

# Empisal-Knitmaster

MOD. 250

 One hour guide  
to **INSTANT**  
**KNITTING**



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# KNITTING



STEP  
**1**

This booklet has been divided into 4 basic and easy to follow STEPS, with all you need to know about MACHINE KNITTING – BUT KNITTING WITH 180 NEEDLES INSTEAD OF 2 AS FOR HAND KNITTING.

Follow the instructions and illustrations carefully and in no time at all you will be machine knitting – not only knitting, but also ENJOYING using your new knitting machine.

This little book has been revised many times, but if you have new suggestions which could help you and many others, write in, further ideas for alterations to improve it and make it easier to follow are always welcome.

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## UNPACKING YOUR MACHINE

Carefully remove all the packing material and the accessories from the machine, then take the machine out of the box. Keep the box, as it will be useful when storing or transporting the knitter.

## YOUR STANDARD ACCESSORIES



Accessory case



1 / 1 and straight Edge Needle Pusher



3 / 1 and 1 / 3 Needle Pusher



1 / 5 and 1 / 2 Needle Pusher



Single and triple head Transfer Tool



Double and triple head Transfer Tool



Latchet Tool and Work Hook



Nylon Cast on Threads



Latch Opening Brush

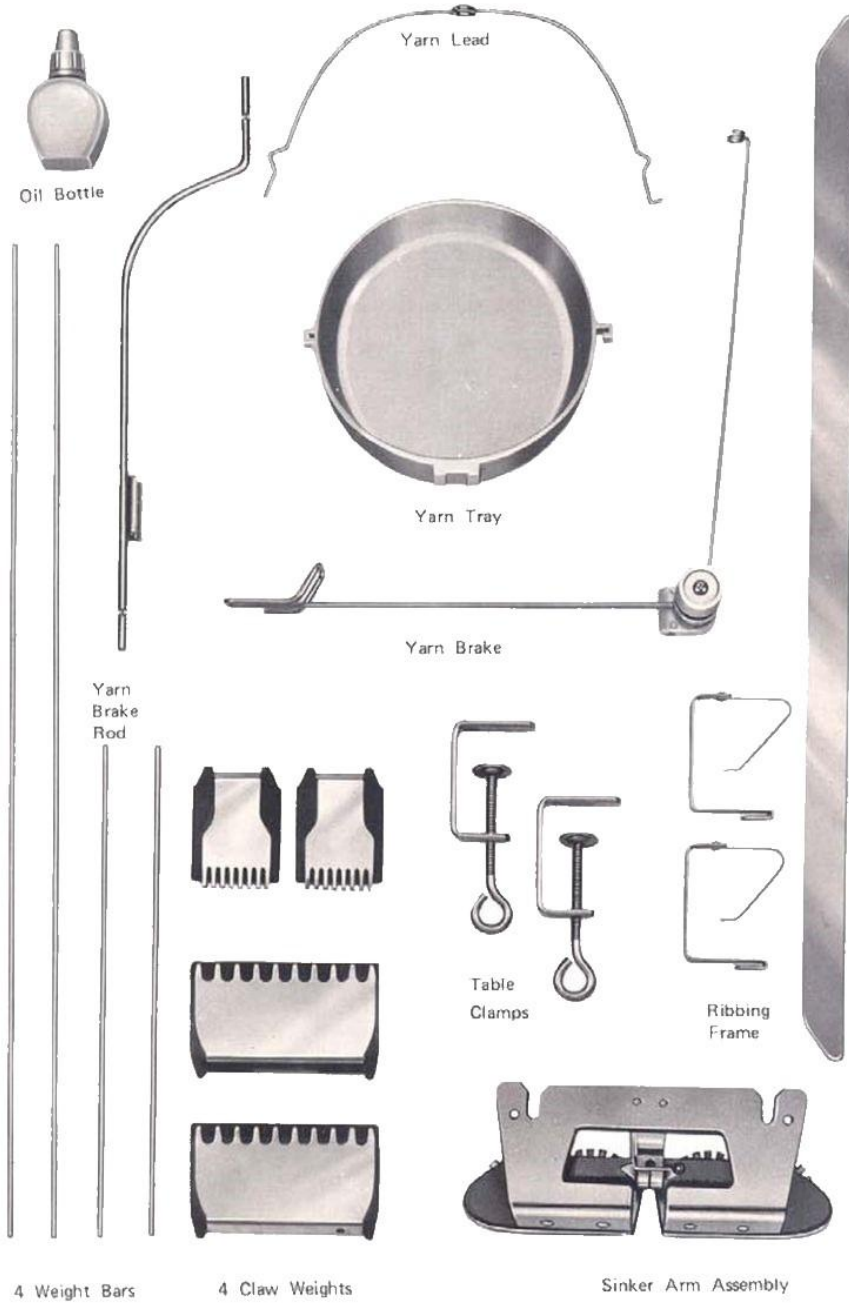


Wallet with spare needles and  
Tapestry or darning Needle

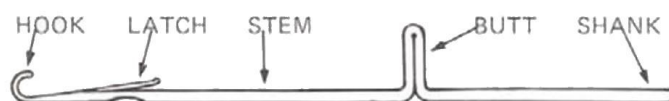


Carriage Lock Plate

## YOUR STANDARD ACCESSORIES



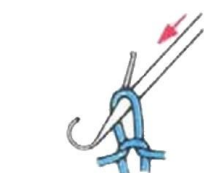
## THE WONDERFUL, YET SO SIMPLE LATCH NEEDLE.



Over a century ago, the latch needle was invented in Europe. This invention was so wonderful that, to this day, the basic shape of latch needles has remained unchanged and machines fitted with these needles are used to produce most of the knitwear on sale today.

### HOW STITCHES ARE FORMED

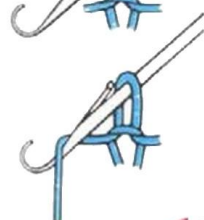
The movement of the latch needle, in and out of the needle bed while knitting, is controlled by the carriage.



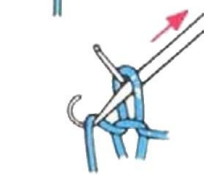
1. As the needle moves out, the stitch automatically opens the latch.



2. The needle moves out further and the stitch slides behind the latch.

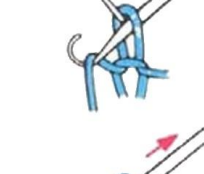


3. The yarn is automatically fed onto the hook by the yarn feeder – preparing for a new stitch.



4. The needle moves back inside the needle bed, causing the old stitch to close over the yarn inside the hook.

The latch needle will ONLY drop a stitch if there is NO YARN in the needle hook when the needle returns into the needle bed.



5. The needle is pulled backwards, causing the old stitch to slide to the front and closing the needle latch.



6. When the needle is completely pulled back – the old stitch starts to slide over the closed latch and a new stitch is formed in the needle hook.

As this cycle of movements is repeated, stitches are formed and when the carriage moves across the needle bed, 180 needles form as many stitches in the manner explained above.

## PREPARATION OF YOUR YARNS

Correct preparation of your yarns before you start to knit is very important. This extra care will make knitting much more enjoyable, easier and the quality of your garment much better.



It is quite impossible to knit from a hank like this.



This hand wound ball of yarn looks good but is completely unsuitable for machine knitting. It will roll around and become more and more tangled.



Although it is not recommended, it is possible to knit from this ball if you are able to draw the yarn smoothly from the centre. You cannot knit by drawing the yarn from the outside.

Due to high speed of machine knitting, it is recommended and most important that the yarn flows COMPLETELY FREE and SMOOTHLY from the ball, otherwise the carriage will be hard to move and you will have irregular stitches, torn edges or dropped stitches at the edges of your knitting.

I am sure that you have a few odd balls of yarn lying around at home. PLEASE do NOT try out this yarns while learning. Use a thin 3 ply yarn ONLY. As you become accustomed to machine knitting, you can try all types of yarn. Meanwhile, ONLY use the recommended yarn and wind it exactly as explained in the following instructions.

## THE AUTOMATIC BALL WINDER

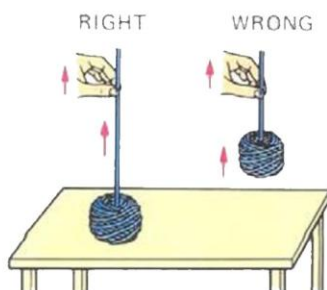


It winds your yarns speedily and perfectly, ready for machine knitting.

It saves a great deal of yarn and time, by winding the yarn completely in a few seconds.

It is particularly useful when you are practising knitting because you can re-wind and re-knit your yarn.

When winding your yarn—NEVER leave knots in the thread—if you cannot disentangle it—then just break the yarn at the knot and start winding the rest into a new ball.

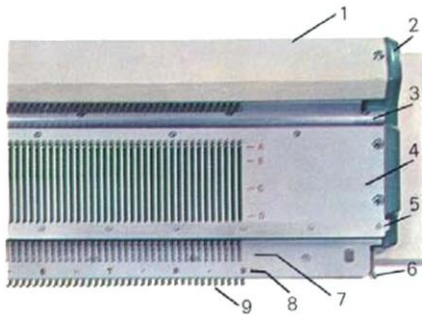


### IMPORTANT TEST

WHEN THE YARN IS PULLED FROM THE CENTRE OF THE BALL IT MUST COME OUT FREELY WITHOUT LIFTING THE BALL FROM THE TABLE.

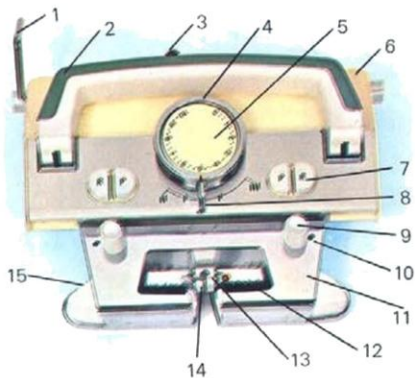
## THE MAIN PARTS OF YOUR KNITTER AND THEIR NAMES

It is interesting to know the names of the main parts of your Knitter.



### NEEDLE BED PARTS

1. Rear Cover Plate
2. Side Covers
3. Carriage Guide Rail
4. Needle Bed
5. Needle Retaining Bar
6. Yarn Clip (left side)
7. Plastic Cover for Number Plate  
leave it in while you learn  
later you may throw it away.
8. Needle Number Plate
9. Sinker Gate and Sinker Gate Pins



### CARRIAGE PARTS

1. Row Counter Tripper
2. Handle
3. Yarn Brake Socket
4. Tension (stitch size) adjustment ring
5. Tension Number Dial
6. Carriage Cover
7. Push Buttons (left & right)
8. Cam Lever
9. Nuts (left & right) to secure Sinker Arm
10. Guide points (left & right) to fit Sinker Arm to the carriage plate
11. Sinker Arm
12. Auto latch opening brush (left & right)
13. Lock Spring for Yarn Feeder
14. Yarn Feeder
15. Roller Brush Wheels (left & right)

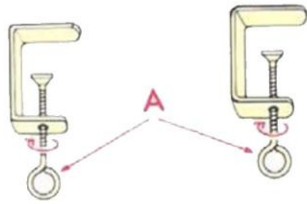
## SETTING UP YOUR KNITTER



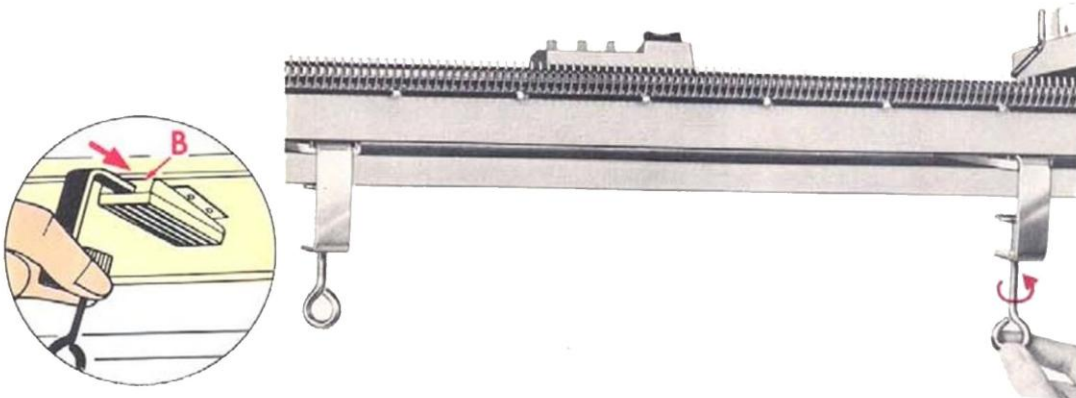
Your new knitting machine is very easy to set up – this is how to do it. First remove, from the carton, all the accessory packings. Now remove the Knitter from the carton and place it on the table with the Sinker Gate facing you.



Remove the cardboard needle protector from the Sinker Gate of the Knitter.



Take both Table Clamps from the packing. Turn the screws A until they are wide open.



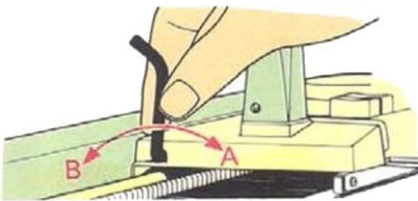
Set the machine flush with the table edge. Insert one Table Clamp into slot B on the LEFT under the machine, then one on the RIGHT side. Now tighten both Clamps onto the table by turning them firmly towards the RIGHT, but without forcing them. Your Knitter is now firmly secured onto the table.



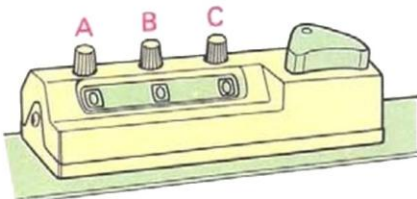
## THE AUTOMATIC ROW COUNTER



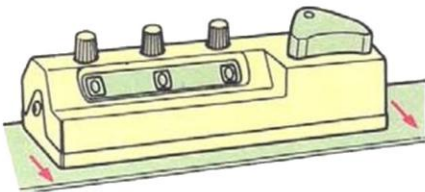
The Automatic Row Counter is ready in position on the centre of the rear cover. It is automatically operated by the Row Counter Tripper on the LEFT side of the carriage coming into contact with the triangle when the carriage moves past the Row Counter – thus counting every time you move across.



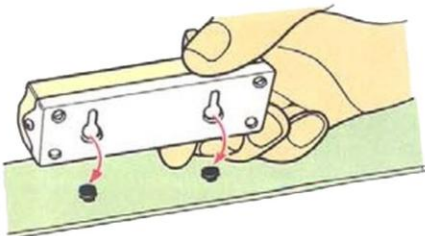
Raise up the Row Counter Tripper in the direction A to B as far as it will go.



You can reset your Row Counter back to zero by turning the knurled nuts A, B and C.

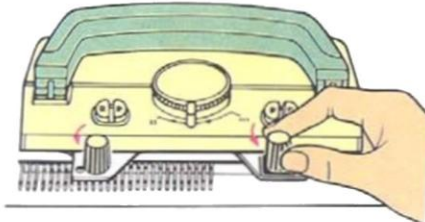


Should you wish to remove the Row Counter, just slide it firmly towards you and it will easily lift off.



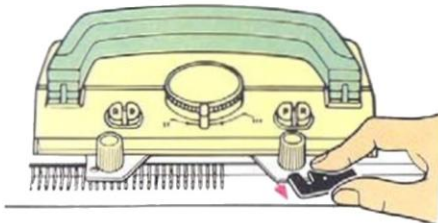
To replace, press it down firmly over the raised studs and slide it backwards until it locks automatically in the correct position.

## SETTING UP YOUR KNITTER



FOR SAFETY DURING TRANSPORTATION, THE CARRIAGE IS SECURED TO THE RIGHT HAND SIDE OF THE MACHINE BY MEANS OF A METAL LOCK PLATE.

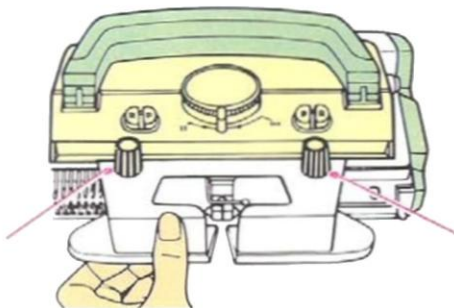
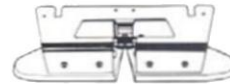
To release the carriage, turn both knurled nuts in anti-clockwise direction until they are loose.



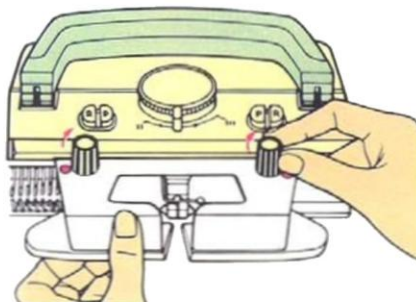
Remove the Lock Plate by pulling it towards you off the carriage and off the needle bed. Keep it in a safe place.

NOTE: Whenever your machine is not in use—always be careful to replace the Locking Plate to secure the carriage to the needle bed.

## ATTACH THE SINKER ARM



Slide the Sinker Arm underneath the two knurled nuts as far as it will go, ensuring that the copper studs on the front of the carriage plate, FIT INTO THE HOLES ON THE SINKER ARM.



Check to be sure the two COPPER STUDS ARE SHOWING THROUGH THE SINKER ARM.

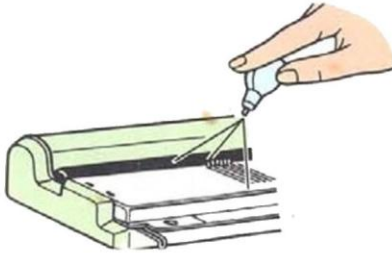
Tighten the knurled nuts in a clockwise direction so that the Sinker Arm is fixed firmly to the front of the carriage.

## SETTING UP YOUR KNITTER



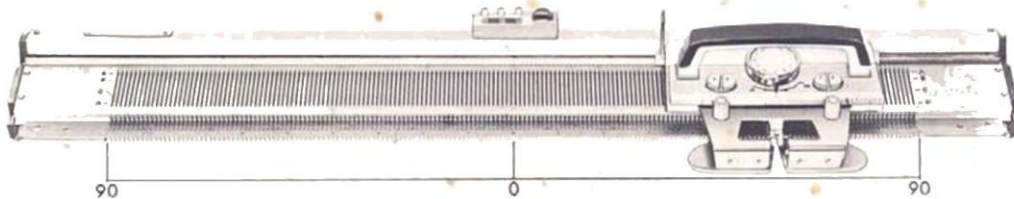
Raise the carriage handle until it snaps into a vertical position.

## OILING YOUR KNITTER



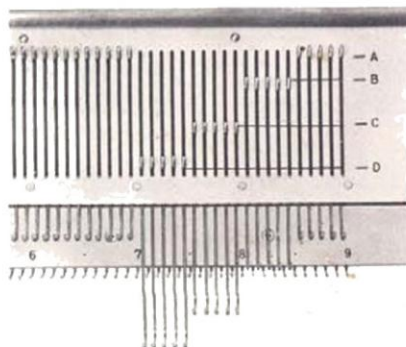
With a dry, soft cloth wipe all the packing dust off the machine. In your accessory case is a small bottle of oil, unscrew the cap. In the neck of the bottle you will find a little brush — DO NOT remove it — when you squeeze the bottle a little and rub the brush across the Guide Rail and the Needle Butts, it will leave a light, even coating of oil on these parts. Make sure that you replace the cap firmly after use.

## THE DIFFERENT NEEDLE POSITIONS



Your Knitter has 180 needles, they are numbered from the centre 0 — outwards in groups of 10, 90 needles on each side of the centre.

On both the LEFT and RIGHT side of the needle bed you will see markings 'A', 'B', 'C' and 'D'. These various positions are used during knitting.



'A' is resting or non-knitting position.

'B' if the needles are pushed up to 'B' position, they are in normal position for plain knitting.

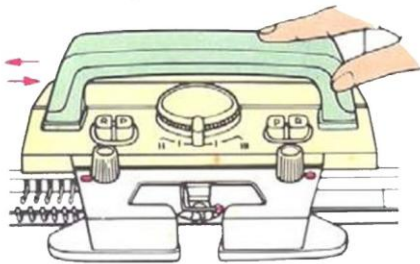
'C' is used for Fair Isle and other types of patterning.

'D' is holding or carrying position used for Tuck stitch patterning and also when you do partial knitting which I shall explain later in the book.

## PREPARATION FOR CAST-ON

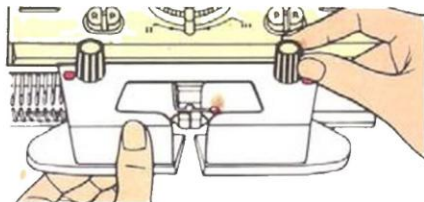


Move the carriage to the RIGHT side of the machine, COMPLETELY past all needles. Use the straight edge of the Needle Pusher and push all needles firmly back to 'A' position.



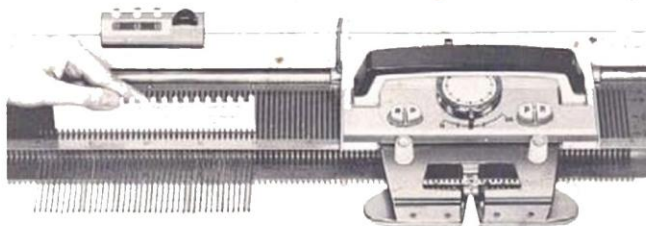
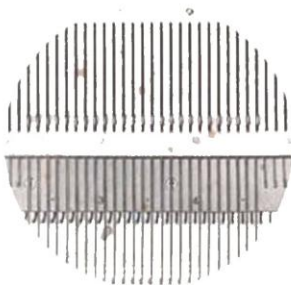
MAKE SURE ALL NEEDLES ARE IN 'A' POSITION.

Slide the carriage from the RIGHT to the LEFT side and back again to make sure it passes smoothly and easily, right across the needle bed.



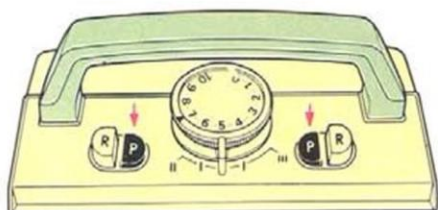
If the carriage does not pass the needle bed smoothly, it means that you have not placed your Sinker Arm correctly onto the carriage. Please check.

THE COPPER STUDS MUST SHOW THROUGH THE SMALL HOLES IN THE SINKER ARM.



Using the straight edge of the Needle Pusher, bring 20 needles on either side of the centre 0 AWAY from 'A' position INTO 'D' position. This means completely to the front of the needle bed.

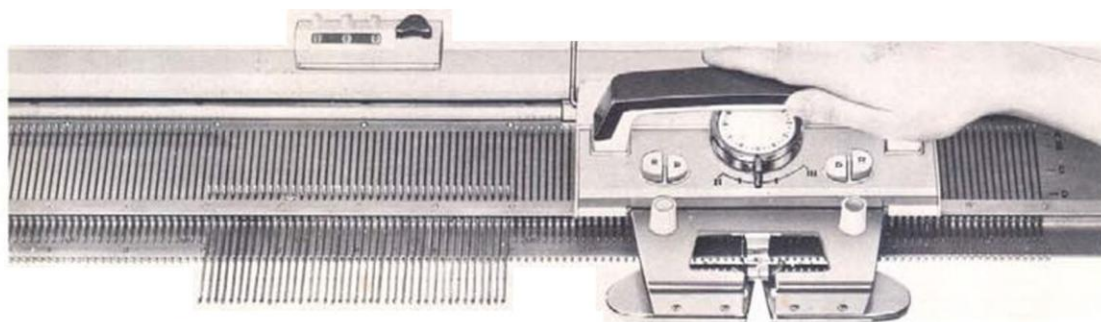
## PREPARATION FOR CAST-ON



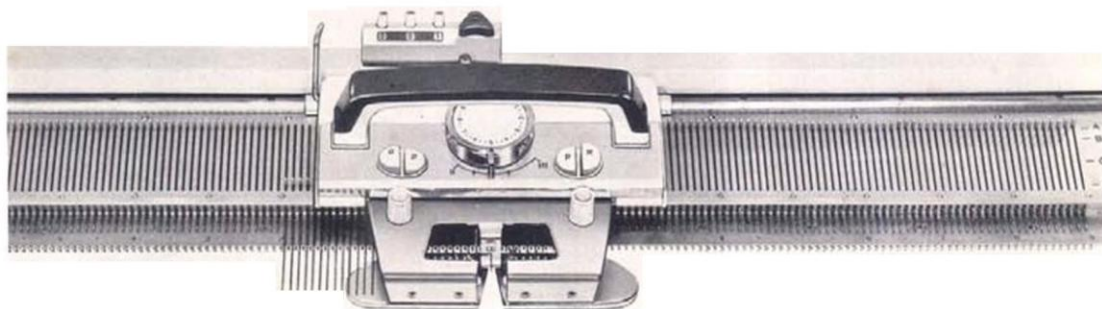
PRESS DOWN BOTH BUTTONS 'P'  
ON THE CARRIAGE.

