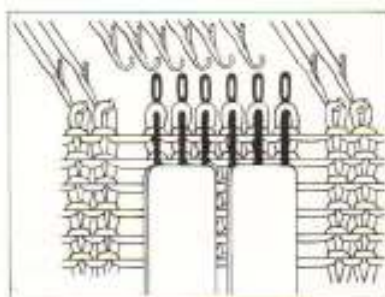
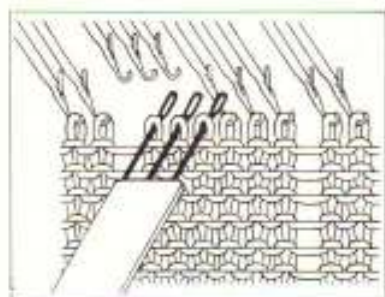




## TWO BASIC CABLE STITCH PATTERNS

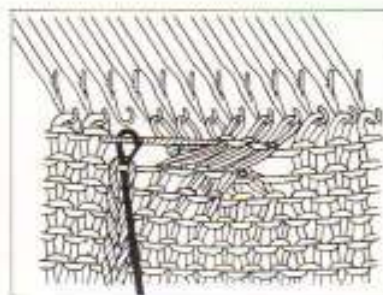
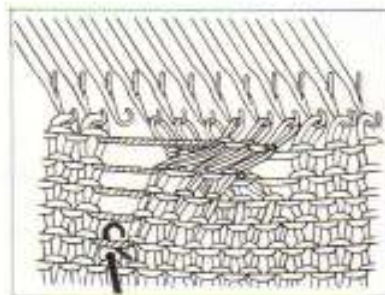
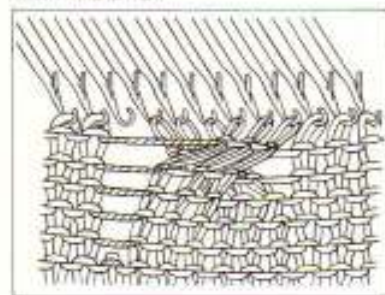
There are two basic ways for knitting cable stitch patterns. Of course there are more but here you will learn the two easiest methods. Let's assume your cast on is made and you have knitted several rows, the carriage is at RIGHT.

### METHOD 1



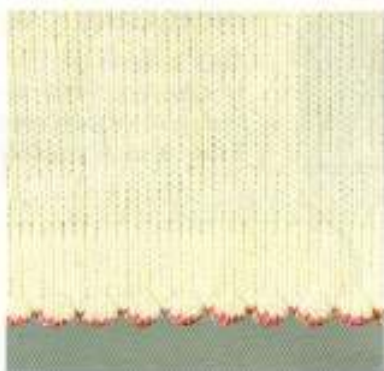
- 1 At each RIGHT and LEFT of centre transfer the 4th stitch on to the adjacent 5th needle. Bring the empty needles to A position. Hook a triple transfer tool in the 3 needles at LEFT of centre, pull them to E, then push them back to A position. The stitches are on the transfer tool. Lift the stitches out of the needles.
- 2 Hold this transfer tool in your left hand and take the 3 stitches at RIGHT of centre onto the second triple transfer tool. Move the 2nd transfer tool to the LEFT and let the 3 stitches slide into the empty needle hooks. Transfer the 3 stitches of the LEFT on to the 3 RIGHT side needles.
- 3 The diagram shows the stitches crossed for the cable, bring the 6 needles to E position, knit 10 rows and repeat crossing for cable.

### METHOD 2



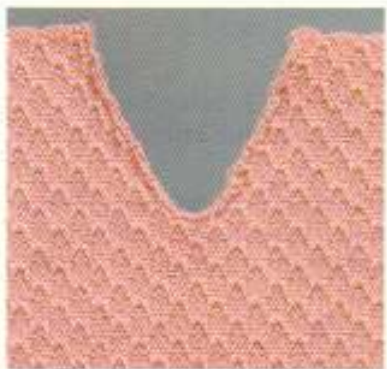
- 1 Instead of transferring the 4th stitch let it run down each time when you cross the stitches for the cable.
- 2 When the cable is finished, run stitch down to bottom of pattern. Rib up stitch at each side of cable as shown in diagram.





Dear knitter,

In PART 3 you will find all the most important BASIC knitting instructions such as several methods for increasing and decreasing, three methods for hems, double welts, ribbed welt, partial knitting for bust darts in plain and pattern knitting, reversed darts in plain and pattern knitting, V-necks, round necks, opening for zip fasteners, pocket with flap, three methods for shaping shoulders, buttonholes and at last the double buttonhole band.





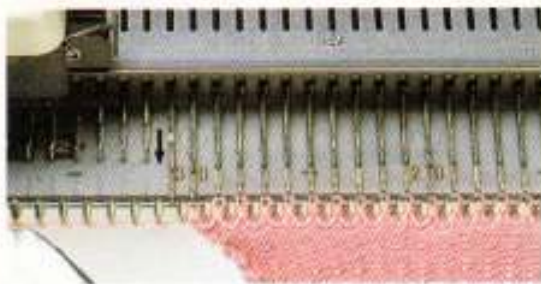
## INCREASING



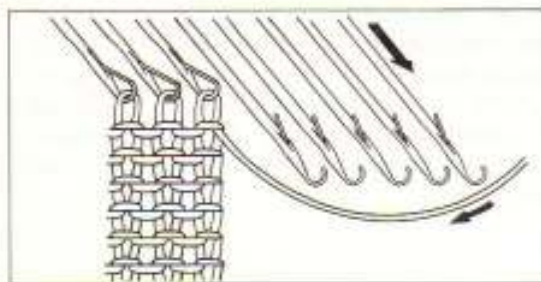
### INCREASING 1 STITCH IN PLAIN KNITTING

This is done on the carriage side.

In case you need to increase 1 stitch at the RIGHT, push the next empty needle at the RIGHT side of the knitting from A to B position. Continue knitting.



In case you need to increase 1 stitch at the LEFT, push the next empty needle at the LEFT side of the knitting from A to B position. Continue knitting.

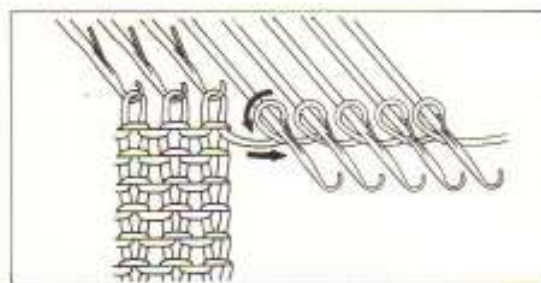


### INCREASING SEVERAL STITCHES

For increasing several stitches at the RIGHT, the carriage should be at RIGHT.

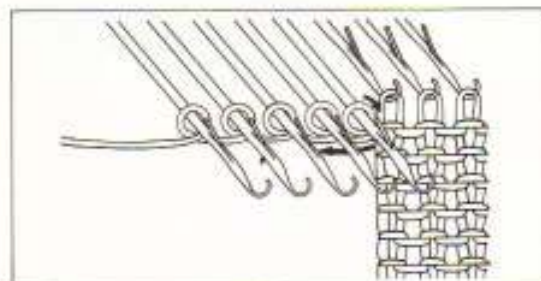
Carriage settings are neutral (Page 10).

To increase 5 stitches at the RIGHT, bring at RIGHT hand edge of the knitting the next 5 empty needles from A to E position.



Pull some yarn from below the carriage and wind round the needles evenly as shown by arrows.

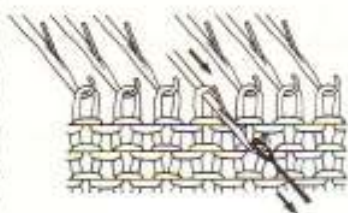
Check yarn tension and if necessary adjust it. Knit 1 row. The needles have been knitted back to B position. For the next 3-4 rows, knit bringing those needles to E position each time.



For increasing 5 stitches at the LEFT, bring 5 additional needles at the LEFT hand edge of the knitting from A to B position.

Wind yarn round needles as shown by arrows. Check yarn tension and adjust. Knit 1 row. Knit bringing those needles to E position each time for the next 3 or 4 rows. Continue knitting.

### HOW TO TRANSFER STITCHES

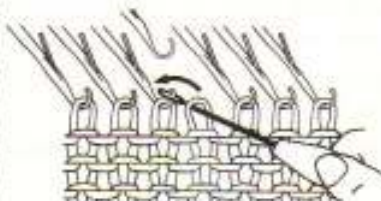


The transfer tools are very useful and practical accessories. They are mainly used for transferring stitches. Let's try.

Take a single transfer tool and place the eyelet into the hook of a needle. Pull the needle forward to E position.



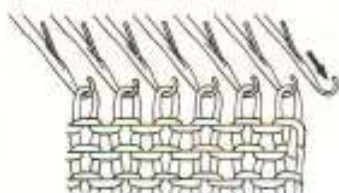
Push the transfer tool backwards until the needle is in A position. The stitch will slide over the needle latch and onto the stem of the transfer tool.



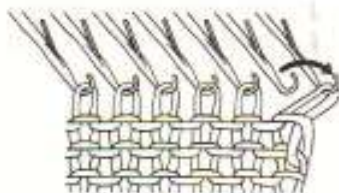
Lift the transfer tool out of the needle hook. Move it to the LEFT and place the eyelet into the needle hook of the adjacent needle. Tilt up the transfer tool, the stitch will slide off the transfer tool and into the needle hook.

You have now transferred a stitch with the transfer tool.

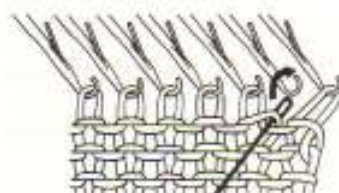
### RAGLAN INCREASING OF ONE STITCH



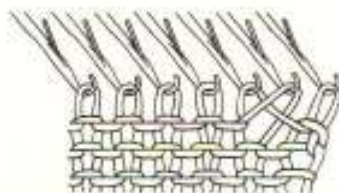
You can increase a stitch at each edge in the same row. Bring the additional needle at the edge of the knitting from A to B position.



With the transfer tool, transfer the stitch of the last needle on to the new empty needle.



Pick up the bar of the second stitch of the previous row and lift this loop on to the second empty needle.



You have now increase a stitch "fully fashioned." Repeat same procedure on the other side of the knitting. Knit 2 rows.

Repeat several times transferring stitches and knitting 2 rows.



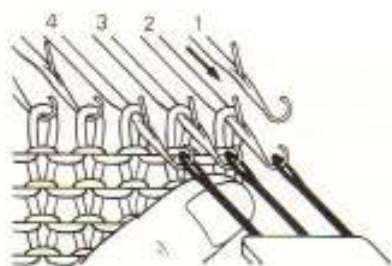
## INCREASING ONE STITCH USING TRIPLE TRANSFER TOOL



This type of increasing stitches is mainly used for making raglan shapings and for neat, straight edges when doing plain knitting or stripes.

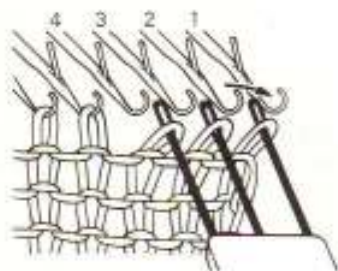
You can only increase 1 stitch at a time but at each edge of the same row.

If you need to increase 1 stitch at the RIGHT side, bring at the right side of the knitting the adjacent empty needle from A to B position.



Take a triple transfer tool and place the eyelets in the hooks of the last 3 needles with stitches at the RIGHT. Pull the needles to E position. Push them back to A position and pull them up to B position.

The 3 stitches are now on the stems of the triple transfer tool.

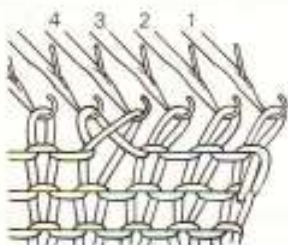


Slowly lift the transfer tool out of the needle hooks, at the same time you will open the needle latches.

Move the transfer tool towards the empty needle, place the eyelets into the hooks of the 3 edge needles in B position and let the stitches slide into the needle hooks.



The 4th needle is now empty. With the single transfer tool pick up the 4th stitch of the previous row. Lift this loop into the empty 4th needle.



You have increased 1 stitch "fully fashioned." Repeat same at LEFT, reversing instructions and read LEFT for RIGHT. Knit 4 rows. Repeat increasing and knitting 4 rows.

## INCREASING 5 STITCHES IN FAIRISLE PATTERNS



When knitting Fairisle patterns increase as follows thus avoiding loose threads at the edges of the knitting.

Let's assume you are knitting a Fairisle pattern with punch card No. 1 and need to increase 5 stitches.

The carriage is at the RIGHT.

At the RIGHT of the knitting bring the next 5 empty needles from A to B position. Col. 1 = pink and Col. 2 = blue.



The last stitch at the RIGHT has been knitted in col. 1. Always start winding with the yarn that is NOT knitted by the last needle. Bring the 1st empty needles from B to E position and from RIGHT to LEFT wind col. 2 round the needle anti-clockwise. Pull the needle back to B position. Repeat same with needle 3 and 5.



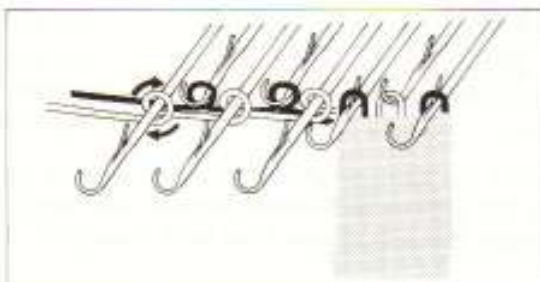
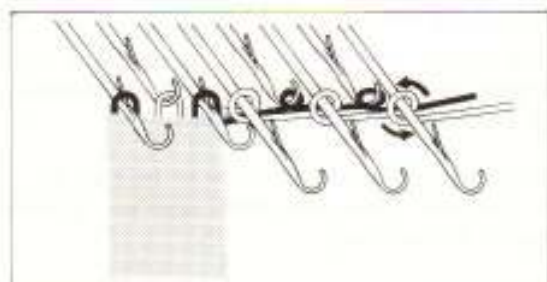
Wind col. 1 round needle 2, and pull it back to B position. Repeat on needle 4. Bring the pattern needles to D. Take the nylon cord and place it across the loops BEHIND the sinker hooks. Pull nylon cord DOWN and knit to the LEFT. For the next few rows, knit pulling down the cord. Pull nylon cord out of the knitting. Attach a weight through increased stitches.



When increasing at the LEFT, the carriage must be at the LEFT, reverse instructions and read LEFT for RIGHT.

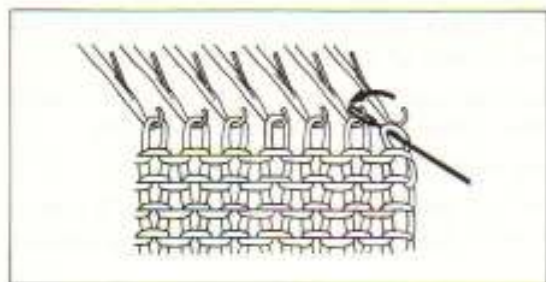
Repeat increasing at each edge and knitting a few rows.

If increasing at the RIGHT, the carriage must be at the RIGHT. If increasing at the LEFT, the carriage must be at the LEFT.





## SIMPLE DECREASING OF ONE STITCH

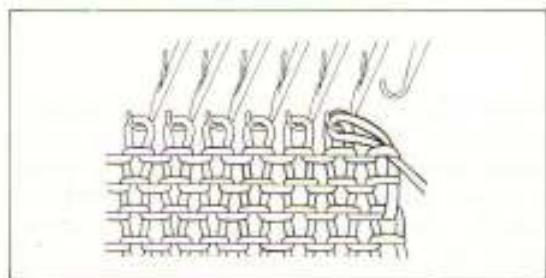


This method of decreasing 1 stitch will allow you to decrease a stitch at BOTH edges of the knitting at the same row.

With the single transfer tool remove the edge stitch off its needle and transfer it on to the adjacent needle inside the knitting. Push the empty needle back to A position.

