

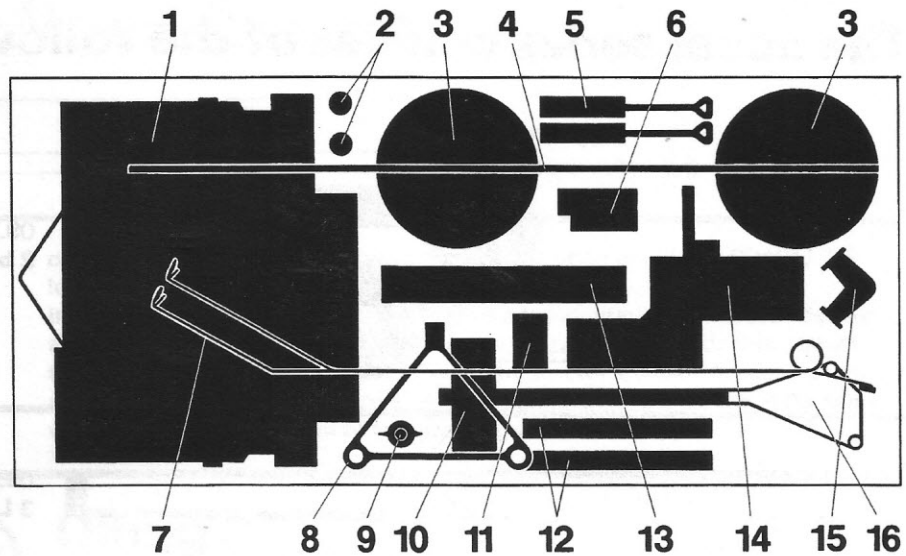
PASSAP[®] english

monomatic 20

Table of contents

3	Unpacking
6	Setting up the machine
8	The machine
10	The lock
12	The needles and pushers
14	Threading the yarn
17	Casting on
18	Casting off
19	Transfer of stitches
20	Increasing
22	Decreasing
23	Graduations
28	Buttonhole, Hem
29	Bands
30	Necklines
32	Francy stitch patterns
40	Making up
42	Calculation of garments
46	Technical hints
48	Alphabetical index

Unpacking

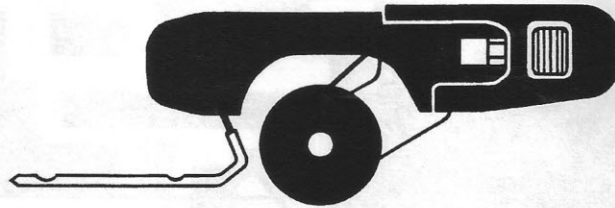


Open the box

- 1 Lock
- 2 2 Feeding eyelets
- 3 2 Yarn holders
- 4 Mast for yarn tensioner
- 5 2 Clamps
- 6 Row counter
- 7 Tension arm
- 8 Clamp with two eyelets for yarn guide
- 9 Tube of oil
- 10 Support with two tension discs for yarn guide
- 11 Paraffin wax
- 12 2 Strippers
- 13 2 Heel grips, 2 Pattern rulers
- 14 Two-colour changer
- 15 Bracket for yarn holders
- 16 Handle

Unpacking

The accessories consist of the following:



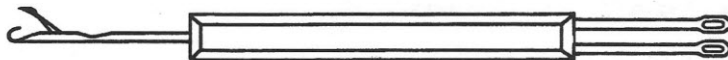
09.735.40
2 black strippers



09.232.12
3 Latch needles



09.802.03
Orange tool



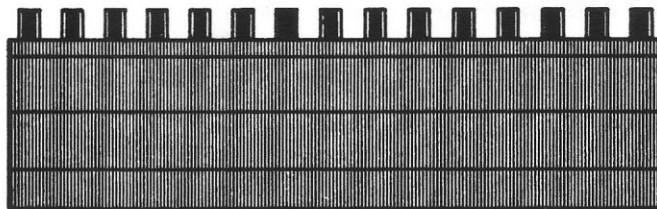
09.942.03
Yellow tool



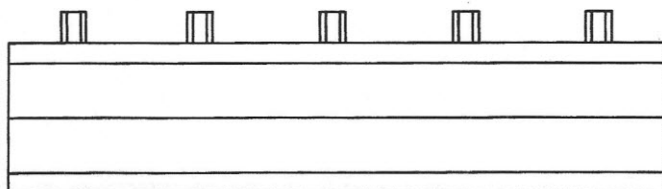
09.803.03
Black triple decker tool



09.941.02
Double end bodkin

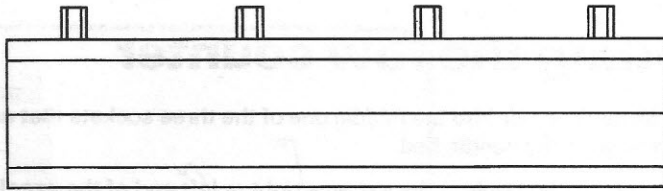


09.809.02
Pattern ruler



16.570.02
Pattern ruler 1:2

Unpacking



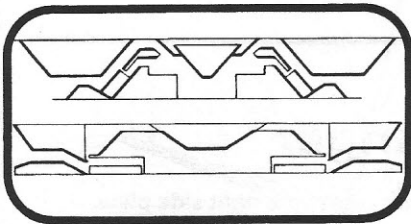
16.571.02

Pattern ruler 1:3

1 Magnet, 3 Screws

come with the accessories. They are only used when the FORM COMPUTER (optional extra) is added.

In that case, the magnet is stuck to the square indentation that is provided for this purpose on the back of the lock on the left-hand side. To do this, pull off the protective foil on the magnet. Two of the screws are used to screw on the supporting foot under the needle bed approximately at the centre, in the same way as the supporting foot of the tension guide.

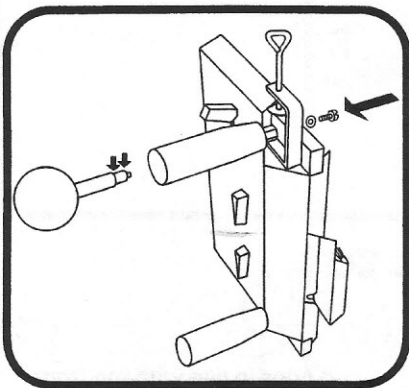


Oiling

Before you slide the lock onto the needle bed, oil the machine.

The following parts have to be oiled:

1. Needle feet
2. Pusher feet
3. Guide rails on needle bed
4. Back guide rails
5. Lock cams, see illustration (3-4 drops of oil on a brush)



Fitting the handle

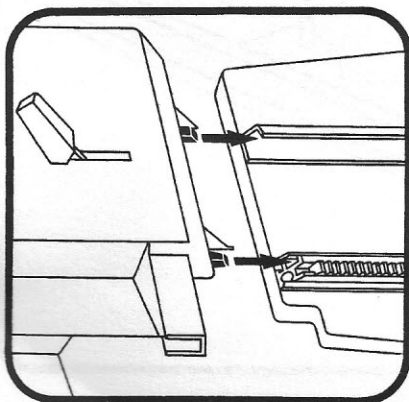
Important: Before you place the lock on the needle bed, you have to screw on the handle.

First unscrew the screw and washer from the handle.

If your lock is equipped with **ballshaped handles**, you should first oil the handle where marked by arrows using the enclosed Bellodor oil.

If your lock is equipped with **cylindric handles**, you can fix the handle by inserting the clamp underneath it as shown in the picture.

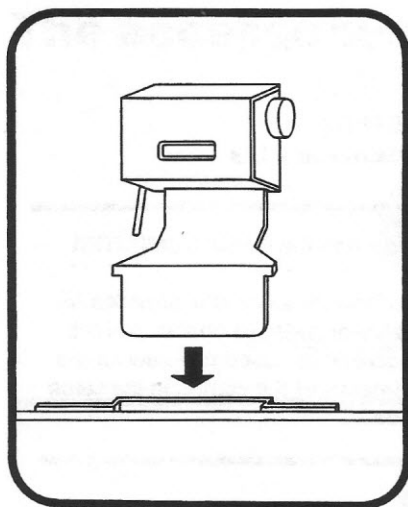
Do not forget the washer, and tighten the screw hard.



Sliding the lock onto the needle bed

Slide the lock from the left onto the needle bed according to sketch.

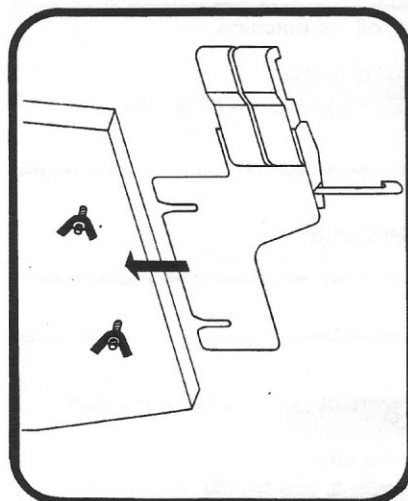
Setting up the machine



Fitting the row counter

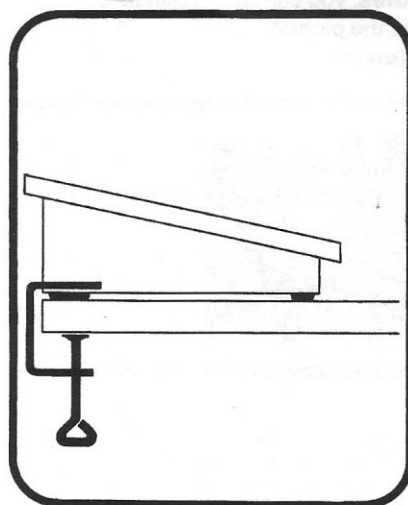
Fit the row counter into the middle one of the three sockets that are at the back edge of the needle bed.

If you are knitting only at the extreme right or left end of the needle bed, the row counter can be fitted in one of the other sockets.



Assembly of the two-colour changer

Slightly loosen the two wing nuts that are underneath the right side plate. Introduce the two-colour changer in such a way that the two studs rest firmly in their respective holes. Tighten the wing nuts hard.



Fixing the machine to the table top

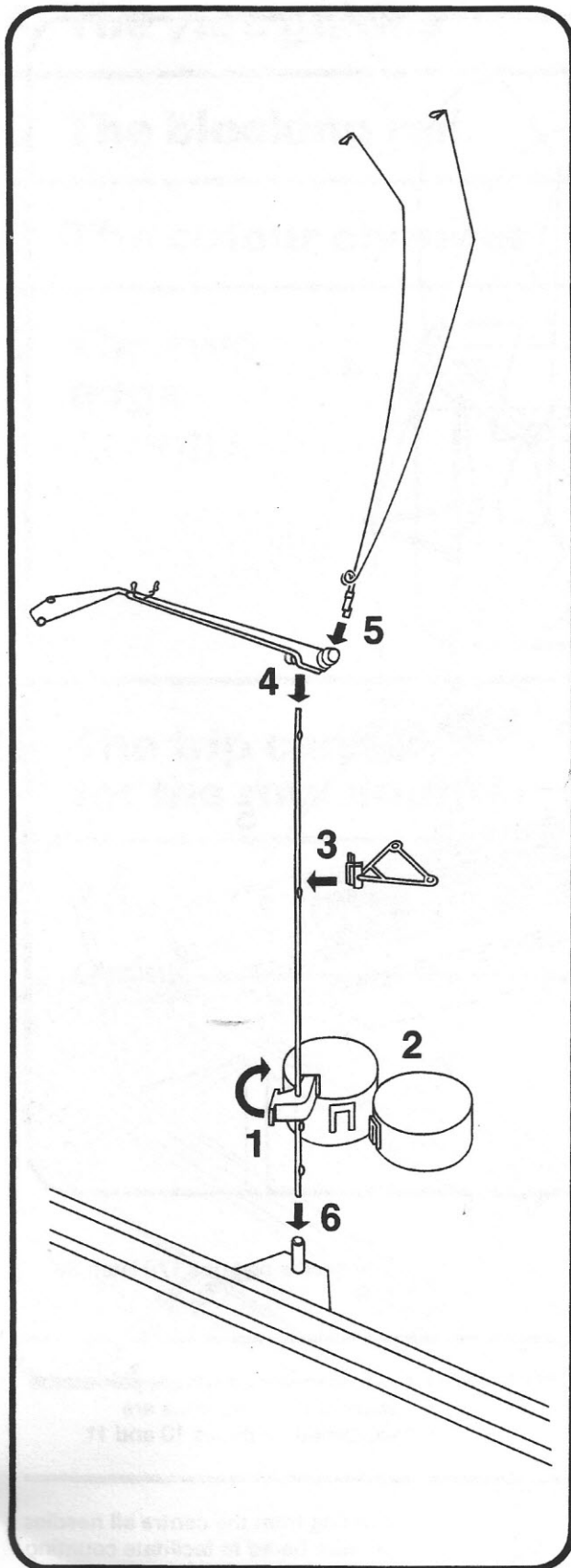
Place the machine on a firm table, its square-shaped grips in line with the front edge of the table top.

Fasten it with the two clamps as shown in the sketch.

Setting up the machine

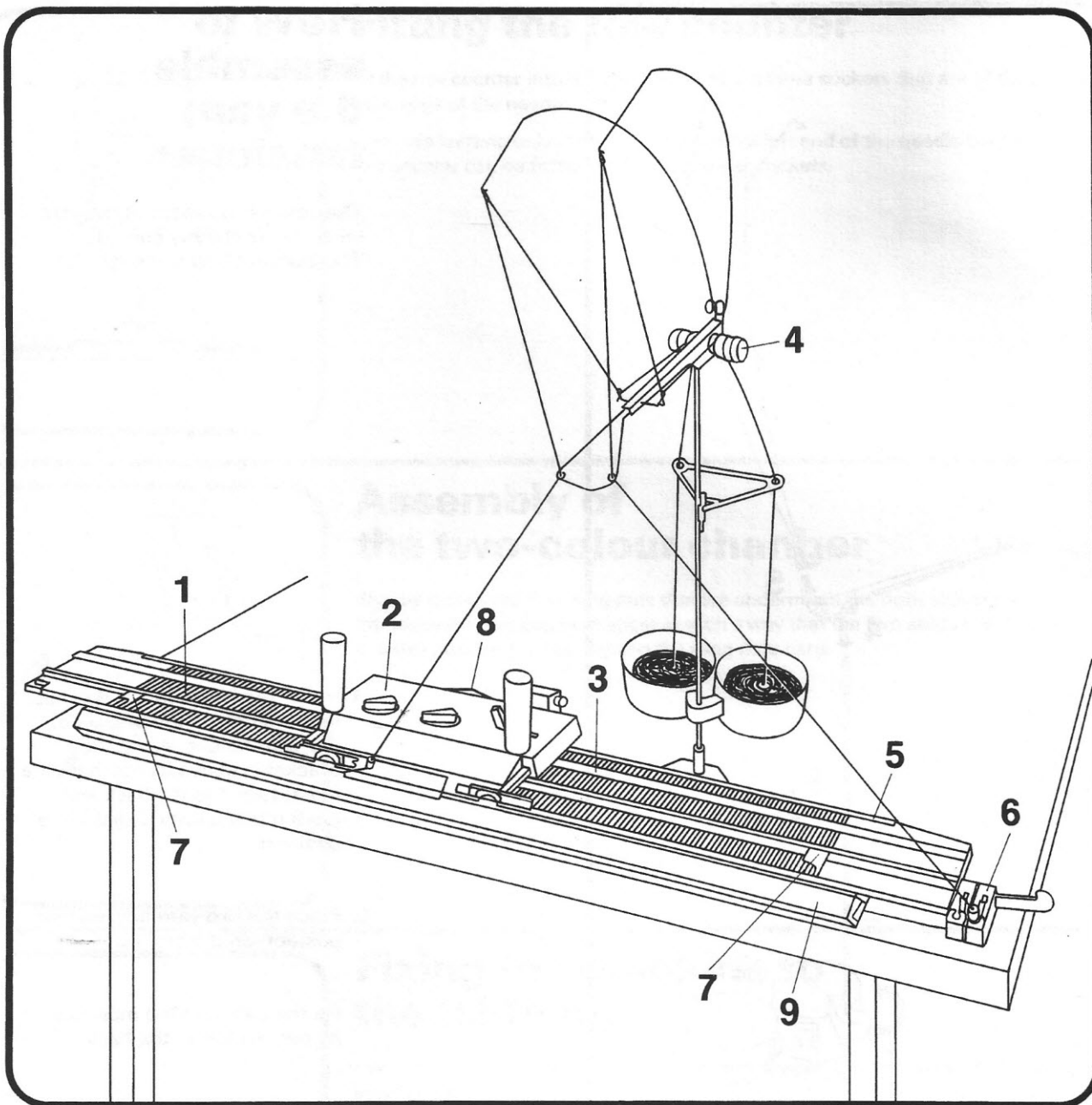
How to assemble the yarn tensioner

The top of the mast of the yarn tensioner is slightly curved.
The bottom part is straight.



- 1 Insert the lower end of the mast into the hole in the bracket of the yarn holder. When the bracket is above its notch on the mast, turn it to the back and push it down until it clicks into position.
- 2 Place the two yarn holders into position on the bracket.
- 3 Fix the clamp to the mast with its two eyelets to the back.
- 4 Assemble the support with two tension discs to the top of the mast, in such a way that the mast clicks into the plastic part on the support.
- 5 Insert the holder with two tension arms from above into the slot at the back of the support with two tension discs.
- 6 Insert the lower end of the mast into its socket.

The machine



Here the most important parts of the machine:

1 The needle bed

The needle bed has 179 latch needles.

2 The lock

It is the most important part on the machine. Its functions are explained on pages 10 and 11.

3 The needle scale

Starting from the centre all needles are numbered to facilitate counting of the stitches.

The machine

4 The yarn guides

Threading and setting these are explained on pages 14 and 15.

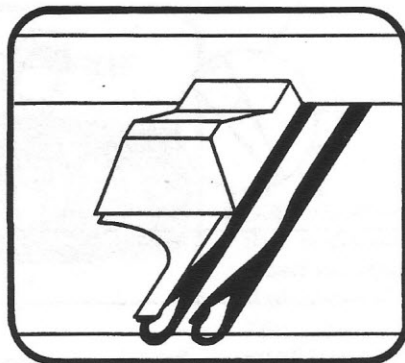
5 The blocking rail

Its use is fully explained on page 13.

6 The colour changer

It changes the yarns automatically. Its use is explained on page 16.

