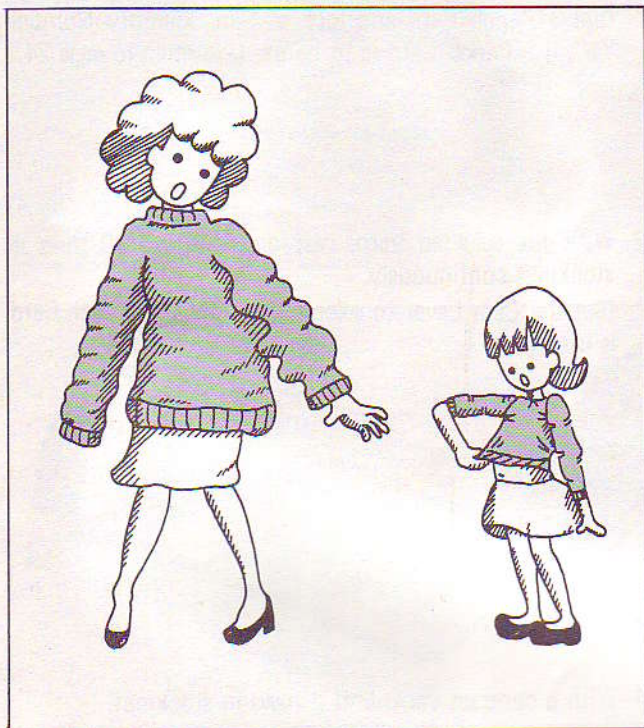


TAKING A TENSION GAUGE

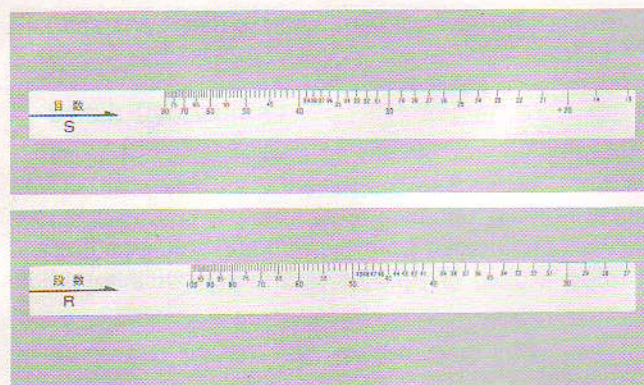


Your success in knitting greatly depends on taking a correct **tension gauge**.

As compared with cloths, yarn itself is elastic by nature and a size of a knitted garment is more influenced by the quality and thickness of the yarn, and also by the selected stitch type.

In order to knit a garment correctly to desired size, it is very important to know, before knitting a garment, how many rows and stitches are required in the selected stitch type and Stitch Dial. To know the number of stitches and rows for 10cm. square is taking a tension gauge.

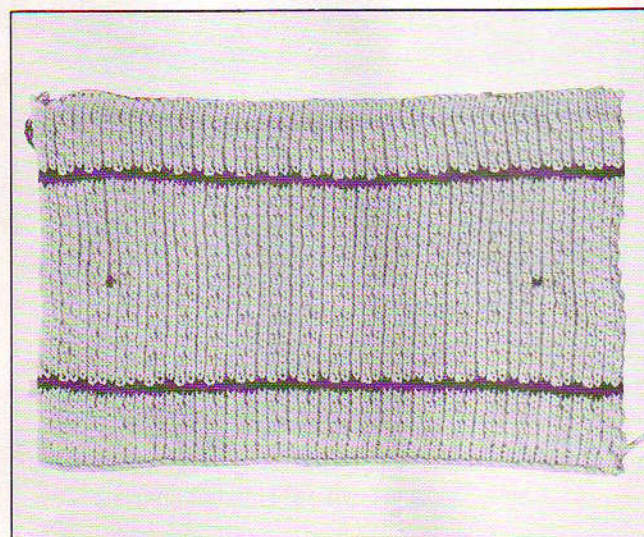
To count the stitches and rows one by one is not easy on the knitted fabric of complicated stitch type. But you will be free from the complicated counting, as a special scale will help you know quickly and easily the tension gauge.



Gauge Scale

This Gauge Scale is so designed to convert the length of 40 stitches and 60 rows into so many stitches and rows for 10cm. square.

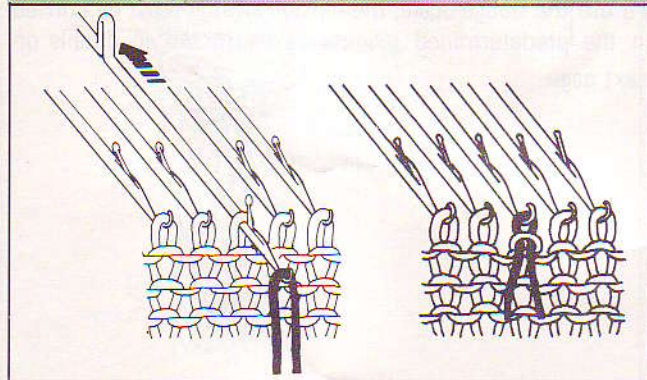
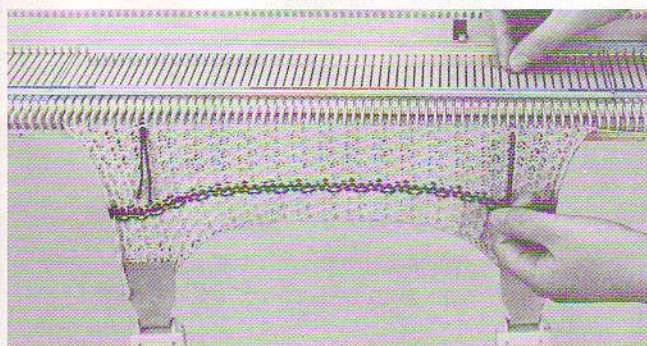
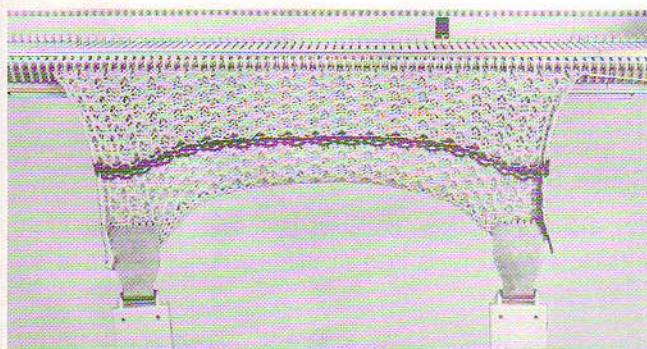
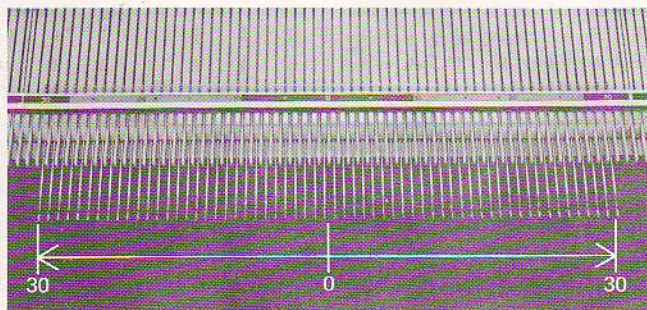
It is two sided, the side with "S" is used for measuring the Stitch, and the side "R" for rows.



