

english

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VARIO

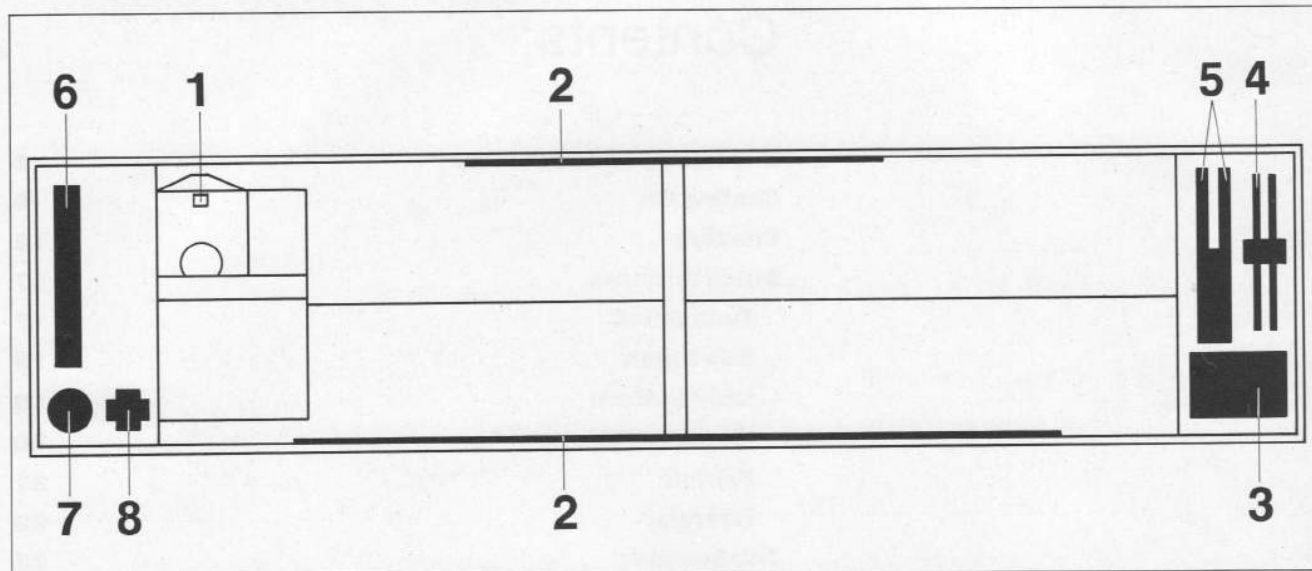
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Unpacking

First check that the box and the machine are not damaged in any way.

If, however, your machine has been damaged during transport, please inform the Carrier immediately of the damage. Keep the special packing so that you can repack your machine safely at any time. Carriers are not liable for damage caused by wrong packing.

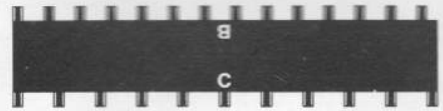


On top of the cover you will find the Instruction Book and the larger bag of accessories.

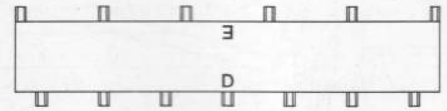
- 1 Lock**
- 2 Casting on comb in three sections**
- 3 Row counter**
- 4 Two edge weights**
- 5 Two clamps**
- 6 Smaller bag of accessories**
- 7 Tube of oil**
- 8 One piece of paraffin wax**

The larger bag of accessories contains:

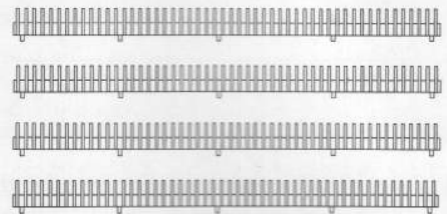
1 Pattern ruler B/C



1 Pattern ruler D/E



4 Striking combs (fine gauge)

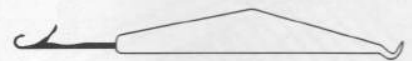


The smaller bag of accessories contains:

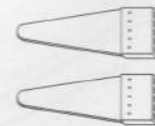
3 Latch needles



1 Auxiliary tool with hook and latch needle



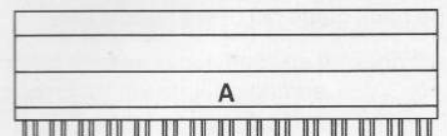
2 Holders for decker needles



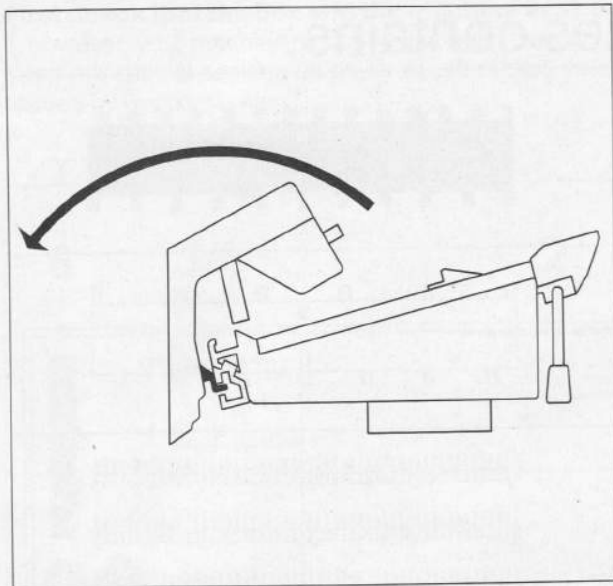
6 Decker needles



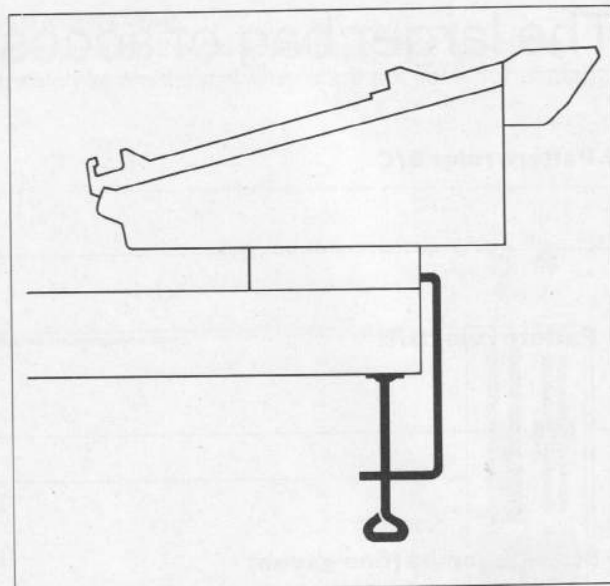
1 Pattern ruler A



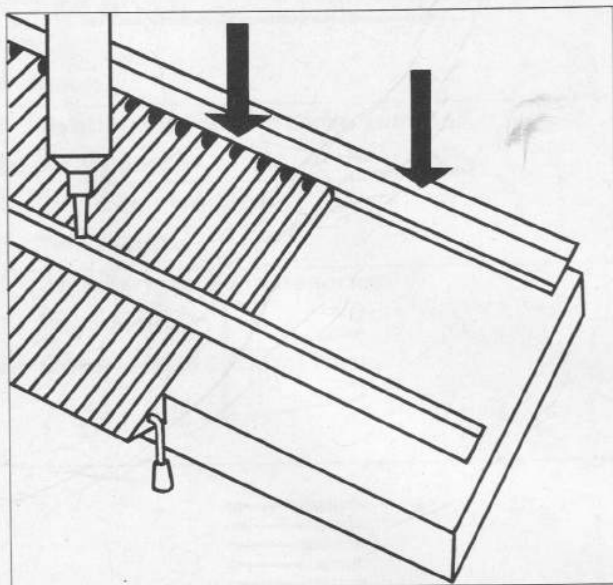
Assembly



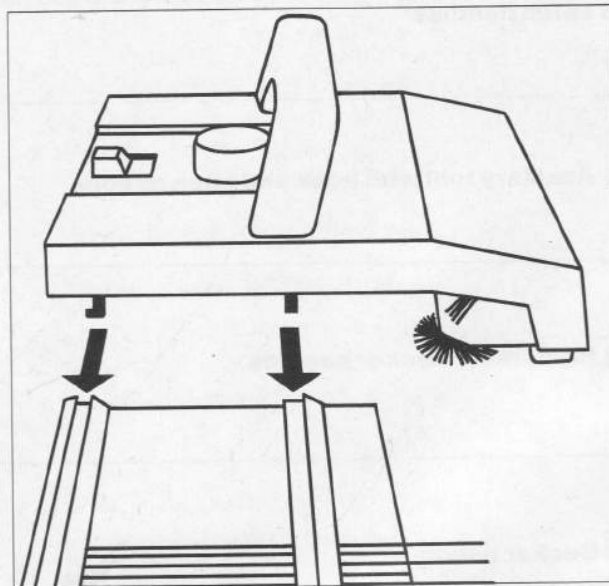
In the lower part of the rail which is located at the back edge of the needle bed, there is a plastic guide about 9 cm wide. By properly tilting the row counter to the front you can fit its holding rail into its plastic guide. Tilt the row counter backwards to make it click into place.



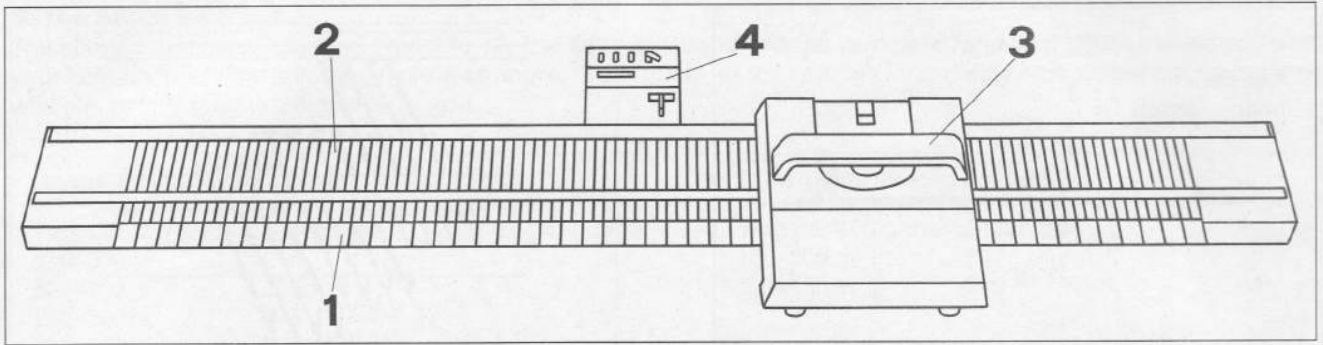
Align the needle bed with the front table edge in such a way that the machine slightly slopes to the back. Use the two clamps to fix it to the edge of the table.



Remove the lock to oil the needle bed, using only the oil supplied. Drip the oil onto the needle feet and the front and back guide rail of the needle bed.

