

BIG'PHIL

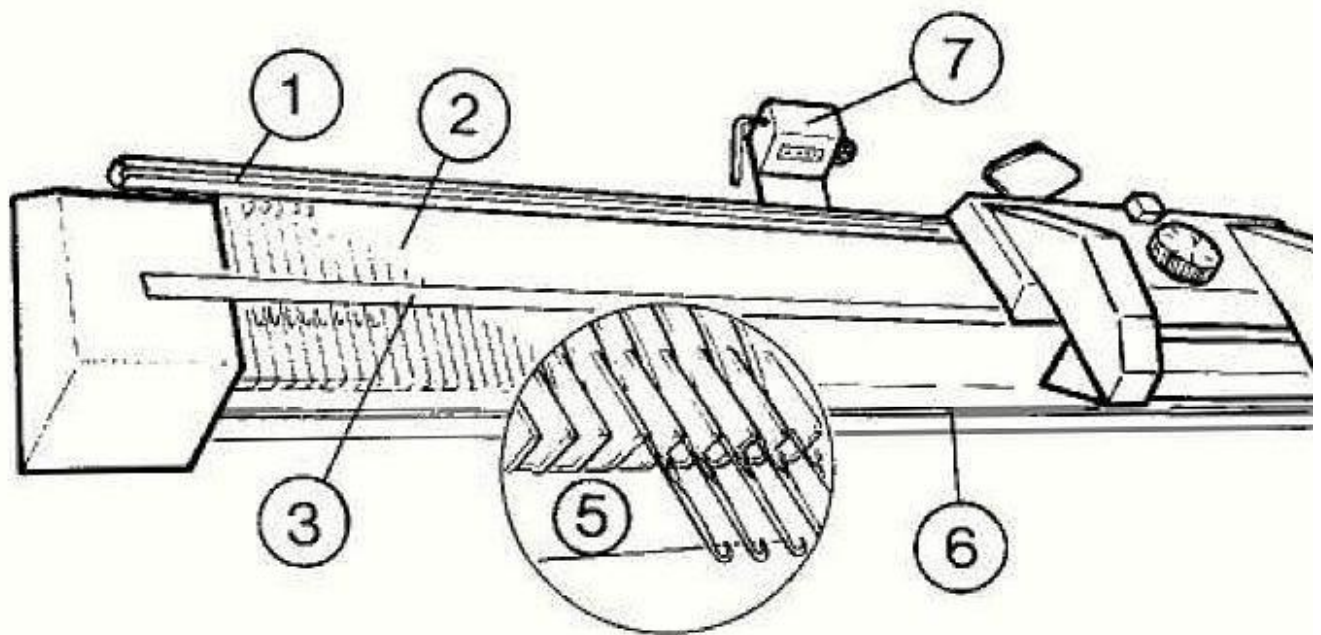
INSTRUCTION BOOK

Table of contents

DESCRIPTION	1-9
THE MACHINE	1
THE CARRIAGE	1
ACCESSORIES	2
HOW TO SET UP	
YOUR KNITTING MACHINE	3
THE NEEDLE BED	6
THE NEEDLES	6
NEEDLE POSITIONS	6
GRADUATED SCALE	7
STITCH SIZE DIAL	7
ROW COUNTER	7
NEEDLE SELECTOR SWITCH	8
STITCH FORMATION	9
KNITTING	10-28
HINTS BEFORE KNITTING	10
CASTING-ON	13
STOCKINETTE STITCH	17
HOW TO USE THE EYELET TOOL	18
HEM IN 1/1 MOCK RIB	20
SIMPLE INCREASE	22
ITALIAN INCREASE	22
INCREASING SEVERAL STITCHES	23
SIMPLE DECREASE	24
ITALIAN DECREASE	24
DECREASING SEVERAL STITCHES	25
NECKLINES	26
PART ROW KNITTING	27
HORIZONTAL BUTTONHOLES	28
ANOTHER WAY OF DOING	29-34
CHAIN CASTING ON	
THIS IS A CLOSED CASTING ON	29
CASTING-OFF	32
HOW TO MAKE RIBBING	34
ASSEMBLING	36-37
INVISIBLE SEAMS	36
COLLAR SEAMS, FINISHING BANDS	37
GRAFTING:	37
WHAT TO DO IF	38-42
A STITCH IS DROPPED,	
OR NOT KNITTED	38
A STITCH DROPS SEVERAL ROWS	38
YOU WANT TO UNDO ONE	
OR MORE ROWS	40
HOW TO CHANGE A NEEDLE	40
CARE AND MAINTENANCE	42
FANCY PATTERNS	43-50
INTARSIA	43
WEAVING EFFECT	44
PULLED UP STITCHES	45
FAIR ISLE	46
SLIP STITCH	48
TUCK STITCHES	49
LACE PATTERNS	50
CABLES	50

DESCRIPTION

THE MACHINE



1. Slide rail
2. Needle bed
3. Graduated scale
4. Clamp socket
5. Flow combs
6. Support for cast-on combs
7. Row counter

ACCESSORIES

The accessories pictured are provided with your machine. Additional items can be purchased from your authorized knitting machine dealer.

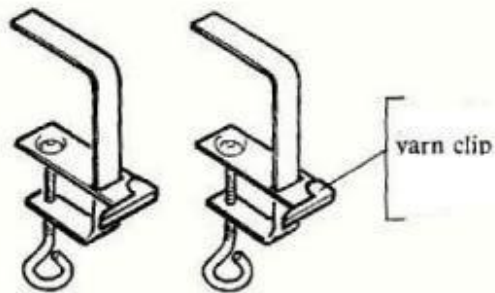
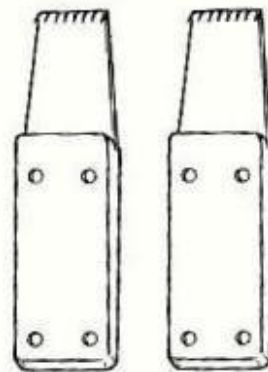
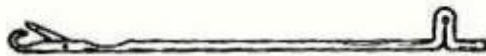


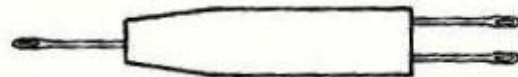
Table clamps



Claw weights



Needle

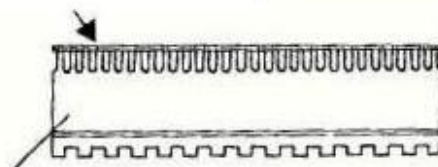


1 and 2 eyelet tool

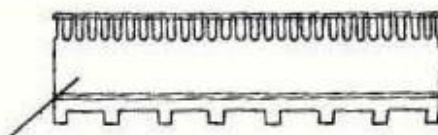


hook and latch needle tool

Cast-on comb cover



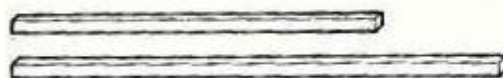
Comb + Needle selector tool 1/2



comb & needle selector tool

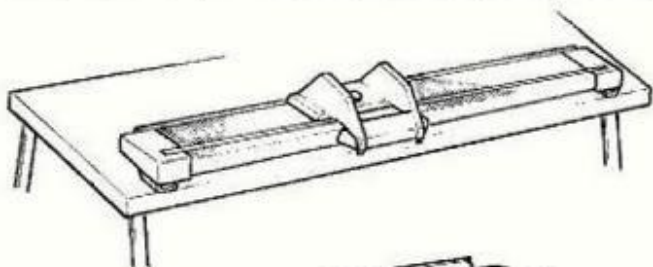


Row counter

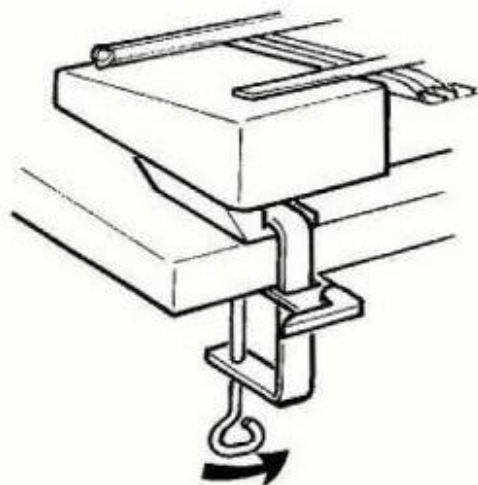
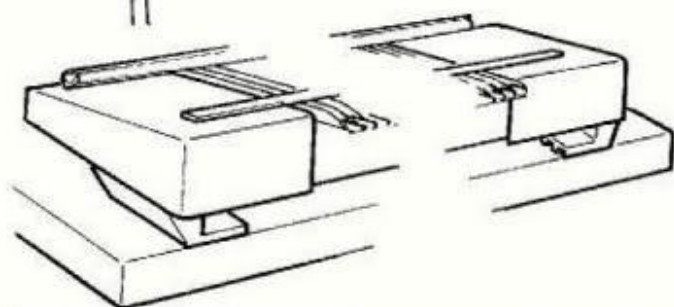


metal bars

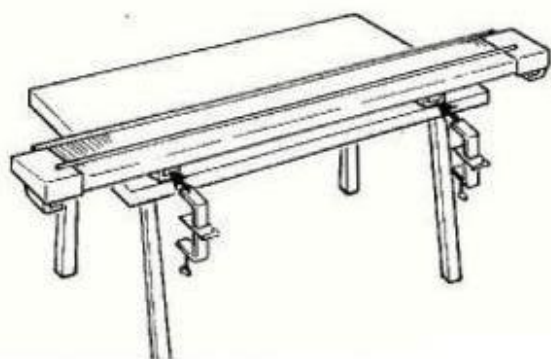
HOW TO SET UP YOUR KNITTING MACHINE

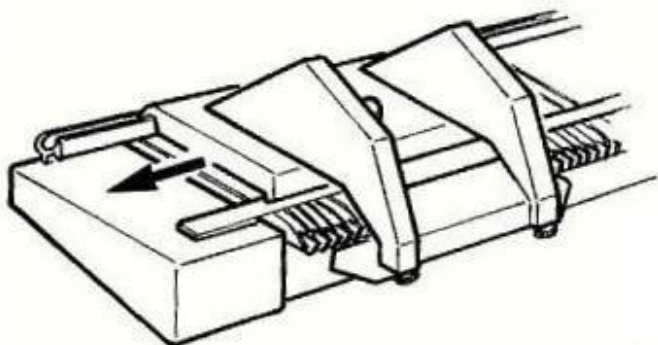


SETTING UP YOUR MACHINE
Place the machine on a table with the clamp sockets flush with the front edge

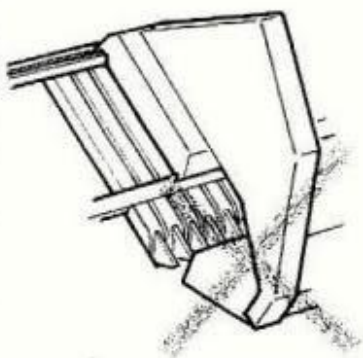


Use the table clamps to fasten the machine.
Take the table clamp and hold it with the screw pointing downwards.
Lay the upper part of the table clamp onto the socket used to fasten the machine.
The movable plate passes under the table top.