YOUR KNITTER IS NOW SET TO CAST ON OVER 40 NEEDLES, WHICH ARE IN  
KNITTING POSITION.

The more needles you push up from 'A' to 'D' position, the wider your knitting will be.  
In the next STEP you will learn how easy it is to INCREASE and DECREASE during  
knitting.

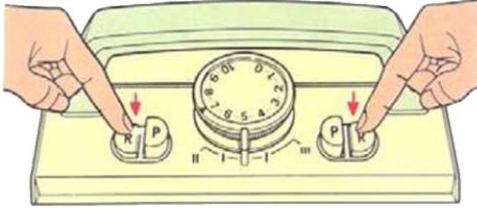


Hold the carriage lightly and move it to the LEFT side of the needle bed. The carriage will now  
line up all needles into 'B' position — ready for cast on.

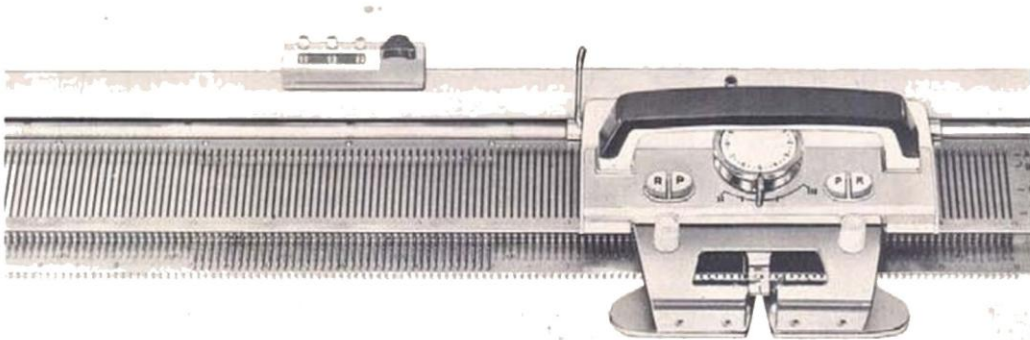


NEVER STOP THE CARRIAGE IN THE MIDDLE OF A ROW — ALWAYS MOVE IT PAST ALL  
NEEDLES IN KNITTING POSITION, AND LET IT REST ABOUT 2 OR 3 INCHES PAST THE  
NEEDLES IN 'B' POSITION.

## PREPARATION FOR CAST-ON



After lining up the 40 needles in 'B' position, release the 'P' buttons by pushing down or IN the 'R' buttons. The 'R' buttons never remain inside the carriage and always come back up.



Now move the carriage back to the RIGHT side again until it is at least 2 inches past all the needles in 'B' position.

IT IS VERY IMPORTANT THAT YOU DO NOT TRY TO REVERSE THE MOVEMENT OF THE CARRIAGE UNTIL IT HAS PASSED ALL NEEDLES IN 'B' POSITION.

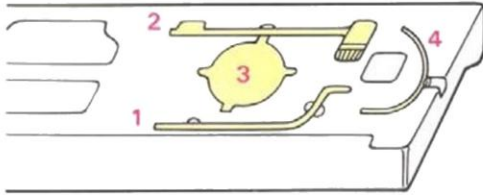
NEVER CHANGE THE DIRECTION OF THE CARRIAGE WHILE IT STILL HAS CONTACT WITH NEEDLES IN 'B' POSITION.

Continue practising until you move the carriage smoothly and lightly backwards and forwards over the 40 operating needles – BE SURE – each time the carriage is 2 inches past the 40 needles before starting the return journey.

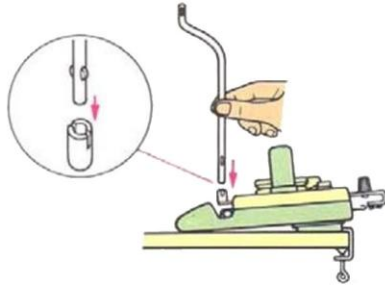
Your Knitter is now ready for use and you only need to set up the yarn brake and thread in the yarn.

The next pages will show you how to do it and then you are ready machine knitting.

## SETTING UP THE YARN BRAKE

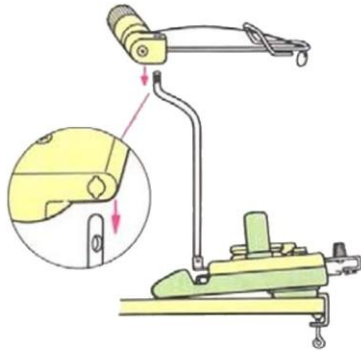


1. The Yarn Brake Rod
2. The Yarn Brake
3. The Yarn Tray
4. The Yarn Lead



Insert the Yarn Brake Rod into the holder on the back of the carriage.

Turn it a little, ensuring the locks fit into the holder.

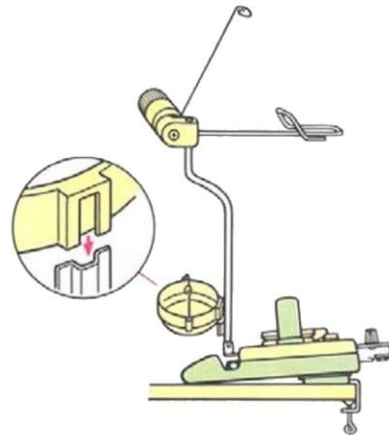


Set the Yarn Brake onto the Yarn Brake Rod.

Remove the Take Up Spring from under the Yarn Guide – it will immediately spring up to a vertical position.

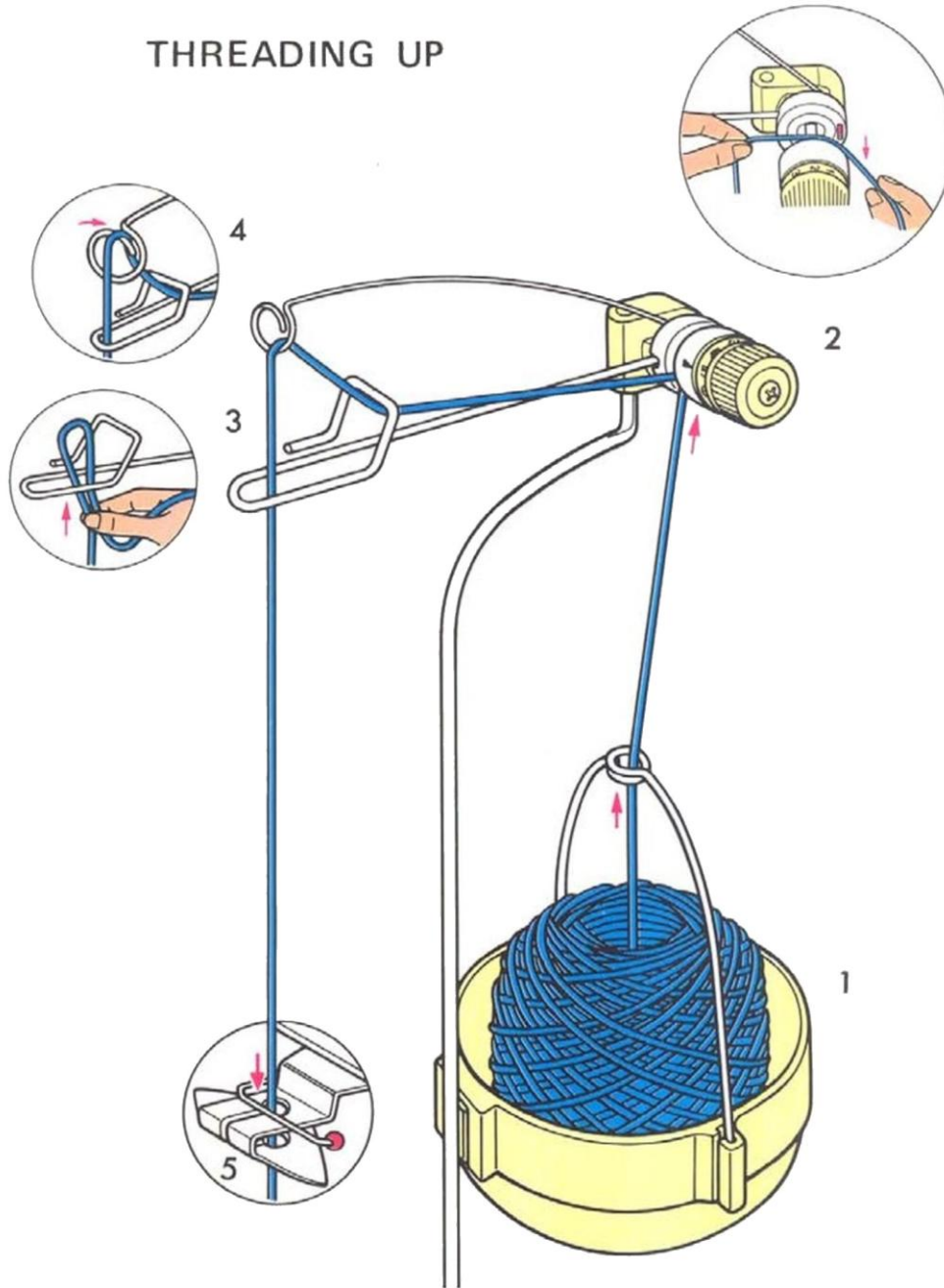


Insert the Yarn Lead into the little holes on each side of the Yarn Tray.



Slide the Yarn Tray onto the Support Bracket on the Yarn Brake Rod.

## THREADING UP



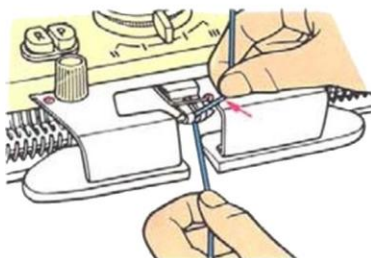
Thread your yarn as shown in this illustration. Make sure you follow carefully the first 4 STEPS – as shown in the diagrams. The threading sequence through point 5 is fully explained on the next page.

NOTE : At point 2, the yarn must go under the pin in the middle of the Yarn Tension. The numbers on the Yarn Tension work the opposite way to the Stitch Tension Dial. The 1 is for the heavy yarn and the 5 is for the thin yarn.

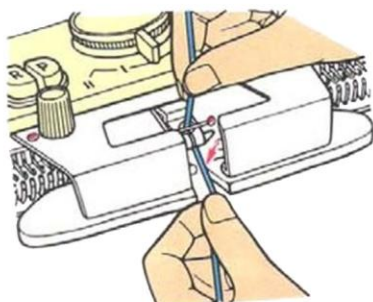


## THE YARN FEEDER

You are ready to thread the yarn through the Yarn Feeder, take care that you follow the different steps exactly as shown.



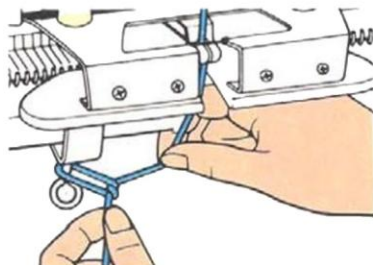
Pull a little yarn down from the Take Up Spring and slide it underneath the guide spring of the Yarn Feeder.



Now pull the yarn down into the Feeder Slot until it slides easily through the round eye underneath the Feeder.

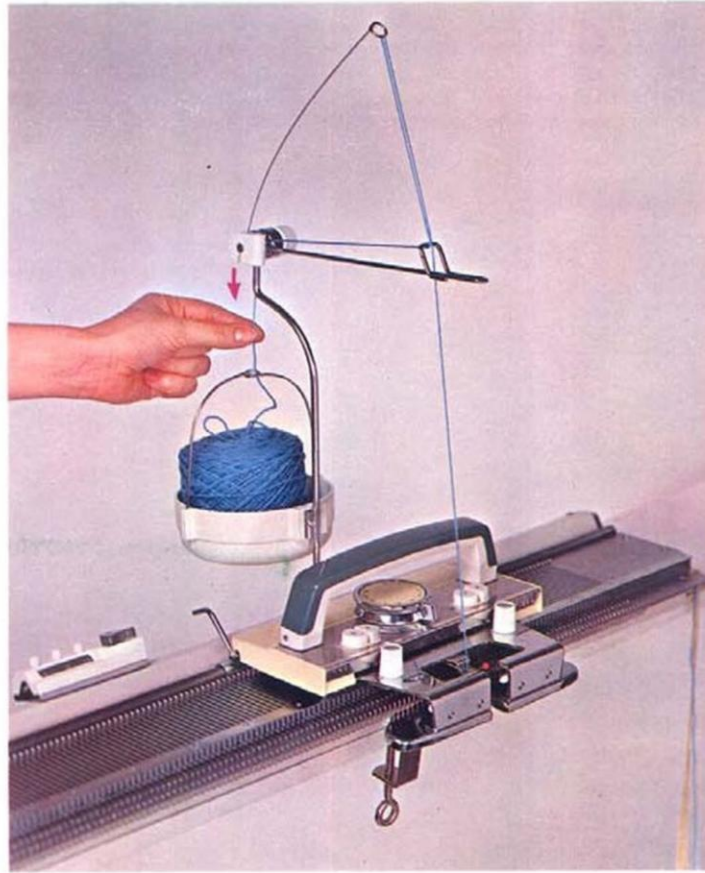


Here you can see the yarn correctly threaded in the Yarn Feeder.



Tie the end of the yarn around the RIGHT side Table Clamp.

## THE YARN TENSION



At the back of the Yarn Brake, pull the yarn down as shown by the arrow, until all slack yarn has been taken up.

This will cause the Take Up Spring to come into a nearly horizontal position, and remain there. There should never be slack yarn between the Table Clamp and the Yarn Brake.

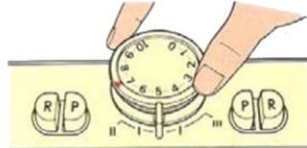
Also, when casting on and during knitting – there should never be any slack yarn between the KNITTING and the YARN FEEDER – take care and you will avoid troubles.

**NOTE:** If you have slack yarn and you start knitting a row, the results are big loops or dropped stitches at the sides of your knitting.

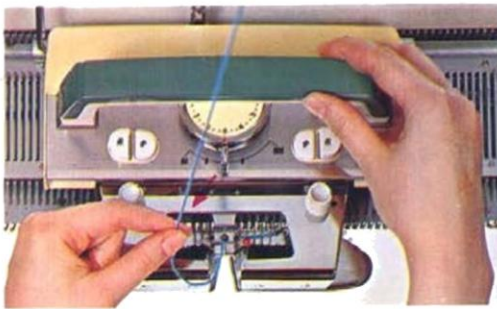
You are now ready to make the cast on and start knitting.

## START CAST-ON

When there is no slack yarn between the carriage and the yarn brake, you are ready to start the open edge cast on. The OPEN EDGE cast on means – when you have knitted a few rows and pull a little on the knitting, you will have stitches running down, or up. But do not be worried – later in the book you learn how to make an CLOSED edge cast on.



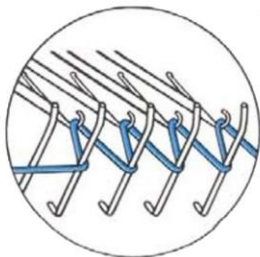
The cam lever is set to the centre 0.  
Set the red line of the Tension Dial to 7.  
The carriage is at the RIGHT.



Slide the carriage slowly from the RIGHT to the LEFT, just until the centre of the Yarn Feeder is about 2 inches BEFORE the LAST of the 40 needles in KNITTING position. Then ..... STOP.

Pull down a little yarn as shown in the diagram, so that the yarn is loose between your hand and the carriage. Continue moving the carriage towards the LEFT, allowing it to use up the slack yarn until it is clearly past all needles in KNITTING position. Then you let the yarn go up again.

YOU HAVE NOW CAST ON.  
The carriage is at the LEFT and ALL loops have the SAME size.

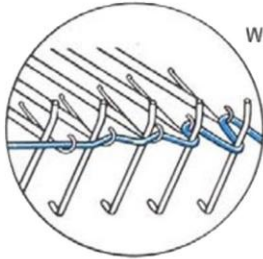


RIGHT

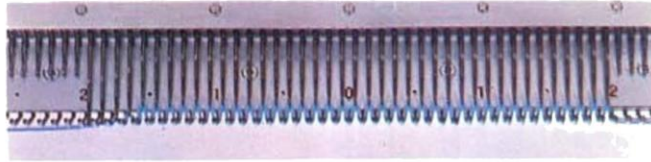


THIS IS HOW YOUR CAST ON SHOULD LOOK.  
ALL NEEDLES MUST HAVE THE SAME SIZE OF LOOPS.

## THE OPEN EDGE CAST-ON (Continued)



WRONG

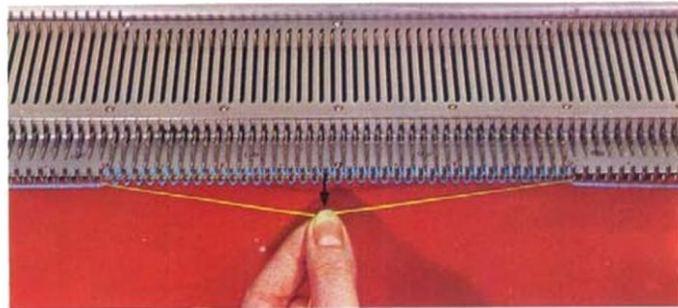
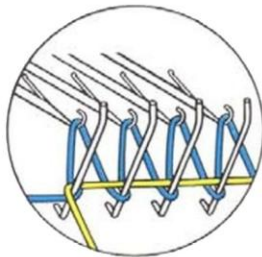


If you do not pull a little of the yarn loose between the Yarn Feeder and the carriage before completing the cast on row – this may be the result of your first row of knitting. The loops of the last needles are very tight and small, which is **WRONG**.



If this happened, it is quick and easy to remedy. Pull down slack yarn with your left hand and hold it down, while with your right hand thumb – starting with the first small loop inside the row – push back, one by one, the last few needles until **ALL NEEDLES** are in a line and have the **SAME SIZE OF LOOPS**.

The carriage is at the **LEFT**.



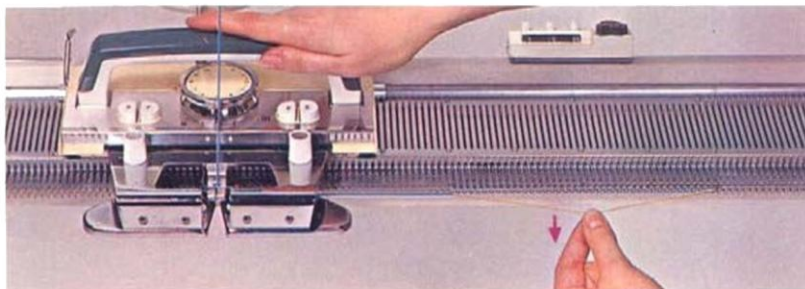
In your accessory case you will find a yellow Nylon Thread, take it and open it.

Lay this thread across the yarn loops **BETWEEN** the needle hooks and the Sinker Gate and hold **BOTH** ends together and pull down firmly so that the Nylon Thread comes below the bottom of the needle hooks.

As you can see in the diagram – the Nylon Thread must pass around the **LAST** Sinker Gate pin on each side of the knitting.

Pull both ends firmly down, if you do not, the Nylon Thread will be caught inside the needle hooks when moving the carriage across and you will have to restart the cast on.

## THE OPEN EDGE CAST-ON (Continued)



Turn the Tension Dial with the red line to 5.  
Make sure BOTH buttons 'P' are UP. If not – press the 'R' buttons.  
Pull down any slack yarn from behind the Yarn Brake as shown on page 17.

Holding the Nylon Thread firmly down – move the carriage from LEFT to RIGHT until it is well PAST the last of the needles in 'B' position at the RIGHT.

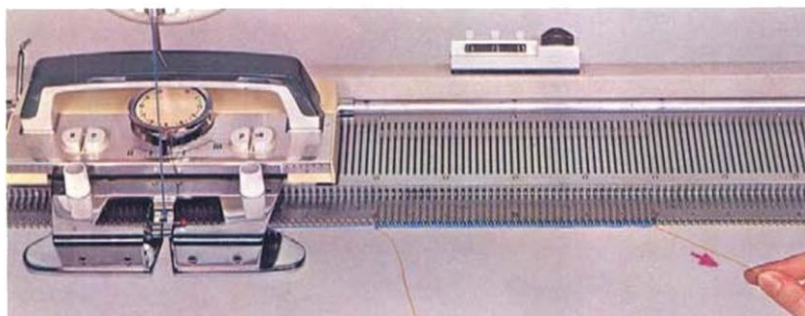
Now leave the Nylon Thread hanging down. Move the carriage from RIGHT to LEFT and back again until you have knitted 4 rows and the carriage is on the LEFT side of the machine.

**MAKE SURE THE CARRIAGE ALWAYS PASSES CLEARLY THE NEEDLES IN 'B' POSITION BEFORE RETURNING TO KNIT THE NEXT ROW.**

IF . . . . 1. Your yarn has been properly wound into a ball suitable for machine knitting

AND . . . . 2. The yarn is suitable for Tension 5 to which your carriage is set,

THEN . . your carriage will move SMOOTHLY AND LIGHTLY across the needles, knitting 40 stitches each time when you move it across.



Pull out the Nylon Thread of the cast on row towards the RIGHT.

Take care you NEVER have knots in the Nylon Thread otherwise you will not be able to pull it out of the knitting.

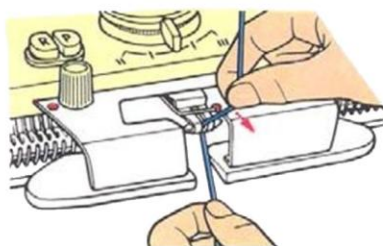
**NOW YOU ARE ALL SET FOR MACHINE KNITTING.**

Knit 20 to 30 rows. REMEMBER – ALWAYS MOVE THE CARRIAGE ABOUT 2 INCHES PAST THE NEEDLES IN KNITTING POSITION BEFORE YOU CHANGE THE DIRECTION FOR THE NEXT ROW.

PROBLEMS: If you do have any problems, the general Index at the back of this book will show you just where to look to find the correct answer.

## YOU ARE NOW MACHINE KNITTING

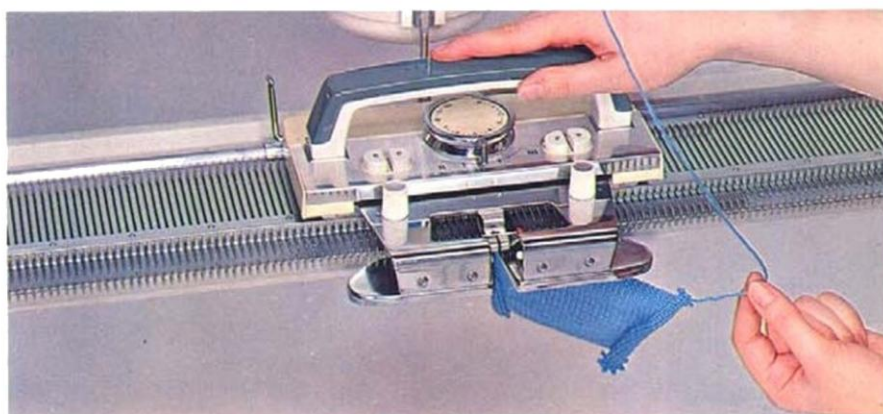
Continue knitting until all your first ball of yarn has been knitted – this is the best way to get the right rhythm for machine knitting and to feel confident with your new knitting machine.



### HOW TO REMOVE THE KNITTING FROM THE MACHINE WITHOUT CASTING OR BINDING OFF.

You can now remove the knitting from the machine.

It is easy and quick to do, just remove the yarn from the yarn feeder.



Hold the yarn away from the carriage with your left hand, and with the right hand move the carriage across the needles in knitting position, the knitting comes away automatically from the needles, but it will have an open edge. On page 29 you will learn how to cast, or bind off.

### YOU HAVE NOW COMPLETED THE MOST IMPORTANT PART OF MACHINE KNITTING.

If you are not sure of all points, it is well worthwhile to go back to the beginning and start once again.

The rest of this book will follow easily and smoothly – once you are able to do just plain knitting and are comfortable, relaxed and at home with your knitter.

So, do not hurry into the next STEP. Rather redo the FIRST section two or even three times and if you encounter any problems, just look at the back of the book in the general Index for the correct answer.

