



increase

decrease

# Getting to know your

# Zippy 90



yarn



purl



knit



cast-on



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(All you need to knit simple garments.)

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## Part 3 ~ Detailed methods and techniques

(Each technique simply explained.)



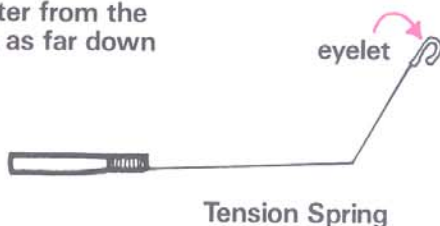
See page 20 for the contents of Part 3.

## How to set up your Zippy

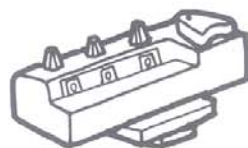
Remove two Clamps, the Tension Spring and the Row Counter from the box. Unscrew the Clamps as far down as they go.



Clamps

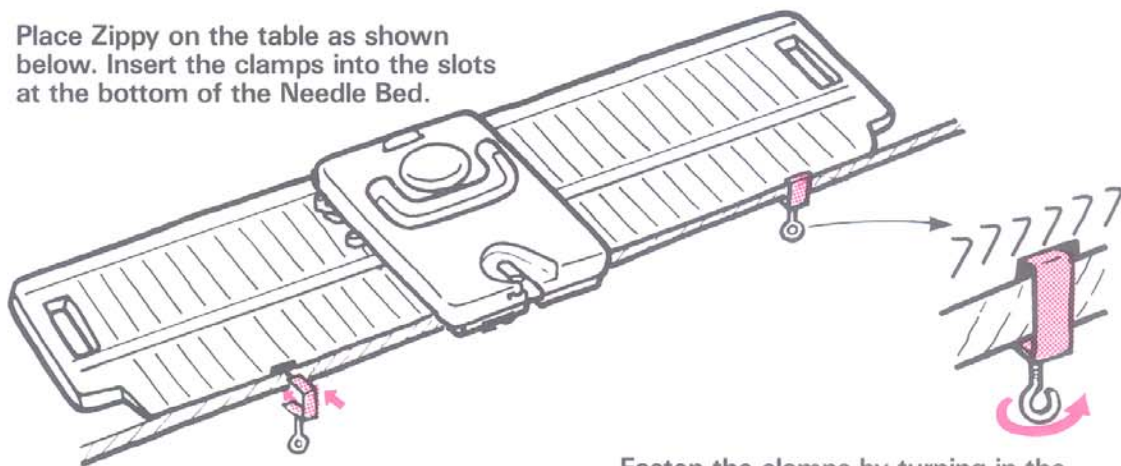


Tension Spring



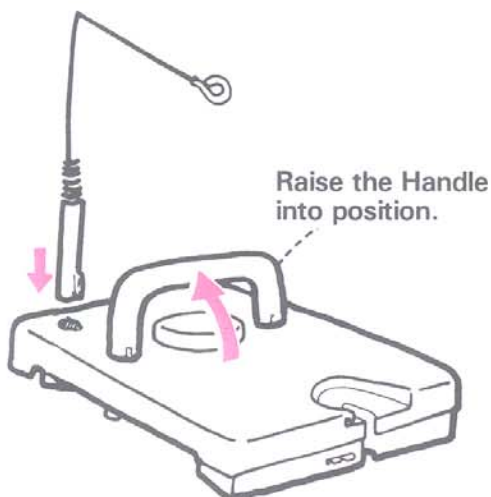
Row Counter

Place Zippy on the table as shown below. Insert the clamps into the slots at the bottom of the Needle Bed.



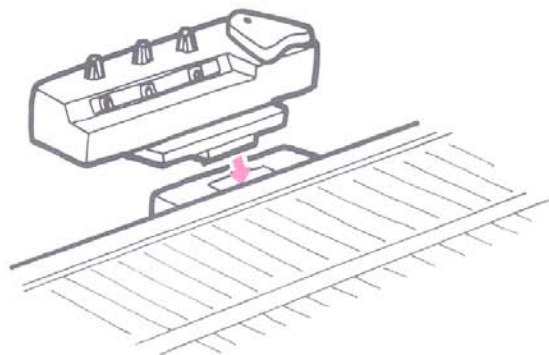
Fasten the clamps by turning in the arrowed direction.

Push the Tension Spring into the Carriage with the eyelet forward.

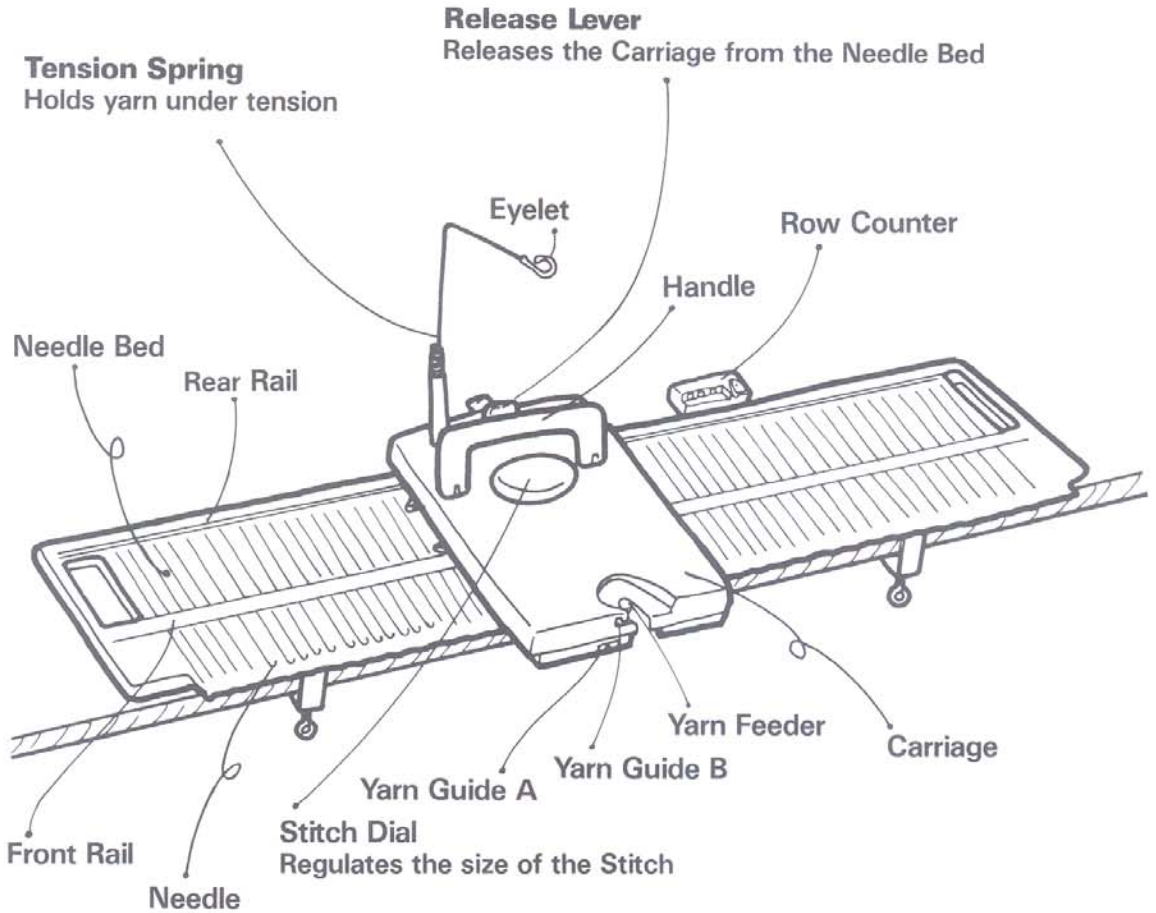


Raise the Handle into position.

Insert the foot of the Row Counter into one of the slots at the back of the Needle Bed.



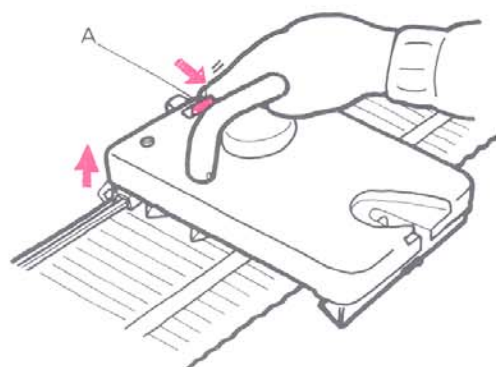
# *Names and functions of each part*



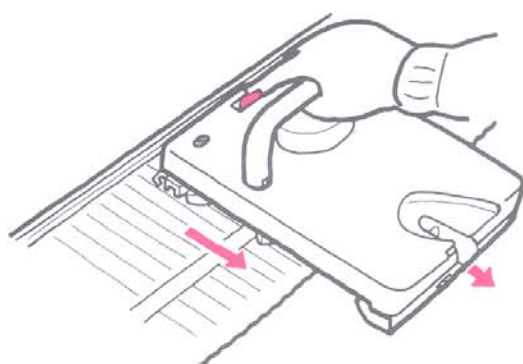
## **Needle**



## How to remove the carriage from the needle-bed

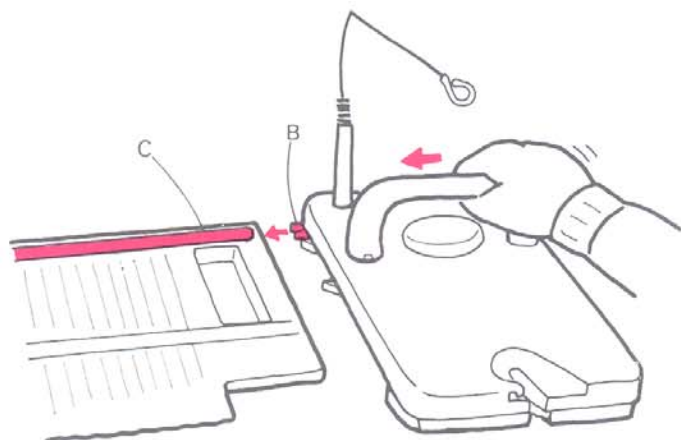


1. Pull forward the Release Lever A and lift up the back of the Carriage.



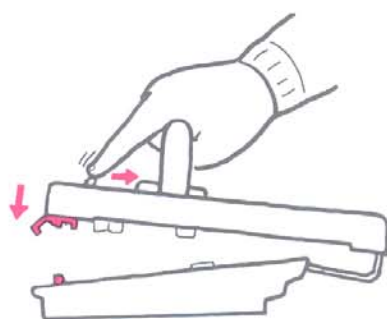
2. Move the Carriage forward.

## How to replace the carriage on the needle-bed



### Method 1

Fit the carriage Groove 'B' to the Rear Rail 'C'. Slide the Carriage horizontally along the Needle Bed. Make sure the Carriage moves smoothly on the Needle Bed.

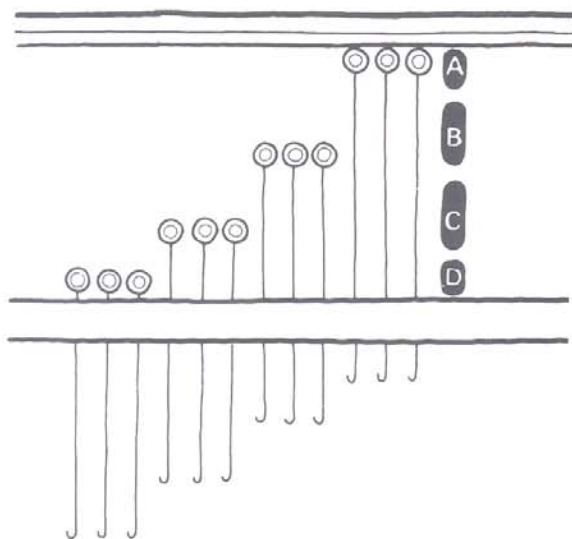


### Method 2

Push all the needle rollers to the back of the needle bed. Hook the front of the carriage under the front of the needle bed. Pull the release lever forward and lower the back of the carriage so that it fits onto the rear rail. Make sure the Carriage moves smoothly on the Needle Bed.

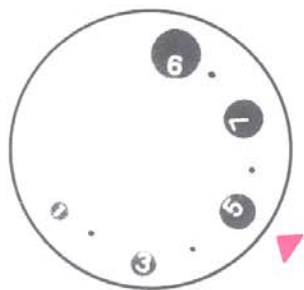
## Needle positions

The letters A, B, C and D at both ends of the Needle Bed, show different needle positions. Each letter indicates a different function for the needle in that position.



- A .... non-working position
- B .... knitting position
- C .... knitting position for needles pushed back from holding position
- D .... holding position for working needles

## Yarn and stitch dial



Turn the Stitch Dial to change the stitch size. The sketch shows stitch size 5.

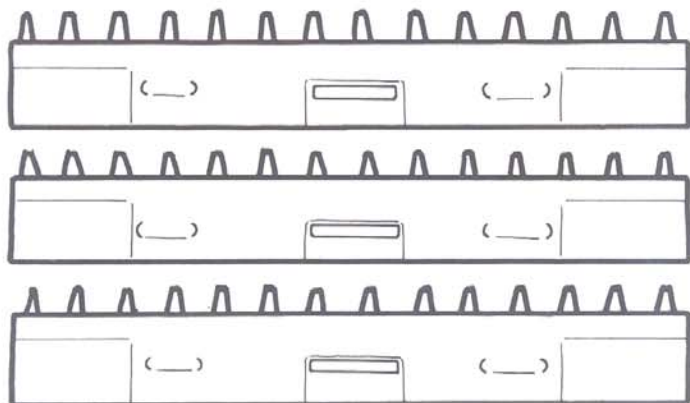
For thin smooth yarns, use small stitches, low numbers. For thick, lumpy or hairy yarns use larger stitches, high numbers.

Experiment with your yarn at different stitch sizes to find one at which Zippy knits easily and produces the fabric you like.

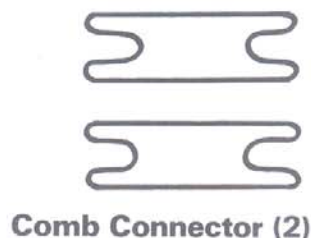
For example, an Aran weight yarn (such as Knitmaster Kone Aran courtelle) will give a soft fabric at stitch size 4, and a firmer fabric at stitch size 2 or 3.



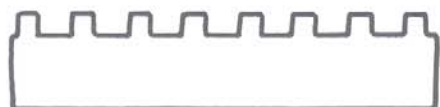
# Accessories



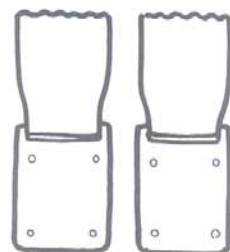
Cast-on Comb (3)



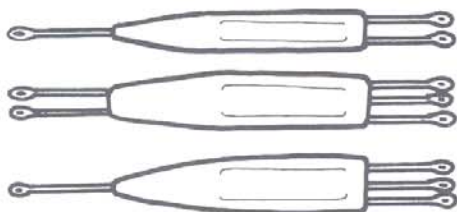
Comb Connector (2)



Needle Pusher



Claw Weight (2)



Transfer Tool 1-2  
2-3  
1-3 (1 of each)



Tapestry Needle



Latch Tool (Tappet)

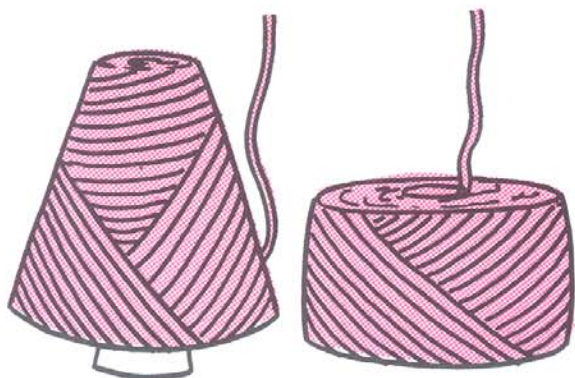


Oil

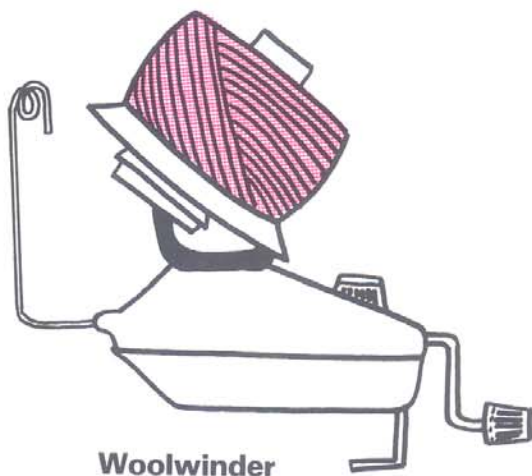
## Preparing your yarn

To start with, use a nice smooth Aran-type yarn such as Knitmaster Kone Aran courtelle. It is much easier to learn with a smooth yarn, then you can progress to fancy fluffy and knobbly yarns later on.

Knit from a cone, or from a ball which has been rewound on a woolwinder. Use the yarn from the centre of a ball made on a woolwinder.



Zippy uses yarn so quickly that hand wound balls can't unwind fast enough, and will catch up, making your knitting difficult and uneven.



Although the kitten loves a hand-wound ball—Zippy does **not!**

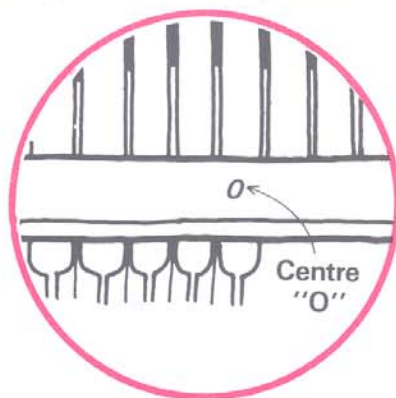


## Beginners start here

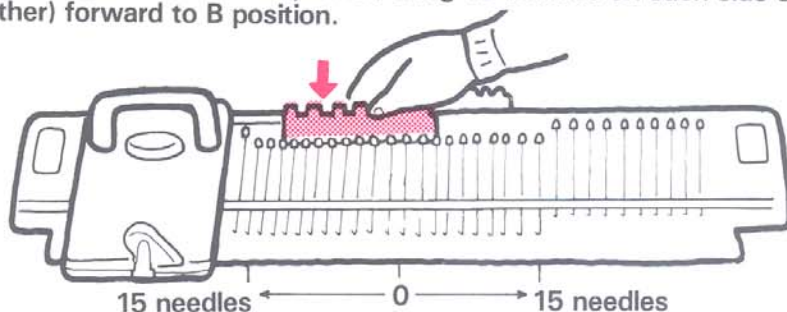
Have you followed the first 6 pages of the book carefully, and is your Zippy 90 now firmly clamped to the table with its accessories beside it and you in front ready to start?