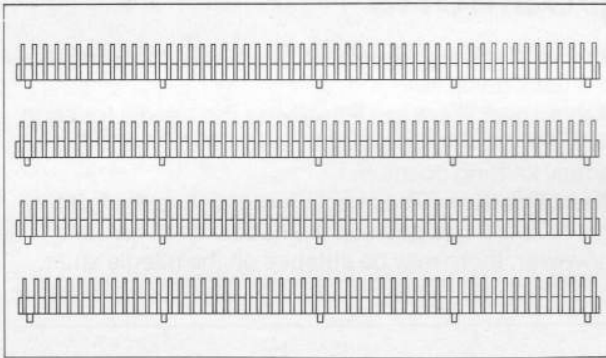


Slide the lock from the side onto the needle bed, making sure that the guide rail underneath the back edge of the lock fits into the back guide rail of the needle bed. The brushes at the front of the lock must fit underneath the front edge of the needle bed.

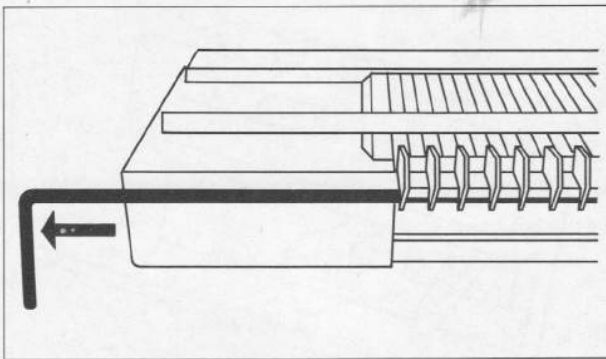


1 The Striking Combs

The knitting machine has two interchangeable striking combs, each consisting of four sections.

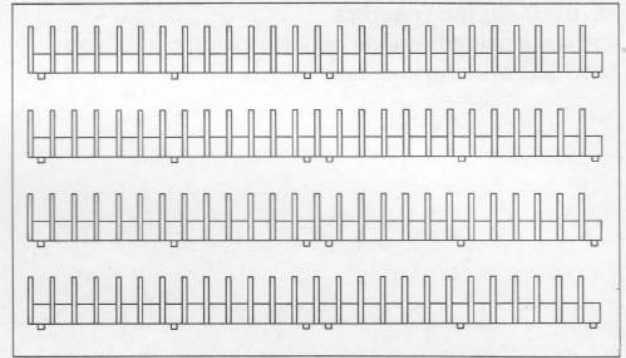


The narrow spaced, 5-mm gauge striking comb is used for fine yarns, i.e. approx. 500–200 m length per 100 grammes.

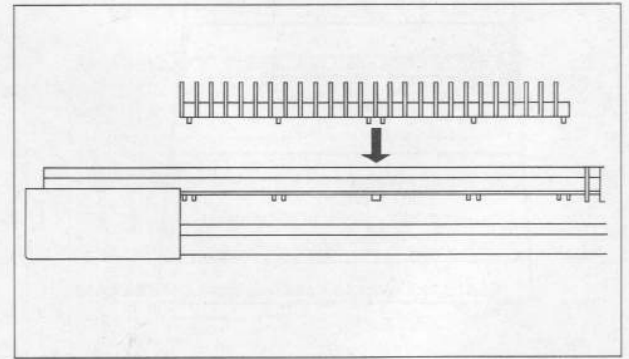


Changing the striking combs

Remove the lock from the needle bed by sliding it out sideways. Pull the two retaining rods out sideways. To get a proper grip, hold the bent end and pull it towards you.

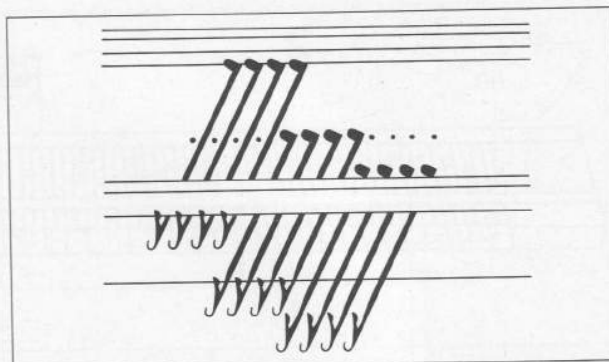
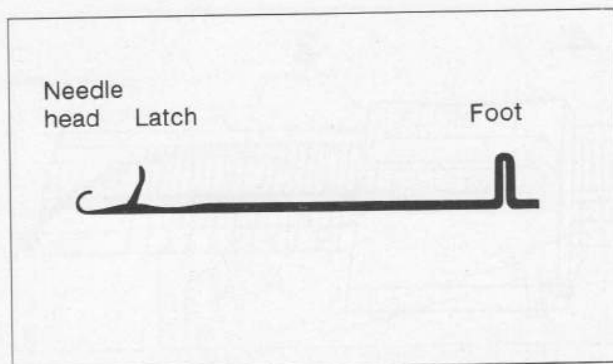


The wide spaced, 10-mm gauge striking comb is used for chunkier, thicker yarns, i.e. approx. 200–100 m length per 100 grammes.



Lift the four sections out of their slots. You can now fit the four sections of the other striking comb by inserting their supports into the slots along the front edge of the needle bed. (For the wide spaced striking comb, proceed from left to right, i.e. starting with the left-end section, and so on.) Re-insert the two retaining rods through the holes in the supports for the striking combs.

Assembly



2 The Needle

If you are using the narrow gauge striking comb, you have 207 working needles.

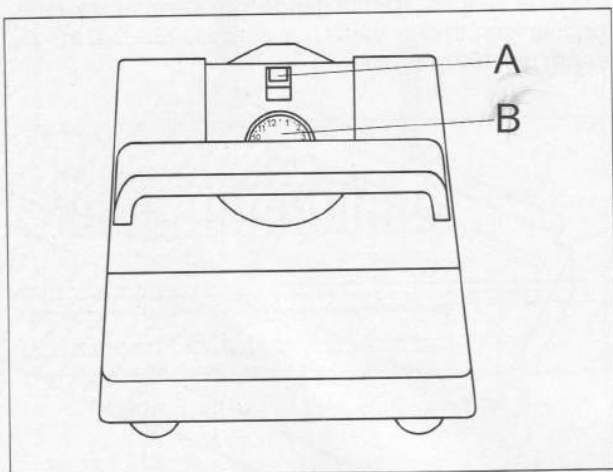
If you are using the wide gauge striking comb, you have 103 working needles.

The needle positions

Not in Working Position: The needle foot touches the back guide rail.

Advanced Working Position: The needle foot is in line with the marking on the needle bed. This is the actual knitting position.

Rest Position: The needle foot touches the front guide rail. In this position the needle does not knit; however, there may be stitches on the needle shaft.



3 The Lock

A. The Knitting Switch

It has two positions:

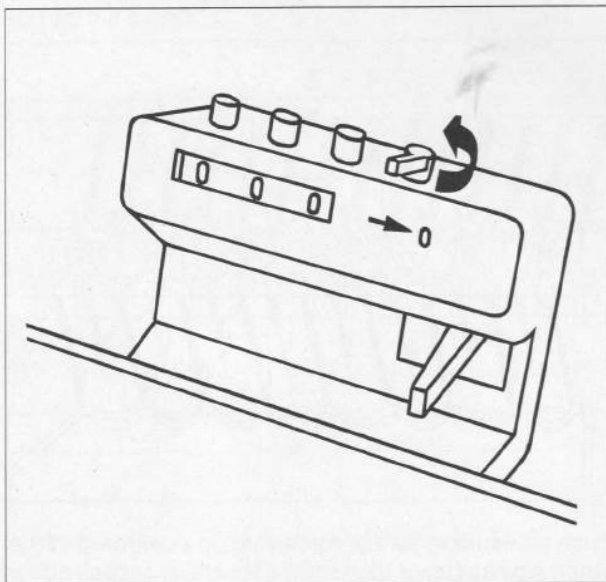
Pushed to the back (down): knitting position

Pushed to the front (up): casting on position

B. The Stitch Size Dial

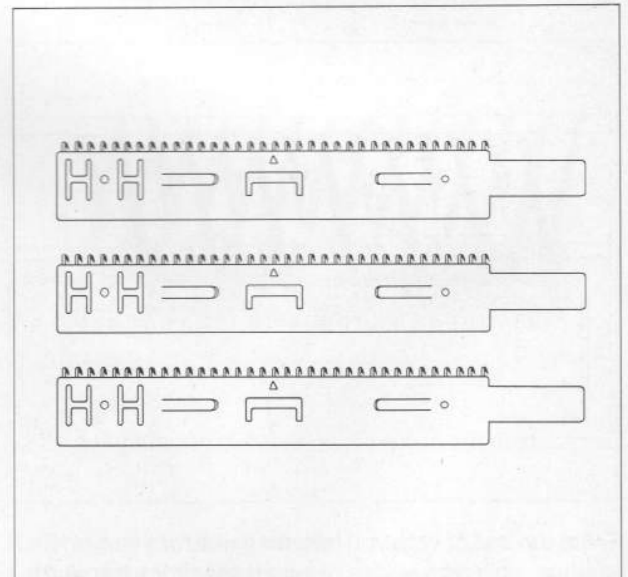
The stitch size can be adjusted from 1 to 12. The setting depends on the yarn used, and how tight or loose you wish your knitting to be. The following table is an approximate guide for the settings for ordinary smooth but not fancy yarns which generally require a higher setting.

Narrow gauge striking comb		Wide gauge striking comb	
Yarn per 100 grms	Stitch size	Yarn per 100 grms	Stitch size
400-500 m	2-4	150-200 m	5-7
300-400 m	3-5	100-150 m	7-9
250-300 m	4-6		
200-250 m	5-7		



4 The Row Counter

Use the three knobs to set each number individually, or pull the small lever to the right to return all numbers to zero.



The casting on combs

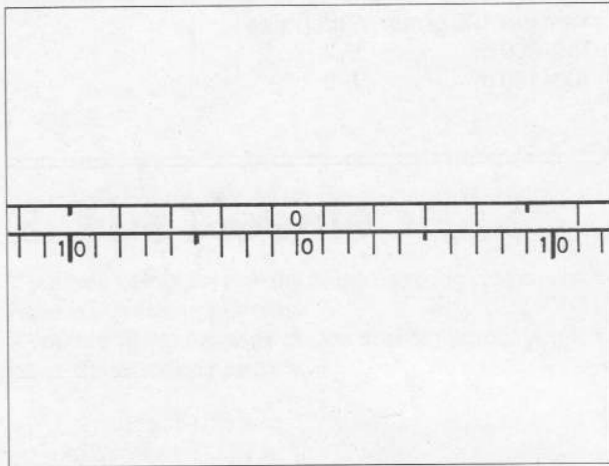
The three casting on combs can be joined together. Always make sure the joined sections correspond at least to the width of your knitting.

Casting On

Casting on for stocking stitch

To begin with we recommend using the wide gauge striking comb. It makes it easier to see what is going on, as well as enabling you to get on faster.