7 The two edge springs



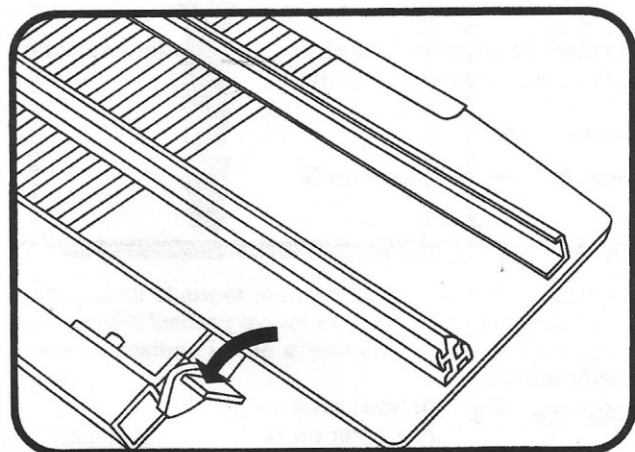
The edge springs can be moved sideways by lifting them slightly.

They must always be placed on the edge needles in Working Position, their **latches closed**.

8 The trip cam for the row counter

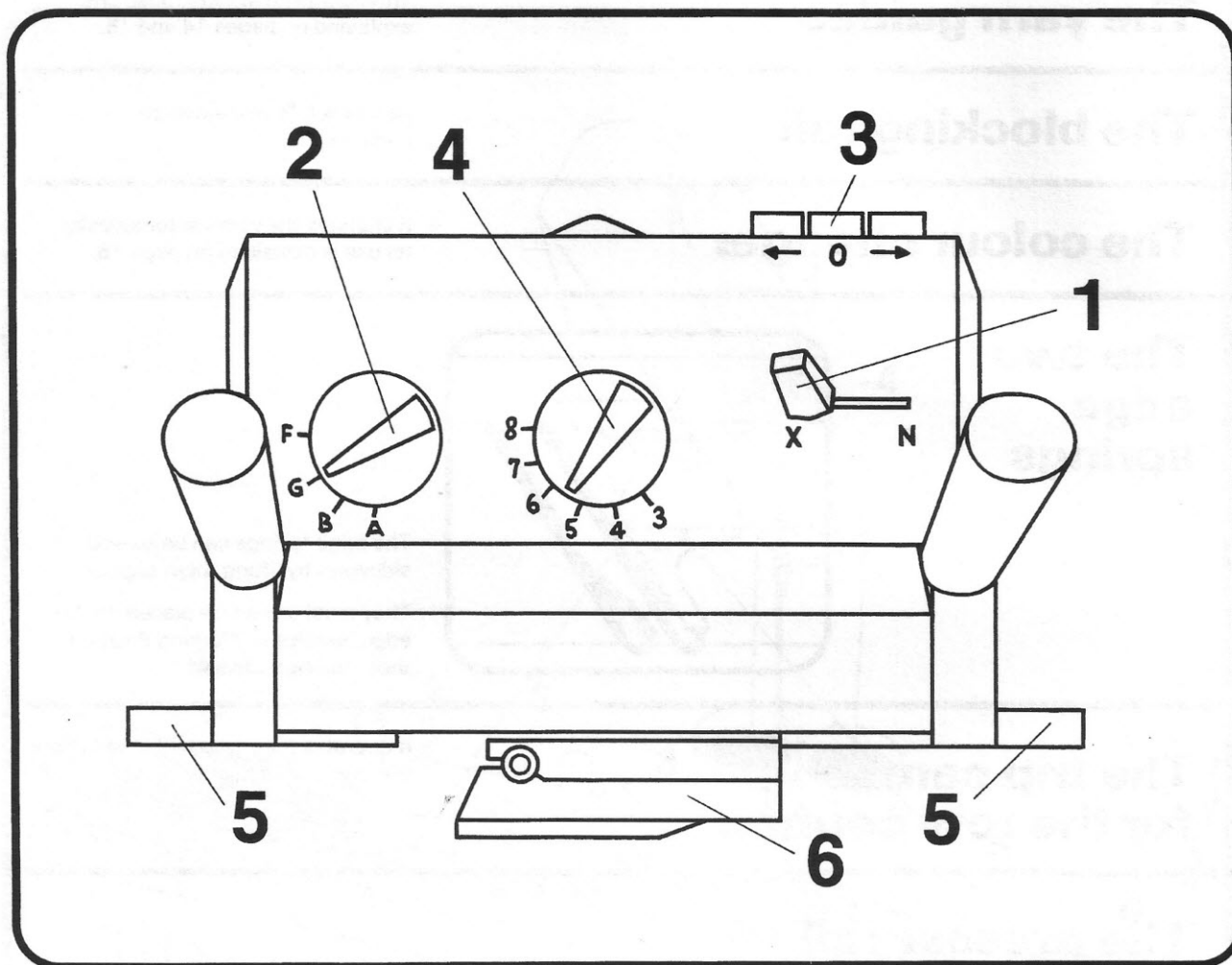
It operates the row counter each time the lock moves past it.

9 The presser rail



For certain working procedures it may be necessary to tilt this rail forward (e.g. for folding up a hem). Press the flaps situated at either end of the rail forward. Now you can also tilt the rail forward. **Important: While you knit, this rail must always remain firmly in its original position, i.e. up.**

The lock



The most important parts of the lock are:

1 The N-X lever

Position N: The machine knits normal knitting, i.e. stocking stitch.

In this position the pattern selector dial does not work, regardless of its setting.

Position X: Used in conjunction with pattern selector dial to create patterns in knitting.

Abbreviation:

Lock N = N-X lever on N

2 The pattern selector dial

It is used to knit various patterns and only works when the N-X lever is set at X.

To turn the pattern selector dial, N-X lever must be on N.

Abbreviation:

Lock AX = pattern selector dial A
N-X lever on N

3 The arrow keys

According to instructions press down either the right or the left arrow key, or both together.

To release the arrow keys, press key O.

Abbreviation:

Lock BX ← = pattern selector dial B
N-X lever on X
left arrow key

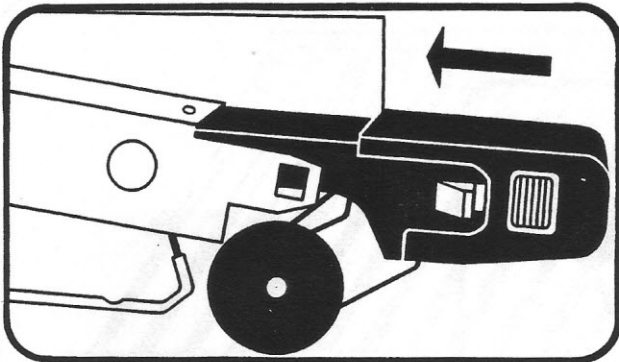
The lock

4 The stitch size regulator

The setting of the stitch size regulator depends on the type of yarn and the pattern used. Approximate settings (for ordinary but not fancy yarns) are given in the table opposite.

Material	Length metres per 100 g	Stitch size Stocking stitch
Sports yarn	310–320 m	7–8
Medium wool	430–440 m	5–7
Industrial yarn	800 m	4½–5

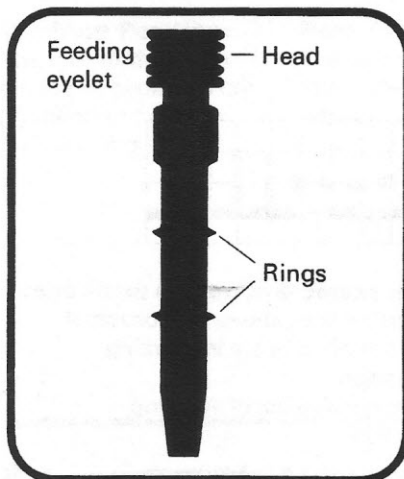
5 The strippers



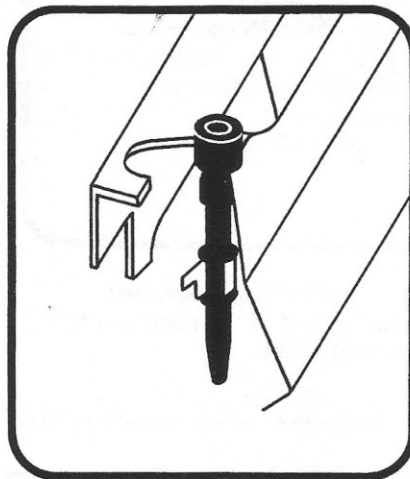
During knitting two strippers must always remain in their supports.

Insert the strippers, in the direction of the lock, into their respective holders until the small latch clicks into place. To remove the strippers, depress the small key, and pull out.

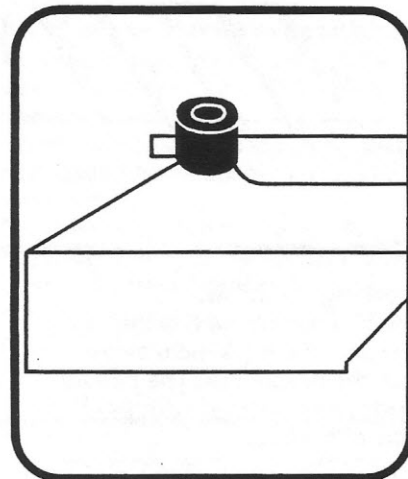
B The jaws for the feeding eyelets



The colour changer automatically brings the feeding eyelet into the correct position in the scissor-like jaws.



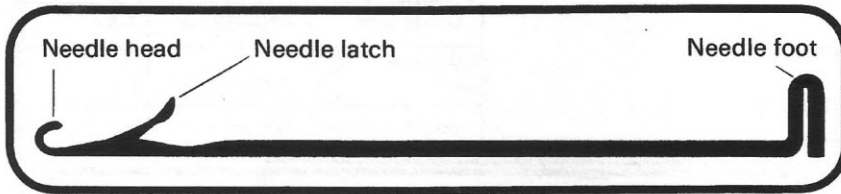
If the feeding eyelet has to be put in manually, open the jaws and insert the feeding eyelet in such a way that the jaws will securely hold it between the two rings.



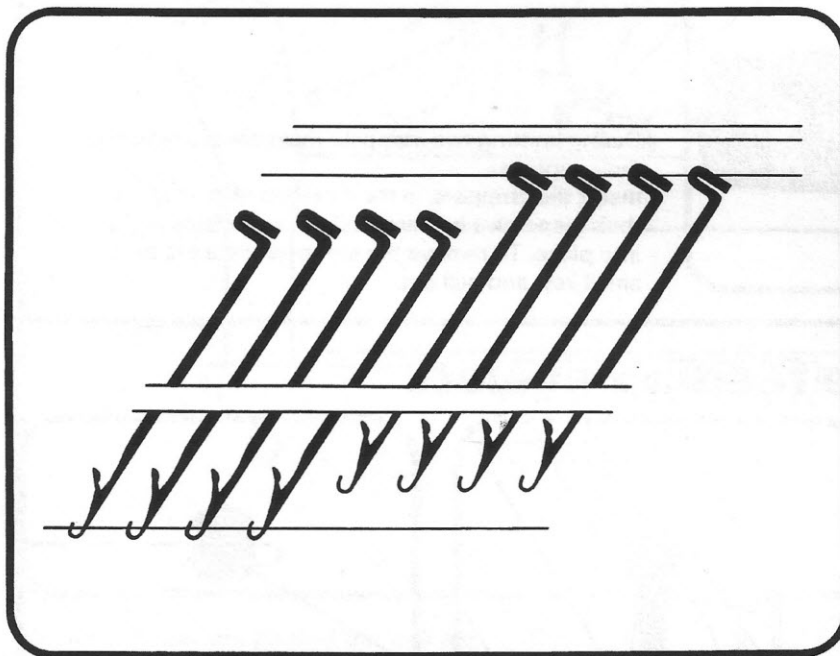
Important: Once the jaw is shut, only the head of the feeding eyelet should be visible. If this is not the case, start again.

The needles and pushers

The Needle



The needles have two positions

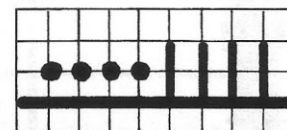


Working Position:

Here the feet of the needles are approx. 1,5 cm ($\frac{5}{8}$ inch) away from the needle rail. The needle heads must be level with the top edge of the bed.

Out of Working Position:

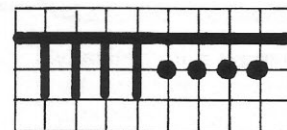
Here the feet of the needles touch the needle rail.



An example of needle positions:

Vertical lines above the horizontal line = needles are in Working Position.

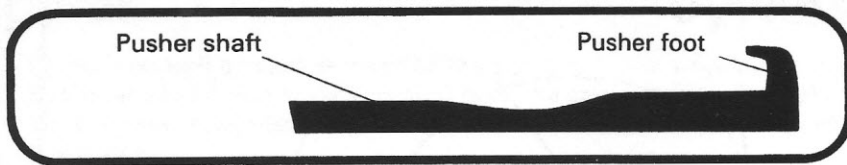
● = needles out of Working Position.



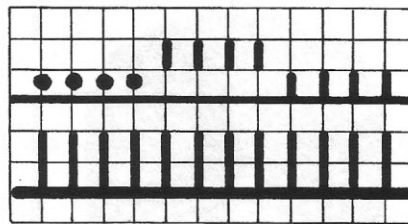
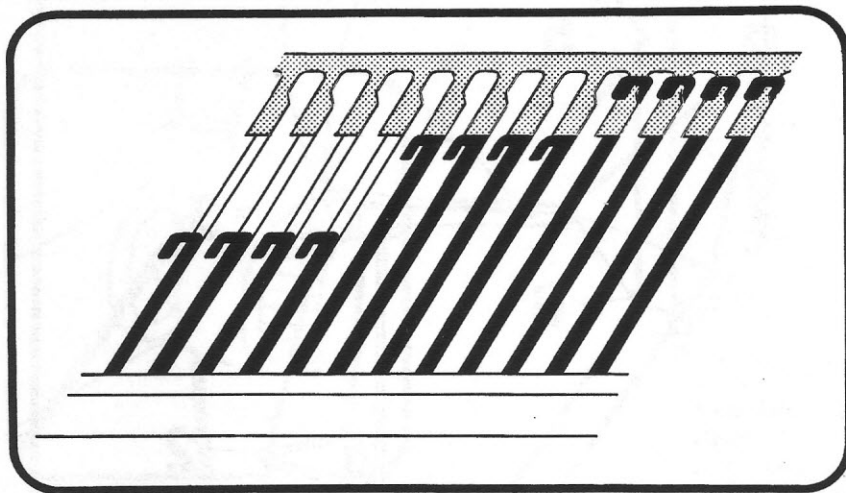
Note: In descriptions that are also valid for other machines, the vertical lines indicating needles are below the horizontal line. The meaning remains the same.

The needles and pushers

The Pusher



The pushers have three positions



Working Position:
The feet of the pushers are approx. 1,5 cm ($\frac{5}{8}$ inch) away from the blocking rail.

Rest Position:
The feet of the pushers touch the blocking rail.

Out of Working Position = In the blocking rail:
The feet of the pushers are inside the blocking rail.

An example of pusher positions:
In this example the position of the pushers is shown behind the fine horizontal line.
Short vertical strokes touching this horizontal line = pushers in Working Position.
Short vertical strokes one square removed from this horizontal line = pushers in Rest Position.
● = pushers out of work = in the blocking rail.

Moving the pushers in and out of the blocking rail

The blocking rail has a button on the left. Push it to the left, and hold it there.

Now the pushers can either be moved in or out of the rail. On releasing the button the rail will close automatically.



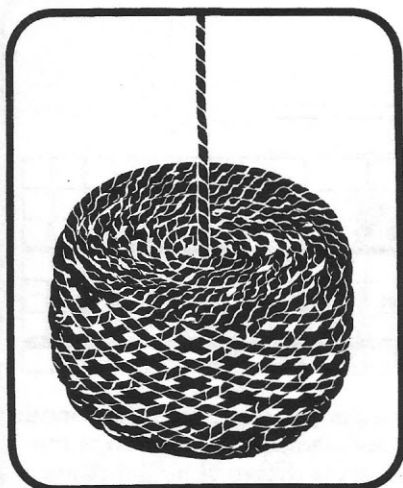
Important: If a pusher gets caught in the upper half of the blocking rail, it will not close properly, and this will produce faults in the knitting.

Threading the yarn

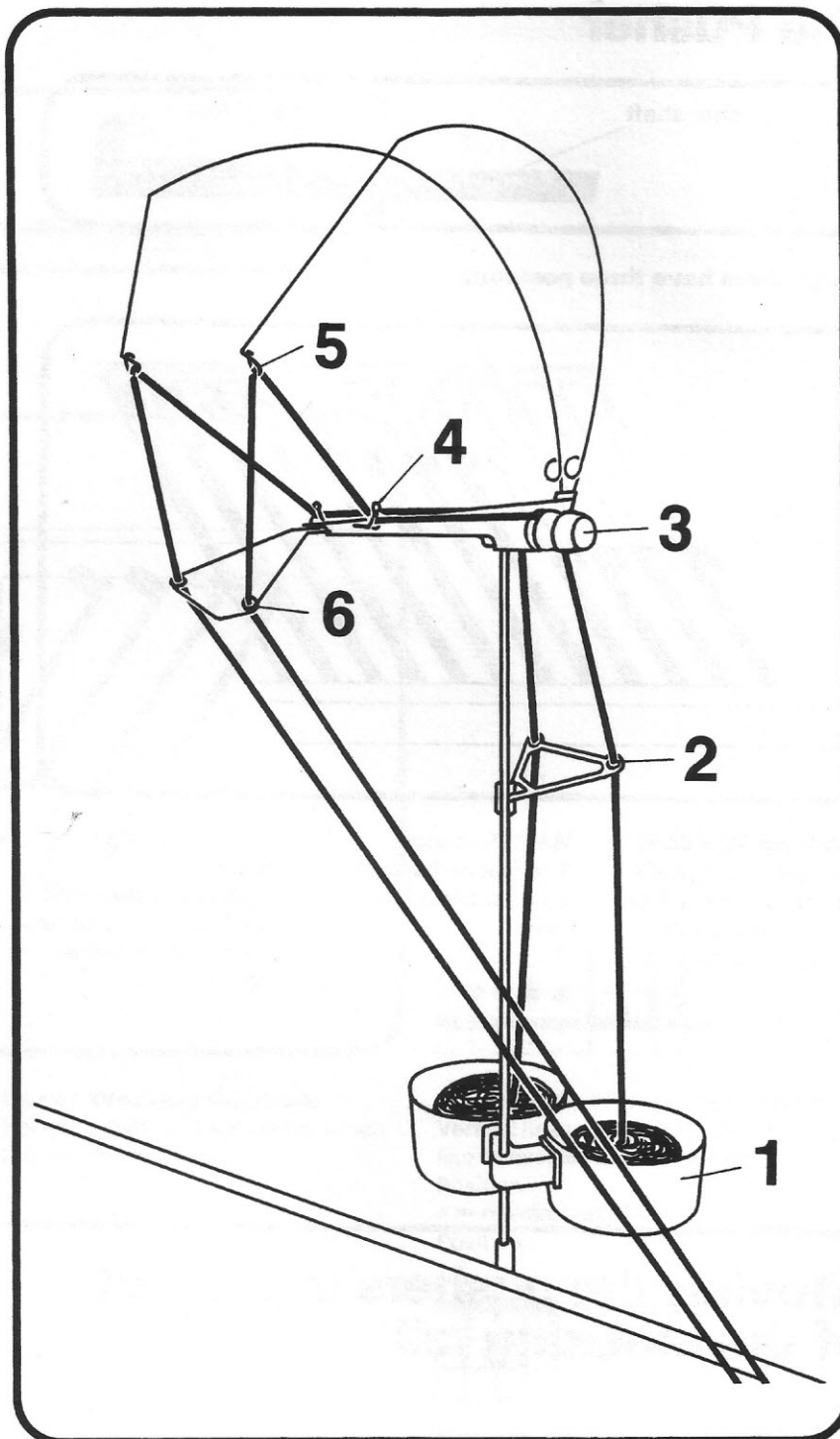
Waxing and winding the yarn

It is most important for the yarn to be waxed and wound properly. When winding the yarn, let it run over the enclosed piece of paraffin wax.