## CASTING OFF SEVERAL STITCHES

You can cast off at the RIGHT if the carriage is at the RIGHT, and you can cast off at the LEFT if the carriage is at the LEFT.



Let's assume the carriage is at the RIGHT. Transfer the RIGHT edge stitch on to its adjacent needle at the LEFT.

Push the needle with the two stitches from B to E position.

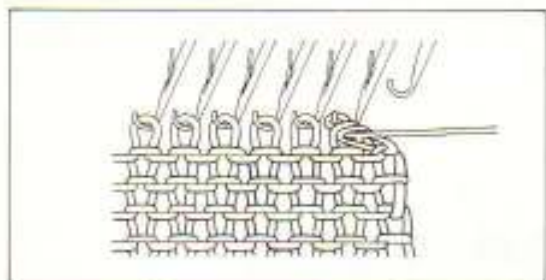
Leave the empty needle in B position.



With your thumb push the needle with the two stitches back to D position, the two stitches must remain behind the latch.

The needle latch must be open.

Pull the yarn from the carriage and place it from RIGHT to LEFT across the open needle hooks.



Pull the needle back to B position. The yarn has been pulled through both the stitches and has now formed a loop in the needle hook.

Repeat above steps until 5 stitches have been cast off and the empty needles are still in B position.

By leaving the empty needles in B position until the stitches have been cast off you can check the number. Push back the empty needles to A position.

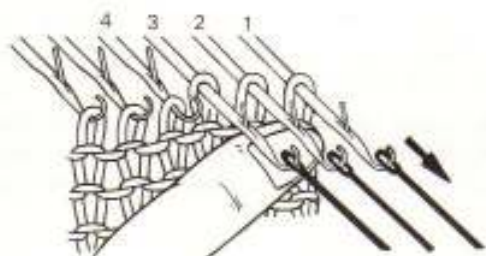
When casting off the carriage MUST be at the side of the knitting where the stitches have to be cast off. When casting off stitches in Fairisle pattern, cast off 1 stitch with col. 1 and one stitch with col. 2, and repeat. This way you will always have both threads at the edge of the knitting.

## DECREASING ONE STITCH USING TRIPLE TRANSFER TOOL



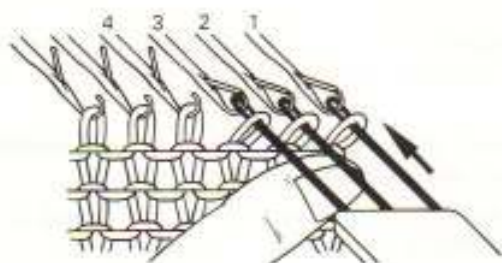
On this page we show how to decrease 1 stitch for Raglan shaping and for neat and straight edges when doing plain knitting and stripes.

You can decrease 1 stitch at each edge at the same row. This type of decreasing can also be used for shaping V-necks.



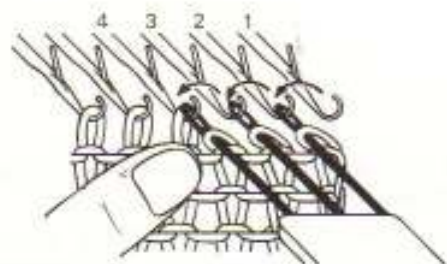
Open the latches of the last 4 needles. Place the eyelets of the triple transfer tool in the hooks of the LAST 3 needles.

Pull the needles to E position.



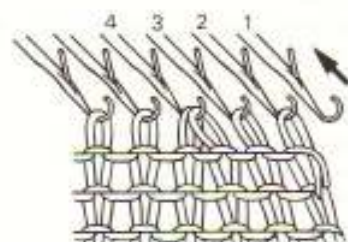
Push the needles back to A position and pull to B position.

The 3 stitches are on the transfer tool. Slowly lift the transfer tool out of the needles, the latches should remain open.



Move the transfer tool 1-needle space towards the inside of the knitting and into the needle hooks of needles 4, 3 and 2.

Let the stitches slide into the needles.



Needle 4 has now TWO stitches. Bring the empty needle 1 back to A position. Repeat same procedure at the other edge. Knit 4 rows.

Repeat decreasing at both edges and knitting 4 rows.



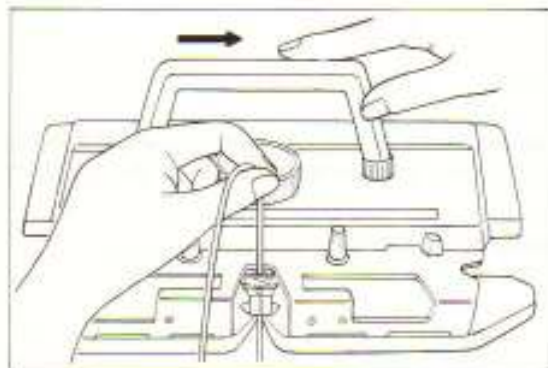
## PLAIN HEM

Before knitting the hem, ALWAYS cast on using waste yarn. After turning up the hem the waste yarn will be removed.

Thread the machine as usually using waste yarn BUT, thread it through ALL LEFT SIDE FEED POINTS of the upper tension unit.

Make the cast on as explained on page 15 and 16, after hanging the cast on comb on the loops knit 10 rows. The carriage is at the LEFT. All settings neutral.

Break the yarn above the carriage and attach upper end to holder on tension rod. Let the other end hang down at the edge of the knitting.



Thread col. 1 through all RIGHT side feed points of the upper tension unit and fasten end to holder on tension rod.

Take nylon cord and thread it into feeder PLAIN. Let approx. 10 cm hang down below the carriage and with your left hand hold the other end above the carriage.

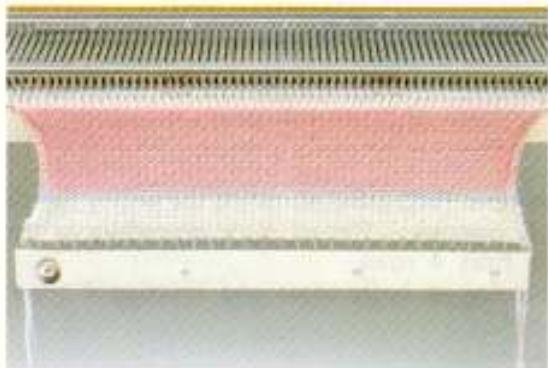
With your right hand move the carriage to the RIGHT to knit 1 row. While moving the carriage let the nylon cord slide through your fingers so that it can be knitted.



Carriage at RIGHT. Remove the remaining nylon cord from feeder PLAIN and let it hang down from the knitting.

The nylon cord will later be removed from the knitting thus separating the waste yarn from the hem.

Take col. 1 from the holder on the rod and thread it in feeder PLAIN, fasten the end to the table clamp.



Check and adjust yarn tension below and on top of carriage, there should not be any slack yarn anywhere.

The hem is always knitted using a TIGHTER tension than for the garment. This will give it more elasticity and it will not lose its shape.

Let's assume you will knit the garment with Tension 6. Set row counter to 000.

Knit 1 row Tension 6, row counter at 1.  
Knit 9 rows Tension 5, row counter at 10.  
Knit 1 row Tension 7, row counter at 11.  
Knit 11 rows Tension 5, row counter at 22.

Set Tension to 6.

The large loops of row 11 will give the hem a neat bottom edge. The normal stitches of row 1 make it easy to pick up the loops when turning up the hem.

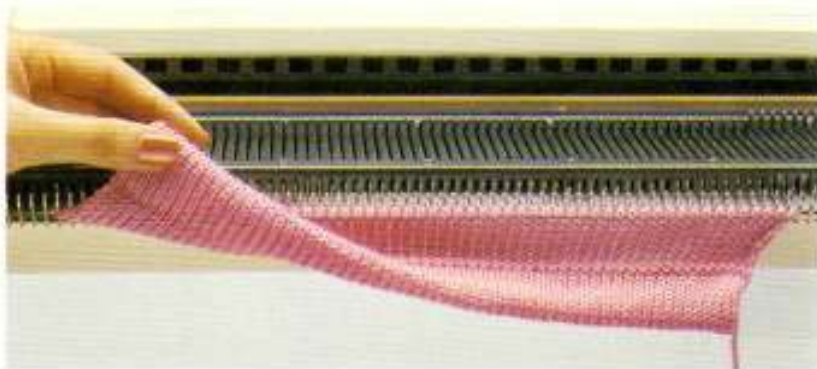


Remove the cast on comb from the knitting. Open the 60 needle latches. Fold the hem half way up. Take the single transfer tool and insert it into the FIRST loop from the RIGHT of the FIRST row knitted with col. 1 AFTER the nylon cord (small picture). Place the transfer tool into the FIRST needle in B position at the RIGHT, let the loop slide into the needle hook. This needle will now have two stitches. Lift the following stitches of the row knitted after the nylon cord into their needles. After this all needles will have 2 stitches.

After a little practice you can use the double or triple transfer tool and lift into the needles 2 or 3 stitches at a time.



Pull out the nylon cord from the hem. Hold the knitting with your left hand and with your right hand pull the nylon cord towards the RIGHT, out of the knitting.



The rows knitted with waste yarn will fall away from the hem.

Set Tension to 6.

Knit 10 more rows. The last picture shows a finished hem. Attach cast on comb to knitting above hem. When knitting hems using thick yarns, bring the needle to E position after having pulled out the nylon cord from the knitting. Continue knitting.



## PICOT EDGE HEM



The picot edge hem is very attractive and is used many times, mainly for children's knitwears.

Cast on 60 needles using waste yarn and knit 10 rows. Remove waste yarn from feeder. Carriage at LEFT and all settings neutral.

Knit nylon cord towards the RIGHT. Thread col. 1 in feeder PLAIN and set row counter to 000.

Tension 6, knit 1 row, row counter at 1.

Tension 5, knit 9 rows, row counter at 10.



Take the 1/1 selector comb and starting with the SECOND needles from the RIGHT, push every 2nd needle from B to D position.

Push needle 30 at the LEFT of centre back to B position again.



Place the lace carriage on to the needle bed at the LEFT and slide it across the knitting towards the RIGHT.

Every second stitch has been transferred on to its adjacent needle to the LEFT. Remove the lace carriage from the needle bed.\*



Tension 5, knit 11 rows. Remove cast on comb from knitting. Place the loops of the FIRST row knitted in col. 1 above the nylon cord on to the needles. Pull nylon cord from the knitting.



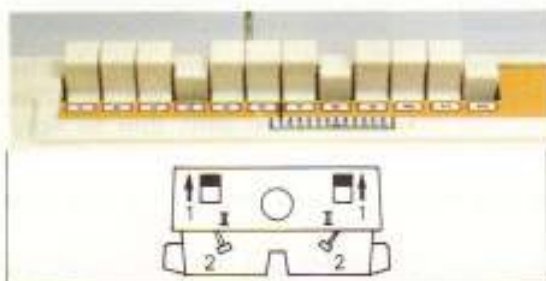
Set Tension to 6. Knit another 10 rows. This picture shows the picot edge hem. Attach cast on comb to knitting above hem.

\* You can transfer the stitches by using the single transfer tool instead of lace carriage.

## TUCK EDGE HEM



Cast on 60 needles using waste yarn and knit 10 rows. Remove waste yarn.  
Carriage at LEFT, all settings neutral.  
Knit nylon cord towards the RIGHT.  
Thread col. 1 in feeder PLAIN and set row counter to 000.  
Tension 6, knit 1 row, row counter at 1.  
Tension 5, knit 8 rows, row counter at 9.  
Carriage at LEFT.



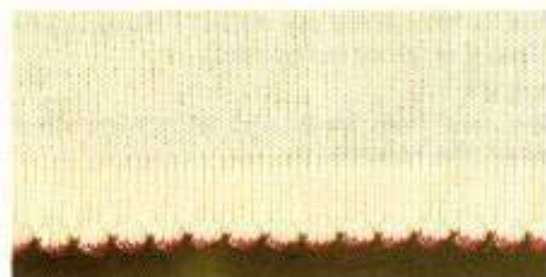
Hold release lever BACK and push DOWN buttons 4, 8 and 12. Let release lever go.  
On carriage set BOTH side pattern levers to PATTERN 1, and BOTH front levers to II, 2.  
Knit 1 row to the RIGHT, row counter at 10. Every 4th needle has been selected. Knit 3 rows, row counter at 13.



Set BOTH side front levers to 0.  
Set Tension to 6.  
★ Knit 2 rows, row counter at 15.  
Set BOTH side front levers to II.  
Set Tension to 5.  
Knit 3 rows, row counter at 18.  
Set BOTH side front levers to 0, BOTH side pattern levers to PLAIN. Knit 10 rows.



Remove the cast on comb from the knitting.  
Place the loops of the first row knitted in col. 1 above the nylon cord on to the needles.  
Pull the nylon cord from the hem.  
Set Tension to 6, knit 10 rows.



This picture shows the tuck edge hem, but the TWO rows of ★ mark knitted using a contrasting colour. This will make the edge even more attractive.  
Before pressing pull the scallops down so that the shape shows up nicely.



## DOUBLE WELTS (HUNG HEMS OF MOCK RIB)



1-1 double welts are usually knitted when using medium (4ply) to thick yarns.



2-1 double welts can be knitted with every type of yarn.

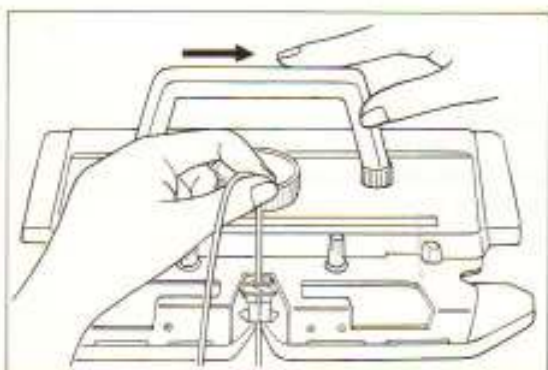


3-1 double welts can also be knitted with all type of yarns but mainly with thin to 4ply yarns.

This way of knitting welts is used when knitting on a single bed machine. They are perfect and snug fitting, and since they are double they last longer too.

To make perfect double welts they must be knitted with the correct TENSION and, since all yarns are different, we will work according the following principle. The Tension used for a 1-1 double welt is set between 2 and 4 numbers TIGHTER (LOWER) than you would use for the main knitting. After a short while you will automatically choose the correct Tension for welts.

## DOUBLE 1-1 WELT



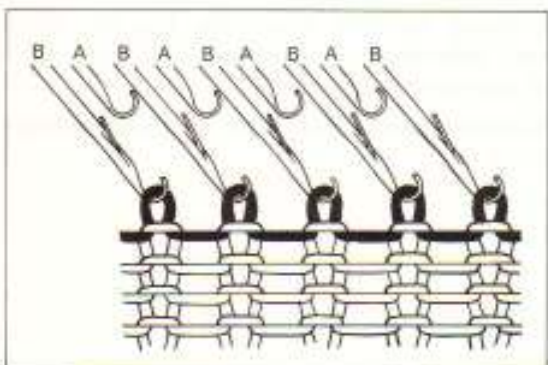
Let's try a double 1-1 welt.

Take the 1/1 edge of the selector comb. Starting with needle 30 at the RIGHT of centre and working until needles 29 at the LEFT of centre bring every 2nd needle from A to B position.

Carriage at RIGHT, all settings neutral.

Thread waste yarn through all LEFT side feeding points of upper tension unit.

Make cast on using waste yarn and hang the cast on comb into the loops. Knit another 10 rows with every 2nd needle. Carriage at LEFT, remove waste yarn from feeder. Thread nylon cord in feeder PLAIN.



Knit the nylon cord towards the RIGHT; Every needle in B position has a stitch of nylon cord.