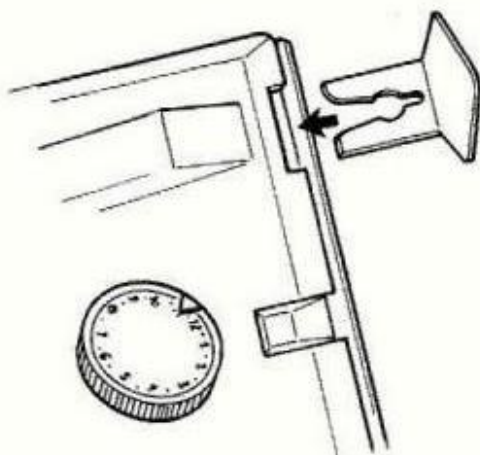
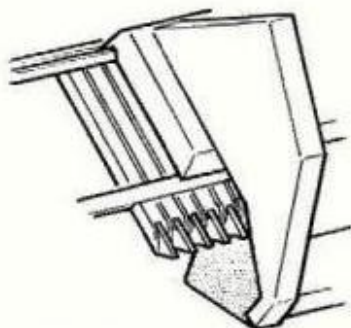




The carriage is guided in a rail. You can remove it completely at either side of the machine.



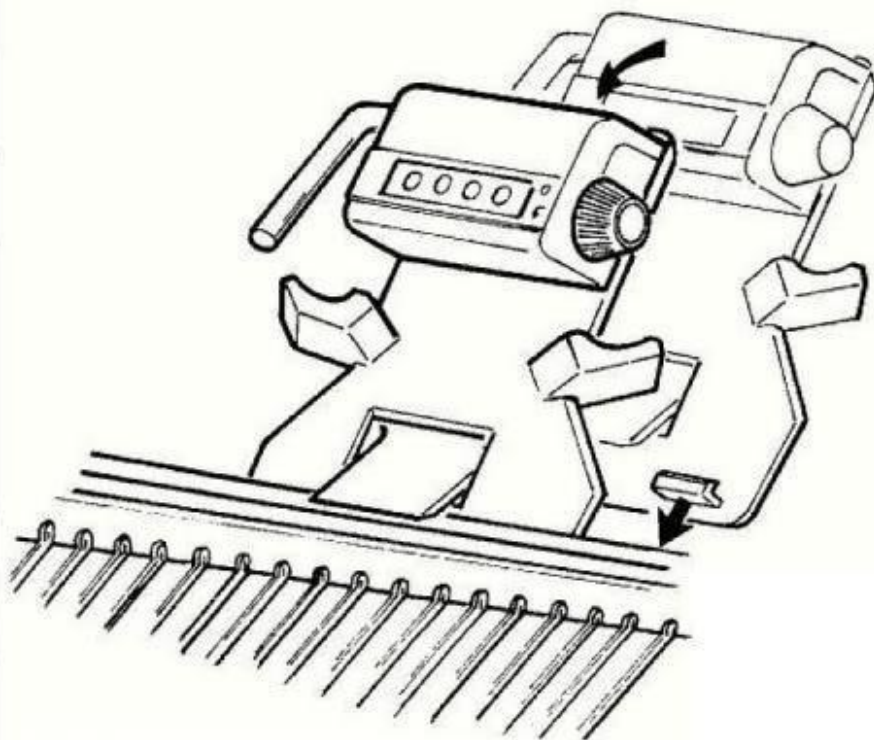
To replace the carriage, slide it into the lower guide rail. The knitting retainer must be under the flow combs.



SETTING UP OF ROW COUNTER BRACKET

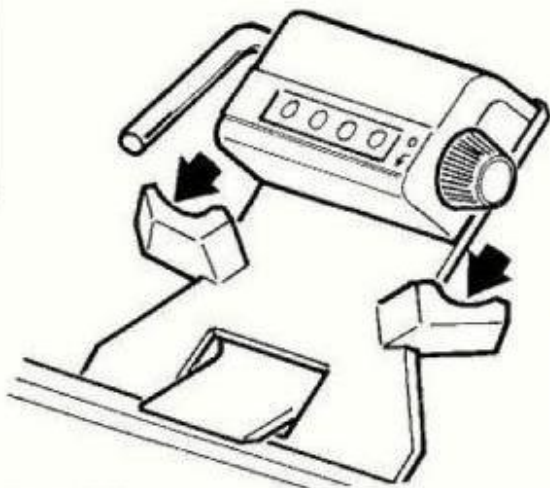
- Remove carriage from the machine.
- Clip row counter cam into the slot at the back of the carriage.

Replace carriage.

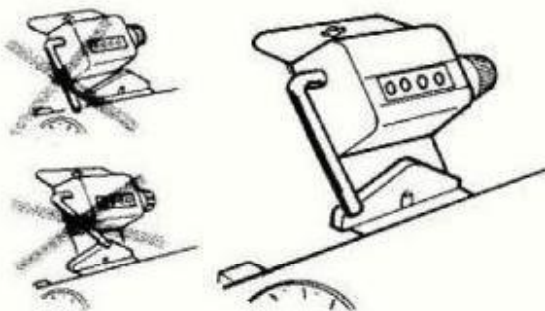


HOW TO SET UP THE ROW COUNTER

The row counter is situated on the rail of the machine. Place the two small clips (at the bottom of the row counter), then pull the row counter forward until large clip snaps into place above the rail.



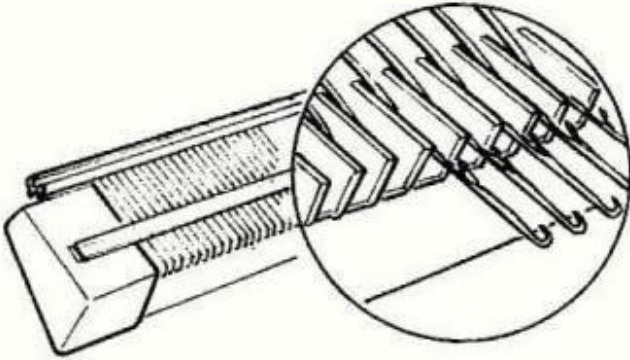
To remove the row counter, push strongly with your thumbs at places marked with an arrow.



SETTING THE COUNTER LEVER

- Move the row counter lever down or up so that it is placed on row counter cam as pictured.
- Make sure that it trips the counter with each pass of the carriage.

THE NEEDLES

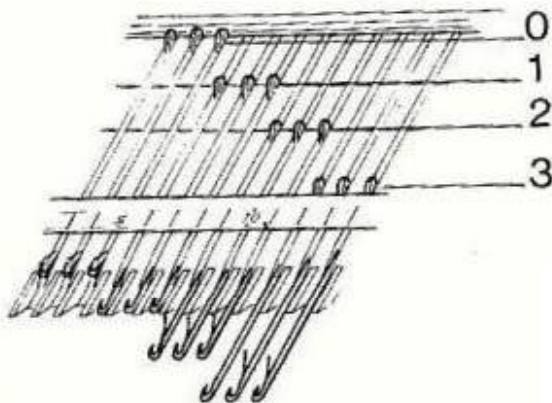


THE NEEDLE BED has 115 grooves in which the needles slide.



THE NEEDLES: there are three main parts to each needle.

A = The heel - B = the hook - C = the latch.



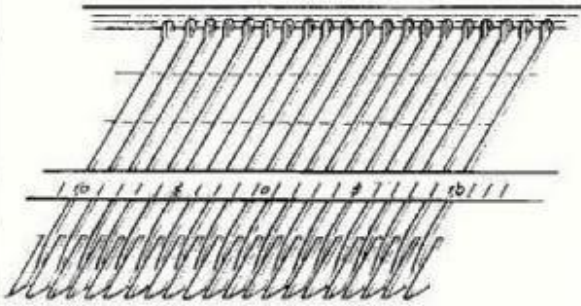
NEEDLE POSITIONS: there are four needle positions:

Position 0: non working position

Position 1 and 2: working position

Position 3: holding position.

SETTINGS



GRADUATED SCALE:

This scale helps to quickly count the needles which are necessary for knitting a garment.

Always start your knitting by selecting needles from each side of 0, found in the center of the needle bed.



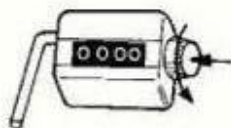
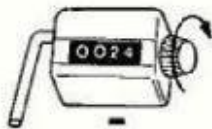
STITCH SIZE DIAL

This dial determines the length of the stitch.

Turn the outside dial in order to bring the arrow opposite the desired number.