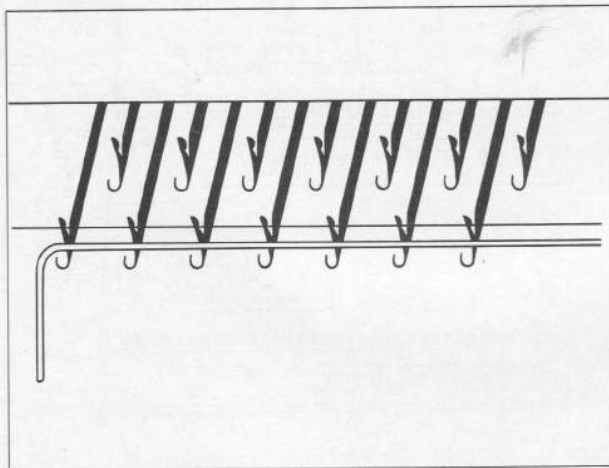
Use a smooth type of yarn for your first try, i.e. one of 160 to 180 m length per 100 grms.



Take a look at the stitch scale on one of the guide rails. The upper half counts the needles that are in Working Position when you knit with the wide gauge striking comb.

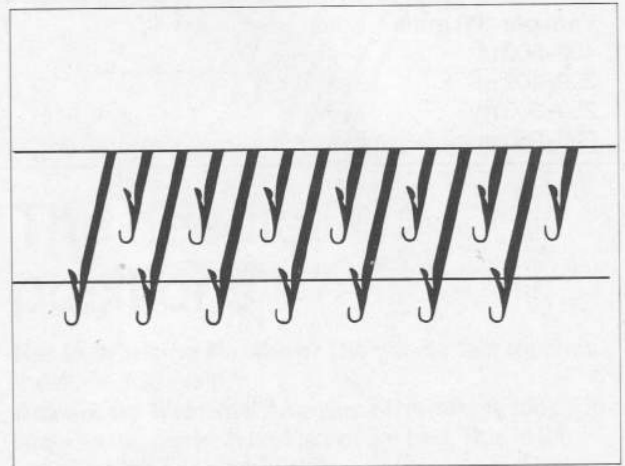
The lower half counts the needles that are in Working Position when you knit with the narrow gauge striking comb.

The zero marks the centre of the needle bed.

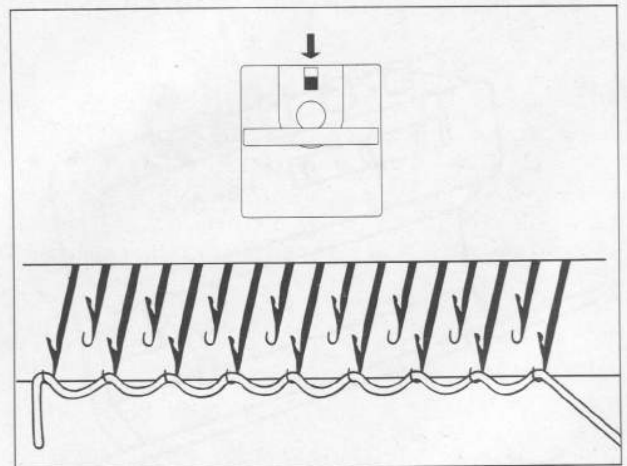


From the ball of yarn you intend to use for your knitting, unwind a length of yarn three times the width across which you will be knitting.

Start laying it across from the right into the open needle heads, so that the loose yarn end is on the left.



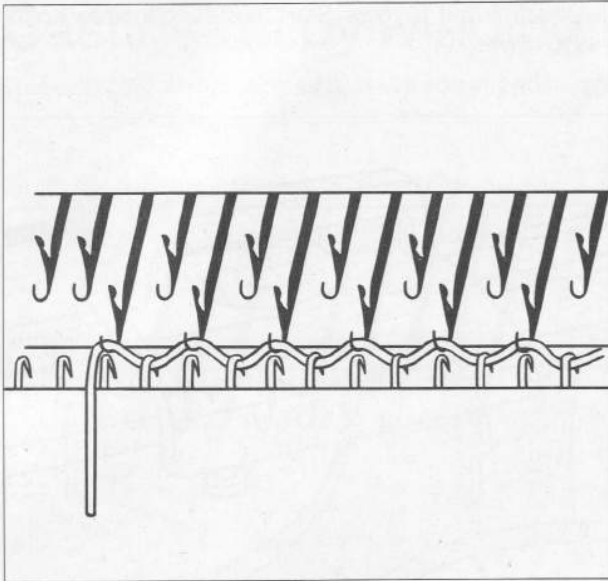
From needle 14 at right of centre to needle 15 at left of centre, push every alternate needle to Advanced Working Position (i.e. needle foot aligned with marking on the needle bed). To do this, use pattern ruler C. Make absolutely sure that every single latch is open (closed latches invariably lead to dropped stitches).



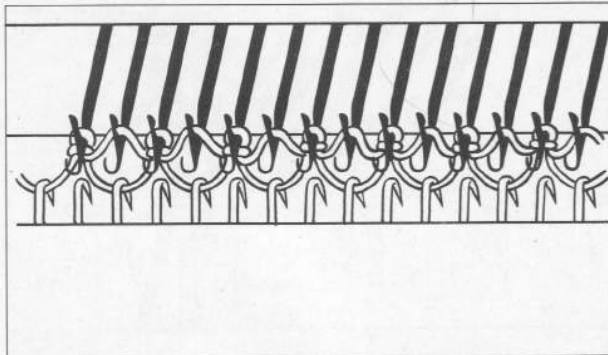
Push the knitting switch to casting on position. Set the stitch size at 4.

Move the lock from right to left across the needles in Advanced Working Position.

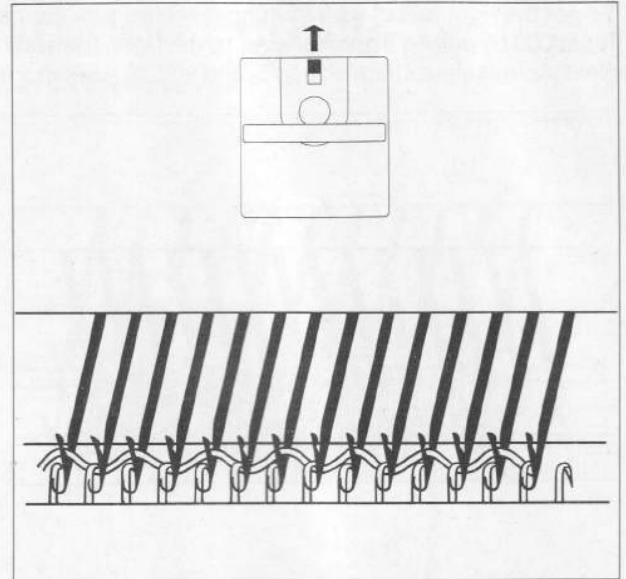
(Hold the yarn lightly on the right, until the lock has passed over the first few needles.)



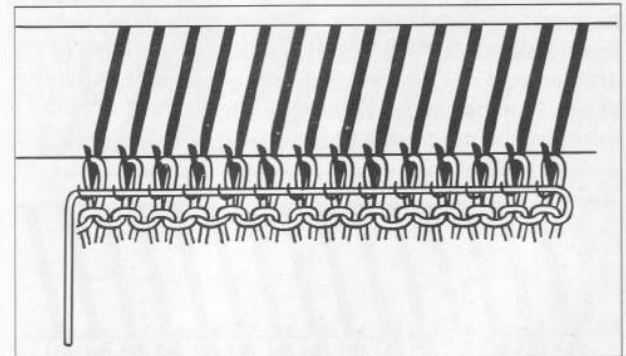
Pick up the casting on comb with its bent hooks facing away from you towards the knitting machine (for your present knitting width you need only one section). Align the centre of the casting on comb with the centre of your knitting. Position the casting on comb in such a way that a hook always catches a loop of yarn where a needle is out of work. Fasten the loose left end of the yarn in the yarn clamp of the casting on comb. Ensure that the right end of the yarn comes to lie across the comb.



Lay the yarn from right to left into the open needle heads and move the lock from right to left across the needles. You have now completed your cast-on and you can start knitting in stocking stitch.



Push the knitting switch to the back to knitting position. Move the lock from left to right across the needles. Push the needles which are between the needles already in Advanced Working Position also to this position. At the right edge, push an additional needle to Advanced Working Position. Ensure that all latches are open.

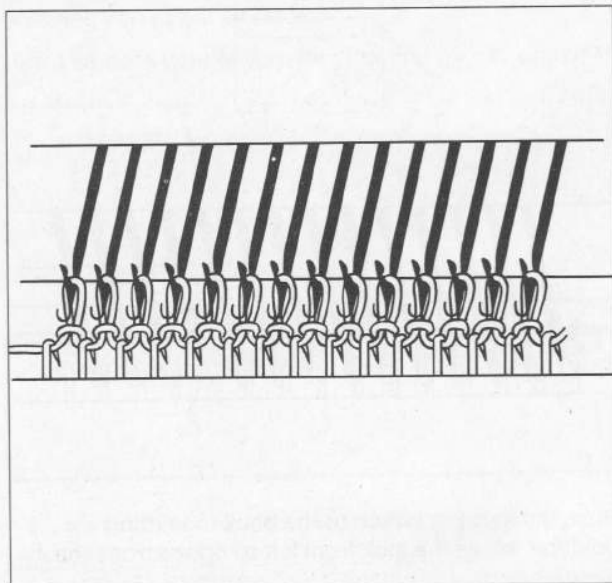


Knitting in stocking stitch

Lay yarn into the open needle heads. Make sure all latches are open. Move the lock across the needles, knitting one row. Always remember to check that the last stitch has been knitted off correctly.

Casting On

To get the right feel of your knitting machine, we recommend that you now knit 10 rows. Start by setting the row counter at 000 by pulling the small lever to the right, then knit these first 10 rows. Next increase the stitch size to 5, and knit 10 rows more.



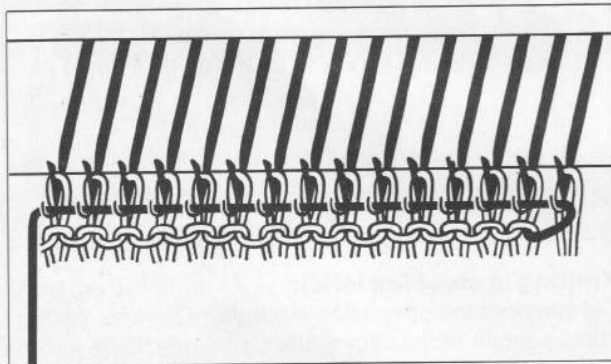
Adjusting the casting on comb

After about 50 rows, or at the latest when the casting on comb rests on your lap, you will have to adjust the comb to ensure an even pull on your knitting. Remove the comb from the loops from which it hangs. Guide the yarn with which you are knitting across the needle bed to the back, or it might get caught in the comb.