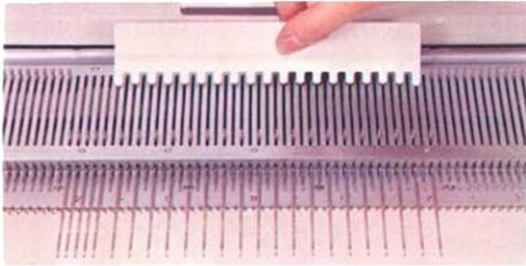


## THE AUTOMATIC CLOSED EDGE CAST-ON

There are two different methods to make a closed edge cast-on. One is automatic and the other is made by hand.

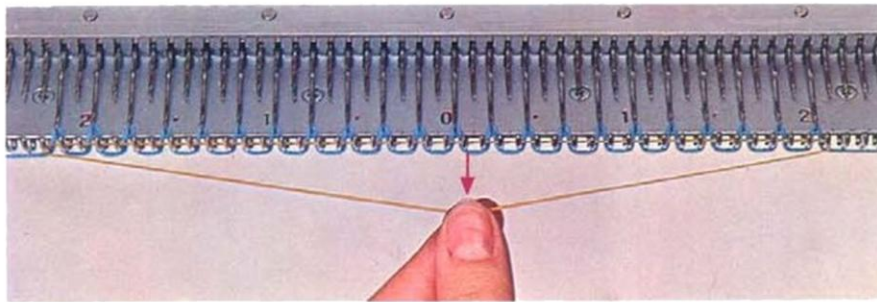
The AUTOMATIC closed edge is a little loose but the stitches will not run.

Now let's try the AUTOMATIC closed edge cast-on first.



The carriage is on the RIGHT. Bring 22 needles on the LEFT of centre and 21 needles on the RIGHT of centre from A to D position. You have 43 needles in D position.

Start with the SECOND needle from the RIGHT and push every SECOND needle, with the 1 x 1 side of the Needle Pusher from D back to A position.



Thread up the machine and set the tension dial with the red mark to 5. Press IN button 'P' on the LEFT side of the carriage. Knit one row to the LEFT. Every second needle has a loop of yarn in it.

Press IN button 'R' on the LEFT side of the carriage.

Lay the Nylon Thread across the loops and pull firmly down.



Still pulling the Nylon Thread down—with the straight edge of the Needle Pusher bring the rest of the 43 needles up from A to B position. This means in the same line as the needles with the loops.

Knit 4 rows. Pull the Nylon Thread out of the knitting.

Knit another 11 rows. Leave the carriage on the RIGHT side of your machine.

With your first two rows you have knitted the automatic closed edge cast-on.

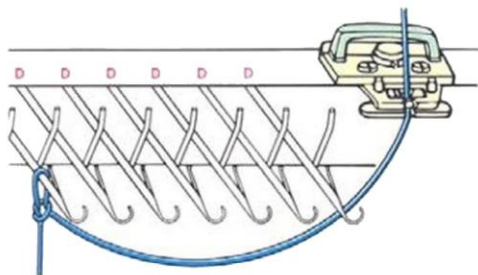
## THE CLOSED EDGE CAST-ON BY HAND

It is slower to do than the AUTOMATIC cast-on but gives a firmer edge.  
As it is often used, it is well worth learning.

Before you start - make sure the carriage is at the RIGHT.

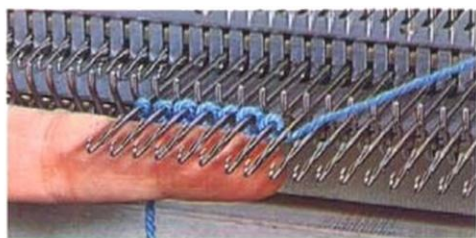
The button 'P' on the LEFT side of the carriage is pushed IN and the cam lever is in the centre 0. Set the tension dial with the red mark to 5.

Bring the 40 centre needles from A to D position.

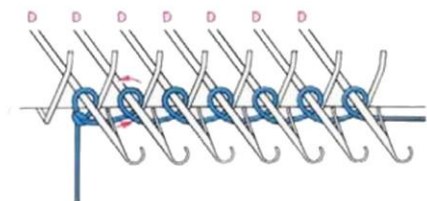


Thread the yarn through the Yarn Brake and the Yarn Feeder and pull down sufficient yarn from below the Yarn Feeder to tie a loose knot around the LAST needle on the LEFT side in D position.

**IMPORTANT** – ALWAYS start by winding the yarn around the needle from the OPPOSITE side of the carriage.



Wind the yarn L O O S E L Y in anti-clockwise direction under and over the second needle in D position and continue winding the yarn around the needles towards the RIGHT. As you wind a loop around a needle - push it BACK against the Sinker Gate BEHIND the needle latch.



When all needles have a loop, pull down any slack yarn from behind the Yarn Brake until there is no slack yarn between the carriage and the needles in D position.



Knit one row towards the LEFT. Press IN the button 'R' on the LEFT to release the button 'P'. Continue to knit the desired number of rows. You will have an attractive closed edge cast-on which cannot unravel.

IF STARTING AT LEFT, WIND THE YARN ANTI-CLOCKWISE (as shown).  
IF STARTING FROM RIGHT (then the carriage is on the LEFT side) WIND  
CLOCKWISE – ALWAYS L O O S E L Y UNDER then OVER the needles.

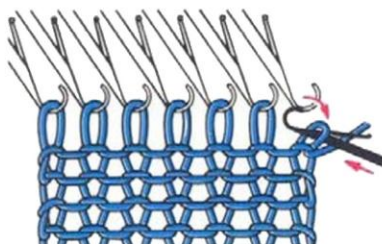


## CASTING OFF OR BINDING OFF WITH BIG LOOPS

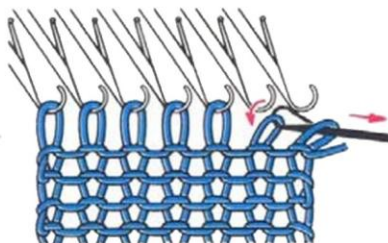
This method of binding or casting off is ONLY suitable when using a thin to medium yarn, as the last row is knitted at a much looser tension than the rest of the knitting. Only bind or cast off this way when your main tension setting is 8 or less. Also, you can only bind or cast off this way when you want to bind off a complete row at one time.

I'll show other methods of binding or casting off later.

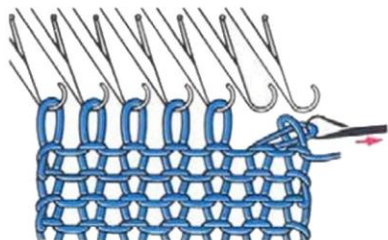
Make an open edge cast-on over 40 needles and knit a few rows with tension 5. Finish with the carriage at the RIGHT. Set the tension dial to 8. Knit one row to the left. Break the yarn on top of the carriage. ALWAYS start the binding, or casting off at the opposite side of the carriage.



Insert the latchet hook in the FIRST stitch from the RIGHT. Lift the stitch OFF its needle push the latchet hook forwards until the loop slides BEHIND the latch.



Remove the SECOND stitch off its needle but keep it IN the latchet hook. DO NOT let it slide behind the latch. Pull the latchet hook backwards.



When pulling the latchet hook backwards - you pull the stitch from the hook through the loop which is behind the latch.

Move the latchet hook forwards until the remaining loop slides behind the latch again. Now remove the third stitch off its needle and pull it through the loop which is behind the latch.



Continue in this way until the binding or casting off of the whole row is completed.

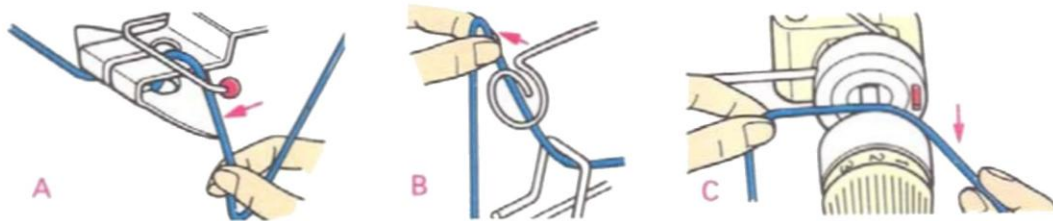
When you have the last loop in the latchet hook - pull the yarn through the loop to bind off the knitting completely.

You can start binding or casting off from the LEFT. But then you knit the last row on tension 8 from LEFT to RIGHT - and start the binding off with the first loop from the LEFT.

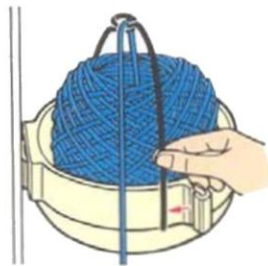
## HOW TO JOIN YOUR YARN DURING KNITTING

To start a new ball of yarn is a very simple matter. When one ball of yarn is almost finished, pull the yarn out of the Feeder and Yarn Brake from below the Yarn Feeder and leave this yarn hanging down from the side of the knitting. Thread the end of the new ball through the Yarn Brake and the Yarn Feeder, tie the end around the table clamp. When knitting quite wide, tie the yarn around the yarn clip. Check the yarn tension and continue knitting.

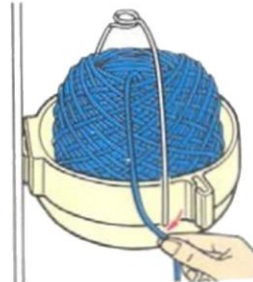
## CHANGING THE YARN WITHOUT BREAKING IT



Remove the yarn from the Yarn Feeder (A), the Yarn Take-up Spring (B), and the Yarn Brake (C), exactly as shown in the diagram.

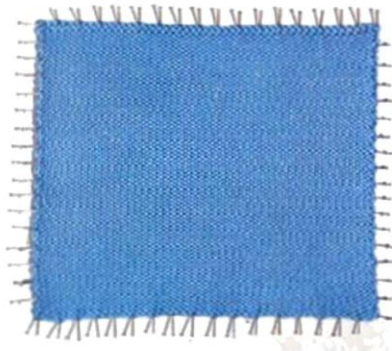


Push the right side end of the Yarn Lead out of the slot on the RIGHT side of the Yarn Tray.



Now you can turn out the yarn from the top of the Yarn Lead.

## STEAMING A FABRIC



**IMPORTANT** – Please follow very carefully.

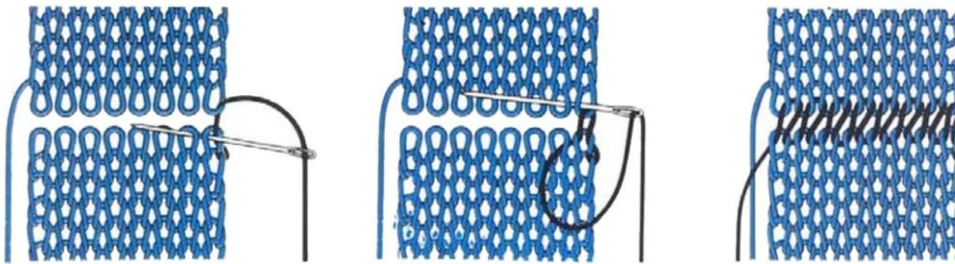
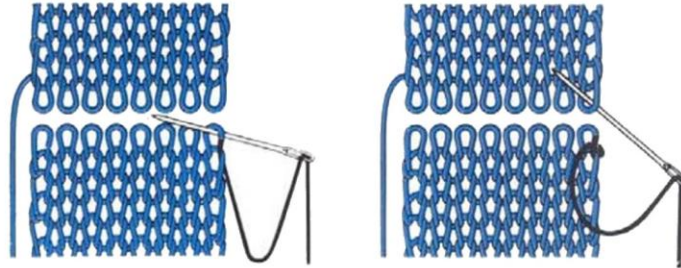
Lay the knitting on the pressing table – wrong side facing and without stretching, pin it out to the correct size, using 1 pin per ½ inch.

Lay the wet cloth on top of the knitting and move the hot iron across the wet cloth. Do NOT press the iron onto the cloth, just slide it across and let the steam penetrate into the knitting.

Remove the cloth and let the knitting dry. Remove the pins. Careful steaming helps to give your garment that extra-perfect finish look.

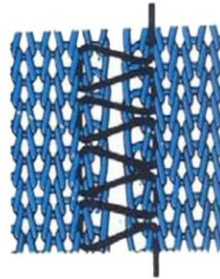
## GRAFTING

Quick and easy to do and it is used for sewing together almost any type of open edge knitting. After a little practice you will graft stitches together so well that you cannot afterwards see where your knitwear has been joined.



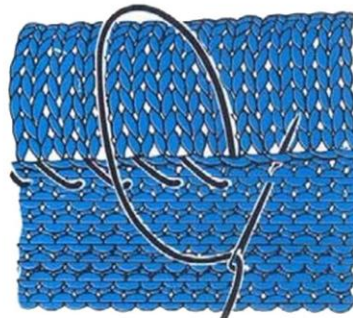
## THE MATTRESS STITCH

For hand sewing your side edges together. This mattress stitch is also very useful for sewing together skirts or dress panels or any other panels, such as trouser-legs for childrens' trouser suits.



## SEWING UP THE HEM

Fold up the required length of hem. Take care to join the hem to the same row of knitting, otherwise your hem will not be straight.



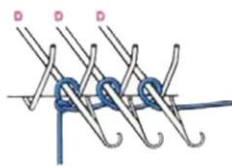
## CIRCULAR CORD KNOTTING

THIS IS A VERY USEFUL TRIMMING FOR ALL NECKLINES.

IT HAS MANY OTHER USES AND IS VERY EASY TO KNIT.



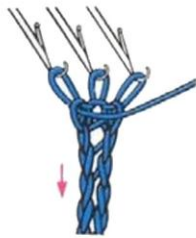
Set the Cam Lever to 1 on the RIGHT. This way the needles will not knit from LEFT to RIGHT and the yarn remains in front of the Sinker Gate. Push IN button 'P' on the LEFT side of the carriage. Set Tension Dial to 5.



Bring the 3 centre needles from A to D position. Thread up the yarn and make a knot around the last needle on the left. Wind the yarn around the other 2 needles. Pull down any slack yarn from behind the Yarn Brake.



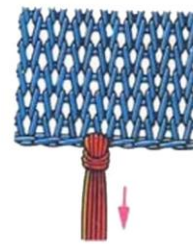
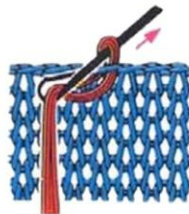
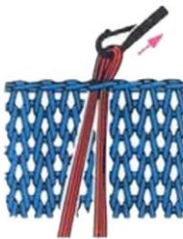
Knit 1 row towards the LEFT. Push IN the 'R' button on the LEFT side of the carriage.



Continue knitting with these 3 needles while pulling a little on the cord at the same time.

If you wish, you can take 4 or 5 needles to knit a cord, this depends on the yarn you are using and must be tested for each type.

## MAKING FRINGES



Take 4 or more threads together, depending on the thickness of fringe you prefer, and cut them about 10 inches or longer according to taste.

Make your fringe as shown in diagrams 1 to 3, placing them as close together as you wish. Give final trim.

## STITCH SIZES AND TENSION TESTING

When doing hand knitting it is important to use the right size needles for each yarn. This is different with the knitting machine. You do not need to have different sized needles. You ONLY have to change the TENSION DIAL NUMBER. The higher the number on the Tension Dial, the bigger the stitch will be, the smaller the number on the Tension Dial, the smaller the stitch will be.

### GENERAL TENSION GUIDE

Thick soft yarn	Tension Number 9 upwards
Medium 3 Ply to 4 Ply yarn	Tension Number 6 to 9
2 Ply or thin 3 Ply yarn	Tension Number 3 to 6
Fine cotton or crochet yarn	Tension Number up to 4

A very thin yarn on tension 2-3 will knit about 8 to 9 stitches (needles) to the inch, or a total WIDTH of 20.1/2 inches over 180 needles.

A thick soft yarn knitted on tension 10 will give about 5 stitches (needles) to the inch, or a total WIDTH of 45 inches over 180 needles. Very thick yarn should be knitted over every second needle.

Cast-on over 40 needles and start at the tension number recommended above for your yarn. Knit a few rows or enough to see if the tension is too big or too small. If it is too loose then try a tension smaller and knit a few rows. If it is too tight try a larger tension number.

Continue in this way until you find the tension number that is most suitable for the yarn and also for the type of garment you wish to make.

A sweater is usually knitted at a tension one, or even two, points looser than you would use for a skirt. The reason is that a sweater is comfortable when it has more stretch, but a skirt will stretch out of shape unless the tension is a little tighter. Anyway, tension setting is usually a matter of yarn thickness.

When yarns are dyed in the factories, the natural oils are washed out by the chemicals.

This may make the yarns (especially the thicker yarns) hard and heavier to knit.

Waxing helps to replace the natural oils and makes the yarn much easier and quicker to knit.

To wax, just pull the yarn over an ordinary white candle before knitting. This will leave a fine wax film on the yarn. White candle wax will definitely NOT stain the yarn and will be completely removed from the knitting by steaming.

## HOW TO MEASURE A TENSION SWATCH

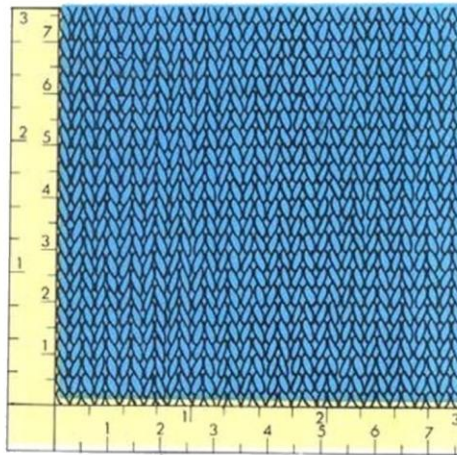
It is easy to make your knitwear fit perfectly, quick too, and very simple.

Every type of yarn is different and sometimes even the dye can make a difference to the thickness of the same type of yarn. So, to make sure your garment will always fit perfectly, it is essential to make a tension swatch before starting it.

First test to see which tension number is most suitable for the yarn.

Knit with the correct stitch size 40 rows over 60 needles and remove the knitting from the machine.

With the correct stitch size, knit 40 rows over 60 needles and remove the knitting from the machine.



Pull the swatch a little to enable the stitches to close up a little.

Let the swatch rest for a few hours, then pin the edges of the swatch – without stretching them – onto the pressing table.

Take a metal ruler and count how many stitches and rows you have over a 2 inch square.



On this picture we have

2 inches give 11 stitches  
2 inches give 15 rows

It is very easy to calculate how many rows and stitches you need to knit for your own pattern instructions.

If the half of the bust width is 18 inches – then you need to cast on 90 stitches, as 2 inches occurs 9 times in 18 inches and  $10 \times 9$  is 90 stitches.  
Always try to start the garment with an even number of stitches.

If the length of the garment should be 20 inches – you need to knit 130 rows, as there are 10 stitches to 2 inches:  $10 \times 13$  is 130 rows.

# Here they are!

Some special  
starter designs  
that need no  
shaping

**SO EASY-just  
knit'n'stitch up**

NOW IT'S TIME TO  
PRACTICE ALL  
YOU'VE LEARN'T.

So — GET KNITTING —  
show off your new  
skill to your family  
and friends because  
you're all ready to  
knit some simple  
but exciting garments  
and novelties on your  
wonderful  
NEW MACHINE.

Just look at the  
super selection we've  
designed for you.  
Choose and knit the  
ones which take  
your fancy . . . .  
It's good practice  
before you progress  
to the interesting  
instructions on the  
pages which follow.



U-8

U-9



U-7



U-6



U-1

U-5



U-3

U-2



U-10,11 & 12



U-13 & 14



U-15



U-4



# KNITTING



DON'T BE WORRIED –  
IT IS EASY TO DO AND  
AT THE END OF THIS  
STEP YOU WILL FIND  
MORE EXCITING NEW  
GARMENTS TO KNIT  
USING ALL YOU LEARN  
IN STEP 2.

PAGE 33 - 35  
36 - 38  
39 - 47  
81

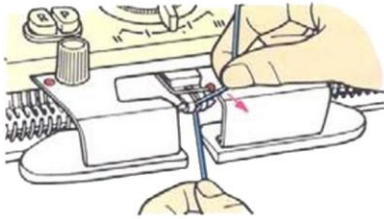
Making a Hem  
Simple Increasing and Decreasing  
How to make Ribbings  
Helpful Hints

YOU HAVE ONLY BEEN  
KNITTING STRAIGHT  
PANELS FOR THE  
GARMENTS OF THE  
PREVIOUS STEP.  
IN STEP 2 YOU WILL  
LEARN HOW TO GIVE  
SHAPE TO YOUR  
KNITTING AND HOW TO  
KNIT HEMS AND WELTS.

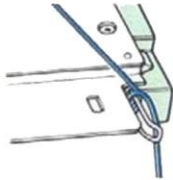
## KNITTING A HEM

Bring 40 centre needles into D position. The carriage is on the RIGHT side. Thread the yarn through Yarn Brake and Yarn Feeder and fasten the end onto the RIGHT side table clamp.

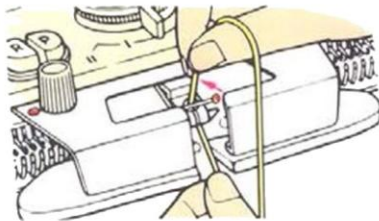
Set Tension Dial to 7 and press IN the button 'P' on the LEFT side of the carriage. Knit 1 row towards the LEFT. Lay the Nylon Thread across the loops between the Sinker Gate and the needle hooks and pull down firmly. Set the Tension Dial to 5, press IN the button 'R' on the LEFT side of the carriage, knit a few more rows, finishing with the carriage on the LEFT. Pull out the Nylon Thread.



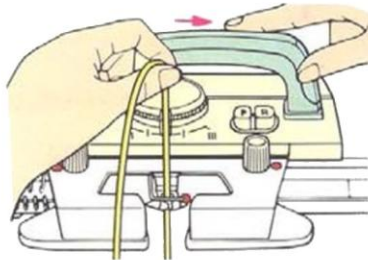
Break the yarn on top of the carriage, pull the end downwards out of the feeder and let it hang down on the side of the knitting.



Wind the new yarn end around the yarn clip on the right side of the machine.



Feed the Nylon Thread into the Yarn Feeder allowing 2 or 3 inches to hang down below the carriage.



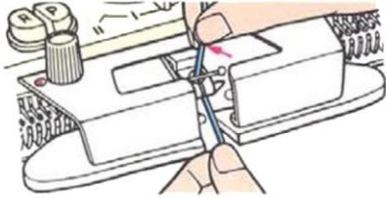
Allow the Nylon Thread to hang over your thumb as shown, and hold it lightly between thumb and forefinger. Knit 1 row across towards the RIGHT, while moving the carriage let the Nylon Thread slide smoothly through your fingers as the carriage needs it to make the stitches.



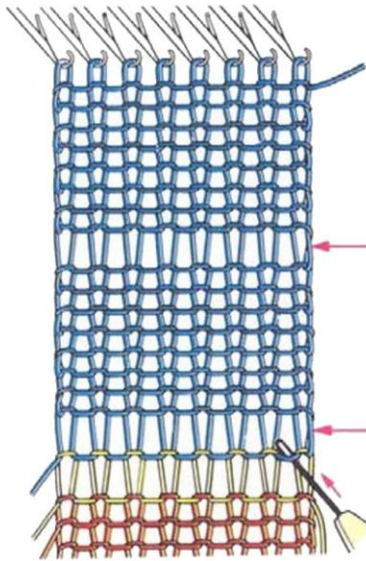
At the RIGHT, pull downwards and out of the feeder the remaining length of the Nylon Thread and let it hang down. You have knitted IN the Nylon Thread to separate the following knitting from the cast-on which is usually made of waste yarn.

## KNITTING A HEM

The hem is usually knitted with a smaller stitch size than the rest of the garment. This gives more elasticity so your hem cannot stretch out of shape.



The carriage is at the RIGHT.  
Remove the yarn from the right side yarn clip and place it back inside the Yarn Feeder. Fasten it to the RIGHT table clamp. Pull back any slack yarn behind the Yarn Brake (Page 17).



Set the Row Counter to 000.  
Knit 1 row with Tension 7.  
Change Tension to No. 4. Knit 7 rows.  
Change Tension to No. 7. Knit 1 row.  
Change Tension to No. 4. Knit 8 rows.  
Set Tension back to No. 7.  
The Row Counter shows 17.

These large stitches help to make a neat flat edge when the hem is folded up.

These large stitches are very easy to lift up when you hang the first row back into the needle hooks to close the hem.

With the little brush, open all needle latches. Slip the Transfer Tool under the first stitch FROM THE RIGHT of the FIRST row of knitting AFTER the Nylon Thread.