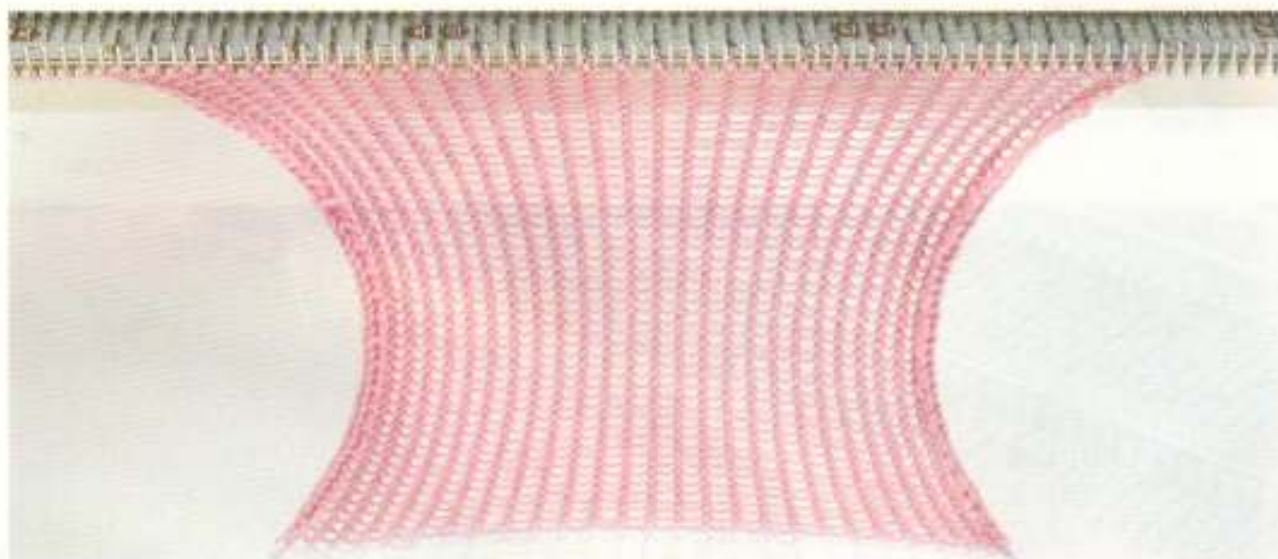
Carriage at RIGHT.

Remove nylon cord from feeder and let it hang down from the side of the knitting.

Thread col. 1 through all RIGHT side feeding points of the upper tension unit and in feeder PLAIN.

Fasten the end to the RIGHT side table clamp. Check that there is no slack yarn above and below the carriage. The carriage is at the RIGHT and all settings neutral.

Let's assume you are using a medium type yarn suitable for Tension 6.



Set row counter to 000. Set Tension dial to 3. Knit 50 rows. Carriage at RIGHT.



With the straight edge of the selector comb bring the in-between needles from A to B position.

By in-between needles we mean those needles that are in A position between the B position needles.

Remove the cast on comb from the knitting.

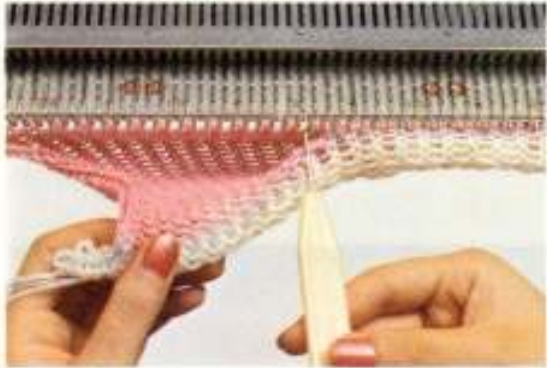


Fold the hem half way up.

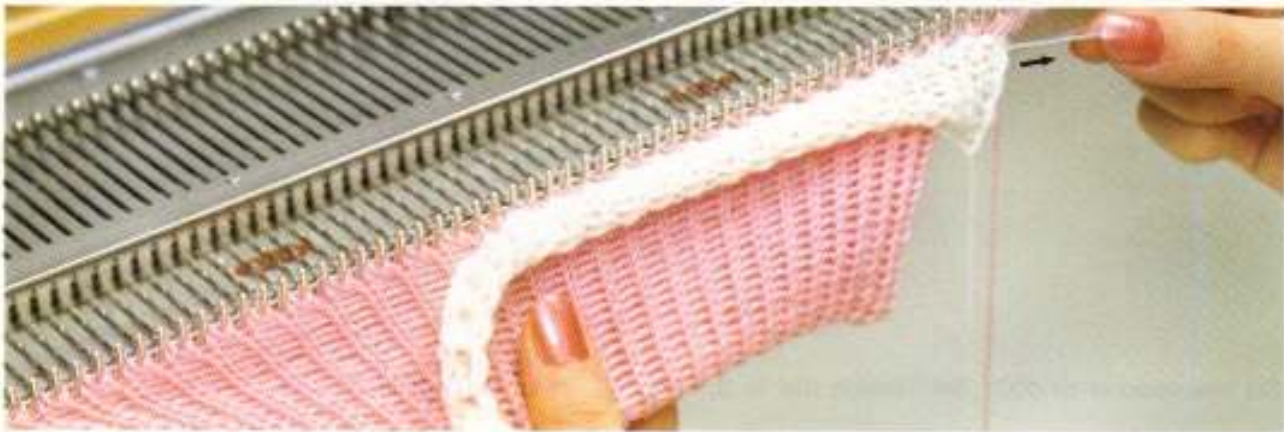
Take the single transfer tool and slide it into the FIRST loop at the RIGHT of the FIRST row knitted in col. 1 above the nylon cord.

Lift the loop into the FIRST EMPTY needle in B position at the RIGHT.





Continue lifting the loops into the empty needles in B position until the welt has been completely turned up. Hang the last loop in needle 30 at LEFT of centre.



Remove the nylon cord from the welt. Attach the cast on comb through the knitting 1 cm below the sinker hooks. Set row counter to 000. Set Tension to 6. Knit 30 rows and cast off all stitches with big loops.



The picture at the LEFT shows a welt as is removed from the machine, the bars shown clearly between the stitches.

Before pressing the welt press the main part of the knitted piece, then remove pins and insert a ruler or a hand knitting needle through the welt and pull it lengthwise. The bars will be absorbed by the stitches. Place welt on ironing board and press carefully. See page 22 for ironing instruction.



## DOUBLE 2-1 WELT

For the double 2-1 welt you will bring back to A position every 3rd needle.

Bring 30 needles from A to B position at RIGHT and LEFT of centre. Hold release lever BACK and push DOWN buttons 1, 2, 4, 5, 7, 8, 10, 11 and set zigzag memory to 2. Carriage settings neutral, set LEFT pattern lever to PATTERN.



The carriage is at RIGHT. Move carriage across the needles TWICE. The 3rd needle from the RIGHT and every following 3rd needle is in B position. With the straight edge of the selector comb bring the needles from B to A position.

Set LEFT side pattern lever to PLAIN. Move carriage across needles TWICE. The needles of D are now in B position. Carriage at RIGHT, all settings neutral. At LEFT of centre needle 29 is the last needle in B position.



Hold release lever BACK and lift up the push buttons, set zigzag memory to 1. Thread waste yarn through all LEFT side feeding points of upper tension unit and in feeder PLAIN. Knit 1 row to the LEFT.

The needles in B position have loops but it is not possible to hang the cast on comb into the loops. You will have to make the open edge cast on as on page 17. Take the nylon cord and place it over the loops, BEHIND the sinker hooks. Pull ends firmly DOWN.

Knit 5 rows, carriage at RIGHT. Pull the nylon cord from the knitting. Knit another 7 rows. Remove waste yarn from feeder.

Thread nylon cord in feeder PLAIN and knit to the RIGHT. Remove nylon cord from feeder. Thread col. 1 through all RIGHT feeding points of the upper tension unit, in feeder PLAIN and fasten end to table clamp. Check that there is no slack yarn anywhere above or below the carriage. Push cast on comb through waste yarn half way up.

Let's assume your yarn is suitable for Tension 6. Set Tension to 4 and the row counter to 000. Knit 40 rows. Carriage at RIGHT. With the straight edge of the selector comb bring the in-between needles from A to B position. Remove cast on comb. Fold the hem half way up.



Place the FIRST loop from the RIGHT of the FIRST row knitted in col. 1 on to the SECOND needle from the RIGHT with a stitch. Place the SECOND loop on to the FIRST EMPTY needle. Continue this way, the FIRST one of the two needles with stitches will not have an additional loop.

At the LEFT, place stitch 29 on needle 30. Place the last loop on to needle 29. This way you will continue knitting with 30 needles each side of centre.

Pull nylon cord from the knitting.  
Set Tension to 6, row counter to 000. Continue knitting.



## DOUBLE 3-1 WELT

For the double 3-1 welt you will bring back to A position every 4th needle. Bring 31 needles to B position at LEFT and RIGHT of centre.

Hold release lever BACK and push DOWN buttons 1, 2, 3, 5, 6, 7, 9, 10 and 11. Leave zigzag memory at 1. Carriage at RIGHT, settings neutral. Set LEFT side pattern lever to PATTERN.



The carriage is at RIGHT. Move carriage across needles twice. The 3rd needle from RIGHT and every following 4th needle is in B position. With straight edge of selector comb bring needles from B position to A position.

Set LEFT side pattern lever to PLAIN. Move carriage across needles twice. The needles of D are now in B position. Carriage at RIGHT, all settings neutral. At RIGHT edge are 2 and at LEFT edge are 3 needles in B position.



Hold release lever BACK and lift up buttons. Thread waste yarn through all LEFT side feeding points of upper tension unit and into feeder PLAIN. Knit 1 row to the LEFT.

The needles in B position have loops but you cannot hang the cast on comb on to the loops. You will have to make the open edge cast on as on page 17. Take the nylon cord and place it over the loops, BEHIND the sinker hooks. Pull ends firmly DOWN.

Knit 5 rows, carriage at RIGHT. Pull nylon cord towards the RIGHT, out of the knitting. Knit 7 more rows. Remove waste yarn from feeder.

Thread nylon cord in feeder PLAIN and knit to the RIGHT. Remove it from feeder.

Thread col. 1 through all RIGHT side feeding points of the upper tension unit and in feeder PLAIN, fasten end to table clamp. Check there is no slack yarn anywhere above and below the carriage. Push cast on comb through waste yarn half way up.

Let's assume your yarn is suitable for Tension 6, set Tension to 4 and row counter to 000. Knit 40 rows. Carriage at RIGHT.

With straight edge of selector comb bring in-between needles from A to B position. Remove cast on comb. Fold the hem half way up.



Place the FIRST loop from the RIGHT of the FIRST row knitted in col. 1 on to the 2nd needle from the RIGHT with a stitch. The 2nd loop on to the 3rd needle with a stitch, and the 3rd loop on to the FIRST EMPTY needle. Continue this way, the FIRST one of the 3 needles with stitches will not have an additional loop.

Pull the nylon cord from the knitting.

Set Tension to 6, row counter to 000. Continue knitting.



## RIBBED BAND



In centre bring 60 needles to B position. Starting with 2nd needle from RIGHT bring every 2nd needle back to A position.

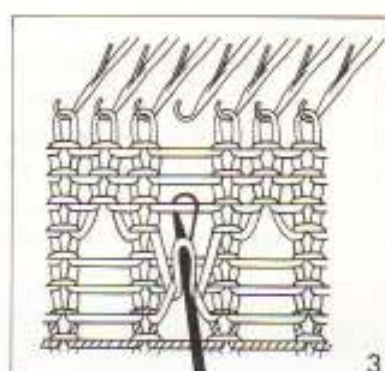
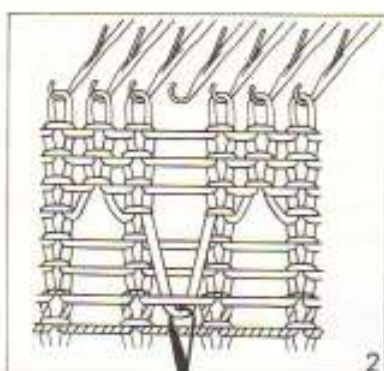
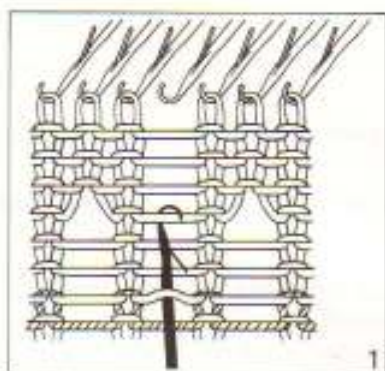
Thread waste yarn and cast on. Hang cast on comb into hooks. Leave the in-between needles in A position. Knit 10 rows.

Remove waste yarn. Knit nylon cord to the RIGHT, remove nylon cord.

Thread col. 1 through all RIGHT side feeding points of upper tension unit, in feeder PLAIN and fasten end to table clamp.

Let's assume your yarn is suitable for Tension 6. Set Tension to 3. Knit 4 rows. Set Tension to 5. Bring the in-between needles to B position. Knit 12 rows.

★ Never purl up the edge stitches. You will knit ribbed band with an uneven number of stitches so when the welt is finished add 1 stitch at the LEFT.



**DIAGRAM 1** Lift the 2nd stitch off its needle and make it run down until the 4 rows. Insert the latch tool UNDER the FIRST bar from the RIGHT in col. 1 above the nylon cord. Stay in front of the next 2 bars and take the 4th bar in the hook. Let the FIRST bar slide BEHIND the latch.

**DIAGRAM 2** Pull the 4th bar DOWN, BEHIND the first one. The latch will close on the upper bar. Move the latch tool towards you and up again.

**DIAGRAM 3** Move UP the latch tool and let the loop slide BEHIND the latch. With the hook catch the FIRST bar of the unraveled stitches. Pull DOWN the latch tool, this will pull the bar through the loop.

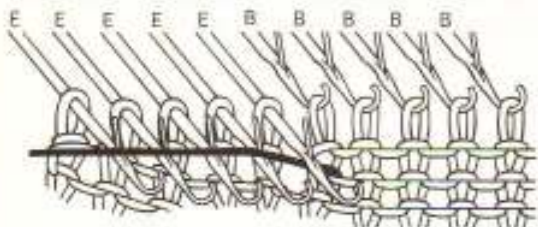
★ Let the loop slide behind the latch, with the hook pull the next bar through this loops.

Repeat ★ until the last bar forms a loop round the latch tool stem BEHIND the latch. Place the hook of the latch tool in the needle hook and pull the needle forward, let the loop slide over the latch and into the needle hook. Pull nylon cord out of knitting. Insert cast on comb through welt. Set Tension to 6 and continue knitting.



## BUST DARTS—PARTIAL KNITTING IN PLAIN STITCH

For knitting bust darts you need to bring to holding position a certain amount of needles at each side before knitting a row. The stitches of the needles in E (holding) position will not be knitted if the front levers are set to I.



Make a closed edge cast on as on Pages 15 and 16. After the cast on row knit another 19 rows. Carriage is at RIGHT and all settings neutral. Row counter at 20.

Set BOTH front levers to I.

★ At LEFT edge bring 5 needles from B to E position. Knit to the LEFT.

The stitches on the needles in E position have not been knitted and the yarn lies on top of them.

Bring the yarn UNDER the INSIDE needle in E position and let it lie on top of the other needles (Diagram).

At RIGHT bring 5 needles to E position. Knit 1 row to the RIGHT.

Take yarn UNDER inside needle.

**NOTE:** Each time you have taken the yarn UNDER the INSIDE needle make sure it lies over the other needles and not round some pins of sinker hooks.

Also, when moving the carriage towards the knitting, pull up the yarn above the carriage lightly. This is to adjust the yarn tension.

When knitting, move the carriage just out of the needles in B position, not past all needles, this would make your yarn tension too loose.



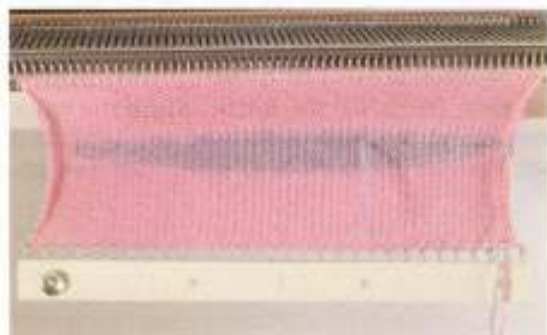
Repeat ★ 3 more times, at each side you will have 20 needles in E (holding) position.

The carriage is at RIGHT, move it further to the RIGHT, past the needles in holding position.

Row counter at 28.

Set BOTH front levers to 0.