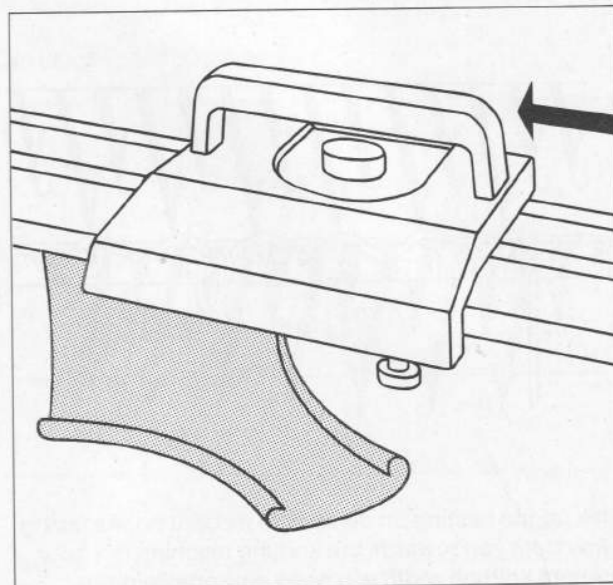
Align the hooks of the casting on comb exactly with the bars of the striking comb, move down in a line so that the hooks of the casting on comb grip the loops between the stitches.

If you knit with a low stitch size setting (i.e. 1-5) it is advisable to adjust the comb less often and hang it about 1 cm below the striking comb.

Increase the stitch size to 6, and knit 10 rows more.



With certain yarns it may happen that the last stitch in a row is not being knitted off. If this happens, guide the yarn from below round the last needle and then lay it into the open needle heads.



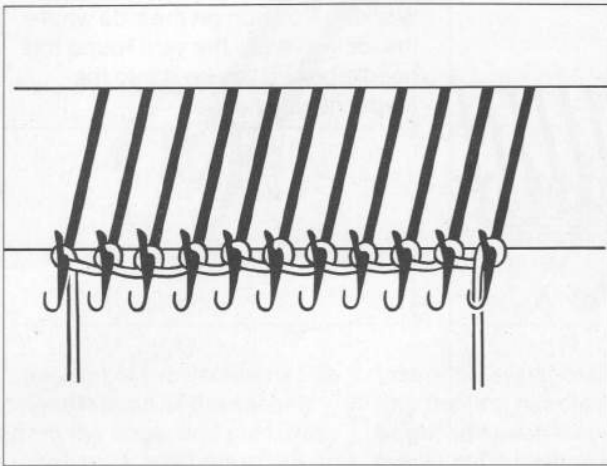
Releasing the stitches of your knitting

As this is only a test piece, we shall simply release the stitches rather than casting them off.

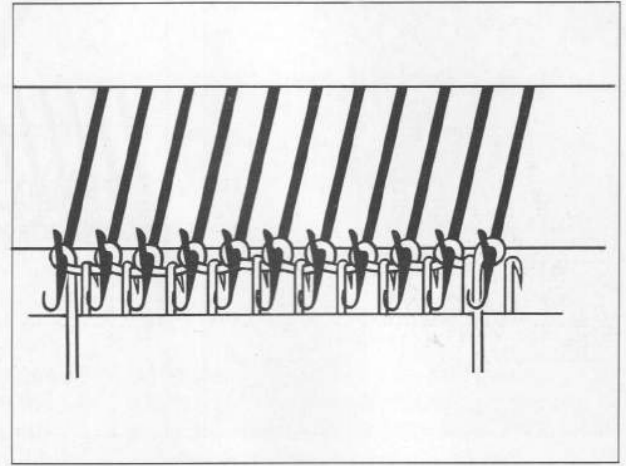
Move the lock across the needles without first laying the yarn into the open needle heads. Now look closely at the knitting: you will clearly see that the fabric becomes looser, less compact, where you have knitted with a larger stitch size. Now decide for yourself which stitch size you prefer or suits your knitting best.

Casting on by winding yarn round needle

This cast on is particularly advisable if you intend to cast on across very few needles.

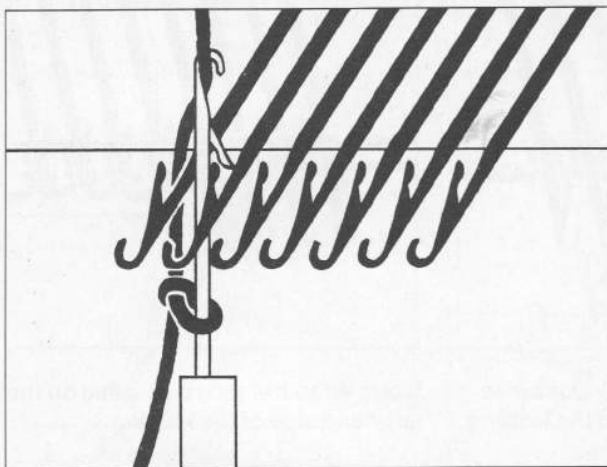


Push all the required needles to Advanced Working Position. Starting from the left, wrap the yarn anti-clockwise round the needles.



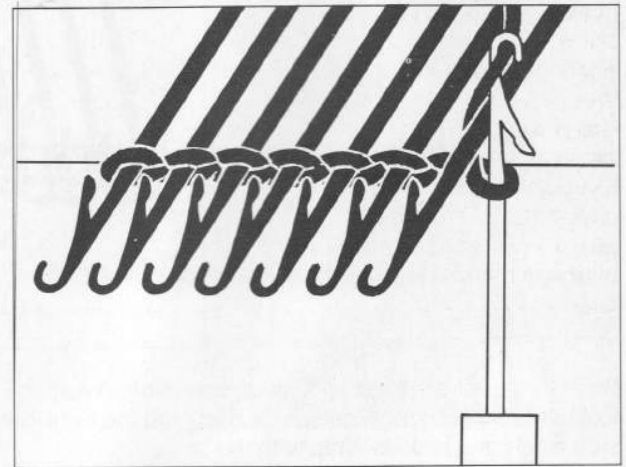
Hang the casting on comb into the loops between the needles. Make sure all latches are open, and the loops are all behind the latches. Lay the yarn into the open needle heads and begin to knit.

Casting on with latch tool



Push the needles required for knitting to Rest Position. Form a chain stitch (loop) and move it onto the shaft of the auxiliary tool. Working from left to right, guide the tool from below up between the first and second needle, while taking the yarn round the first needle, and placing it from above into the hook of the auxiliary tool.

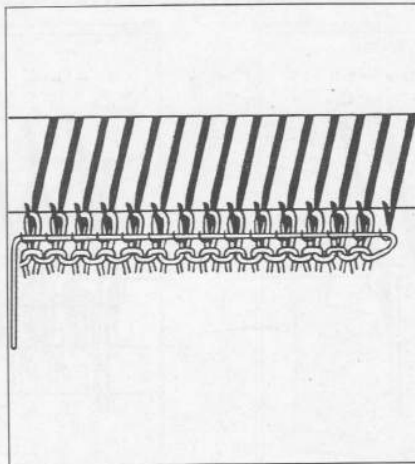
Form the stitch by pulling the auxiliary tool down.



Continue to crochet round the rest of the needles in the same way. Place the last stitch at right onto the last needle at right. Push the needles to Advanced Working Position, and put the casting on comb into place. Make sure all latches are open. Lay the yarn into the open needle heads and begin to knit.

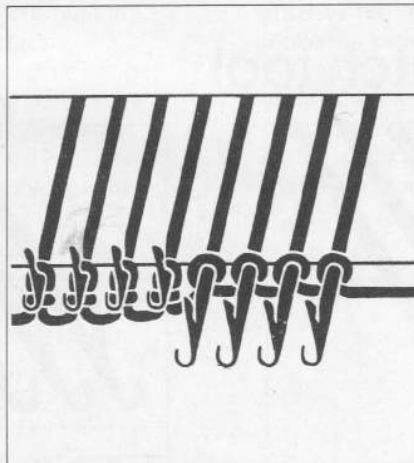
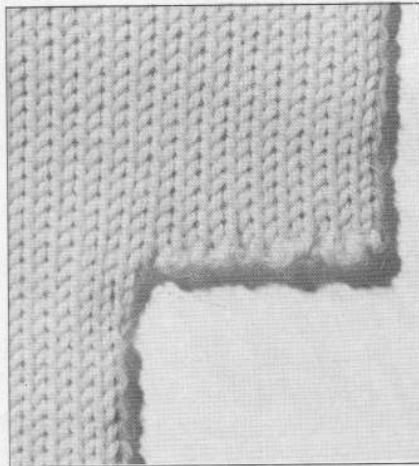
Shaping

Increasing 1 stitch at the edge of the knitting

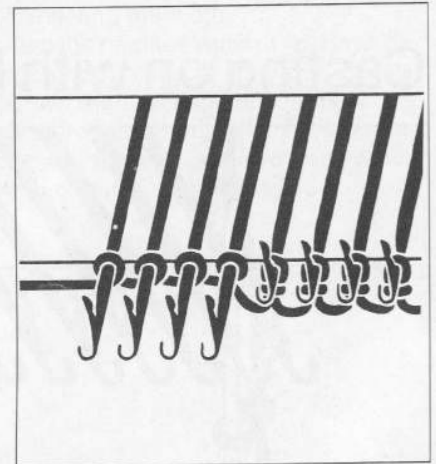


Push one empty needle to Advanced Working Position on the side where the lock is. Wrap the yarn round this needle before you lay it into the empty needle heads.

Increasing several stitches



Note: Wrap the yarn anti-clockwise on the right-hand side of the knitting.

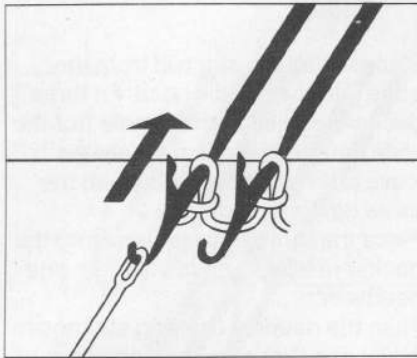


Note: Wrap the yarn clockwise on the left-hand side of the knitting.

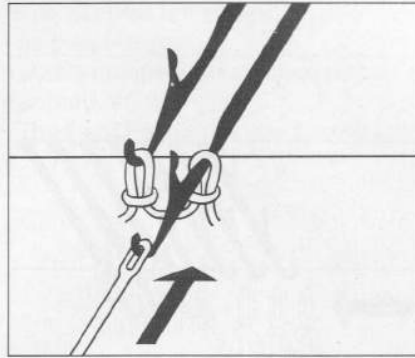
Push the required number of stitches to Advanced Working Position on the side where the lock is. Wrap with the yarn coming from the knitting.

Re-position the casting on comb, i.e. hang it into the loops stretching between the needles. If the comb is too short, add another section. The hooks of the comb must also grip the loops between the wrapped needles.

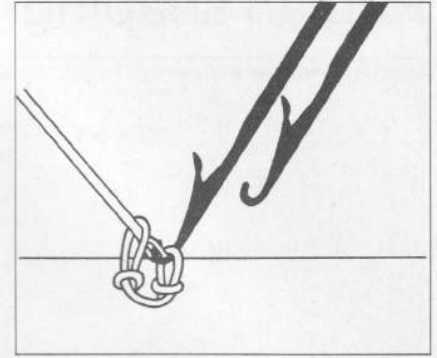
Decreasing 1 stitch



Insert the eyelet of the dekker needle into the needle head of the second needle from the edge, and push this needle to the back, until the stitch slips onto the shaft of the dekker needle. Tilt the tool up until the stitch has slipped into the needle head.