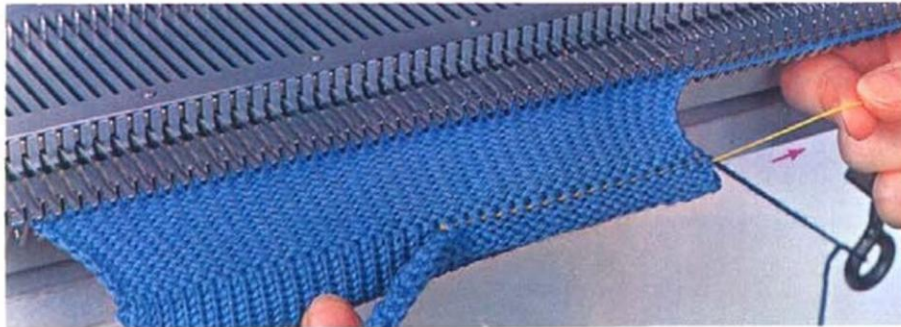


Fold the knitting and hold the row knitted with the Nylon Thread and the first row of knitting between your thumb and forefinger of your left hand. Hook the Transfer Tool into the first needle from the right. Raise up the Transfer Tool and let the loop slide down into the needle hook. This needle now has 2 loops.

Lift up all the first row of stitches knitted after the Nylon Thread onto the needle hooks. When this is completed, each needle in B position will have 2 loops.

After a little practice you will find it much quicker to lift up 3 stitches at a time with your Triple Transfer Tool.

## KNITTING A HEM



Each needle now has 2 loops. Knit 10 or 12 rows, hold the knitting down with your left hand and pull out the Nylon Thread towards the RIGHT. The first rows knitted with the waste yarn automatically fall away from the knitting, leaving a perfect hem. In future, when starting a garment, always start by knitting the first rows with waste yarn.

## HOW TO KNIT HEMS WITH BULKY YARNS

When you are knitting with thicker yarns, and your hem has been lifted up, you have two big stitches in each needle hook – this could cause a little trouble when knitting the next row. The best and safest method is to hold the knitting against the machine and with the straight edge of the needle pusher, bring the needles from B to D position. Push IN BOTH buttons 'P' and knit 1 row. Push IN the buttons 'R' to release the 'P' buttons and continue knitting.

A very nice way to make a hem of bulky yarn is to knit the inside part with a thin to medium yarn and only the outside of the hem with a thick yarn.



Supposing the yarn can only be knitted with every second needle and the hem should be 2 inches long, start the knitting with waste yarn and ALL needles.

Then, after the Nylon Thread, knit the first and inside half of the hem with thin yarn.

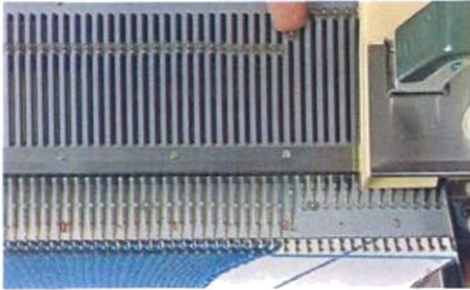
Transfer every second stitch onto its adjacent needle. Bring the empty needles BACK into A position. Thread in the thick yarn and knit the required length.

When lifting up, every second needle in B position must get TWO loops of the thin yarn.

The two qualities of yarn should be of matching colour.

## INCREASING 1 STITCH AT A TIME

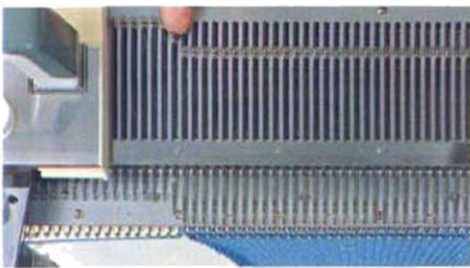
I NOW SHOW YOU HOW TO INCREASE ONE STITCH ON EITHER SIDE IN A SIMPLE WAY



If you wish to increase one stitch on the RIGHT SIDE – your carriage must be on the RIGHT.

Push the next empty needle on the RIGHT SIDE from A to B position. Continue knitting.

The stitch will automatically be picked up and knitted by the carriage.



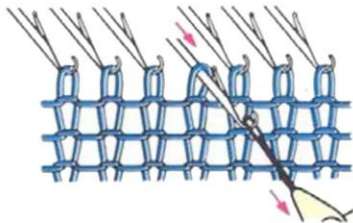
If you wish to increase one stitch on the LEFT SIDE – your carriage must be on the LEFT.

Push the next empty needle on the LEFT SIDE from A to B position. Continue knitting.

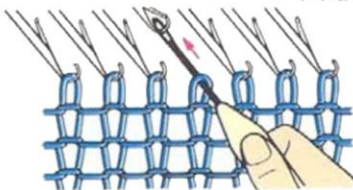
The stitch will automatically be picked up and knitted by the carriage.

## TRANSFERRING STITCHES WITH THE TRANSFER TOOL

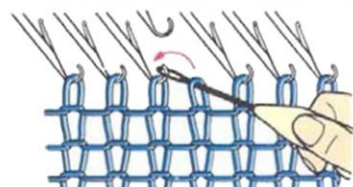
The Transfer Tool has many uses but is mainly used for transferring stitches, increasing and decreasing and for fancy pattern making.



Place the eye of the Transfer Tool onto the needle hook. Pull the needle towards you from B to D position.



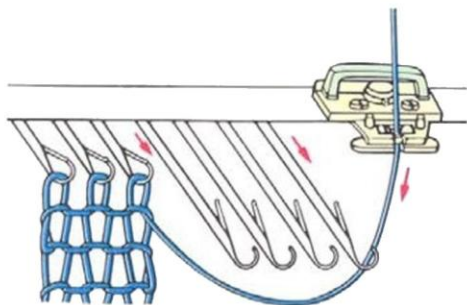
Push the needle back into A position causing the stitch to slide over the needle latch onto the Transfer Tool. Lift the Transfer Tool out of the needle hook.



Place Transfer Tool over the hook of the adjacent needle. Hold your knitting down and lift your Transfer Tool so that the stitch slides into the needle hook.

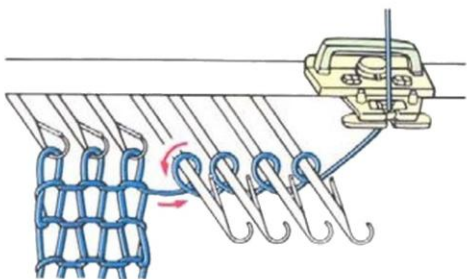
## INCREASING MORE THAN ONE STITCH

TO INCREASE SEVERAL STITCHES ON THE RIGHT SIDE,  
THE CARRIAGE MUST BE ON THE RIGHT SIDE.



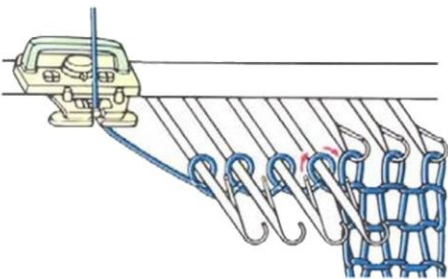
To increase 4 NEEDLES on the RIGHT,  
push 4 extra needles from A to D position  
on the RIGHT SIDE.

Pull some yarn through the yarn feeder.



Wind the yarn LOOSELY under and around  
every needle in an anti-clockwise direction.  
As you wind, push each loop behind the  
needle latch. Press button 'P' on the left  
side of the carriage.

Pull down slack yarn behind the Yarn Brake. Knit 1 row. Press left button 'R'. You will notice that you have now increased 4 stitches on the right side of your knitting.



To increase 4 NEEDLES on the LEFT SIDE,  
start with your carriage on the LEFT.

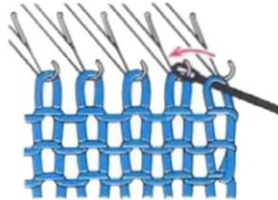
Push 4 extra needles from A to D position  
on the LEFT SIDE. Wind your yarn  
LOOSELY around the 4 needles in the  
direction shown by the arrows.

Pull back slack yarn behind the yarn brake.

Press right button 'P'. Knit 1 row. Press down right button 'R'. Continue knitting.

4 stitches have also been increased on the left side.

## DECREASING ONE STITCH



You can decrease 1 stitch on both sides of a row.

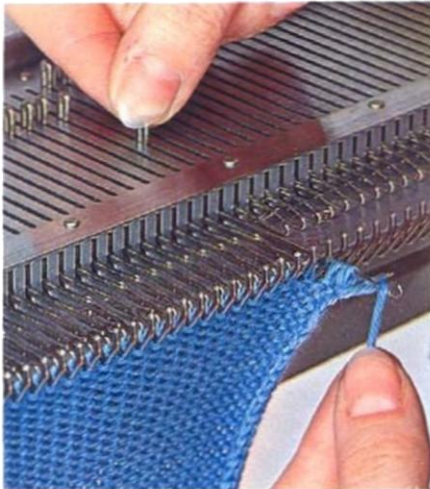
Transfer the last stitch on each side to its adjacent needle.

Push back the empty needles to A position.

## DECREASING MORE THAN ONE STITCH

CARRIAGE IS AT THE RIGHT.

1. Transfer the stitch from the LAST needle on the RIGHT onto the needle on the LEFT, pull this needle up to D position.
2. Leave the empty needle in D position.
3. With your left hand thumb, push the needle with the two stitches carefully from D to C position. The latch must remain OPEN.



4. Pull a little yarn from the feeder and lay it from right to left across the open hooks as shown.
5. Holding this needle by the butt, pull it back to B position.
6. Repeat 1 to 5 until the required number of stitches have been decreased.

When this is completed, you may bring BACK to A position all the EMPTY needles.

This is the easiest way to be sure you really have decreased the required number of stitches.

## BINDING OR CASTING OFF

In this manner, you may DECREASE AS MANY STITCHES AS NEEDED. To BIND (or CAST) OFF COMPLETELY, just continue this process until there are no stitches left. Break the yarn and pull the end through the last loop to lock your last stitch.

## A NEW WAY TO KNIT RIBBED WELTS

**THE OLD:** For many years now the traditional method was to knit plain and purl rib combinations. They look fine when they are new but 'fan' out of shape after a while – and specially on childrens' knitwear the first row of cast-on breaks so easily and then the welt must be re-knitted or the whole sweater must be thrown away.

**THE NEW:** The special DOUBLE ELASTIC welts.  
The welts, ribbings and borders on knitwear are so important. They must be snug fitting, but still soft and elastic. They must not wash out of shape and must never sag causing the whole garment to be spoiled.  
I recommend the new welts because they look better, they are far more elastic and last much longer.

Of course, the correct tension is most important – even this is no problem at all. Just try a few different tensions and soon you will find the perfect tension for whichever yarn you are using – and you will also enjoy the perfect results illustrated here.



Boy's sweaters knitted with the NEW special double 1-1 welt.  
Very easy and great fun to knit. On the next pages you will find the instructions how to knit them.



## A NEW WAY TO MAKE RIBS

THE NEW SYSTEM TO KNIT PERFECT DOUBLE WELTS FOR ALL YOUR KNITWEAR

Double to give a perfect, snug fit, and more elastic than ever before.

Double hems last much longer too, and – they are SO easy to knit.



These hems will give your knitwear that professional finish found in couture garments. Particularly suitable for children's clothes and sportswear as they are tough and can withstand the roughest handling.

1 x 1 ribbing effects are most suitable when you are knitting with medium to thick yarns using tension 6 and higher.



2 x 1 ribbing effects – very suitable and useful for every type of yarn and all tensions from 2 upwards.



3 x 1 – Can also be used for all yarns using tensions from 2 upwards, but it is most attractive and elastic when knitted in a fine, soft yarn using tensions between 3 to 5.

## THE 1 X 1 DOUBLE WELT

In order to make the most perfect, elastic, neat and durable welts, it is most important to knit them with the correct tension. Every yarn is different, but in principle the tension used for the 1 x 1 welt is set about 3 to 4 numbers lower than the yarn would usually be knitted on.

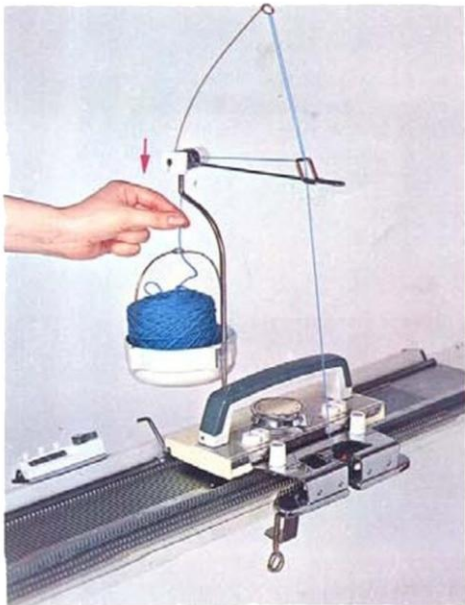
The carriage is on the RIGHT. Bring 22 needles on the LEFT and 21 needles on the RIGHT from centre 0 from A to B position.



Now, starting with the second needle from the RIGHT – bring with the 1 x 1 side of the Needle Pusher, every second needle BACK into A position.



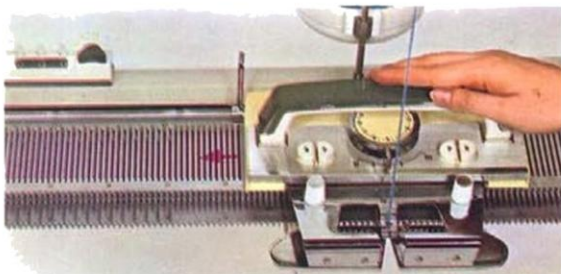
Slide the carriage forwards and backwards across the needles to ensure that they are clear and ready for the cast-on.



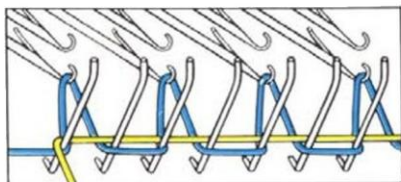
Thread up your machine, pull down any slack yarn behind your yarn brake.

Remember there must not be any slack yarn between your yarn brake and the table clamp under the machine.

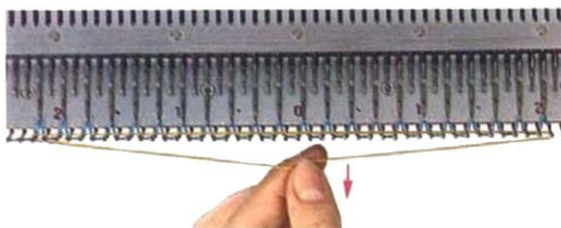
## THE 1 X 1 DOUBLE WELT



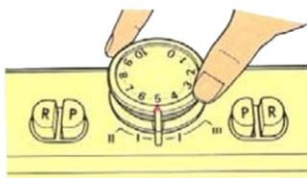
The carriage is on the RIGHT side of the machine. Set the Tension Dial to 7. Knit one row towards the LEFT.



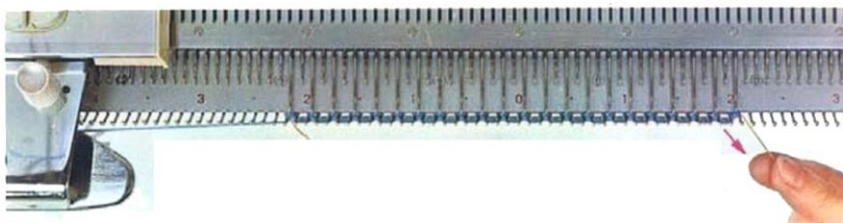
Lay the Nylon Thread across the loops between the needle hooks and the Sinker Gate.



Pull the nylon thread down FIRMLY.

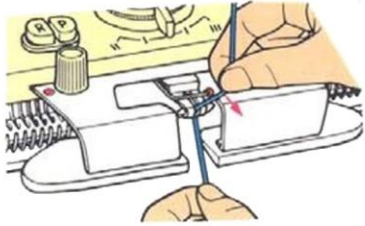


Change the Tension Dial to 5 and knit a few rows, finishing with the carriage on the LEFT side of the machine.

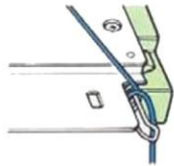


PULL OUT THE NYLON THREAD FROM THE KNITTING.

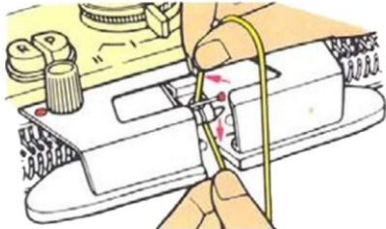
## THE 1 X 1 DOUBLE WELT



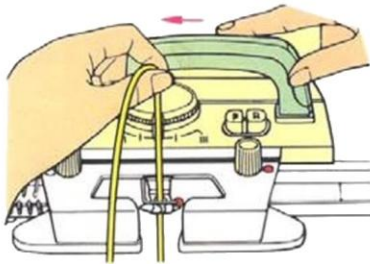
Remove the yarn from the yarn feeder and break it.



Wind the yarn around the yarn clip on the right side of the machine.

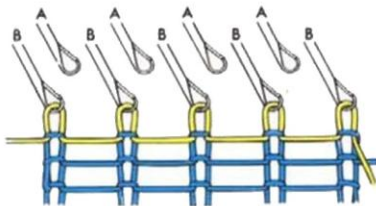


Thread up with the Nylon and allow a few inches to hang down below the carriage.

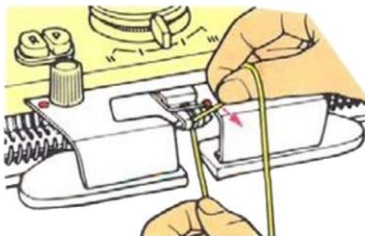


Hold it over your thumb as shown, and lightly between your thumb and forefinger.

Knit 1 row across towards the RIGHT – allowing the Nylon Thread to run smoothly through your fingers as you knit across the needles.

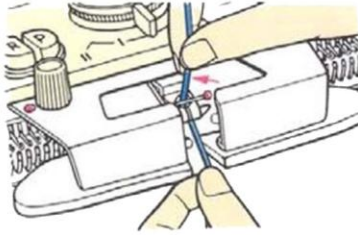


You have knitted IN the Nylon Thread.

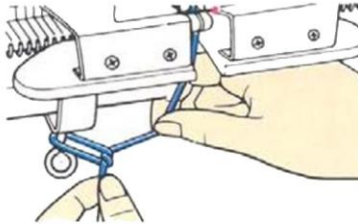


Remove the Nylon Thread from your Yarn Feeder and allow it to hang down on the side of the knitting.

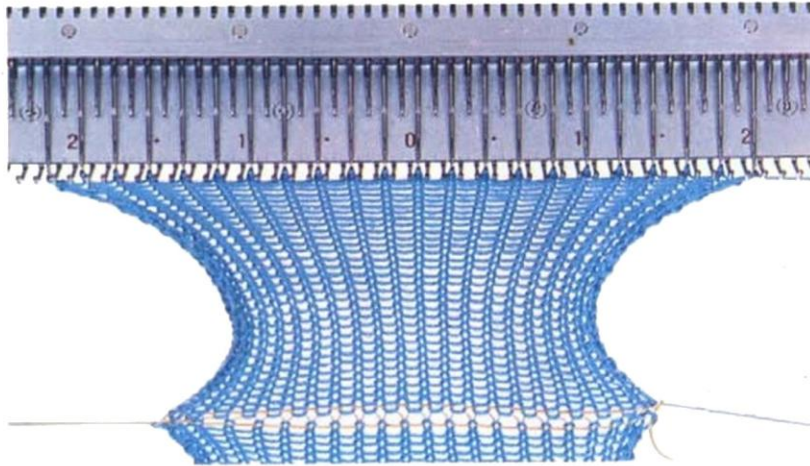
## THE 1 X 1 DOUBLE WELT



Now release your yarn from the RIGHT side clip and re-thread it through the Yarn Feeder.



Fasten the end onto the RIGHT side Table Clamp. Check to make sure your yarn is properly threaded up.



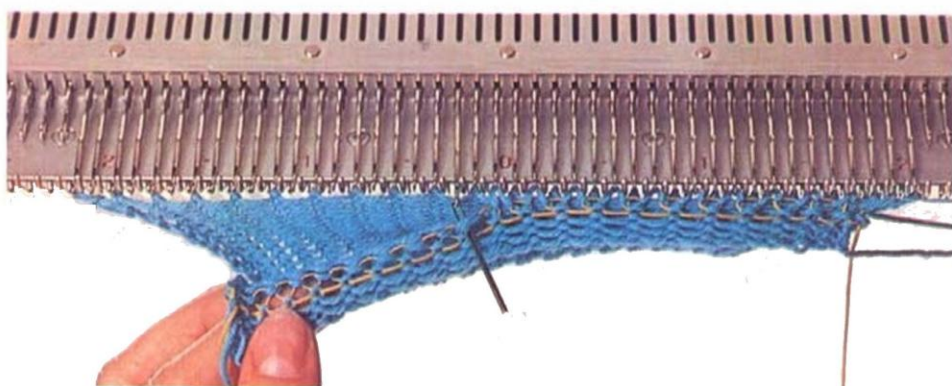
The carriage is at the RIGHT. Set the Tension Dial to 3. Knit 32 rows.



The carriage is on the RIGHT. Using the straight edge of the Needle Pusher, raise from A to B position the remaining 21 needles of the welt.

There are 43 needles in B position and EVERY SECOND needle has a stitch.

## THE 1 X 1 DOUBLE WELT



Lift this loop into the hook of the FIRST EMPTY needle in B position, on the RIGHT side.

Now lift the second loop into the SECOND EMPTY needle in B position.

Continue lifting each loop and placing it in the empty needles until the complete welt has been lifted up.

Your DOUBLE RIBBED WELT is now READY.

With your left hand hold the knitting against the machine. Use the straight edge of the Needle Pusher to push the needles from B to D position.

Push IN the button 'P' on the LEFT side of the carriage. Set Tension Dial to 5.

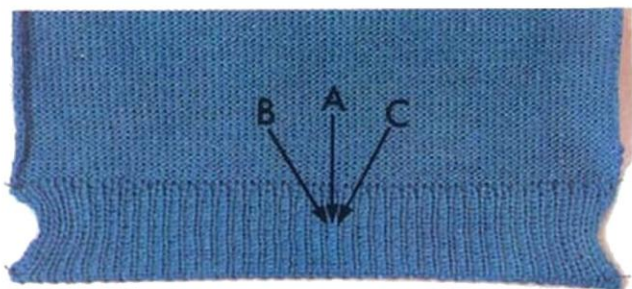
Check the Yarn Tension. Knit 1 row. Push IN the button 'R' on the LEFT to release button 'P'. Pull the Nylon Thread out of the knitting towards the RIGHT. The cast on rows with the waste yarn automatically come off the knitting.

Knit 40 rows – and if you wish, remove the knitting from the machine.

Your first DOUBLE RIBBED WELT is now completed, it only needs to be steamed. For this, follow the instructions on the next pages carefully.

## STEAMING THE RIB

BEFORE STEAMING

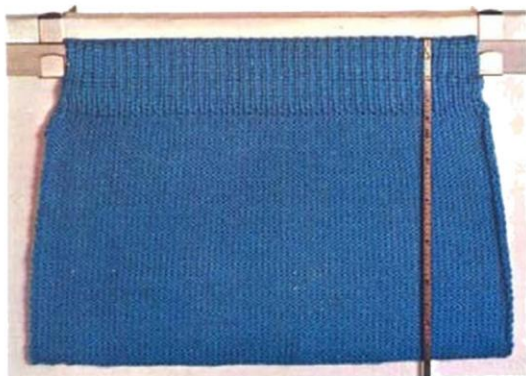


AFTER STEAMING



Your 1 x 1 double welt will now look like this. B and C show the knitted ribs, and A, the linking bars of yarn between. After steaming and blocking which is explained on the next page, you will notice that the linking bars A have been absorbed into the ribs.

You may steam and block your rib with the new Rib Frame, which is an extra useful accessory.



Place both clamps of the Rib Frame onto the front of the pressing table. Insert the metal bar through the welt and slide the ends of the bar under the clamps.

The picture shows you how the welt will look when it comes off the machine.

Please note that the welt is 2" wide.

## STEAMING THE RIB



With one hand, stretch out your knitted piece as much as possible. At the same time, with the other hand, gather the welt together as closely as possible.

The welt is now 3" deep so, always knit your welts 1/3" shorter than you wish the final depth to be. This applies to all rib combinations.

### CAUTION:

If you are knitting with synthetic yarns, exercise greatest care when steaming your garment and always follow manufacturer's instructions as synthetic yarns do not accept heat so readily and willingly as natural wools. These must be steamed only very lightly and quickly.



While stretching your knitted piece as much as possible, lower the hot iron onto the wet cloth and let the hot steam penetrate into the knitting. Do NOT press, just slide the iron over the wet cloth until the entire welt has been steamed.

When steaming 4 ply or double knitting yarn, you may let the iron rest on the wet cloth for 1 or 2 seconds, in each spot.