Tension Swatch

The tension swatch is knitted with the same yarn and in the same stitch type as to be used for the garment.

To use the Gauge Scale, the tension swatch must be knitted in the predetermined manner as instructed in details on next page.



Knitting a tension swatch

1. Arrange 30 needles on both sides of the centre(0), 60 needles in total, for cast on.

(Set a Punch Card and lock at Card Memory Number "1", if a Punch Card is to be used. — refer to page 24.)

2. With the selected yarn, cast on, and knit 10 rows in stockinet continuously.

(Set the Cam Lever to selected position if a Punch Card is used.)

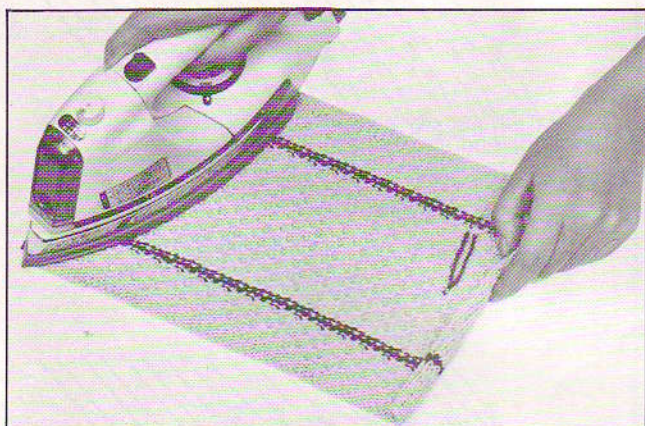
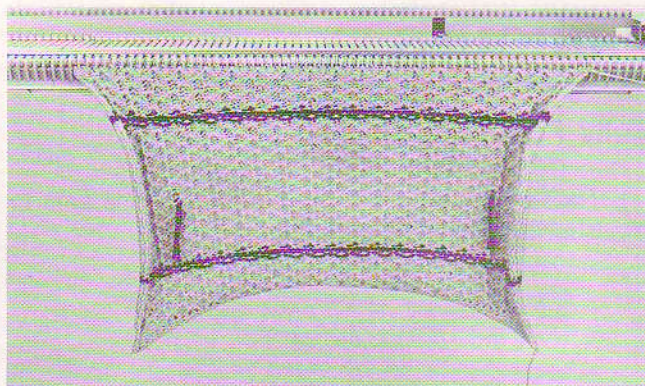
3. Knit 20 rows.

4. With a contrast yarn, knit 2 rows in stockinet.

5. Replace the contrast yarn with the main yarn, and knit 30 rows.

6. Push 21st needles from the centre(0) to D position, and place a piece of contrast yarn in each of those needle hook.

Then push those needles back toward B position by hand.



7. Knit another 30 rows.
8. Replace the contrast yarn in the Yarn Feeder, and knit 2 rows in stockinet.
9. Replace the main yarn with the contrast yarn, and knit 20 rows.
Remove the swatch from the machine.

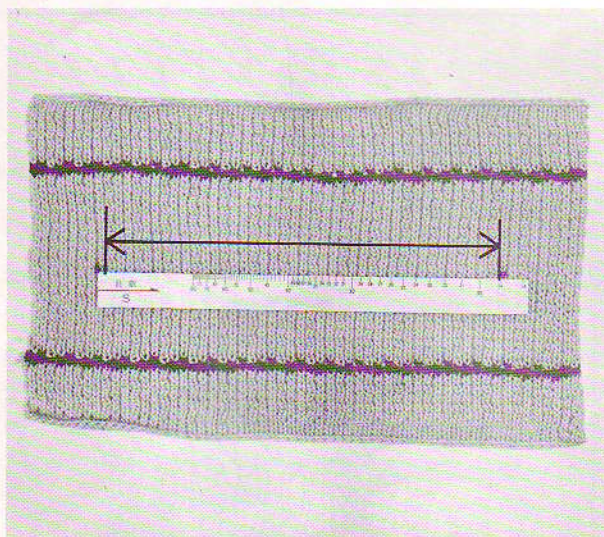
TAKE NOTE OF THE STITCH DIAL NUMBER.

10. Allow several hours for the swatch to return to its natural condition.
Press the fabric lightly over a damp cloth.

How to measure the tension swatch

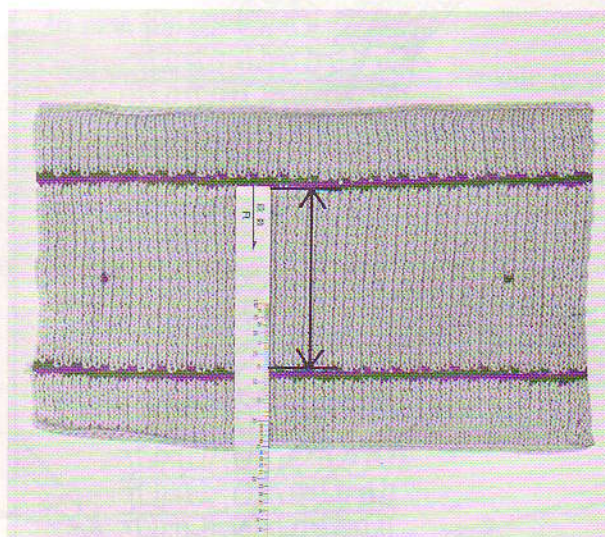
Stitch (Horizontal)

Place the Gauge Scale, with the "S" side up, onto the tension swatch so as the left end of the Scale is touching the inside of the stitch in a contrast yarn. Measure to the point of the other contrast stitch and the number which corresponds with this stitch.