Put the carriage on the left hand end of the needle bed.

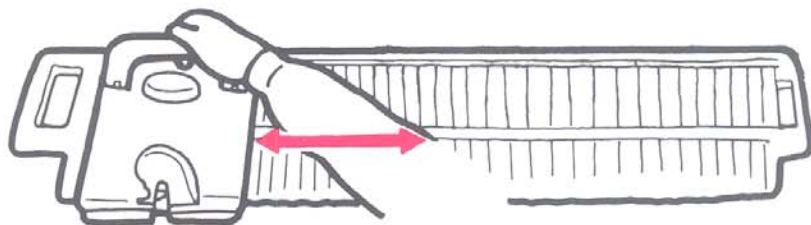
Look at the pink strip which runs along the front of the flat part of the needle bed, and find the 0 in the centre. The needles are numbered in tens on both sides of this centre 0.



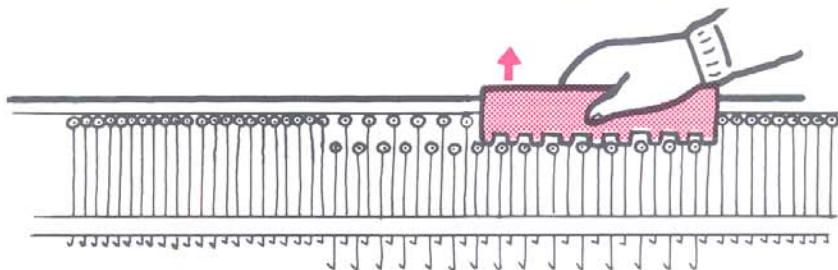
Using the straight edge of the needle pusher, bring 15 needles on each side of 0 (30 needles altogether) forward to B position.



Move the carriage to the right across all the needles, making sure that it does clear the end needle on the right—then return it to the left. This will make sure that the needles are in a nice straight line in B position as Zippy likes them.



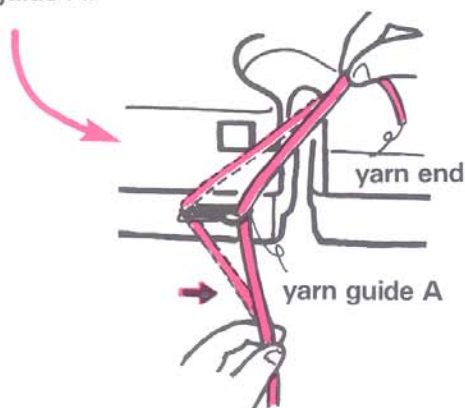
Turn over your needle pusher, and push every alternate needle from B position back to A position.



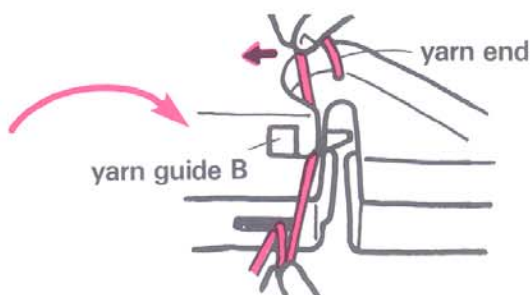
## Threading-up

Put your cone or rewound ball of yarn on the floor in front of the machine, and thread it through the carriage like this:

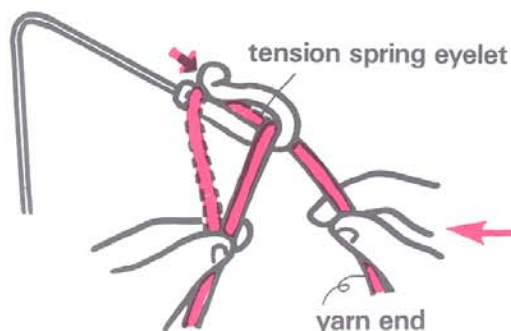
1. Take hold of the end of the yarn first with your right hand, and hold it above the carriage. Hold the yarn below the carriage with your left hand. Hold it tight and then slide the yarn from left to right behind the wire spring. Pull hard until the yarn clicks into place in yarn guide A.



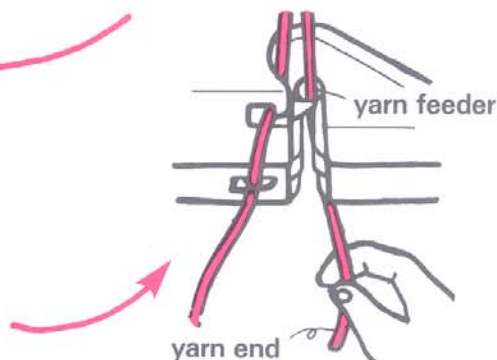
2. Move your left hand up, and hold the yarn above yarn guide A, then use both hands to slide the yarn under the white plastic knob, from right to left this time, until it clicks into yarn guide B.



3. Bring forward the hook of the tension spring and slide the yarn down into the eyelet.



4. Slide the end of yarn still held in your right hand into the yarn feeder. Take it past the white plastic point right back into the round hole which is the feeder. Again there will be a click as it goes in.



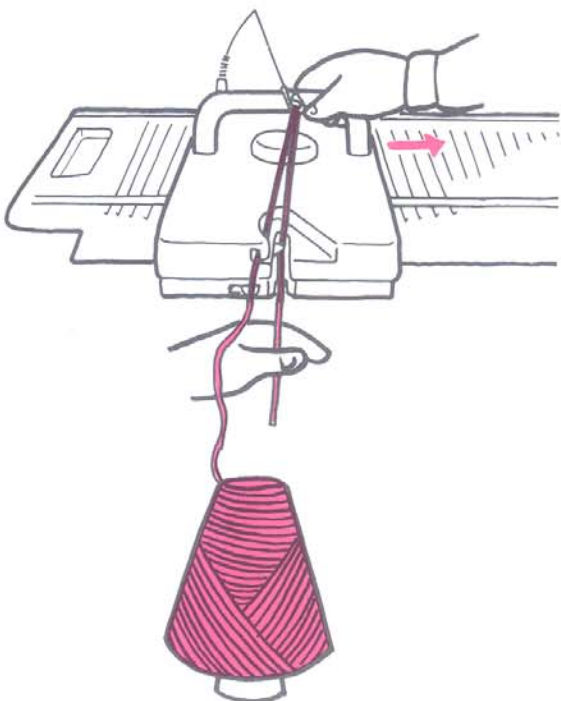
Right? Don't let go of the yarn!

... more on p 9

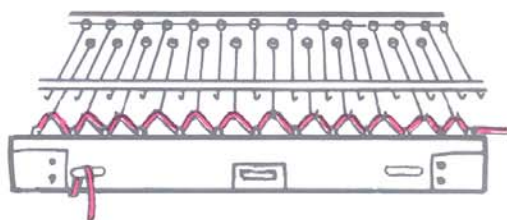
## Zippy cast on

With your left hand now, reach under the carriage, behind the yarn from your ball or cone, and swop the short end from right hand to left.

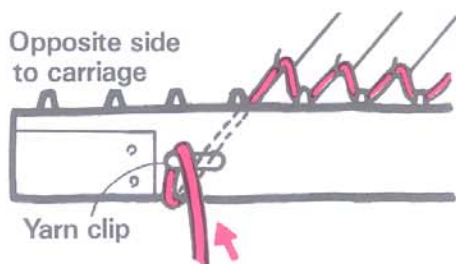
Your right hand is now free to take hold of the carriage handle and move it slowly and carefully from left to right across all the needles in B position. Make sure that you take the carriage well past the end needle, by 3 or 4 cms.



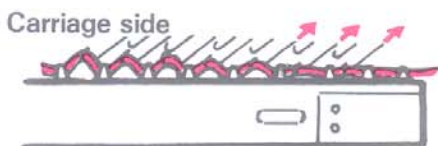
That's the first row knitted. Now before you can knit back, that row of loops formed between the needles has to be held down. To do this, use one of the cast on combs, and hang one hook onto every loop of yarn, as shown.



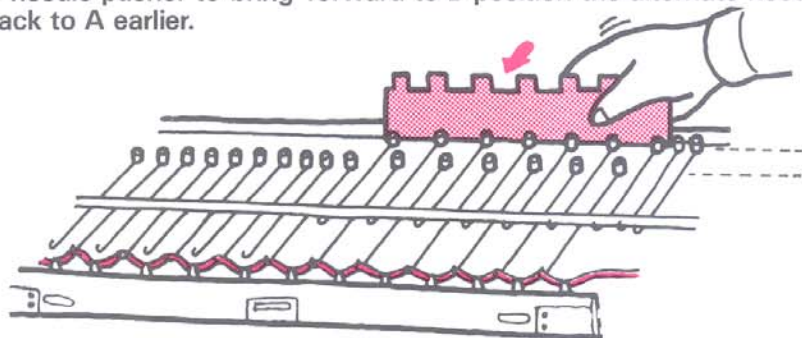
Bring the loose end of yarn at the left up from under the comb and catch it in the clip.



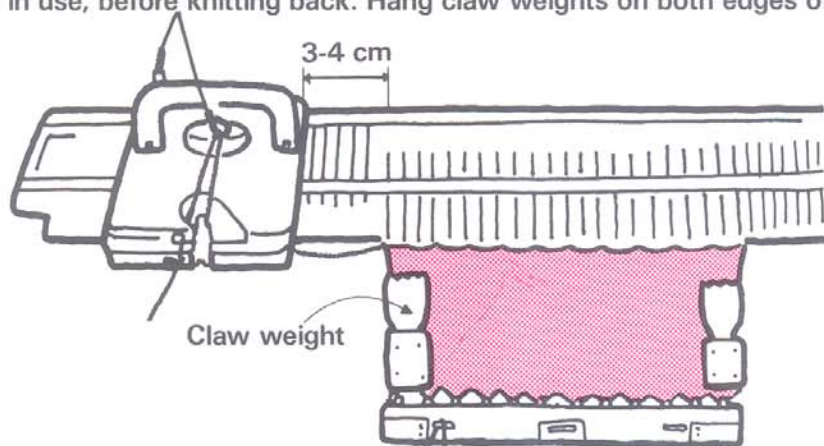
If any needles have pulled forward at the right hand end—making little tight loops—this means that the yarn pulled tight as you knitted across. Loosen the yarn by pushing the needles one by one back to B position. Check again that the yarn can flow freely from the floor.



Use the needle pusher to bring forward to B position the alternate needles which were taken back to A earlier.



Knit three rows at an even speed, making sure each time that the carriage has passed the end needle in use, before knitting back. Hang claw weights on both edges of the knitting.



Notice that there must be weights—one or more comb weights depending on the width of the knitting—and also claw weights at the edges—to hold the work firmly in position all the time you are knitting.

Move up the combs and weights at intervals, as your work grows, and do remember that if you have taken them off for any reason, you must put them on again before you start knitting.

Right-continue knitting.

Experiment with different stitch sizes. Try moving the stitch dial to different numbers, and knit a few rows at each. High numbers give big stitches, low numbers smaller stitches.

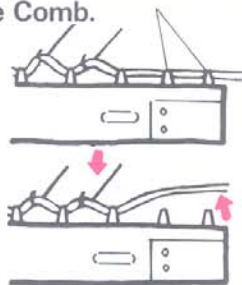
#### What to do when using a lot of needles.

Join Cast-on Combs with Comb Connector according to the width of the knitting.



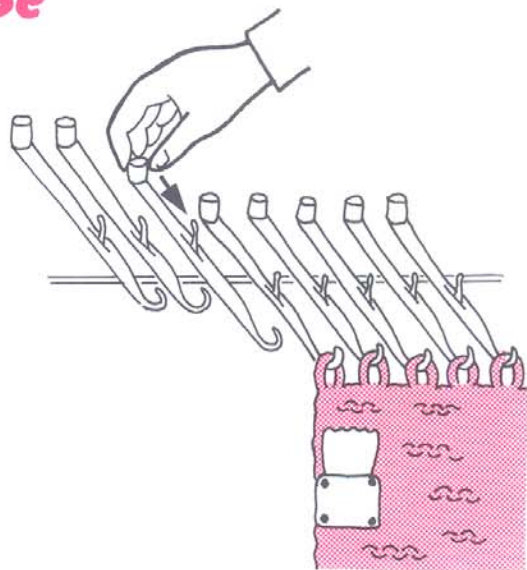
Insert one end of the Connector into the slot on the side edge of a Comb and join another Comb to it. Hang the Comb so that it is balanced across the working needles.

At the Carriage side, unhook this length of yarn from the Comb.



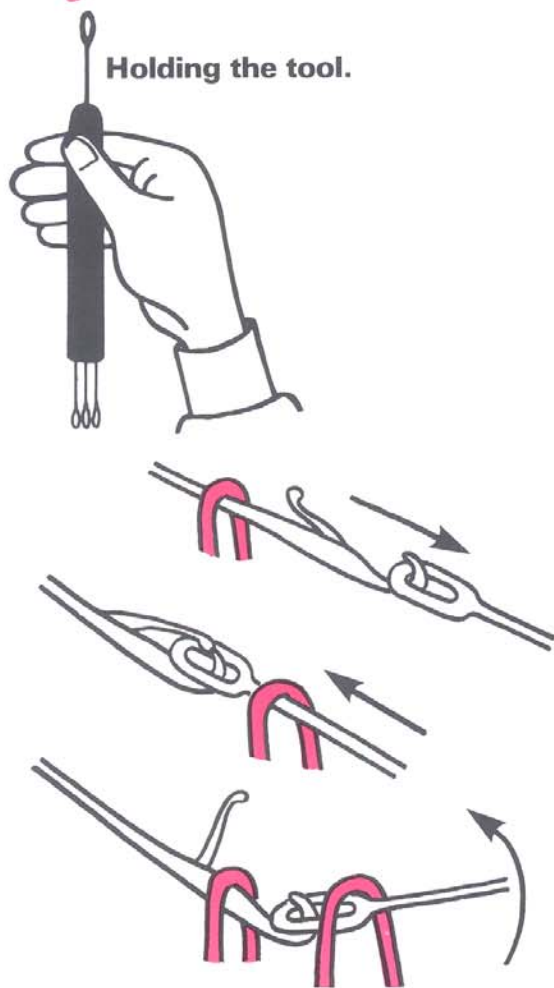
## Easy single stitch increase

Bring forward to B position one empty needle at the edge of the knitting. You can do this at both edges of the knitting at the same time. Knit 2 rows. Try doing this a few times. Move the claw weights out as necessary.



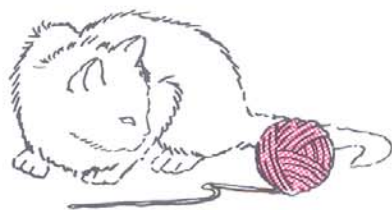
## Single stitch decrease

Holding the tool.



Use the single end of the tool as shown to pull the end needle forward, so that the stitch goes behind the latch. Then push the needle back, in a straight line, so the stitch comes onto the tool. Now lift the tool across to the next needle and tip it so that the stitch slips off into the hook of that needle. With your finger on the needle roller, push back the emptied needle to A position.

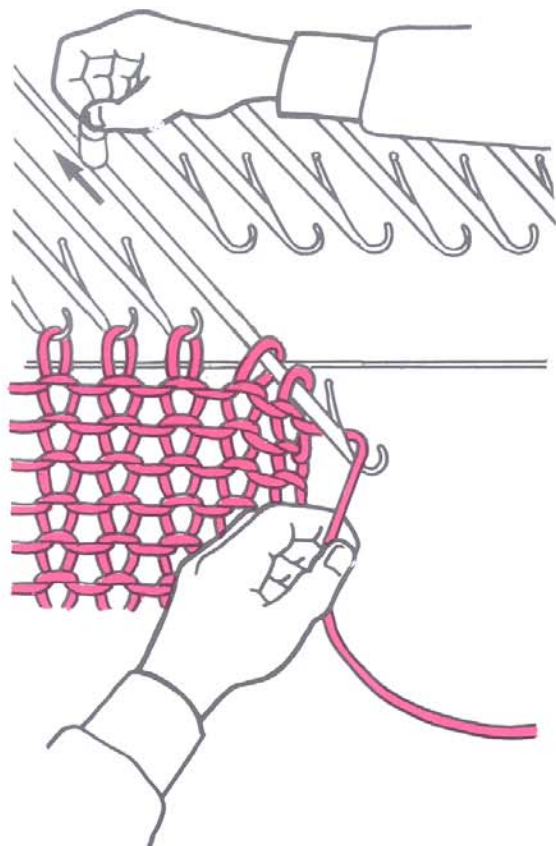
You can do this, also, at both edges of the knitting at the same time. Knit two rows. Practice holding the transfer tool correctly, it's by far the easiest way when you just get the hang of it, and do a few single stitch decreases.



## Casting-off

Have the carriage on the right hand side of the knitting, and unthread the yarn.

Hang a claw weight right on the edge of the knitting, on the first stitch, about 2 cms below the needles.



**Start.** Just as for a single decrease, transfer the end stitch nearest the carriage to its neighbouring needle. Push the empty needle back to A position.

Hold the yarn lightly across the fingers of your left hand, and use the back of your left forefinger to stop the knitting coming forward. With your right forefinger, bring forward the grey or pink needle roller of the needle with two stitches on so that both stitches slip behind the latch.

With your left hand, lay the yarn across the open needle hook. Then with your right hand, push the needle roller back into B position again. This will knit off the two stitches, and leave a single stitch in the needle hook. Don't pull this stitch tight.

Now repeat from the **START** above, alternately transferring a stitch from the end needle using the transfer tool, and knitting off the two stitches by hand to make a new single stitch.



... more on p 13

## Casting-off...continued

Keep going until there is a single stitch left in the hook of the last needle. Break off the yarn and pull it through this last stitch.



### Hints when casting off.

Don't forget to pull the yarn end through the last stitch—or one tug on the end of the yarn and your neatly cast off stitches will happily undo themselves at great speed!

Remember to push the last needle back to A.

Put the weight on the end stitch to make the stitches large and the cast off loose, to begin with.

## An easy 1 x 1 double welt

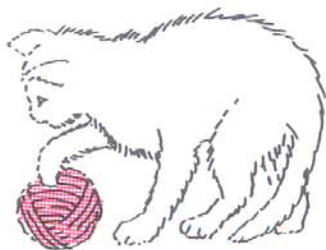
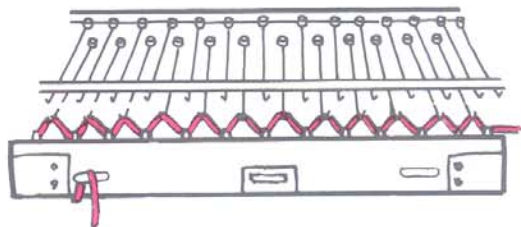
You need a small amount of "waste yarn"—yarn of a different colour from the main colour to be knitted. You can use up oddments if you like, provided that the yarn is smooth, and each piece is long enough to knit several rows.