Small number = small stitch

Large number = large stitch



ROW COUNTER

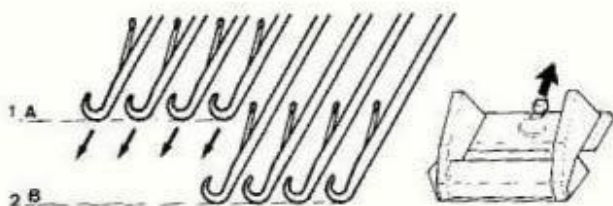
● To subtract, turn the knob towards the back.

● To add, turn the knob towards the front.

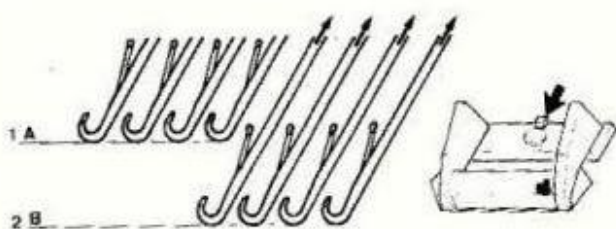
● To reset the row counter back to 0, hold the counter with your left hand, push in on the knob with your right hand, and turn it towards the front of the machine.

THE NEEDLE SELECTOR SWITCH

- When the needles are placed manually in working position 1 or 2, the carriage moves them automatically as it passes across the bed.

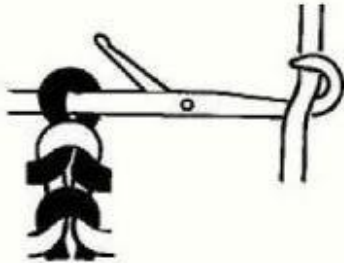


1. When the needle selector switch is pushed out:
 - A. needles will come forward from position 1 to position 2.
 - B. needles in position 2 will stay in that position.

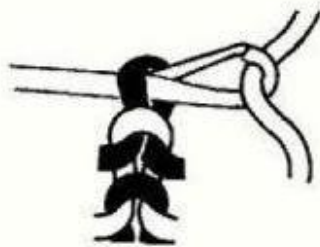


2. when the needle selector switch is pushed in:
 - A. needles in position 1 will stay in position 1.
 - B. needles in position 2 will return to position 1.

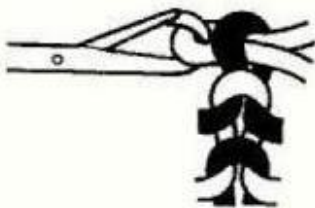
STITCH FORMATION



1. Before passing the carriage, the needle is in position 2, the stitch is behind the latch, and the yarn lays over the hook.



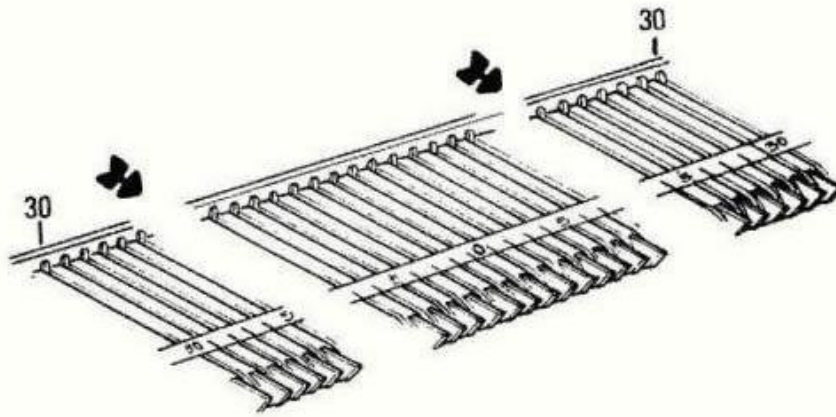
2. As the carriage passes, the needle is pushed outwards, and the previous stitch closes the latch and slips over the hook.



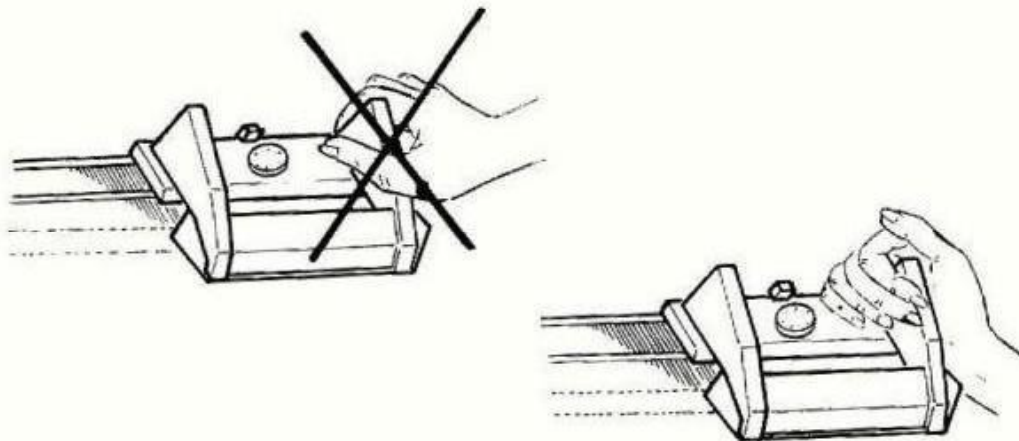
3. The previous stitch is held by the loop of the new stitch.

KNITTING

HINTS BEFORE KNITTING



Bring an equal number of needles on each side of 0 to position 1. This will help you when increasing or decreasing.



Move the carriage across the needles without pressing down on the handle. Pull it and push it as illustrated. Practice moving the carriage and using the needle selector switch a few times before casting on.

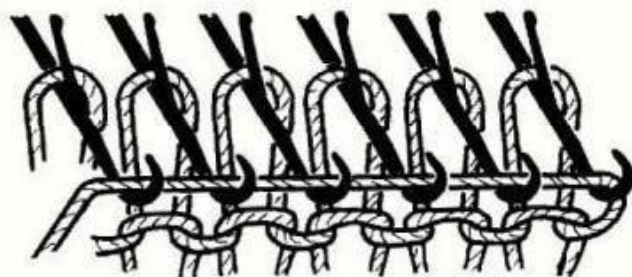
● **NEVER REVERSE THE CARRIAGE WHEN IT IS ALREADY ENGAGED ON NEEDLES IN WORKING POSITION.**

● Watch your yarn: a ball runs out quickly when knitting.

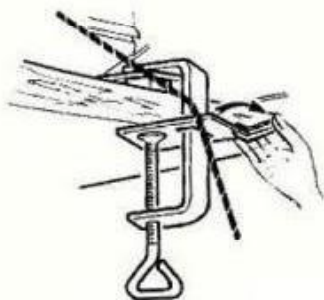
CAUTION: never pass the carriage without yarn, otherwise the knitting will drop from the machine.

● In order to avoid knots in your knitting, when you see that your ball is almost empty, use a new ball

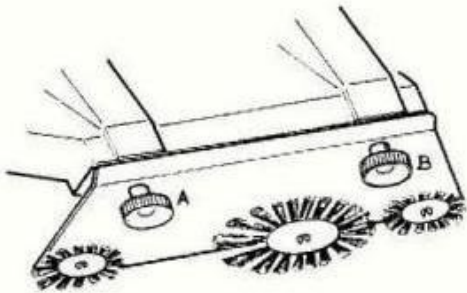
● To remove a work from the machine, simply pass the carriage without placing the yarn.



Watch your needle latches while placing the yarn:
THEY MUST ALL BE OPENED WITH THE
PREVIOUS STITCH BEHIND THE LATCH.

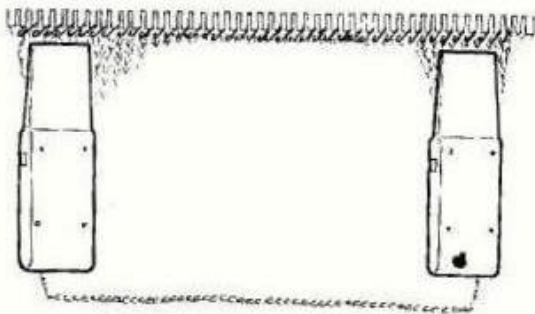


Do not forget to unfasten the yarn from the yarn clip
after knitting a few rows.



If your carriage jams:

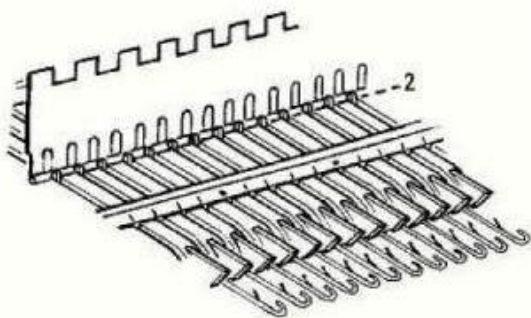
- a) unscrew knobs A and B found under knitting retainer
- b) release knitting retainer and carriage. Move carriage away from the knitting.
- c) reattach knitting retainer to carriage, align needles and resume knitting.



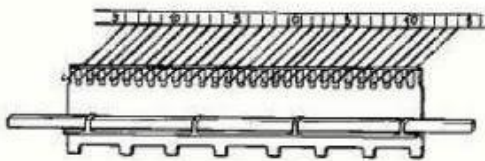
Claw weights must be hooked at each side of the knitting as soon as you knit 2nd row. Raise them up regularly every 5 or 10 rows.

To make garments, you can the explanations published in PHILDAR MAILLES Hand Knitting Magazines.
NOTE: To ensure that the garment comes out at the right size you must make sure that your test swatch measures exactly to the gauge specified in the pattern. If you have too many stitches on your test swatch you should decrease the stitch size; if you have too few stitches you should increase the stitch size.