Take the yarn from the top of the needles in E position at RIGHT and bring it UNDER the INSIDE needles.



Knit 1 row to the LEFT, all needles are knitted to B position.

Knit 5 more rows. Row counter at 34. There will be a long thread in front of the knitting. Cut the thread in the middle. Cast off all stitches.

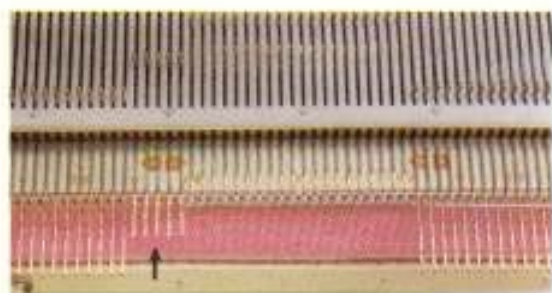
The two loose ends of the dart thread can be sewn in as well as the other yarn ends.



## REVERSED DARTS IN PLAIN STITCH

This method is used for knitting such as the puffed sleeves and side edges of skirt panels above hem. Since the process is reversed from the normal dart we will call it knitting a reversed dart.

Make a closed edge cast on as on pages 15 and 16. After the cast on row knit another 19 rows. Carriage at RIGHT and all settings neutral. Row counter at 20



Set BOTH front levers to I.

From LEFT edge bring 20 needles to E position.

Knit to LEFT, bring yarn UNDER INSIDE needle.

From RIGHT edge bring 20 needles to E position.

Knit to RIGHT, bring yarn UNDER INSIDE needle.

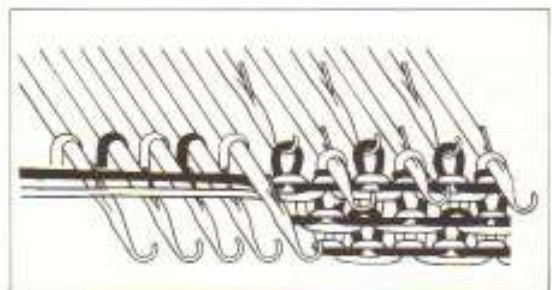
There are 20 needles in the centre in B position.

★ At LEFT, bring 5 INSIDE needles from E to D position. Knit to LEFT. Bring yarn UNDER INSIDE needle.

At RIGHT, bring 5 INSIDE needles from E to D position. Knit to RIGHT. Bring yarn UNDER INSIDE needle.

Repeat ★ until all needles are knitted BACK to B position.

## BUST DARTS—PARTIAL KNITTING IN FAIRISLE PATTERN



Make closed edge cast on, pages 15–16. After cast on row knit 8 rows, carriage at LEFT.

Insert Punch card No. 1, set carriage as page 37, step 1-4. Knit 1 row to RIGHT. Set Fairisle switch to COLOUR. Thread col. 2 in feeder COLOUR. Fasten end to table clamp.

Knit 10 rows fairisle pattern.

Row counter at 20. Set BOTH front levers to I.

★ At LEFT bring 5 needles to E position. Knit to LEFT. Bring BOTH yarns UNDER INSIDE needle. (Diagram)

At RIGHT bring 5 needles to E position. Knit to RIGHT. Bring BOTH yarns UNDER INSIDE needle.

Repeat ★ 3 more times. Row counter at 28. Move carriage to RIGHT, past needles in E position.

Take a single transfer tool and bring needles from E to B or D position following the pattern position of the 20 centre needles. Leave BOTH threads in front of knitting. Now partial knitting is finished. Continue knitting.



## REVERSED DARTS IN FAIRISLE PATTERN



Let's assume the hem is turned up and carriage is at LEFT.

Insert card No. 1, and set carriage for Fairisle. Knit 1 row to RIGHT and set Fairisle switch to COLOUR. Carriage at RIGHT.

Set BOTH front levers to I

At LEFT bring 20 needles to E position. Knit to LEFT. Bring BOTH yarns UNDER INSIDE needle.

At RIGHT bring 20 needles to E position. Knit to RIGHT. Bring BOTH yarns UNDER INSIDE needle. Take single transfer tool.

\* At LEFT bring 5 INSIDE needles to pattern position. Knit to LEFT. Bring BOTH yarns UNDER INSIDE needle.

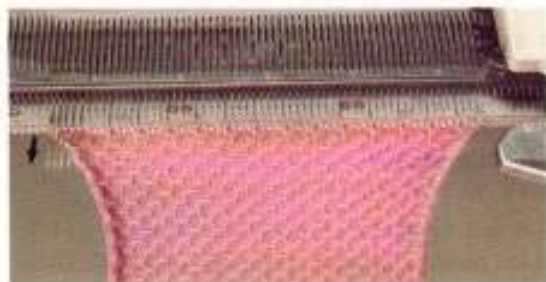
At RIGHT bring 5 INSIDE needles to pattern position. Knit to RIGHT. Bring BOTH threads UNDER INSIDE needle.

Repeat \* 3 more times (top picture). All needles are in pattern position. Continue knitting fairisle pattern. Threads are cut and sewn in later.

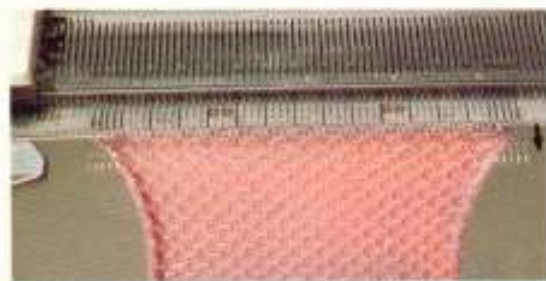
## BUST DARTS -PARTIAL KNITTING IN LEVER-TUCK PATTERN

Make a closed edge cast on as on pages 15 and 16. After the cast on row knit 10 more rows. Carriage at LEFT and all settings neutral, row counter at 11.

Insert card No. 13, set carriage as page 49, step 1-4. Knit 1 row to the RIGHT. The needles have been selected into patterning position. Carriage at RIGHT. Row counter at 12. Set BOTH front levers to II. Knit 32 rows of tuck stitch pattern. Carriage at RIGHT. Row counter at 44 and card at 33.



- \* At LEFT edge bring 5 needles to E position. Knit to LEFT. Bring yarn UNDER INSIDE needle in E position. At RIGHT edge bring 5 needles to E position. Knit to RIGHT. Bring yarn UNDER INSIDE needle in E position.



- At LEFT bring 5 more needles to E position. Knit to LEFT. Bring yarn under inside needle. At RIGHT bring 5 more needles to E position. Set RIGHT side front lever to I. Bring pattern needles from E to D position. Knit to RIGHT. Bring yarn under inside needle.





Set RIGHT side front lever to II.  
Repeat from \* once more.

Take the single transfer tool and bring the dart needles from E to B position so that the stitches come in the needle hooks.

Pull patterning needles to D position, following the setting of the needles in the centre.



Knit another 16 rows of pattern.  
Row counter shows 68, card at 9.

The thread in front of the knitting at RIGHT can be cut and the ends sewn in later.

## REVERSED DARTS IN LEVER TUCK PATTERN



Let's assume the hem is turned up and carriage is at LEFT. Insert Card No. 13 and set carriage for tuck stitch. Knit 2 rows.

Set BOTH front levers to I.

At LEFT edge bring 20 needles to E position.

Knit to LEFT, bring yarn under inside needle.

At RIGHT bring 20 needles to E position.

Knit to RIGHT, bring yarn under inside needle. Take the single transfer tool.

\* At LEFT bring 5 inside needles from E to pattern position.

Knit to LEFT, bring yarn under inside needles.

At RIGHT bring 5 inside needles from E to pattern position.

Set RIGHT front lever to I, bring the pattern needles from E to D position. Knit to RIGHT, bring yarn under inside needle. Set RIGHT front lever to II.

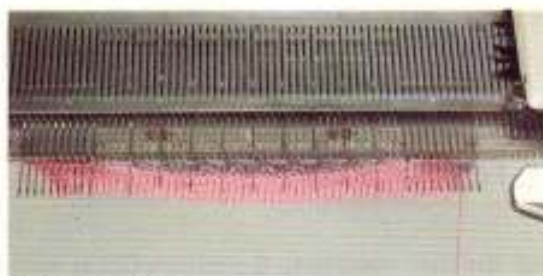
\*\*At LEFT bring 5 more needles to pattern position.

Knit to LEFT, bring yarn under inside needle.

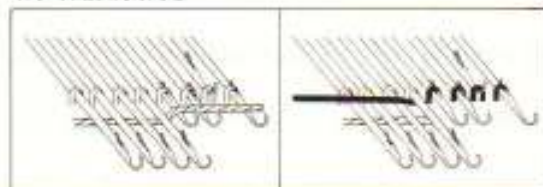
At RIGHT bring 5 more needles to pattern position.

Knit to RIGHT, bring yarn under inside needle.

Repeat \* and \*\* once more. All needles are in Pattern position, continue knitting.



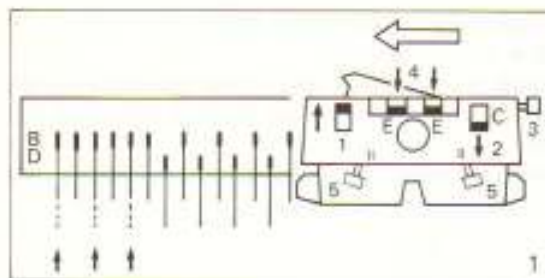
### IN WEAVING



When weaving, bring weaving yarn under the needle in E position. Do not use weaving guide. Col. 1 is as usually under inside needle.



## BUST DARTS—PARTIAL KNITTING IN LACE PATTERN



Make a closed edge cast on as on pages 15–16. After cast on row knit 10 more rows. Carriage at LEFT and all settings neutral, row counter at 11.

Insert card No. 20, set carriage for lace pattern, page 55, and knit 1 row to the RIGHT.

Carriage at RIGHT, row counter at 12.

The needles are selected.

Make carriage settings as per 1, 2, 3, 4 and 5 in diagram.

1 AT LEFT edge bring 5 dart needles to B position. (With the EMPTY buttons pushed IN the needles in B position will not be knitted).

2 Slide the lace carriage in the direction of the arrow printed on the LEFT edge of the punch card and BACK.

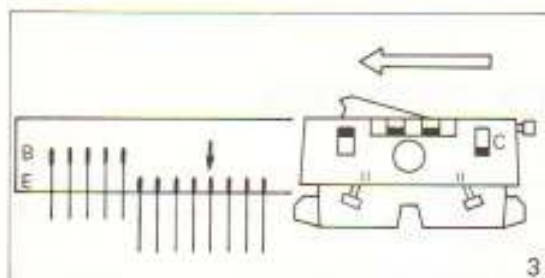
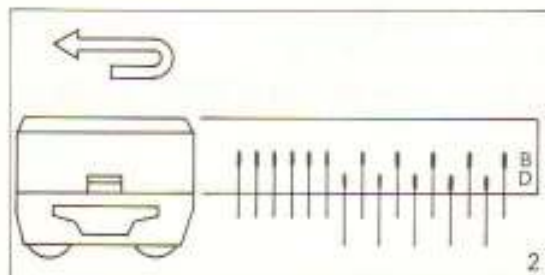
The needles are in B position and the stitches transferred.

3 At LEFT edge leave 5 dart needles in B position and bring to E position all needles that should be knitted. Knit 1 row.

4 Hook the yarn in needle 5 at LEFT, and at RIGHT edge leave 5 dart needles in B position. Bring the other needles to E position.

Knit 1 row.

Repeat 1 to 4, leaving each time 5 more needles in B position at each side.



- ★ When knitting make sure you move the carriage out of the knitting, past the needles in B position too.
- ★ As you continue knitting move up the comb and the weight to eliminate dropping stitches and the knitting from slanting.

## REVERSED DARTS IN LACE PATTERN

When knitting reversed darts, proceed the reversed way, bring all the dart needles to B position (20 at each edge). Bring the knitting needles to E position after having transferred the lace stitches and BEFORE knitting the next row.

Gradually you will bring 5 more needles at the opposite side of carriage to E position to be knitted during the next row.

We suggest that you try a sample before you apply the various instructions in a garment, this will give you more ease and confidence when knitting.

## SHAPING "V" NECK-METHOD I

This method for separating the knitting for a 'V' neck is used when PLAIN side of the knitting is to be used as RIGHT side (OUTSIDE) of the garment.

Make the closed edge cast on as on Page 15–16. After the cast on row knit 19 more rows. Row counter at 20.

You are knitting with 60 needles, carriage at RIGHT and all settings neutral.



Take single transfer tool and transfer the stitch at RIGHT of centre on to needle 2 at RIGHT of centre, transfer the stitch at the LEFT of centre on to needle 2 at the LEFT of centre. This is the 'V' neck opening. The TWO centre needles are empty. Bring both empty needles BACK to A position.



FIRST WE WILL KNIT THE RIGHT SIDE HALF OF THE V-NECK.

With the straight edge of the selector comb bring the 29 needles at LEFT of centre from B to E position, at the same time hold with your left hand the knitting against the machine. The stitches will slide well behind the needle latches.



Set BOTH front levers to I.

Slowly move the carriage to the LEFT, past the needles in B position and over the needles in E position.

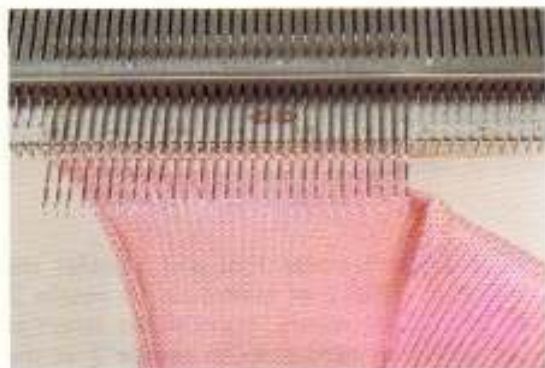
Only the needles at RIGHT of centre will knit. Knit 3 more rows. Carriage at RIGHT, row counter at 24.



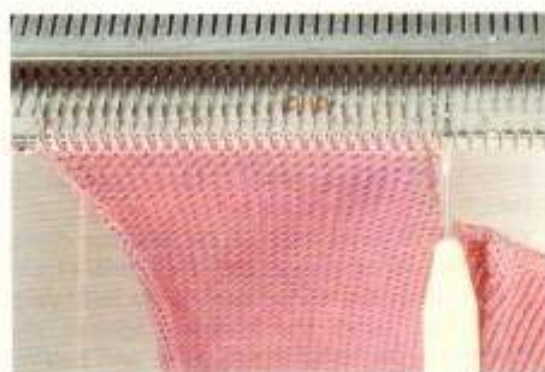
\* At LEFT of needles in B position transfer 1 more stitch on to its adjacent needle to the RIGHT. Bring the empty needle BACK to A position. Knit 4 rows. (3rd picture)

Repeat \*8 more times. At RIGHT of centre are 20 needles in B position and row counter at 60. Cast off the 20 stitches using the method on page 20 or 78. Remove yarn from feeder PLAIN.





We will now knit the LEFT side half of the 'V' neck. Move ALL EMPTY needles well BACK to A position. BOTH front levers remain at 1. Move the carriage to the LEFT, OVER and PAST the needles in E position. Re-thread the yarn and fasten the end to the table clamp. Check yarn tension. Set BOTH front levers to 0. Set row counter at 20. Knit 4 rows.



★ At the RIGHT side edge of the needles in B position transfer a stitch on to its adjacent needle to the LEFT. Push back the empty needle to A position. Knit 4 rows. Repeat ★ 8 more times. There are 20 needles in B position and the row counter is at 60. Cast off the remaining 20 stitches. Press your sample.



This picture shows the simple 'V' neck shaping which you have just knitted. ★ Always note the number of rows shown when you separate the knitting for the 'V' neck so that you can start the second half with the same number.



You can if you like use the triple transfer tool when decreasing the stitches for the 'V' neck, this will give a more fashionable edge. You may have some marks on the purl side of the knitting, this is all right when the purl side remains on the inside of the garment, the next page will show how to separate the knitting in case the purl side is the RIGHT side of the garment.