Row (Vertical)

Place the Gauge Scale, with the "R" side up, onto the tension swatch so as it covers the length in between the rows knitted in a contrast yarn. Measure this length and the number indicated on the Scale.



Those readings on the Gauge Scale, on the "S" side for number of stitches and "R" side for number of rows, are requirements for the Tension Gauge.

KNITTING TECHNIQUES

Fully Fashioned Decrease

- (1) Transfer the end three stitches at the same time to adjacent needles respectively.

- (2) Push the end empty needle back to A position. Continue to knit.

Fully Fashioned Increase

- (1) Transfer the end 2 stitches onto their outside adjacent needles respectively.

- (2) Pick up the loop below the third stitch and place it onto the empty needle as shown. Continue to knit.

PARTIAL KNITTING is a practical method for shaping a gentle slope, such as a shoulder, bust darts and so on.

Partial Knitting by decreasing stitches

Set the Russel Lever to the **I** position.

- ① Push up the needles to be decreased, to D position, on the opposite side of the Carriage.

Knit 1 row. (The needles in B position knit the yarn. The needles in D position remain inactive and the yarn passes over them.)

- ② To prevent a hole from being formed in the fabric, pass the yarn under the first inside needle in D position and over the other needles.

(If partial knitting is required on both sides, apply step ① before knitting the next row.)

- ③ Knit 1 row by moving the Carriage back. This completes the first operation of partial knitting.

Repeat steps ① – ③

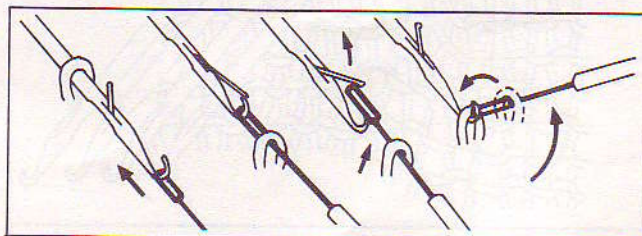
At the completion of partial knitting, work as follows to knit continuously.

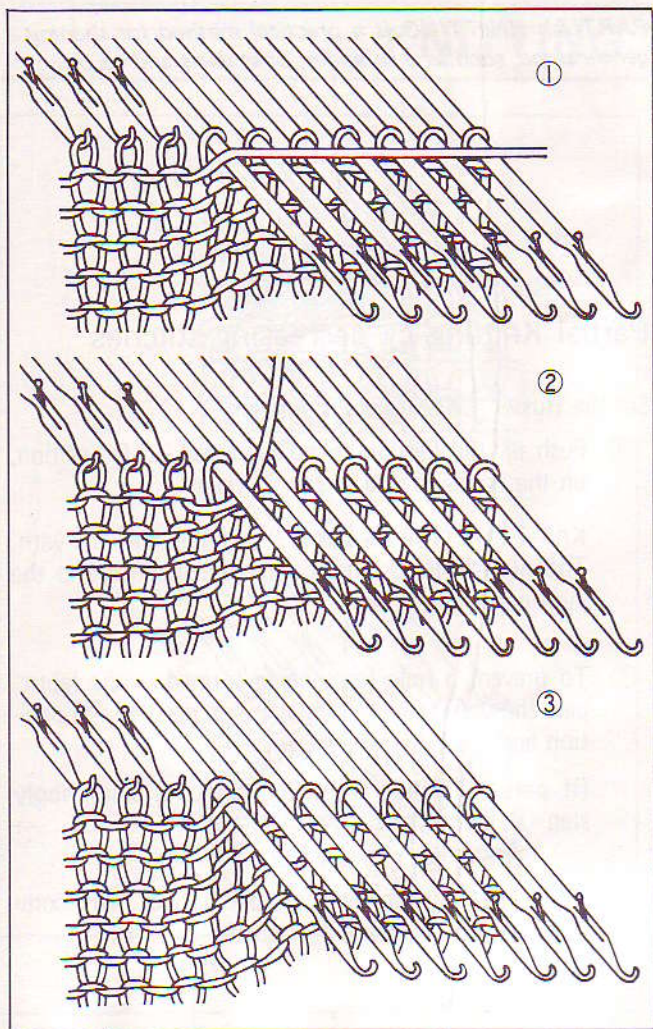
A. In case of stockinet

Set the Russel Lever to **II** position and knit, (or push the needles in D position back to C position on the side opposite the Carriage if the partial knitting has been done on both sides of the fabric before knitting the next row.).

B. In case of pattern knitting

With a Transfer Tool, push the needles in D position towards B position placing their stitches into the hooks as shown below and align the needles in B position.





Partial Knitting by increasing stitches

Set the Russel Lever to the I position.

- ① On the side opposite the Carriage, push up the needles for the width to be shaped by partial knitting to D position.

Knit 1 row.

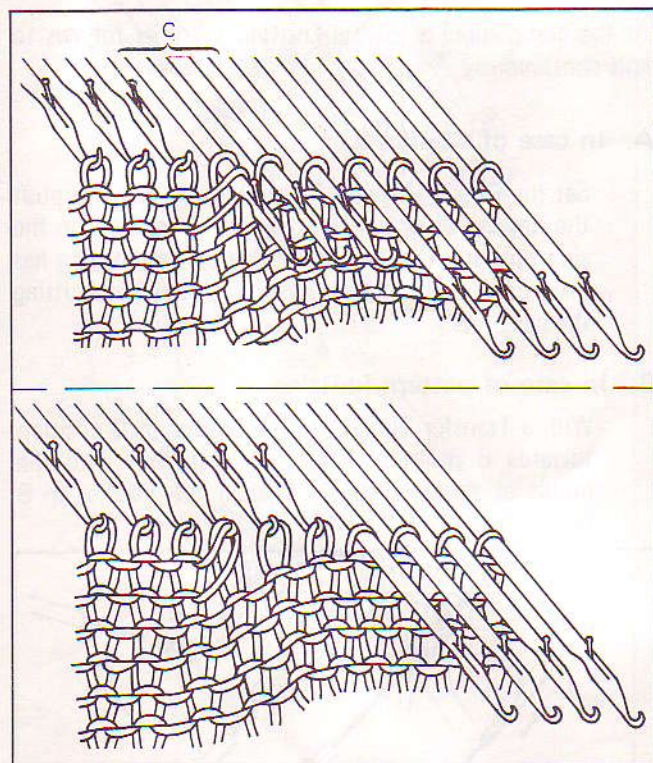
(The needles in B position knit the yarn. The needles in D position remain inactive and the yarn passes over them.)