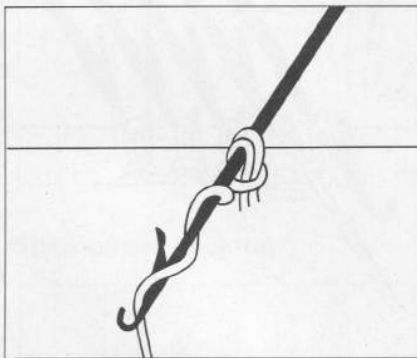
Insert the eyelet of the dekker needle into the first needle head from the edge, and push this needle to the back until the stitch slips onto the shaft of the dekker needle.



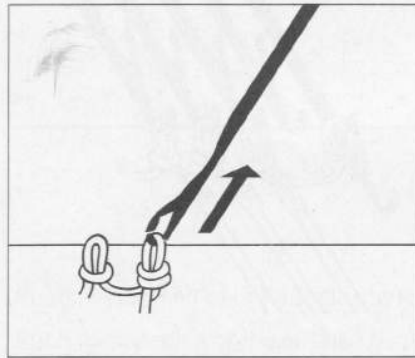
Unhook the dekker needle and insert it into the needle head of the adjacent needle. Tilt the dekker needle up and back until the stitch slips into the new needle head. Push the needle holding the two stitches to Advanced Working Position. Push the empty needle out of work.

Decreasing several stitches/casting off

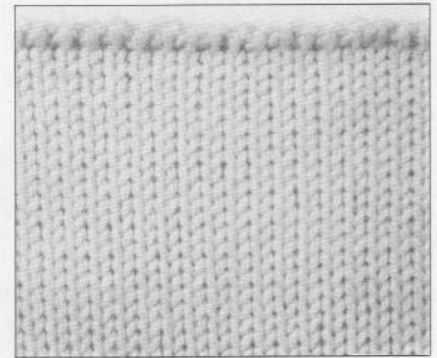
If you want to decrease several stitches or to cast off, decrease the first stitch as described above, then continue as follows:



Pull the needle on which there are now two stitches completely forward until the stitches slip behind the open latch. Wind the yarn that was used for knitting twice round the needle so that the yarn once lies at the front and once at the back of the latch.



Pull the needle back until the two stitches slip over the closed latch and the yarn to form a new stitch. Continue to pull the needle back to slightly stretch the new stitch. The more you stretch the new stitch, the looser the cast-off.

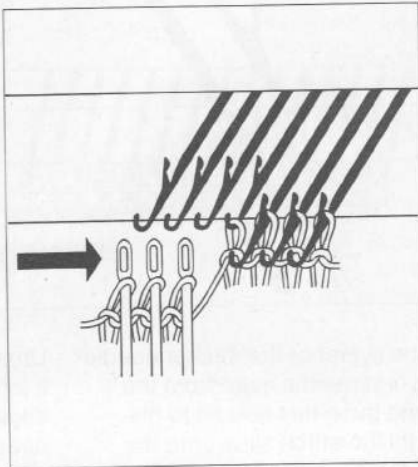
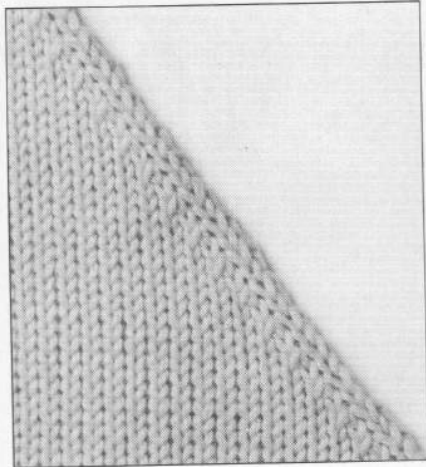


Continue by first placing the adjacent stitch into the needle head, and then placing the new stitch into this adjacent needle.

If you wish to cast off a larger number of stitches, or all of them, we recommend that you knit the last row before casting off with the knitting switch set at casting on, all the stitches are then already in the needle heads. When you have finished, you have to push the needles you require to continue to knit to Advanced Working Position again.

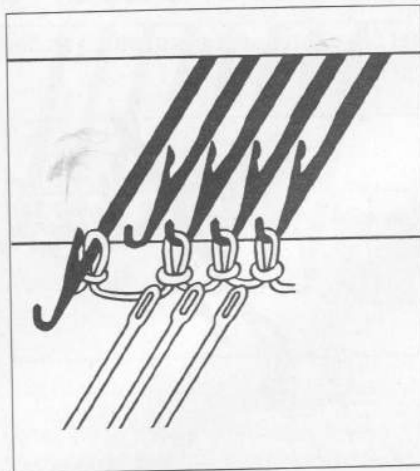
Shaping

Decreasing 1 stitch using triple decker tool = Raglan shaping

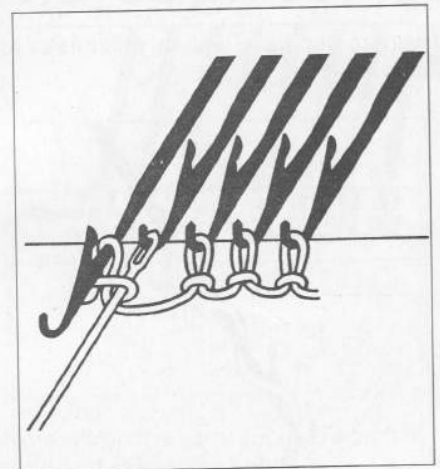


Place the fourth stitch in from the edge into the needle head. Fit three decker needles to the handle (for the wide gauge striking comb always leave an empty space between the three decker needles). Place the three end stitches onto the decker needles and move them one needle in. Push the needles carrying stitches to Advanced Working Position again. Push empty needles out of work.

Increasing 1 stitch using triple decker tool

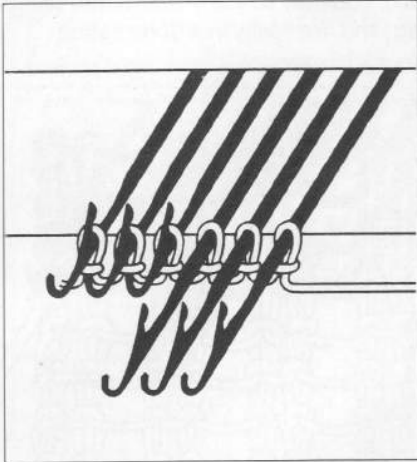


Push one empty needle at the edge of the knitting to the front edge of the needle bed. Move three stitches one needle out.



Place the purl stitch loop of the fourth stitch into the empty needle head. Push the needles carrying stitches to Advanced Working Position again.

Rest Position



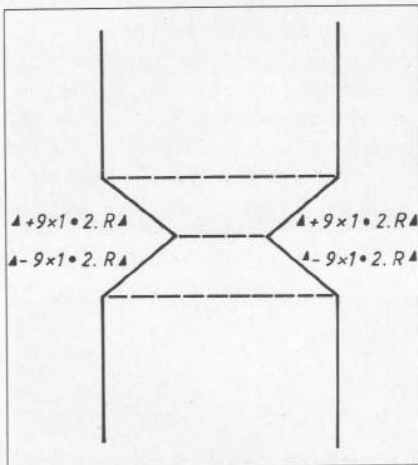
The needles are in Rest Position when they have been pushed forward as far as they will go.

In this position the stitches remain on the shaft of the needle without being knitted off.

The Rest Position is used in the following instances:

Decreasing and increasing with short rows

(Suitable for heels and hats)

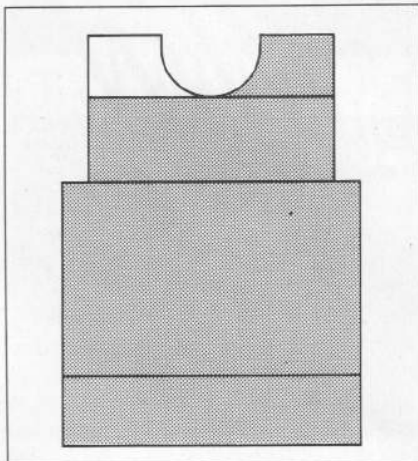


Decrease one stitch every alternate row nine times in all. Increase one stitch every alternate row nine times in all.

That is, when the lock is at right, push one needle to Rest Position at left. When the lock is at left, push one needle to Rest Position at right.

To increase, do the same but pushing the needles to Advanced Working Position.

Shaping the neckline



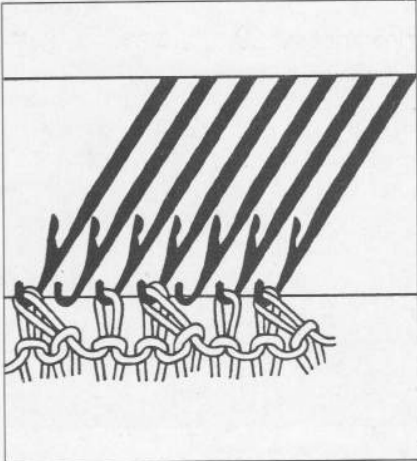
Push the left half of the needles to Rest Position. Finish knitting the right half.

Push the needles of the left half back to Advanced Working Position and knit left half to the end, reversing the shaping.

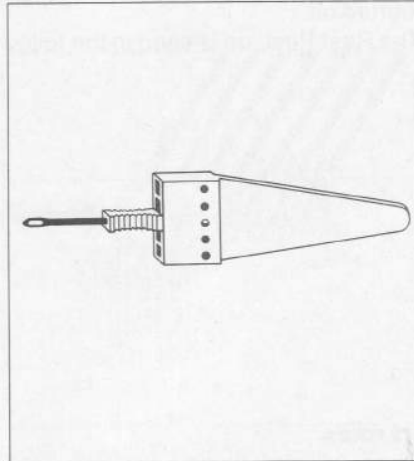
Shaping

The mock rib

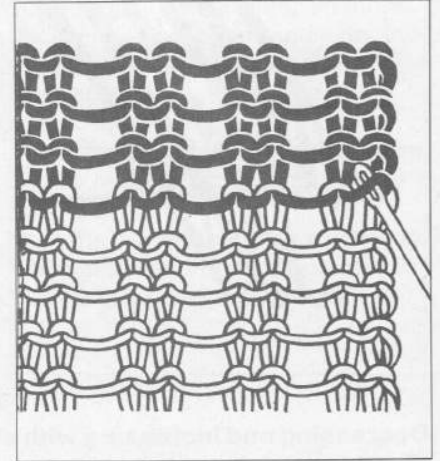
Using contrast yarn, cast on with all needles as given on page 8-9. For contrast yarn, you may use any oddments of yarn as long as they correspond in their thickness to the main yarn used for knitting, and are really in a contrasting colour.



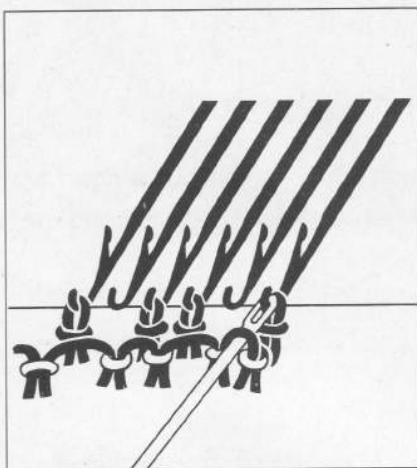
Knit about 6 rows, the last of which with the knitting switch in casting on position. Now transfer every third stitch to the adjacent needle. Push the needles carrying stitches to Advanced Working Position, and the empty needles out of work. Knit a few rows with contrast yarn. Change to the main yarn and knit the required number of rows. Knit the last row of the rib with the knitting switch in casting on position.