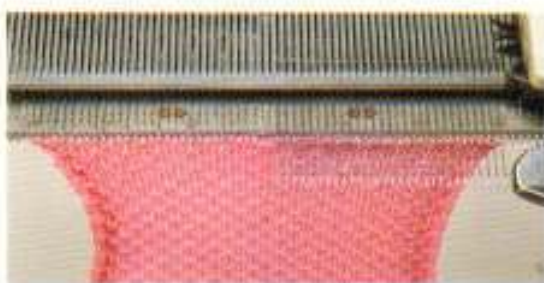
## SHAPING THE "V" NECK-METHOD 2

This method of separating the knitting for shaping the 'V' neck is used when the PURL side of the knitting is to be the RIGHT side (OUTSIDE) of the garment. For instance in purl knitting, tuck stitch, slip stitch and weaving patterns.

Make the cast on as on page 15–16, after the cast on knit 10 rows. Carriage is at LEFT. Row counter at 11.

Take card No. 13 and insert it as on page 49–50. Set carriage for tuck stitch pattern. Knit 1 row, the needles have been selected into patterning position. Row counter at 12 and carriage at RIGHT. Knit 32 rows in tuck stitch pattern. Carriage at RIGHT and row counter at 44, card at 33.

- ★ When at neck edge the edge needle is selected into pattern position, bring it BACK to B position before every row.



Set RIGHT side front lever to II.

Transfer the stitch at RIGHT of centre on to the adjacent needle at the RIGHT. Bring 2nd needle at LEFT of centre to B position and transfer the stitch at LEFT of centre on to this needle.

Push back 2 centre needles to A position. If the edge needle is selected, both at centre and at LEFT, push back to B position. Make a note of row number of punch card, direction of card feed tripper and needle selection.

WE WILL KNIT RIGHT SIDE HALF OF 'V' NECK FIRST.

Bring all needles at RIGHT of centre to E position. Set pattern levers to PLAIN.

Set card feed lever to □.

Remove yarn from feeder PLAIN.

Remove carriage from RIGHT side of knitting and place it on the needle bed at the LEFT of the knitting. Thread waste yarn in feeder PLAIN.

Knit 10 rows. Remove waste yarn.

Move carriage across knitting to the RIGHT.

The stitches in waste yarn are removed.

Bring the empty needles to A position.

Open the latches of the needles in E position. Using transfer tool, bring the needles back to B position. Bring to D position the 3rd needle at RIGHT of centre and every following 4th needles. Attach a weight to LEFT side edge.

Re-thread col. 1 in feeder PLAIN.

Set BOTH pattern levers to PATTERN.

Set card feed lever to C, row counter to 44.

- ★ Knit 4 rows.

At neck edge transfer 1 stitch on to its adjacent needle to the RIGHT.

Repeat ★ 7 more times, you will have now transferred a stitch on to needle 10 at RIGHT of centre.

Knit 4 more rows. Bring the needles in D position BACK to B position and remove weight. Cast off the 21 stitches (Page 20 or 78). Row counter at 80, card at 21.



The knitting has now been completely removed from the machine but you still need to finish the LEFT half of the 'V' neck. For this you must replace the stitches that have been knitted off with waste yarn, onto the needles at the LEFT of centre.

At RIGHT of centre bring the empty needles BACK to A position.

Fold the waste knitting and start picking up the loops of the last row knitted in col. 1 with the RIGHT edge of the LEFT half. Remember, there were TWO loops on needle 2 when you knitted the waste yarn. Take the single transfer tool and insert it at the RIGHT edge of the LEFT half in the two loops of the last row knitted in col. 1. Place the loops on needle 2.



Place the following loops on the needles towards the LEFT.

When all loops of the row have been placed on to the needles the waste yarn will be behind the knitting.



Pull the end of the last row knitted in waste yarn and unravel these rows.

Attach weight to bottom of RIGHT edge.

At the RIGHT bring the 6th and every following 4th needle from B to D position.

Thread col. 1 in feeder PLAIN.

Hold release lever BACK, set card to 33.

Set RIGHT side front lever to II.

Set row counter at 44.



★ Knit 4 rows of pattern.

At neck edge transfer 1 stitch on to its adjacent needle at the LEFT.

Repeat ★ 7 more times. You will have transferred a stitch on to needle 10 at LEFT of centre.

Knit 4 more rows. Cast off the 21 stitches.

Row counter at 80, card at 21.



This is how the 'V' neck piece should look if you knitted it according to the above instructions.

★ When separating the knitting, make a note of settings of machine, carriage, card and row counter so that you can start the other half with the same settings.

## "V" NECK WITH RAGLAN SHAPING



This picture shows the 'V' neck knitted with two different edges.

The edge at the LEFT has been shaped by using the triple transfer tool.

The edge at the RIGHT has been shaped by using the double transfer tool.

It will be left to you to choose the method you think most suitable and best looking for the garment you will knit.

However, these edges are only recommended when doing plain knitting otherwise your stitch pattern will be disturbed.

## OPENING FOR ZIP FASTENER

Make cast on as for the 'V' neck on page 95 and knit same way until separating the knitting in the center. Either bring needles of LEFT half to E position if the PLAIN side of the knitting is supposed to remain the RIGHT side (OUTSIDE) of the garment, or remove the stitches off the needles by knitting 10 rows using waste yarn.



After having separated the knitting knit the RIGHT side half straight up for the required number of rows for the fastener length and cast off the stitches.

Finish LEFT half as for RIGHT.

The picture at the LEFT shows the piece with the center opening for the zip fastener.



This picture shows the opening for the zip fastener completely finished. Work one row of double crochet along the edge or, one row of double crochet and one row of crab stitch.

Pin zip fastener into position and back-stitch along the edges.



## SHAPING ROUND NECK-METHOD 1

Again we will knit method 1 for separating the knitting, this method is used when the PLAIN side of the fabric will be used as RIGHT side (OUTSIDE) of the garment.

Make a closed edge cast on as on pages 15-16, after the cast on row knit 19 rows. Carriage at RIGHT, all settings neutral and row counter at 20.

As for the neck edge, we will not cast off the stitches, but shape the neckline with using methods of partial knitting and decreasing. This gives an elastic neck edge. You can of course cast off the stitches instead.

You are knitting with 60 needles, let's assume that for the neck edge you must hold or decrease 34 stitches, 17 at each side of centre, in the following way, 5-3-2-1-1-1-1-0-1-0-1-0-1.

- 0- Means that when the carriage is at RIGHT you will not bring a needle to E position, but just knit 2 rows.
- 0-1- Means before knitting to the LEFT, decrease one stitch at the neck edge by transferring it on to the adjacent needle in knitting position. If you would bring this needle to E position it would pull the neck edge because of the 2 rows knitted in-between.

**NOTE:** ALWAYS when at the upper neck edge you knit more than 2 rows before bringing the next needle to E position, DECREASE the stitch instead of holding needles in E position.



Bring at LEFT of centre ALL and at RIGHT of centre 5 needles from B to E position.

We will knit the RIGHT half of the round neck first. Needles 6 to 30 at RIGHT remain in B position. Check yarn tension.

Set BOTH front levers to I.

Knit 1 row to the LEFT, past the needle in B position and stay on top of the needles in E position.



The yarn is on top of the needles in E position.

Take up the yarn and pass it under the INSIDE needle in E position.

By inside needle we mean the needle in E position NEXT to the needles in B position.

Let the yarn lie on top of the other needles in E position.



Knit to the RIGHT.

The yarn is wound round needle 5 in E position. Next to this needle bring 3 more needles to E position.

Knit to the LEFT.

Bring the yarn under the INSIDE needle and knit back to the RIGHT.

Attach a weight through the knitting at the RIGHT of the needles in E position.





At RIGHT of needles in E position bring 2 more needles forward. Knit to the LEFT. Bring yarn under inside needle and knit to the RIGHT.

★ Bring 1 needle to E position, knit to LEFT, bring yarn under needle, knit to RIGHT.

Repeat ★ 3 more times.

Carriage at RIGHT.

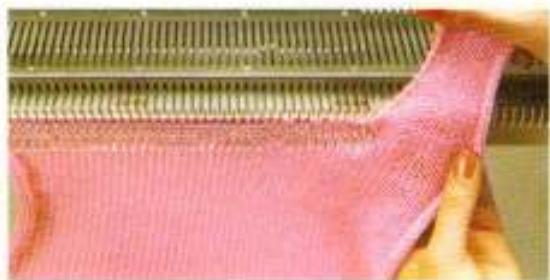


-0- This time you will not bring a needle to E position.

Knit 2 rows. Attach weight through knitting under LEFT edge of the needles in B position.

-0-1- Instead of bringing the needle to E position transfer the stitch of needle 15 on to needle 16 at RIGHT of centre. Bring empty needle to A position. Knit 2 rows.

Repeat the same procedure twice, transfer each time the edge stitch at LEFT of the needles in B position to the adjacent needle at the RIGHT.



The carriage is at RIGHT.

The row counter at 46 and the needle position as follows, at LEFT of centre ALL, at RIGHT of centre 14 needles in E position, then 3 empty needles in A position and 13 needles in B position.

Knit 10 more rows straight up and cast off the 13 stitches. Row counter at 56. Remove yarn from feeder, slide carriage across the needles in E position to the LEFT of the knitting.

Re-thread yarn. Bring needles 6 to 30 at LEFT of centre to D position. Set row counter to 20. At RIGHT of needles in D position are 19 needles in E position. Check that both front levers are set to I.

Knit second half of round neck reversing the instructions, reading LEFT for RIGHT.

Bring towards LEFT 3, 2, 1, 1, 1, 1 needles to E position and then transfer the stitches on to the adjacent needle towards the LEFT, always knitting the rows in-between of course.



Set both front levers to 0. With waste yarn knit 10 rows over the needles in E position, and remove the knitting from the machine

This picture shows the round neck edge knitted according to the above instructions.

The rows knitted using waste yarn will be unravelled later when you have put the neck edge stitches on to the needles for knitting the neckband.



## SHAPING ROUND NECK-METHOD 2-PARTIAL KNITTING

This method to shape a round neck is used when the PURL side of the knitting is to be the RIGHT side (OUTSIDE) of the garment, and when knitting stitch patterns.

Again we bring the needles to E (holding) position instead of casting off the stitches. This will give the elastic neck edge, you can of course cast off the stitches if you prefer.

★ When at neck edge if an end needle has been selected into patterning position bring it back to B position before every row.

Make the closed edge cast on as on Pages 15–16, after the cast on knit 10 rows, carriage at LEFT, row counter at 11.

Take card No. 13 and insert it. Set carriage for tuck stitch pattern as on page 49. Knit 1 row to the RIGHT. The needles have been selected into patterning position. Carriage at RIGHT, row counter at 12.

Knit 36 rows of tuck stitch pattern, carriage at RIGHT, row counter at 48 and card at 37.

We are knitting with 60 needles, let's assume that for the neck edge you must hold or decrease 34 stitches, 17 at each side of centre, in the following way, 5–3–2–1–1–1–1–0–1–0–1–0–1.

–0– Means that when the carriage is at RIGHT, you will NOT bring the needle to E position, just knit 2 rows.

–0–1– Means before knitting to the LEFT, decrease 1 stitch by transferring it on to the adjacent needle in knitting position. If you would bring this needle to E position it would pull the neck edge because of the 2 rows knitted in-between.

NOTE: ALWAYS when at the upper neck edge you knit more than 2 rows before bringing a needle to E position, you must decrease the stitch instead of holding the needles.



Again we will knit the RIGHT side half of the round neck FIRST.

At RIGHT of centre bring ALL, at LEFT of centre 5 needles to E position.

From needle 6 at LEFT of centre towards the LEFT bring all the needles to B position. Remove yarn from feeder.

Row counter at 48, card at 37.

Set BOTH pattern levers to PLAIN.

Set card feed lever to □ ,  
and RIGHT side front lever to II.



Thread waste yarn in feeder PLAIN and bring the thread at the LEFT of the needles in E position.

Knit 9 rows with waste yarn, and remove it from feeder. Slide carriage to the RIGHT, past the needles in E position, and the waste knitting will be removed.

Bring the empty needles to A position.

Set row counter to 48.

There are now 35 needles in E position.





Re-thread col. 1 in feeder PLAIN.  
Set both pattern levers to PATTERN.  
Set card feed lever to C.

Take a transfer tool. Hook it in first needle at RIGHT, push needle BACK to A position and pull it towards the front until the stitch is in the needle hook. Repeat with needles until needle 5 at RIGHT of centre. 5 needles at RIGHT and LEFT of centre remain in E position.



Starting with needle 2 at RIGHT bring every following 4th needle to E position, the other needles are in B position.

Attach weight through knitting at RIGHT of needles in E position.

Knit 1 row to the LEFT. Bring yarn under inside needle. Knit 1 row to the RIGHT.

At neck edge bring 3 needles to E position. Knit to the LEFT. Bring yarn under inside needle.



With straight edge of selector comb bring pattern needles from E to D position.

Set RIGHT front lever to I.

Knit 1 row to RIGHT. Set Right front lever to II.

With RIGHT side front lever set to I, the needles in D position will be knitted back to B position.

At neck edge bring 2 more needles to E position. Knit to LEFT. Bring yarn under inside needle. Knit to RIGHT.

Row counter at 54, card at 43.

**REMEMBER:** WHEN THE SQUARE MARK  $\square$  OF PUNCH CARD APPEARS, instead of setting right side front lever to 0, set it to I and bring pattern needles from E to D position.

At neck edge bring 1 needle to E position. Knit to the LEFT. Bring yarn under inside needle. Knit to the RIGHT. Repeat 3 more times. Row counter at 62, card at 3.



Attach weight at RIGHT of needles in E position.

—0— Knit 2 rows.

—0—1— At neck edge decrease 1 stitch to the RIGHT. Knit 2 rows.

Repeat 2 more times —0— and —0—1—.

Row counter at 74, card at 15. Knit 12 rows.

Row counter at 86, card at 27.

Bring pattern needles from E to B position and cast off the 13 stitches. Bring empty needles to A position. The picture shows the finished RIGHT half of the round neck.



There are 19 needles in E position and the carriage is at RIGHT.

Fold LEFT half of round neck so that the last row knitted in col. 1 is on top.

Take the single transfer tool into the FIRST loop at the RIGHT of the last row knitted in col. 1 and place it in needle 6 at LEFT of centre. Place all following loops in their needles.

Pull the end of waste yarn and unravel it. Bring all needles well in B position. Bring needle 8 and every following 4th needle at LEFT of centre to E position.

Set row counter to 48 and card to 37. Set BOTH front levers to II.



Re-thread col. 1 and fasten end to table clamp. Bring up yarn between 4th and 5th needles at LEFT of centre and let it lie on top of these needles.

Knit to the LEFT, while moving the carriage towards the knitting, pull up the yarn slightly so that there is no slack yarn between the knitting and the carriage.

At neck edge bring 3 needles to E position. Knit to RIGHT. Bring yarn under inside needle. Check yarn tension.

Knit to the LEFT. At neck edge bring 2 needles in E position.

Set RIGHT front lever to I, bring pattern needles from E to D position.

Knit to the RIGHT, Set RIGHT front lever to II, bring yarn under inside needle.

Knit to LEFT. Row counter at 53, card at 42.

★ At neck edge bring 1 needle to E position. With transfer tool bring needle 12 at LEFT of centre to B position. Knit to RIGHT. Bring yarn under inside needle. Knit to LEFT.

★★ At neck edge bring 1 needle to E position. Set RIGHT front lever to I, bring pattern needles to D position. Knit to RIGHT. Set RIGHT front lever to II. Bring yarn under inside needle. Knit to LEFT.

Repeat ★, if two edge needles are selected, push back to B position.

Repeat \*\*, pushing back selected two edge needles to B position.

Before knitting the next 2 rows bring each time needle 16 to B position.

—0— Knit 2 rows.

—0—1— At neck edge decrease 1 stitch towards the LEFT. Bring empty needle to A position. Set RIGHT front lever to I, bring pattern needles to D position. Knit 1 row. Bring RIGHT front lever to II. Knit 1 row.

Repeat —0— and —0—1—, decrease stitch 16.

Repeat —0— and —0—1—, decrease stitch 17. Row counter at 73, card at 14.



Knit 13 rows, when an end needle on both edges is selected bring it back to B position.