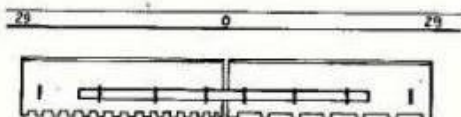
CASTING-ON



- Move the required number of needles into position 2 with the comb, and make sure all the latches are open.



- When knitting on less than 29 needles, use one comb. Place the small bar weight through the clip on the comb.
- Place the comb over the needle in position 2. It should be centered across from 0.



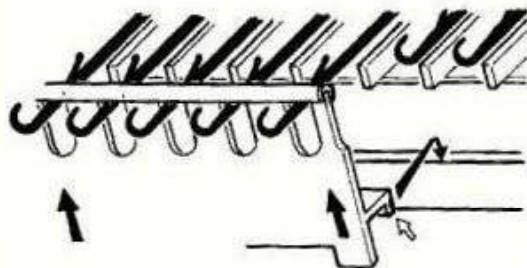
- When using 29 - 57 needles, use two combs. Assemble them with the small bar weight.
- Lay the combs over the needles in position 2, placing one comb at each side of the 0 on the graduated scale.



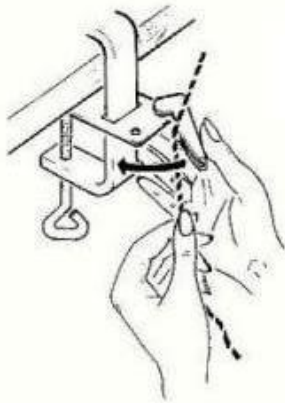
- When using 58 and 86 needles, use 3 combs. Assemble them with the large bar weight.
- Lay them over the needles, centering the middle comb in front of the 0 on the graduated scale.



- When knitting on more than 86 needles, use the 4 combs. Assemble them with both bar weights.
- Lay them over the needles, placing 2 combs at each side of the 0 on the graduated scale.



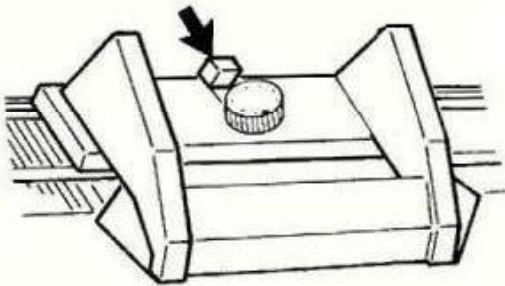
- Hook the comb(s) into the comb holder slot on the front of the machine.
- The comb is in place correctly if it is lifted slightly and tipped towards the front across the needle bed. It remains in place for the first pass of the carriage.



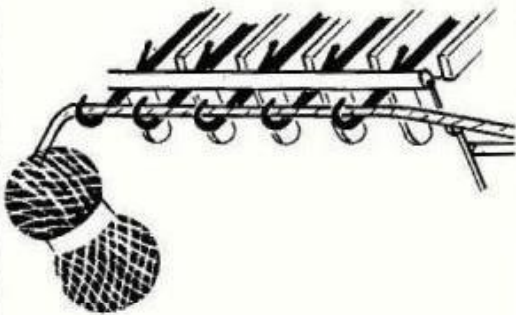
- Use a scrap yarn that is lighter in weight than your main knitting yarn. (suggest sport weight).
- Clip the yarn in the yarn clip on the right clamp that holds the knitting machine to the table.



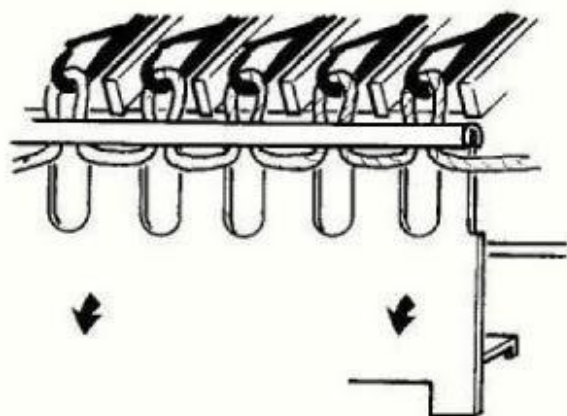
- Set stitch size dial for scrap yarn. (size 2-4 for sport weight yarn).



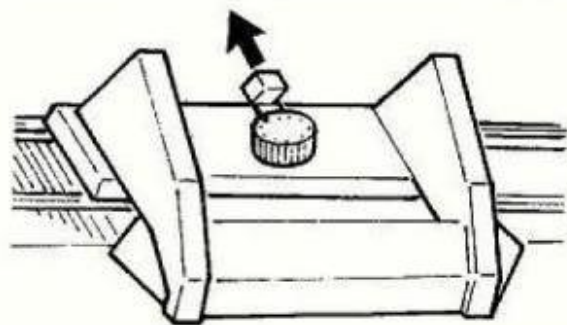
- Press the needle selector switch in.



- Lay the yarn over the needles with the latches open.
- Hold the yarn in place across the needles with your left hand.
- Pass the carriage across the needles, letting the yarn slip easily through the fingers of your left hand.

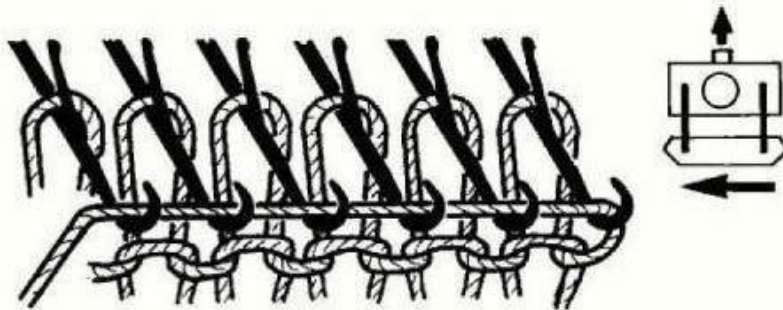


- Release the comb(s) from the comb holder slot on the front of the machine, allowing it to hang freely.
The needle selector switch remains in.
Do not lay yarn across the needles.
- Pass the carriage across the needles.
The carriage is now on the right, the needles are still in position 1.

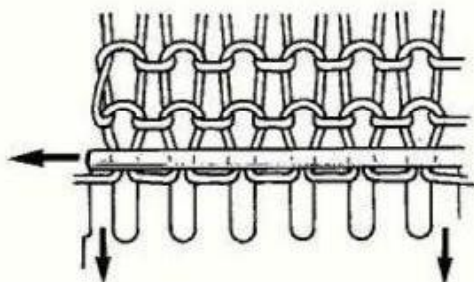


- Push the needle selector switch out.
Do not lay yarn across the needles.
- Pass the carriage across the needles again. This operation moves the needles automatically from position 1 to position 2.
- Knit a few rows in stockinette stitch (see page 17) with scrap yarn.
- Knit the last row of scrap yarn using the same stitch size that you will use for your garment.

STOCKINETTE STITCH



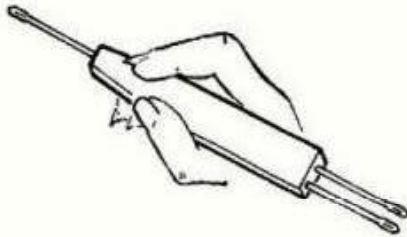
- Set the desired stitch size for your yarn.
The desired number of needles are in position 2.
Make sure that all latches are open.
- Press the needle selector switch out.
- Lay the yarn across the needles from either the left or the right side.
- Pass the carriage across the needle. Let the yarn slip easily through your fingers.
- Repeat the previous operations going in the opposite direction.
- Continue knitting. Each time you pass the carriage across you are knitting a row. **IF THE CARRIAGE IS DIFFICULT TO MOVE, INCREASE YOUR STITCH SIZE. DO NOT FORCE IT!**
Knit as many rows as needed.



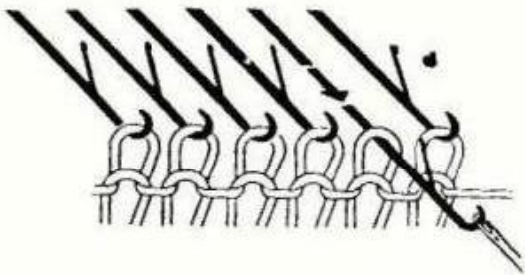
- When you are finished knitting, remove the combs by sliding the comb covers off of the combs.

USING THE EYELET TOOL

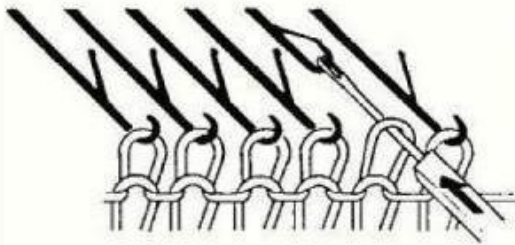
Before using the eyelet tool the needles must be in position 1. To bring the needles to this position you press the needle selector switch towards you, lay the yarn over the needles and pass the carriage across.



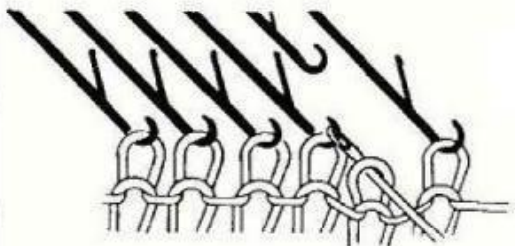
- Hold the eyelet tool in your hand like a pencil.



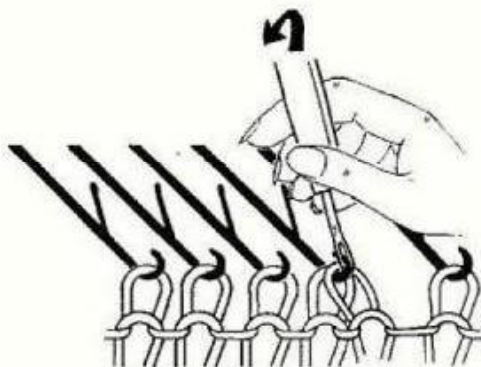
- Hook the single eyelet of the eyelet tool onto the needle hook. Pull the tool towards you, keeping the needle and the eyelet tool in a straight line. The stitch slides behind the needle latch.