Now do the Zippy Cast On (pages 9 and 10) on alternate needles only, like this. Push the required number of needles to B, straighten them up with the carriage, then push back alternate needles to A.

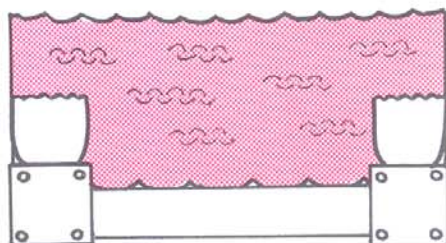
Thread the carriage with waste yarn.

Knit one row and hang the cast on comb onto the loops.

Still knitting on these alternate needles only (do **not** bring forward the needles from A this time), knit 6 rows in waste yarn.



Put the claw weights on the edges of the knitting.

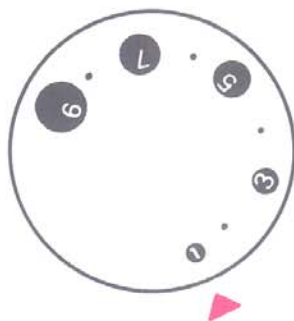


Break or cut the waste yarn about 10 cms from the edge of the knitting, and catch this end in the clip on the cast on comb.

Unthread the waste yarn from the carriage and thread up with main yarn. Either catch the end in the same clip, or just hold it under the carriage.

Turn the stitch dial until the arrow points to three numbers lower (tighter) than it was set for knitting stocking stitch. (If the number for stocking stitch was 4, the dial should now be set to 1. If your tension for stocking stitch was 2 or 3, still set the stitch dial to 1 now.)

Knit 16 rows.



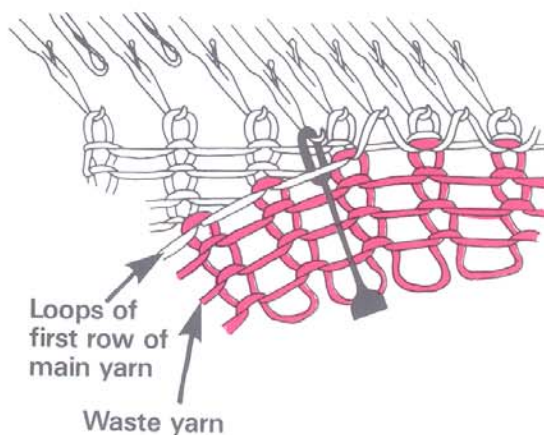
Unclip the yarns from the comb, remove the comb and the claw weights from the knitting.

Fold the knitting up and use the single transfer tool to pick up loops of the first row knitted in main yarn, and place one loop onto each empty needle between the ones you've been knitting on. Bring each of those needles forward to B as you do it.

You may find it easiest to pick up the stitches like this:

Fold the knitting up towards you and bring the waste knitting forward over your left forefinger. You can see the join between main yarn and waste yarn on top of your finger, level with the needles.

All the needles should now be in B, each with one stitch on it.



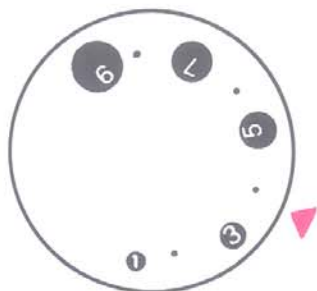
... more on p 15



Re-hang the cast-on comb, making sure that the teeth go through both the folded down waste knitting and the main yarn knitting behind it.

Change the stitch dial back to the main tension (the stitch size you chose for knitting stocking stitch).

Knit 2 rows. Hang the claw weights on both edges. Knit about 12 more rows.



Because we are only practicing, now break the yarn and unthread from the carriage.

Remove the knitting from the machine by taking the empty carriage once across the needles.

(See pictures at the foot of the facing page.)

## How to remove waste knitting

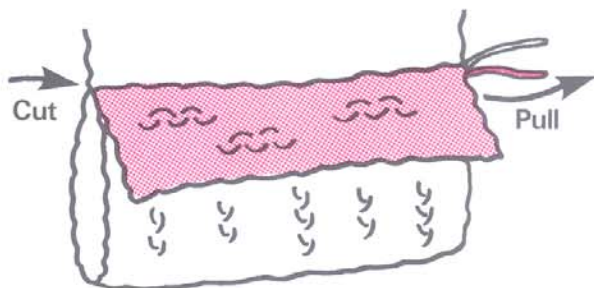
Hold the knitting with the purl side facing you, and the waste knitting pulled down towards you.

Look along the last row knitted in waste yarn, (where it joins the main knitting) and find the end stitch on the left.

Use the scissors to cut this end stitch in waste yarn.



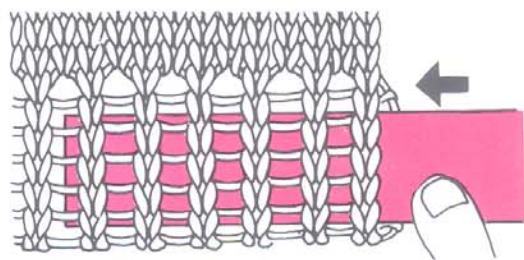
Now take hold of the waste yarn at the other end of this row, and pull. Keep pulling and suddenly—off comes the waste knitting.



## To finish your welt

Thread something long and flat, like a ruler, through the rib, and pull it lengthways. Close the stitches together as you pull.

And there's your 1×1 double welt!

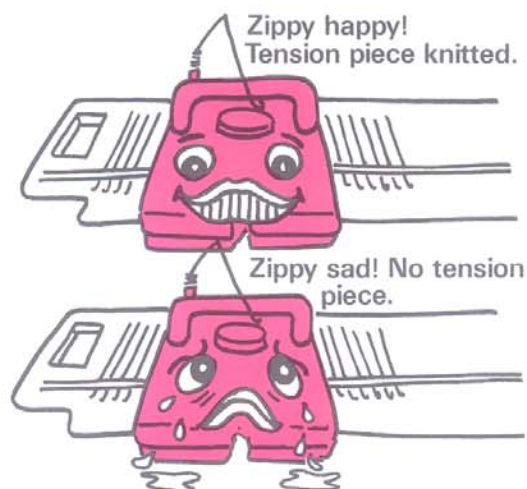


## Knitting a tension piece

Keep Zippy happy!

When garments don't fit because you haven't done a tension piece, Zippy often gets the blame.

So to keep Zippy happy, you must know **before** you start knitting any garment how many stitches and how many rows there are to 10 cms.



The "tension" of your knitting is affected by the type of yarn, the kind of stitch used (tuck stitch for instance would give very different figures to plain stocking stitch), and of course by the stitch dial number (stitch size) which you are using.

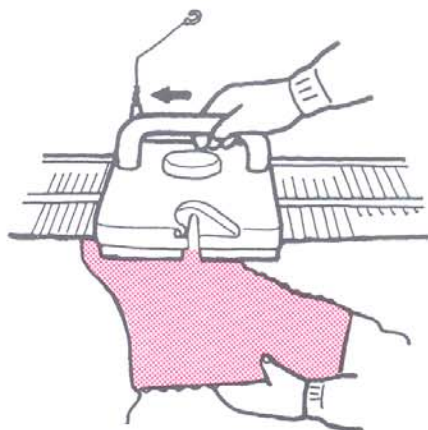
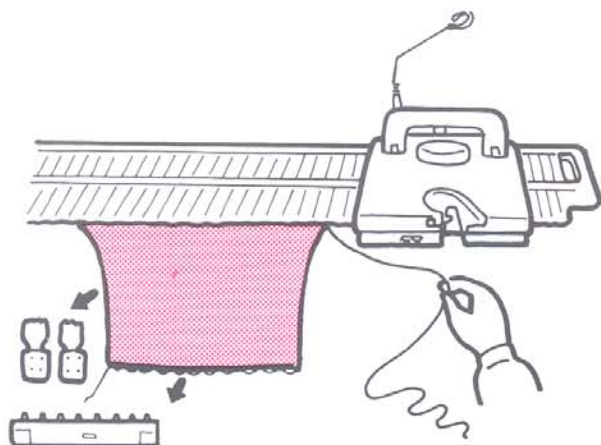
So the tension piece must be knitted with the same yarn, and at the same stitch size (and in the same stitch pattern if you are using one) as you are going to knit the garment.

## Knitting a stockinet (stocking stitch) tension piece

Using the same yarn and stitch dial number as you intend to use for the garment, cast on 30 stitches (15 each side of 0) using the cast on comb as before. Set the row counter to 000. Bring forward to B position the alternate needles and knit 4 rows. Hang a claw weight on each edge, and continue knitting until the row counter shows 040.

Take off the cast-on comb and claw weights, cut the yarn and unthread from the carriage.

Take the empty carriage once across the needles to remove the knitting.

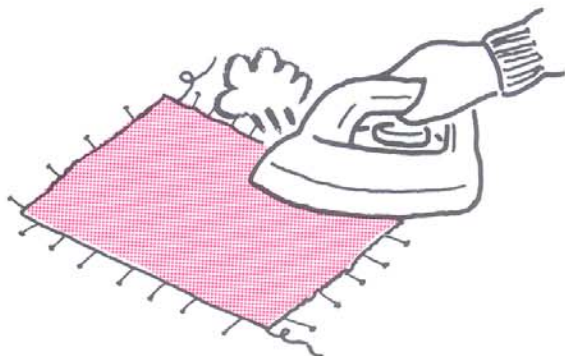


## Measuring your tension piece

Now roll your tension piece into a tube, from side to side, and pull it lengthways. This allows the stitches to go back into shape after having been stretched across Zippy's needles.

The piece should now be pinned out flat, making sure not to stretch or distort the knitting.

Using a steam iron, or a dry iron over a damp cloth, steam your knitting. No pressure required! You are simply putting steam into the knitting to set the stitches and stop the edges from curling.

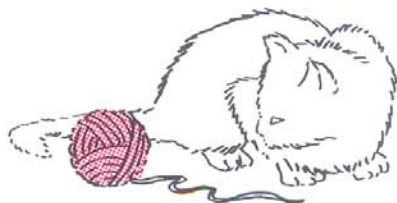
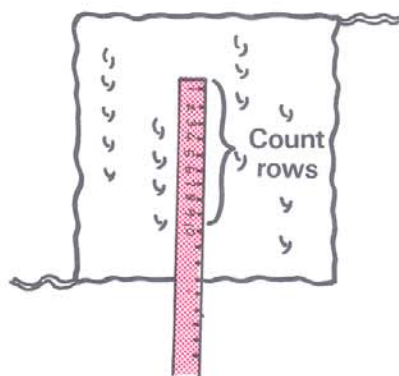
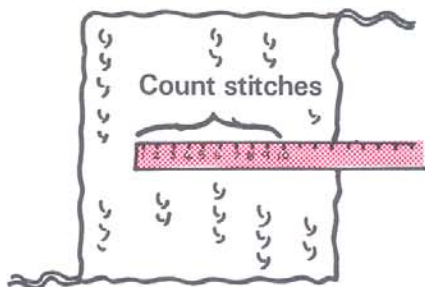


Allow the piece to dry before removing the pins. It should then be allowed to relax for several hours.

Place the tension piece on a smooth flat surface so that it lies flat without distortion.

Put a ruler along one row of stitches, at the centre of the piece. Count the number of **stitches** in 10 cms.

Put a ruler along a vertical line of stitches—keeping to the same stitch all the way up—in the centre of the piece. Count the number of **rows** in 10 cms.

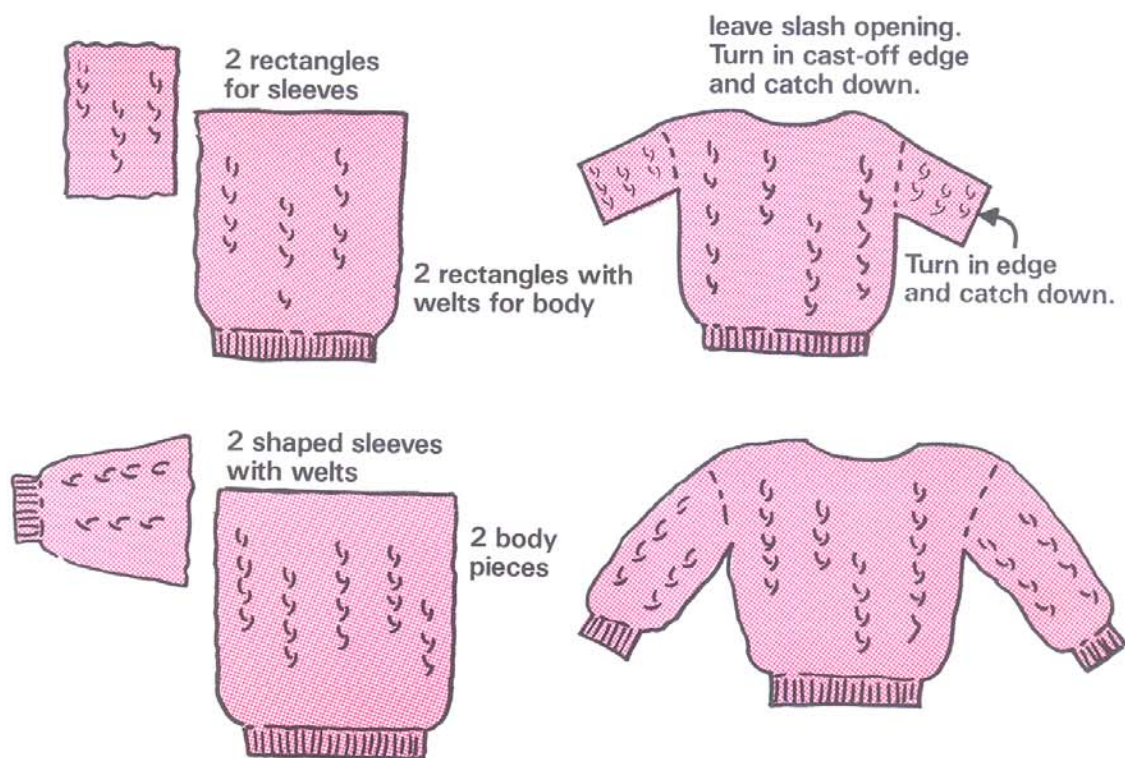


## Write down the tension and stitch size

The figures that you get, stitches and rows to 10 cms, are usually called the tension for that particular piece. Do remember to make a note of these figures. And even more important, note the stitch size (the number on the stitch dial) at which it was knitted.

## Simple garments

Now with just these basic techniques you could knit a simple garment—a sweater with dropped shoulders and slash neckline, for instance.



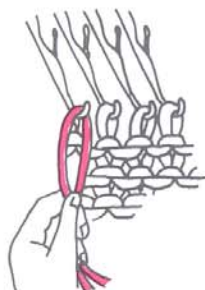
If you like doing rather than learning—have fun using Zippy to knit some basic shapes for a while—then we'll go on to find out how to do lots more interesting things on Zippy. There are two useful hints on the next page. For making up and finishing, see also pages 46 onwards.



## Putting in yarn marks

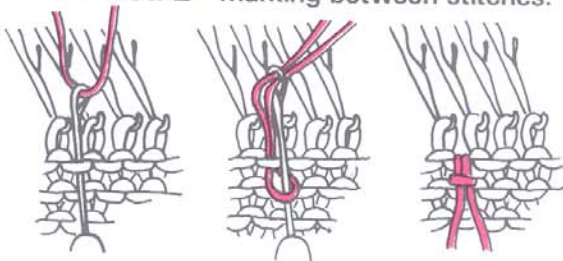
Patterns often suggest putting in yarn marks to show where to join pieces, or where the centre of a neck is.

### Method 1—marking the edge.



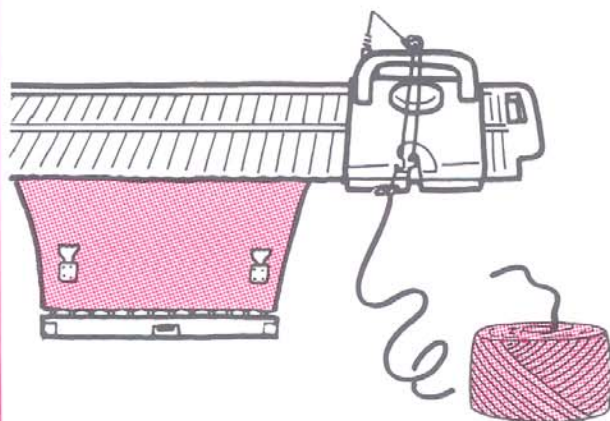
Place a short piece of contrast yarn into the hook of the end needle, and hold it while you knit across.

### Method 2—marking between stitches.



Put the latch tool up under a loop of knitting, put a piece of contrast yarn in the hook and pull it through. Catch both ends of the waste yarn in the hook, and pull them through the loop.

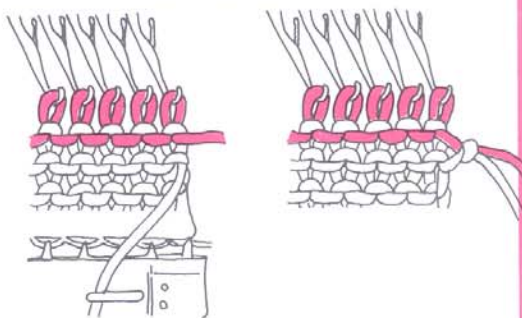
### What to do when the yarn is running out.



If there isn't enough yarn to complete a row, remove the yarn from the Carriage and hook the end to a yarn clip.

Thread new yarn through the Carriage and knit 1 row.

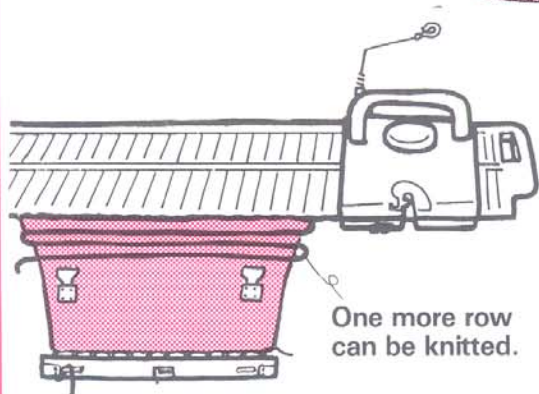
Tie the two yarn ends loosely at the edge and continue to knit.



If the yarn is more than three times the width of knitting, you can knit another row.

If there is a knot in the yarn, untie or cut at this point and work as above.

Do not knit knots.



One more row can be knitted.