Cast off the 13 stitches.

Row counter 86, card at 27.

Thread waste yarn. Set pattern levers to PLAIN, and LEFT front lever to 0.

Knit 10 rows using waste yarn. Remove waste yarn, slide carriage across knitting and the neckline will come off the needles.

This picture shows the round neck knitted to the above instructions.

## POCKET WITH FLAP

This method for knitting a pocket with flap can be used for plain knitting as well as when knitting stitch patterns.

Make the closed edge cast on as on pages 15–16. After cast on row knit 49 rows. Carriage at RIGHT all settings neutral. Row counter at 50.

Remove col. 1 and put round holder. Thread waste yarn and fasten end.



At LEFT and RIGHT edge bring 20 needles to E position. Set BOTH front levers to 1. Bring up waste yarn between 11th and 12th needles at RIGHT of centre.

Let the yarn lie over the needles in E position.



Knit 2 rows with waste yarn. Break the yarn and remove it.

Re-thread col. 1 in feeder PLAIN.

Carriage at RIGHT.

Set row counter at 50 and BOTH front levers to 0. Knit 19 rows.

Carriage at LEFT. Row counter at 69.

The opening for the pocket can clearly be seen. Knit 1 row with large Tension and cast off the stitches.

Remove cast on comb and press sample.

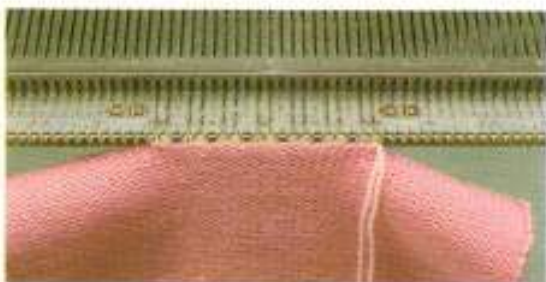


Bring 20 needles in centre to B position.

WRONG side (in this case purl side) facing, hold pocket opening in front of 20 needles.

Insert the single transfer tool into the FIRST loop at the RIGHT of the LAST row knitted in col. 1 BELOW the waste yarn.

Place this loop in needle 10 at RIGHT.

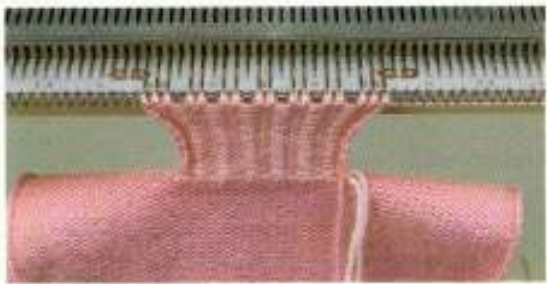


Working towards the LEFT, place the following loops into the needles towards the LEFT.

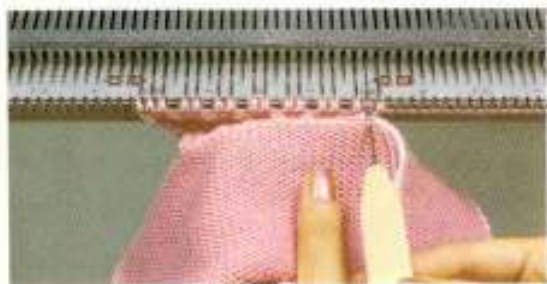
You will now make the needle setting for the pocket flap. Starting with the 3rd stitch from the RIGHT, transfer every 3rd stitch on to its adjacent needle to the LEFT. (2–1 needle setting)

Push back empty needles to A position.





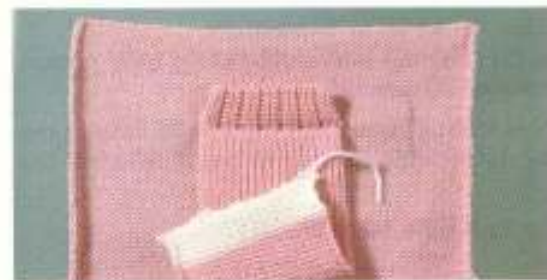
Re-thread col. 1.  
 Set row counter to 000, all settings neutral.  
 Set Tension 1 number TIGHTER than for main.  
 Knit 1 row. Bring outside empty needle to E position on both sides and wind yarn round them.  
 Knit 15 rows.  
 Carriage at RIGHT, row counter at 16.



You will now turn up the pocket flap.  
 Fold up the knitting so that the rows knitted below the waste yarn are on top.  
 Insert the single transfer tool into the FIRST loop at the RIGHT of the SECOND row below the waste yarn.  
 Place this loop into the 2nd needle from the RIGHT.  
 Place all following loops on to their needles.  
 The edge needles will have one loop only.



Set Tension as for main.  
 Knit 50 rows.  
 Remove col. 1 and thread waste yarn.  
 Knit 10 rows, remove knitting.



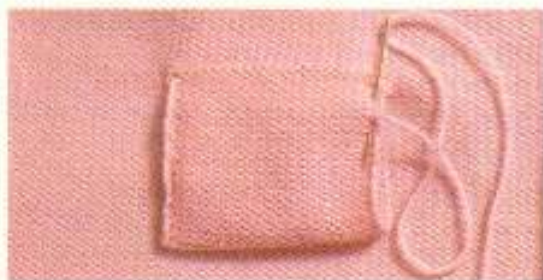
Place pocket flap on to ironing board and press.  
 Pin out pocket part and press.  
 The picture at LEFT shows the pocket ready for sewing up.



At LEFT cut open the two rows knitted in waste yarn and pull out the thread nearest to pocket flap.  
 Turn pocket flap to outside of garment (sample).  
 Fold pocket half way up so that the rows knitted in waste yarn lay close to the row of waste yarn at top edge of pocket.



Thread tapestry needle with the yarn. Graft stitches of last row of col. 1 before the 10 rows knitted in waste yarn and the stitches of col. 1 at top opening of the pocket, as you sew unravel the stitches of the row in waste yarn.



Turn sample to purl (wrong) side.  
Unravel the 10 rows knitted in waste yarn.  
Backstitch both side edges of pocket, at the same time secure the two edge stitches.



Turn sample to plain (right) side.  
Mattress stitch the outside edge of the pocket flap to the main knitting, at top edge turn out pocket and catch down the inside edge of the flap.  
Repeat at the other side.  
Give final light pressing.



This picture shows the pocket with the ribbed flap. Surely you are surprised how easy it has been to knit.



You can if you like knit the flap in plain, without ribs, so do not transfer the rib stitches after having picked up the loops.

The length of the pocket depends upon you, it should not reach the hem or welt.

The more needles you use for the pocket, the wider it will be.



## SHOULDER SHAPING-3 METHODS

There are 3 different ways for shaping shoulders. We will give the instructions for plain knitting. For shaping shoulders when knitting stitch patterns, refer to **BUST DARTS – PARTIAL KNITTING**, pages 91 to 94.

\* Make the closed edge cast on as on pages 15–16. After cast on row knit another 29 rows. Carriage at **RIGHT**. Row counter at 30. All settings neutral.



**METHOD 1, recommendable for beginners.**

\*\* Knit to **LEFT**.  
At **LEFT** edge cast off 5 stitches. Knit to **RIGHT**.  
At **RIGHT** edge cast off 5 stitches.  
Repeat \*\* 3 more times.  
Knit 1 row large Tension and cast off the remaining 20 stitches.



**METHOD 2, using cast off of big loops.**

Repeat \*. Set **BOTH** front levers to **I**.  
\*\*\* At **LEFT** edge bring 5 needles to **E** position. Knit to **LEFT**, bring yarn under inside needle.  
At **RIGHT** edge bring 5 needles to **E** position. Knit to **RIGHT**, bring yarn under inside needle.  
Repeat \*\*\* 3 more times. Set large Tension.  
Knit 1 row to the **LEFT**, past needles.  
Cast off 20 centre stitches. Push back empty needles to **A** position. Bring 20 needles at **LEFT** from **E** to **D** position. Re-thread col. 1 and knit 1 row to the **RIGHT**, past the needles.  
Cast off 20 stitches at **LEFT**.  
At **RIGHT** bring needles to **D** position.  
Re-thread col. 1 and knit 1 row.  
Cast off last 20 stitches.



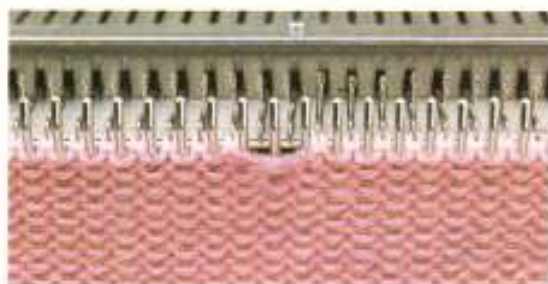
**METHOD 3, finishing with waste yarn.**

Repeat \*.  
Knit \*\*\* 4 times.  
Break col. 1 and remove it.  
Thread waste yarn and knit 10 rows over 20 centre needles. Remove waste yarn, move carriage across knitting to **LEFT**. The centre stitches are removed from the needles. Bring empty needle to **A** position. Re-thread waste yarn, bring **LEFT** side 20 needles to **D** position, knit 10 rows and remove waste yarn. Slide carriage to **RIGHT**, past needles in **E** position.

Bring the empty needles to **A** position. Re-thread waste yarn. Bring **RIGHT** side needles to **D** position, knit 10 rows and remove waste yarn, slide carriage across knitting.

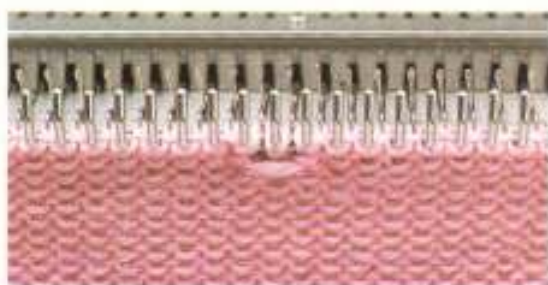
While making a garment both shoulders and the neck edge are finished with waste yarn, but you can finish the neck edge using waste yarn if you finish the shoulder stitches with casting off.

## SMALL BUTTONHOLE



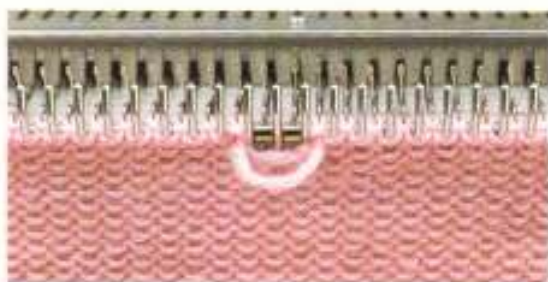
The smallest buttonhole is made by simply transferring 1 stitch on to its adjacent needle.

The next larger one is by transferring TWO stitches on to their adjacent needles at each RIGHT and LEFT. Leave the empty needles in B position.



Knit 4 row.

The yarn will have formed loose loops in the needle hooks.



Remove the yarn from the needles by bringing them to E position and then back to B position.

The yarn is in front of the sinker hooks.



Take up the yarn and wind it round the needle hooks, for this you need to bring the needles slightly forward. Pull the needles back to B position.



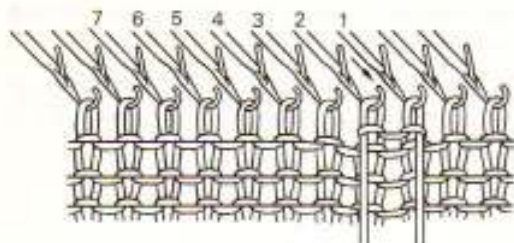
Place the nylon cord across the two new loops and the adjacent stitches, the nylon cord will be behind the sinker hooks.

Pull the ends of the nylon cord down and knit 2 rows, remove the nylon cord from the knitting.

Repeat the buttonhole several times.



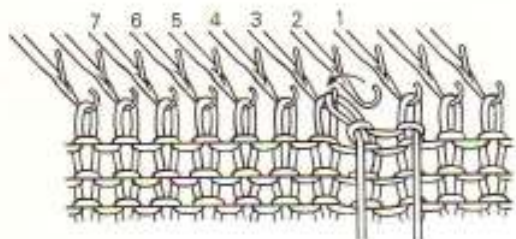
## LARGE BUTTONHOLE



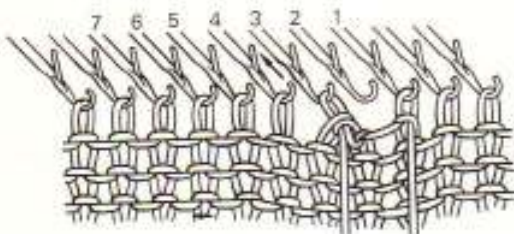
Take a thread of col. 1 approx. 30 cm long.  
You will try this buttonhole over 7 needles, the buttonhole needles are numbered from 1 to 7.

Move needle 1 to E position, open latch.  
Place thread across hook and pull the needle back to B position.

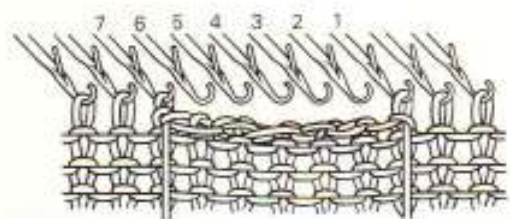
You have knitted in the thread by hand.  
Repeat same with needle 2, diagram 1.



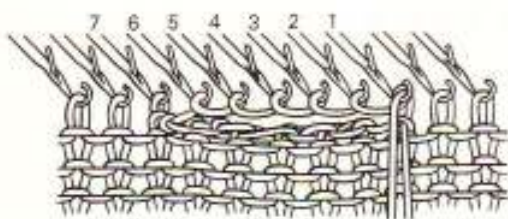
Place stitch of needle 2 on to needle 3.



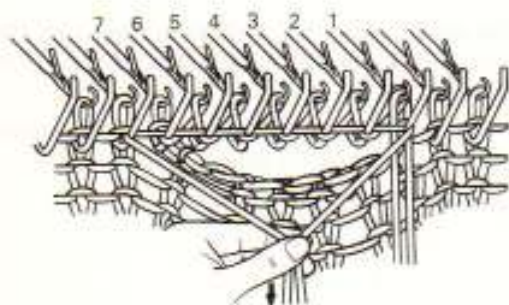
Move needle 3 to E position, place thread in hook and pull needle back to B position. A new stitch is made in needle 3.



Cast off this way until you have 5 empty needles and a new stitch in needle 7.



Move needle 6 forward, out of the sinker hook.  
Wind yarn round needle in anti-clockwise direction. Pull needle back to B position. Repeat with the other needles until you have wound a loop round needle 1.  
All needles in B position have a loop.



Take nylon cord and place it, across the loops of the 7 stitches behind the sinker hooks.

Pull down ends of nylon cord and knit 2 rows.

Remove nylon cord from knitting.

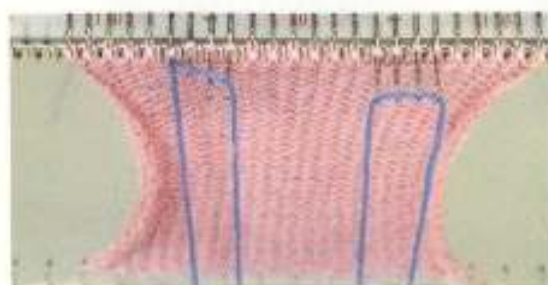
When the garment is finished you can sew in the loose ends.

You can determine the width of the buttonhole by using more or less needles.

## BUTTONHOLE BAND

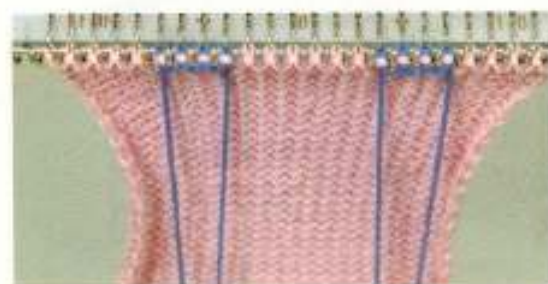


When knitting double buttonhole band set Tension 2 points or 1 number tighter than for main knitting. Cast on closed edge 24 stitches and knit 19 rows. Bring needle 4, 5, 6 and 7 at each RIGHT and LEFT of centre from B to E position.