To obtain a correct ball, be careful not to hold the yarn too tightly.



Always knit with the end of yarn coming from the centre of the ball. If the yarn does not flow **freely** and **smoothly**, the ball has been wound too tightly, and must be wound again.



Threading the yarn

Threading the yarn guide

- **Place each ball of yarn in its yarn holder 1.**
Pick up the loose end of yarn coming from the centre of the ball, and insert it into one end of the double end bodkin.
- **Guide yarn through eyelet 2.**
- **Then take it between the two tension discs 3** by pulling the outer disc away slightly.



Take great care that the yarn is under the small protruding pin.

- **Guide yarn through eyelet 4**
- **Through eyelet 5**
- **Through eyelet 6**

The tension discs are numbered from 1 to 7. Normally, they are set at $3\frac{1}{2}$ which suits most yarns. The above setting should only ever be altered for very thick or very fine yarns.

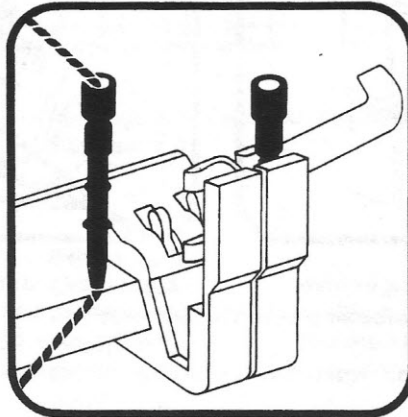
General rule:

If loops appear at the edge of the knitting, increase the setting on the tension discs to a higher number.

If the edge stitches are either too tight, or even not knitted, lower the setting on the tension discs.

Threading the feeding eyelets

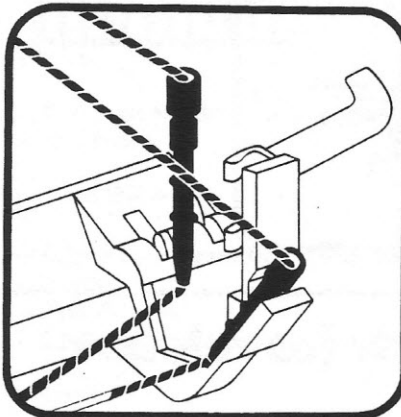
Important: The yarn of the right yarn guide goes into the right feeding eyelet, and the yarn of the left yarn guide goes into the left feeding eyelet.



- **Pull the lever of the colour changer twice to the right.**
Both feeding eyelets are now up.
- **Take the left feeding eyelet out of its holder** by pressing it to the left.
- **Thread it, and hold the yarn end.**
- **Put the feeding eyelet back into its holder.**

Note: The two rings of the feeding eyelet must be between the two clips of the holder.

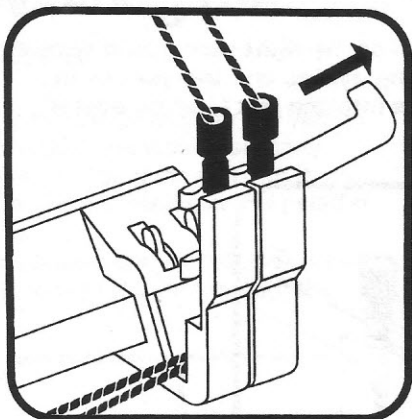
- **Insert the yarn end in the slot on the right hand side of the needle bed.**
- **Press down the holder of the left feeding eyelet.**



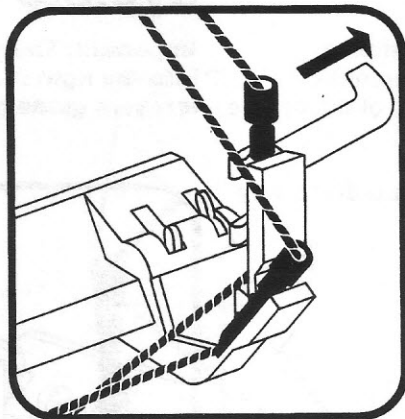
Now the right feeding eyelet can be threaded in the same way.

Threading the yarn

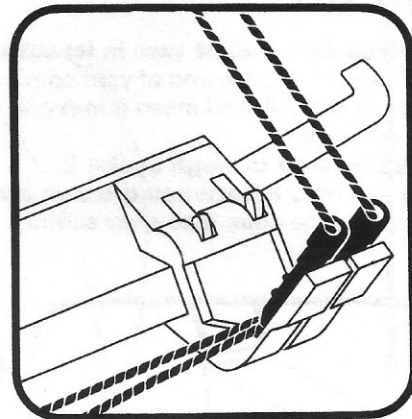
Moving the feeding eyelet into the jaws on the lock



- Pull the colour changer lever twice to the right. Both feeding eyelets are up.



- Press the feeding eyelet, which you want to use first, down.
- Pull the lever of the colour changer once to the right.



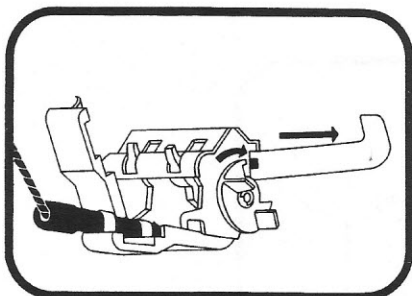
- Press down the second feeding eyelet.

Now you can move the lock to the right until it operates the lever of the colour changer, and the required feeding eyelet is automatically brought into the jaws on the lock.

Automatic colour change

Move the lock to the right until it operates the lever. If you do not want to change colour, do not take the lock right to the end.

Important: Never take the lock right to the end on the right if a holder with a feeding eyelet or both holders are up. In this case put the feeding eyelets back into their respective holders by hand, and start again. Never move the lock when an empty feeding eyelet is in the jaws.



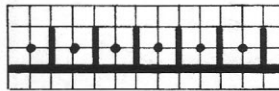
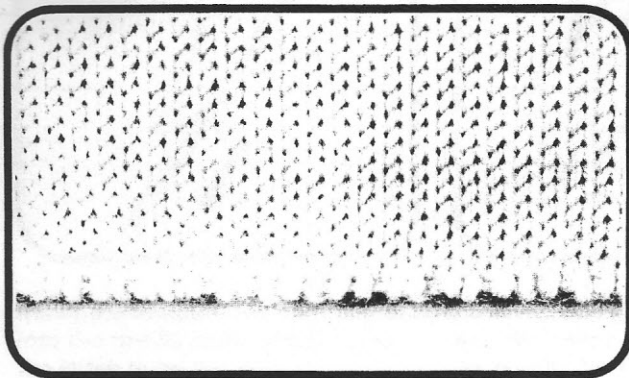
Putting the two-colour changer out of action

- Bring the feeding eyelet with which you are going to work into the lock.
- Pull the lever of the colour changer to the right once.
- Press down both feeding eyelet holders.
- Pull the lever to the right and turn the locking disc towards the back.

Empty lock (to release stitches)

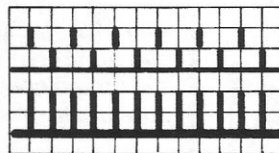
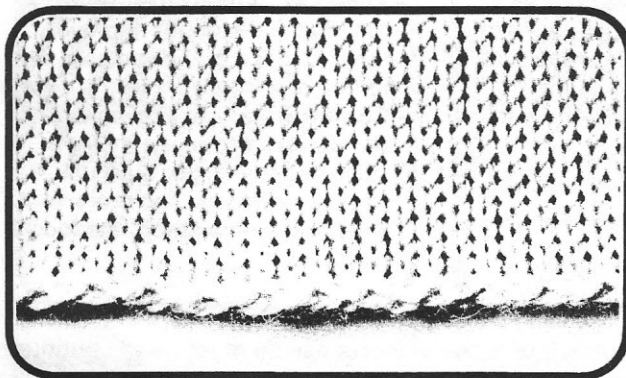
In order to release your knitting without casting off, push the lock to the end on the right side, lower the holder with the feeding eyelet, and push the lock across the knitting without any feeding eyelets.

Stocking stitch, simple cast-on



- Arrange needles acc. to diagram
 - Strippers
 - Lock N
 - Stitch siz 3
 - Knit 1 row
 - Put second half of the needles into Working Position.
 - Stitch size as for main knitting
 - Knit 1 row
- continue knitting.

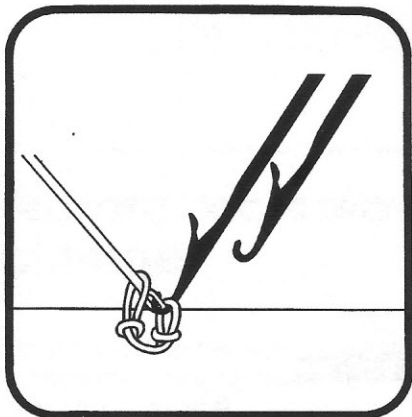
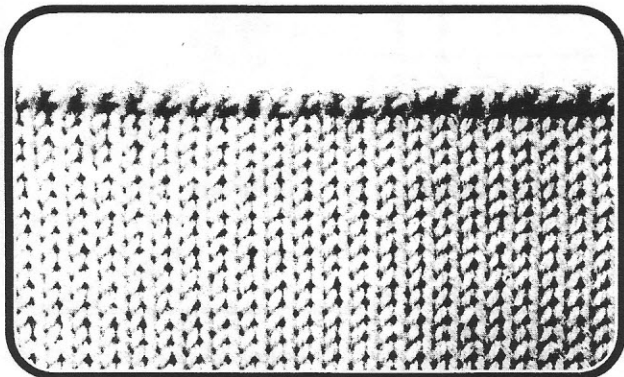
Cast-on in stocking stitch with pushers



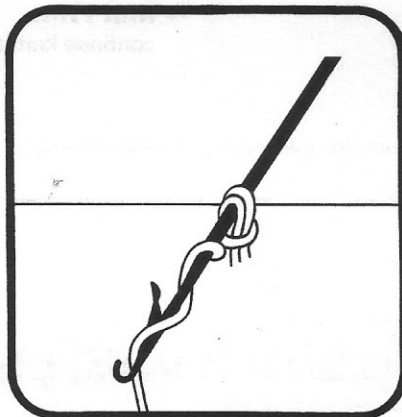
- Arrange needles and pushers acc. to diagram
 - Strippers
 - Lock BX ↔
 - Stitch size 1 number lower than for main knitting
 - Knit 4 rows
 - Stitch size as for main knitting
 - Lock N
- continue knitting.

Casting off

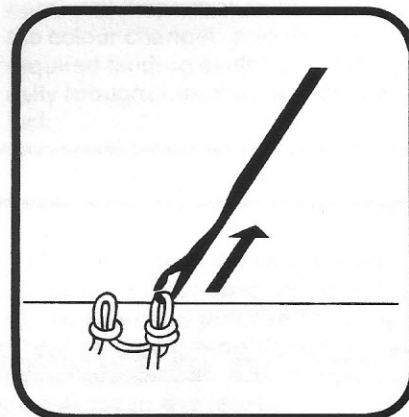
Casting off by hand



- Place the first stitch at right onto the adjacent needle at left.
- Pull this needle upwards until the two stitches slip behind the latch.



- Wind the yarn which was used for knitting twice round the needle in such a way that the thread once lies at the front and once at the back of the latch.



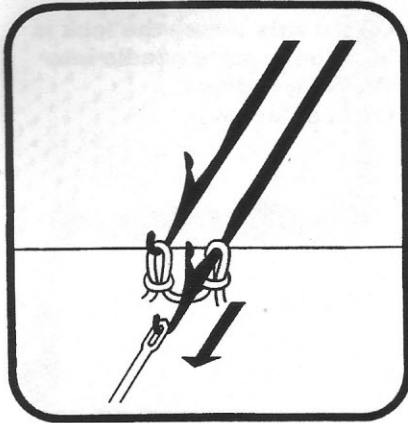
- Push the needle downwards until the two stitches slip over the closed latch and the yarn to form a new stitch.
- Continue pulling the needle downwards to make the new stitch slightly larger than the adjacent stitches. The more you enlarge the new stitch, the looser the cast-off.

Now place the new stitch onto the adjacent needle at left, and continue as already described.

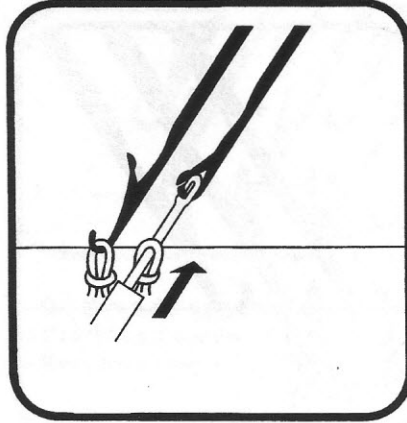
- Put the empty needles out of work.

Transfer of stitches

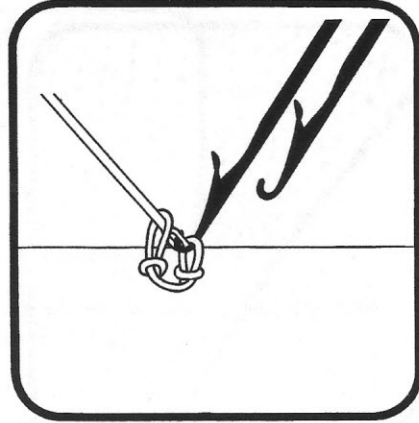
Transferring one stitch onto adjacent needle



Insert the eyelet of the orange tool into the needle head which holds the stitch to be transferred. Pull the needle upwards until the stitch lies behind the open latch.

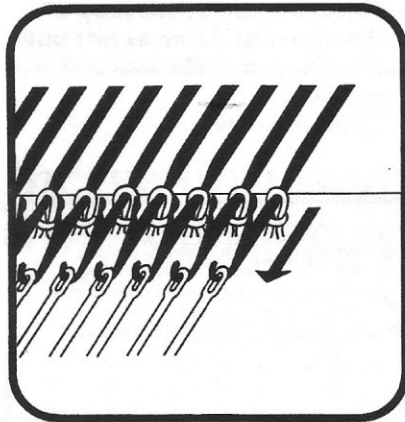


Push the needle downwards until the stitch slips over the closed latch onto the shaft of the orange tool.

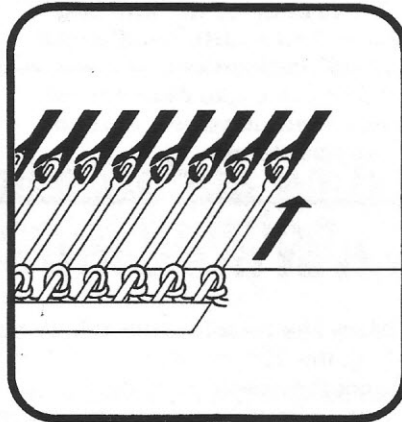


Unhook the orange tool and insert it onto the needle head of the adjacent needle. Tilt the orange tool forward until the stitch slips onto the new needle head. Put the empty needle out of work.

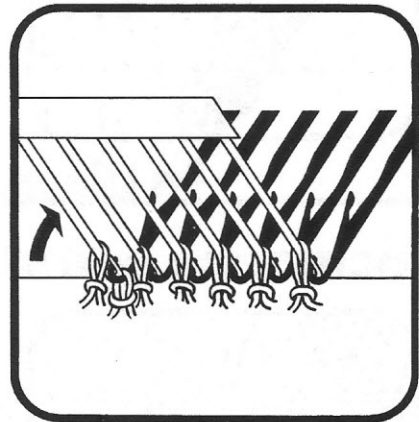
Transferring stitches with the deckercomb



Remove rail from deckercomb. Insert eyelets into required number of needle heads, taking care to take hold of every single needle head. Pull needles upwards until the stitches are behind the open latches.



Push the needles downwards until the stitches slip over the closed latches onto the deckercomb. Unhook the deckercomb, and replace the decker rail if you do not immediately want to transfer the stitches.

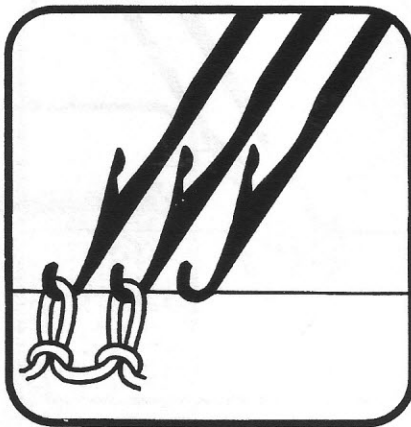
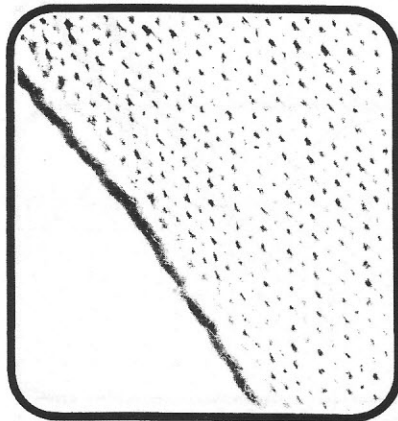


When inserting the eyelets into the new needle heads, be careful to take hold of all the heads. Now tilt deckercomb backward while slightly pulling down the knitting. Empty needles out of work.