- Push in on the needle. The stitch moves onto the eyelet tool.

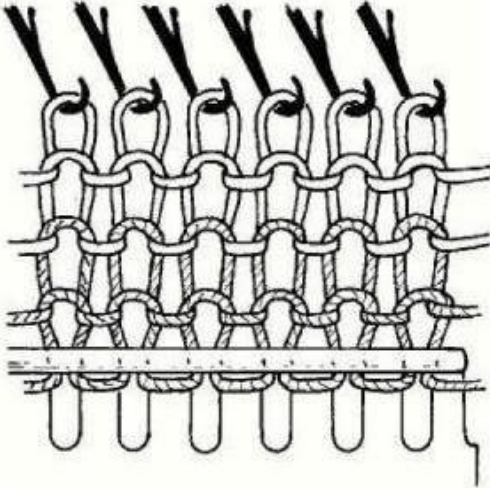


- Remove the eyelet tool from the needle, being careful not to drop the stitch. Hook the eyelet tool onto the desired needle hook.

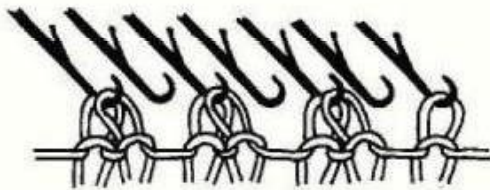


- Tilt the tool towards the back. The stitch slides onto the new needle hook.

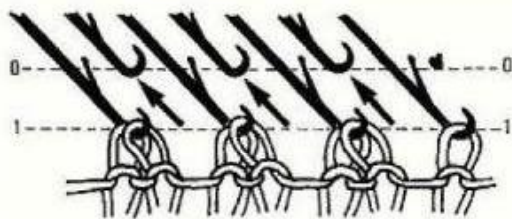
HEM IN 1x1 RIBBING



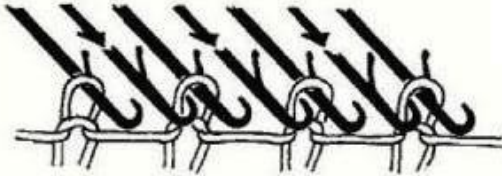
- Cast on the required number of needles for the width of your garment in scrap yarn.
- Knit two rows of scrap yarn.
- Knit one row in your garment yarn.
- Press the needle selector switch in. Knit a second row with your garment yarn.



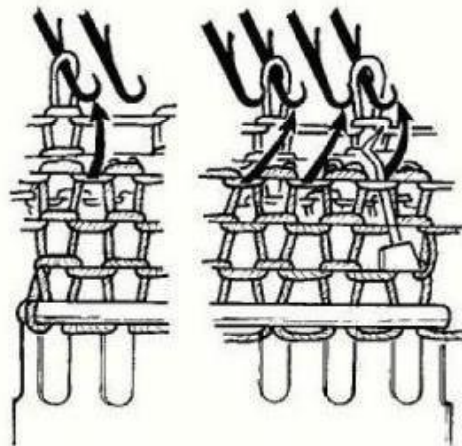
- Using the 1x2 eyelet tool, transfer every second stitch onto the adjacent left hand needle.



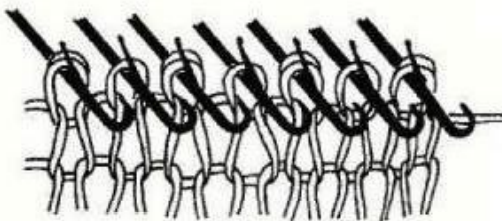
- Put the empty needles in position 0.
- Bring the needles to position 2.
- Decrease your stockinette stitch size (the stitch size you are planning to use for your garment) by two or three full sizes.
- Knit twice the hem depth.
example: If you wish a hem (ribbing) of 10 rows, knit 20 rows.
- Knit the last row with the needle selector switch pressed in. Needles are in position 1.



- Bring all needles to position 2, leaving the stitches on the needle latches.

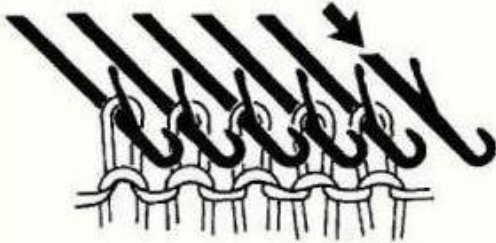


- With the hook of the latch needle tool, hang the first stitch from the first row of the garment yarn (the first row above the scrap yarn) onto the first right hand needle.
Hang the second right hand stitch onto the (empty) second right hand needle.
- On the left side, hang the first left hand stitch of the garment yarn onto the first left hand needle.
- Continue, working towards the center from both sides, for all of the stitches in the first row of the garment yarn.



- Bring all needles to position 2.
Make sure that all stitches are behind the latches.
- Reset your stockinette stitch size.
Knit 1 row to close the hem.

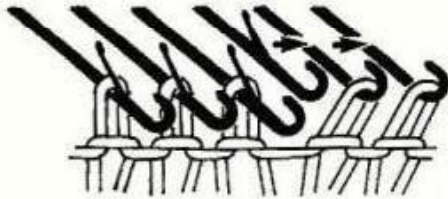
SIMPLE INCREASE (ONE STITCH)



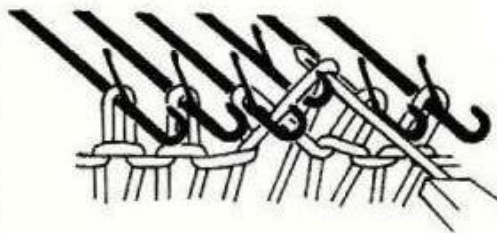
- On the carriage side of the knitting, move one needle to position 2. When the carriage is taken across the needles, that one will also be knitted.

ITALIAN INCREASE (ONE STITCH)

This method allows you to increase inside the knitting, two or more stitches from the edge regardless of the position of the carriage. This method can be used on both sides of the bed at the same time.

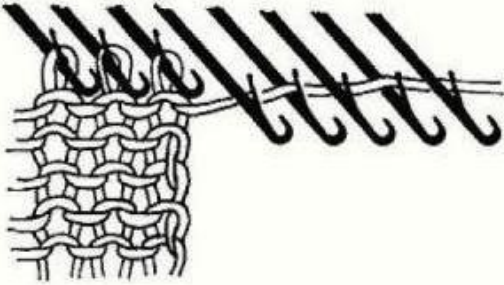


- Using the double eyelet tool, transfer the two edge stitches one needle out.

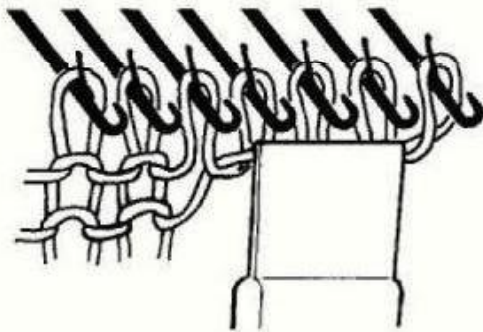


- Using the single eyelet tool or the hook tool, take the stitch from the row below the next stitch and hang it onto the empty needle. This prevents a hole from forming.

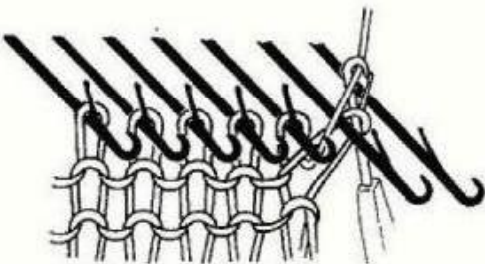
INCREASING SEVERAL STITCHES



- On the carriage side, move the desired number of needles for the increase into position 3.
- Manually pass the yarn under and over each empty needle, making sure the yarn lays under the last needle as illustrated.
- The yarn must be behind the latches of the needles.

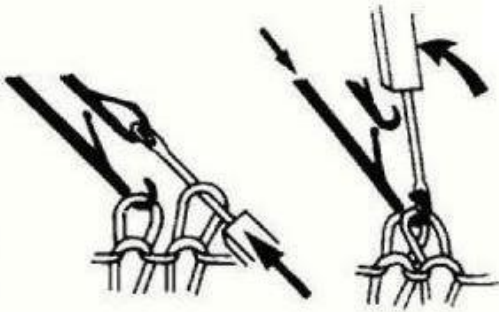


- Push back on the needles until they are in position 2.
- Knit one row, needle selector switch pressed in.
- Hang one or two claw weights on the newly formed stitches.



Alternate method: On the carriage side, take the stitch from the row below the first stitch into the hook and latch needle tool, and crochet a chain around the needles to be increased. Hang the loop on the last needle, as for chain casting on, page 29).

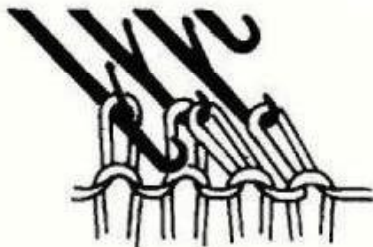
SIMPLE DECREASE (ONE STITCH)



This decrease can be done on either side of the knitting or at both sides, regardless of the position of the carriage.

- Using the single eyelet tool, transfer the edge stitch one needle in.
- Move the empty needle down to non-working position 0.