# Part 3 ~ Detailed methods and techniques

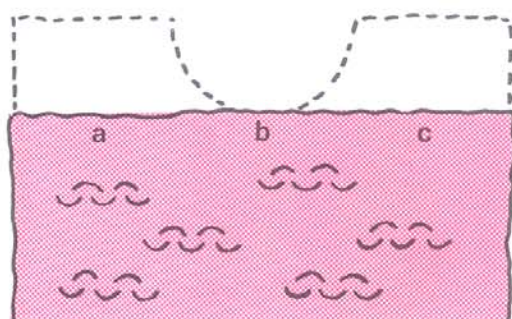
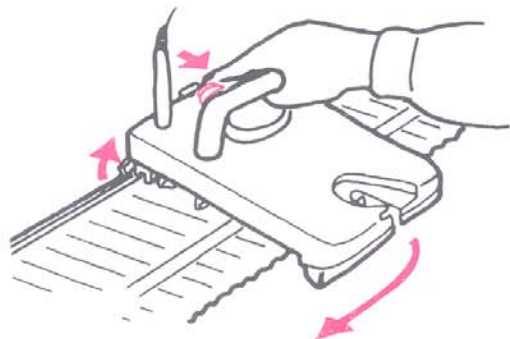
(Each technique simply explained.)

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## How to knit a shaped neckline

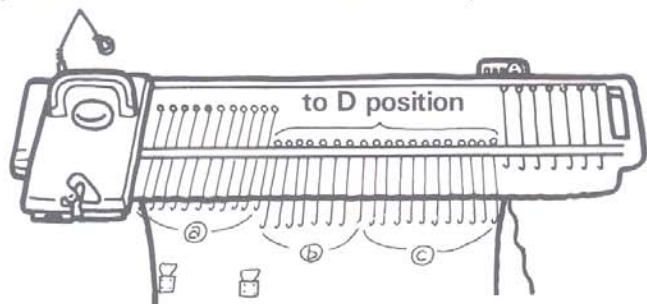
When the centre front of the neckline has been reached, divide the work into three sections like the sketch.

"a" and "c" are shoulders, and "b" is the centre straight section of the neckline.



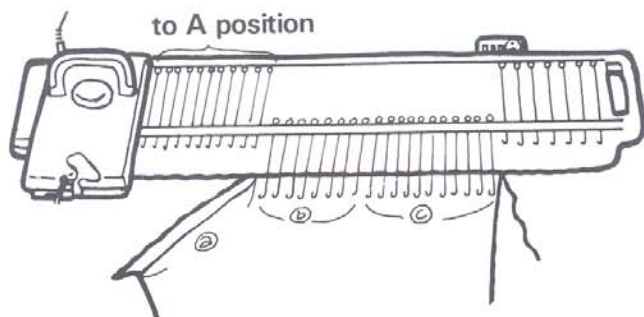
Unthread the main yarn from the carriage, but don't break it. Press the release lever and remove the carriage from the needle bed. Replace it on the opposite side of the knitting. If you finished the knitting on the right, the carriage will now be on the left.

Use the needle pusher to bring the needles of "b" and "c" sections right forward into D position. That's as far forward as they will come.



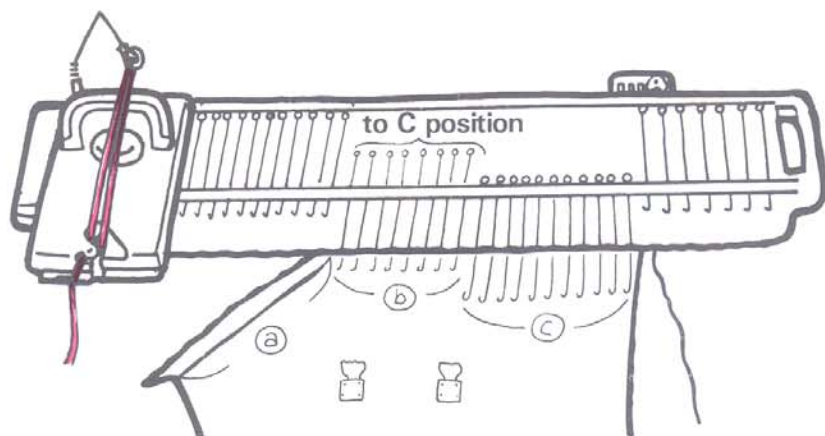
Move the right hand claw weight from under the non-knitting section, and hang it under the needles which are at the right hand side of section "a".

Thread the carriage with waste yarn and knit 6 rows. Remove the section of stitches from the machine by cutting the waste yarn and taking the empty carriage across the needles and back.



Don't forget to push the empty needles back to A position.

Now for the "b" section. Push back these needles from D to C position—no further or the latches will close and the stitches will fall off. Hang a claw weight on each edge of "b" section. Thread up the carriage with waste yarn and knit 6 rows. Remove these stitches from the machine. Push back all empty needles to A position.

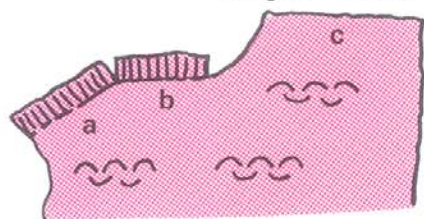


Sections "a" and "b" are now off the machine, the stitches being held on waste yarn.

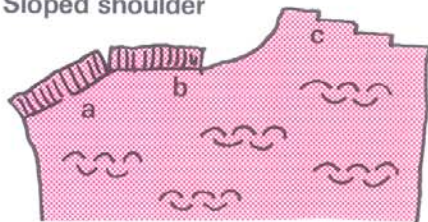
Return the carriage to the right hand side, and thread up with the main yarn. Push back the remaining needles from D to C position. Hang a claw weight on each edge.

Continue to knit, shaping the neck edge by decreasing (or casting off) one or more stitches as required. Cast off the shoulder as required, either straight, or in sections on alternate rows as in hand knitting.

Straight shoulder



Sloped shoulder



Push back the empty needles to A.

To knit the second shoulder, place the carriage at the opposite end of the machine.

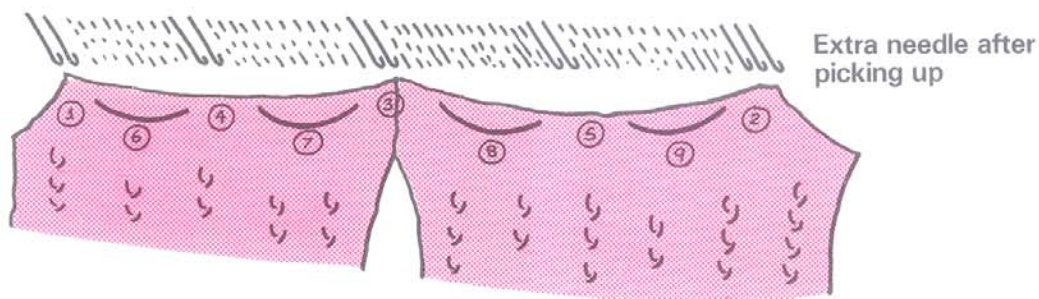
Bring forward the original needles for the "a" section to B position. Replace the stitches from the last row of main knitting for this section, onto the needles. Thread up with main yarn. Put on the claw weights and knit this shoulder to match the first one, with the shapings reversed.





## How to knit a crew neckband to match the double welt

1. Join the right shoulder seam.
2. Use the needle pusher to bring the required number of needles forward to D position. Open all the latches with the transfer tool. Push the needles back to B.
3. With the right side of your garment facing you, and starting with the open shoulder, pick up the stitches from around the neck and place one on each needle. It will be easiest to do this in the order shown, hanging weights on the work at intervals to keep the stitches firmly down on the needles. Bring forward one extra needle at the right hand end. This extra stitch is for making up.

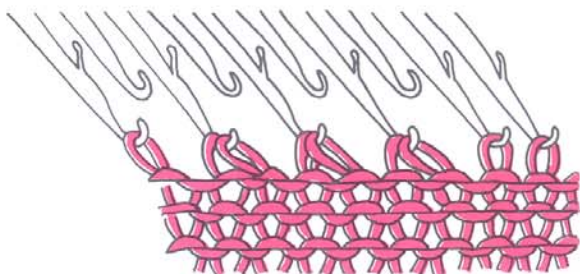


Pick up onto a few needles at one end, then stretch out the knitting and place stitches from the other end onto the end few needles. Then follow the sequence of the numbered sections in the sketch.

4. With your left hand holding the knitting back against the machine—carefully bring the needles forward from B to D position. Then use your needle pusher to line them up neatly in C. This will help Zippy to knit the first row which may be a bit tight. Put on the weights.
5. Thread up with main yarn, with the stitch dial at main tension, knit 2 rows.

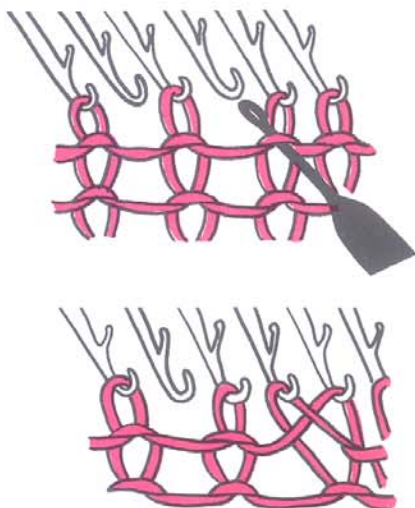


6. Starting with the third stitch from the right, use your transfer tool to transfer alternate stitches to their neighbouring needles. If there are two stitches together at the left end, move the end stitch out one needle to the left. Push the empty needles to A.



7. Set stitch dial to main tension minus 3 and knit 10 rows.

8. Set stitch dial to main tension. Push the empty needles forward to B position. Pick up a loop from below the second needle on the right, and place it on the empty needle next to it. Continue along the row picking up a loop from below an existing stitch, and putting it onto the empty needle to the left.



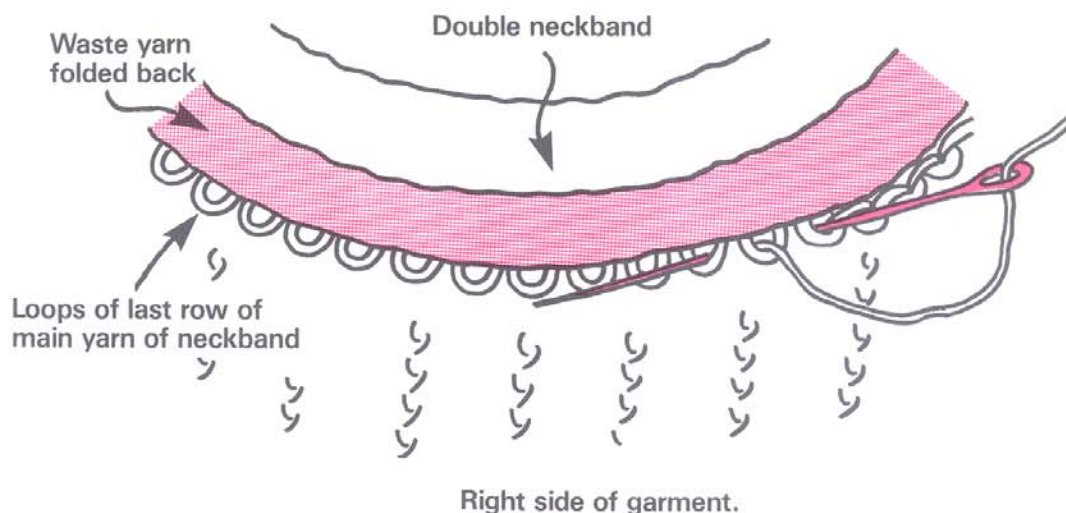
9. Bring all the needles to D and push them back to C as before. Knit one row.

10. Cast off with waste yarn. That is, using waste yarn knit a further 6 rows, unthread and release the work from the machine.



... more on p 25

11. To finish the neckband, join the remaining shoulder seam. Join the neckband seam. Fold the neckband in half onto the outside and pin into position, taking the last row knitted in main yarn far enough over to conceal any irregularities that there may have been with the pick up row. Fold the waste yarn back onto the band to expose the loops of the last row knitted in main yarn.



Using main yarn, back stitch loosely through these loops. Pull off the waste yarn.



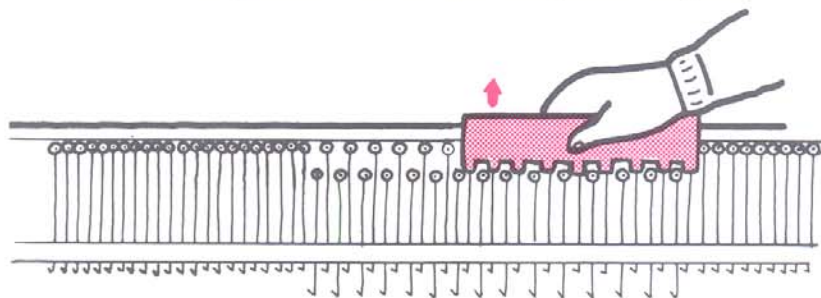
## Double welts

Sometimes called "mock ribs" or "Continental Ribs".

### 1x1 Double welt

This is a summary of the detailed explanation on pages 13 to 15 where you will also find illustrations.

1 Zippy cast-on with waste yarn on ALTERNATE needles. (Alternate needles to B, thread waste yarn, knit one row, hang comb, knit 6 rows, hang claw weights.)



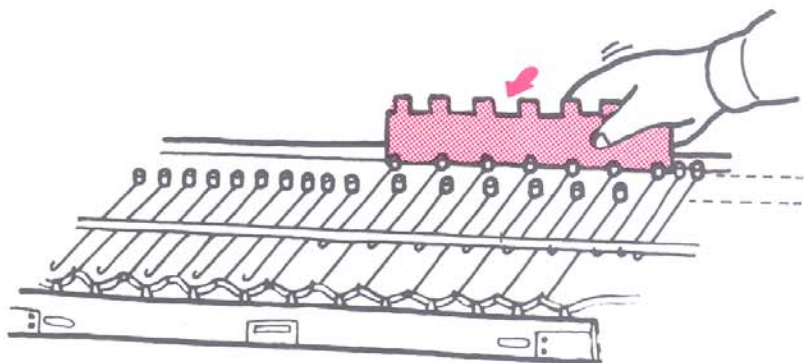
- 2 Change to main yarn.
- 3 Set stitch dial to 3 numbers tighter (lower) than main tension (tension for main knitting).
- 4 Knit double the number of rows required for the finished welt. (16 rows knitted for 8 row welt)
- 5 Remove comb and weights.
- 6 Use single transfer tool to pick up loops from first row knitted in main yarn. Place one loop onto each empty needle between those in B, bringing each forward to B as you do so.
- 7 All needles are now in B, each with one stitch on it.
- 8 Re-hang cast-on comb making sure that the teeth go through both waste knitting and main knitting behind.
- 9 Change stitch dial to main tension.
- 10 Knit 2 rows. Hang claw weights.

Continue knitting.



## 2 x 1 Double welt

1 Zippy cast-on with waste yarn on **ALL** needles. (Alternate needles to B, thread waste yarn, knit one row, hang comb, bring alternate needles forward to B, knit 6 rows, hang claw weights.)



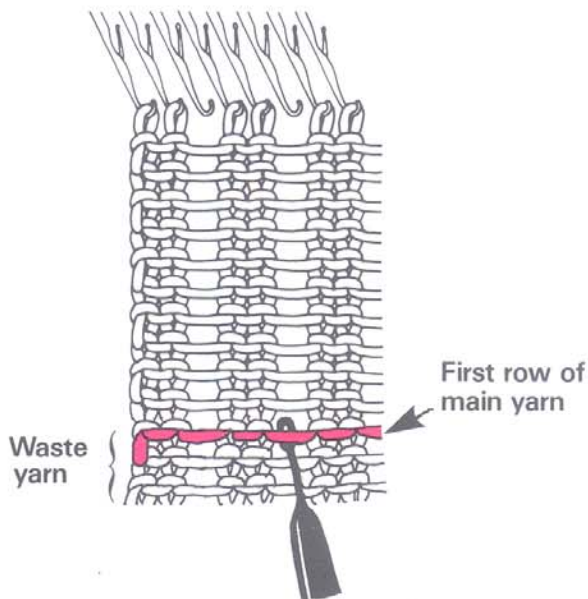
- 2 Bring every third needle, starting with the third needle from the edge, to D position.
- 3 Push the same needles back to A. The stitches on these needles will drop off.
- 4 The needle arrangement should be 2 in B, 1 in A, 2 in B, 1 in A all across the knitting, ending with 2 in B.



- 5 Knit 6 more rows in waste yarn.
- 6 Change to main yarn.
- 7 Set stitch dial to 2 numbers lower than main tension.
- 8 Knit twice the number of rows required for the finished welt. (16 rows knitted for an 8 row welt.)
- 9 Remove comb and weights.



**10** Using the single transfer tool, pick up the loops from the first row knitted in main yarn, placing them on corresponding needles. With this needle arrangement, there will be two loops for every 3 needles. So place the large loop on an empty needle, and the small loop onto one of the next pair of needles which already have stitches on.



**11** When all the loops have been picked up, every needle should have at least one stitch (every third needle should have 2.)

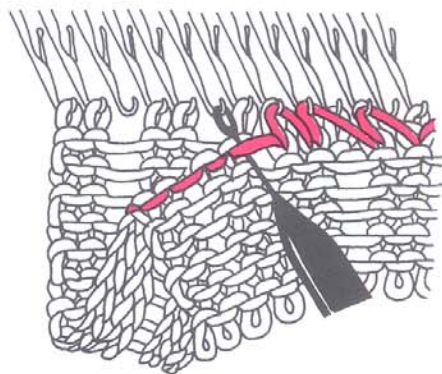
**12** Check that you have picked up the very end stitches which can sometimes pull tight, and may easily be missed.

**13** Re-hang the cast-on comb, making sure that the teeth go through both waste and main knitting.

**14** Change stitch dial to main tension.

**15** Knit 2 rows.

**16** Hang claw weights.

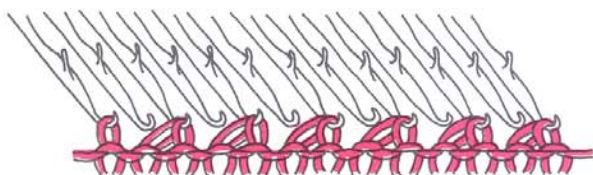


Continue knitting.



## Picot hem

1. Zippy cast-on with waste yarn on **ALL** needles. (Alternate needles to B, thread waste yarn, knit one row, hang comb, bring alternate needles to B, knit 6 rows, hang claw weights.)
2. Change to main yarn.
3. Set stitch dial to 2 numbers tighter (lower) than main tension (tension for main knitting).
4. Knit number of rows required for finished hem (eg 6 rows).
5. Use the single eye transfer tool to transfer every alternate stitch onto it's next door needle, leaving all the emptied needles in B position.