Note: Deckercombs are optional extras.

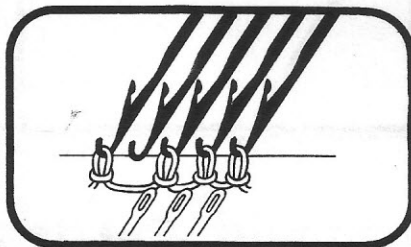
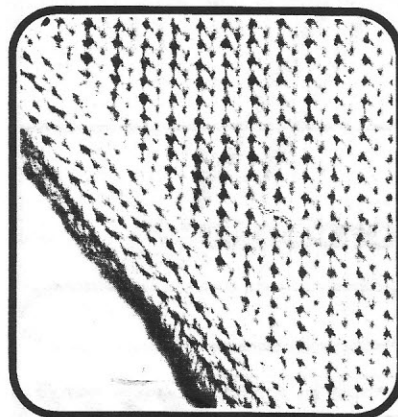
Increasing

Increasing one stitch at the edge of the knitting

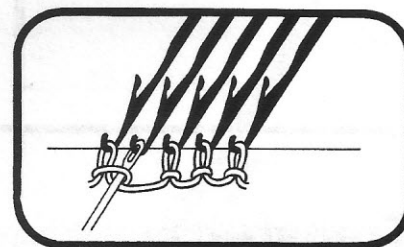


- On the side where the lock is bring one empty needle into Working Position. Continue knitting.

Fashion increasing – one to three stitches in from the edge of the knitting

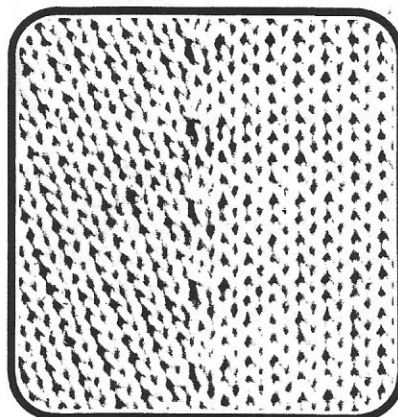


- At the edge of the knitting bring one empty needle into Working Position.
- Using the triple decker tool move the three end stitches one needle out.



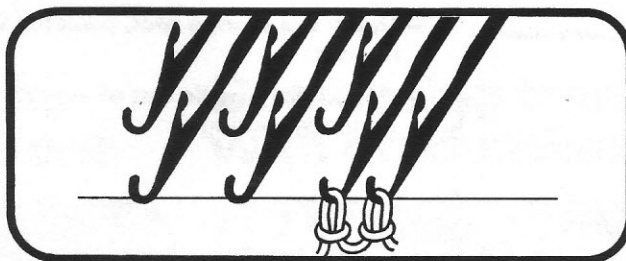
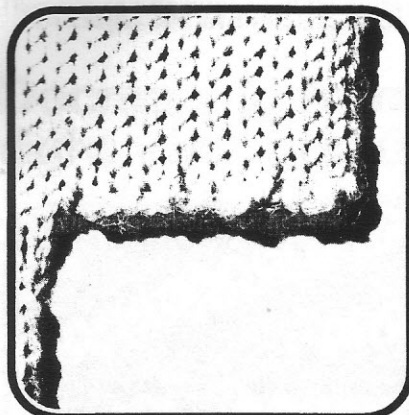
- Place the purl stitch loop of the adjacent stitch at left onto the empty needle acc. to illustration. Continue knitting.

Increasing one stitch at the centre of the knitting

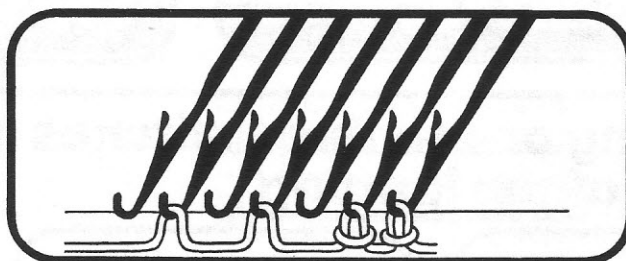


- Mark the needle from which you want to start your increases (e. g. the 20th needle). Mark the needle as follows: If you knit without pushers (e. g. in stocking stitch), put one pusher into Rest Position under the needle serving as a marker. If you knit a pattern using pushers, mark the appropriate pusher foot with a drop of nail varnish.
- At the edge of the knitting put one needle into Working Position.
- Place all the stitches between the marked needle and the edge onto the deckercomb, and move them one needle out.
- Onto the now empty needle place the loop of the adjacent stitch. With this method you move one additional stitch out, every increase. These increases are used for example for bust darts.

Increasing several stitches at the same time



- On the side opposite the lock bring every alternate needle into Working Position (= half the required needles)
- Knit one row

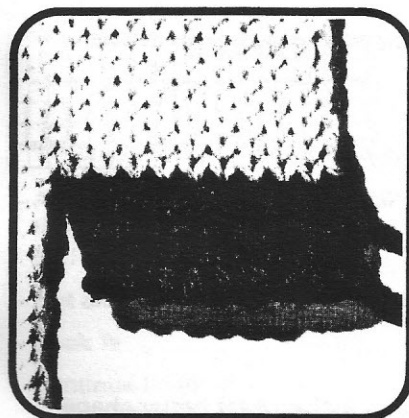


- On the side where the lock is, push up the second half of the needles.

Note: From the very beginning make sure that the edge needle is being pushed up into Working Position together with the second group of needles, i. e. for an even number, begin with the first needle out from the edge, for an odd number start with the second needle out.

- Knit one row

Increasing several stitches with the aid of a contrasting piece of knitting



This method is recommended for edges which have to form a very neat seam (e. g. in kimono sleeves).

- Take a contrasting piece of knitting you no longer need, like an old test square, and unravel a few rows.
- Using the orange tool, place as many loose stitches from the old test square as you want to increase onto the needles of the machine.

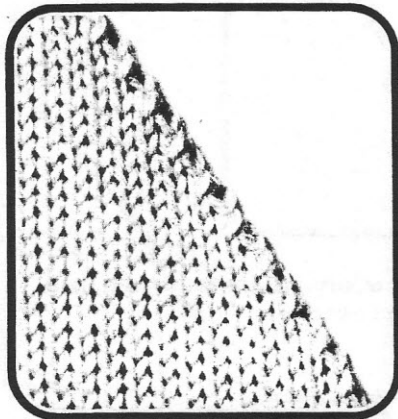
Continue knitting.

This procedure is possible only on the side opposite the lock.

When making up the garment, unravel the rows of contrasting material, and join the loose stitches.

Decreasing

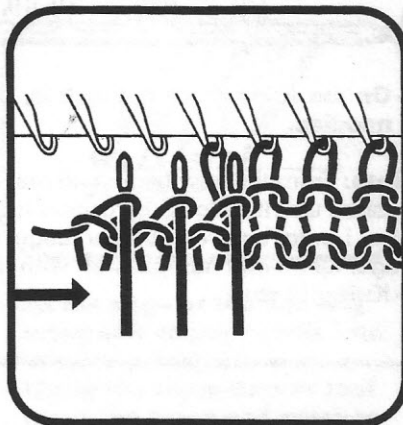
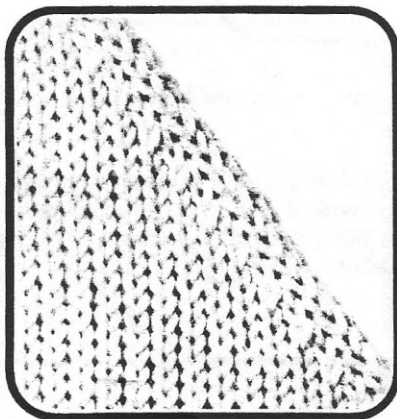
Decreasing one stitch at the edge of the knitting



- Using the orange tool, transfer the edge stitch onto the adjacent needle.
- Put empty needle out of work.
Continue knitting.

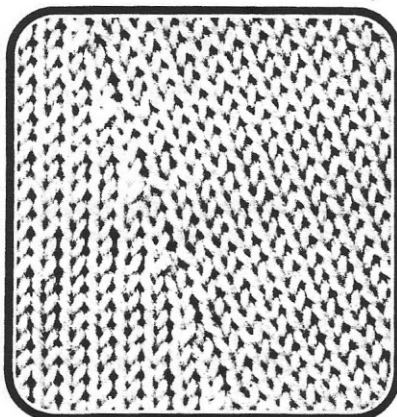
This procedure is possible on the side where the lock is as well as on the opposite side.

Decreasing one to three stitches in from the edge of the knitting



- Take the last three stitches onto the triple decker tool, and move them one needle in (i. e. so that there are two stitches on the third needle).
- Put the empty needle out of work.
Continue knitting.
This procedure is possible on the side where the lock is as well as on the opposite side.

Decreasing one stitch at the centre



- Using the deckercomb, move the required number of stitches one needle in.
- Put empty needle out of work.

For these decreases always move the same number of stitches in.

This procedure is possible on the side where the lock is as well as on the opposite side.

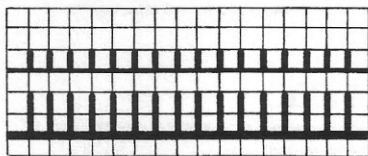
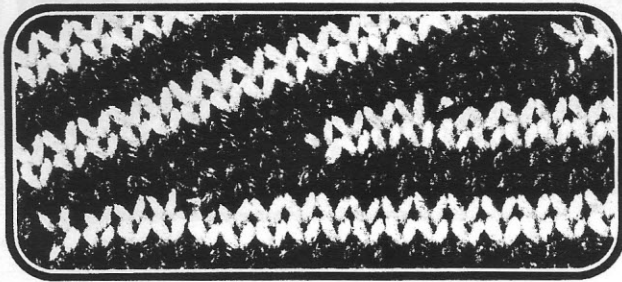
Use this method of decreasing for skirts, as it gives a far better shape than using side decreases.

Graduations

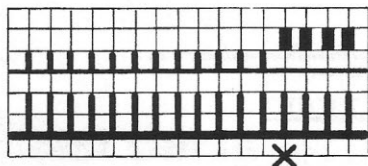
Graduations (short rows) are always worked with the lock on BX and using pushers. The rule is: With BX, only the needles with pushers in Working Position will knit.

This rule can be applied in different ways:

Decreasing from the right with graduations



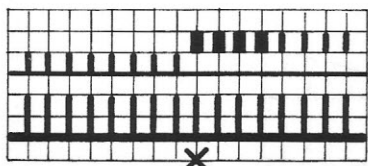
- For every needle in Working Position, bring the corresponding pusher into Working Position.
- Lock BX
- Knit one row (lock at left)



- At right put the first group of pushers into Rest Position.

The number of pushers required in Rest Position depends on the desired shape of the graduation (in our illustration there are four pushers).

- Knit two rows



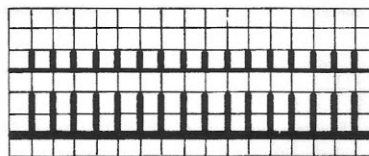
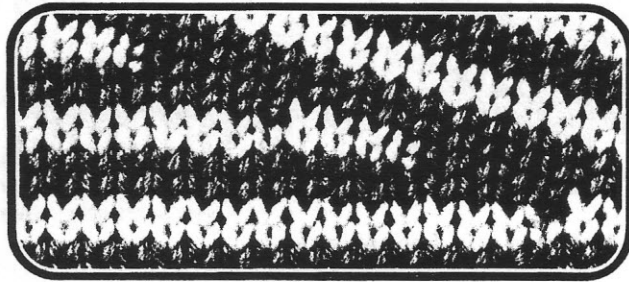
- At right put the next group of pushers into Rest Position, etc.

End with lock at left.

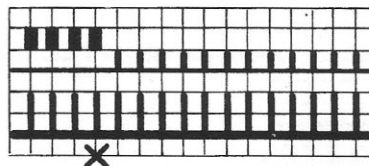
- Put all pushers into Rest Position
- Lock N

Continue knitting.
Now all needles are knitting.

Decreasing from the left with graduations

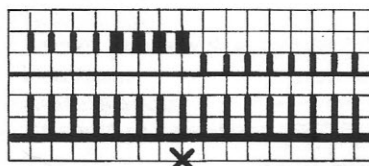


- For each needle in Working Position put the corresponding pusher into Working Position.
- Lock BX (lock at right)



- At left put the first group of pushers into Rest Position.

- Knit two rows.



- At left put the next group of pushers into Rest Position, etc.

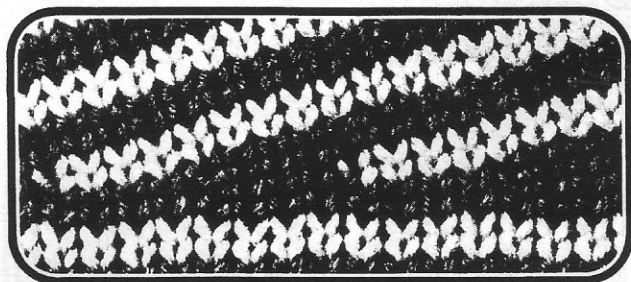
End with lock at right

- Put all pushers into Rest Position.
- Lock N

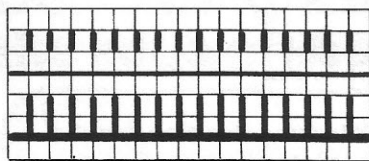
Continue knitting.
Now all needles are knitting.

Graduations

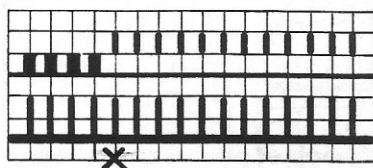
Increasing from the left with graduations



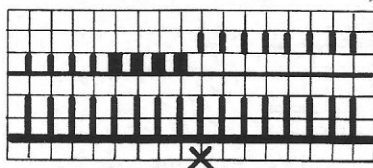
– Knit one row. Lock at left.



- For every needle in Working Position put the corresponding pusher into Rest Position.
- Lock BX

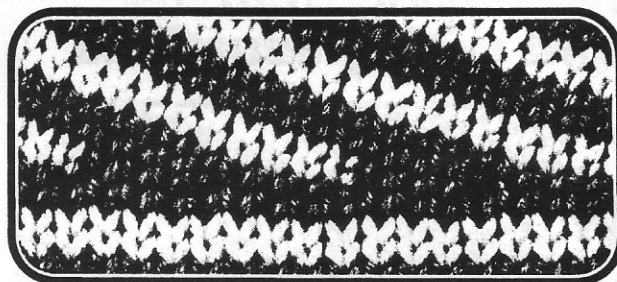


- At left put the first group of pushers into Working Position.
- Knit two rows

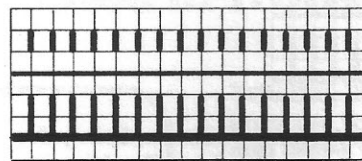


- Put the next group of pushers into Working Position, etc.
- Finally, put all pushers into Rest Position.
- Lock N
Continue knitting.

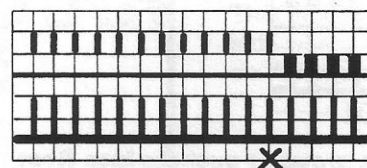
Increasing from the right with graduations



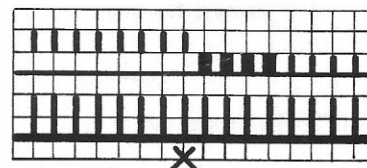
Lock at right



- For every needle in Working Position put the corresponding pusher into Rest Position.
- Lock BX

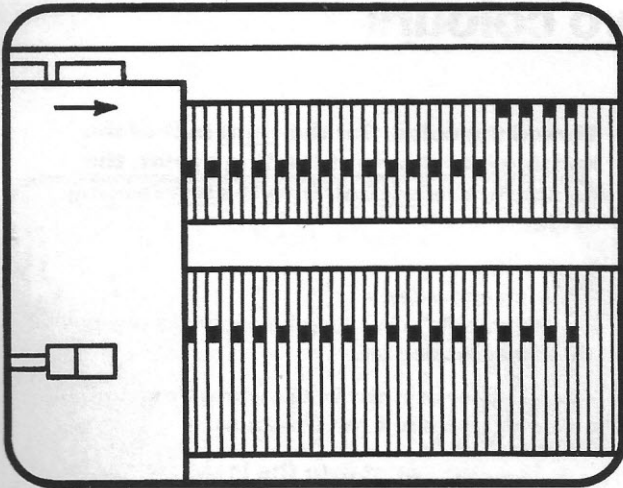


- At right put the first group of pushers into Working Position.
- Knit two rows



- Put the next group of pushers into Working Position, etc.
- Finally, put all pushers into Rest Position.
- Lock N
Continue knitting.

Graduations



Basic rule:

Always change the position of more than one pusher at the same time on the side opposite the lock.

Abbreviation

Increasing or decreasing with graduations is always indicated by a \blacktriangle , for example $\blacktriangle -8 \times 4 \bullet 2. R \blacktriangle$, i. e. with graduations, decrease eight times four stitches every alternate row.

When knitting short rows, we recommend the use of heel grips.

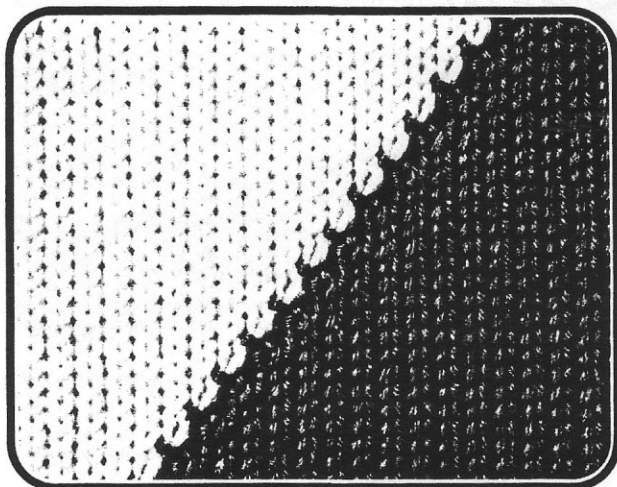
If you wish to prevent small holes forming along the graduations, proceed as follows: On the side where the lock is, wind the yarn round the needle which corresponds to the pusher last brought into Rest Position on the side opposite the lock. (Needles marked with a cross on our diagrams.)