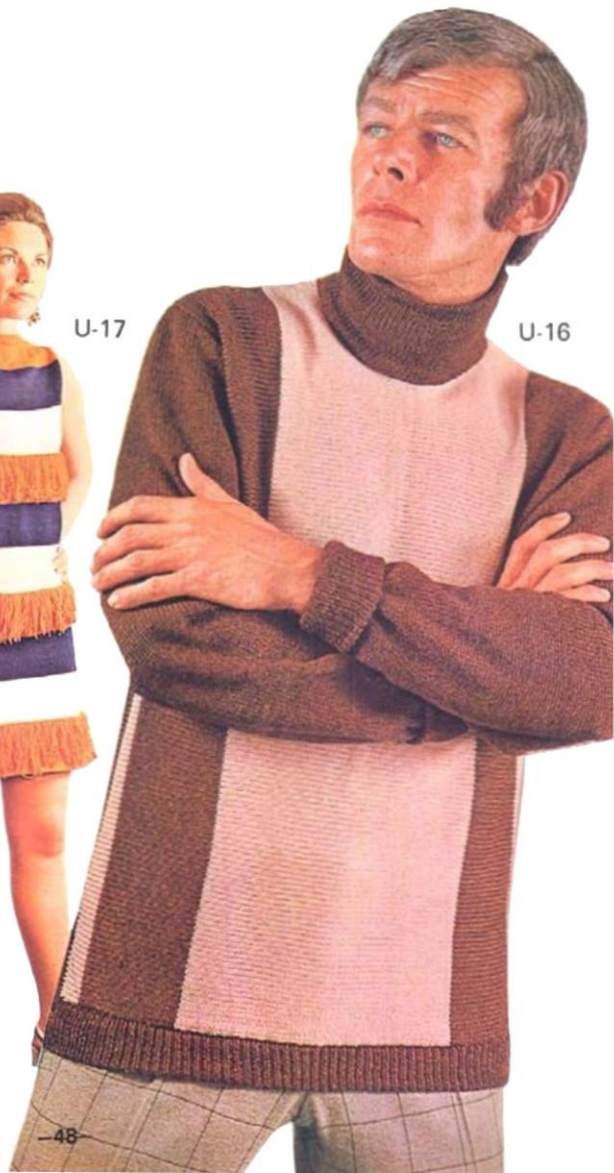
Remove the wet cloth and, while the knitting is still hot and damp, continue to stretch it with one hand, and then let the knitting cool and dry, while "gathering" the welt closely with the other hand. If necessary, this procedure may be repeated for added elasticity. When the welt is completely dry, remove from the rib frame.

**NOTE:** Do not stretch 2 x 1 and 3 x 1 rib welts as much as the 1 x 1. The linking bars between the stitches must contract and should look like a fine rib after being steamed.



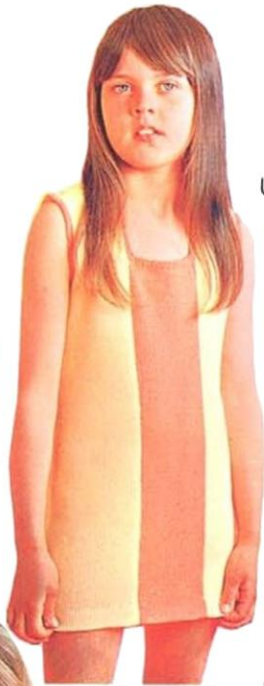
# HERE ARE SOME MORE EASY TO MAKE GARMENTS.

BEFORE PROCEEDING ANY FURTHER ON YOUR INSTRUCTIONS – TAKE YOUR CHOICE AND MAKE SOMETHING FROM THIS RANGE.





U-25



U-24



U-23



U-22



U-21



U-20

# KNITTING



STEP

**3**

This STEP will give you the last little hints and instructions you need to know to really use your new knitting machine to its best advantage. If something isn't perfect at the beginning don't be worried, have a little patience and try again, you'll see it is worthwhile.

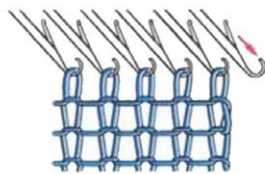
4 Different methods of increasing and Decreasing for shaping fully fashioned knitwear . . . . .	PAGE 51 – 53
Shaping a 'V' Neck . . . . .	54 – 56
Shaping a Round Neck . . . . .	57 – 59
Buttonholes . . . . .	60 – 64
Partial Knitting – Darts and Pockets . . . . .	65 – 68
Picot Edge Hem . . . . .	69
'V' Neck with pattern . . . . .	70 – 71
Slits for Zip Fasteners . . . . .	72
Pockets with pattern . . . . .	72 – 73
1 Plain, 1 Purl Rib . . . . .	74 – 77
'V' Neck Band . . . . .	78 – 79
Helpful Hints . . . . .	81

## INCREASING FOR FULLY FASHIONED KNITWEAR

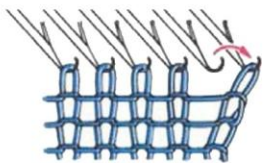
Previously I showed you the simple way to increase. Now you should try to make this fashioned effect increasing that you find on expensive knitwear in the shops. It is not difficult to make – it does require more time but the improvement in appearance is well worth the extra time. Another important advantage of the fully fashioned method is that after knitting it is very much easier and also quicker to sew up your pullover or dress – and, you will be absolutely thrilled with the professional results you get.

### FULLY FASHIONED INCREASING 1 STITCH AT A TIME WITH THE SINGLE TRANSFER TOOL

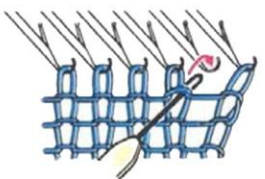
YOU MAY USE THIS METHOD TO INCREASE AT BOTH EDGES OF THE SAME ROW BUT – ONLY ONE STITCH AT A TIME.



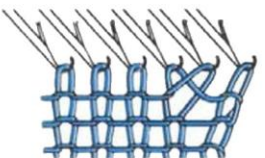
Bring one extra needle from A into B position on the side on which you wish to increase.



Transfer the end stitch outwards, onto this needle.



Pick up the bar of the row below of the second stitch and place it onto the empty needle.



One stitch has been increased.

## INCREASING 1 STITCH FULLY FASHIONED WITH THE TRIPLE TRANSFER TOOL

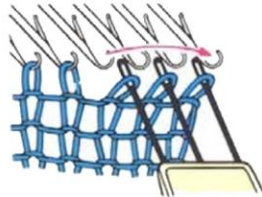


This method of increasing is used when you wish to make perfect RAGLAN shaping. Let's say you wish to increase one stitch on the right side.

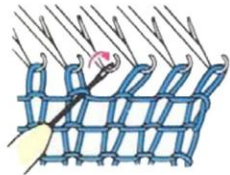


Bring 1 more needle on the RIGHT side from A to B position. Open the latches of the last 4 needles on the RIGHT

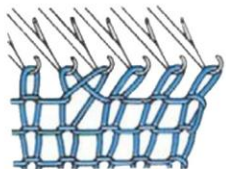
Hang the Transfer Tool into the hooks of the LAST 3 needles with stitches on. Pull the Transfer Tool towards you so that the needles come into D position. Push the needles back to A and then pull them slowly into B position.



Lift up the Transfer Tool with the three stitches and transfer the stitches one more needle outwards. The fourth needle inside the knitting is now empty.



Lift the fourth stitch of the previous row onto this empty needle.



You have now increased one stitch.

YOU CAN INCREASE THIS WAY ON BOTH SIDES OF THE SAME ROW – BUT ONLY 1 STITCH AT A TIME.

## DECREASING 1 STITCH FULLY FASHIONED WITH THE TRIPLE TRANSFER TOOL

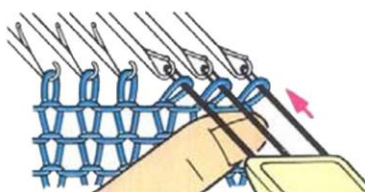


YOU MAY DECREASE ON BOTH SIDES OF THE SAME ROW.



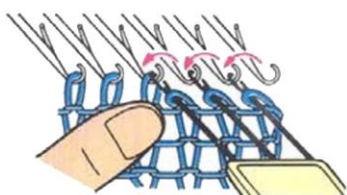
Knit a few rows. Open the latches of the last 4 needles on the RIGHT.

Hang the Transfer Tool into the last 3 needles from the RIGHT. Pull the needles out to D position.

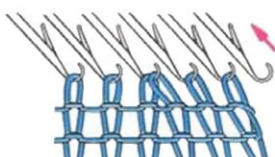


Push them back to A position and then pull them slowly into B position.

Lift the Transfer Tool out of the 3 needles, with the stitches on it.



Move the Transfer Tool one more needle towards the LEFT. Let the 3 stitches slide into the needle hooks.



The 4th needle now has 2 stitches and the first needle from the RIGHT is empty. Push the empty needle back to A position.

When decreasing for a 'V' neck or raglan shaping, this method of decreasing is very useful and most attractive.

## HOW TO SHAPE A 'V' NECK

This method is suitable when doing a 'V' neck on plain knitted fronts (stocking stitch).

The 'V' neck for a patterned pullover will be shown later in this book.

Set the Row Counter to 000, the carriage is on the RIGHT side of the machine.

Cast-on open edge 40 stitches, 20 stitches on either side of the centre 0.

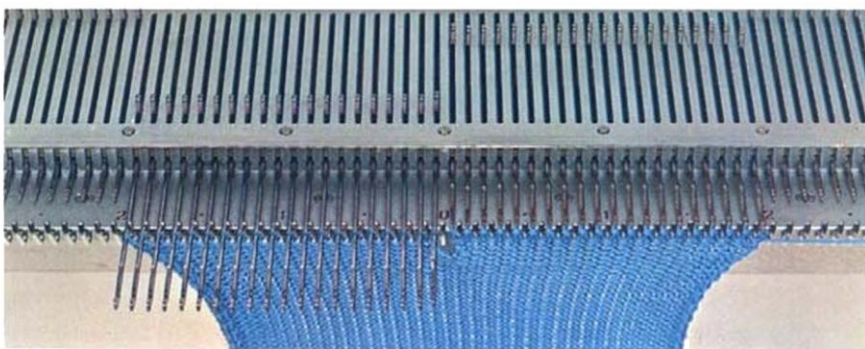
Knit 11 rows, finishing with the carriage on the RIGHT side of the machine.



Use the straight edge of the Needle Pusher to raise the 20 needles of the LEFT half from B to D position.

While pushing the needles to D position – hold the knitting against the machine as shown to ensure that all the stitches slide well behind the needle latches.

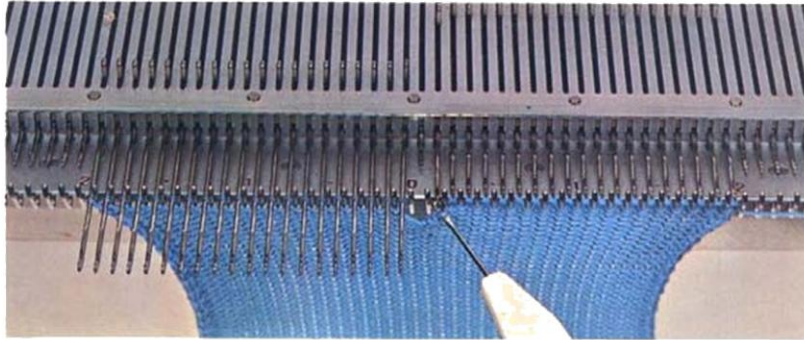
When you bring needles from B to D position – you must ALWAYS hold the knitting against the machine with your hand.



The needles which are in D position will not knit. Check both buttons P are UP.

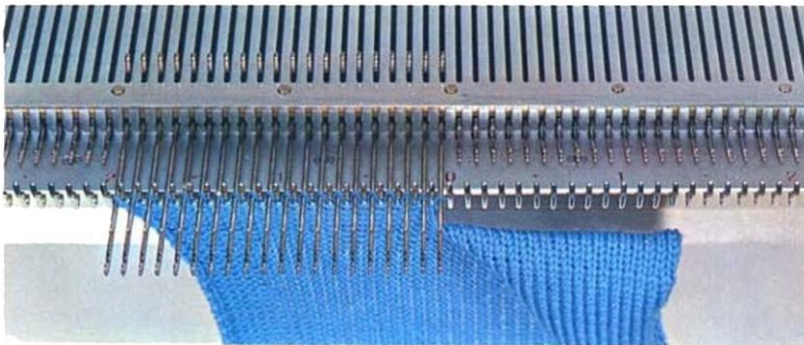
Knit 4 rows – you will notice that your carriage has knitted ONLY the stitches on the RIGHT side of centre which you left in B position. The needles on the LEFT have not been knitted, and in the centre of the knitting you have the opening for the 'V' neck.

## SHAPING THE 'V' NECK



We now start the decreasing for the 'V' neck at the neck edge of the RIGHT section.

Take the Transfer Tool, transfer the last stitch on the LEFT edge of the needles in B position onto its adjacent needle to the RIGHT. You have 1 empty needle on the RIGHT of centre – push the empty needle back to A position.



Knit 4 rows. Again transfer 1 stitch in the centre of the knitting towards the RIGHT. Continue knitting, 4 rows and transferring 1 stitch towards the right, until you have 10 needles left with stitches on the RIGHT side of centre. Knit 4 rows more and bind off the remaining stitches.

The Row Counter shows 56 – set it back to 12.



Now we are ready to knit the LEFT section of the 'V' neck.

Push all EMPTY needles well back to A position.

The carriage is on the RIGHT side of the machine.

Check that the Row Counter is on 12.

Press IN the 'P' button on the LEFT side of the carriage.



## SHAPING THE 'V' NECK



Re-thread the yarn through the Yarn Feeder and fasten the end onto the RIGHT side Table Clamp.

Check the yarn tension.  
Knit 4 rows.  
Press down button 'R' on the LEFT side of the carriage to release button 'P'.



Transfer 1 stitch on the RIGHT side edge onto the adjacent needle on the LEFT. Bring the empty needle back to A position. Knit 4 rows.  
Again transfer 1 stitch at the RIGHT side edge onto the adjacent needle on the LEFT.

Repeat knitting 4 rows and transferring 1 stitch at the RIGHT until you have 10 needles remaining in B position. Knit 4 rows and cast or bind off the last 10 stitches. The row counter shows 56.

Here you only learn the simple method of decreasing for the 'V' neck – later, if you wish, you can try the decreasing with the Triple Transfer Tool – this method gives the fully fashioned shaping effect to your 'V' neck.



This is how the 'V' neck should look if it has been knitted according to the above instructions. If it is different – then you better try it again until you have the same result.

Of course the 'V' neck is knitted in a very small size – but when knitting according to pattern instructions, you always get the required size. Each pattern instruction tells you how many rows to knit before you decrease for the 'V' neck.

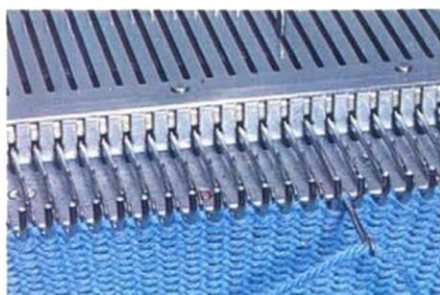
## KNITTING A ROUND NECKLINE

We are going to knit a ROUND neckline – which is also very easy to knit.

Set the row counter to 000. Make an open edge cast on over 40 needles and knit 29 rows with a suitable tension.

The carriage is at the RIGHT and the row counter shows 30.

Take a thread of yarn (matching colour) about 20 inches long and we will start the round neckline by binding (or casting) off the centre 10 stitches.



Push the 6th needle RIGHT of centre from B to D position. The stitch is BEHIND the needle latch. Lay the centre of the thread onto the EMPTY and OPEN needle hook. Pull the needle back to B position causing the thread to be knitted through the stitch.



Push the 5th needle RIGHT of centre to D position and lay the thread across the hook to be knitted in the same way as the 6th needle.

Transfer the stitch from needle 5 onto needle 4 on the RIGHT of centre. Push needle 4 to D position, causing both stitches to slide behind the latch. Lay the thread across the needle hook and knit it through both stitches.

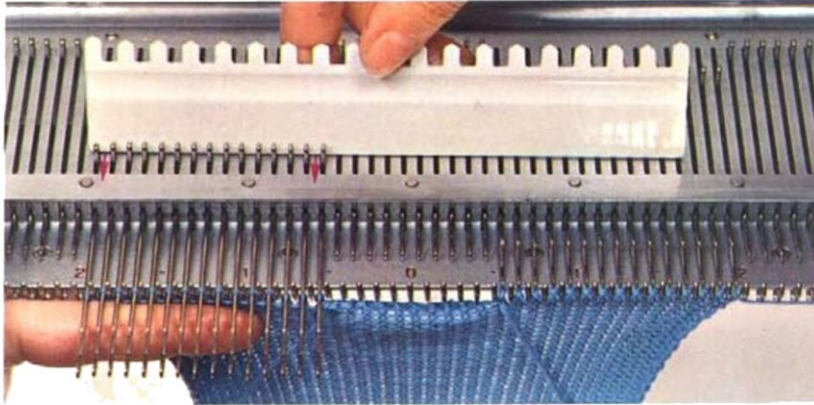


In this way, bind (or cast) off the 10 centre stitches until you have 2 stitches on needle 6 on the LEFT of centre. Knit the thread through these two stitches but leave the new stitch in the needle hook. Leave the rest of the thread hanging down in front of the knitting.

THE CENTRE OPENING FOR THE ROUND NECKLINE IS COMPLETED.

The carriage is at the RIGHT and the row counter shows 30. Bring the 10 empty centre needles back to A position. BOTH buttons 'P' are UP.

## SHAPING THE ROUND NECKLINE

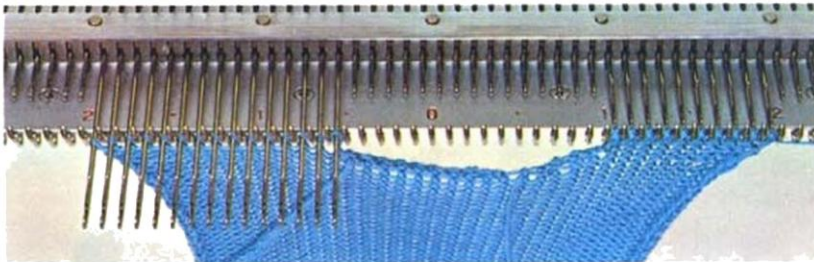


With the straight edge of the Needle Pusher bring the 15 needles LEFT of centre from B to D position.

Again we will first knit the RIGHT section and then the LEFT section of the neckline.

Knit 1 row to the LEFT. The Row Counter shows 31 and the needles on the RIGHT of centre have been knitted only.

To shape the neckline – bind or cast off 2 stitches on the left edge of the RIGHT section. Bring both empty needles back to A position.



Knit 2 rows, the Row Counter shows 33.

Bind off for the neckline 2 stitches.

Knit 2 rows, the Row Counter shows 35.

Decrease for the neckline 1 stitch.

Knit 2 rows, the Row Counter shows 37.

Decrease for the neckline 1 stitch.

Knit 2 rows, the Row Counter shows 39.

Decrease for the neckline 1 stitch.

Knit 2 rows, the Row Counter shows 41.

Decrease for the neckline 1 stitch.

Knit 4 rows, the Row Counter shows 45.

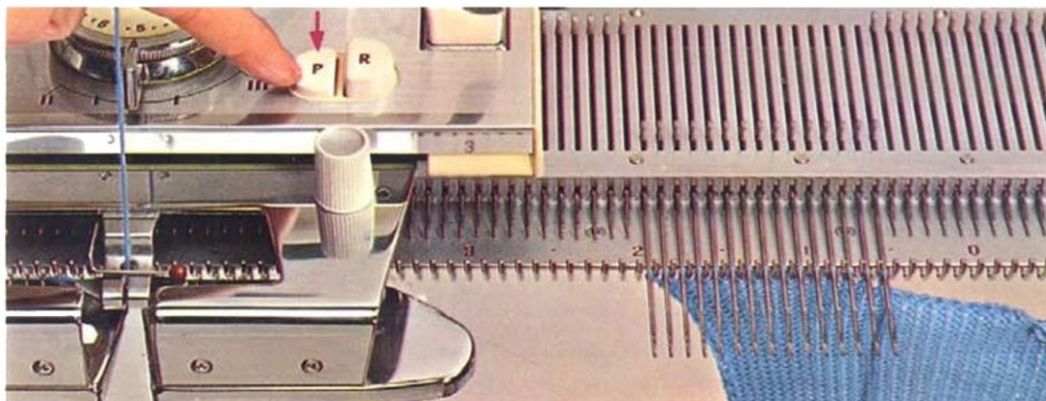
Decrease for the neckline 1 stitch.

Knit 4 rows, the Row Counter shows 49.

Decrease for the neckline 1 stitch.

Knit 15 rows, bind (or cast) off the remaining 5 stitches of the RIGHT section at one time. With the straight edge of the Needle Pusher bring ALL empty needles clearly into A position.

## SHAPING THE ROUND NECKLINE



Move the carriage towards the LEFT – well past ALL the needles in D position of the LEFT section.

Re-thread the yarn through the Yarn Feeder and fasten the end onto the LEFT side Table Clamp.

Set the Row Counter back to 30. Press IN button 'P' on the RIGHT side of the carriage.

Knit 1 row, the Row Counter shows 31.

Bind (or cast) off for the neckline 2 stitches at the RIGHT edge of the LEFT side section.

Knit 2 rows, the Row Counter shows 33.

Bind (or cast) off for the neckline 2 stitches.

Knit 2 rows, The Row Counter shows 35.

Decrease for the neckline 1 stitch.

Knit 2 rows, the Row Counter shows 37.

Decrease for the neckline 1 stitch.

Knit 2 rows, the Row Counter shows 39.

Decrease for the neckline 1 stitch.

Knit 2 rows, the Row Counter shows 41.

Decrease for the neckline 1 stitch.

Knit 4 rows, the Row Counter shows 45.

Decrease for the neckline 1 stitch.

Knit 4 rows, the Row Counter shows 49.

Decrease for the neckline 1 stitch.

Knit 15 rows – bind (or cast) off the remaining 5 stitches at one time.

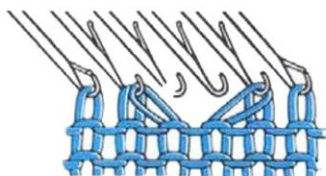


Your first ROUND neckline is now complete.

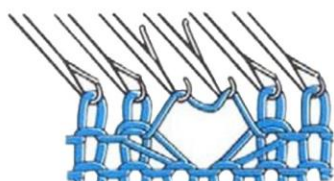
## BUTTONHOLES FOR SMALL BUTTONS

If you are using a thin yarn, your buttonhole over 2 needles will be quite small. Yarn knitted on Tension 5 will give about 1/4 inch buttonholes. Thick yarn knitted on Tension 10 will give a buttonhole of about 1/2 inch.

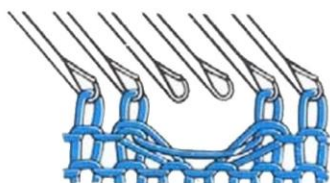
Decide the position of the buttonhole.



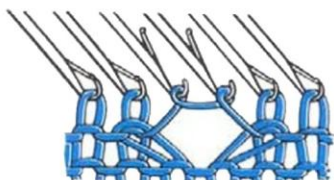
Where buttonhole is required – transfer 1 stitch to the adjacent needle on the LEFT and one stitch to the adjacent needle on the RIGHT, using the single Transfer Tool.



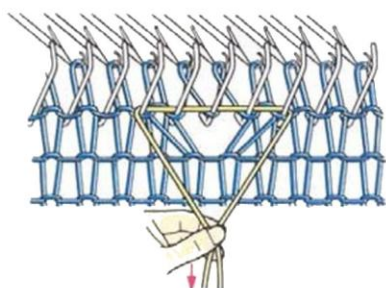
Knit 1 row.  
The yarn lies loosely over the 2 empty needle hooks.



Bring up both needles to D position and then back to B leaving a loose thread in front of the knitting.



Bring the left needle a little to the front, just out of the Sinker Gate, open the latch so that you are able to wind the yarn in an anti-clockwise direction around it. Pull the needle back into B position. Repeat the same with the second needle.



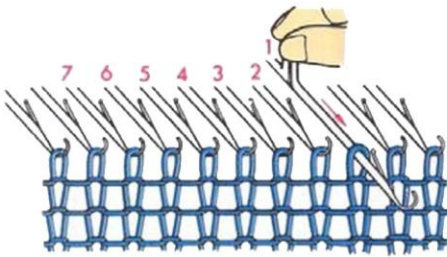
Lay the Nylon Thread across the loops of these 2 needles and the adjacent needles on the right and left side – between the needle hooks and sinker gate.