Take 2 threads of waste yarn and place them across the open hooks of the needles in E position.

Hold the ends down whilst at the same time push the needles back until the latches close over the waste yarn.



Let loose the waste yarn.

Starting with the needle at RIGHT, bring the needles with the waste yarn one by one back to B position.

The picture shows both groups knitted back to B position by hand using waste yarn.



Knit another 20 rows and repeat the buttonholes. Knit 20 more rows and cast off the stitches.

Press the sample.

After pressing the stitches will keep the shape.

Pull out the waste yarn from the two bottom buttonholes.



Thread a tapestry needle and secure end by sewing through some stitches on the purl side.

Fold band in half lengthwise, plain side out.





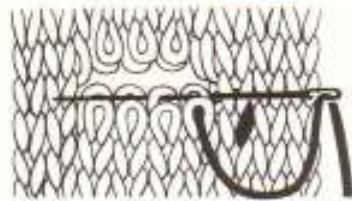
1



5



9



2



6



10



3



7



11



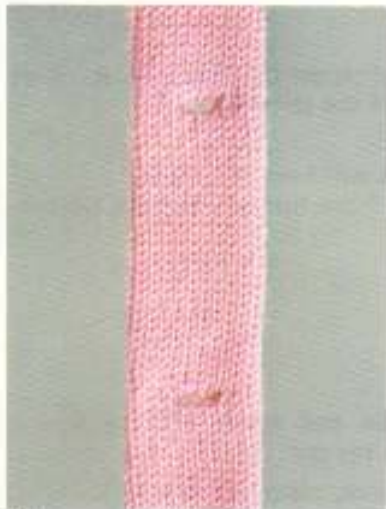
4



8



12



13



14



15

Sew up the buttonholes as indicated by diagrams 1 to 12.

13 - Shows the finished buttonholes.

14 - Shows the buttonhole bands mattress stitches along the front edge.

15 - Catch down the other edge of the buttonhole band on to the seam as shown by the navy stitches.



Dear knitter,

Sometimes, with or without reasons mistakes and problems just happen. Please do not worry, read the following pages carefully and remedy as explained, most troubles are easily solved.

Never use force, take your time and be patient. Take care of your machine, clean and oil properly after and before knitting and cover your machine while not in use.

### 1 PREPARATION OF YARNS

Always prepare your yarns with great care. Do not leave knots in the yarn, they can cause the carriage to jam, dropped stitches and faulty knitting.

Do not knit the yarn end if it is not **THREE** times longer than the width of the knitting, you could drop stitches at the end of the row.

Always knit a sample and a tension swatch **BEFORE** you start knitting a garment, or your garments will not fit and this of course is wasting your time and money.

### 2 WASTE YARN

As waste yarn you can use any leftovers from previous garments, up to 4 ply yarn. You should try to use waste yarn of the same thickness as the yarn you wish to knit for the garment when knitting your tension swatch otherwise the tension swatch measurements will not be correct.

Later, when making up the garment you will gradually remove the waste yarn, re-wind it and use it again.

### 3 CAST ON

Knit the cast on rows with the same Tension as you will knit with col. 1.

When having turned up a hem or welt and knitted several rows, re-insert the cast on comb through the knitting. It will hold down the knitting evenly.

When you have knitted approx. 20 to 25 cm above the cast on comb, remove it and re-insert it through the fabric approx. 5 cm below the sinker hooks.

For knitting samples and tension swatches you can use the short case-on comb.

### 4 NYLON CORD

Avoid having knots in your nylon cord otherwise you will not be able to pull it out of the knitting. When you have turned up the hem or welt remove the nylon cord from the knitting.

When placing the nylon cord across the loops **BEHIND** the sinker hooks you **MUST** pull **DOWN BOTH** ends **FIRMLY**, otherwise the nylon cord will get caught in the needle hooks and you must start the cast on all over again.



## **5 EDGE STITCHES NOT KNITTED**

Check the setting of upper tension unit, the tension might be too TIGHT and thus pull the yarn up from the carriage too strongly. This will cause the edge stitches to be pulled forward and out of the needle hooks.

## **6 EDGE NEEDLES SELECTED**

When knitting lace patterns you MUST bring the TWO selected edge needles BACK to B position BEFORE sliding the lace carriage across the knitting.

If you leave the edge needle in D position it will drop the stitch. If you leave the 2nd needle in D position you will later have a hole in the knitting where you will need to sew the seam.

More instructions for moving needles are included in the instructions of each stitch pattern.

## **7 CARRIAGE MOVEMENT**

ALWAYS slide the carriage past the knitting for approx. 5 cm and NEVER try to reverse its movement while it still has contact with the needles in knitting position.

## **8 SLACK YARN**

ALWAYS make sure there is no slack yarn anywhere BELOW or ABOVE the carriage. If you have slack yarn below the carriage, it can get caught in the fabric presser brushes and thus causing the carriage to jam or break the yarn, and this again will cause dropped stitches.

Slack yarn above the carriage can cause loose loops at the edges of the knitting and dropped stitches. The yarn can be entangled in the upper tension unit and so cause the carriage to jam or knitting of small stitches.

## **9 DAMAGED NEEDLE**

You may, for no obvious reasons, drop stitches. Please check the needle latch, it may be bent. Don't try to bend the needle latch into its correct position, rather change the needle, which you should do as soon as you notice the faults in the knitting.

## **10 OILING THE MACHINE**

Do not oil the carriage too generously, the oil will drop on to the needle bed and from there inside the machine on to the needle stems which will, of course, result in oil stains in your knitting.

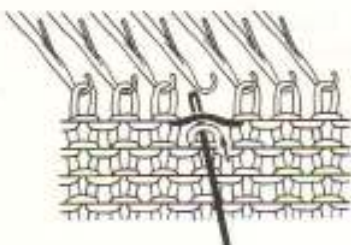
Drop some oil on a small CLOTH and rub it on to the parts under the carriage.

Never oil the needle bed.

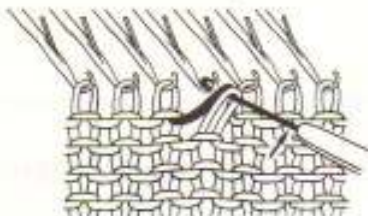
## **11 EXTENSION RAILS**

They are not only useful when knitting lace patterns but also when knitting over the full width of the 200 needles, in this case the carriage can rest nicely on the rails while you can be busy with the knitting.

## REPAIRING A DROPPED STITCH—1 ROW

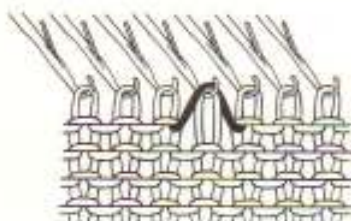


Take a single transfer tool and insert it into the dropped stitch.

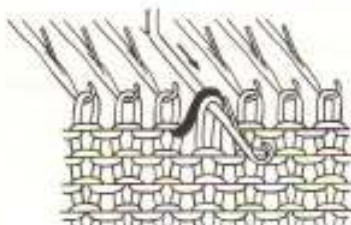


Lift the dropped stitch and the loose bar into the empty needle.

- ★ If the needle was selected to D position you will have to move it to B position before placing the loop and the loose bar into it.



Move the needle forward to E position, the stitch and the bar will slide BEHIND the needle latch.



Take the transfer tool and lift up the loose bar whilst at the same time you slide the needle back to D position.

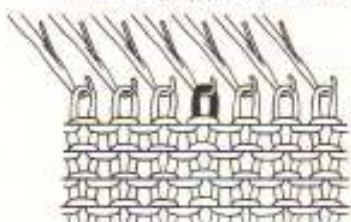


Let the loose bar drop into the needle hook and pull the needle back to B position.



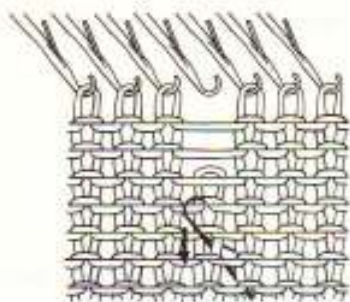
The bar is pulled through the previous stitch and the dropped stitch is repaired.

If required bring needle to the correct pattern position.

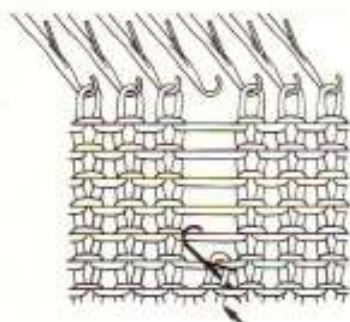




## REPAIRING A DROPPED STITCH—SEVERAL ROWS

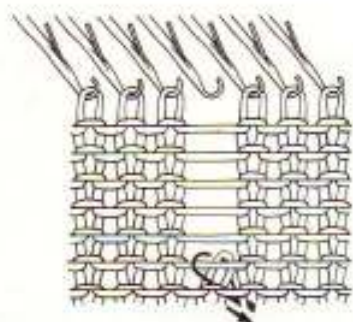


Take the latch tool and insert it from **BEHIND** into the knitting, 1 or 2 rows **BELOW** the dropped stitch.



Push **DOWN** the latch tool so that the stitches unravel until the latch tool.

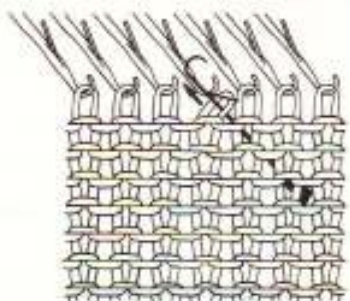
★ Move latch tool towards you and let the stitch slide **BEHIND** the latch.



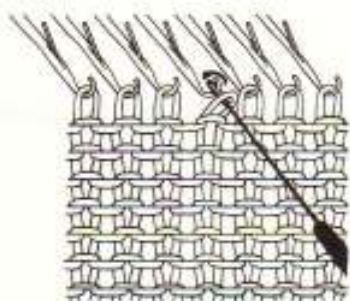
Catch the next loose bar in the latch tool hook.

Pull back the latch tool, the latch will close over the bar.

Pull latch tool further back and the bar is pulled through the stitch, a new stitch is in the latch tool hook.



Repeat from ★ until you have the top stitch in the latch tool hook.

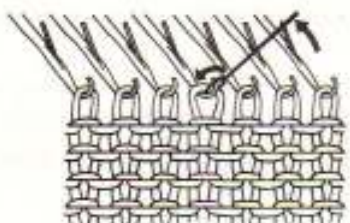
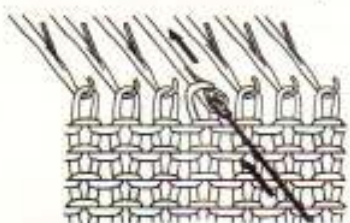
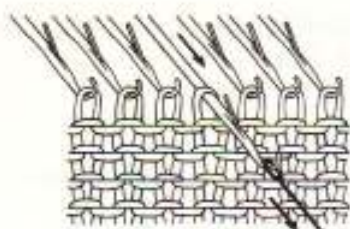


Pull the top stitch rather large and insert the **transfer tool** into the stitch from the front.

Remove the latch tool carefully from the knitting.

Place the stitch into the empty needle hook.

## UNRAVELLING



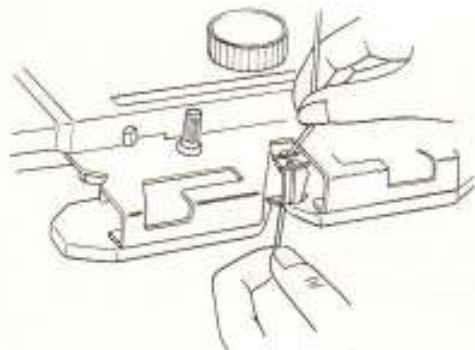
You need to unravel rows when you have knitted too many rows, made a mistake or jammed the carriage.

Before unravelling you must bring the needles to B position as follows.

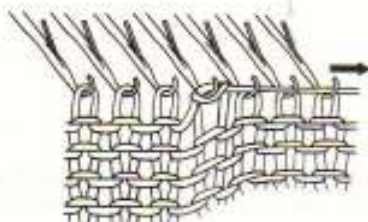
Take a single transfer tool, hook it into the needle and pull the needle forward to E position.

Push the needle back to A position, the stitch is on the transfer tool.

Pull the needle to B position, tilt the tool up and let the stitch slide into the needle hook.



Remove the yarn from the feeder and put it round the holder. Hold the knitting with one hand and with the other pull the yarn sideways, this will pull the needles forward, slightly out of the sinker hooks.



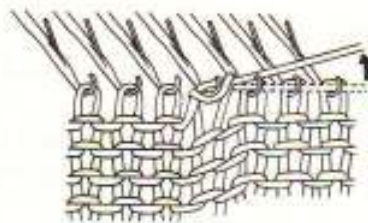
Pull the yarn upwards and backwards, this way the yarn will be pulled out of the needle hooks and the stitches on the previous row will slide into the needles.

Bring the unravelled needles to B position.

Unravel the complete row.

★ When unravelling from the LEFT, pull the yarn sideways to the LEFT.

Unravel the next row.



Re-thread the yarn, pull down any slack yarn at the back of the upper tension unit, set row counter back for the two rows unravelled and continue knitting.

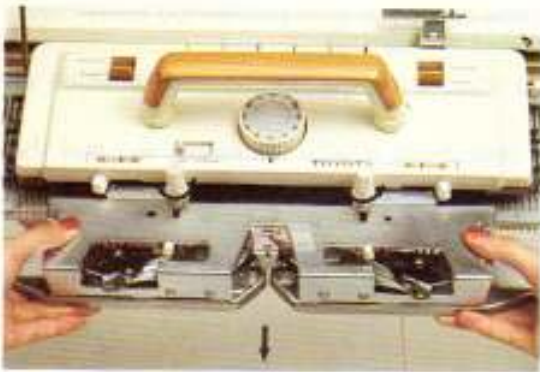
When unravelling Fairisle pattern you will unravel each colour separately row after row.

When unravelling lace patterns, make sure you put the stitches of the lace holes back into the needle before unravelling the next row.



## CARRIAGE JAMMED IN PLAIN KNITTING

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**NEVER FORCE THE CARRIAGE OUT OF THE KNITTING, PROCEED AS FOLLOWS:**

- 1 Remove yarn from feeder **PLAIN**.
- 2 Loosen **BOTH** thumb screws.
- 3 Pull fabric presser **UP** and towards you, place it somewhere out of hands.
  - ★ When lifting up the fabric presser make sure no needles are caught in the feeder.



- 4 Move row counter lever **DOWN** on side of carriage.
- 5 Pull **BOTH** front holders towards you and at the same time tilt up the carriage.
- 6 Holding the carriage in this raised position, slide it out of the knitting following the knitting direction.
- 7 Still holding both front holders towards you lower the carriage on to the needle bed.

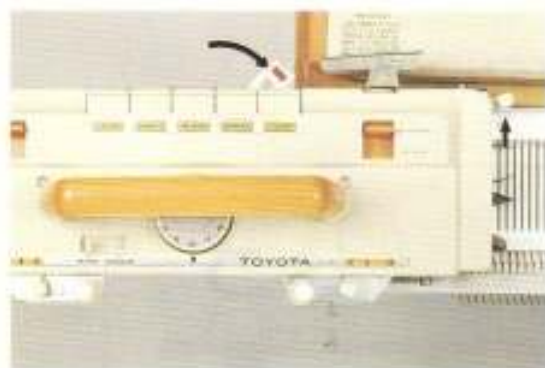


- 8 Release front holders, they should fit under the front edge of the needle bed.
- 9 Bring needles to **B** position and place any dropped stitches into the needles, pages 115 and 116.
- 10 Unravel the already knitted stitches, previous page.
  - ★ The yarn is now on the opposite side of the carriage.



- 11 Push **IN** the **EMPTY** button in leading direction for the next row and slide the carriage to opposite side of the knitting.
- 12 Release **EMPTY** button.
- 13 Attach fabric presser to carriage and re-thread yarn. Check yarn tension.
- 14 Turn row counter **BACK** for the unravelled row if it was counted and set row counter lever to working position.