6. Set the stitch dial to 1 number tighter than the main tension (that is one number looser (higher) than for the first part of the hem).
7. Knit the same number of rows as for the first part of the hem (eg 6 rows).
8. Remove the comb and weights.
9. Use the single transfer tool to pick up the loops from the first row knitted in main yarn. There will be one loop for every needle except the last. So all needles except the last will now have two loops on.
10. Rehang the cast-on comb, making sure that the teeth go through both the waste knitting and the main knitting behind.
11. Set stitch dial to main tension plus 2 (two numbers looser than the main tension).
12. Knit one row.
13. Change stitch dial to main tension.
14. Knit 2 rows.
15. Hang claw weights.

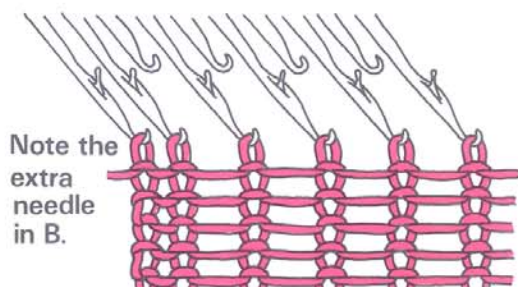
Continue knitting.

## Knit 1 purl 1 rib

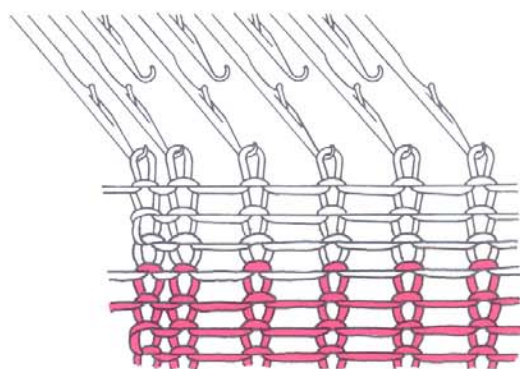
Zippy cast-on with waste yarn on **ALTERNATE** needles. (Alternate needles to B, thread waste yarn, knit one row, hang comb.)

On the left hand side of the knitting, bring forward to B one extra needle on the left of the end working needle in B position.

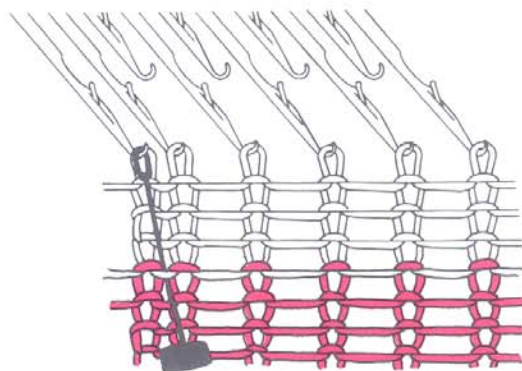
With alternate needles still back in A, knit 6 rows and hang the claw weights.



Change to main yarn. Set stitch dial to 1 (tightest tension). Knit 4 rows.

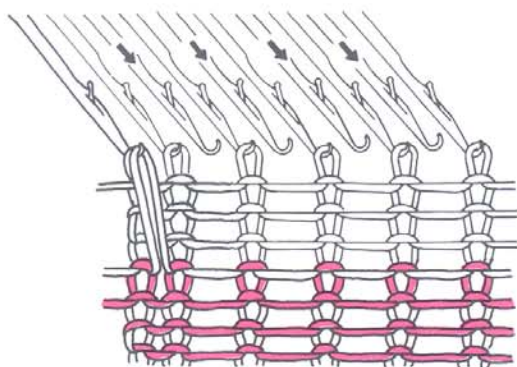


Insert transfer tool into the left end loop of the first row of main knitting. Lift that loop and put it onto the end needle.



... more on p 31

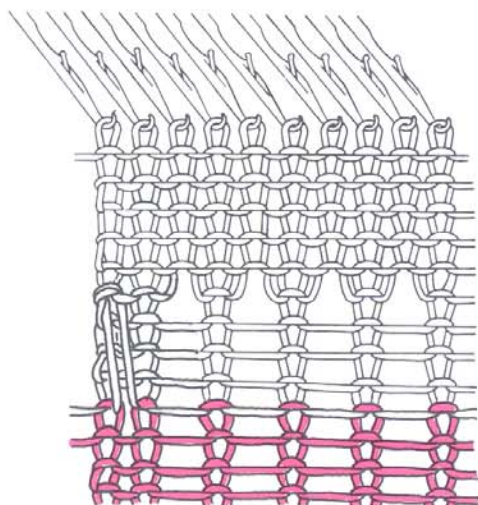




Bring the alternate needles forward to B position.

Set the stitch dial to 2 numbers lower than main tension.

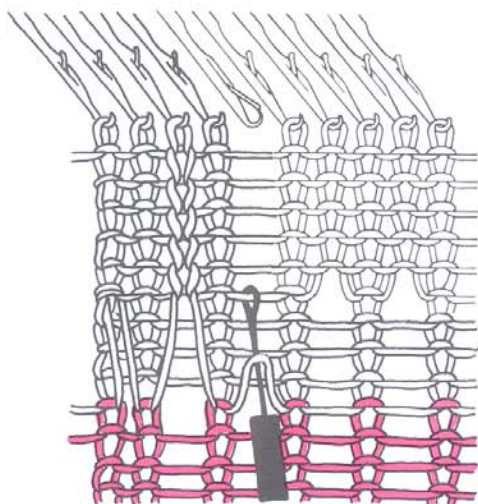
Knit the number of rows required for the finished rib.



With your fingers, take hold of the needle roller of the third needle from the left, and bring the needle forward to D position, and then back to B.

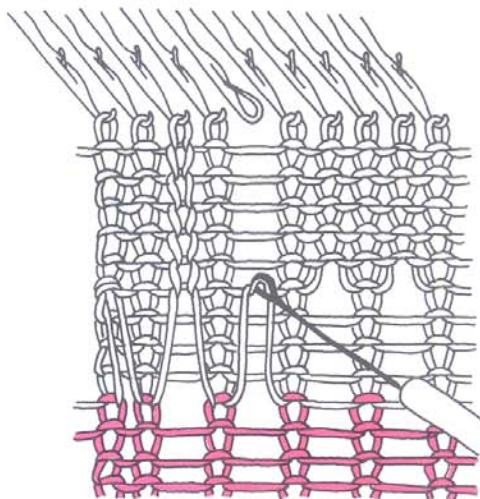
The stitch will have dropped off.

Use the end of the single prong transfer tool to undo the stitches right down to the waste knitting.

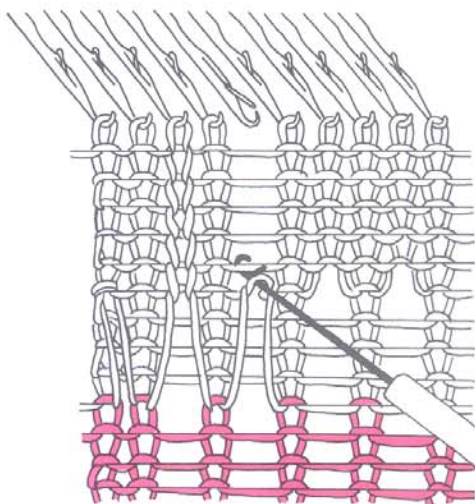


Then use the latch tool to remake those stitches into "knit" stitches like this. Insert the latch tool under the loop of the first row of main knitting. Ignore the next three bars, then catch the yarn of the fifth row in the hook of the latch tool.

Pull the tool towards you, and the first loop will slip over the hook of the tool forming a new stitch.



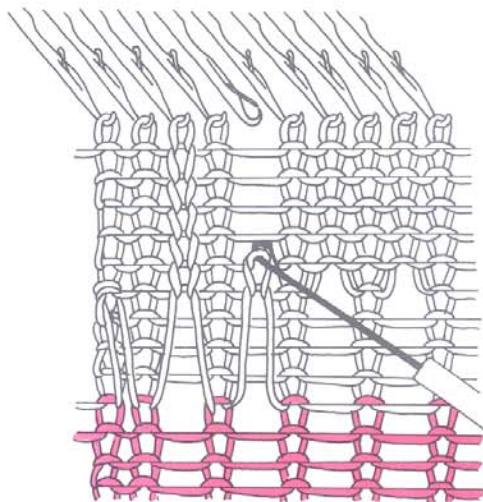
Slide the stitch on the tool behind the latch, catch the next bar of yarn in the hook, and pull that through.



Work your way up until the stitch of the last row knitted has been formed, and replace this on the needle.

Drop down and reform each alternate stitch in the same way.

The reason for missing the three bars at the bottom is that this makes a nice firm edge to the rib.



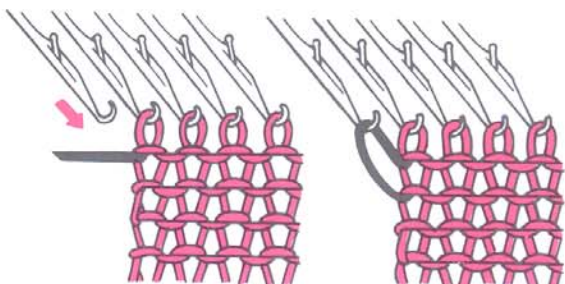
# Shaping

## Single stitch plain increasing.

Bring forward to B position one empty needle at the edge of the knitting.

You can do this at both edges at the same time.

Knit two rows.



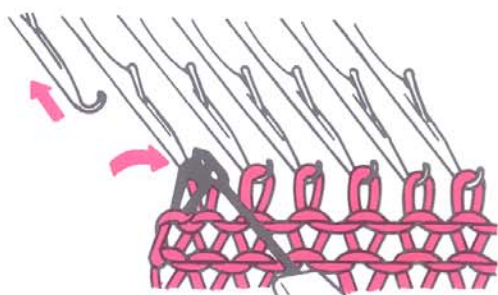
## Single stitch plain decreasing.

Use the single transfer tool to transfer the end stitch to the next to the end needle. (see page 11)

Push the empty needle back to A position.

You can do this at both ends of the same row.

Knit two rows.



## Single stitch fully fashioned increasing.

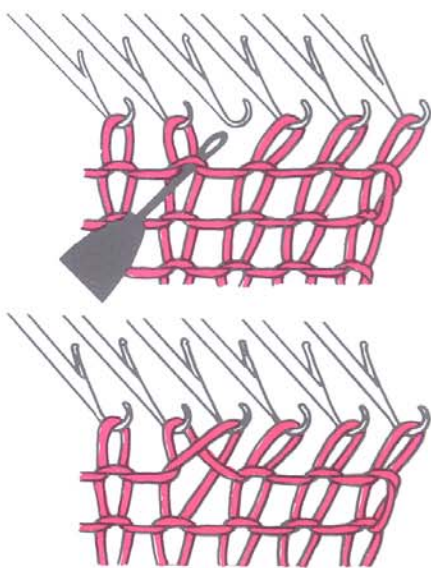
Bring forward to B position one empty needle at the edge of the knitting.

Using the triple transfer tool, transfer the three end stitches one needle outwards, leaving the fourth needle in from the edge of the knitting empty.

Use the single end of your tool to find the stitch from the previous row knitted below the fifth needle along. Pick up this loop—often called the “heel” of the stitch—and put it onto the empty needle next to it.

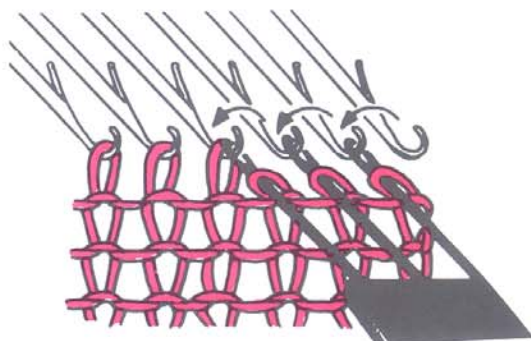
You can increase at both ends of the same row like this.

Knit 2 rows.



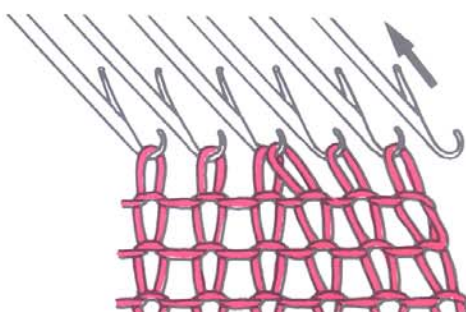
## Single stitch fully fashioned decreasing.

Use the three prong transfer tool to transfer three stitches one needle in, leaving one empty needle at the edge.



Push this needle back to A position.

This time the needle with two stitches on it will be the third one in from the edge.



For a less pronounced fully fashioned shaping, use the two prong tool.

This method can be used to decrease at both ends of the same row.

Knit two rows.



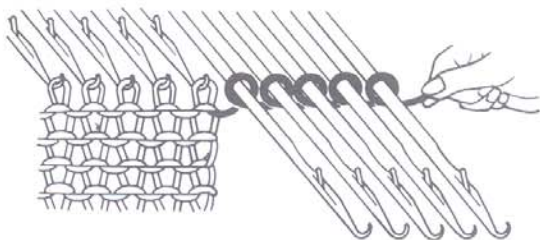
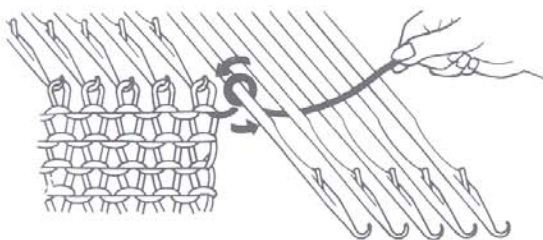
## Increasing several stitches.

You can only increase several stitches on the side of the knitting where the carriage is. To increase on the right side, the carriage must be on the right. To increase on the left side the carriage must be on the left.

To increase on the right, have the carriage on the right, bring forward the required number of needles from A to D position.

Pull down some free yarn from the yarn feeder.

Wind the yarn in a clockwise direction around each needle in turn, starting with the empty needle which is next to the knitting and finishing with the one next to the carriage.



Use your thumb to hold each loop back against the machine as it is completed.

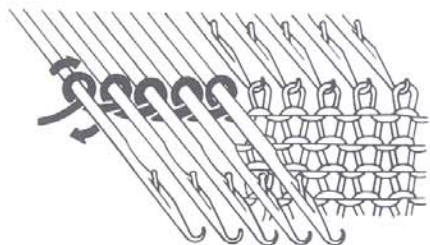
Pull excess yarn back through the carriage so that the tension spring is pulled well down.

Use your needle pusher to gently push the needles back to C.

Knit two rows carefully.

Hang a claw weight on the new stitches at the edge.

Continue knitting.



To increase on the left, have the carriage on the left and wind the yarn round the needles in an anticlockwise direction.

## Decreasing several stitches.

Unthread the yarn from the carriage.

Hang a claw weight right on the edge of the knitting, on the first stitch, about 2 cms below the needles.

Transfer the end stitch nearest the carriage to its next door needle, which will then have 2 stitches on it.

Push the empty needle back to A.

Hold the yarn lightly across the fingers of your left hand and use the back of your left forefinger to stop the knitting coming forward.

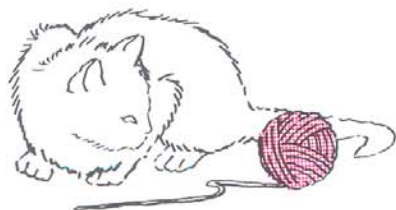
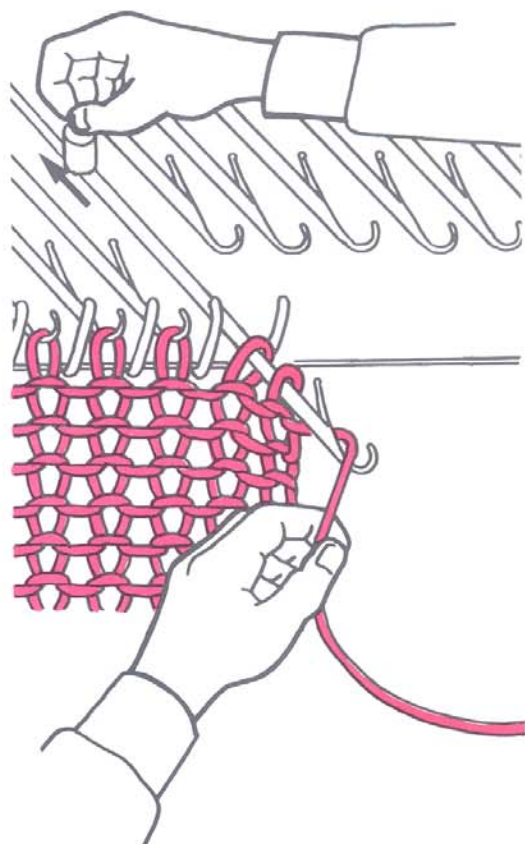
With your right forefinger bring forward the grey or pink needle roller of the needle with two stitches on it, so that both stitches slip behind the latch.

With your left hand, lay the yarn across the open needle hook.

Then with your right hand, push the needle roller back into B position again.

This will knit off the two stitches and leave a single stitch in the hook. Don't pull this stitch tight.

Repeat for as many stitches as you want to decrease.



## Zippy Cast-on Summary (see also pages 9 and 10)

1. Bring required number of needles to B position.
  2. Return the alternate needles to A.
  3. Carriage on the left.
  4. Knit one row from left to right.
  5. Hang cast on comb (or more than one if needed).
  6. For an all needle cast-on, bring A needles forward to B again.
  7. Knit a few rows
  8. Hang on the claw weights.
- Continue knitting.

### Hand Cast on. (Closed Edge.)

Zippy cast-on with waste yarn on **ALL** needles. (Alternate needles to B, thread waste yarn, knit one row, hang comb, bring remaining needles forward to B, knit 6 rows, hang claw weights.)

Carriage on the right.

Unthread waste yarn.

Bring all needles to D.

Thread up with main yarn and pull plenty of yarn down through the yarn feeder.

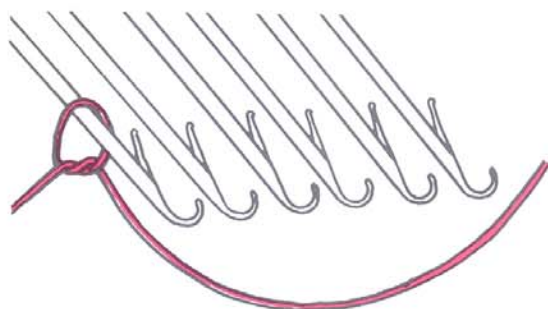
Make a loose knot in the end of the yarn and loop it over the end needle at the left.