Pull both ends of the Nylon Thread gently down and knit a few rows.

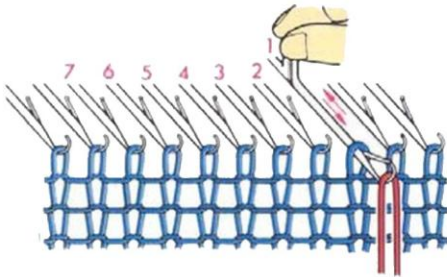
Pull out the Nylon Thread. Continue knitting a few rows and repeat the buttonhole where required.

## LARGE SINGLE BUTTONHOLE

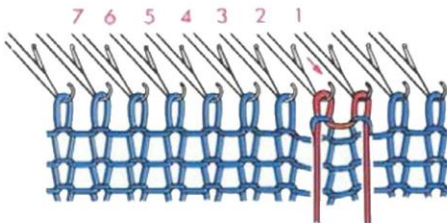
To make this buttonhole you will need a thread about 10 inches long of the same yarn as you are knitting with. I show it knitted with red yarn to make the instruction easier to follow. Decide the position of your buttonhole – you will knit it over 7 needles. In the diagram I number them from 1 to 7.



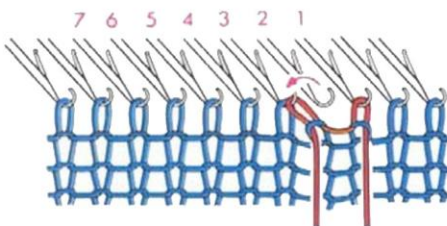
Push needle 1 from B to D position. The stitch will slide behind the latch and the hook is empty.



Hang the loose thread of yarn in the empty hook and pull this needle back into B position. You have now knitted 1 stitch by hand with needle 1.

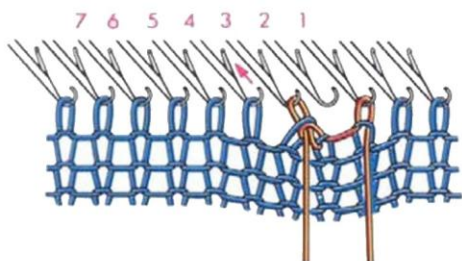


Push needle 2 into D position and knit in the thread again.

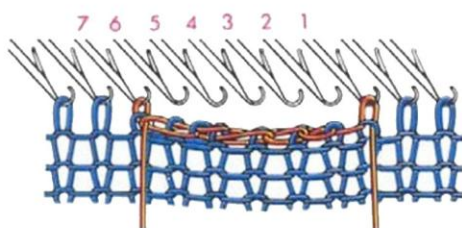


Now transfer the new stitch from needle 2 onto needle 3. Push needle 3 (which has 2 stitches) into D position.

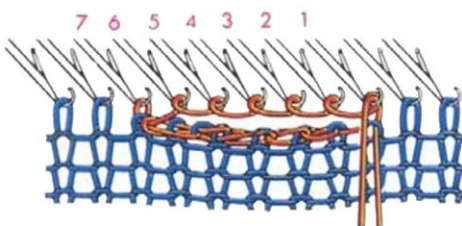
## LARGE SINGLE BUTTONHOLE



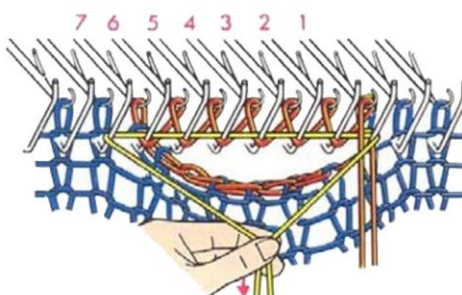
Lay the yarn across the empty hook and pull needle 3 back into B position. You have pulled the yarn through both stitches.



Transfer the stitch of needle 3 onto needle 4, bring needle 4 up to D position and continue binding (or casting) off stitches until 5 needles are empty and a new stitch is on needle 7.



The 5 empty needles are in B position. Open the latches of these needles. Bring needle 6 a little to the front, just out of the Sinker Gate and wind the yarn in anti-clockwise direction LOOSELY around it. Pull the needle back to B position. Repeat with needle 5, 4, 3, 2 and 1.



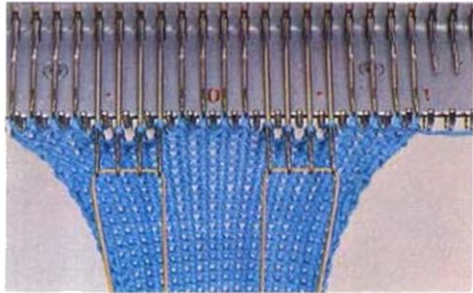
Take the Nylon Thread and lay it across the loops of the 7 needles, between the needle hooks and the Sinker Gate. Pull the Nylon Thread down firmly at both ends and knit 2 rows. Pull out the Nylon Thread. Your buttonhole is now completed.

This buttonhole may be knitted as wide as you wish – and it is suitable for a separately knitted cardigan band.

For a jacket or cardigan band, cast on 20 needles closed edge by hand and knit 20 rows.

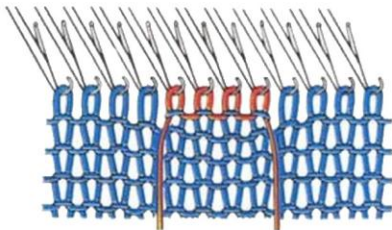


Starting from the RIGHT – bring the needles 5 to 8 and 13 to 16 from B to D position.

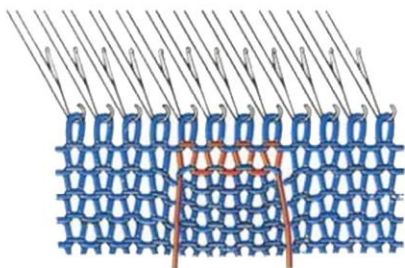


In the picture you see the yellow Nylon Thread lying across the needles – but you should use a contrast yarn.

Lay the contrasting thread of yarn over each block of 4 needles in D position. Hold the threads down while carefully pushing the 2 groups of needles back from D to C position until the needle latches close over the thread.



Let the contrast yarn hang down and starting with the first needle from the RIGHT in C position, push them back – one by one, to B position.

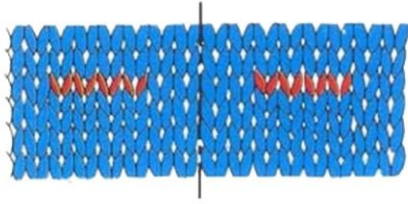


Knit 1 complete row. The contrast colour yarn should now be knitted in as shown in this illustration.

Knit the required number of rows and repeat the buttonhole.

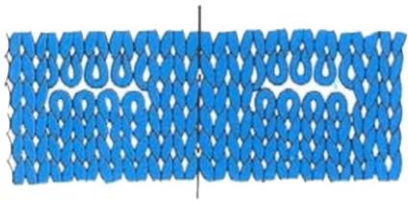


## FINISHING FOR DOUBLE BUTTONHOLES



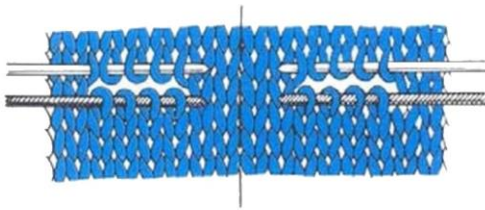
The dotted line shows where the cardigan band will be folded back.

The stitches shown in red are those which you knitted in by hand as shown on the previous page.

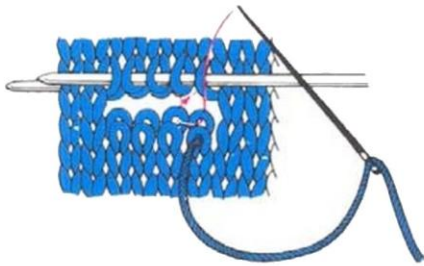


Steam your cardigan band lightly as this makes it much easier to make a good buttonhole and the stitches do not unravel so easily.

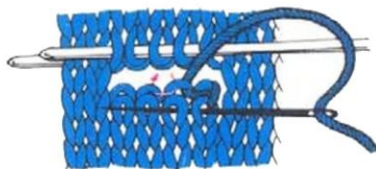
Pull out the 2 pieces of contrast yarn and the buttonhole stitches are open as shown.



Insert needles to hold the stitches.



Fold the buttonhole band in the centre.

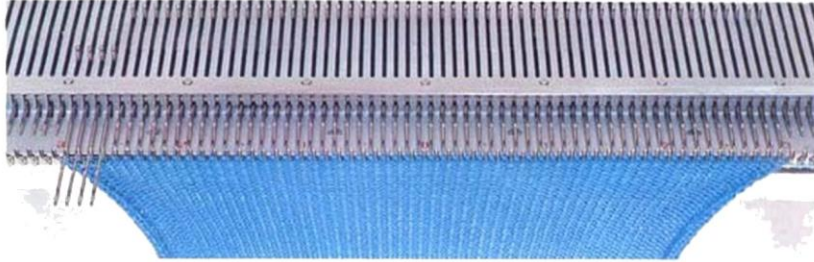


With a thread of matching yarn, sew up the buttonhole as shown in the diagram, starting with the bottom edge.

## PARTIAL KNITTING – DARTS USING STOCKING STITCH

Partial Knitting means knitting on selected groups of needles while the remaining needles do not knit.

Partial Knitting has a wide variety of practical uses – such as knitting darts, pockets, circular flared skirts, circular table mats, bonnets and many other things.



Make an automatic closed edge cast on over 60 needles and knit a few rows, finishing with the carriage at the RIGHT. ALL buttons must be UP.

Push 4 needles on the LEFT side edge of your knitting from 'B' to 'D' position. Knit 1 row towards the LEFT.



You will notice that the 4 needles in 'D' position on the LEFT side have not been knitted and the yarn lies on top of the needles. Take the yarn UNDER the 4th needle inside the knitting and let it lie over the other 3 needles in 'D' position. Now push 4 needles on the RIGHT side from 'B' to 'D' position, knit 1 row towards the RIGHT.

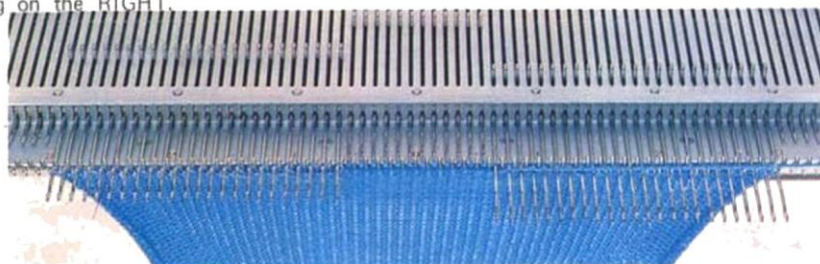


Take the yarn under the 4th needle inside the knitting on the RIGHT and on top of the other 3 needles in 'D' position. On the LEFT – bring 4 more needles from 'B' to 'D' position.

## PARTIAL KNITTING – DARTS



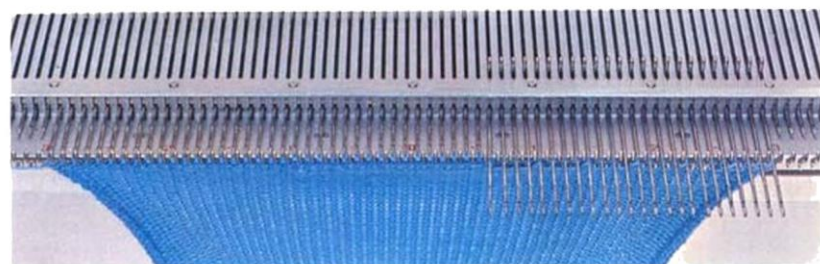
Knit 1 row towards the LEFT. Take the yarn UNDER the 8th needle inside the knitting in 'D' position and let it lie on top of the other 7 needles. Bring 4 more needles on the RIGHT into 'D' position. Knit 1 row. Take the yarn UNDER the 8th needle inside the knitting on the RIGHT.



Proceed as above until you have 12 needles in the centre of the knitting left in 'B' position. The carriage is on the RIGHT and every 4th needle in 'D' position has two loops.

Using the straight edge of the Needle Pusher, bring the needles on the LEFT from 'D' position exactly and carefully back to 'C' position. Knit 1 row to the LEFT.

When doing partial knitting, you do not need to move the carriage past all the knitting after each row – just past the needles knitting in 'B' position – otherwise the yarn tension gets too loose and this could cause dropped stitches.



The needles from 'C' position are knitted back to 'B' position. The carriage is on the LEFT side of the machine. Press IN button 'P' on the RIGHT side of the carriage. Knit 1 row. Press IN button 'R' on the RIGHT side of the carriage. Knit another 8 or 10 rows, finishing with the carriage on the RIGHT side of the machine. You will see quite clearly where the darts have been knitted.

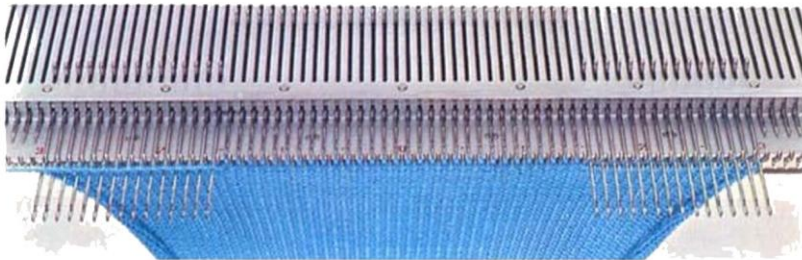
**NOTE :** When knitting darts in pattern knitting, the stitches must be held with the Nylon Thread. Instead of bringing the needles up to 'D' position, each needle must be brought back to A position using the Nylon Thread, but this I will show later in this book.

## POCKETS

Cast on 60 needles, open edge, and knit 21 rows, finishing with the carriage on the RIGHT side of the machine. ALL buttons must be UP.



With the straight edge of the Needle Pusher, push 15 needles on the LEFT side edge from 'B' to 'D' position. Set the Row Counter out of action. Knit 1 row towards the LEFT. The 15 needles on the LEFT side in 'D' position have not knitted.



The yarn lies on top of the 15 needles on the LEFT side in 'D' position. With the straight edge of the Needle Pusher, push 15 needles on the RIGHT side edge from 'B' to 'D' position. This leaves 30 needles in the centre in 'B' position and these 30 needles will be the width of your pocket. If you wish your pocket to be narrower or wider, leave more or less needles in the centre in 'B' position.



Knit 80 rows or more, depending on how deep you want the pocket to be. You must finish with the carriage on the RIGHT side. You will have to count the rows as the Row Counter is out of action.

## POCKETS



The carriage is on the RIGHT side. Using the straight edge of the Needle Pusher, push the 15 needles on the LEFT side edge carefully back to 'C' position. Knit 1 row towards the LEFT.



The carriage is on the LEFT and the 15 needles on the LEFT side have been knitted back to 'B' position.

Press button 'P' on the RIGHT side of the carriage, knit 1 row towards the RIGHT.  
Press button 'R' on the RIGHT side of the carriage. All needles are now knitted back to 'B' position.

Set the Row Counter Tripper back into action and knit a few more rows, finishing with the carriage on the RIGHT side of the machine.



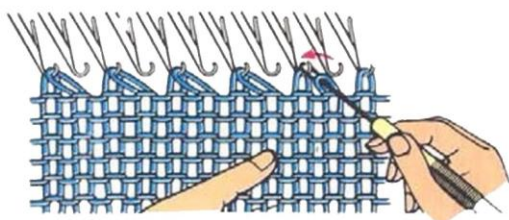
If you pull the knitting of the pocket towards the front — you will see that only the side edges will need to be sewn up later to close the pocket completely.

## THE PICOT HEM



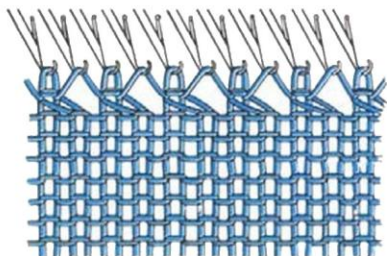
The picot edge hem is similar to the circular hem. The difference is that you do not knit the row with the larger stitch size, instead you transfer every second stitch onto its adjacent needle and then knit the same number of rows as before transferring.

The transferring of the stitches gives the attractive scalloped edge when you fold up the hem.

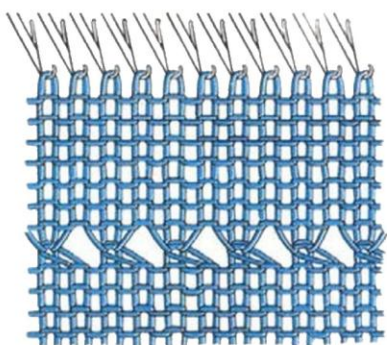


With waste yarn make an open edge cast on over 40 needles and knit a few rows, finishing with the carriage at the LEFT. Knit in the Nylon Thread from LEFT to RIGHT.

Knit 7 rows with the main colour and now transfer every second stitch onto its adjacent needle to the LEFT. The empty needles MUST remain in 'B' position.



Knit 1 row from LEFT to RIGHT, your knitting now looks like this.



Knit 6 more rows. Lift up the hem as explained on page 34 and pull the Nylon Thread out of the knitting.

## KNITTING A 'V' NECK WITH PATTERN

This method of knitting a 'V' neck is suitable when you are knitting the pullover with a fancy stitch pattern. For the ROUND neckline use the same method of taking the needles out of action.

Make a closed edge cast-on over 40 needles and knit a few rows, finishing with the carriage on the RIGHT side of the machine.

NOW, when you are knitting patterns, you MUST note with which pattern setting you start to knit the 'V' neck so that you can start the second half with the same pattern setting.

ALSO, you MUST note the number of rows, so that the Row Counter can be set back to the same number of rows before you start the second half.



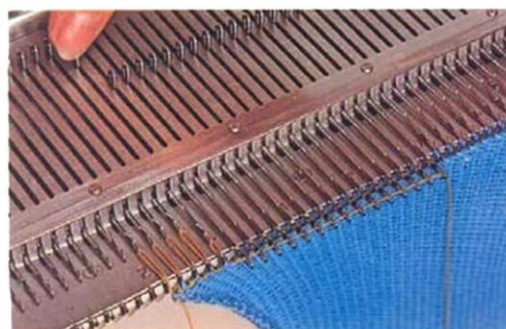
Hold the knitting against the machine with your LEFT hand. With the straight edge of the Needle Pusher, bring the 20 needles on the LEFT of the centre from 'B' to 'D' position. Open all the latches of the needles in 'D' position.



Lay the centre of the Nylon Thread across the OPEN latches of the needles in 'D' position.

Use the straight edge of the Needle Pusher and move all needles carefully from 'D' to 'C' position JUST until ALL latches close over the Nylon Thread.

Pull the Nylon Thread towards the RIGHT until 3 or 4 inches are hanging down on the LEFT side of the 20 needles in 'C' position.



Starting with the FIRST needle from the LEFT – pull the needles ONE by ONE from 'C' position back to 'A' position. This will cause a big loop of Nylon Thread in each needle.

The needles which you bring back to 'A' position this way are all OUT OF ACTION.

## KNITTING A 'V' NECK WITH PATTERN



Continue until all 20 needles on the LEFT of centre are in 'A' position. In this position they will NOT knit and you will therefore be able to knit any one of the various patterns.

The carriage is on the RIGHT. Pull down any slack yarn from behind the Yarn Brake.

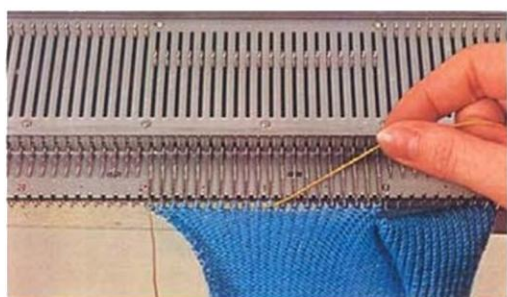


Knit 4 rows. Decrease for the 'V' neck 1 stitch from the centre towards the RIGHT. Bring the empty needle back to A position. Knit 4 rows. Repeat the decreasing for the 'V' neck after every 4th row until 10 stitches remain on the RIGHT side. Bind (or cast) off these 10 stitches. Bring ALL empty needles back to 'A' position.



Thread the yarn through the Yarn Feeder and fasten the end onto the RIGHT side Table Clamp.

Now you must bring the needles from 'A' position back to 'B' position with the big Nylon loops. Therefore, pull the Nylon Thread outwards on both sides of the needles – they will be pulled forward from 'A' to 'B' position.



Hold the Nylon Thread on the LEFT side and from the right side pull the Nylon Thread up and out of the needles, thus leaving the loops of yarn in the needle hooks.

When knitting a pocket or a dart in a garment with patterning, use the same method to bring the needles which should not be knitted back from 'B' to 'A' position, by using the Nylon Thread as shown above.

Set the machine up for the pattern, reset the Row Counter to the number noted before, and continue knitting the second half of the 'V' neck.



## SLITS FOR ZIP FASTENERS



In case you want to knit a slit for a zip fastener, use the same method to separate the knitting in the centre as used for the 'V' neck.

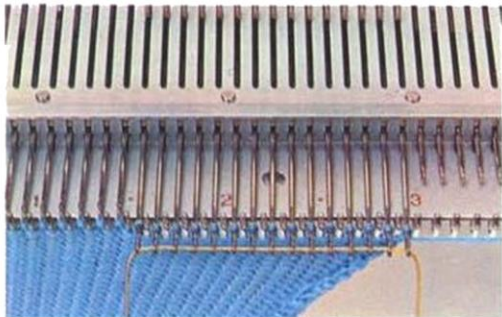
Bring the needles of the LEFT side section into 'D' position when knitting plain stocking stitch and into 'A' position when knitting stitch patterns.

The LEFT and also the RIGHT section are knitted without decreasing – only straight – until you reach the neckline.

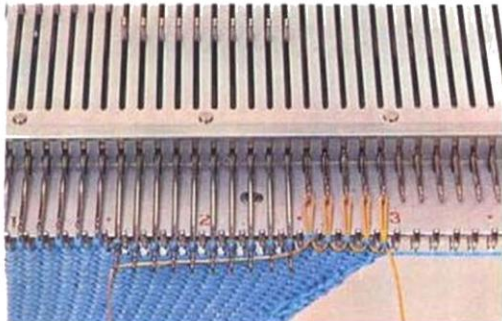
## HOW TO KNIT A POCKET IN STITCH PATTERNS

Cast-on 60 stitches open edge, knit about 21 rows, finishing with the carriage on the RIGHT side of the machine.

Of course, you will knit this pocket in plain stocking stitch like all the other things – I would just like you to try out the method before you knit it in a garment.



Bring the first 15 needles on the RIGHT side from 'B' to 'D' position. Open all the needle latches. Lay the Nylon Thread across the open needle hooks. With the straight edge of the Needle Pusher bring these needles from 'D' to 'C' position until all latches close on top of the Nylon Thread.



Pull the Nylon Thread from the LEFT side – leaving about 3 inches hanging down from the RIGHT side of the knitting. Starting with the FIRST needle from the RIGHT - push all 15 needles ONE BY ONE from 'C' to 'A' position, making a big loop with the Nylon Thread in each needle.

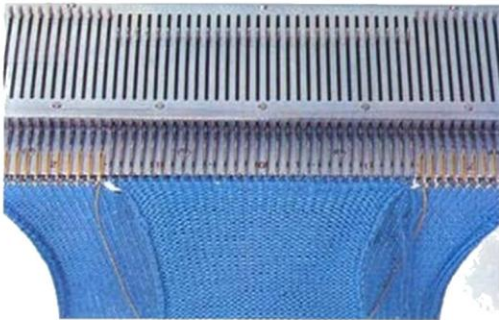
## KNITTING A POCKET IN STITCH PATTERN



Once the needles on the RIGHT are in 'A' position bring 15 needles on the LEFT side from 'B' to 'D' position and open the latches. Lay the Nylon Thread across the open hooks of the needles in 'D' position.

With the straight edge of the Needle Pusher bring the needles on the LEFT from 'D' to 'C' position, until the latches close over the Nylon Thread. Pull the Nylon Thread from the RIGHT side leaving about 3 inches hanging down on the LEFT side of the knitting.

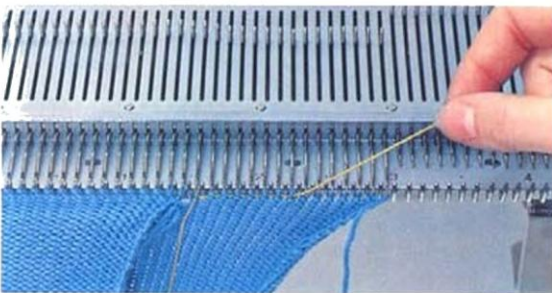
Starting with the FIRST needle from the LEFT, push the needles ONE by ONE back into 'A' position from 'C'. ALWAYS start pushing them back to 'A' position at the side edges of the knitting. Leave 3 inches of Nylon Thread hanging down on each side of the pocket – this gives you enough Nylon Thread in front of the pocket. It should never be tight in front of the pocket if it is, the needles which are in 'A' position on the edges of the pocket may slowly slide into 'B' position while knitting, thus causing you trouble.