Bust darts = Decreasing with graduations from both ends

- Lock BX
- For every needle in Working Position put the corresponding pusher into Working Position.
Lock at right
- At left put the first group of pushers into Rest Position.
- Knit one row
- At right put the first group of pushers into Rest Position.
- Knit one row, etc.
End with the lock at right.
- At left put all pushers into Working Position.
- Knit one row
- At right put all pushers into Working Position.
- Knit one row
- Lock N
Finally, put all pushers into Rest Position.
Continue knitting.

Graduations

Knitting on same row in two colours diagonally

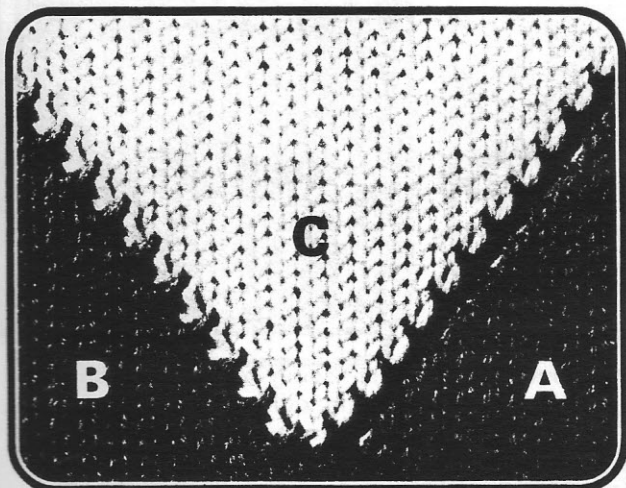


- Thread the colour for the right half of the knitting into the right feeding eyelet, the colour for the left half into the left feeding eyelet.
- **Lock BX** ←
Press left arrow key.
For each needle in Working Position take one pusher out of the blocking rail.
- **First pusher at right in Working Position, all other pushers in Rest Position.**
- **Left feeding eyelet into the lock**
Knit two rows
- **Change colour**
Knit two rows
- **Second pusher at right in Working Position.**
- **Change colour**
Knit two rows
- **Change colour**
Knit two rows
Continue in this way, i.e. changing colours every alternate row, at right putting an additional pusher into Working Position after every fourth row.

If you want to change the direction of the line separating the colours, then, on every fourth row put the last pusher of the right half into Rest Position.

It is possible to change the position of several pushers at the same time. The line dividing the colours will then be less pronounced.

Intarsia



Start with a few rows in stocking stitch in one colour.

– **Lock BX**

For each needle in Working Position take a pusher out of the blocking rail.

Section B

– **Put right half of pushers into Working Position.**

– **Knit one row**

Lock at left

– **Of the pushers in Working Position, bring the last one at left into Rest Position.**

– **Knit two rows**

Continue as follows: Each time the lock is on the **left** side, bring the last pusher at **left** into Rest Position, until no pusher remains in Working Position. Break off yarn.

Section A

Lock at right, continue knitting with colour 1.

– **Put left half of pushers into Working Position.**

– **Knit two rows**

Lock at right

– **Of the pushers in Working Position bring the last one at right into Rest Position.**

– **Knit two rows.**

Continue as follows: Each time the lock is on the **right** side, bring the last pusher at **right** into Rest Position, until no pusher remains in Working Position. Break off yarn.

Section C

– **Change colour**

Lock at right

– **Bring the first pusher at right of centre into Working Position.**

– **Knit one row**

– **Bring the first pusher at left of centre into Working Position.**

– **Knit one row**

Continue as follows: Each time the lock is on the **right** side, put an additional pusher into Working Position at **right**.

Proceed in the same way on the left side. Finally, when all pushers are in Working Position:

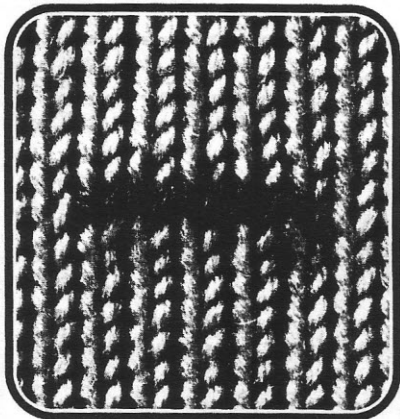
– **Set lock at N**

Put pushers into Rest Position.

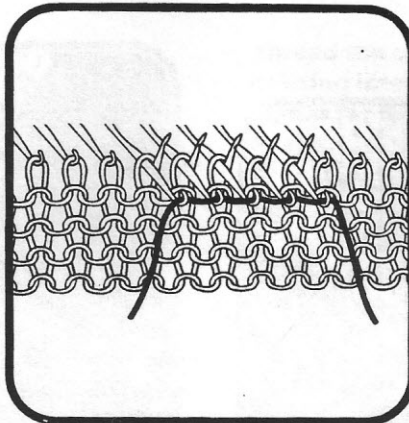
Continue knitting.

Buttonhole

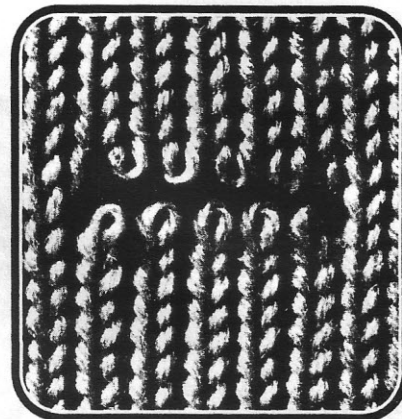
Horizontal buttonhole



In accordance with the desired size, knit several stitches (e.g. 5) using an oddment of contrast yarn.

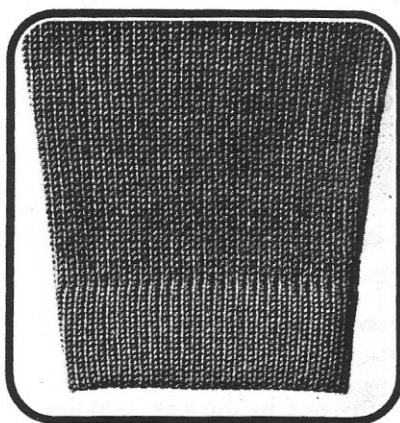


- **Push up the needles** until the stitches are behind the open latches.
- **Insert a length of contrast yarn (approx. 10 cm/4") into the needle heads and pull back the needles one by one** until the stitch has gone over the closed latch, and a new stitch has been formed.



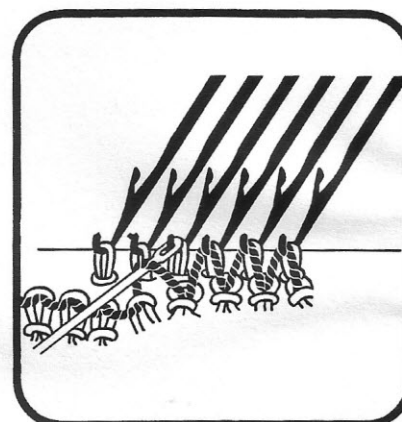
After having ironed the piece of knitting, pull out the length of contrast yarn, and neaten the loose stitches with back stitch.

Hem



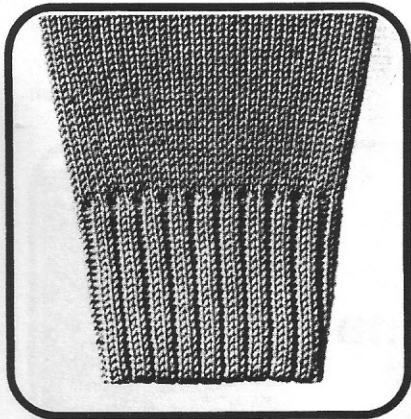
Cast on with contrast yarn (page 17).

- **Knit a few rows with contrast yarn.**
- **Change to the main yarn, and for the first row increase the stitch size by at least one number.**
- **Knit twice the required height for the hem.**

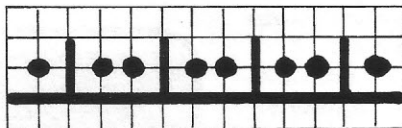


- **Place purl stitch loops of the first row knitted in main yarn onto the needles.** Continue knitting.

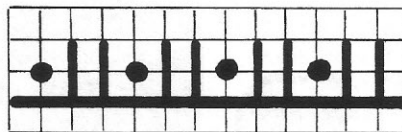
Mock ribs in 2:1



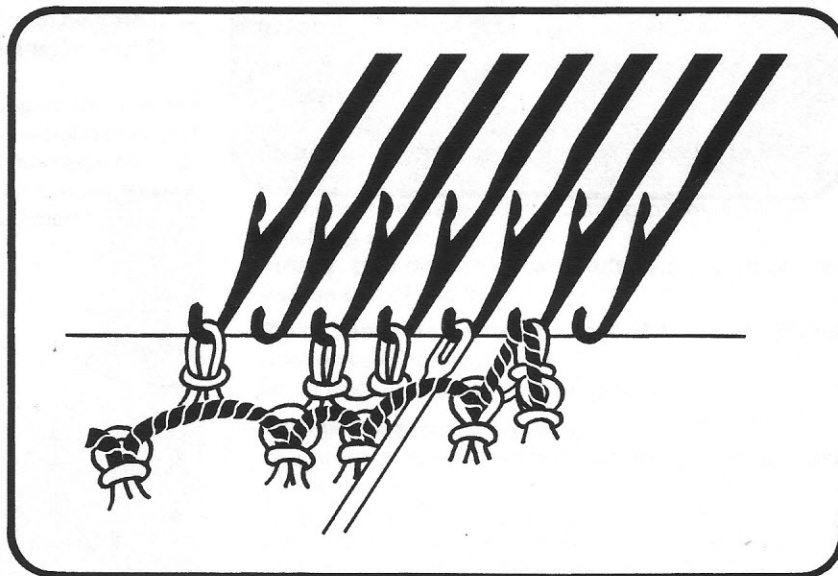
Cast on with contrast yarn.



- Put every third needle into Working Position in accordance with diagram.
- Lock N
- Stitch size 3.
- Knit 1 row.



- Always put the adjacent needle on the left into Working Position in accordance with the diagram.
- Stitch size as for main knitting.
- Knit a few rows with contrast yarn.
- Change to the main yarn, and for the first row increase the stitch size by at least one number.
- Knit twice the required height for the band.



- Put all needles into Working Position.
- Place the longer loop onto the empty needle.
- Place the shorter loop onto one of the two needles with a stitch on it.

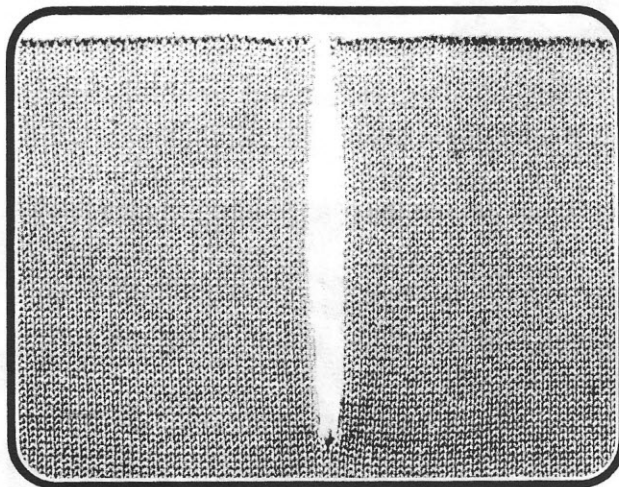
Necklines

To divide the stitches as required for shaping necklines, it is necessary to use the strippers and the BX-setting on the lock. There are three possible methods:

1. By knitting both halves at the same time.
2. By knitting first one half and then the other half, using pushers.
3. By placing the stitches of the second half onto deckercombs, while knitting the first half.

1. Knitting both halves of the neckline at the same time

This method is only advisable for vertical slits or pointed necklines worked in stocking stitch.



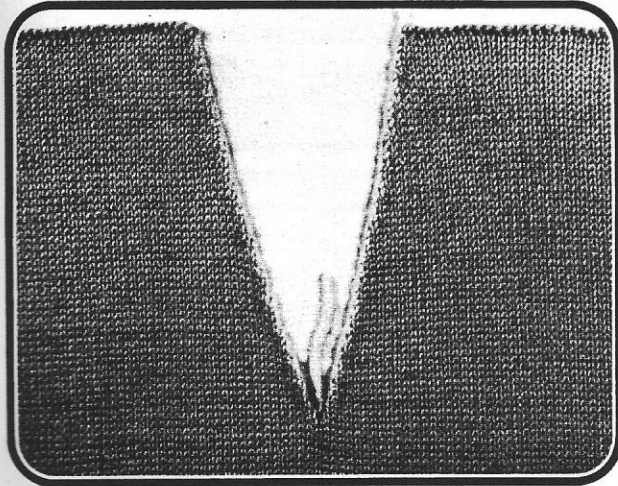
Example: Vertical slit

- Lock BX ←
- Yarn for right half in the right feeding eyelet
- Yarn for left half in the left feeding eyelet
- Put pushers for right half into Rest Position
- Put pushers for left half into Working Position
- Right feeding eyelet into the lock
- Knit two rows
(2 rows of the right half are being knitted)
- Change feeding eyelet
- Knit two rows
(2 rows of the left half are being knitted)

Note: Don't forget that the row counter will be showing twice the number of rows than have actually been knitted, for you have knitted two rows of the first half, and then two rows of the second half. If you want to knit a pointed neckline (V-neck), decrease along the appropriate edges.

2. Knitting first one half, then the other half, using pushers

This method is suitable only for stocking stitch or fairisle work. However, it can be used for every type of neckline.

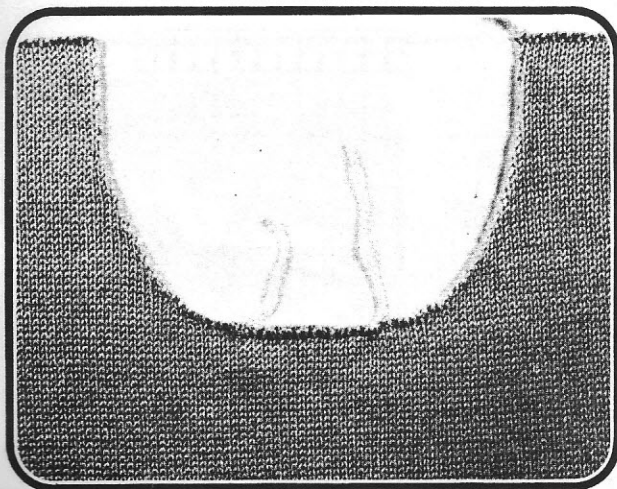


Example: V-neck

- **For the right half of the work put pushers into Working Position.**
- **Lock BX**
- **Knit the first half, decreasing at left for neck opening.**
Put the empty needles and pushers into Rest Position. (Our example –1•4. R)
(Remember to shape the armhole at right at the same time)
Cast off stitches.
Break off yarn.
- **Put the pushers for the right half into blocking rail.**
- **To knit the left half set lock to N.**
Knit the left half with reversed shapings, i. e. by decreasing on the right side for neck opening.
Cast off.

3. Placing the stitches of the second half onto deckercombs, while knitting the first half

This is the simplest method when knitting patterns, as well as being suitable for all types of necklines.



Example: Round neck

- **For the centre of the neck cast off the centre stitches** as follows:
(our example, 20 stitches)
Take a length of yarn as used for the main knitting.
Cast off the necessary number of stitches, as explained on page 18 for casting off by hand in stocking stitch.
Finally, pull down the two ends of the yarn so they will be out of the way.
- **Place the stitches at the left of the cast-off section onto deckercombs.**
Place decker rail over deckercomb.
- **At right continue knitting.**
(If you have been knitting in pattern, make a note of where you are.)
Decrease at left.
(our example –5, –4, –3, –2, –2×1•2. R)
Knit the required number of rows (42)
Cast off.
- **Transfer the stitches back from the deckercombs to the needles of the machine.**
Knit the left side with reversed shapings, i. e. by decreasing at right.
When you have finished, cast off.

Fancy stitch patterns

The different settings of the pattern selector dial make it possible to knit a great variety of patterns.

This page gives the various settings of the pattern selector dial.

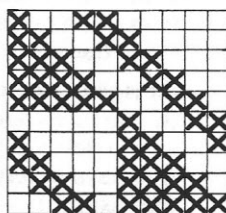
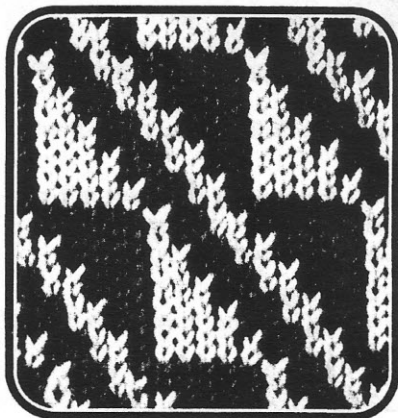
The following pages show an extensive selection of fancy stitches using these settings.

AX	With pushers in Working Position = knits normally	With pushers in Rest Position = forms loops	
BX	With pushers in Working Position = knits normally	With pushers in Rest Position = does not knit	
FX	With pushers in Working Position = knits normally	With pushers in Rest Position = from right to left forms loops, from left to right knits normally	
GX	Free move i.e. needles do not knit		

As an aid to memory, you will also find the above information in an abbreviated form on the diagram you have placed on the back part of the lock.

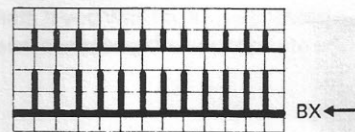
When knitting with the lock setting AX, we recommend the use of heel grips on either end of the knitting. These grips should be moved up every 20 to 30 rows.