Working towards the carriage, wind the yarn clockwise in a loose "e" around each needle in turn, exactly as we did for increasing several stitches. (see page 35)

Pull any extra yarn back up through the yarn feeder and down to the ball or cone.

Push the needles carefully back to C.

Set main tension and knit.



**Note:** If you wind the yarn too tightly round the needles, Zippy will complain and may even refuse to knit.

If your main yarn is very thick indeed, cast on and knit with alternate needles with waste yarn, bringing in the remaining needles for the main yarn cast-on row.

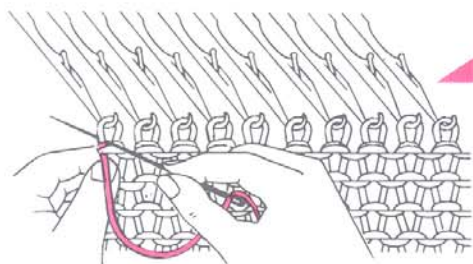
## Casting off by decreasing.

Follow the instructions on page 36, repeating until you have one stitch left on the last needle.

Break off the yarn, and pull the end through this last stitch, to stop the cast-off edge from undoing itself.

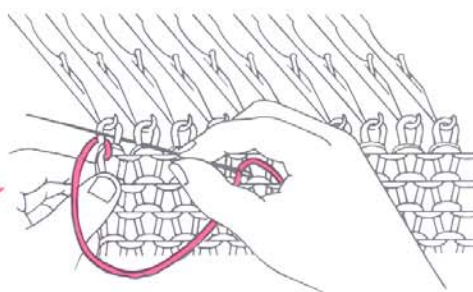


## Casting off by the back stitch method.

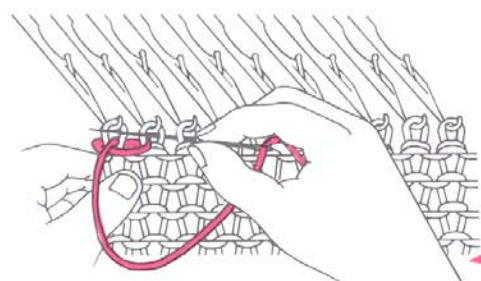


Put the needle into the second stitch and back out of the first stitch. Pull through.

Finish with the carriage at the left. Unthread and leave a length of yarn about three times the width of the knitting. Thread the tapestry needle with the end of the yarn, insert it into the first stitch and pull through.

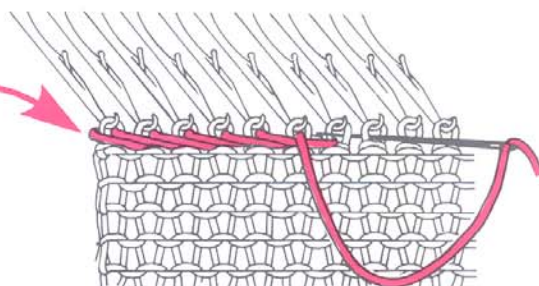


Put the needle into the third stitch and back out of the second stitch. Pull through.



Continue to close all stitches. Finish the last stitch by bringing the needle through it from back to front.

Release the knitting from the machine.

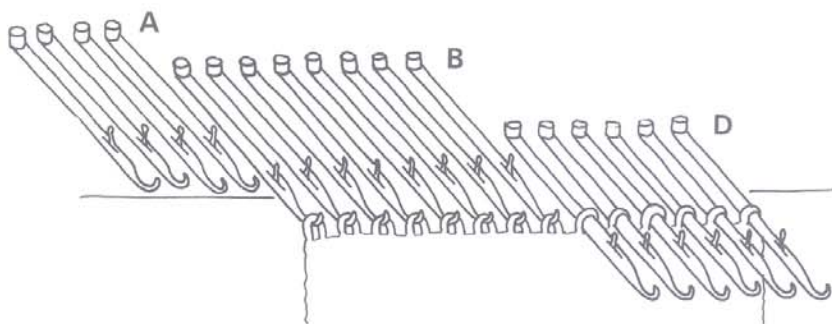




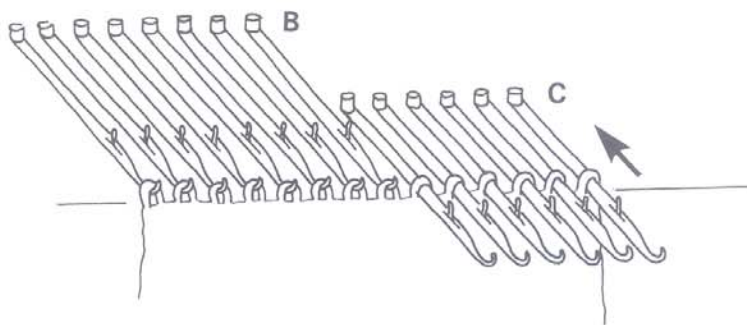
## Holding position

Needles put into D position will not knit.

You are able to have some needles with stitches on them in B position—and these will knit when you take the carriage across—and at the same time have other needles in D position, and these will not knit, the stitches will just be held.



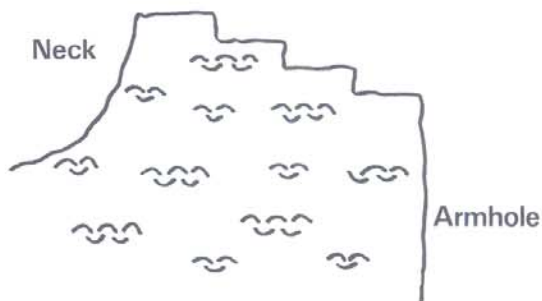
To make the needles which are in D able to knit again, you must push them back to C.



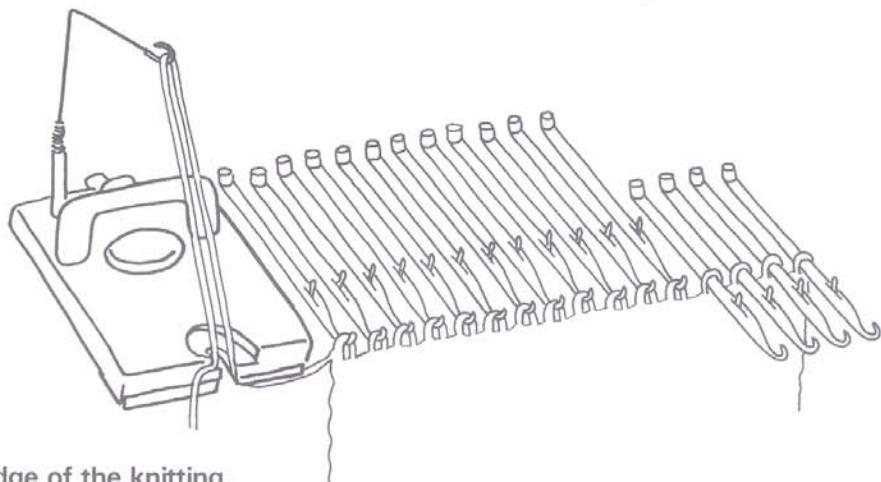
Do it carefully, because if you push them right back to B by mistake, the stitches will fall off.

## How to slope a shoulder using holding position (Sometimes called "partial knitting")

You can of course shape a shoulder by casting off as you would in hand knitting, but with chunky yarn the steps may be a bit big and clumsy.

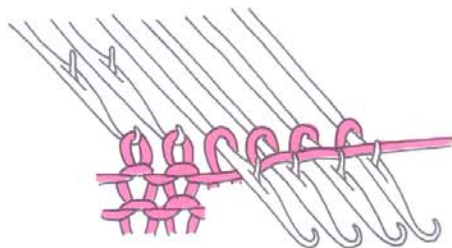


A much neater way is to shape using holding position. Bring forward to B position 16 needles. Cast on and knit about 10 to 15 rows. Finish with the carriage on the left.



At the right hand edge of the knitting, bring 4 needles forward to D position.

Knit one row from left to right. The B needles will have knitted, the D needles will not, they will still be out in D with the yarn lying across them.

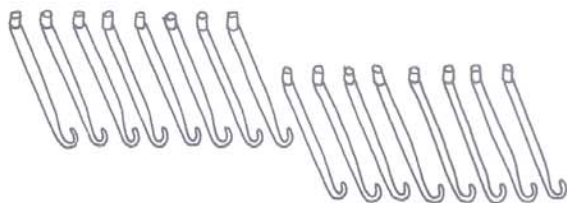


To prevent an untidy hole being formed at the point where the B needle is next to the one in D, take the yarn **under** the first inside needle in D position.

Make sure that it still lies **over** the remaining D position needles.

Knit 1 row.

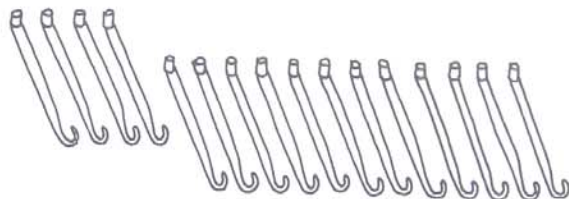
With the carriage again on the left, bring forward to D position 4 more needles, next to those already in D.



Knit from left to right.

Take the yarn under the new first needle in D, and knit back to the left.

Carriage on the left, bring four more needles at the right to D.



Knit across, yarn under, and knit back as before.

... more on p41

With the carriage on the left, carefully push back all the D needles to C position.

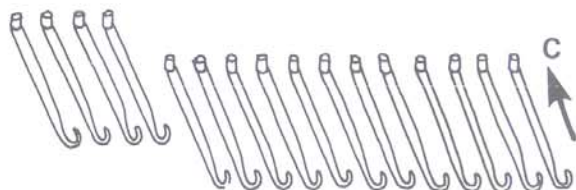
Knit one row.

All the needles will have knitted this time.

Thread up with waste yarn and knit 6 rows.

Take the knitting off the machine.

There you should have a smoothly shaped right shoulder.



Repeat in reverse for a left shoulder. Start with the carriage on the right, and bring out needles to D on the left side of the knitting.

If you practice the left shoulder now, starting with 16 stitches, and bringing needles out in fours, you'll have a left and right shoulder ready for when we learn how to join them together to make a neat shoulder seam. That will be on page 47.



## Neckline and necks

### Round necks

#### Double neckband (as for double welts)

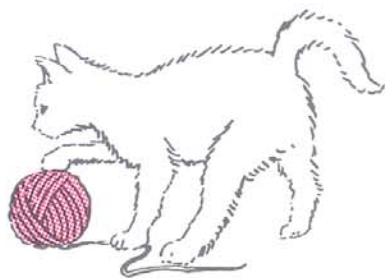
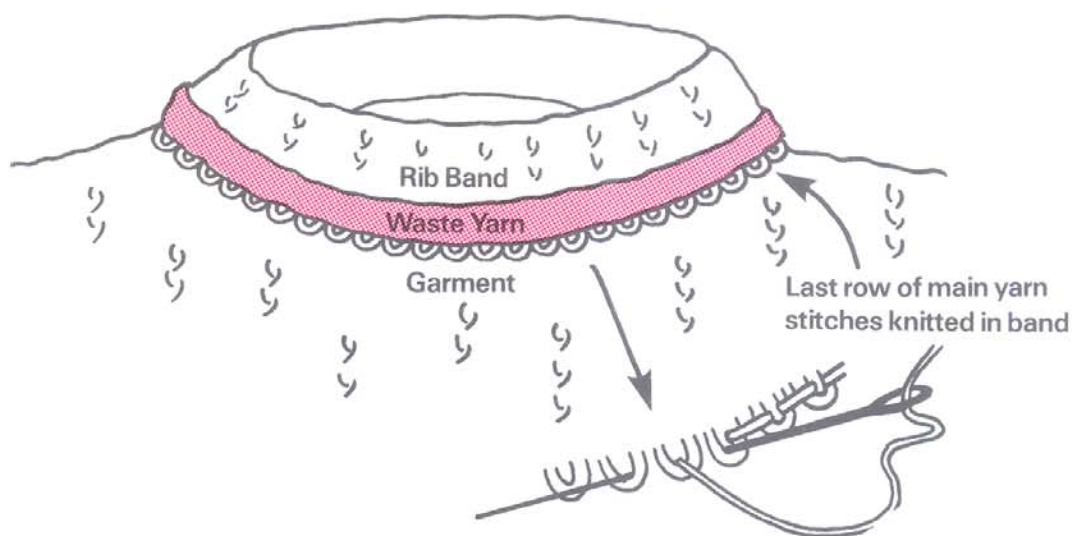
(This is a summary of the details and illustrations on pages 23 to 25).

- 1 Join one shoulder seam (or three raglan seams out of four).
- 2 With the right side of the work facing you, pick up stitches around the neck as shown on page 23.
- 3 Bring the needles forward to D and push them back to C.
- 4 Knit one row on all needles at main tension.
- 5 Transfer stitches as required – alternates for a 1×1 band, every third for a 2×1.
- 6 Set stitch dial to main tension minus 3 (for 1×1) or main tension minus 2 (for 2×1).
- 7 Knit twice the number of rows required for the finished height of the neckband.
- 8 Bring the A needles forward again to B.
- 9 Pick up the loops from below adjacent needles and place them on the empty needles (as in fully fashioned increasing).
- 10 Bring all the needles in work forward to D and push them back to C.
- 11 Knit one row on all needles at main tension.
- 12 Change to waste yarn.
- 13 Knit 6 rows, and release from machine.
- 14 Finish by folding the band over to the right side, and back stitch through the loops of the last row knitted in main yarn.



### Knit 1 purl 1 neckband (knitted separately).

1. Push the required number of needles forward to B.
2. Knit the number of rows needed for your finished neckband following the method given for knitting a knit 1 purl 1 rib on pages 30 to 32.
3. After dropping down and picking up the plain stitches, set main tension and knit one more row.
4. Change to waste yarn.
5. Knit 6 more rows and release the knitting from the machine.
6. To finish, join the shoulder seams of the garment and join the neckband seam. Attach the neckband to the right side of the garment by backstitching through the open loops of the last row knitted in main yarn. Remove the waste yarn.

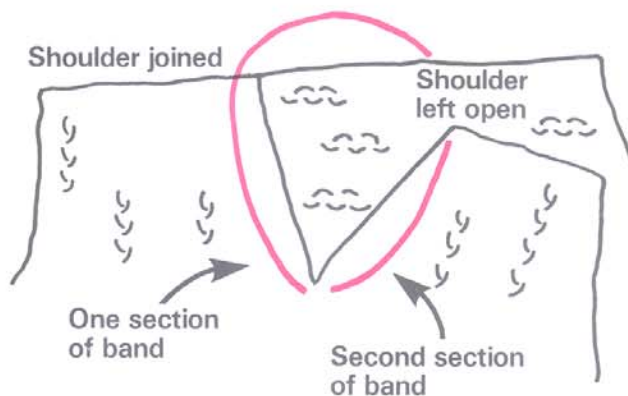


## V-necks

### Double neckband

1. Join one shoulder seam (or three of the four raglan seams).

2. The stitches are picked up and knitted in two sections. One section starts at the point of the V and includes one side of the V and the back of the neck. The other section is the second side of the V.



3. With the right side facing, pick up the stitches for the first section.

4. Bring needles to D then back to C.

5. Knit one row at main tension.

6. Transfer as required, or for a narrow stocking stitch band, leave stitches on all needles.

7. Knit twice the number of rows required for the finished band, either shaping at the V edge according to your pattern, or knitting the band straight and finishing the V as shown below.

8. Bring A needles forward to B and pick up loops from below adjacent needles and place them on the empty needles (as in fully fashioned increasing).

9. Bring needles to D then back to C.

10. Knit one row at main tension.

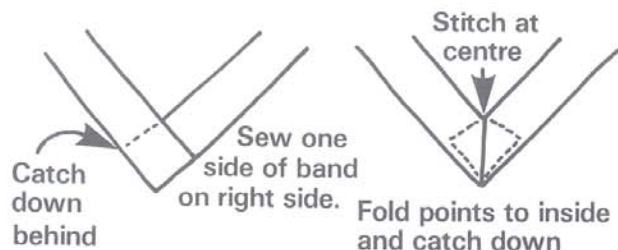
11. Change to waste yarn.

12. Knit 6 rows and release from the machine.

13. Pick up the stitches from the second part of the edge.

14. Knit exactly as before.

15. To finish the band join the remaining shoulder seam and the back seam of the band. Fold the band in half onto the right side of the garment, and back stitch through the loops of the last row knitted in main yarn. Remove the waste yarn.



### Knit 1 purl 1 rib neckband (knitted separately).

1. Following the method for knitting a knit 1 purl 1 rib on pages 30 to 32, cast on the number of stitches and knit the number of rows required for the finished neckband.
2. After reforming the alternate stitches, set main tension and knit one row.
3. Change to waste yarn, knit 6 rows and release the knitting.
4. To finish, join the shoulder seams of the garment, but do not join the ends of the band.

Overlap the centre front of the band and sew down, or fold points to inside as on page 44.



**Note:** for a deep V which needs a long band, you may have to knit the band in two sections, and join them before attaching to the garment.



## Finishing your pieces

If you have used double hems or welts, thread a ruler or similar through the welt, and pull the garment firmly, closing the stitches up on the ruler as you do so.

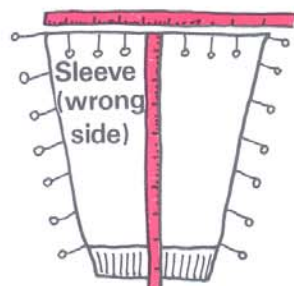
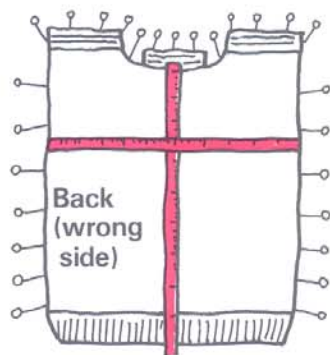
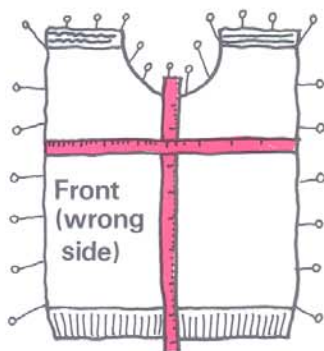
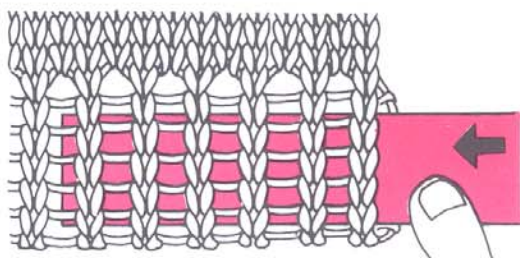
Now use a damp cloth or a steam iron to thoroughly steam the welt, then still pulling, allow to dry. No pressure required! You are simply putting steam into the knitting to set the stitches.