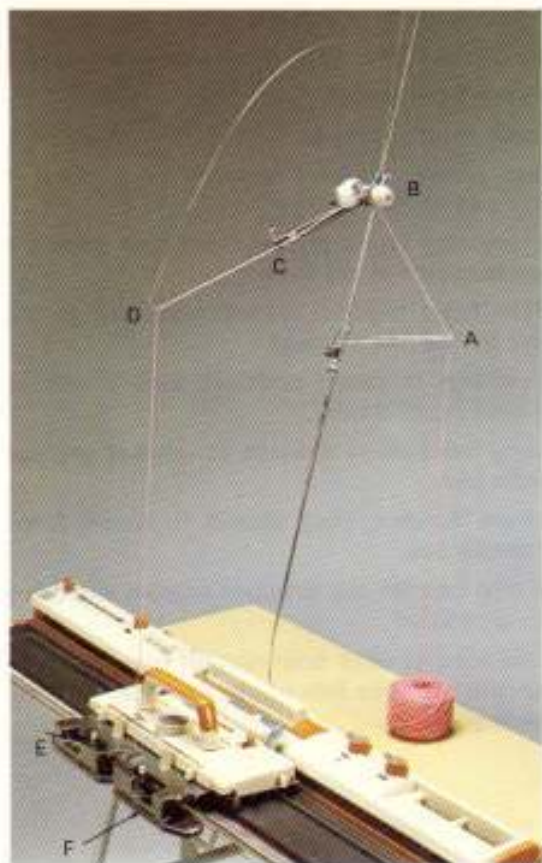
## CARRIAGE JAMMED IN STITCH PATTERNS



- 1 Set card feed lever to □ mark.
- 2 Move row counter lever DOWN on side of carriage.
- 3 Remove yarn from feeder.
- 4 Loosen both thumb screws.
- 5 Pull fabric presser up and towards you, place it somewhere out of hands.
  - ★ When removing fabric presser make sure there are no needles caught in the feeder.
- 6 Pull BOTH front holders towards you and at the same time tilt up the carriage.
- 7 Holding carriage in raised position, slide it out of fabric in knitting direction.
- 8 Still holding front levers towards you, lower carriage on to needle bed.
- 9 Release front holders, they should fit under front edge of needle bed.
- 10 Put back into needles any dropped stitches and bring needles to B position.
- 11 Unravel the stitches until beginning of row, the yarn is now on the opposite side of the carriage. Set the needles in B position.
12. Set card feed lever to C mark.
13. The card feed tripper should point towards the knitting, if not move the carriage out of the needle bed, set card feed tripper inward.
- 14 Hold release lever BACK, turn card back for the 1 row unravelled PLUS 1 more row.
- 15 Push IN the EMPTY button in leading direction of the next row and slide the carriage to the opposite side of the knitting.  
(Card will have advanced and the needle selection has been made)
- 16 Release EMPTY button.
- 17 Attach fabric presser to carriage.
- 18 Re-thread yarn and check yarn tension.
- 19 Turn row counter BACK for 1 row unravelled if it was counted and set row counter lever to working position.
- 20 Reset all levers and buttons for the stitch pattern and continue knitting.



## AFTER REPAIRING THE JAMMING



After unravelling you should make sure there is no slack yarn anywhere below or above the carriage.

At the rear of the upper tension unit pull down the yarn below the point A, and see that there is no slack yarn anywhere at points A–F.

When pulling up the yarn from the carriage make sure the yarn is not caught round the fabric presser brushes, this would again cause the carriage to jam.

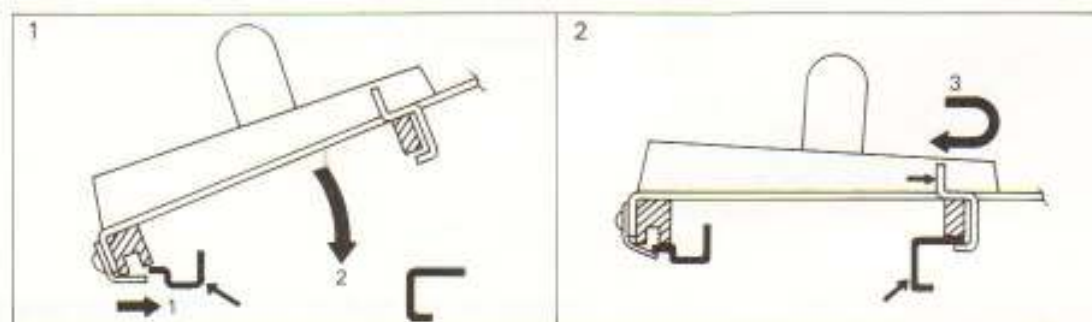
The carriage may jam if the yarn gets entangled at any point A–F.

Make sure you don't leave knots in the yarn when winding it.

After unravelling, always turn **BACK** the card for the number of rows unravelled **PLUS 1** more row.

After unravelling turn the row counter **BACK** for the number of rows unravelled, if the last row was not counted then omit this one.

## PLACING MAIN CARRIAGE ON EXTENSION RAIL

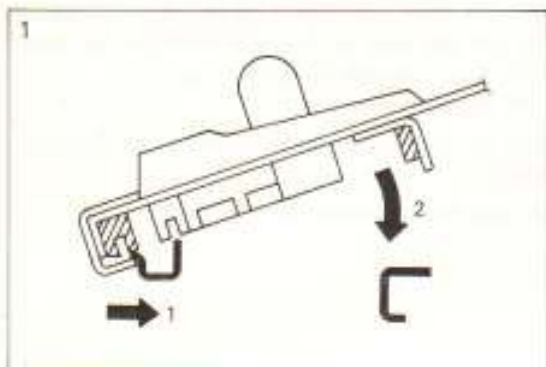


To move the main carriage on and off the needle bed you need to remove the fabric presser. This is **NOT** necessary when placing or removing the carriage on the extension rails.

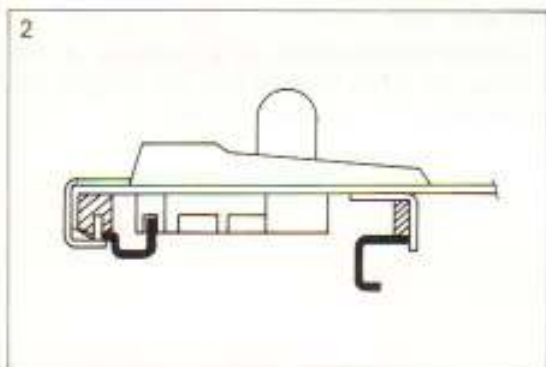
Lower the rear of the carriage on the back rail, the guide rails of the carriage should fit into the back rail, 1.

Lower the front of the carriage on to the front rail, 2. Pull **BOTH** front holders towards you and with a light 'click' the carriage will fit into position, 3. Release front holders. To remove the carriage from the extension rail you only need to pull the front holders towards you and lift the carriage off the rails.

## PLACING LACE CARRIAGE ON EXTENSION RAIL



Lower the rear of the lace carriage on to the rear extension rail, the flat edge must fit into the lace carriage, 1. Lower the front on to the extension rail, 2.



The lace carriage must move lightly across the extension rail and the needle bed.



**REMEMBER:** NEVER touch the knitting while sliding the lace carriage across the needle bed, this would cause dropped stitches.

Also, if the TWO edge needles are selected into patterning position, move them BACK to B position.



If you need to remove the lace carriage from the knitting while transferring the stitches, PUSH IN the release button 1, lift up the lace carriage at the REAR 2, pull it SLOWLY AND CAREFULLY towards you, 3.

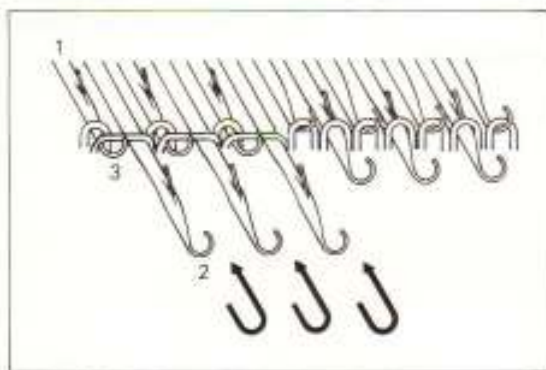
Replace the lace carriage on to the rail on the side that you came from.



## LACE CARRIAGE JAMMING



- 1 To remove the lace carriage PUSH IN the release button, lift UP the rear of the lace carriage and carefully pull the lace carriage towards you. (Last picture on previous page).
- 2 Replace lace carriage on to extension rail in direction it came from.
- 3 To separate any crossed needles lift them up.



- Some needles will have both a stitch and a loop, 1.
- 4 Bring the pattern needles back to B position, 2, the loops will come off these needles and the stitches will be transferred on to the adjacent needles, 3.

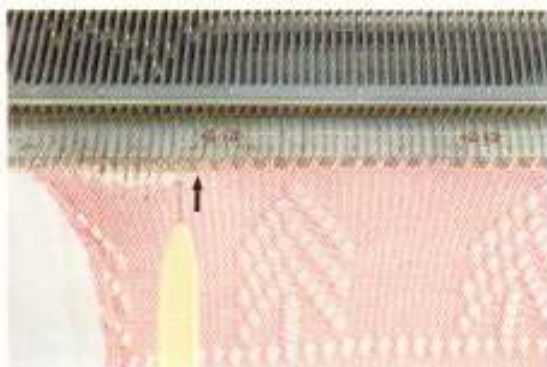


There are now needles in various position.

- 5 Using a single transfer tool bring the needles that should be in B position to their correct position. Make sure the stitches are in the needle hooks.

Bring all pattern needles to D position. If the loop is behind the needle latch, pull it to E position, then push back to A, and bring to D so that the loop is in the needle hook.

- ★ If some D position needles stay in the slightly low position, push them to B position, then bring them back to D position, and the needles will be in the ordinary level.



- 6 Again slide the lace carriage across the knitting. Remember, do NOT touch the knitting while transferring the stitches. Also, if the two edge needles are selected, bring them back to B position before transferring the stitches.

## CHANGING A NEEDLE



You will have to change a needle when a butt or hook is bent or a needle latch does not move smoothly.

If the needle that needs changing is at the LEFT side of the needle bed insert the latch tool or pencil into the needle bed at the LEFT.

Push the tool until the needle-press bar comes out at the other end of the needle bed.

Pull out the bar at the other end until the damaged needle lies free.



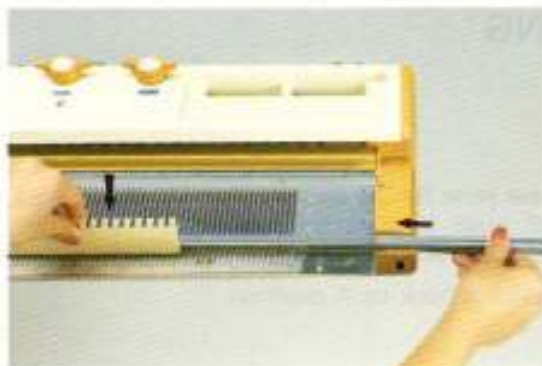
Holding the needle by the butt slide it to E position, 1, push down the hook, 2, so that the needle shank comes out of the needle bed at the BACK.

Close the needle latch and pull out the needle at the rear, 3.



Take a spare needle and open the needle latch, slide the needle inside the groove towards the front into E position, 1.

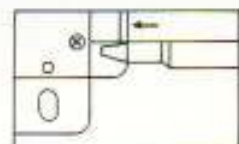
Lower the needle shank into the groove and move the needle back to A position, 2.



Push the needle-press bar back into the needle bed, while moving the bar hold the needles down with the straight edge of the selector comb.

In case you had to remove the retaining bar completely out of the needle bed, make sure you re-insert it with the foamrubber band on the under side of the bar.

★ Be careful when using the latch tool to push out the bar, you could hurt your hand with the hook.





## MAINTENANCE



You should clean the machine each time after knitting a garment.

First you will dust the front edge of the needle bed.

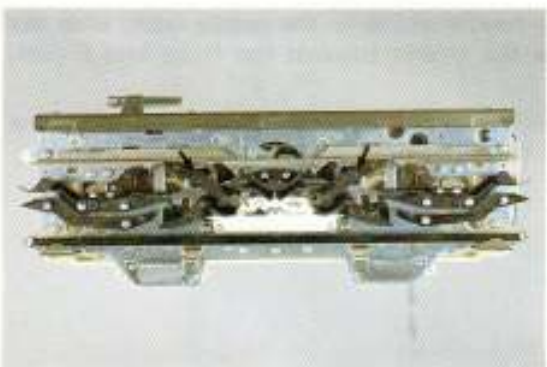
With the small brush remove all dust and lint from the front edge of the needle bed, on plastic film.

Bring needles back to A position.



Remove all small yarn threads that may be caught round the brushes under the fabric presser.

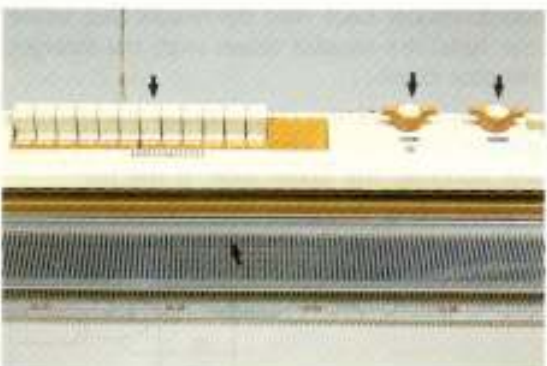
With a cloth or rug clean the rear guide of the needle bed, the front rail and the needle bed.



Take a clean cloth and rub the cams and parts under the carriage.

Put oil on a cloth and rub along two cams (arrows) and rails under the carriage. Wipe off the excess.

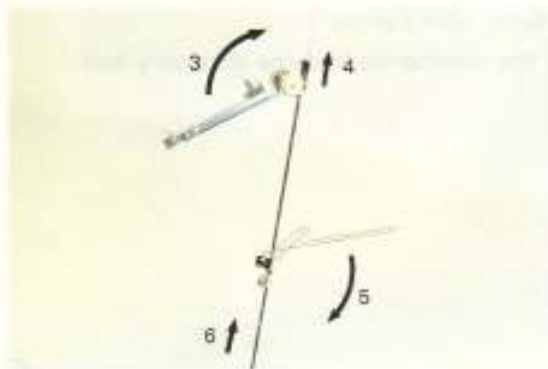
Store the machine in a cool and dry place.



## PACKING

1 Hold release lever BACK and set zigzag memory to 1, release all push buttons by pushing them up and forwards and set AUTO motif dial to 0.

2 Push all needles back to A position.



- 3 Fold up front yarn guide.
- 4 Push UP the upper tension unit and remove it from the rod.
- 5 Push DOWN the rear yarn guides.
- 6 Remove rod from rear of machine.



- 7 Remove fabric presser from the carriage.
- 8 Tighten the LEFT side thumb screw but leave the RIGHT one open.



- 9 Pack extra rails, upper tension unit, cast on comb and fabric presser into case cover. Follow the packing instructions on the label inside the cover.



- 10 Move the carriage to the RIGHT hand corner of the machine and secure with carriage lock.
- 11 Move row counter lever to front and on side of the carriage.
- 12 Fold tracer feed tripper to LEFT.
- 13 Remove handle.
- 14 Replace lace carriage in the packing.
  - \* When carrying the machine, be sure carriage is secured with carriage lock.





15 Loosen both table clamps.

16 Re-pack the accessories into the accessory box.



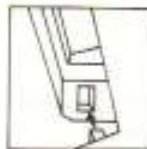
17 Place transfer tools, nylon cord, selector comb, spare needles, the tapestry needle and the latch tools in the bag, and place the bag on top of the box.

18 Place the accessory box on the LEFT hand corner of the machine, the small peg of the box should fit into the hole of the needle bed.



19 Re-pack the punch cards in the bag. Place the bag on to the needle bed.

20 Take the case cover and slide in from the front towards the back over the machine, the projections of the cover must fit exactly into the dents at the ends of the main machine bed.



This is your machine correctly packed, you can store it easily in any small place in your home but it should be kept in a cool and dry place.

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