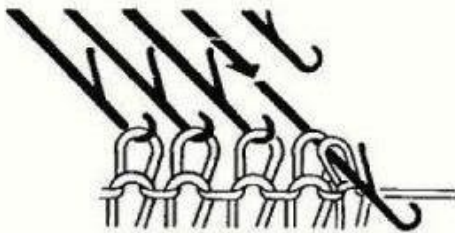
ITALIAN DECREASE (ONE STITCH)



This type of decrease can be done inside the knitting, two, three or more stitches from the edge, regardless of the position of the carriage.

- Using the double eyelet tool, move the two edge stitches one needle in. The second needle carries two stitches.
- Lower the empty needle to non-working position 0.

Diminution de plusieurs mailles ou arrêt de mailles
DECREASING SEVERAL STITCHES OR CASTING-OFF
Menguado de varios puntos o desmontaje



Cette diminution se fait du côté du chariot.
 Elle permet d'obtenir un angle vif, par exemple,
 au début d'une emmanchure.

Procédez comme suit:

- Reportez la maille de lisière sur sa voisine
 (diminution simple).

This decreasing is done on the carriage side.
 It allows you to obtain a sharp angle when shaping
 the armhole for example.

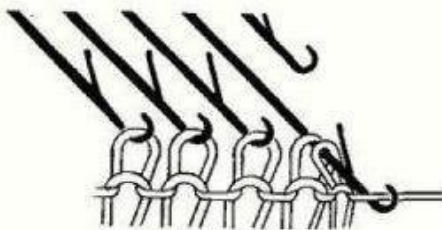
Proceed as follows:

- Transfer the edge stitch onto the next needle
 (simple decrease)

Este menguado se hace en el lado del carro. Ello le
 permite obtener un ángulo agudo, como por ejemplo
 al dar forma a las asillas.

Proceda como sigue:

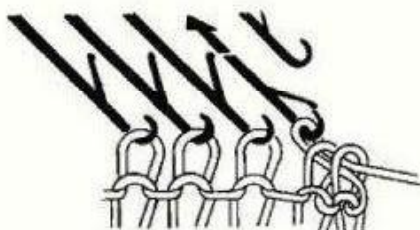
- Transfiera el punto del borde dentro de la aguja
 próxima (menguado simple).



- Placez l'aiguille qui porte 2 mailles en position 3.
- Placez à la main le fil dans le crochet de
 l'aiguille.

- Place the needle with 2 stitches into position 3.
- Lay the yarn manually into the needle hook.

- Coloque la aguja con 2 puntos en posición 3.
- Ponga la lana manualmente dentro del garfio
 de la aguja.

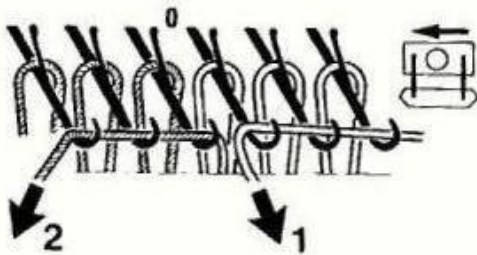


- Descendez l'aiguille par le talon en position 1
 pour former une nouvelle maille souple.
- Répétez cette opération jusqu'à ce que le nombre
 de mailles diminuées soit obtenu.

- Lower the needle into position 1 to form a new
 stitch.
- Repeat this operation until the required number
 of stitches has been decreased.

- Baje la aguja a la posición 1 para formar un
 nuevo punto.
- Repita esta operación hasta haber menguado el
 número de puntos requerido.

NECKLINES

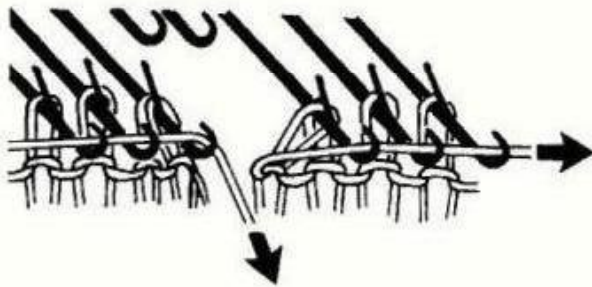


To separate two sides of your knitting when shaping necklines, straight vertical opening, vertical buttonholes, proceed as follows:

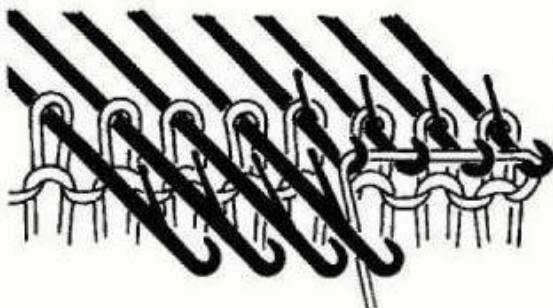
- For an opening, use 2 balls of yarn, for three openings, 4 balls, etc...
- Lay the yarn from the first ball on the needles as far as the place where you want to start your opening.
- Using the second ball, lay the yarn onto the next needles.
Be careful not to cross the yarns at the place of the opening.



- Make the necessary decreases and lower the empty needles to position 0.



PART-ROW KNITTING DECREASES



Part row knitting is used for shaping shoulders, necklines, skirts, etc...

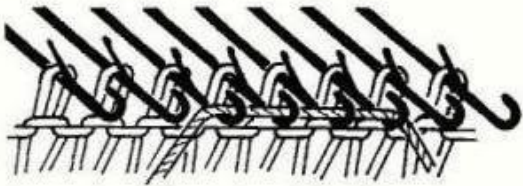
- **At the side opposite the carriage** bring the number of needles desired into position 3. These will no longer be knitted and are, in effect decreased.
- Knit one row.



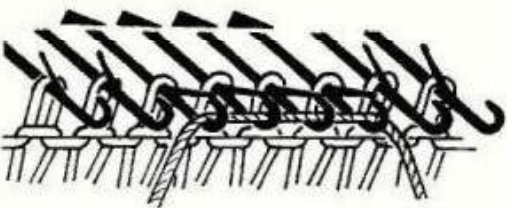
- To prevent a gap between needles in holding position and the rest of the knitting, pass the yarn under the first needle in holding position, then up inbetween it and the next one.
- Knit one row.

- Repeat operation for the desired number of decreases.
- To bring the needles back to working position, place them in position 2 and lay the yarn across all needles. Continue knitting.

HORIZONTAL BUTTONHOLES



- Lay a piece of scrap yarn into the hooks of the needles desired for buttonhole.

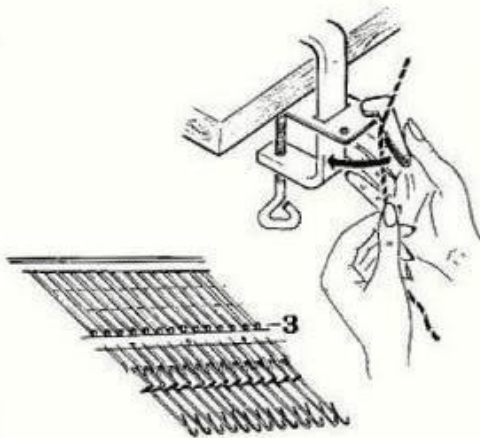


- Lower the buttonhole needles by pulling the needles towards you in order to close the latches and knit the scrap yarn.

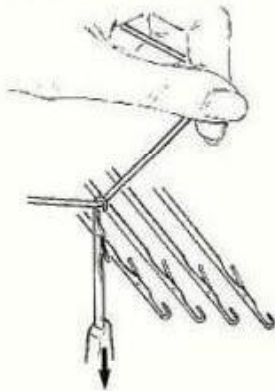
- Bring them back to position 2.
- With garment yarn, continue knitting, placing buttonholes where desired.
- When the garment is finished and pressed, remove the scrap yarn, and back stitch through the open stitches.

ANOTHER WAY OF DOING

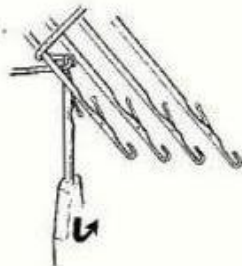
CHAIN CASTING-ON



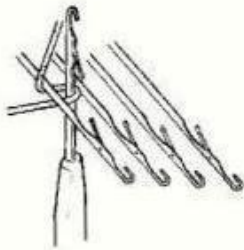
- Carriage on right hand-side. Bring the desired number of needles to position 3.
- Clip the yarn into the left yarn clip and lay the ball on the table.



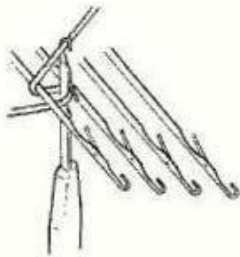
- Hold the yarn above the needles with your left hand. Catch it with the hook and latch needle tool.



- Pass the loop under the first left-hand needle.



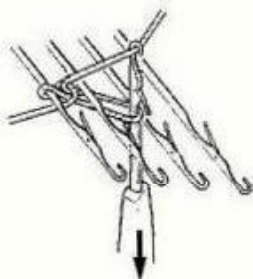
- Bring it up between the first and the second needle.



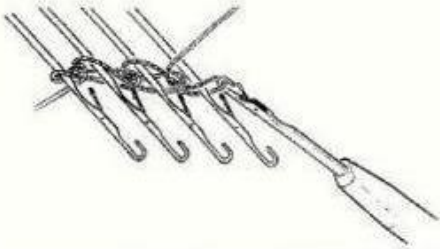
- Let the loop slide behind the latch of the tool. Catch the yarn above the first needle.



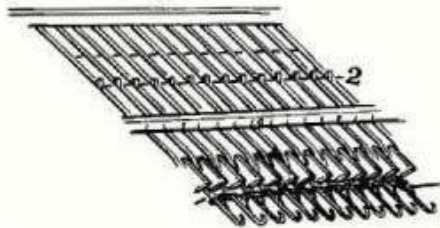
- Pull the tool downwards to form a loose stitch.