- ② To prevent a hole from being formed in the fabric, pass the yarn under the first inside needle in D position and over the other needles.

(If partial knitting is required on both sides, apply step ① before knitting the next row.)

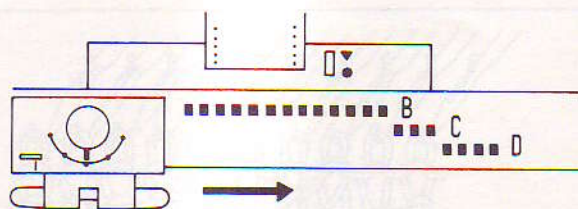
- ③ Knit 1 row by moving the Carriage back.

Before knitting the next row, work on the side opposite the Carriage as follows.



A. In case of stockinet

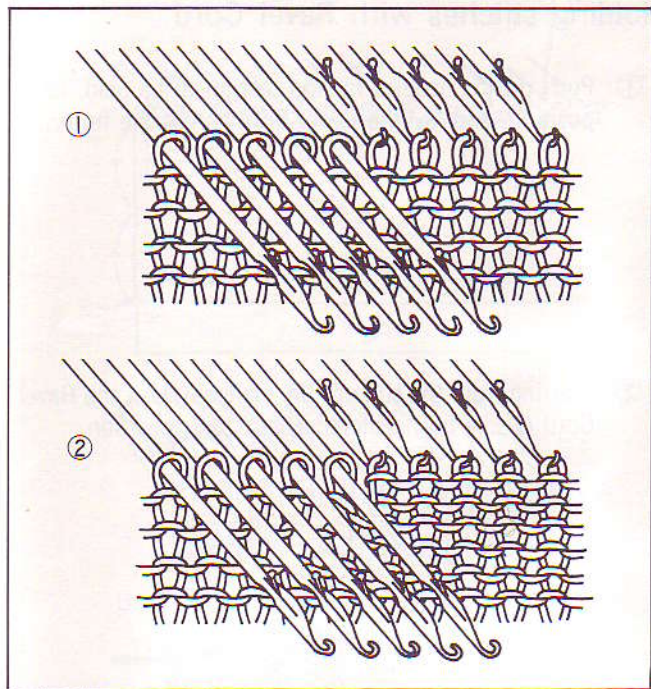
Push the needles to be increased back to C position.



B. In case of pattern knitting

With a Transfer Tool, push the needles to be decreased towards B position placing their stitches into the hooks. Align the needles in B position.

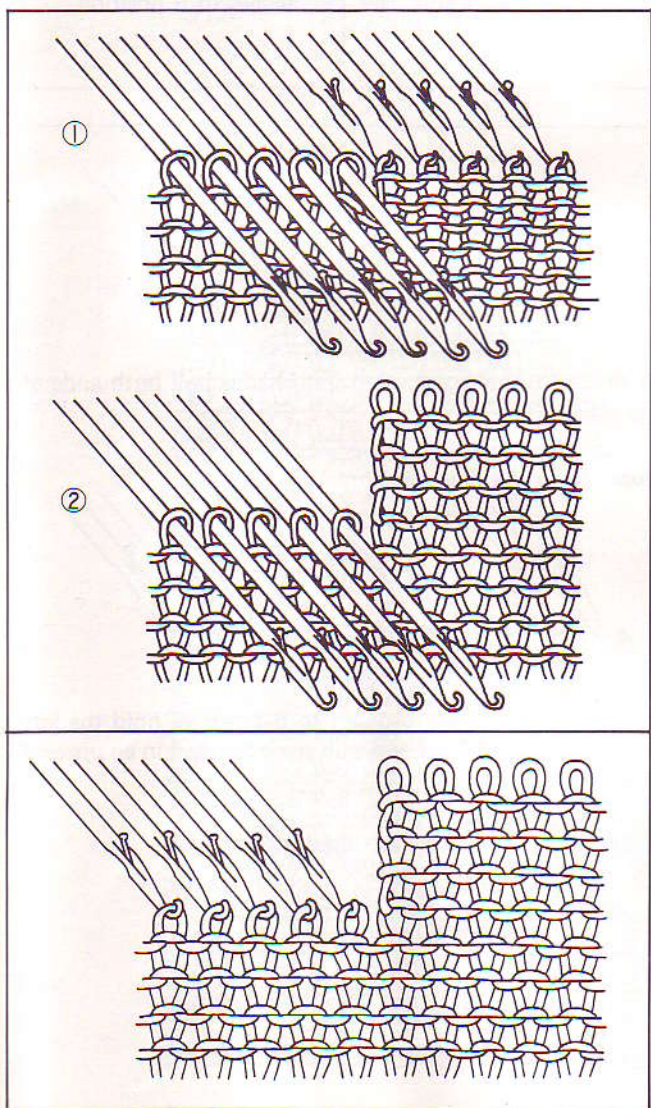
Repeat steps ② – ③.



When knitting separately as for the neckline, apply these methods to hold the stitches for latter work.

Holding stitches in D position

- ① Push up the needles for the section to be held, to D position.
- ② Set the Russel Lever to the I position and continue to knit for the needles in B position.