Fairisle pattern



Diagram

Strippers

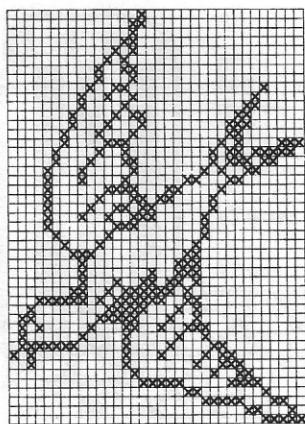
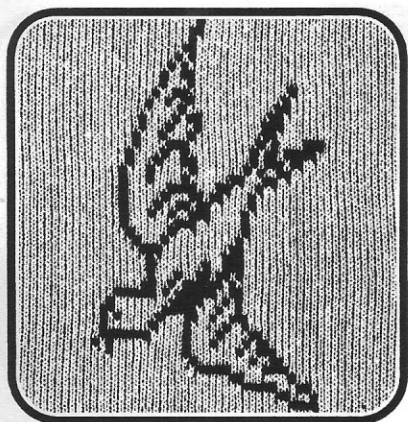


Arrange pushers acc. to diagram
2 rows trimming colour
2 rows main colour
repeat

X = trimming colour = pushers in Rest Position
empty square = main colour = pushers in Working Position
1 square = 1 stitch = 2 rows = RC 4

Fancy stitch patterns

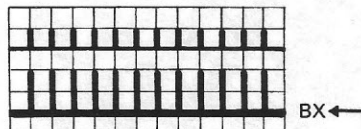
Fairisle pattern



Diagram

X = trimming colour = pushers in Rest Position
 empty square = main colour = pushers in Working Position
 1 square = 1 stitch = 2 rows = RC 4

Strippers

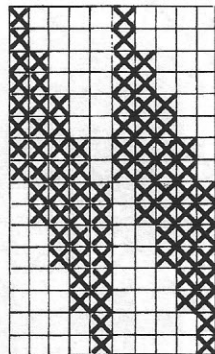
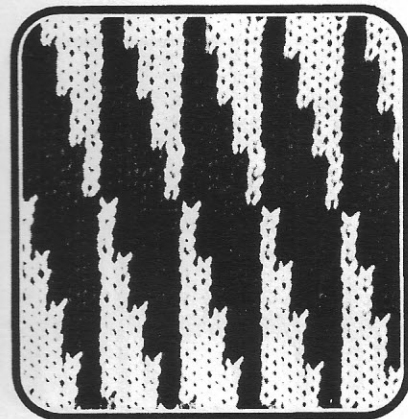


Arrange pushers acc. to diagram

2 rows trimming colour
 2 rows main colour

repeat

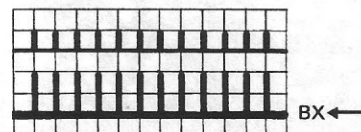
When knitting single motifs, it is advisable to wind the trimming colour used on either side of the motif round the first needle that knits in main colour.



Diagram

X = trimming colour = pushers in Rest Position
 empty square = main colour = pushers in Working Position
 1 square = 1 stitch = 2 rows = RC 4

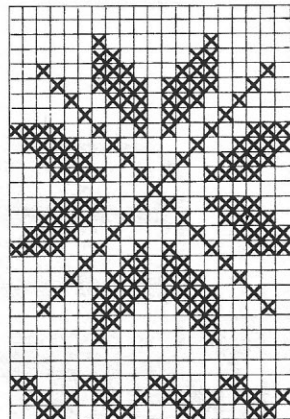
Strippers



Arrange pushers acc. to diagram

2 rows trimming colour
 2 rows main colour

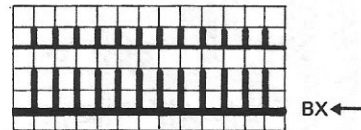
repeat



Diagram

X = trimming colour = pushers in Rest Position
 empty square = main colour = pushers in Working Position
 1 square = 1 stitch = 2 rows = RC 4

Strippers



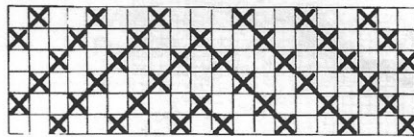
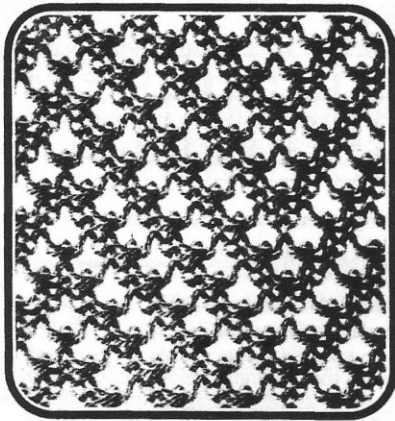
Arrange pushers acc. to diagram

2 rows trimming colour
 2 rows main colour

repeat

Fancy stitch patterns

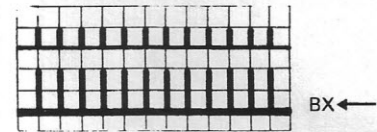
Lace pattern



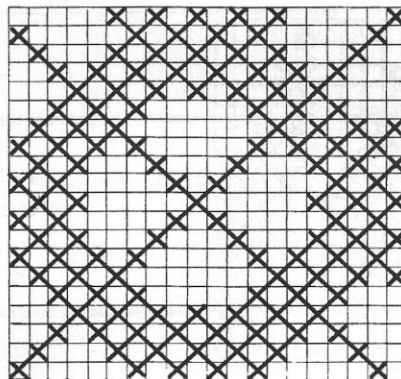
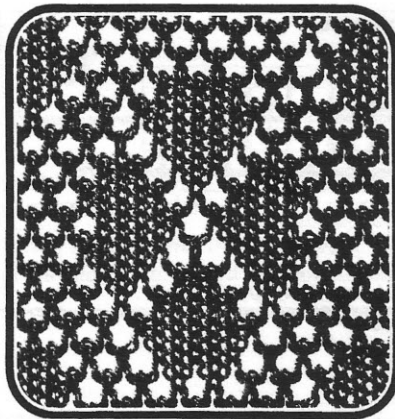
Diagram

X = pushers in Rest Position
 empty square = pushers in Working Position
 1 square = 1 stitch = 2 rows = RC 4

Strippers



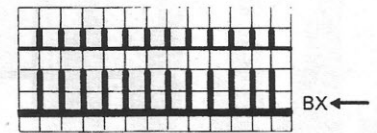
Arrange pushers acc. to diagram
 2 rows fine nylon yarn
 2 rows yarn
 repeat



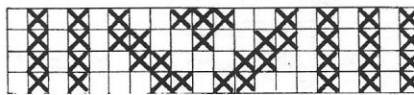
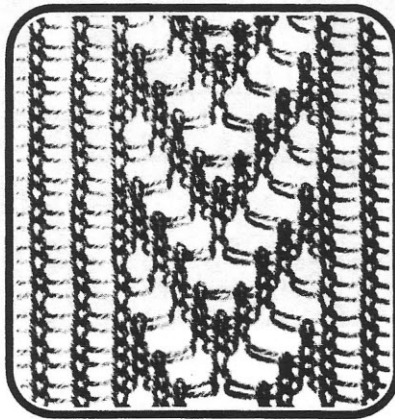
Diagram

X = pushers in Rest Position
 empty square = pushers in Working Position
 1 square = 1 stitch = 2 rows = RC 4

Strippers



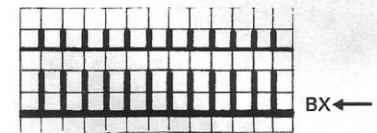
Arrange pushers acc. to diagram
 2 rows fine nylon yarn
 2 rows yarn
 repeat



Diagram

X = pushers in Rest Position
 empty square = pushers in Working Position
 1 square = 1 stitch = 2 rows = RC 4

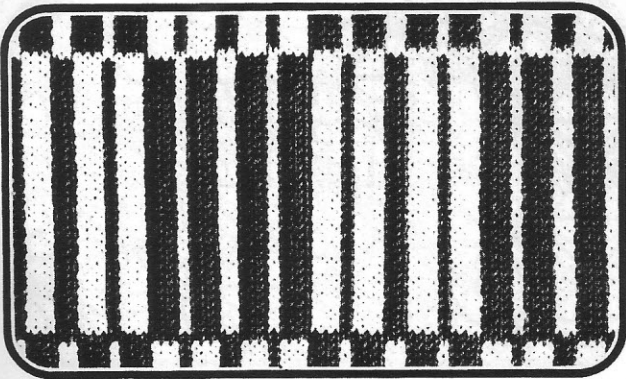
Strippers



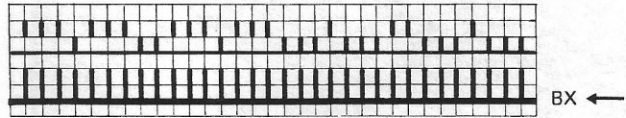
Arrange pushers acc. to diagram
 2 rows fine nylon yarn
 2 rows yarn
 repeat

Fancy stitch patterns

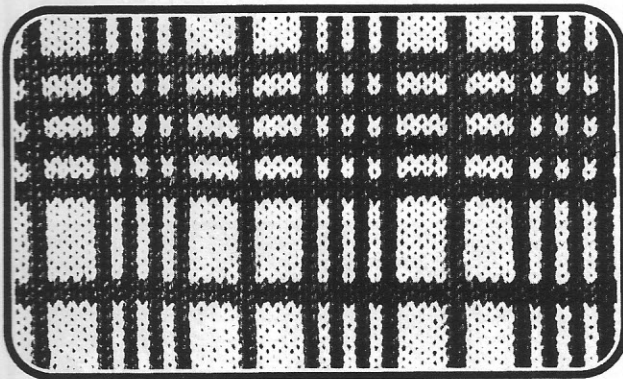
Automatic fairisle pattern



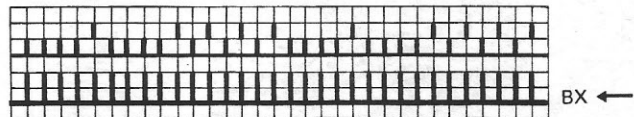
Strippers



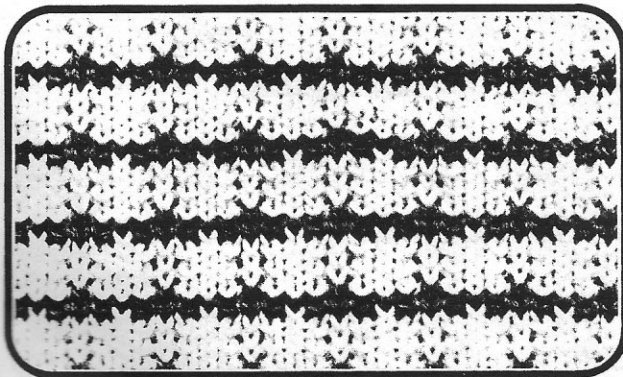
17 times { 2 rows colour 1
2 rows colour 2
17 times { 2 rows colour 2
2 rows colour 1 RC 136
repeat



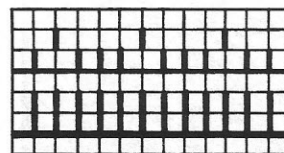
Strippers



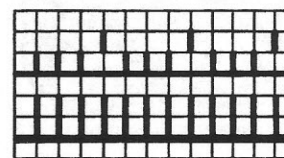
4 times { 6 rows colour 1
2 rows colour 2
3 times { 2 rows colour 1
2 rows colour 2
6 rows colour 1
2 rows colour 2
3 times { 2 rows colour 1
2 rows colour 2 RC 64
repeat



Strippers



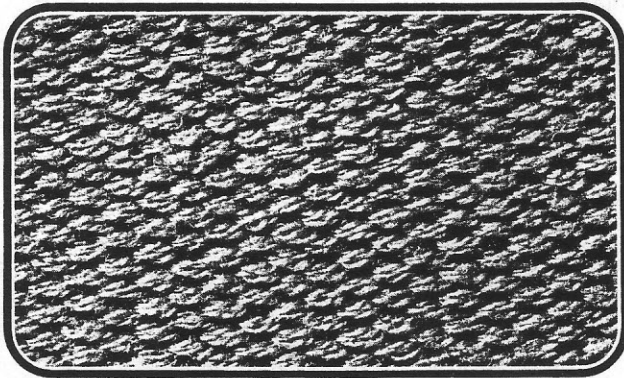
FX 6 rows colour 1



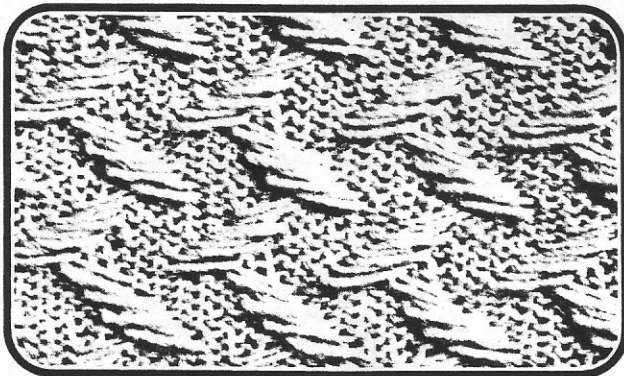
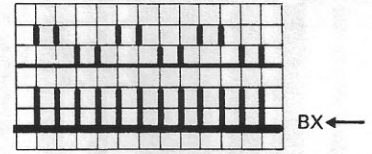
FX 2 rows colour 2

Fancy stitch patterns

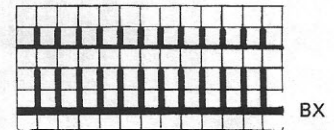
Slip stitch



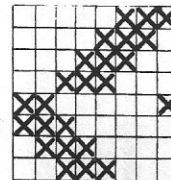
Strippers



Strippers

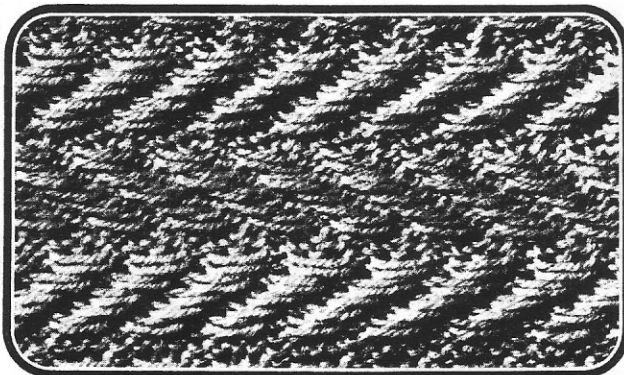


Diagram

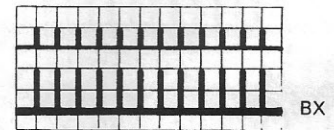


Arrange pushers acc. to diagram
knit 2 rows
repeat

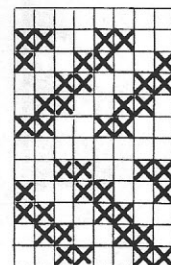
X = pushers in Rest Position
empty square = pushers in Working Position



Strippers



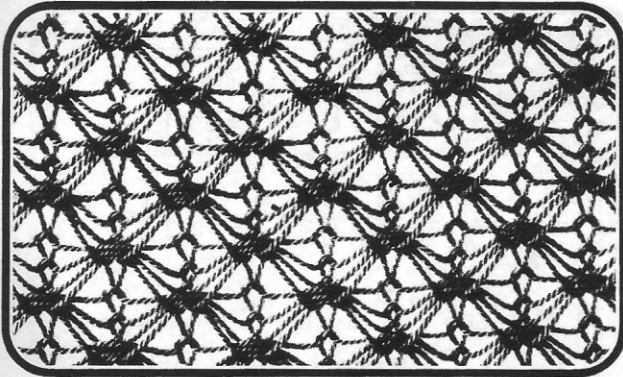
Diagram



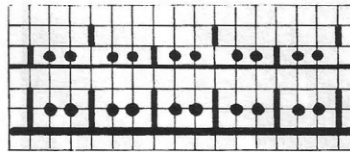
Arrange pushers acc. to diagram
knit 2 rows
repeat

X = pushers in Rest Position
empty square = pushers in Working Position

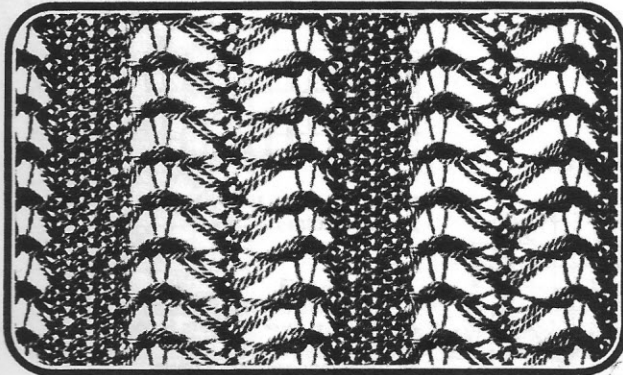
Fancy stitch patterns



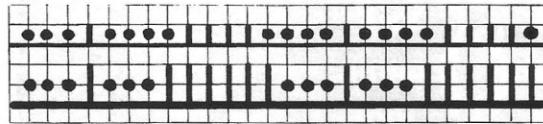
Strippers



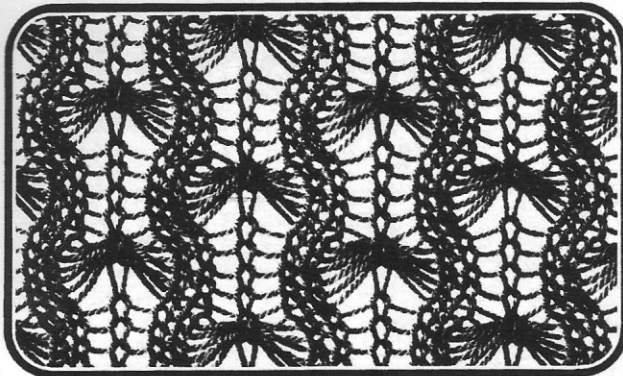
3 rows AX 0
 1 row AX →
 repeat



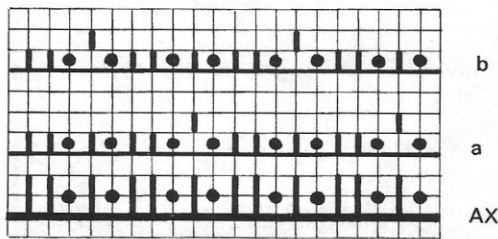
Strippers



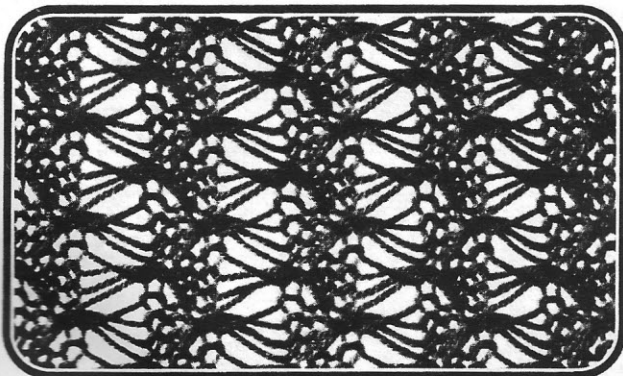
3 rows AX
 1 row N
 repeat



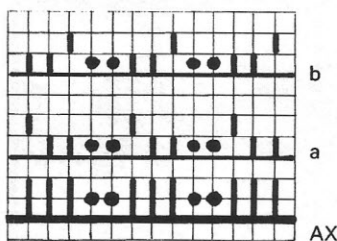
Strippers



6 rows with pusher position a
 6 rows with pusher position b
 repeat



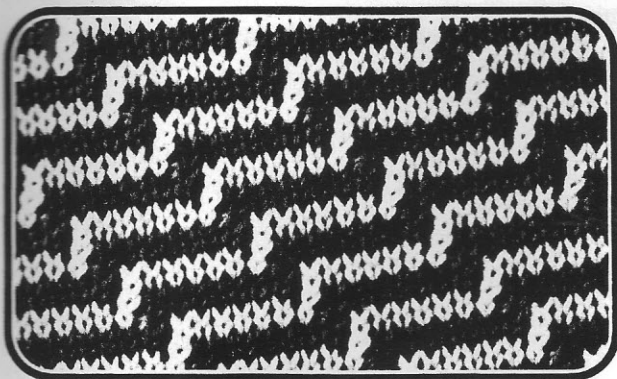
Strippers



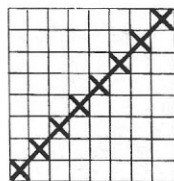
4 rows with pusher position a
 4 rows with pusher position b
 repeat