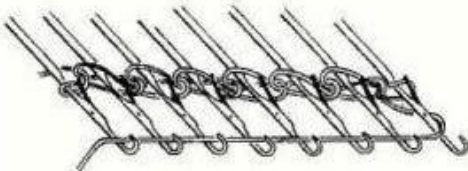
- Pass the tool with the new stitch under the second needle and bring the tool up between the second and third needle. Continue across, around the second to the last needle.



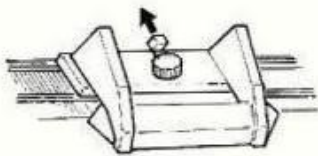
- Place the last loop on the last needle. Bring the yarn under this needle and around to the carriage side.



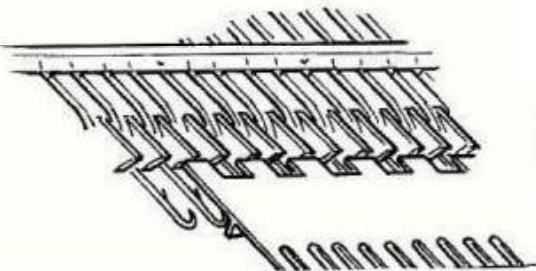
- Bring the needles back to position 2. The needles latches must be open.



- Lay the yarn from the right to the left side across the needles. Place the yarn on the floor.

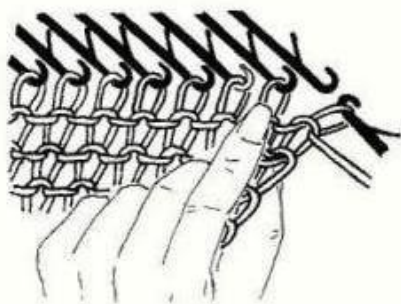


- The needle selector switch is pressed out. The stitch size dial is adjusted to the stockinette stitch size for your yarn. Knit one row, letting the yarn slip easily through your fingers.

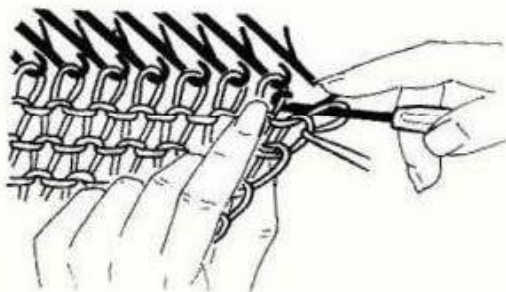


Hint: You may use the ridge on a comb to bring needles from holding position 3 to working position 2.

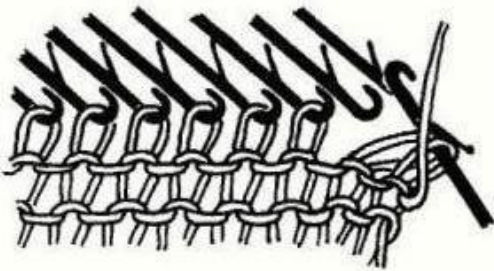
CASTING-OFF



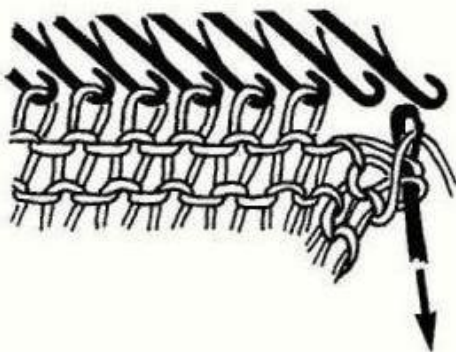
- Knit the last row with the needle selector switch in.
- Needles are in position 1.
- With your left hand, hold the knitting between your thumb and forefinger as illustrated.
- Pull the knitting slightly to open the stitches. Using the latch tool, unhook the first stitch on the side next to the carriage.



- Slide this stitch behind the latch.
- Keeping the latch open, unhook the second stitch, and slide this behind the latch. (two stitches behind the latch).



- Lay the yarn over the hook of the tool.



- Pull the tool downwards to pass the yarn through both stitches.
A new stitch is formed.

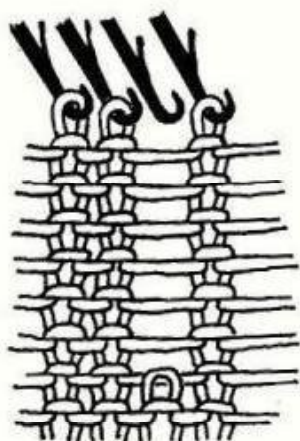


- Hook the next stitch. Let both stitches slide behind the latch of the tool.
- Lay the yarn over the hook.
- Pull the yarn through both stitches.
- Continue across to the last stitch.
- Break the yarn and pull it through the loop of the last stitch.

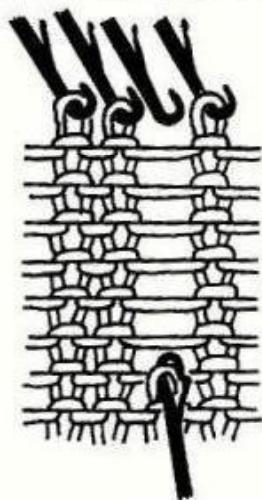
HOW TO MAKE RIBBING - HOW TO LATCH UP A STITCH



- Decrease your stockinette stitch size by 3 full sizes to get tighter stitches in ribbing
- Use the hook and latch needle tool



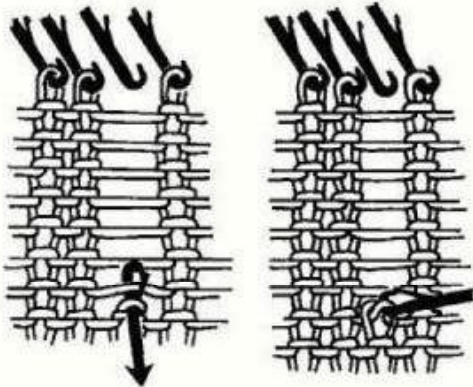
- Let the stitch chosen to be the "Purls" slide to the row before the last.
A kind of ladder is obtained.



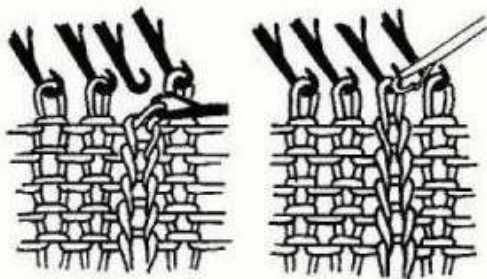
- Catch this stitch in the hook of the tool and slide it behind the latch.



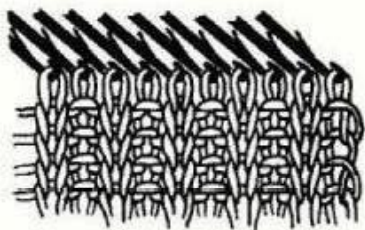
- Take the first yarn of the "Ladder" into the hook.



- Pull the tool down until the latch is closed, and a new stitch is pulled through. Slide this new stitch behind the latch.



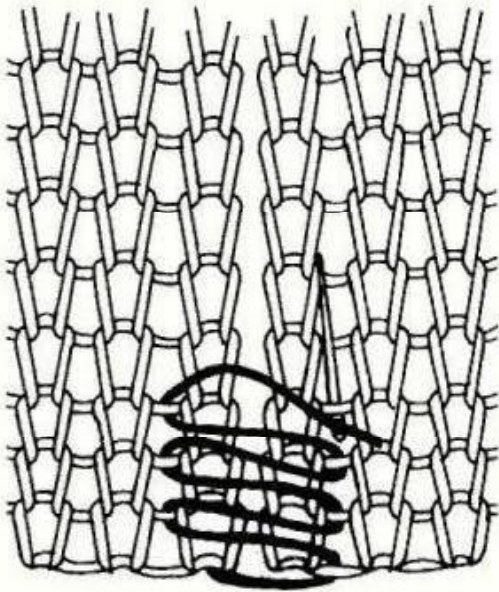
- Hook the next step of the ladder and pull it through the stitch you just formed.
- Continue this way, all the way up the ladder, and hang the last stitch onto the empty needle.



- Continue in this way across the knitting at regular intervals to create a ribbing pattern.

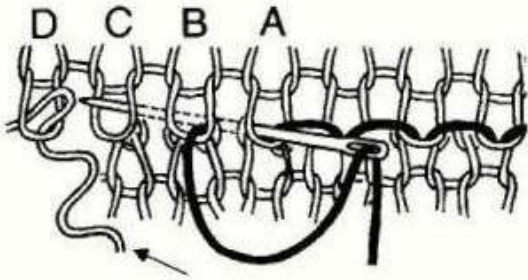
MAKING UP

INVISIBLE SEAMS



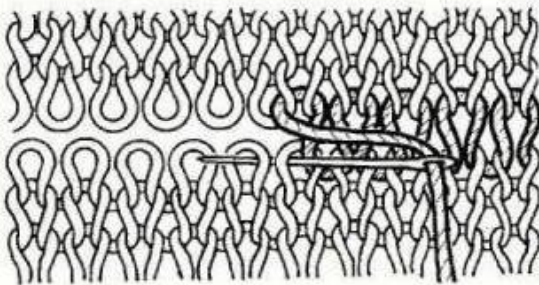
- Sew seams on the right side
- Put the edges of the two pieces by side.
- Pass a tapestry needle threaded with matching yarn, through the bar formed between the edge stitch and the second stitch on the right side.
- Pass the needle through the bar formed between the left hand edge stitch and the second stitch.
- Pull these two bars together.
- Continue, taking the bars at each side, one at a time.

COLLAR SEAMS, FINISHING BANDS



Pass the needle into both stitch A and knitted piece, pull it out through stitch C, pass it into both stitch B and knitted piece, pull it out through stitch D. Note: before assembling, carefully tack the knitted pieces together.