When you pin out the pieces, do not pull out the welts. Pin out each piece of the garment to the correct size. (A folded blanket, or a large piece of thick foam, covered by a sheet, is useful for this.)

Put each piece wrong side up, then pin the widest part out to the correct width.

Next, pull the piece to the correct length, and pin round the edges to shape.

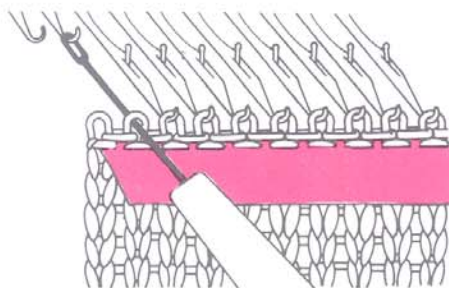
Put some steam into each piece and allow to dry before unpinning. This will "set" the piece to the right size and shape, ready for completing the garment.





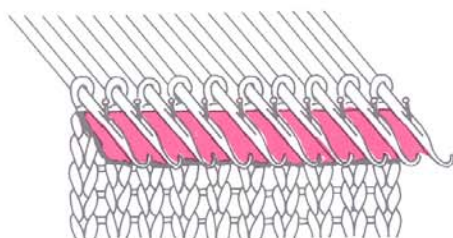
## Making-up

### Joining Open Stitches on Zippy

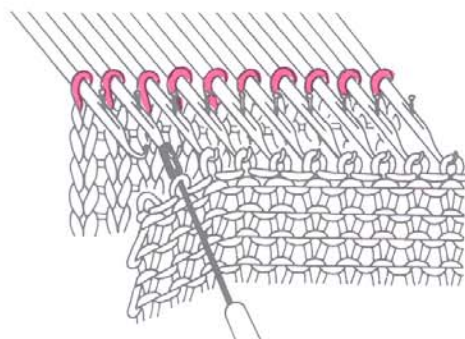


If you shaped the shoulders using holding position, you can use this method. Use it also for joining any other open stitches.

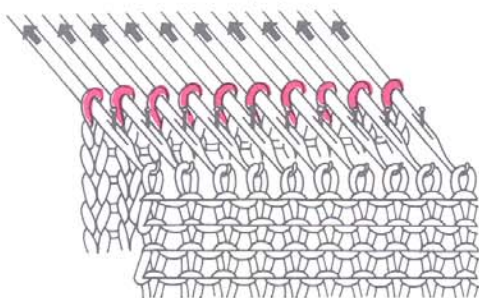
With the right side of the first piece facing you, hold the waste yarn down towards you and pick up the loops of the last row knitted in main yarn.



Bring the needles forward so that the stitches all go behind the latches. Remove the waste yarn.

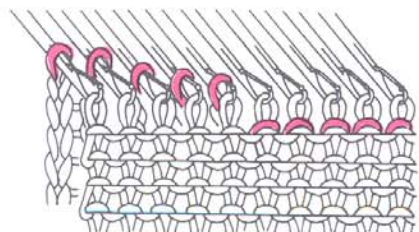


With the wrong side of the second piece facing you, and the waste yarn folded down away from you, pick up and place into the needle hooks the loops of the last row knitted in main yarn.

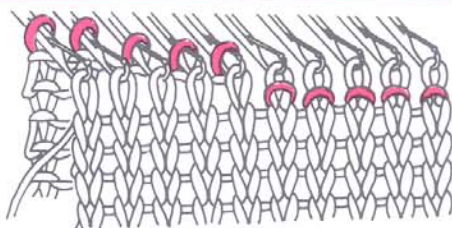


Remove the waste yarn.

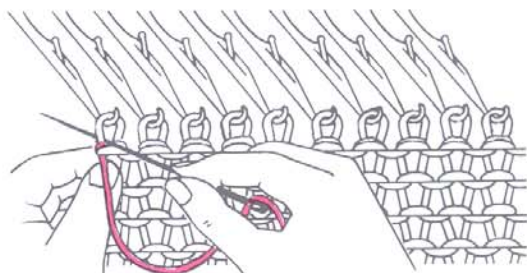
Push the needles back to B position carefully. The stitches of the first piece will knit over the stitches of the second, leaving one set of stitches in the needle hooks.



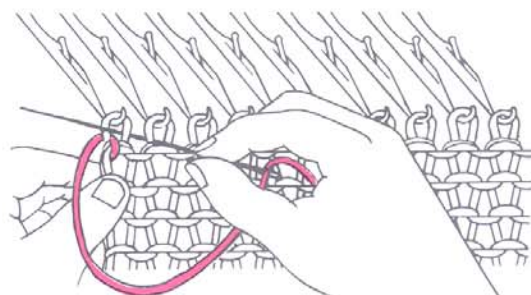
If the purl side of the knitting is the "right" side, pick up the pieces so that the purl sides are together.



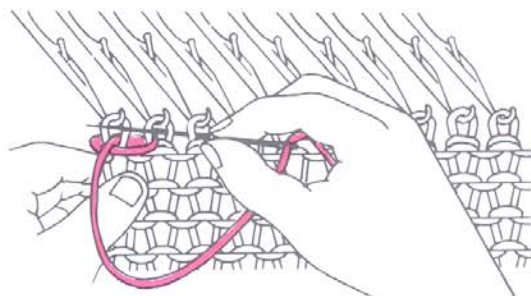
Use the end of the main yarn, or use a piece of main yarn about three times as long as the width of the knitting on the machine. Thread your tapestry needle and put it through the first stitch on the left, from front to back.



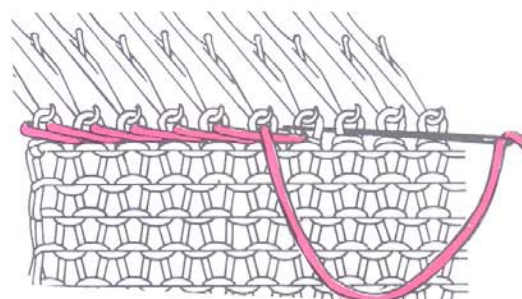
Now put the needle into the second stitch and back out of the first stitch. Do not pull the yarn too tight.



Now put the needle into the third stitch, and back out of the second.



Repeat to the right hand end, closing the last stitch by bringing the needle forward through it.

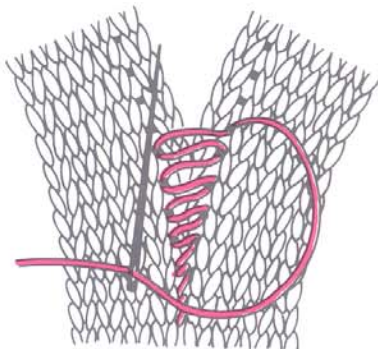


## Blind stitch.

This is ideal for joining side seams, sleeve seams, ribs and bands.

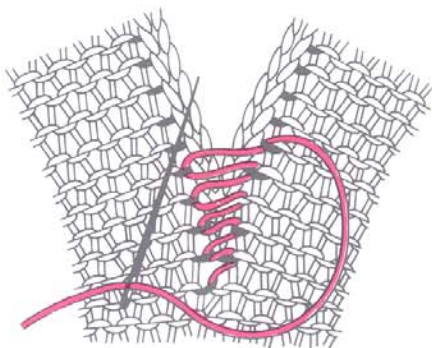
### Knit side as the right side.

Use the same yarn as the main yarn. Work on the right side of the garment. Pick up the loop between the first two stitches at the edge of one piece and pull the yarn through. Then pick up the loop between the first 2 stitches at the edge of the other piece. Return to the first piece and pick up the next loop, and so on. As you pull up the yarn, the seam will close and the yarn will not show.



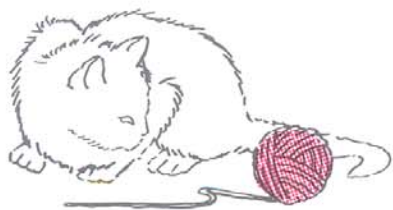
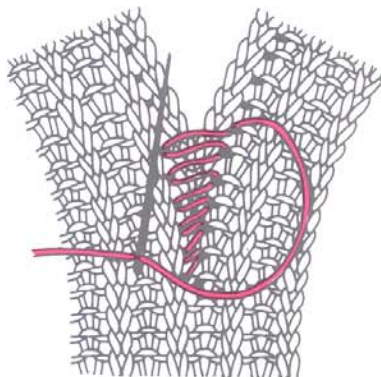
### Purl side as the right side.

Work exactly as above, but with the purl side of the pieces facing you.



### Knit 1 Purl 1 Rib

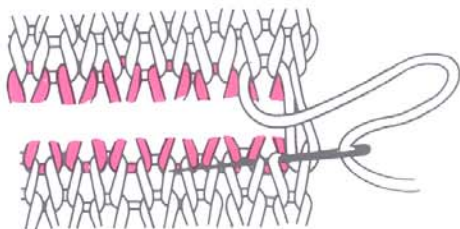
With the right sides facing you, work in exactly the same way as above, picking up loops beside a plain stitch on one piece and beside a purl stitch on the other.



## Grafting

If you want a soft invisible seam where you have open loops, you can graft the loops together so that it looks like continuous knitting.

Attach the yarn and bring it out through the first loop of main yarn. Cross to the other piece, and bring the needle out through the first stitch on that piece.

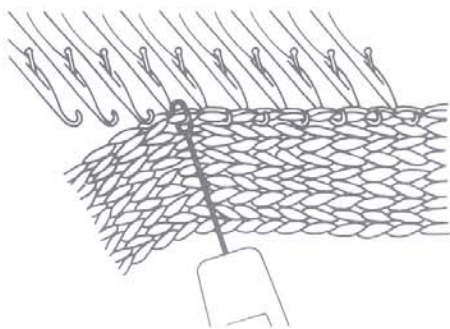


Go back to the first piece, put the needle in through the loop where your yarn comes out, then back up through the next loop. Cross to the second piece. Put the needle in through the first loop where the yarn comes out, and bring it out of the second loop. Continue crossing from piece to piece, always putting the needle in through a loop with yarn coming out of it, and bringing it back up through the adjacent empty loop.

## Joining a side edge to open stitches.

Use exactly the same method as shown on pages 47 and 48 putting the side edge onto the needles first.

You may need to count the open stitches on the other piece first, so that you pick the side edge up onto the correct number of needles.



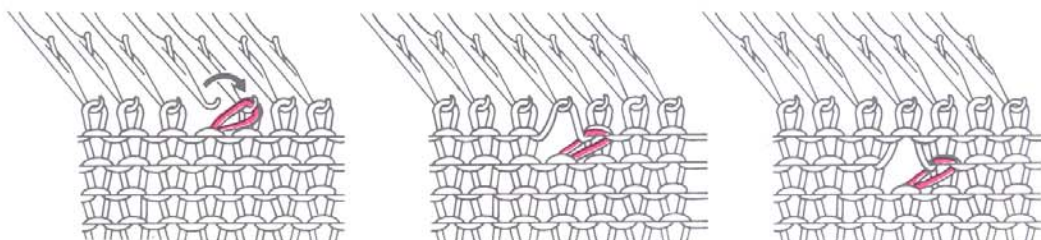
The side edge knits over the open stitches when you push the needles back to B, leaving one set of stitches in the hooks, ready to back stitch as shown.



# Buttonholes

## 1. Simple single stitch buttonhole.

Place one stitch onto its adjacent needle, and leave the emptied needle in work.



## 2. Knit 1 Purl 1 Rib buttonhole.

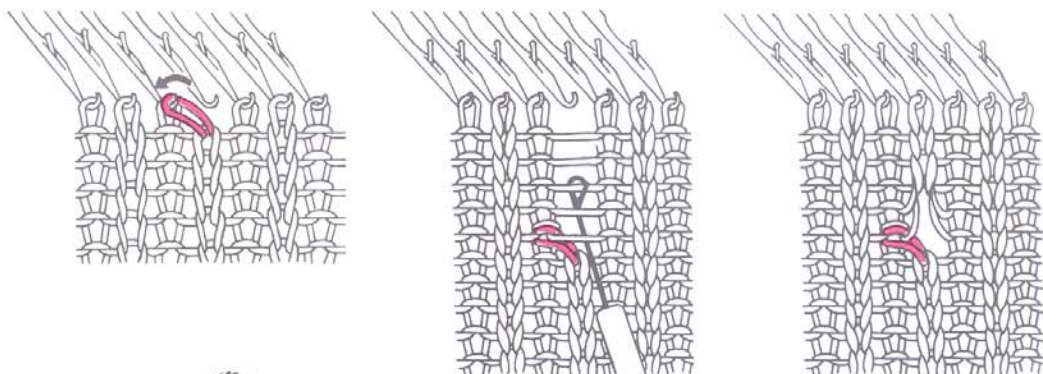
Reform the stitch for knit 1 purl 1 rib and place the stitch onto its adjacent needle.

With the empty needle in B position, continue to knit.

Drop down the stitch as usual, but insert the latch tool behind the first two rows and hook the third row.

Continue to reform the stitches as usual.

Use the side you are working from as the wrong side of the band.



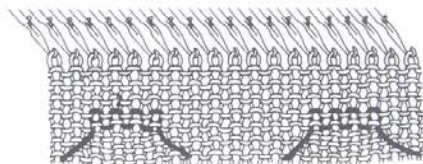
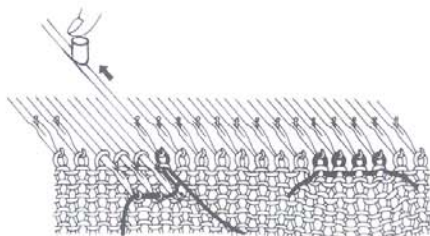
### 3. Buttonholes in a stocking stitch vertical double band.

Usually 3 stitch or 4 stitch buttonholes are made in this way.

As you reach the point where you want the buttonhole, bring forward the 4 needles in each of the two positions where the buttonhole is to be. Bring them forward so that the stitches go behind the latches. Now lay a short length of contrast yarn in the hooks, and knit each needle back to B, one by one by hand.

Do this for as many buttonholes as you need.

When you have finished knitting the band, fold it so that the buttonholes match exactly, remove the contrast yarns, and back stitch through the pairs of open loops, from the right side, as shown in the sketches. Turn the band the other way up to back stitch the top of the buttonhole in the same way.



## Knitting a cord

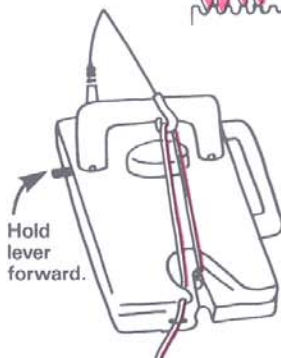
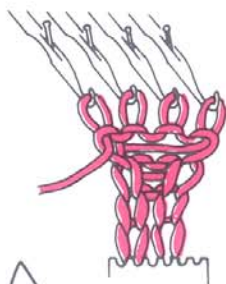
1. Push 3 or four needles to D position and cast – on by hand (page 37).

2. Push the needles to C and knit 2 rows. Check that the stitches have knitted correctly, and hang a claw weight.

3. Hold forward the grey lever on the left of the carriage with your forefinger all the time you are knitting.

Knit as many rows as you require.

Note: This is best done on a low tension – lower than you would knit stocking stitch with that yarn. Stitch size 2 or lower is ideal.



## Patterning on Zippy

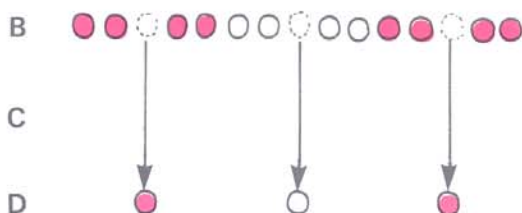
As well as plain knitting and stripes, you can make textured patterns, cables and open-work effects with Zippy. For a lacy effect, transfer a stitch to the neighbouring needle, wherever you want a hole, and leave the empty needle in B. Use the holes as they are, or thread thin ribbon or contrast yarn through them.

Try these textured patterns, they are usually used with the purl side as the right side.

### Tuck stitch – pattern 1

\*Using your finger behind the needle rollers, bring the centre needles of the groups of five (centre grey, then centre pink etc) forward to D position. That is every fifth needle in D.

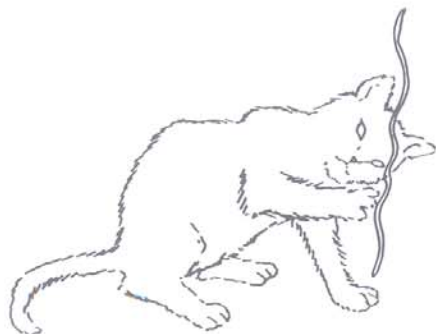
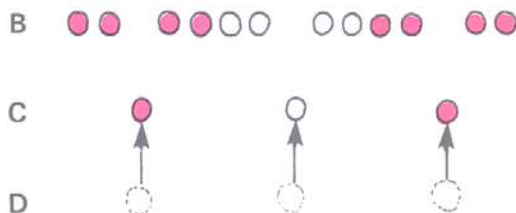
Knit 2 rows.



Use the needle pusher to return the needles from D to C.

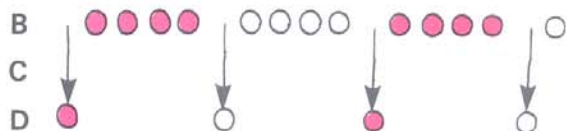
Knit 2 rows.

Repeat from \*.



## Tuck stitch – pattern 2

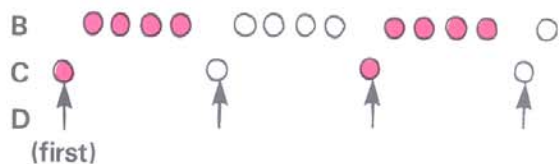
\*Using your fingers behind the needle rollers, bring the first needle in each colour group forward to D. (every fifth needle.)



\*\*Knit 2 rows.

Return needles from D to C.

Knit 2 rows. \*\*

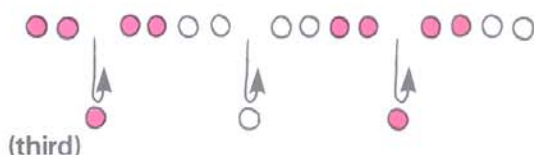
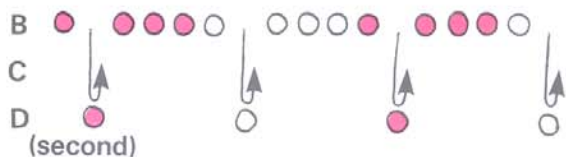


Bring the second needle in each colour forward to D.