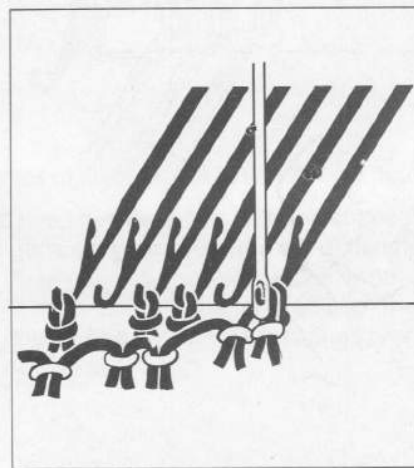
Push the empty needles between the working needles forward to make them work, too. Fit a decker needle into the holder.



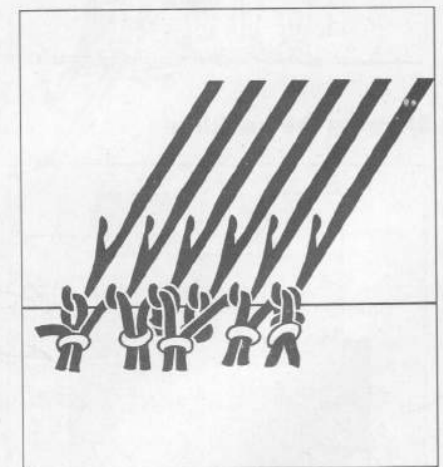
Look at the first row knitted in main yarn: you will notice longer and shorter loops. Pick up the first loop at right with the decker needle by pushing the decker needle through the loop in an upward movement as shown in the diagram.



Ensure that all latches are open. Place the loop onto the first working needle.



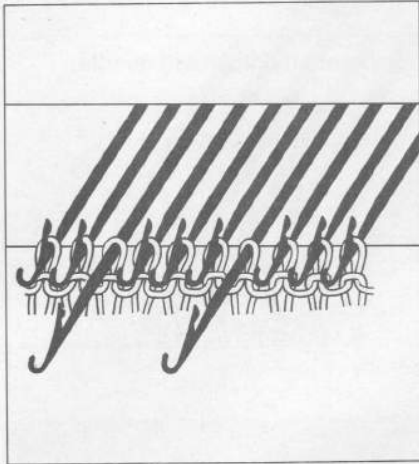
Tilt the decker needle vertically upwards and to the back. The loop will now slide quite easily into the needle head.



Continue thus, always placing a longer loop onto an empty needle and a shorter loop onto one of the two needles with a stitch on it.

Finally, push all needles to Advanced Working Position, hang the comb and continue to knit.

Tuck Stitch



Push the needles on which the loops should be formed to Rest Position. Knit so many rows as you wish to knit tucks.

Basic rule: the thicker the yarn the fewer the tucks that can be knitted.

Chart for tuck stitch patterns:

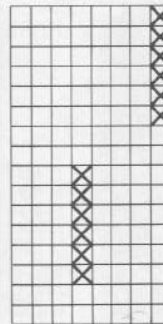
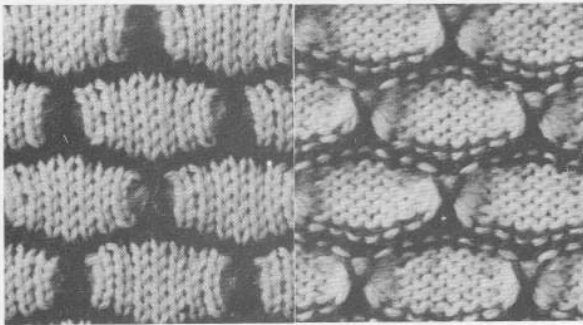
1 empty square = 1 needle in Advanced Working Position

1 cross = 1 needle in Rest Position

1 horizontal row of squares = knit 1 row

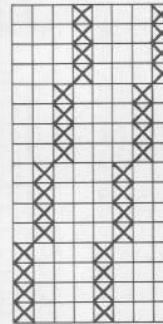
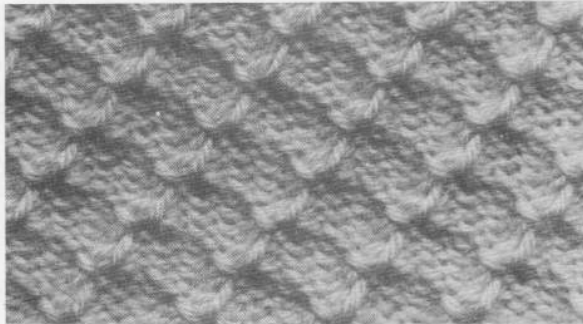
(Begin with the bottom row.)

Note: Tuck stitch patterns should not be knitted with stitch size 3 or less.

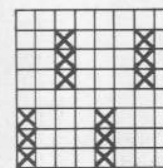
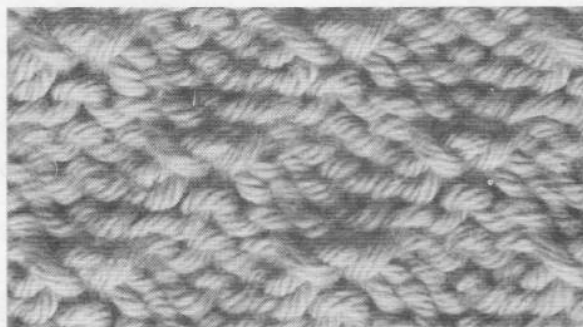


Knitted with the narrow gauge striking comb.

2 R dark
6 R light



Knitted with the narrow gauge striking comb.



Knitted with the wide gauge striking comb.

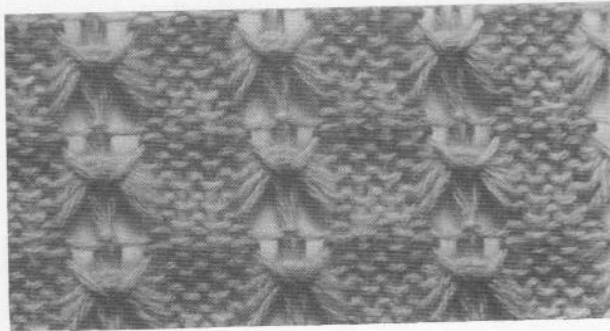
Stitch Patterns

Tuck stitch patterns with needles out of work

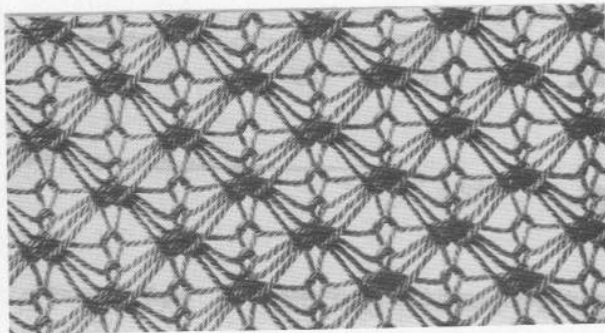
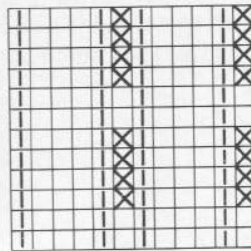
For these patterns single needles are out of work.

In the chart they are indicated by a vertical broken line.

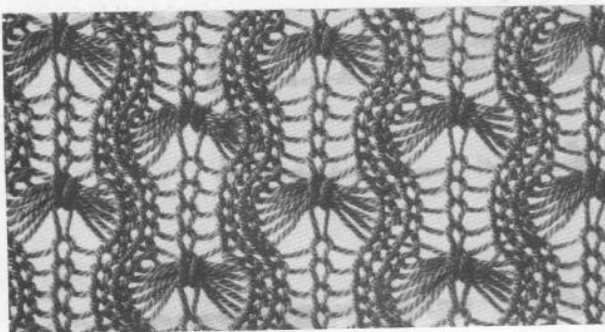
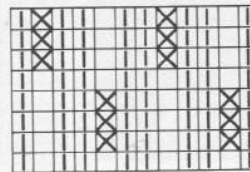
If you have previously been knitting in stocking stitch, transfer the respective stitches onto the adjacent needle.



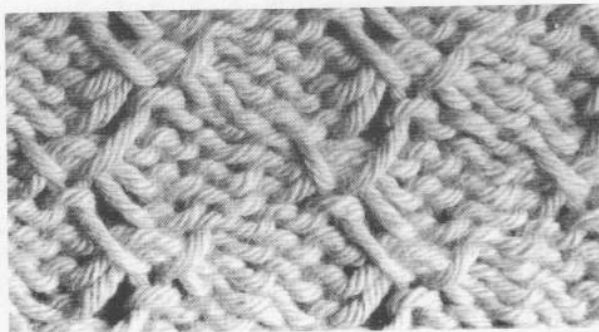
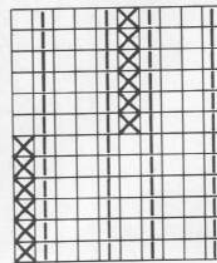
Knitted with the narrow gauge striking comb.



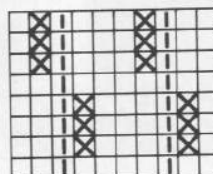
Knitted with the narrow gauge striking comb.



Knitted with the narrow gauge striking comb.

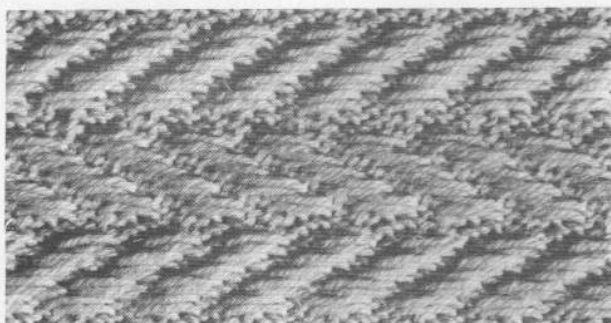
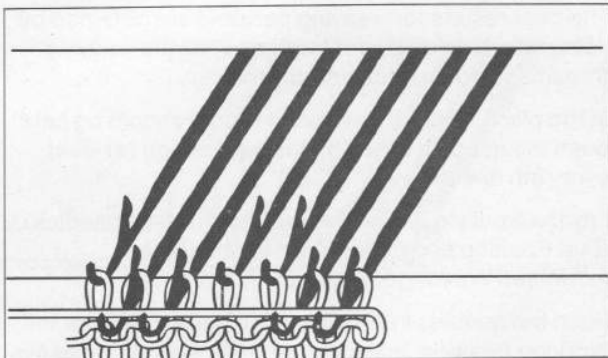


Knitted with the wide gauge striking comb.