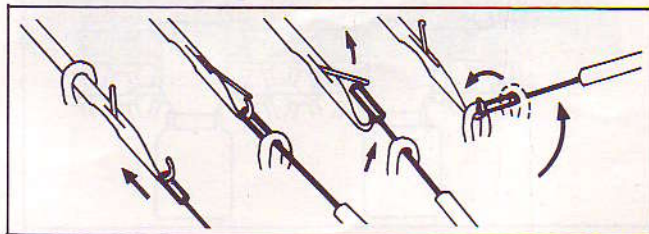


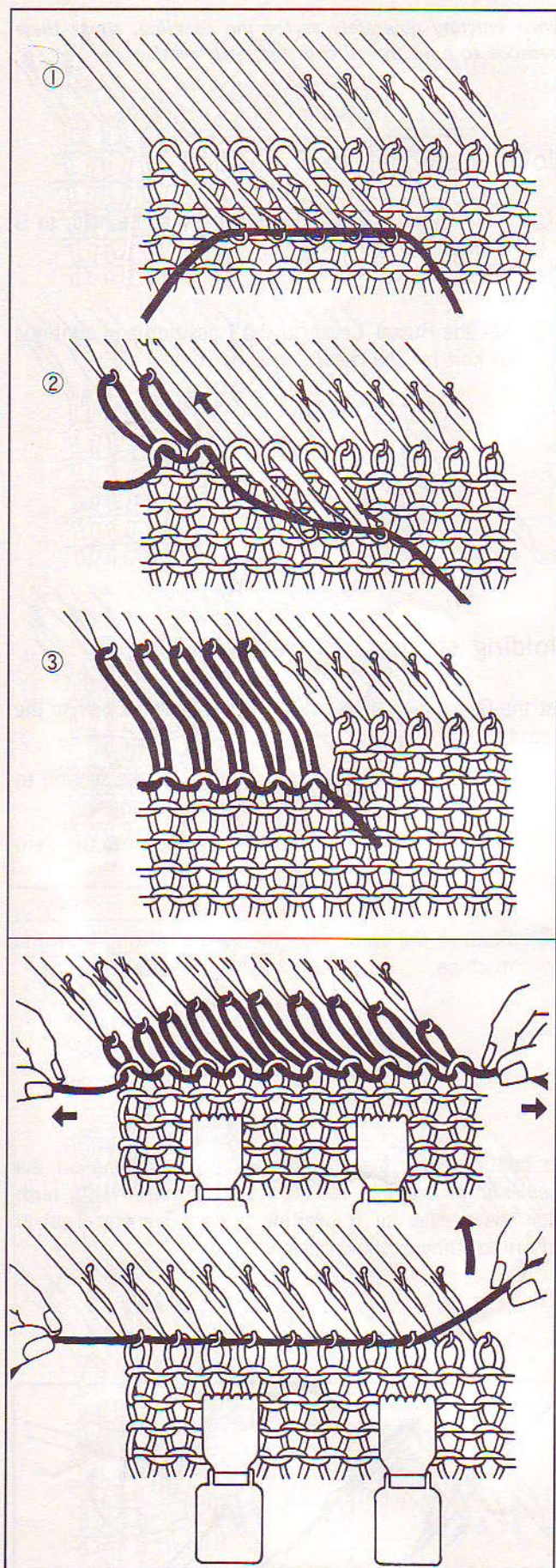
Holding stitches on waste knitting

Set the Cam Lever to A mark and the Russel Lever to the I position.

- ① Leaving the needles in B position for the section to be held, push up the needles to D position.
Thread a waste yarn of contrast colour into the Yarn Feeder, and knit several rows.
- ② Remove the section on the waste knitting from the machine.

To continue knitting for the section remaining on the needles in D position, set the Russel Lever at II (or push back the needles to B position using a Transfer Tool in pattern knitting as shown below.





Holding stitches with Ravel Cord

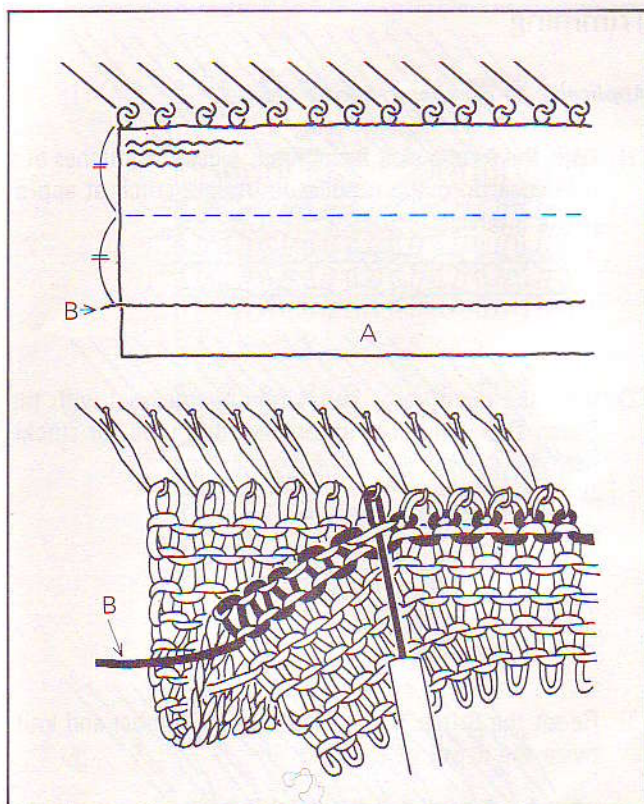
- ① Push up the needles for the section to be held, to D position, and lay the Ravel Cord across the hooks.
- ② Starting from the end needle, manually knit the Ravel Cord needle by needle and back to A position.
- ③ Continue to knit over the needles in B position.

In order to knit again, with both hands pull both ends of the Ravel Cord.

Note: Hang the Claw Weights.

When the needles are brought to B position, hold the left end of the Ravel Cord and pull the other end in an upward motion.