Fancy stitch patterns

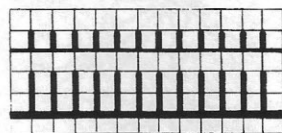
Two-coloured tuck stitch patterns



Diagram



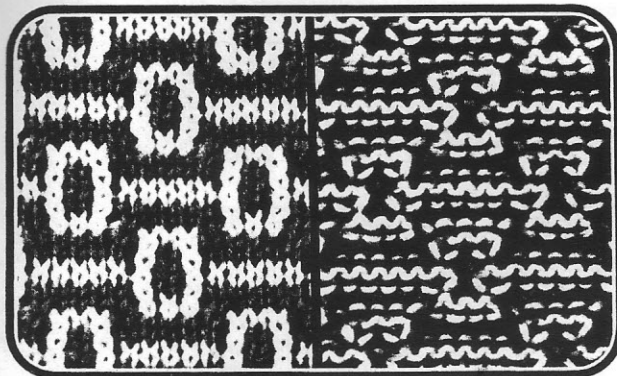
Strippers



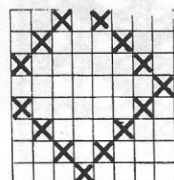
AX

2 rows colour 1
2 rows colour 2

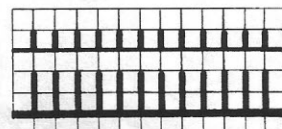
X = pushers in Rest Position
empty square = pushers in Working Position
For each square knit 2 rows



Diagram



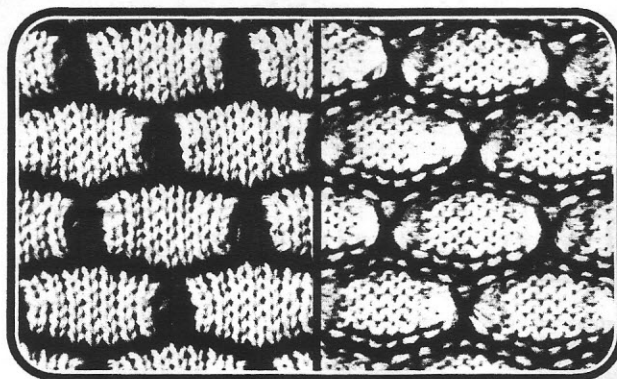
Strippers



AX

2 rows colour 1
2 rows colour 2

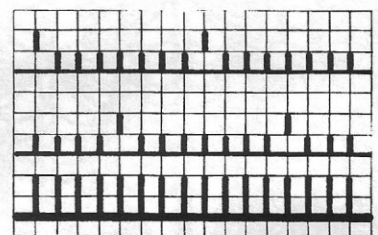
X = pushers in Rest Position
empty square = pushers in Working Position
For each square knit 2 rows



Pusher position a
6 rows AX colour 1
2 rows N colour 2

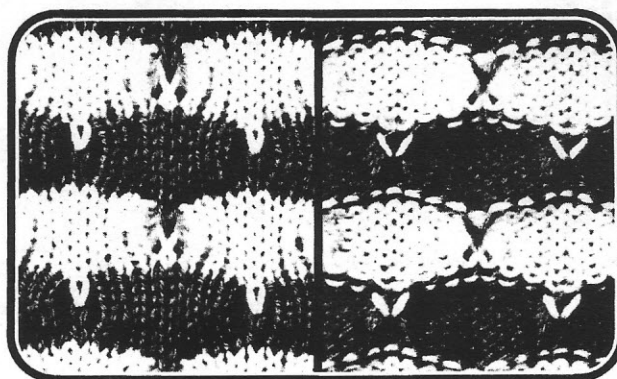
Pusher position b
6 rows AX colour 1
2 rows N colour 2

Strippers



a

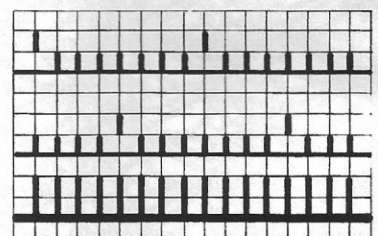
b



Pusher position a
6 rows AX colour 1
2 rows N colour 1

Pusher position b
6 rows AX colour 2
2 rows N colour 2

Strippers

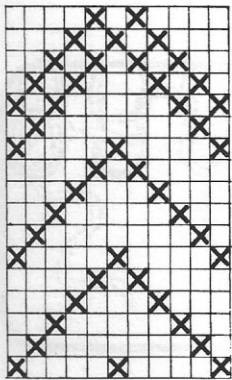
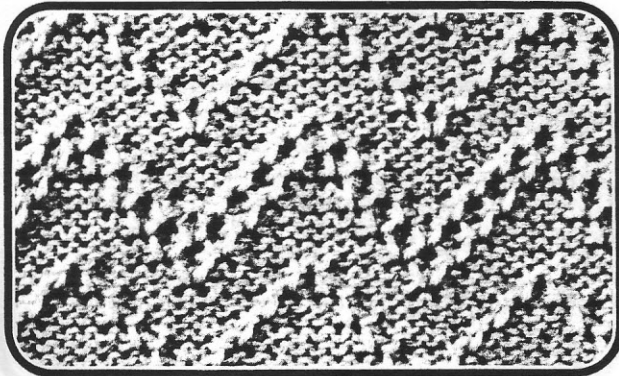


a

b

Fancy stitch patterns

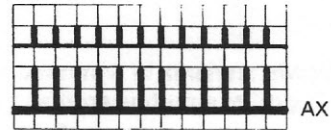
Tuck stitch



Diagram

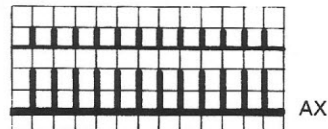
X = pushers in Rest Position
empty square = pushers in Working Position

Strippers



Arrange pushers acc. to diagram
knit 2 rows
repeat

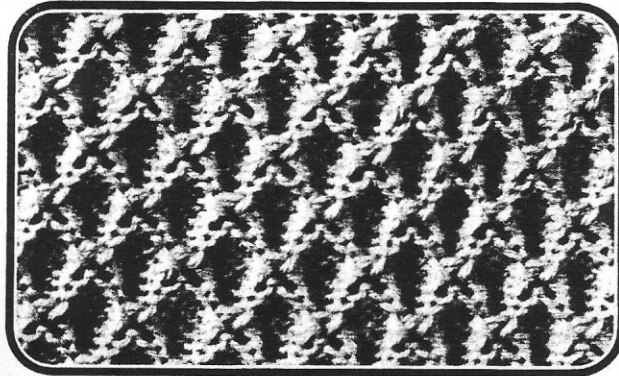
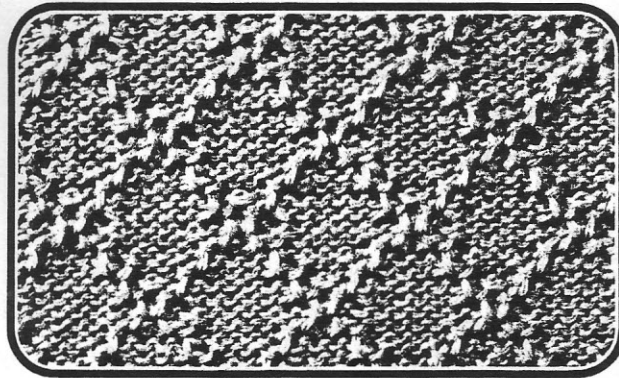
Strippers



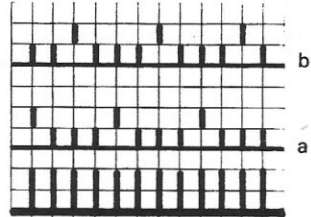
Diagram

Arrange pushers acc. to diagram
knit 2 rows
repeat

X = pushers in Rest Position
empty square = pushers in Working Position



Strippers



With pusher position a
4 rows AX
2 rows N

With pusher position b
4 rows AX
2 rows N
repeat

Making up

Blocking and pressing

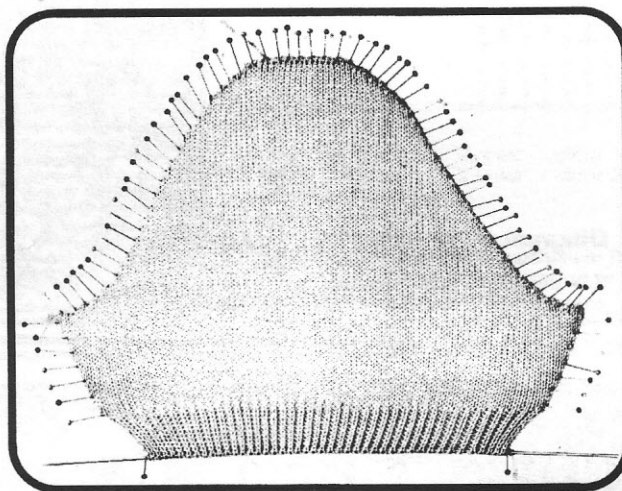
Before making up a garment, almost all fabrics made of wool, as well as some synthetics, have to be pressed.

Exceptions for wool: Raised patterns must never be pressed.

For synthetic yarns: Always press the test square first and check the result. See also the chapter on test squares, page 42.

Pinning out to size

Before pressing, each part should be pinned out to size on an ironing board.



Proceed as follows: Check the measurements on your diagram. Transfer these, with the aid of a tape measure, to the ironing board, marking the corners with pins. In the case of a straight edge use, say, your finger nail to mark the straight line on the ironing board. Pin the two corners first, then place the next pin into the centre of the line and so forth. Doing it this way prevents you from pulling the fabric out of shape. Leave approx. 1 cm ($\frac{1}{2}$ inch) between pins.

Pressing

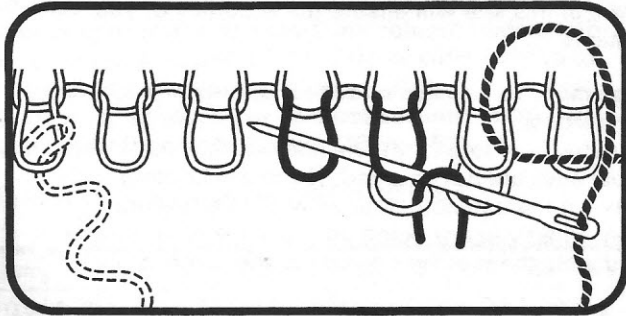
Place a damp cloth over the pinned-out parts, and press very lightly with a hot iron. (Never use pressure). Wait for the pieces to dry completely, before removing them from the ironing board.

Pressing welts and borders

In order to retain their elasticity welts and borders must be pressed in the following manner:

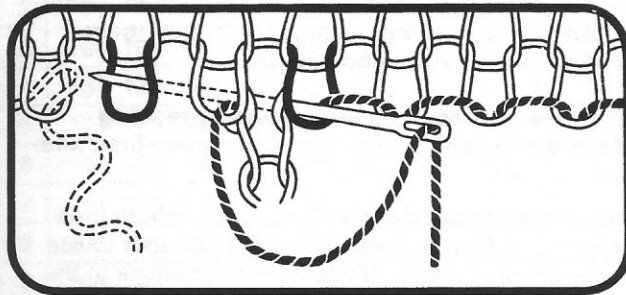
Insert a fine knitting needle into the tubular rows of the cast-on, and hold it in position by pinning the ends of the needle to the ironing board. Now pull the welt or border lengthwise and hold it while you press it.

Seams



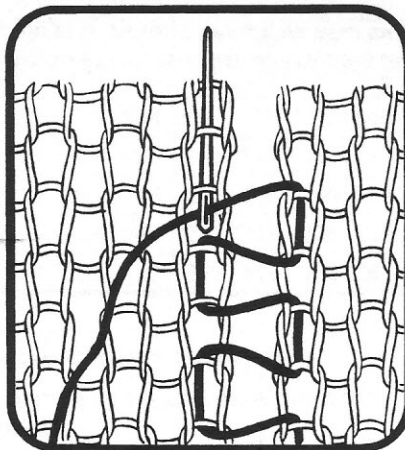
Making a hem

Stitch by stitch sew open row of stitches, always picking up two stitches at a time and unravelling the contrast yarn stitch by stitch.



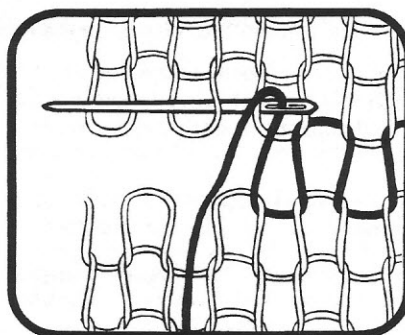
Back stitching, stitch by stitch

Enter into the open stitch at right of the stitch sewn last and emerge from the open stitch at left of it, unravelling contrast yarn stitch by stitch.



The mattress stitch on the right side of the fabric

For inconspicuous side seams.
Sewn on the right side of the knitting.



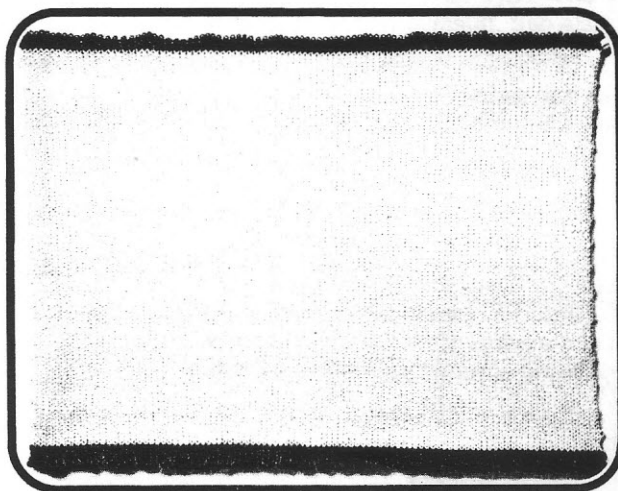
The graft stitch

With right side of the knitting facing you, form the missing row of stitches.

Calculation of garments

Making a test square

To knit your own designs, it is absolutely vital that you make a test square first, for only thus can you work out the number of stitches and rows you will have to knit.



A test square is always knitted in the yarn, the pattern, the stitch size, and the yarn tension you will be using for your garment.

Knit **100 rows with 100 stitches**, for only a test square of this size will ensure the accuracy of your calculations.

Remember to always count all the stitches actually knitted.

For patterns where all the needles are not used, the empty ones are not counted. If you are knitting with every alternate needle, knit with 50 stitches only. Then, when you are doing your calculations, you simply double the measurements for the stitches.

Casting on and off always with contrast yarn.

After casting on knit approx. 6 to 10 rows in contrast yarn, before changing to your main yarn. Then, before you release your knitting, change back to contrast yarn. Knit 10 to 12 rows and release.

In the case of materials which need pressing under a damp cloth, press your test square first, and then measure it.

When using synthetic yarns it is advisable to measure the test square before pressing it, in order to see how the material reacts. If you liked the texture of the fabric better before pressing it, then use the measurements you took before pressing. Otherwise, measure the test square again after pressing it, as the measurements may well have altered. It is always a good thing to let the test square rest for 24 hours before measuring it.

Calculating the stitches and rows

To do this, use the four charts on the next two pages.

In the **top horizontal row** look up the measurement which you have obtained from your test square. The vertical column directly underneath is for your calculations.

In the **vertical column** on each side, look up the measurement you need for your pattern.

Use the same method for calculating the stitches and rows. The simplest way is to first calculate the number of stitches, and then the rows.

Calculation of garments

An example

Say the 100 stitches of your test square measure 36 cm (14 $\frac{1}{4}$ inches).

Look up the 36 cm (14 $\frac{1}{4}$ ") in the top horizontal row of your chart, and mark the column underneath. Now, you want to find out how many stitches have to be cast on for a sleeve measuring 29 cm (11 $\frac{1}{2}$ inches) at the wrist. Look in the vertical column at the extreme left or right for the 20 cm (8"). Move

across from there, and you will arrive at number 56 in the previously marked vertical column, i. e. 20 cm = 56 stitches.

Do the same for the remaining 9 cm (3 $\frac{1}{2}$ inches), and you get 9 cm = 25 stitches.

Now add up 56 and 25 = 81, and you will know that you have to cast on 81 stitches for a sleeve which must be 29 cm wide.