Stitch patterns

Slip stitch patterns



Slip stitch patterns are formed by floats. Where the float is supposed to appear, the stitch is placed into the needle head. (If you intend knitting a pattern with relatively many floats, we recommend knitting with the knitting switch in the casting on position, and pushing the needles being knitted off to Advanced Working Position.)

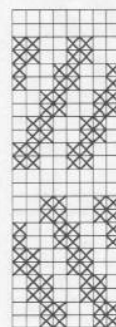
Chart for slip stitch:

1 empty square = 1 needle in Advanced Working Position

1 cross = 1 needle in the needle head

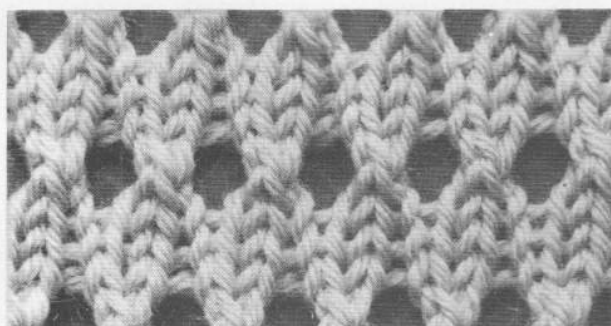
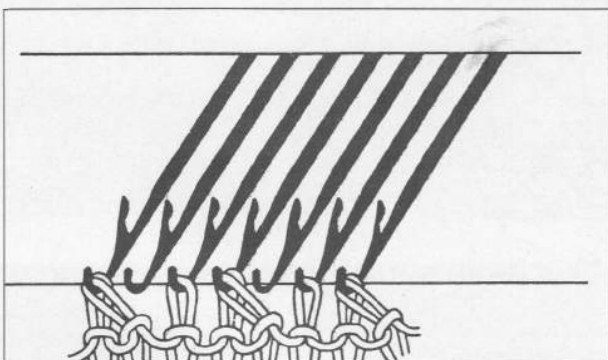
1 horizontal row of squares = knit 1 row

(Start with the bottom row.)



Knitted with the narrow gauge striking comb.

Lace patterns



If you wish to knit several holes in one row, knit the row with the knitting switch in the casting on position.

Where the hole should be, transfer the stitch onto the adjacent needle. Push all needles to Advanced Working Position.

Make sure all stitches are behind the open latches.

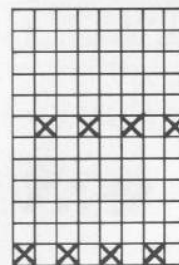
Lay the yarn into the open needle heads. Knit 1 row.

Chart for lace pattern:

1 empty square = 1 needle in Advanced Working Position

1 cross = transfer stitch to adjacent needle. Needle stays in Advanced Working Position.

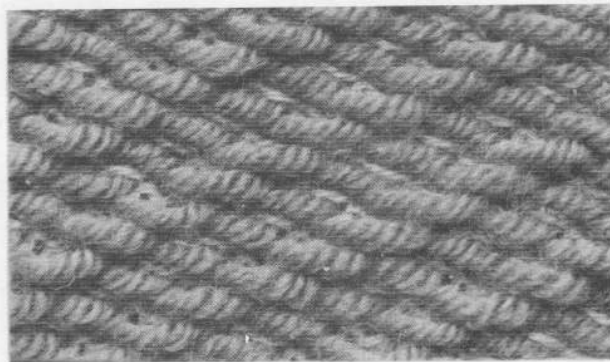
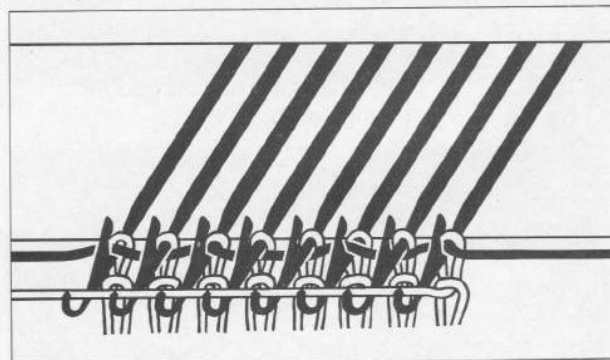
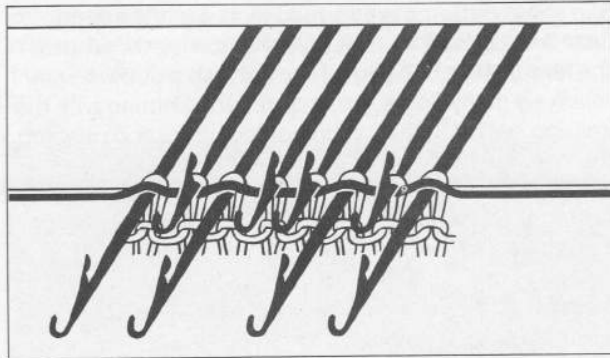
1 horizontal row of squares = knit 1 row



Knitted with the wide gauge striking comb.

Stitch Patterns

Weaving patterns



The best results for weaving patterns are obtained by using a fairly thin yarn for knitting while the weaving thread should be considerably thicker.

In the place where the weaving thread should be held, push the needles forward to Rest Position (at least every 4th needle).

Lay the weaving thread over the shaft of the needles in Rest Position and underneath the needles in Advanced Working Position.

Push the needles in Rest Position back to Advanced Working Position, making sure the weaving thread lies behind the latch and the latch remains open.

Lay the knitting yarn into the open needle heads. Knit 1 row.

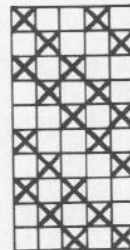
Chart for weaving pattern:

1 empty square = weaving thread lying underneath the needle

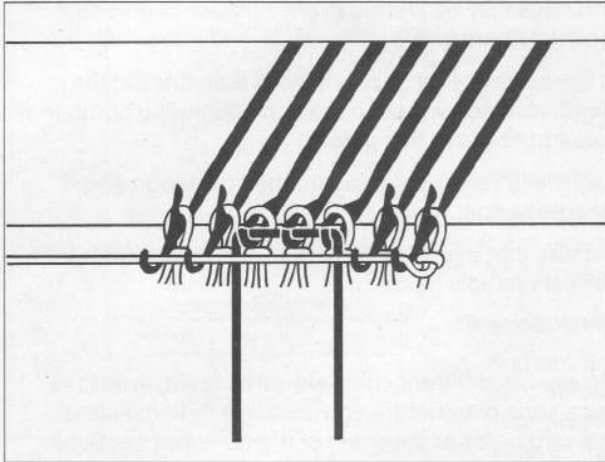
1 cross = weaving thread lying over the needle

1 horizontal row of squares = knit 1 row

Knitted with the wide gauge striking comb.



Fairisle



Lay the motif colour across the needle heads selected to knit the motif colour. Push the needles back until the latches have been closed.

Lay the background colour into the needle heads that are still open. Knit 1 row.

You can use the same method for knitting in more than two colours.

Chart for motif knitting:

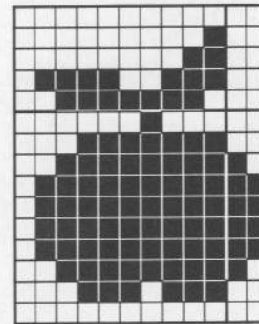
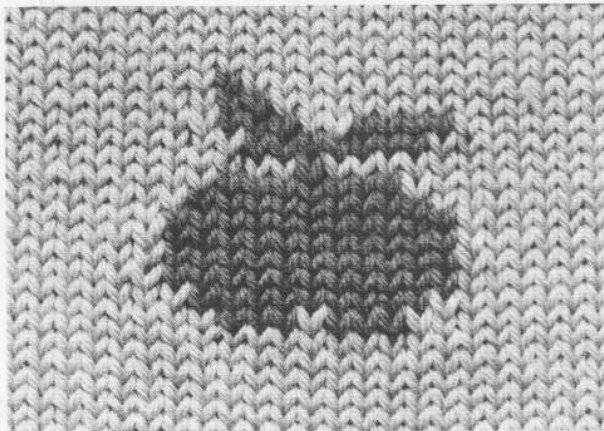
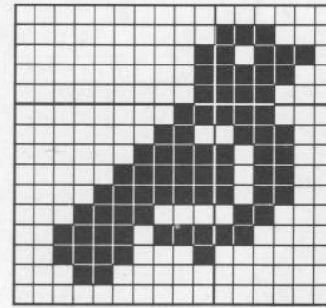
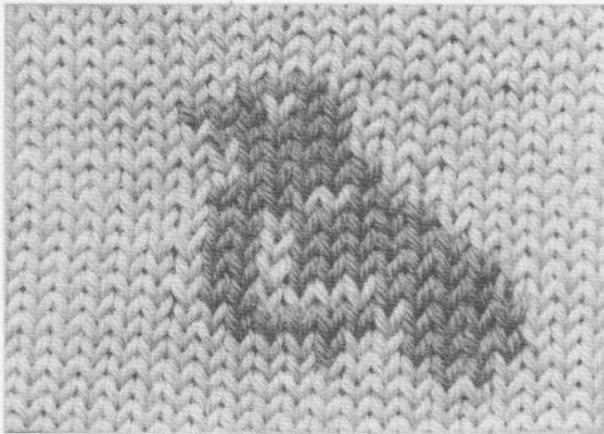
1 empty square = needle in Advanced Working Position knits background colour

1 black square = lay the motif colour, and close the latch

1 horizontal row of squares = knit 1 row
(Begin with the bottom row.)

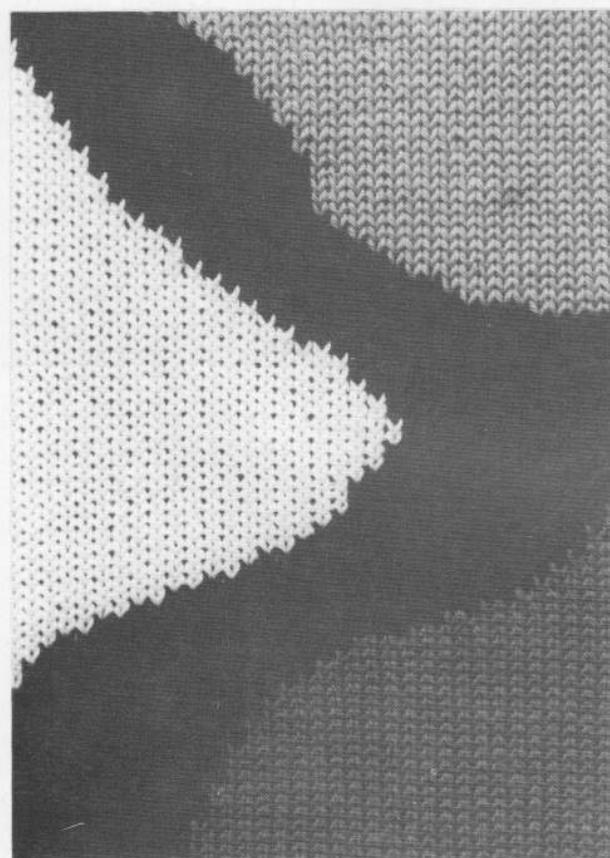
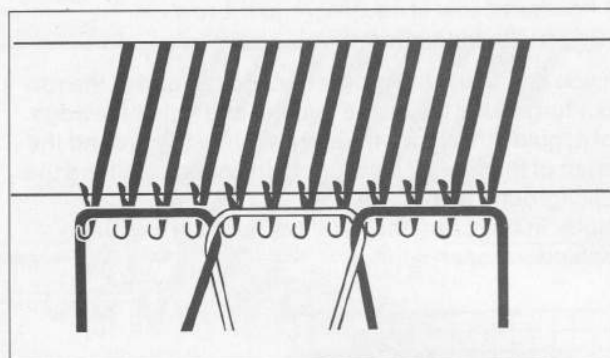
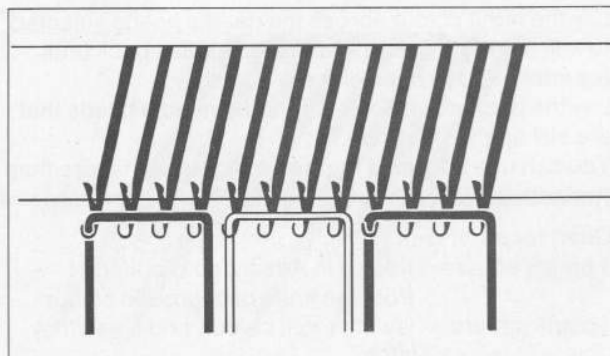
If you don't take the motif colour to the end of the row but turn round inside the knitting and not at the edge of it, guide the yarn where you wish to turn, round the shaft of the needle adjacent to the needle knitting the background colour.