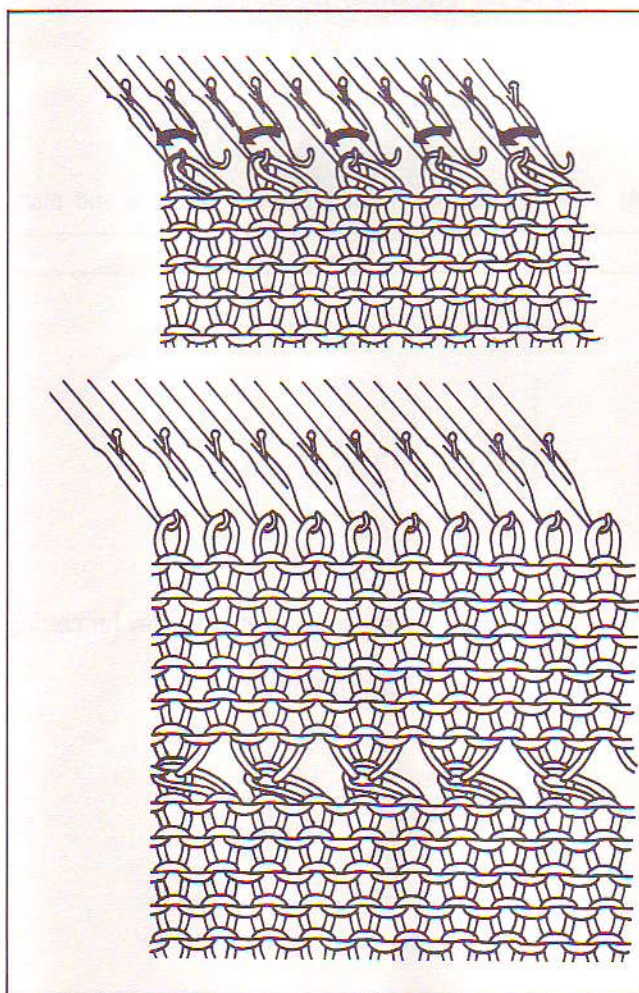
The stitches are replaced in the hooks.



Hemming

- (1) Cast on and knit several rows of waste knitting "A" then knit one row with the Ravel Cord "B".
- (2) With the main yarn, knit twice the depth of the hem.
- (3) Pick up the sinker loops from the first row of the main knitting and place them onto the corresponding needles.
- (4) With the Stitch Dial set 2 numbers higher, knit one row.
- (5) Set the Stitch Dial to the original number and continue to knit.

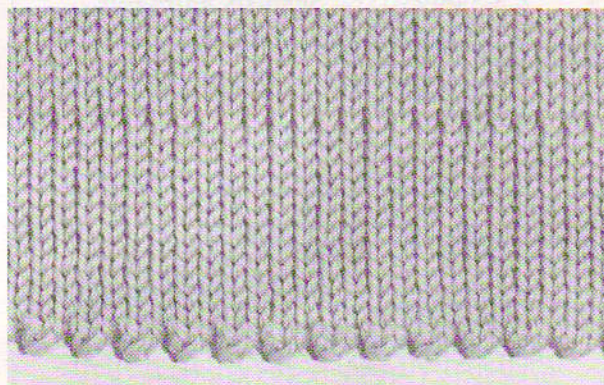
If the Ravel Cord is pulled out, the waste knitting comes off.



PICOT EDGE

At the folding row, transfer every other stitch onto its adjacent needle.

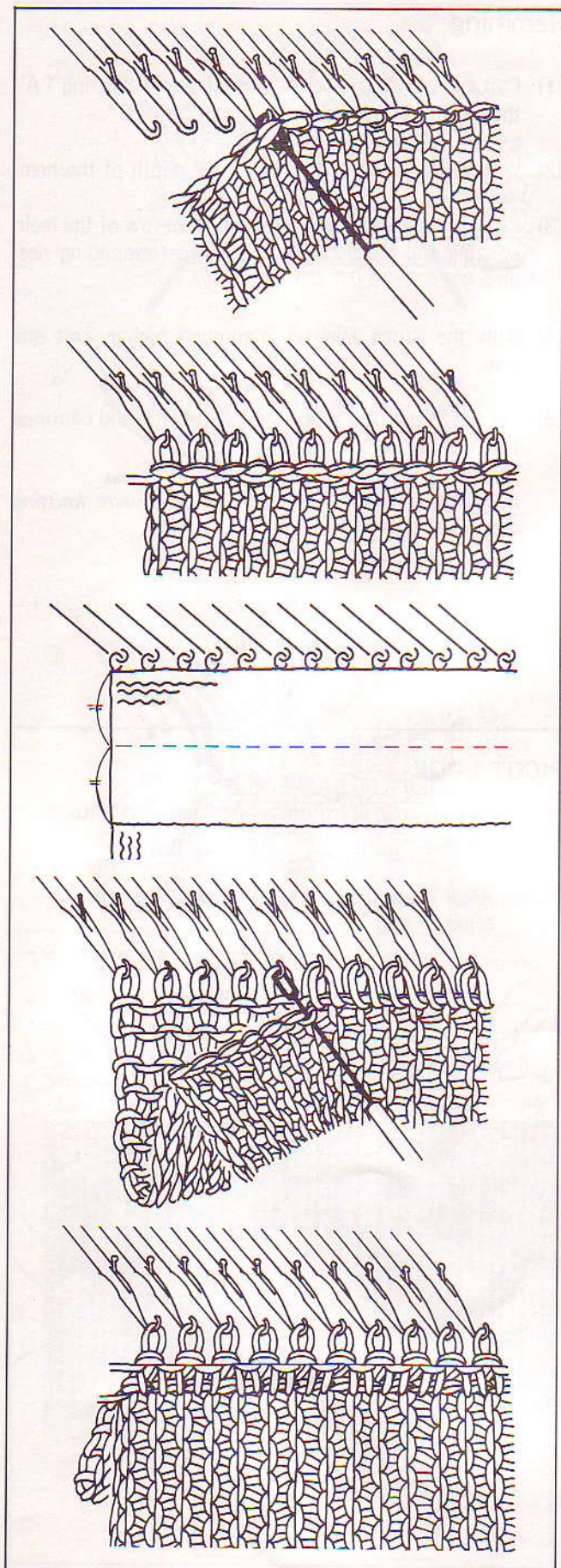
Note: Align the empty needles in B position, and continue to knit.