For test squares measuring 30 to 39,5 cm

cm	30	30,5	31	31,5	32	32,5	33	33,5	34	34,5	35	35,5	36	36,5	37	37,5	38	38,5	39	39,5	cm
0,5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	0,5
1	3-4	3-4	3-4	3-4	3	3	3	3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	1
2	7	7	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	2
3	10	10	10	10	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	3
4	13	13	13	13	13	12	12	12	12	12	11	11	11	11	11	11	11	10	10	10	4
5	17	16	16	16	16	15	15	15	15	14	14	14	14	14	14	13	13	13	13	13	5
6	20	20	19	19	19	18	18	18	18	17	17	17	17	16	16	16	16	16	15	15	6
7	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	19	18	18	18	18	7
8	27	26	26	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21	21	20	8
9	30	30	29	29	28	28	27	27	26	26	26	25	25	24	24	24	24	23	23	23	9
10	33	33	32	32	31	31	30	30	29	29	29	28	28	27	27	27	26	26	26	25	10
20	67	66	65	64	63	62	61	60	59	58	57	56	56	55	54	53	53	52	51	51	20
30	100	98	97	95	94	92	91	90	88	87	86	85	83	82	81	80	79	78	77	76	30
40	133	131	129	127	125	123	121	119	118	116	114	113	111	110	108	107	105	104	103	101	40
50	167	164	161	159	156	154	151	149	147	145	143	141	139	137	135	133	132	130	128	127	50
60	200	197	194	191	188	185	181	179	176	174	171	169	167	164	162	160	158	156	154	152	60
70	233	230	226	222	219	215	212	209	206	203	200	197	194	192	189	187	184	182	179	177	70
80	267	262	258	254	250	246	242	239	235	232	229	225	222	219	216	213	211	208	205	203	80
90	300	295	290	286	281	277	273	269	265	261	257	254	250	247	243	240	237	234	231	228	90

How to calculate increases and decreases

Now, using an example, let us try and work out how to increase and decrease.

Your measurements show that your sleeves have to measure 29 cm (11 $\frac{1}{2}$ inches) at the wrists, and 38 cm (15 inches) below the shoulders. You have therefore worked out:

29 cm = 81 stitches

38 cm = 105 stitches

The length of the sleeves from wrists to below shoulders is

44 cm = 152 rows

Accordingly, when knitting 152 rows you will have to increase 24 stitches, namely 12 stitches on each side of the sleeves. Result:

152 rows : 12 = 12, leaving 8

This means you have to increase 1 stitch every 12th row on each side.

+12x1=12. R

Knit 4 rows first before you start to increase.

It would be a good idea to draw up a short list on which to note down the number showing on the row counter when it is time for you to increase.

Like this:

4
16
28
40
52
64
76
88
100 etc.

Now you are sure to know where to continue, should you get interrupted at any time. A quick glance at your row counter and your list will tell you exactly when to increase.

Calculation of garments

For test squares measuring 10 to 19,5 cm

cm	10	10,5	11	11,5	12	12,5	13	13,5	14	14,5	15	15,5	16	16,5	17	17,5	18	18,5	19	19,5	cm
0,5	5	4-5	4-5	4-5	4-5	4	3-4	3-4	3-4	3-4	3-4	3-4	3	3	3	2-3	2-3	2-3	2-3	2-3	0,5
1	10	10	9	8-9	8	8	7-8	7-8	7	7	6-7	6-7	6-7	6	6	5-6	5-6	5-6	5-6	5	1
2	20	19	18	17	16	16	15	15	14	14	13	13	13	12	12	11	11	11	11	10	2
3	30	29	27	26	25	24	23	22	21	21	20	19	19	18	18	17	17	16	16	15	3
4	40	38	36	35	33	32	31	30	28	28	27	26	25	24	24	23	22	22	21	21	4
5	50	48	45	43	42	40	38	37	36	34	33	32	31	30	29	29	28	27	26	26	5
6	60	57	55	52	50	48	46	44	43	41	40	39	38	36	35	34	33	32	32	31	6
7	70	67	64	61	58	56	54	52	50	48	47	45	44	42	41	40	39	38	37	36	7
8	80	76	73	70	67	64	62	59	57	55	53	52	50	48	47	46	44	43	42	41	8
9	90	86	82	78	75	72	69	67	64	62	60	58	56	55	53	51	50	49	47	46	9
10	100	95	91	87	83	80	77	74	71	69	67	65	63	61	59	57	56	54	53	51	10
20	200	190	182	174	167	160	154	148	143	138	133	129	125	121	118	114	111	108	105	103	20
30	300	286	273	261	250	240	231	222	214	207	200	194	188	182	176	171	167	162	158	154	30
40				348	333	320	308	296	285	276	267	258	250	242	235	229	222	216	211	205	40
50									357	345	333	323	313	303	294	286	278	270	263	256	50
60															353	343	333	324	316	308	60
70																				358	70
80																					80
90																					90

For test squares measuring 20 to 29,5 cm

cm	20	20,5	21	21,5	22	22,5	23	23,5	24	24,5	25	25,5	26	26,5	27	27,5	28	28,5	29	29,5	cm
0,5	2-3	2-3	2-3	2-3	2-3	2	2	2	2	2	2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	0,5
1	5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4	4	4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	1
2	10	10	10	9	9	9	9	9	8	8	8	8	8	8	7	7	7	7	7	7	2
3	15	15	14	14	14	13	13	13	13	12	12	12	12	11	11	11	11	11	10	10	3
4	20	20	19	19	18	18	17	17	17	16	16	16	15	15	15	15	14	14	14	14	4
5	25	24	24	23	23	22	22	21	21	20	20	20	19	19	19	18	18	18	17	17	5
6	30	29	29	28	27	27	26	26	25	24	24	24	23	23	22	22	21	21	21	20	6
7	35	34	33	33	32	31	30	30	29	29	28	27	27	26	26	25	25	25	24	24	7
8	40	39	38	37	36	36	35	34	33	33	32	31	31	30	30	29	29	28	28	27	8
9	45	44	43	42	41	40	39	38	38	37	36	35	35	34	33	33	32	32	31	31	9
10	50	49	48	47	45	44	43	43	42	41	40	39	38	38	37	36	36	35	34	34	10
20	100	98	95	93	91	89	87	85	83	82	80	78	77	75	74	73	71	70	69	68	20
30	150	146	143	140	136	133	130	128	125	122	120	118	115	113	111	109	107	105	103	102	30
40	200	195	190	186	182	178	174	170	167	163	160	157	154	151	148	145	143	140	138	136	40
50	250	244	238	233	227	222	217	213	208	204	200	196	192	189	185	182	179	175	172	169	50
60	300	293	286	279	273	267	261	255	250	245	240	235	231	226	222	218	214	211	207	203	60
70	350	341	333	326	318	311	304	298	292	286	280	274	269	264	259	255	250	246	241	237	70
80						356	348	340	333	327	320	313	308	302	296	291	286	281	276	271	80
90												353	346	340	333	327	321	316	310	305	90

Calculation of garments

For test squares measuring 30 to 39,5 cm

cm	30	30,5	31	31,5	32	32,5	33	33,5	34	34,5	35	35,5	36	36,5	37	37,5	38	38,5	39	39,5	cm
0,5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	0,5
1	3-4	3-4	3-4	3-4	3	3	3	3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	1
2	7	7	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	2
3	10	10	10	10	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	3
4	13	13	13	13	13	12	12	12	12	12	11	11	11	11	11	11	11	10	10	10	4
5	17	16	16	16	16	15	15	15	15	14	14	14	14	14	14	13	13	13	13	13	5
6	20	20	19	19	19	18	18	18	18	17	17	17	17	16	16	16	16	16	15	15	6
7	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	19	18	18	18	18	7
8	27	26	26	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21	21	20	8
9	30	30	29	29	28	28	27	27	26	26	26	25	25	25	24	24	24	23	23	23	9
10	33	33	32	32	31	31	30	30	29	29	29	28	28	27	27	27	26	26	26	25	10
20	67	66	65	64	63	62	61	60	59	58	57	56	56	55	54	53	53	52	51	51	20
30	100	98	97	95	94	92	91	90	88	87	86	85	83	82	81	80	79	78	77	76	30
40	133	131	129	127	125	123	121	119	118	116	114	113	111	110	108	107	105	104	103	101	40
50	167	164	161	159	156	154	151	149	147	145	143	141	139	137	135	133	132	130	128	127	50
60	200	197	194	191	188	185	181	179	176	174	171	169	167	164	162	160	158	156	154	152	60
70	233	230	226	222	219	215	212	209	206	203	200	197	194	192	189	187	184	182	179	177	70
80	267	262	258	254	250	246	242	239	235	232	229	225	222	219	216	213	211	208	205	203	80
90	300	295	290	286	281	277	273	269	265	261	257	254	250	247	243	240	237	234	231	228	90

For test squares measuring 40 to 50 cm

cm	40	40,5	41	41,5	42	42,5	43	43,5	44	44,5	45	45,5	46	46,5	47	47,5	48	48,5	49	49,5	50	cm
0,5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1	1	1	1	1	1	1	1	1	0,5	
1	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2	2	2	2	2	2	2	2	2	1	
2	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	2	
3	8	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6	3	
4	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	8	8	8	8	8	4	
5	13	12	12	12	12	12	11	11	11	11	11	11	11	11	11	10	10	10	10	10	5	
6	15	15	15	14	14	14	14	14	14	13	13	13	13	13	13	13	12	12	12	12	6	
7	18	17	17	17	17	16	16	16	16	16	16	15	15	15	15	15	15	14	14	14	7	
8	20	20	20	19	19	19	19	18	18	18	18	18	17	17	17	17	17	16	16	16	8	
9	23	22	22	22	21	21	21	21	20	20	20	20	20	19	19	19	19	19	18	18	9	
10	25	25	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	21	20	20	10	
20	50	49	49	48	48	47	47	46	45	45	44	44	43	43	43	42	42	41	41	40	20	
30	75	74	73	72	71	71	70	69	68	67	67	66	65	65	64	63	62	62	61	61	30	
40	100	99	98	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	82	81	40	
50	125	123	122	121	119	118	116	115	114	112	111	110	109	108	106	105	104	103	102	101	50	
60	150	148	146	145	143	141	140	138	136	135	133	132	130	129	128	126	125	124	122	121	60	
70	175	173	171	169	167	165	163	161	159	157	156	154	152	151	149	147	146	144	143	141	70	
80	200	198	195	193	190	188	186	184	181	180	178	176	174	172	170	168	167	165	163	162	80	
90	225	222	220	217	214	212	209	207	205	202	200	198	196	194	192	189	187	186	184	182	90	

Technical hints

Useful technical hints

Jammed lock

Free move: Lock GX

Remove the strippers and feeding eyelet.
Carefully free the lock.
Remember to check the number on the row counter if you unravel a few rows of the knitting.

The jamming of the lock may be caused by:

- an incorrect setting of the lock
- the absence of strippers
- an uneven flow of the yarn
- the wrong stitch size.

Dropped stitches

Since the MONOMATIC 20 works without weights, any dropped stitches will not run, and are best crocheted up with the aid of a crochet hook once the work is finished.

Dropped stitches may be due to:

- an overlarge stitch size
- a damaged latch needle.

Loops forming at the edges

These may occur if the setting is too low on the yarn brake.

If so, increase the setting to a higher number.

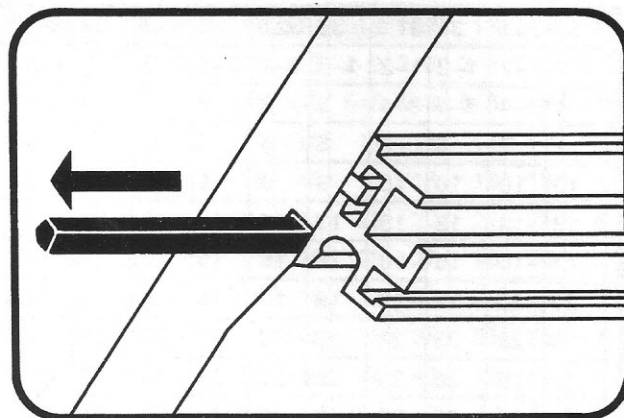
Too tight or unknitted edge stitches

These may be due to the yarn brake setting being too high. If so, decrease the setting to a lower number.

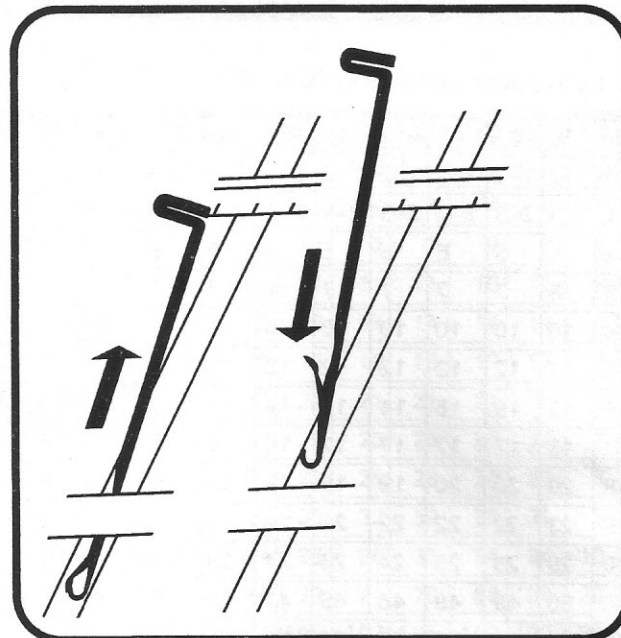
Pushers in wrong position

- A pusher may have become stuck in the upper part of the blocking rail.
- The pushers may be clogged by dust interfering with their free movement. In this case they simply need a good clean, page 47.
- The lock has not been taken far enough past the end of the knitting (approx. 10 cm / 4").

Replacing a needle



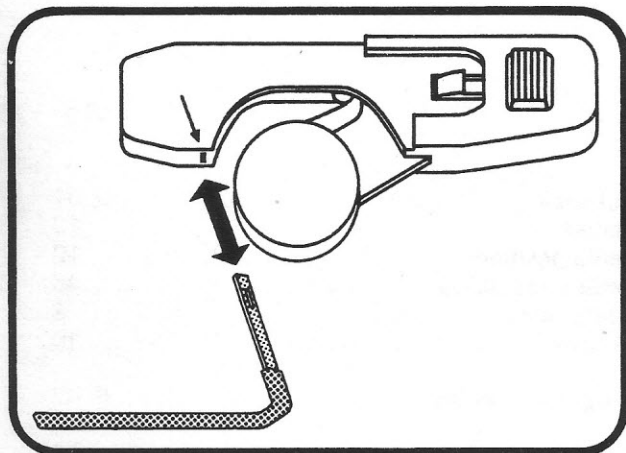
- Pull out the needle rail, which is situated below the upper rail, until the defective needle is cleared.
- If either the needle head or the latch are damaged, **they must first be broken off with a pair of flat pliers to avoid any damage to the retaining spring.**



- Now hold the needle by its foot and remove it from the needle channel. But unless you have removed the head of the needle, it is absolutely essential **to close the latch.**
- Insert the new needle, **with its latch open**, from below, into the needle channel.
- Finally, return the needle rail to its proper place.

Damaged yarn

This may be due to a damaged stripper blade. See illustration on how to replace it.



How to clean the MONOMATIC 20

Clean and oil the machine only after having removed the knitting.

A machine not in use should never be left uncovered. Always protect it against dust with the cover.

Cleaning

Every time a garment is finished, or daily if the machine is in constant use, proceed as follows:

1. With a soft, dry cloth wipe off all surplus oil, or oil which has become black, from the lock and needle bed.
2. With a dry brush remove remaining yarn fluff from the needle bed and the interior of the lock.
3. Carefully wipe inside rails of needle bed with a cloth. Dust and oil accumulating may cause heavy movement of the lock.

Occasionally, and should the machine seem to be unduly stiff in operation (heavily accumulated with oil and fluff), additional cleaning should be carried out as follows:

Cleaning procedure

Clean lock parts and lock guides as well as needles in the needle channels with a brush and then rub lightly with cloth, moistened with cleaning solution.

Cleaning solution

We suggest you contact your nearest dealer for the correct solution. If this is not possible, use a mixture of 20% methylated spirit and 80% paraffin. (Shake well before use.)

Never use methylated spirit on its own, as it has a drying effect and might lead to rust.

For deeper cleaning, clean lock guides and cams with brush and cleaning solution, afterwards rub parts with cloth moistened with cleaning solution. Remove needles from bed and rinse in cleaning solution. Then rub them with cloth dipped in cleaning solution.

Rub rails with dry cloth and then clean with brush dipped in cleaning solution.

Clean needle channels with moistened brush. With dry brush remove dust from striking comb.

Then clean with dry brush. Rub machine with dry cloth.

Reinsert needles in the bed.

Special note:

Never use petrol / gasoline on the plastic parts of your machine. Use soapy water instead. Never rub over the letters on lock and front plate with wet cloth or brush.

Oiling after having cleaned the machine

1. Lock

Spread 3 to 4 drops of Bellodor oil on and around each of the guiding rails. Oil lock parts along which the needles slide, with brush or oily cloth.

2. Guide rails

Put 2 to 3 drops of Bellodor oil on middle part of each guide rail.

3. Needles and pushers

Put needles and pushers into Working Position, then, with a brush or oily cloth lightly rub all needle and pusher feet. Move lock over machine 4 / 5 times.

Special note:

Only use Bellodor oil. Other qualities of oil may contain ingredients harmful to the plastic parts of the machine.

Alphabetical index

	Page		Page
Abbreviation	25	Necklines	30, 31
Arrow keys	10	Needles	12
Blocking rail	9	Needle positions	12
Bust darts	25	Needles, replacing	46
Buttonhole	28	Needle scale	8
Calculation of garments	42-45	N-X lever	10
Casting off	18	Oiling the machine	6, 47
Casting on	17	Pattern selector dial	10
Cleaning solution	47	Pinning out to size	40
Cleaning the MONOMATIC 20	47	Position of needles	12
Colour changer, automatic	16	Position of pushers	13
Decreasing one stitch	22	Pressing	40
Diagram for needles and pushers	12, 13	Pushers	13
Dropped stitches	46	Pushers in wrong position	46
Edge loops	15, 46	Releasing stitches	16
Edge springs	9	Replacing a needle	46
Edge stitches	15, 46	Row counter	9
Fairisle	32, 33, 35	Slit, vertical	30
Fancy stitch patterns	32-39	Stitch by stitch, back stitching	41
Feeding eyelet	11, 15, 16	Stitch, edge	15, 46
Free move	46	Stitch, release	16
Graduations (short rows)	23-27	Stitch size	11
Graft stitch	41	Stitch size regulator	11
Hem	28	Strippers	11
Increasing one stitch	20	Stripper, replacing stripper blade	47
Increasing several stitches	21	Tension discs	15
Intarsia	27	Test square	42
Jaws for feeding eyelets	11, 16	Threading the yarn	14-16
Lock	10, 11	Transfer of stitches	19
Lock, empty, to release stitches	16	Trip cam for row counter	9
Loops at the edge	15, 46	Two colours knitted diagonally on same row	26
Mattress stitch	41	Waxing the yarn	14
Mock ribs	29	Winding the yarn	14
		Yarn guide	14, 15
		Yarn, damaged	47