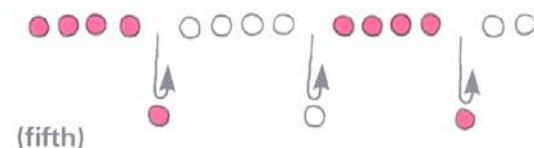
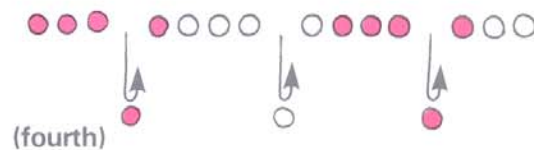
Repeat from \*\* to \*\*.

Bring the third needle in each colour forward to D (the centre needle).

Repeat from \*\* to \*\*.



Continue the pattern with the fourth needle, then the fifth, then the fourth, third and second, then continue again from \*.



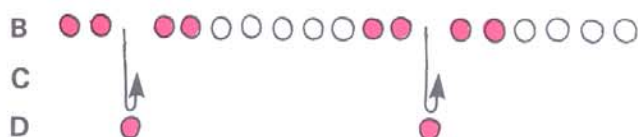


### Tuck stitch – pattern 3.

\*Bring the centre needle of each group of pink rollers forward to D (every 10th needle).

Knit 3 rows.

Return the needles from D to C.

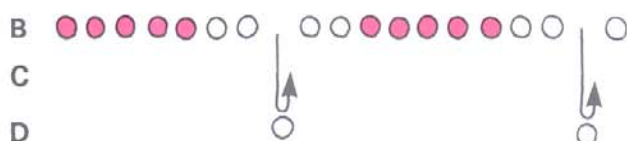


Knit 1 row.

Bring the centre needle of each group of grey rollers forward to D (every 10th needle).

Knit 3 rows.

Return the needles from D to C.



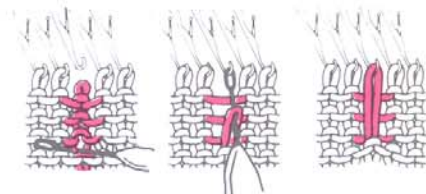
Knit 1 row.

Repeat from \*.

### Slip Stitch Pattern.

Knit 4 rows

\*\*Insert the transfer tool into the side of the stitch 3 rows below the stitch on the needle. Push the needle to D then back to B. Unravel the stitch down to the tool.



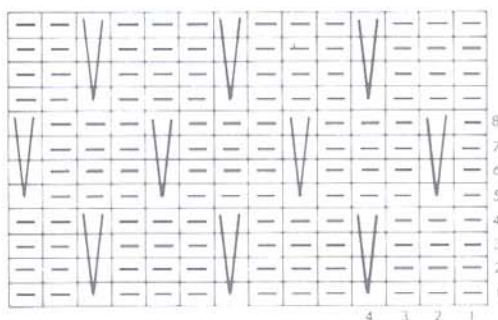
Pull the stitch on the tool up and place it on the needle.

Repeat every fourth stitch along the row.\*

Knit 4 rows.

Repeat from \*\* to \* on the intermediate needles.\*\*

Repeat from \*\* to \*\*.



### Multi-coloured Slip Stitch.

By using one colour for the first set of four rows in the pattern above, and then changing to a different colour for the next set of four, you can produce a fabric which can be used with either the knit or purl side as the right side. Change the colour every 4 rows.

By using three colours (4 rows in colour A, 4 rows in colour B, 4 rows in colour C, then back to 4 rows in colour A again and so on) yet another beautiful fabric can be produced.



## Cable pattern

Cable patterns can be made by crossing 1, 2 or even 3 stitches—but for three stitch cables (which can be very tight) use only a yarn which has plenty of give in it.

Practice first with a 2 stitch cable.

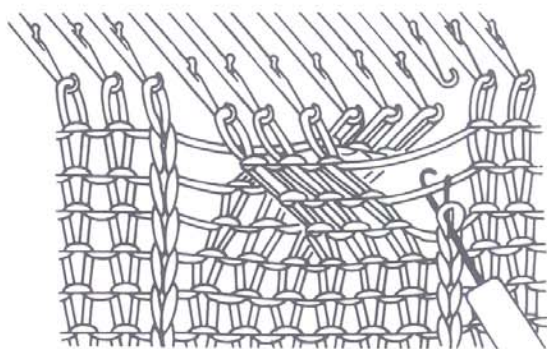
### 2 Stitch Cable

Choose 6 needles. Release the stitches from the two outside needles and let them drop down.

Use a 2-prong tool to take the left hand 2 stitches of the group of four (numbered 1 and 2 in the sketch) off the needles. Move the tool to the left and hold it in your left hand. With your right hand use the other 2-prong tool to transfer the right hand two stitches (3 and 4) to the left hand needles. Now put the remaining stitches (1 and 2) onto the right hand needles.

Latch up the dropped stitches, and replace on their needles.

Bring the four needles to D and back to C. Knit 6 or 8 rows and repeat. Knit fewer rows between cables for a 1 stitch cable, and more rows for a 3 stitch cable.



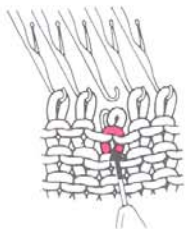
Latching up the stitches on each side of a cable.



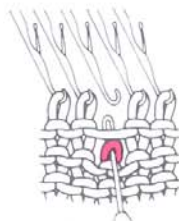
## Helpful hints

### To pick up a dropped stitch

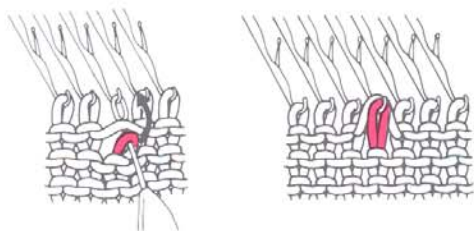
1. Insert a prong of the transfer tool into the stitch one row below the dropped one.



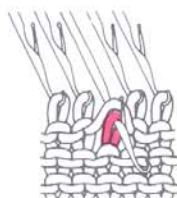
2. Unravel the dropped stitch, holding the stitch below on the tool.



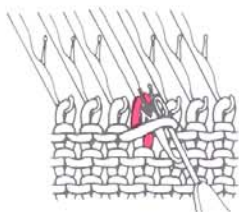
3. Replace the stitch onto the empty needle together with the bar above the stitch.



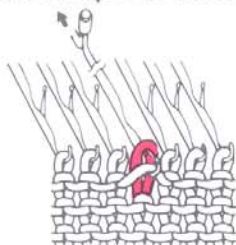
4. Push forward the needle until the stitch and the bar are behind the latch.



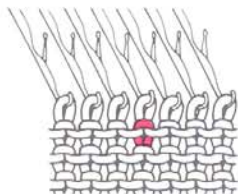
5. Lift up the bar using the tool and bring it in front of the latch.



6. Push back the needle until the stitch behind the latch slips off the needle.



7. Push the needle back firmly to correct the size of the stitch, then line the needle up in B position.



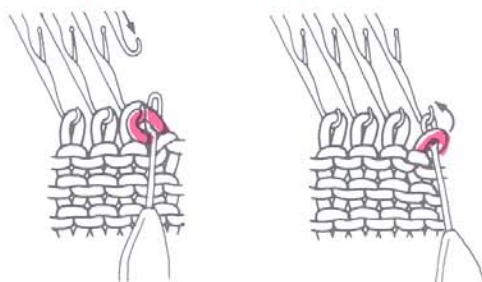
### If a dropped stitch has run down for several rows . . .

Latch up the stitch from the back of the knitting using the latch tool, and replace the last stitch on the needle. You may find it useful to practice this, to get used to latching up from the back.

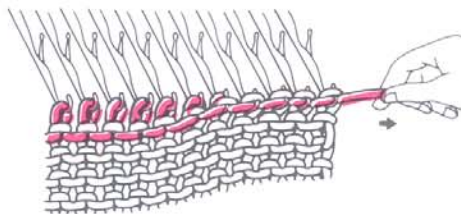
## Unravelling a row of knitting on Zippy

Hang claw weights at both edges of the knitting.

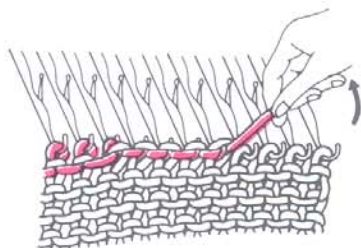
If you have decreased at either end of the row, replace the stitches on their original needles.



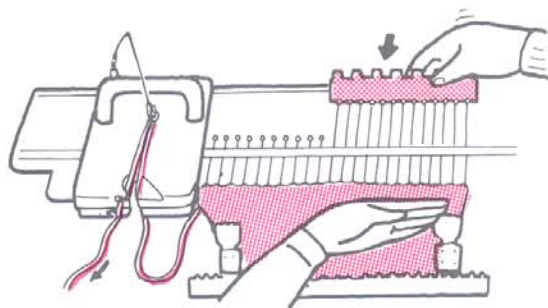
1. Hold the fabric down, and pull the yarn to the side, to tighten the stitches.



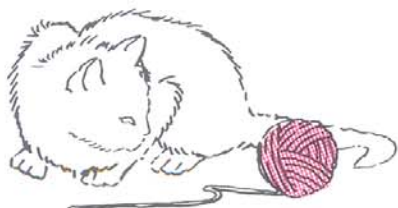
2. Lift the yarn upwards and very slightly backwards. The stitches of the previous row will slip back into the needle hooks.



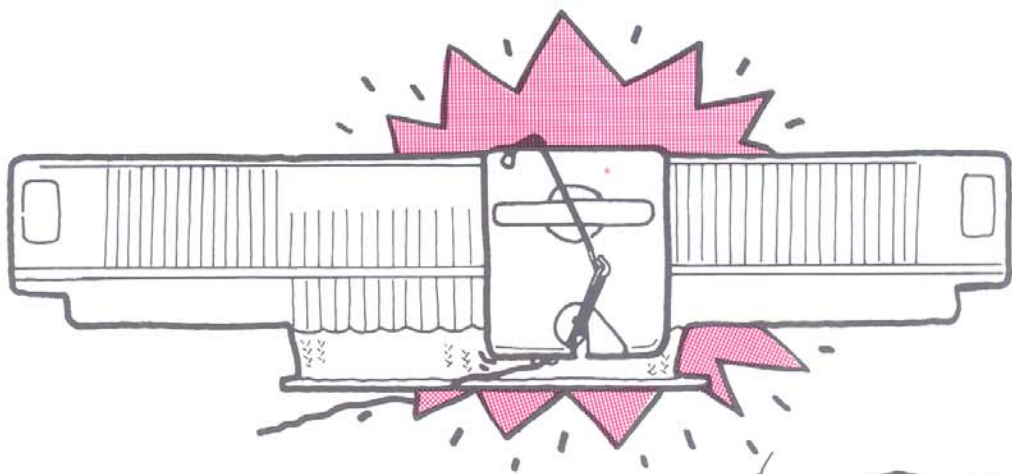
3. When you have unravelled as many rows as you need, hold the fabric against the sinker posts, and bring the needles to D and back to C.



4. Turn the row counter back the same number of rows as you have unravelled. Pull the yarn down towards the ball or cone to remove any slack, and continue knitting.

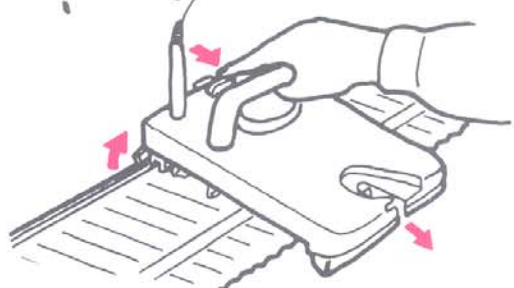


## *If the carriage has jammed....*

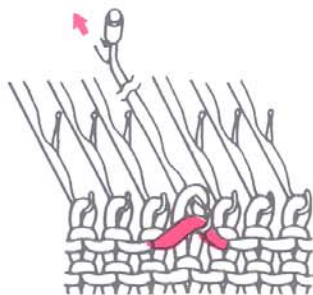


Unthread the yarn from the carriage, remove the carriage and put it on the needle bed at the beginning of the row on which it jammed. (If you were knitting from left to right, put it back on the left.)

If the row counter has moved on for this row, turn it back one row.

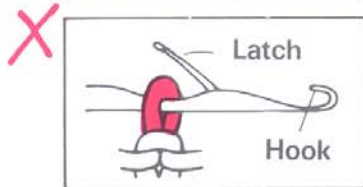
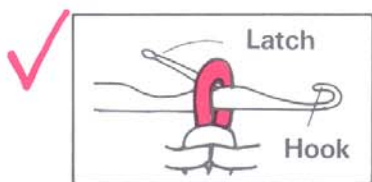


Pick up any dropped stitches (page 58).



If any stitches are behind the latches, use your transfer tool to push the needle back, then tip it up to put the stitch into the needle hook.

Push all the needles to B after you make sure no stitches are behind the latches.



Unravel the stitches which have been knitted in the incomplete row (see page 59), thread up the carriage and continue knitting.

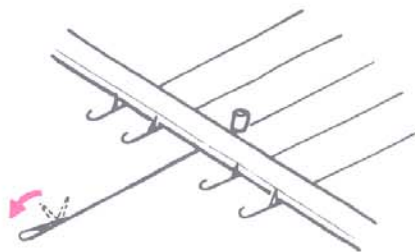
## Replacing a damaged needle

A needle with a damaged latch or bent hook will cause incorrect knitting or dropped stitches.

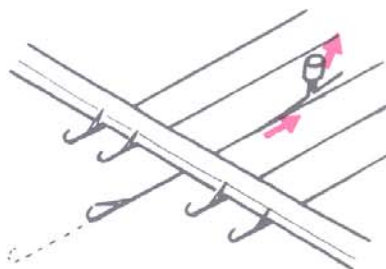
The needle latch "a" must move freely, and must lie flat over the hook "b".



1. Push the damaged needle to D position and close its latch.

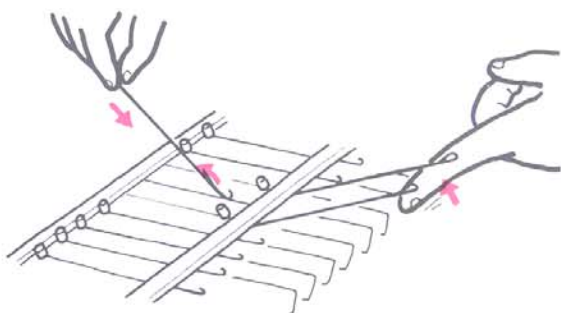


2. Lift up the needle with the needle roller and pull it up and back to remove it from the needle bed.



3. Push the needles on both sides of the removed needle to D position, and lift them up as shown.

4. Open the latch of a new needle and insert it into the empty slot.



**Note:** If a latch has broken off completely, you will need to lift up the needles on each side as shown before removing the damaged needle. If you don't, the hook will catch and damage Zippy.

## Maintenance

To clean Zippy, remove the carriage from the needle bed.

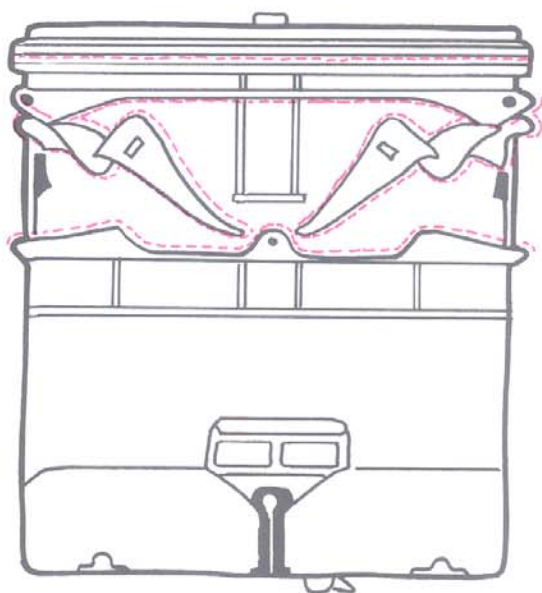
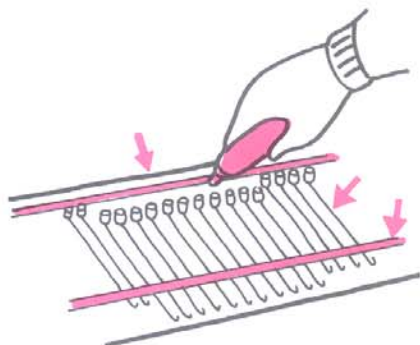
Remove all fluff from the needles and needle bed – a vacuum cleaner is useful for this.

Apply oil along the rail and needle grooves.

Put a very little oil on a soft cloth and wipe the needle bed and needle rollers with the cloth.

Turn over the carriage and brush off all fluff and then oil along the red marked parts shown on the diagram.

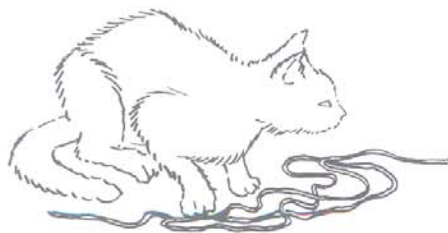
Replace the carriage on the needle bed and move it once or twice across the needle bed.



### **DO NOT USE THINNERS, PETROL, ALCOHOL OR WHITE SPIRIT.**

If the carriage is heavy to operate, check that it is down on the bed correctly. If it is, remove any fluff, bring all needles to D and apply an antistatic spray, such as is used for recording discs, over the needle bed.

This will help to lubricate the needle grooves and will keep Zippy working smoothly.





## *Hints for successful knitting*

- \*Keep Zippy clean and oiled.
- \*Use cones or rewound balls of yarn, and make sure the yarn can feed freely and smoothly.
- \*Use an appropriate stitch size for the thickness and type of yarn you are using.
- \*Check that the needles are correctly in A, B, C or D position, not half-way between.
- \*Keep claw weights and cast-on combs on the knitting at all times, and move them up as your knitting grows – say every 20 rows.
- \*At the end of a row, make sure Zippy's carriage is completely clear of the last needle in work.
- \*Do not take the carriage too far past the end needle in work, or you will get slack yarn and dropped stitches at the edge of your knitting.
- \*Knit a tension piece for each yarn that you use. The same brand of yarn, but in a different colour may need a different size of stitch – so do check.
- \*Pull each knitted piece lengthwise, then pin out to the right size and steam gently (page 46). Because the knitting is stretched across Zippy's needles, it will need pulling to shape after you take it off the needles.



*increase*



*decrease*

# KNITMASTER

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*purl*



*yarn*



*cast-on*

*knit*