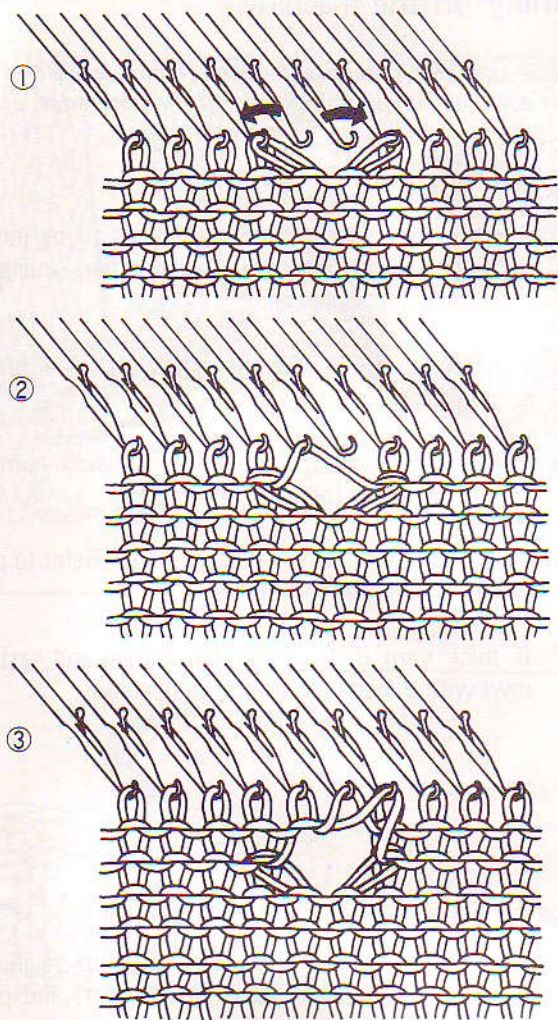
Trimming

Applicable to neckband, border etc.

- (1) With the wrong side facing you, place the stitches of a side edge onto the needles omitting a stitch at appropriate intervals.
- (2) With the main yarn, knit 1 row in stockinet with the Stitch Dial 1 number lower than that used for stockinet.
- (3) Re-set the Stitch Dial to the original number and knit twice the depth of the hem.
- (4) Pick up the sinker loops on the first row and place them onto the needles.
- (5) Knit 1 row for joining, and knit another row for casting off the stitches.
(Refer to page 22 for cast off.)



Buttonhole

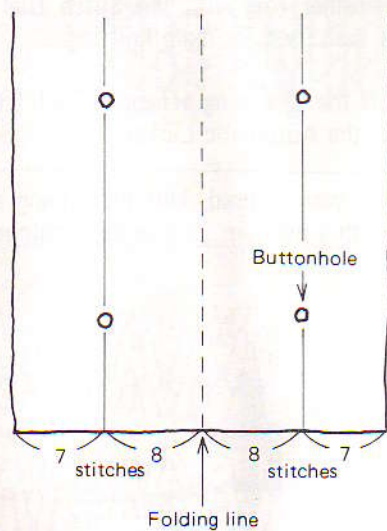


① Transfer 2 stitches onto their adjacent needles respectively.

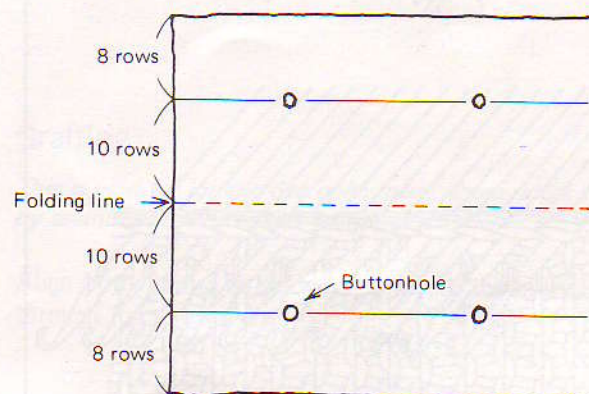
② Knit 1 row and remove the hooked yarn from the right side needle.

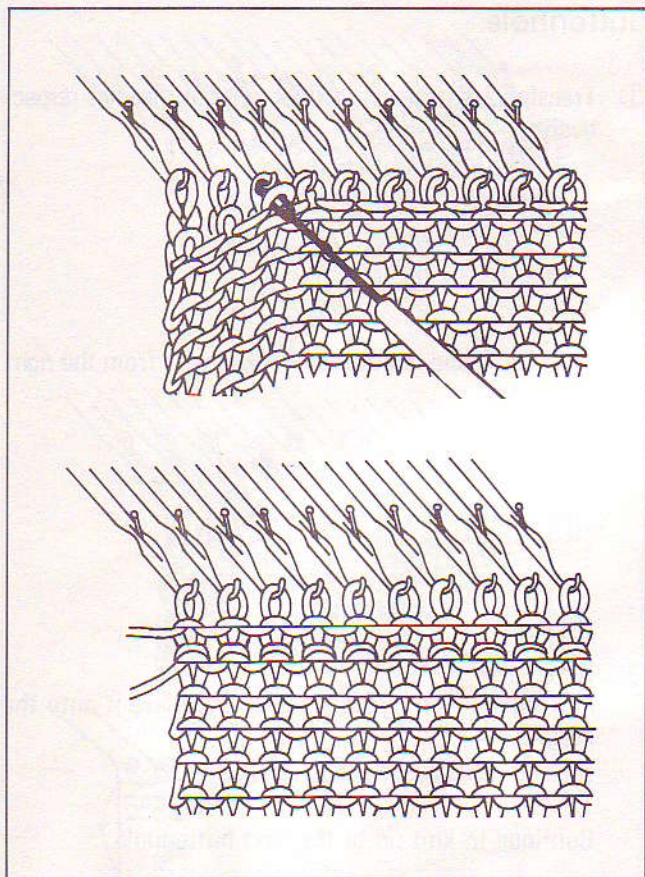
③ Knit 1 row.
Pick up the yarn crossing above and place it onto the needle.

Continue to knit up to the next buttonhole.



When making buttonholes on a double border, adjust the number of rows or stitches in between the inside buttonholes and outside buttonholes so that they come at the same position when the border is folded.