Set the Row Counter tripper out of action and note the pattern setting for the next row. Break the yarn below the carriage and leave 10 inches hanging down from the knitting. Fasten the new end onto the right side table clamp.

Knit about 80 rows, finishing with the carriage on the RIGHT side beyond the knitting. Now you must count the rows as the Row Counter is out of action.

You do not need to move the carriage beyond the knitting for each row – just past the needles in 'B' position, otherwise your yarn loses tension and loose loops or dropped stitches at the edges of the pocket will be the result.



Again break the yarn and leave 10 inches hanging down from the knitting. Bring the 15 needles on the RIGHT side back into 'B' position by holding both ends of the Nylon Thread and pulling them outwards at the same time. Then you pull the stitches back in the needle hooks as explained before.

Repeat the same with the 15 stitches on the LEFT side.

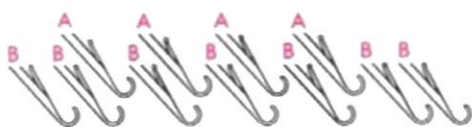
Set the row counter back in action and reset your pattern and continue knitting your garment.

## 1 PLAIN, 1 PURL RIB

This method of knitting Rib Welts is now very seldom used. It is not nearly as elastic as the new type of Double Welts shown previously and it is also inclined to 'fan' out of shape and breaks too easily on the edges.

It is suitable for Bulky Yarns and with a little practice it is fun and quick to do.

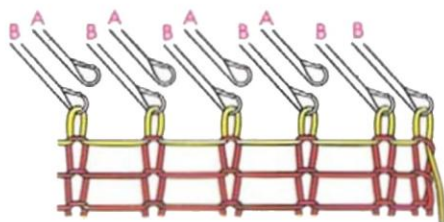
With the straight edge of the Needle Pusher bring 21 needles on the LEFT and 21 needles on the RIGHT of centre from 'A' into 'B' position.



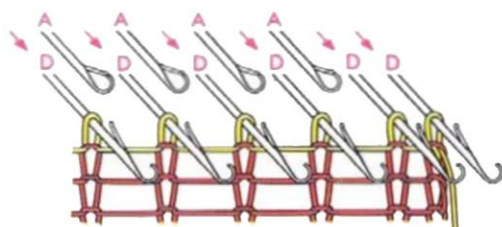
Starting at the third needle from the RIGHT, bring every second needle back to 'A' position, using the 1 x 1 edge of the Needle Pusher. Push one extra needle on the LEFT side from 'A' to 'B' position so that there are 2 needles in 'B' position on each side edge.



With waste yarn make an open edge cast on and knit 10 rows, finishing with the carriage at the LEFT. Break the yarn and remove the waste yarn from the Yarn Brake and Yarn Feeder.

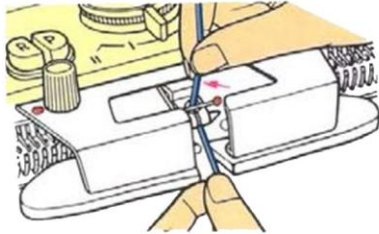


Thread the Nylon Thread into the Yarn Feeder and Knit 1 row towards the RIGHT. Remove the Nylon Thread from the Yarn Feeder.

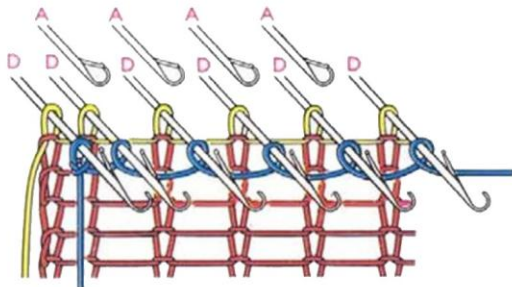


While holding the fabric against the machine with your left hand, bring the needles from 'B' to 'D' position, using the straight edge of the Needle Pusher.

## 1 PLAIN, 1 PURL RIB

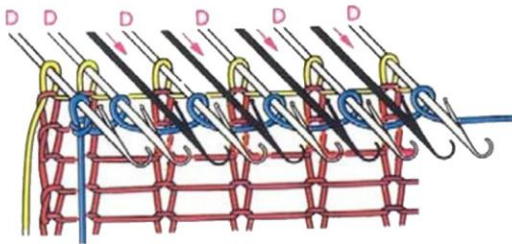


The carriage is on the RIGHT side of the Knitting.  
Thread the main colour through the Yarn Brake and the Yarn Feeder.

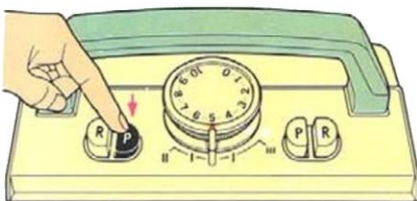


Pull a little yarn from below the Feeder and tie a loose knot around the LAST needle on the LEFT in 'D' position.

Wind the yarn loosely in anti-clockwise direction around the needles. As you wind the loops, push them behind the latches at the same time.

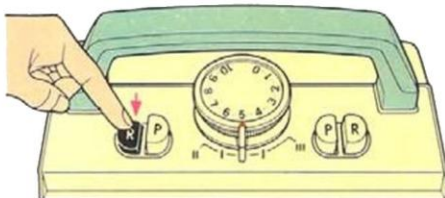


When all needles in 'D' position have a loop pull the yarn down behind the Yarn Brake. With the straight edge of the Needle Pusher bring the rest of the needles of the rib from 'A' up to 'D' position.



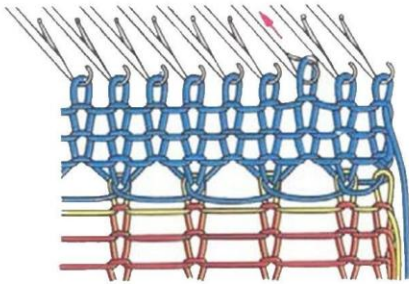
Turn the Tension Dial to 5.  
Push IN button 'P' on the LEFT side of the carriage.

Knit 1 row slowly from RIGHT to LEFT.



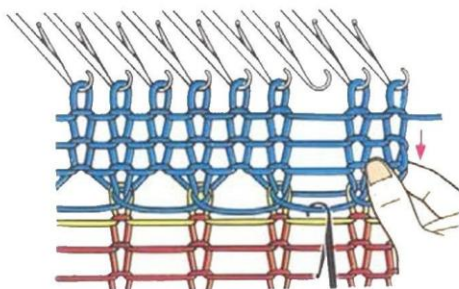
Push IN button 'R' on the LEFT side of the carriage.  
Knit 17 rows – finishing with the carriage on the RIGHT side of the knitting.

## 1 PLAIN, 1 PURL RIB



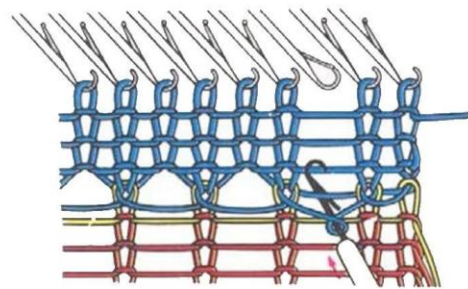
We are now ready to purl up the Rib, for this you will need the Latchet Hook.

Push the third needle from the RIGHT up to 'D' position, back to 'A' position and up to 'B' position. The stitch is removed off the needle.



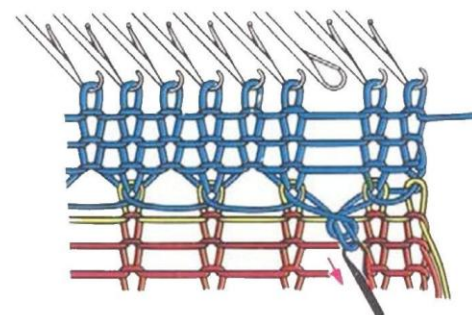
Hang the Latchet Hook on the FIRST bar of yarn on the RIGHT side, after the Nylon Thread.

Hold the fabric by the waste yarn below the third stitch from the RIGHT and pull down – this enables the third stitch to run down until it reaches the Latchet Hook.



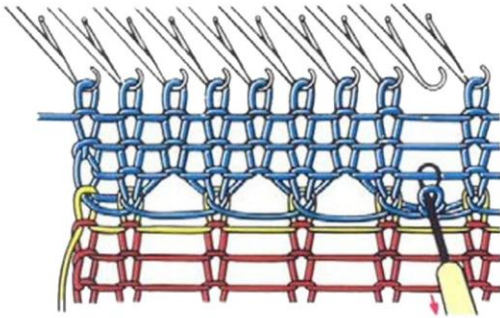
Twist the Latchet Hook until a loop is formed around the stem of the Hook.

Push the Latchet Hook upwards until the loop is behind the latch and the second bar of yarn lays INSIDE the hook.

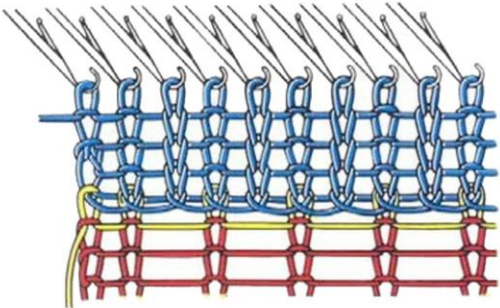


Pull the Latchet Hook down until the second bar is pulled through the loop which is behind the latch.

## 1 PLAIN, 1 PURL RIB



Again push the hook forwards until the stitch is BEHIND the latch.  
Catch the next bar of yarn and pull it through the loop.  
Repeat this process until all the bars of yarn have been knitted up and hang the last loop back onto the empty needle.  
Your first PURL Rib is now completed.



Miss 1 needle and lift the next stitch out of its needle.  
Repeat working up the stitches until every second stitch has been purl up.  
DO NOT purl up the last stitch on the LEFT or RIGHT edge as these stitches are sewn up to make the seam.

## 1 PLAIN, 1 PURL RIB WITH BULKY YARN

With waste yarn make an open edge cast on over every second needle.  
Knit a few rows, finishing with the carriage at the LEFT.

Knit in the Nylon Thread from LEFT to RIGHT. Holding the knitting against the machine, bring up the needles from 'B' to 'D' position.  
Thread in the main yarn. Make a loose knot around the last needle on the LEFT and wind the yarn around the other needles in 'D' position.

DO NOT BRING THE REST OF THE NEEDLES FROM 'A' TO 'D' POSITION.

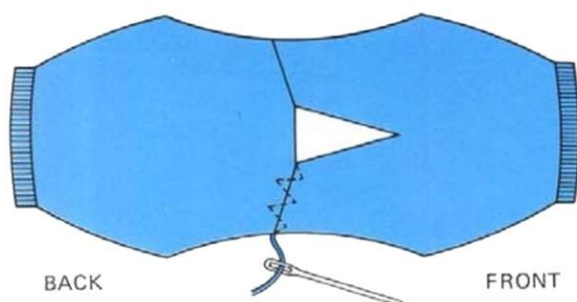
Push IN button 'P' on the LEFT. Knit 20 rows with a tension suitable for the yarn. Push IN button 'R' on the LEFT.

Take the stitch OFF the SECOND needle in 'B' position on the RIGHT.  
Pull a little on the knitting to enable the stitch to run down until it reaches the Nylon Thread. Hang the Latchet Hook in the first bar after the Nylon Thread. Purl up the stitch and hang it back onto the empty needle in 'B' position. Repeat with every SECOND needle in 'B' position.

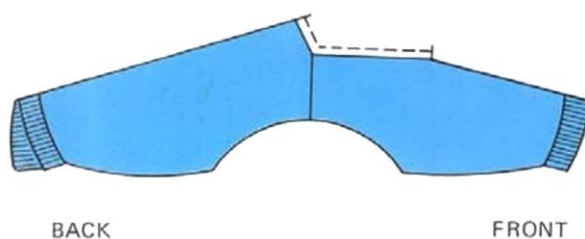
## HOW TO KNIT A 'V' NECK BAND

To knit a DOUBLE 'V' NECK BAND is very easy and simple to do. Of course, if you make it for the first time the result may not be as perfect as shown in the picture, but it will not take long until you get the same result.

There are a few different methods of knitting 'V' neck bands and this instruction shows you how to make the one which is most often used and the easiest to do. At the same time it gives the neatest finish in the front of your garment.

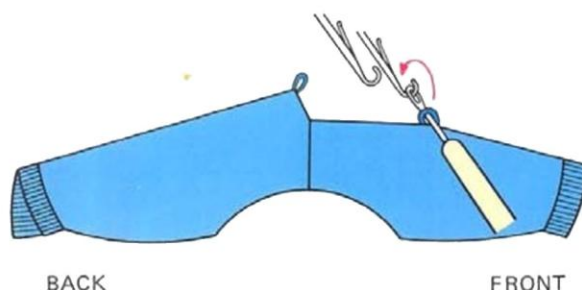


When the front and the back of the garment are knitted and steamed — sew up the shoulder seams and steam them lightly.



Fold the knitting in half as shown, wrong side facing you. Measure the length of the neck as shown by the dotted line. Let's say it is 16 inches long. To make out the length of the neck, we use the following tension chart:

2 inches give	11 stitches
	15 rows



For 16 inches you will need to cast on 88 stitches. Bring the 88 centre needles up to 'B' position. Move the carriage towards the LEFT. Hang the first stitch of the 'V' neck point onto the last needle on the RIGHT and the centre stitch of the back onto the last needle on the LEFT, in 'B' position.

Now hang all the loops of the first half of the 'V' neck onto the remaining 86 needles, dividing them evenly, so that the knitting is not stretched in one place and bunched up in another.

You are now ready to knit the first half of the 'V' neck band. Set the Tension Dial to 4 and the Row Counter to 000. On the carriage ALL buttons are UP.

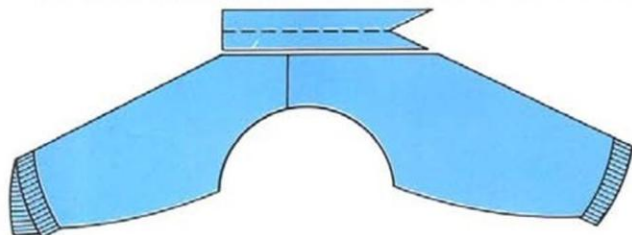
If you wish the neck band to be about 1.1/2 inches wide — with the normal tension you would need to knit 11.1/2 rows, but with the smaller tension you can knit 13 rows for one half of the double neck band.

## KNITTING A 'V' NECK BAND

Knit 2 rows. Transfer the 2 end stitches at the RIGHT one needle to the LEFT. Bring the empty needle back to 'A' position. Repeat knitting 2 rows and transferring the 2 end stitches until 13 rows have been knitted.

For the second half, you INCREASE instead of decreasing stitches at the right side edge. Move the last stitch at the RIGHT one needle towards towards the RIGHT. Pick up the second loop of the previous row and move it onto the second needle which is empty.

Repeat knitting 2 rows and increasing 1 stitch at the RIGHT side edge until 25 rows have been knitted. Knit 1 row on tension 8 and bind or cast off all stitches.



Your knitting will now have this shape. At the RIGHT side edge you have the point for the 'V' neck shaping.

Move the carriage to the RIGHT side of the machine – set the Tension Dial to 4 and the Row Counter to 000.

Hang the second half of the neck band onto the 88 needles, but this time the 'V' neck point is on the LEFT side edge of the knitting, the purl side still facing you.

Knit 2 rows. Decrease and increase after every second row, the same as for the first half, but on the LEFT side of the knitting. Knit row 26 with Tension 8 and bind (or cast) off all stitches.

When both parts of the neck band are knitted, steam them lightly. Start sewing together the 'V' neck beginning with the 2 bottom stitches at the neck point. Then sew together the back seams. Turn the neckband to purl side and backstitch around the neckline. Take care that the sewing does not show through on the right side of the garment.



There are many different types of neck bands and also many different ways to shape a 'V' neck. The more you practice them, the quicker you will be able to give extra excitement to your garment.



# KNITTING

All beginners make mistakes.  
It is part of the process of  
learning, and not at all serious

## BECAUSE

in the following STEP I show  
you how these mistakes could  
have happened - and I also tell  
you how you can easily over-  
come and repair them.



Helpful Hints . . . . .	PAGE 81 - 88
Stitch Sizes (Tension) . . . . .	89 - 90
Knitting to measure . . . . .	91 - 93
The Push Buttons and Pattern Dial . . . . .	94 - 96
How to change a needle . . . . .	97

## HELPFUL HINTS

### CASTING-ON PROBLEMS:

When you cast-on it is always best to cast-on with a very loose tension, i.e. from 7 upwards.

This gives you a large loop between the gate and the needle hook and when you lay your Nylon Thread across these loops, it is easy for you to pull the thread well down below the needle hooks thus enabling the hooks to pass OVER THE NYLON THREAD of your next row.

If the first row of stitches is too tight or if you do not pull the Nylon Thread well down, then when you knit your next row the needles will incorrectly pass UNDER THE NYLON THREAD causing it to be 'knitted in' thereby either jamming your carriage or spoiling your cast-on. In this case you will have to restart the casting-on.

### STITCHES ARE NOT KNITTED ON THE SIDE:

If you return the carriage BEFORE IT HAS PASSED THE LAST NEEDLES IN 'B' POSITION BY SEVERAL INCHES, it can happen that the first stitches of the row are not knitted and sometimes it may happen that a complete row is not knitted. In the case that stitches are not knitted, unravel this row and re-start it again – also set the row counter back. If a complete row is not knitted – slide the carriage completely off the needle bed and re-start from the other side – also set the row counter back.

### DROPPED STITCHES ON THE SIDE:

Dropped stitches will occur on the sides of your knitting if your Yarn Brake is not properly threaded and your take-up spring 'S' is not automatically taking up all slack yarn between the feeder mouth and the needles. Loose loops may also form on the sides.

Dropped stitches or loose loops may occur at the sides of your knitting if you move your carriage too far past the knitting after knitting a row – then too much yarn is pulled from the Yarn Brake and you have slack yarn between the carriage and the knitting.

This is easily avoided if you just pull back any slack yarn behind the Yarn Brake (Page 17).

### DROPPED STITCHES IN THE CENTRE:

can be caused by:  
Too loose or too tight a tension.  
A tension unsuitable for the pattern.  
Yarn not suitable for the pattern.

## USEFUL HINTS

Inside your Sinker Arm are two rectangular black brushes. As you move your carriage, these brushes brush open and hold open your needle latches so that your yarn feeder can lay yarn into the hooks as the carriage passes the needles.

If these brushes are badly worn, or if your Sinker Arm has not been placed into the carriage properly, then the brushes cannot serve their function and dropped stitches will result. Dropped stitches are easy to repair (see the next Pages).

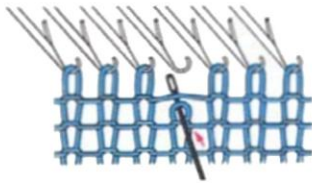
### DROPPED STITCHES:

These can be caused by a knot in the yarn, or by yarn which has been badly or too tightly wound, thus preventing the smooth flow of yarn from the ball to the knitting.

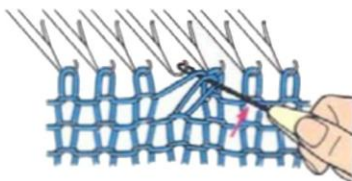
### HOW TO REPAIR A DROPPED STITCH

Once you are accustomed to machine knitting, you will very seldom drop a stitch.

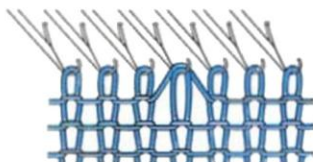
But as soon as you notice a dropped stitch, you should repair it at once. So, let's try –



Insert the Transfer Tool inside the dropped stitch.

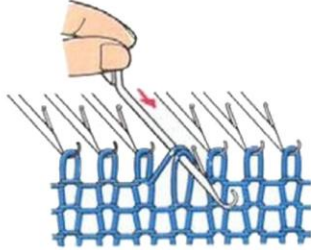


Hook the Transfer Tool into the empty needle. Lift the loose bar of yarn and the stitch onto the empty needle.

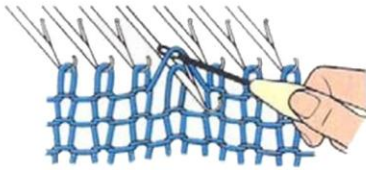


There is now 1 stitch and 1 bar on the empty needle.

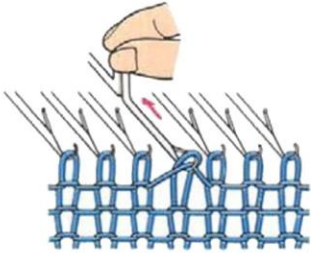
## HOW TO REPAIR A DROPPED STITCH



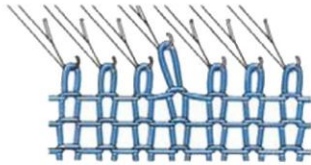
First, push the needle up to 'D' position, then pull the needle slightly back – just until the bar and the stitch are behind the latch – then STOP.



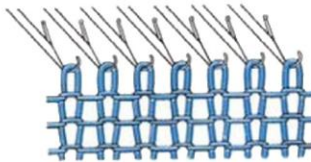
Lift the loose bar of yarn over the latch INTO the hook, and leave the stitch BEHIND the latch.



Pull the needle back down towards 'B' position thus pulling the bar of yarn through the stitch.

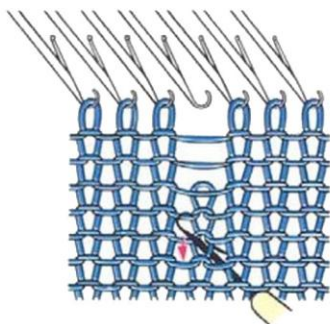


Push the needle further back towards 'A' position to enable it to form a bigger stitch.



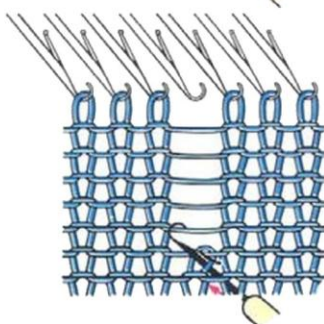
Pull your knitting down and sideways until gradually the newly repaired stitch assumes the same shape as all other stitches.

## REPAIRING A LADDER OF DROPPED STITCHES

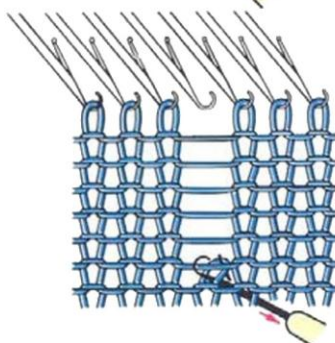


Insert the latch hook from behind your knitting through a stitch a few rows below the dropped stitch.

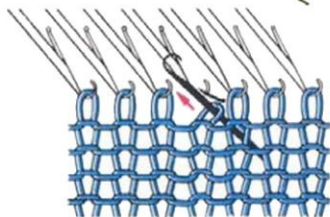
Undo stitches down to the latch hook by pulling down on the latch hook.



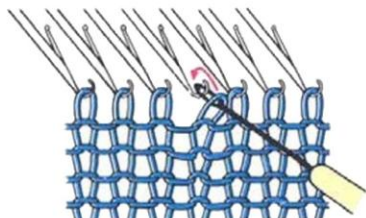
Push the latch hook towards you so that the stitch comes behind the latch, and the hook catches the cross thread.



Draw back the latch hook. The cross thread is trapped in the closed latch. Pull the cross thread through the loop thus forming a knitted stitch.



Push the latch hook towards you again until the stitch is BEHIND the latch. Catch the next cross thread in the hook and pull it through the stitch. Repeat until you reach the top.



Pull the last stitch rather tight to make a bigger loop. Insert the Transfer Tool into this loop from the front. Carefully remove this stitch from the latch hook and place it on the needle with your Transfer Tool.

## UNDOING ROWS – UNRAVELLING

Unravelling is quick and very simple to do and may save quite a considerable amount of time.

IT MAY BE NECESSARY TO UNRAVEL –

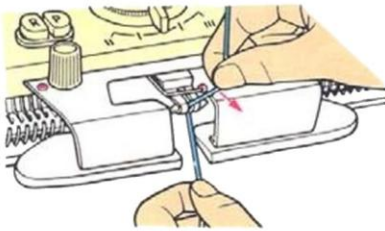
If you have knitted too many rows.