Note: In this case, the motif colour must always lie behind the open latch.



Stitch Patterns

Picture/intarsia knitting



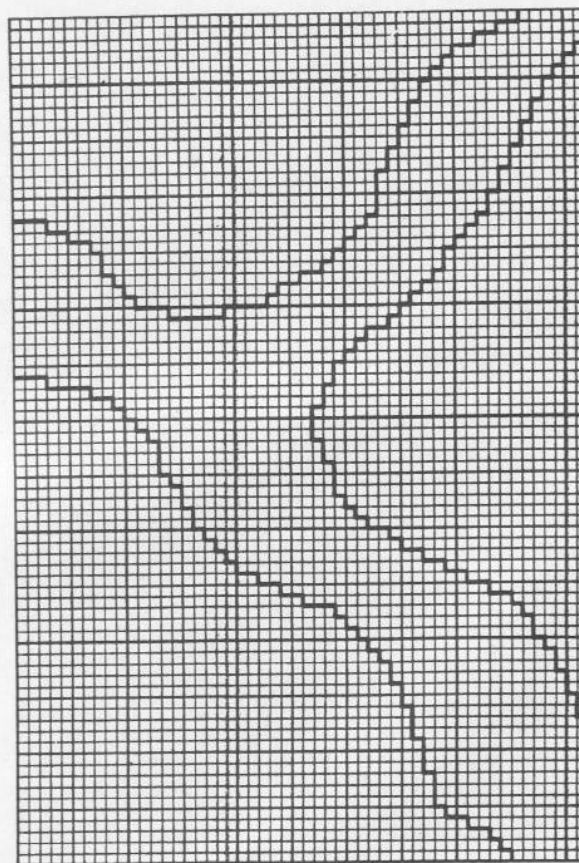
Intarsias may be knitted in any number of different coloured yarns.

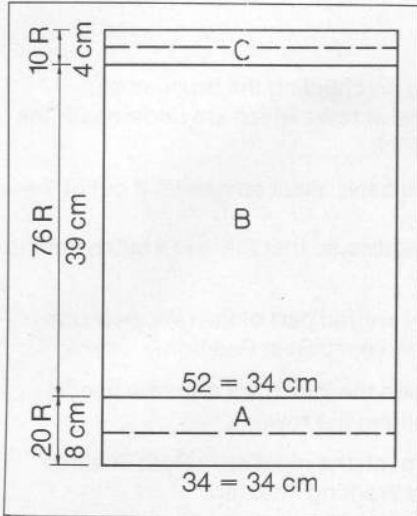
If the same colour appears more than once in the same row, you will need the corresponding number of separate balls of this colour.

Lay the different colours into the corresponding needle heads.

Ensure that every latch is open, and that there is yarn in every needle head.

Where the different coloured yarns meet, cross the yarn ends over before you continue to knit. This will prevent holes at the sides of the coloured sections.





280 grms yarn, 150 m length per 100 grms = 47 yds per 1 oz, using the wide gauge striking comb. The sweater is intended to fit a 5 to 6-year old (height 116 cm).

Back and Front

The cast-on

1. Push every alternate needle to Advanced Working Position over a width of 52 needles. Using contrast yarn, knit the cast-on as given on page 8-9.
2. Knit 5 rows with contrast yarn.

The mock rib (stitch size 4)

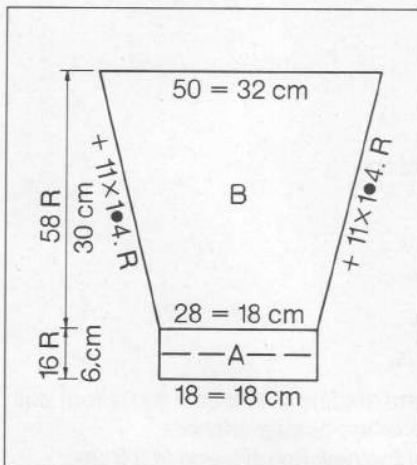
3. Knit row 6 with the knitting switch in casting on position. Transfer every third stitch to its neighbouring needle and continue to knit as given on page 16. Knit 2 rows with contrast yarn.
4. Change to the main yarn. Knit 19 rows. For row 20 set the knitting switch to casting on position.
5. Turn up mock rib as given on page 16. Push all needles to Advanced Working Position.

The main part (stitch size 9)

6. Knit 75 rows in stocking stitch with all needles. Knit row 76 with the knitting switch in casting on position.

The neckline (stitch size 6)

7. Transfer every third stitch to the adjacent needle. Push the needles with stitches on them to Advanced Working Position.
 8. Knit 10 rows.
 9. Knit 6 rows with contrast yarn. Release stitches.
- If you wish, you can use the Intarsia on page 22 for your front and/or back.



Sleeve

Knit two parts alike.

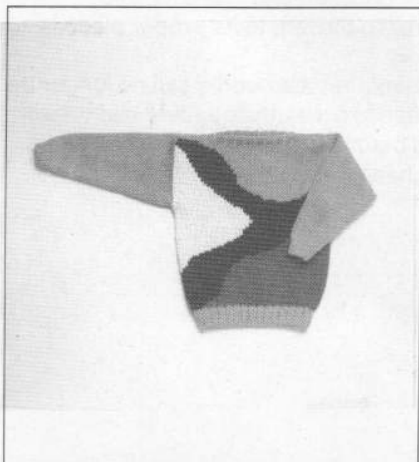
Proceed as given for the Back, steps 1-5, but only over a width of 28 needles.

The main part

6. Knit 57 rows in stocking stitch, increasing 1 stitch at each end every 4th row 11 times in all as given on page 12.
7. Knit row 58 with knitting switch in casting on position. Cast off all stitches as given on page 13.

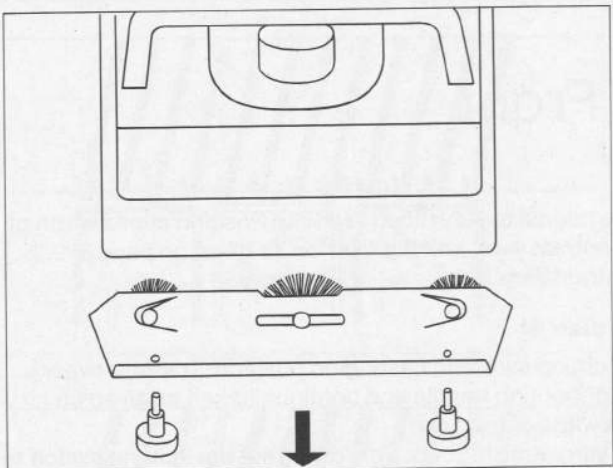
Making up

1. Stretch the neckband and the welt lengthwise and press.
2. Unravel contrast yarn on welt.
3. Unravel contrast yarn on neckband, fold in half to inside, hem down.
4. Overlap front and back neckbands, and join the shoulder seams along approximately 5 cms.
5. Set in sleeves with right sides facing.
6. Sew side and sleeve seams.



Useful Hints

Jammed lock



Remove the metal part holding the brushes by unscrewing the two screws which are underneath the front edge of the lock.

Tilt the lock up and back. You can now lift it out of the guide rail.

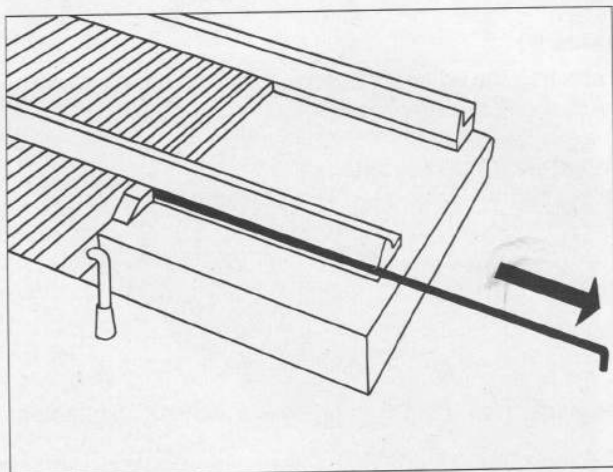
Re-arrange the needles so that there is a stitch behind every open latch.

If you have already knitted part of the row, push the corresponding needles to Rest Position.

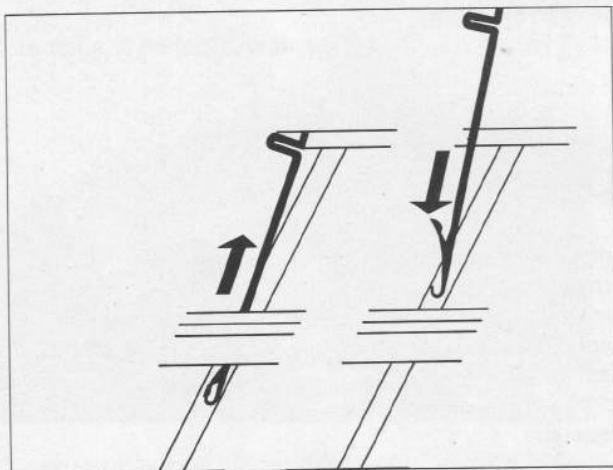
From the side, guide the lock back onto the needle bed, and finish knitting the row.

For the next row, push the needles in Rest Position back to Advanced Working Position.

Replacing a needle



If you have to replace a needle, pull out the needle rail to the right until the defective needle is cleared.



Close the latch, and holding the needle by its foot pull it back and up out of the needle channel.

Open the latch of the new needle, and fit it from behind into the needle channel.

Push the needle rail to the left, to its proper place again.

(If the latch is so bent that the needle can no longer be closed, you will have to break the needle head off with a pair of flat pliers before you can remove the needle from the needle channel.)