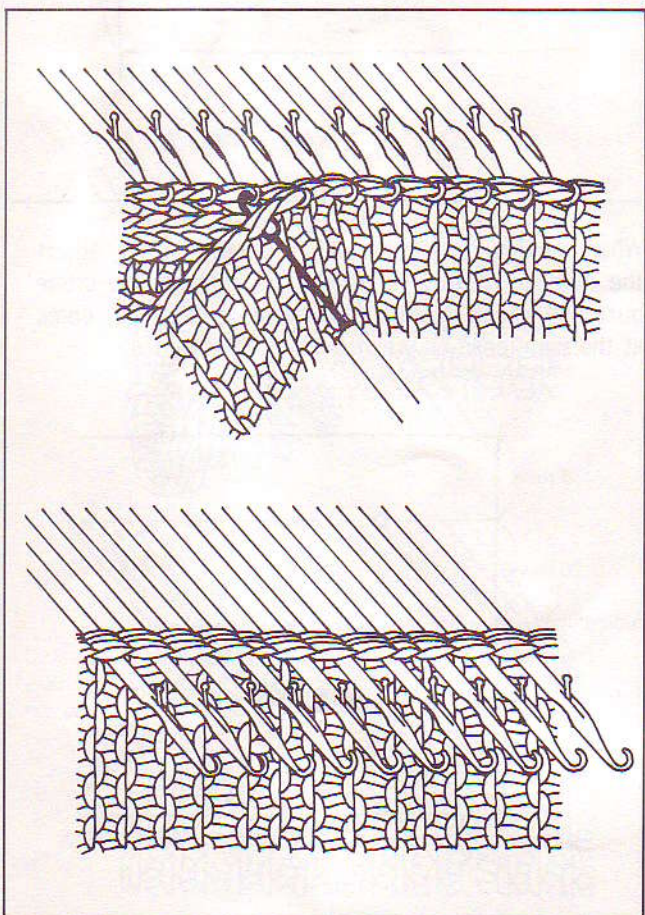
Joining on the machine

This is used for joining shoulders, joining a welt to the waist edge, or joining a neckband to the neck edge, etc.

Stitch to Stitch

- (1) Pick up the stitches from the fabrics to be joined, with their right sides facing each other, and place them onto the same needles.
- (2) Knit a joining row with the same Stitch Dial setting as used for main knitting.
- (3) Knit another row with the Stitch Dial 3 numbers higher than used for main knitting.
- (4) Cast off the row using a Tappet Tool. (Refer to page 22), or the Automatic Linker.

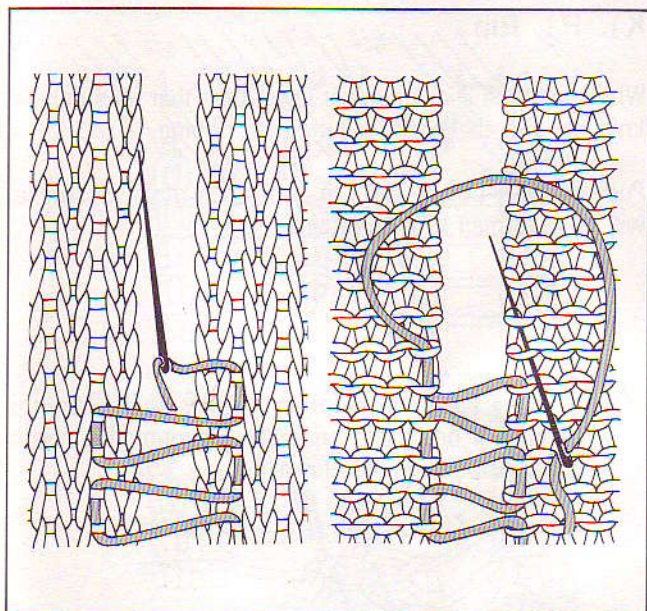
* If thick yarn is used, knit the joining and cast off rows with a medium yarn in same colour.



Edge to Edge

- (1) Pick up the stitches from the fabrics to be joined, with their right sides facing each other, and place them onto the same needles.
- (2) Knit a joining row with the same Stitch Dial setting as used for main knitting.
- (3) Knit another row with the Stitch Dial 3 numbers higher than used for main knitting.
- (4) Cast off the row using a Tappet Tool. (Refer to page 22), or the Automatic Linker.

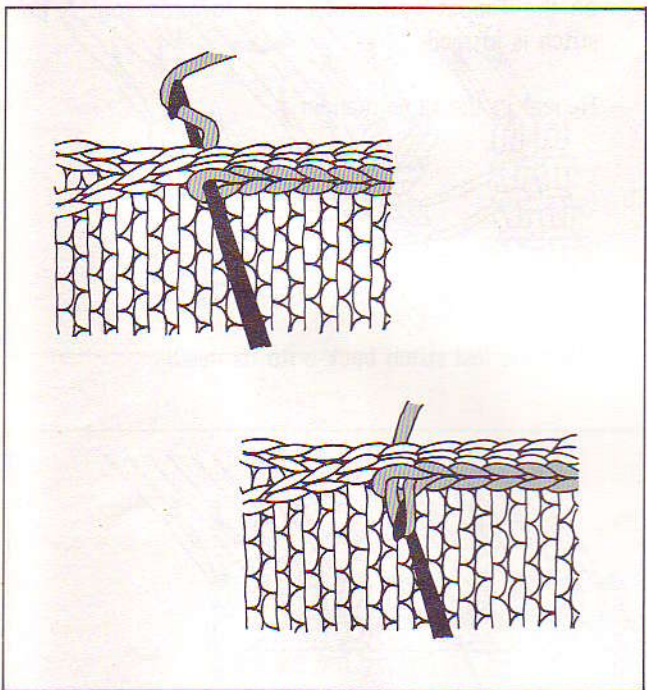
* If thick yarn is used, knit the joining and cast off rows with a medium yarn in same colour.



Blind Stitch

This is used for joining side seams.

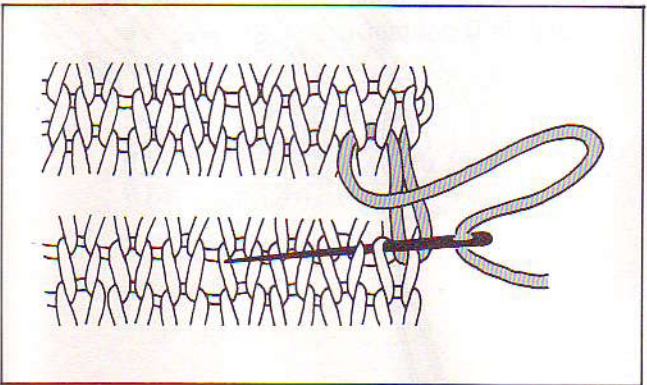
With the right side of both fabrics facing you, pick up two sinker loops together between the last two stitches from the side edges alternately, as illustrated.



Slip Stitch

This is used for setting in the sleeves or joining side seams.

Place the fabrics to be joined with the right side facing each other. Insert the Crochet Hook into the edge stitches and catch the yarn as shown.



Grafting

This is used for joining two open rows, where ridges formed by seaming should be soft to the touch.

Align both fabrics as shown and thread the knitting yarn through the stitches with the Tapestry Needle.