If you have made a mistake in your knitting or pattern.

If your carriage jams and it is necessary to release the carriage and re-start the row where the fault occurred.

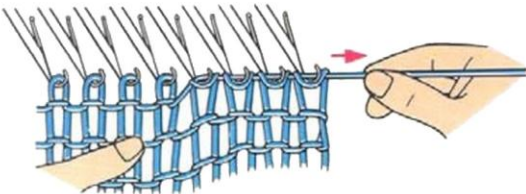
If you have one or more dropped stitches in the middle of a row, it is much easier to unravel 2 or 3 rows and then just lift the dropped stitches back onto their respective needles.

TO PRACTICE UNRAVELLING – Cast-on 40 needles in the normal way. Knit 20 rows finishing with the carriage on the right side.

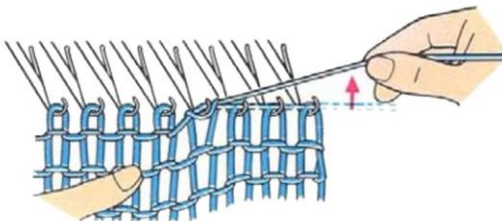


TO UNRAVEL 4 ROWS  
PROCEED AS FOLLOWS:

Remove the yarn from the Yarn Feeder.



Hold the knitting down with your left hand and with your right hand pull the yarn sideways, as illustrated.



Lift the yarn upwards and very slightly backwards and you will notice that the stitches of the previous row automatically slide back into the needle hooks. Repeat pulling the yarn and lifting the stitches of the previous row into the needle hooks until you have unravelled 4 rows. When unravelling from the LEFT, you must pull the thread towards the LEFT.

Now hold your knitting down with your right hand and with your left hand pull the yarn sideways towards the left.

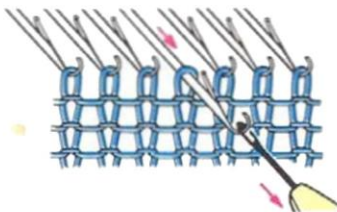
Raise it up, thus automatically tipping the stitches back into the needles.  
Continue until a second row has been completely unravelled.

For practice, unravel two more rows.

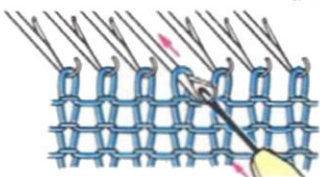
This will leave quite a considerable length of loose yarn. Thread the yarn back into the Yarn Feeder. Pull back all the loose yarn behind the Yarn Brake as shown on Page 17. Move the carriage near to the needles in 'B' position. Again pull down any slack yarn behind the Yarn Brake and proceed to knit.

**DO NOT FORGET TO SET BACK THE ROW COUNTER FOR THE NUMBER OF ROWS UNRAVELLED.**

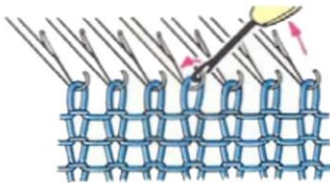
**YOU CAN ONLY UNRAVEL WHEN ALL YOUR STITCHES ARE INSIDE THE NEEDLE HOOKS.**



If, for any reason, one or more of the stitches are not in the needle hooks and are behind the latches, then hang the Transfer Tool in the needle hook. Pull the needle into 'D' position.



Push it back into 'A' position. The stitch is on the Transfer Tool. Pull the needle into 'B' position.



Raise the Transfer Tool and let the stitch slide into the needle hook. When you have brought all the needles to 'B' position this way, then you may start unravelling.

#### CARRIAGE IS HEAVY TO MOVE IF –

1. The yarn is wound too tightly and does not flow easily into the needles.  
The yarn you are using is too hard or too heavy.  
The yarn is unsuitable for use on your machine.  
The yarn is not suitable for the pattern which you are knitting.
2. The tension (stitch size) is either too loose or too tight.
3. Your machine is dirty or needs oiling.
4. The Yarn Brake has been incorrectly threaded.
5. The yarn was entangled in the Yarn Brake during knitting.

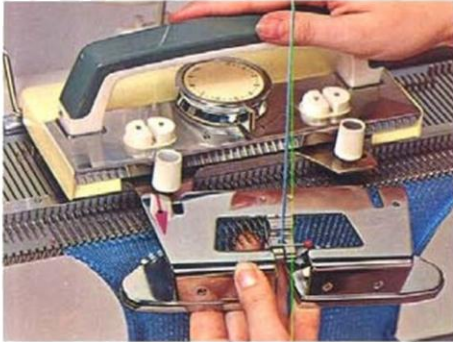
## IF THE CARRIAGE JAMS

SOMETIMES THE CARRIAGE MAY JAM IN THE MIDDLE OF A ROW.

IF THIS HAPPENS – IT IS NOT SERIOUS, AND NO CAUSE FOR WORRY.

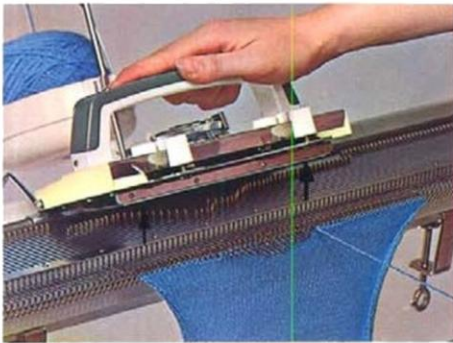
DO NOT FORCE OR HIT THE CARRIAGE TO GET IT LOOSE.

PROCEED AS FOLLOWS:



Set the Row Counter out of action.  
Loosen the two knurled nuts which secure the Sinker Arm to the carriage. Pull the Sinker Arm towards you off the carriage. If necessary cut the yarn to separate the Sinker Arm from the carriage. Take care that there are no needle hooks caught in the Yarn Feeder.

You can now easily lift up the carriage from the front of the needle bed and it will still be held by the Guide Rail at the back of the needle bed.



Hold the carriage up in its raised position and move it across the needle bed away from the knitting in the direction from which it came.  
Replace the carriage onto the needle bed.

Remove the yarn from the Feeder. Check that there is no yarn twisted around the brushes below the Sinker Arm, if yes, clear it and replace the Sinker Arm back onto the carriage.

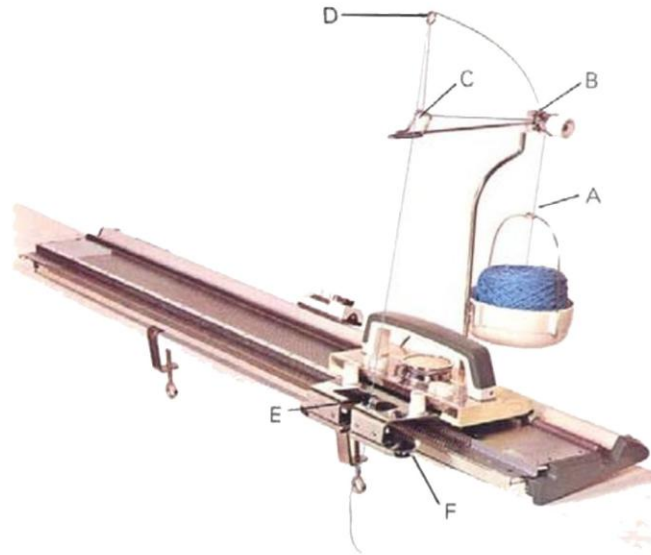
Set the Row Counter back into action. Unravel the last row. If the last row has been counted, set the row Counter back. Re-thread the Yarn.

The jamming of the carriage can have different reasons and they are all very easy to repair. On the next page you will find them and how they could occur.



## REASONS WHY THE CARRIAGE MAY JAM

THE YARN MUST ALWAYS FLOW SMOOTHLY AND EASILY INTO THE NEEDLES AS THE CARRIAGE IS MOVED ACROSS THE NEEDLE BED.



1. IF FOR ANY REASON THE YARN CANNOT FLOW INTO THE NEEDLES, THE CARRIAGE WILL JAM IMMEDIATELY.
2. It may be blocked at A, B, C, D or E, if it is not correctly threaded or if there is a large knot in the yarn or the yarn is twisted around the points just mentioned.
3. Underneath the Sinker Arm are the 4 brushes F.  
The yarn may become caught in the brush wheels F if there is any slack or loose yarn between your Yarn Feeder E and your needles.

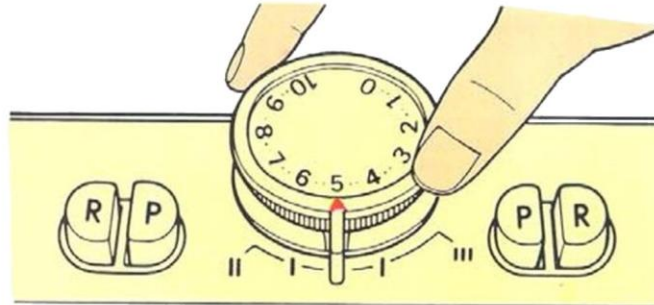
It is easy to find out why your carriage jammed. Pull the yarn down from below the carriage – if it does not flow smoothly then check all the points mentioned above.

If the yarn does flow smoothly – the reason for the jamming is not above the carriage.

Check the brushes below the Sinker Arm – if there is yarn twisted around, clean the brushes – move the carriage out of the knitting and replace the Sinker Arm back onto the carriage, ensuring that both knurled nuts are properly tightened.

Unravel the last row – check the yarn tension and continue knitting.

## STITCH SIZES OR TENSION DIAL



In the centre of the carriage is the Stitch Tension Dial.

With the Tension Dial you can choose the size of the stitches suitable for your yarn.

Between the numbers you can see TWO little dots – these are also Tension Settings – it means you can select from 30 different Tension Sizes to find the one most suitable for nearly any type of yarn you will knit with.

JUST AS IN HAND KNITTING, IT IS IMPORTANT TO HAVE THE RIGHT STITCH SIZE FOR THE YARN THAT YOU USE, AND, BECAUSE OF THE 30 SIZES YOU WILL FIND THAT YOU ARE ABLE TO USE ALMOST ALL OF THE USUAL POPULAR HAND KNITTING YARNS.

## AN IMPORTANT POINT

IF YOUR TENSION IS TOO TIGHT – it will be difficult, or even impossible, to knit and you will use far more yarn thus wasting money and your knitwear will be hard and unpleasant to wear.

IF YOUR TENSION IS TOO LOOSE – your knitted garment will either have no shape or will very soon lose its shape.

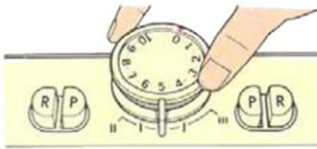
## WHEN DOING PATTERN KNITTING

You will see that most stitch patterns look far better when knitted with the correct stitch size.

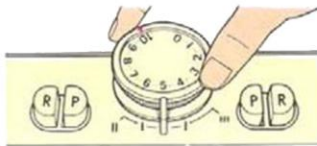
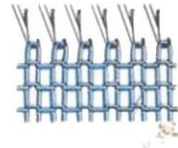
It is quite impossible for me to tell you here which is the most suitable Tension for your yarn, as there are so many different types and qualities.

But it is very easy to find out yourself which of the 30 different Tensions is the best one for you to use.

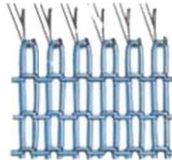
Make an open edge cast on over 60 needles and knit a few rows on Tension 10. Using a thin to medium yarn, you will see that the stitches are much too loose. Set the Tension to 9 and knit a few rows, repeat this process until you have found the right Tension for the yarn you are using.



When the red indicator is set on No. 0 on the red line, the tightest tension is obtained (smallest stitch).



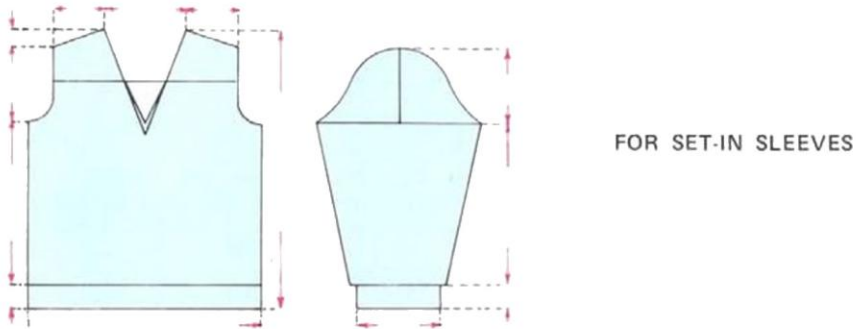
When the red indicator is set on No. 10 on the red line, the loosest tension is obtained (largest stitch).



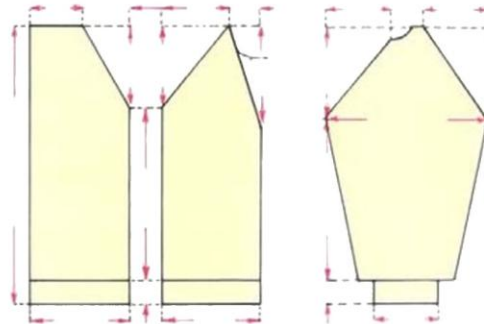
### INCORRECT TENSION SETTINGS Cause –

1. JAMMING OF THE CARRIAGE.
2. VERY HEAVY KNITTING
3. WASTAGE OF YARN IF TENSION TOO TIGHT.
4. SHAPELESS GARMENT IF TENSION TOO LOOSE.
5. FAULTY PATTERNS.
6. DROPPED STITCHES.

## KNITTING TO MEASURE



FOR RAGLAN SHAPING



**TO OBTAIN A WELL FITTING GARMENT** it is just as important to knit a tension square as it is to take the right measurements. Always knit a tension square before starting a new garment. This little extra trouble will be well worth your while.

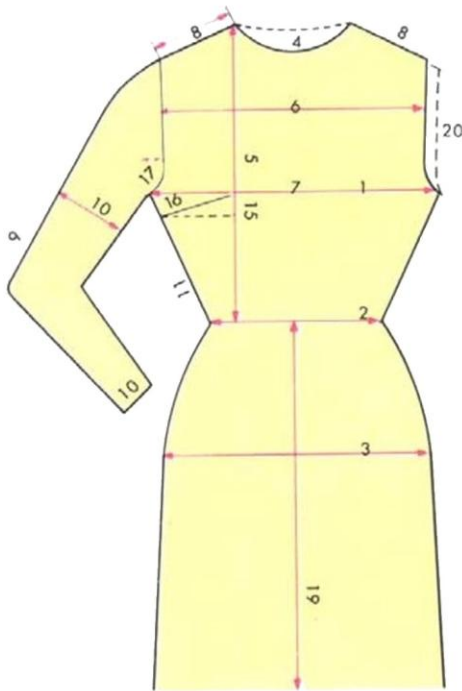
**WHETHER YOU HAVE A KNITTING PATTERN OR NOT**, you will be able to copy any model you fancy, if you make a stitch pattern, a tension square and draw a diagram on which you enter the precise measurements you have taken. Always start by knitting your tension square.

**TAKE YOUR MEASUREMENTS** — draw a sketch on a reduced scale — calculate the number of stitches you will have to cast on for the width you need, and how many rows are needed for the length you require.

For the shaping you also need to calculate the increasing and decreasing, and divide the number of stitches you need to increase or decrease into the number of rows you must knit.

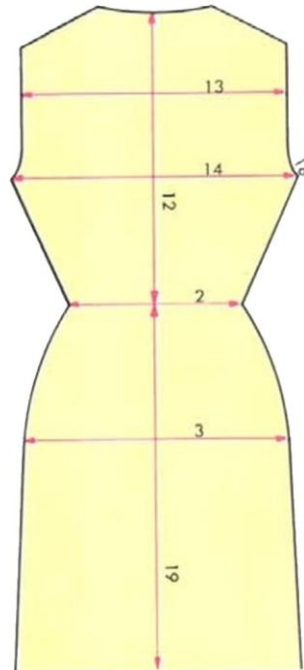
**THE MORE CARE YOU TAKE PLANNING YOUR GARMENT, THE SOONER YOU WILL FINISH YOUR KNITTING AND THE BETTER YOUR GARMENT WILL FIT.**

## KNITTING TO MEASURE



You do not need to be a dressmaker, nor have any special knowledge, to take the simple measurements you will need to make your knitwear fit loosely and comfortably yet fashionably.

A good hint is to give extra width to the measurements you take as knitwear should not be skin tight.



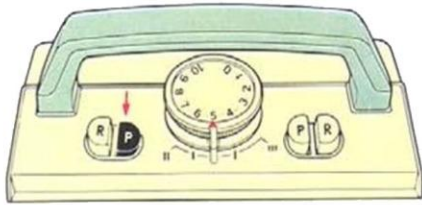
## KNITTING TO MEASURE

1. Bust measurement : It is taken around the fullest part of the bust and shoulder blades.
2. Waist measurement : To fit snugly round the waist.
3. Hip measurement : Over the widest part of the hip.
4. Neck measurement : Round base of neck.
5. Front length : From highest point of shoulder over the bust to the waistline.
6. Front shoulder width : Above the bust from armhole to armhole.
7. Front bust width : Over the bust from side seam to side seam under the arm.
8. Width of shoulder : From neckline to armhole.
9. Sleeve length : From the shoulder to the required point.  
If below the elbow, then take the length with the arm bent from shoulder to wrist.
10. Sleeve width : Width on top, around upper arm.  
Width at bottom, around wrist.
11. Side length : From the waist, about 1 inch below the armpit.
12. Back length : From nape of neck to waistline.
13. Back shoulder width : Across the back from armhole to armhole.
14. Back width : Across the back from side seam to side seam.
15. Length of dart : The front length minus back length gives you the required number of inches your dart needs to be knitted in rows.
16. Width of dart : From side seam (2 inches before starting the decreasing for the armhole) to the required point of the bust.
17. Width of armhole : From bust minus front shoulder width.  
The difference between measurement 7 and 6 must be divided by 2 so you have half for the left and half for the right armhole.
18. Width of armhole : Back width (14) minus back shoulder (13) divided by 2 as you need one half for each armhole.
19. Skirt length : From the waist to the hem.

## THE FOUR PUSH BUTTONS

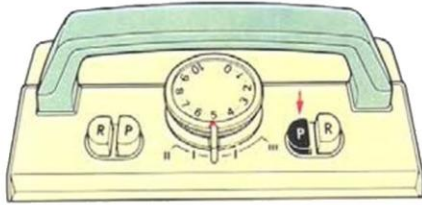
Remember that when needles knit, they always knit back to 'B' position.

Needles required in 'C' or 'D' position must be brought forward by using the Needle Pusher or by hand.



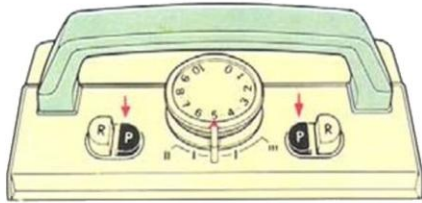
Press button 'P' on the left side.

- ← needles in B, C and D position will all knit in.
- needles in B and C position will knit in. Needles in 'D' position will move down to 'C' position without knitting.



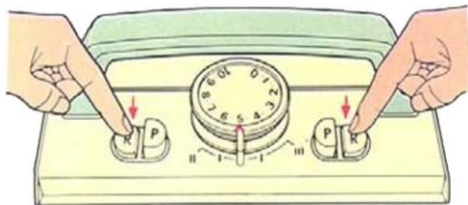
Press button 'P' on the right side.

- ← needles in B and C position will knit in, needles in 'D' position will move into 'C' position without knitting.
- needles in B, C and D position will all knit in.



Press button 'P' on both left and right sides.

- ← needles in B, C and D position will knit.
- needles in B, C and D position will knit.

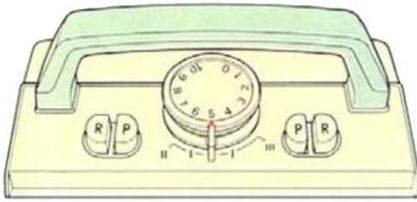


Press button 'R' on left and right side.

When you press button 'R' this has the effect of releasing button 'P' in which case needles in 'B' and 'C' position in right and left direction will knit but needles in 'D' position in either left or right direction will not knit.

## CAM LEVER AND PUSH BUTTONS

You have already seen that the needles may be placed in four different positions – A, B, C and D – on your needle bed.



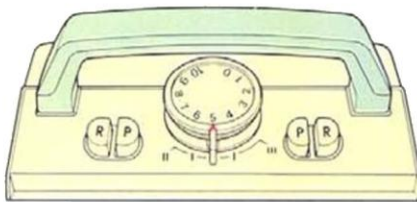
In the centre of your carriage is a Cam Lever with 5 positions – centre and two on either side. The buttons and cam lever have a large range of different pattern combinations.



means carriage moving from left to right.



means carriage moving from right to left.



Set Cam Lever on centre 0.



needles in B and C position will knit.

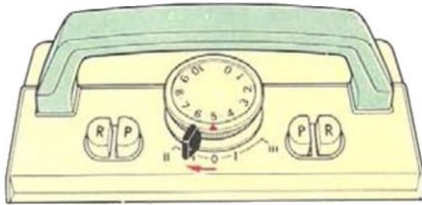


needles in B and C position will knit.

NOTE: Any needles in 'D' position will remain in 'D' position and will not be affected by the carriage movement.

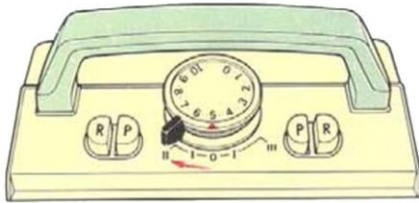


## CAM LEVER AND PUSH BUTTONS



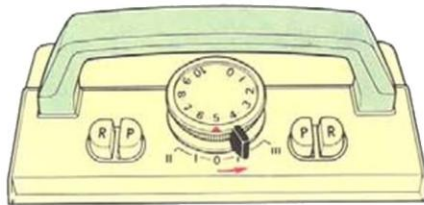
Set Cam Lever to I on the left side.

- ← needles in 'C' position will knit. Needles in 'B' and 'D' position will not knit.
- needles in 'B' and 'C' position will knit. Needles in 'D' position will not knit, but remain in the position.



Set Cam Lever to II on the left side.

- ← needles in 'C' position will knit, all others will not knit.
- needles in 'C' position will knit, all others will not knit and remain in their position.



Set Cam Lever to I on the right side.

- ← needles in 'B' and 'C' position will knit. Needles in 'D' position will not knit.
- needles in 'C' position will knit, all others will not knit.



Set Cam Lever to III on right side.

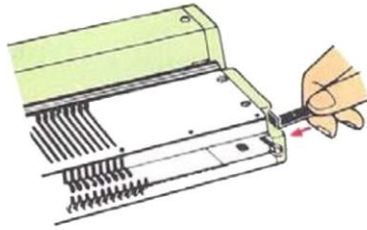
- ↔ needles in 'B' and 'D' position will not knit. Needles in 'C' position will return to 'B' position without knitting.
- NOTE: Unless separate yarn is laid in the needles in 'C' position, stitches will drop off. This is especially important to remember when doing Fair Isle.

## HOW TO CHANGE A NEEDLE



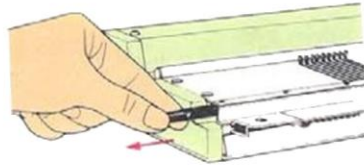
Needles with damaged latches will cause faulty or dropped stitches and must be changed.

The needle latch must move easily and lie flat over the needle hook.

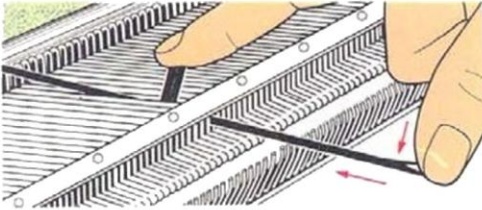


At each side of the needle bed you will find the needle retaining bar. This can be pulled out from the right or left side. Use the special copper plated accessory to push in the retaining bar on the side nearest to your broken needle.

Let's say the damaged needle is on the RIGHT side of the centre 0. Then push the raised end of the copper plate into the needle bed on the RIGHT.



By hand, pull out this bar from the other side of the machine until the damaged needle lies free.

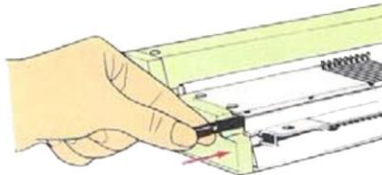


Push the damaged needle by the butt up to 'D' position. With your thumb push the needle hook down as shown, unless the needle is badly worn, the heel will lift out of the needle bed. Pull the needle backwards and out of the needle bed by the heel.



Open the latch of a new needle and slide it into the groove in the direction of the arrow.

Move the needle butt back to 'B' position.



Check that the needle slides smoothly in the needle bed.

Then push back the needle retaining bar as shown.

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