GRAFTING

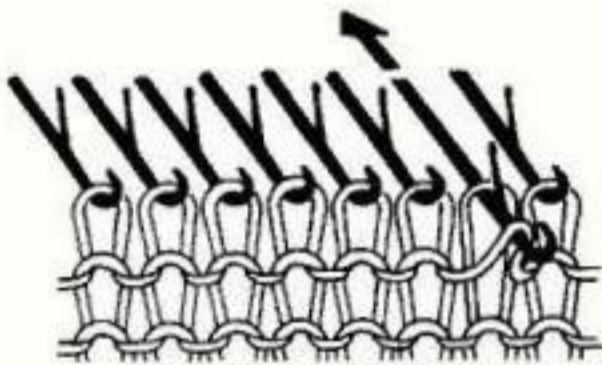


The grafting method forms an invisible horizontal seam, by manually creating the missing row of stitches.

Use a needle threaded with the same yarn as used for garment. Move the needle through the loops as illustrated.

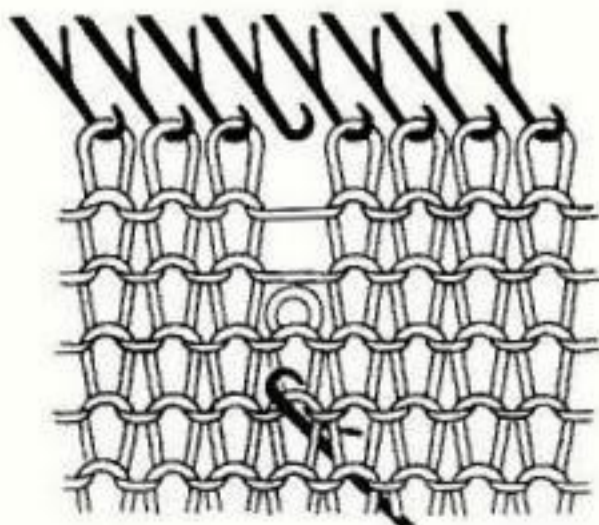
WHAT TO DO IF...

A STITCH DROPS OR IS NOT KNITTED

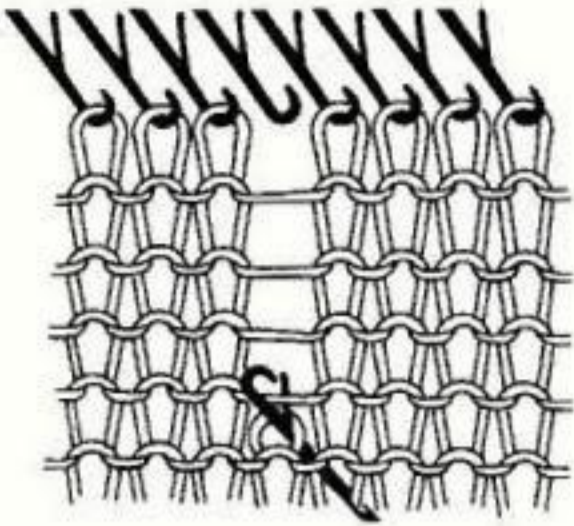


- Rehang the dropped stitch behind the latch and the unknitted yarn on the hook.
- Pull the needle heel down to draw the yarn through.

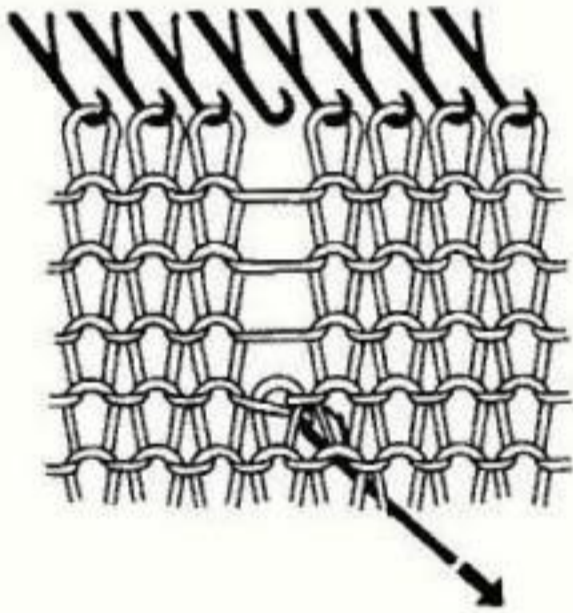
A STITCH DROPS SEVERAL ROWS



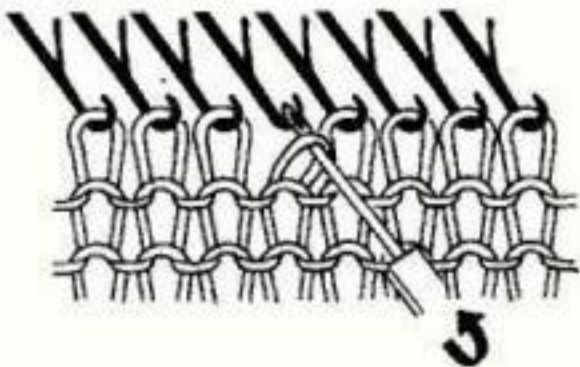
- Insert the hook and latch needle tool a few rows under the dropped stitch, from the back of the knitting.



- Push the tool upwards until the dropped stitch slides behind the latch.
- Take the yarn from the row above onto the hook of the tool.



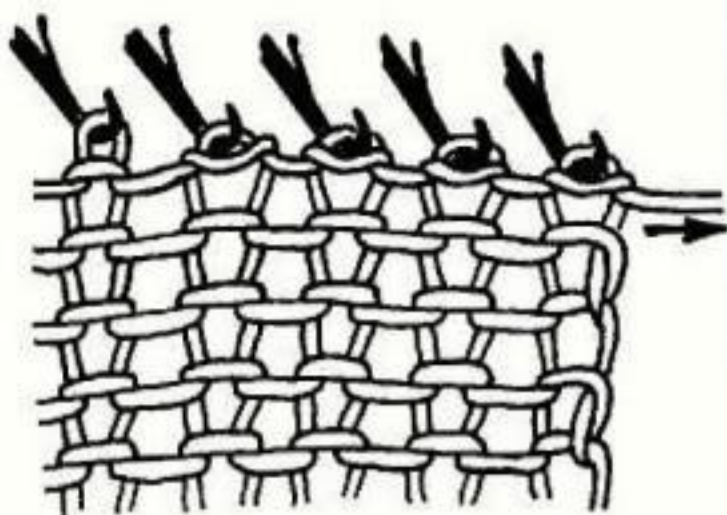
- Pull the tool downwards until the latch closes and a new stitch is formed.



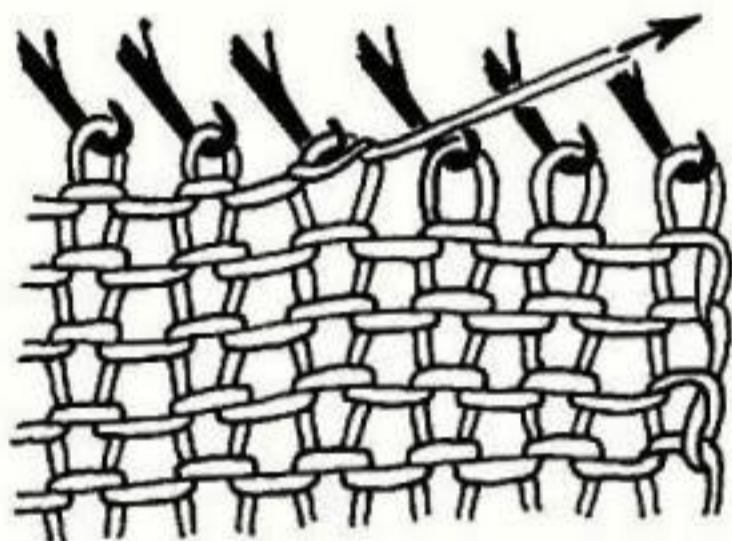
- When the last loop of yarn has been knitted, transfer the stitch onto the needle.

Undoing one or more rows at a time

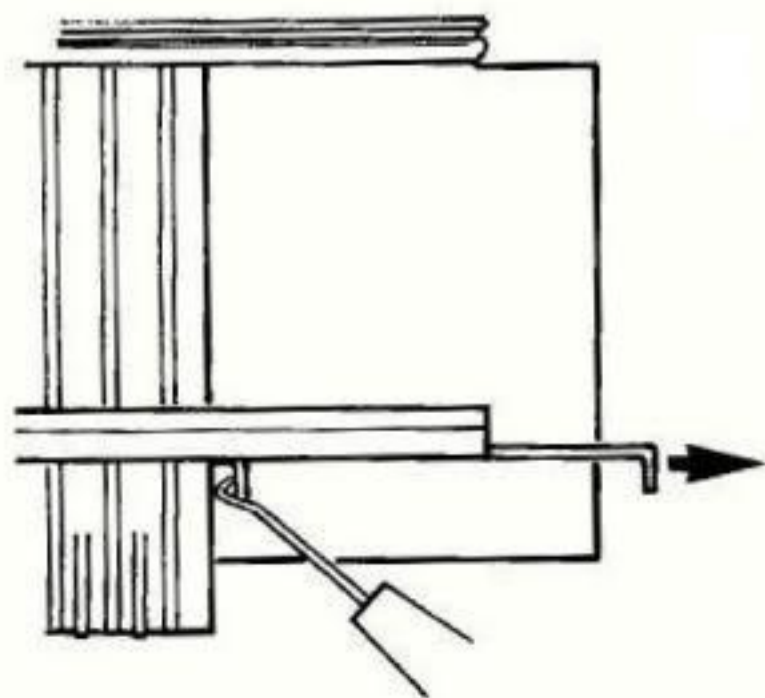
- Place the needles in position one.
- Pull the yarn to the side to tighten a few stitches at a time.



- Pull the yarn up and over the needles.
- The stitch from the previous row will slip onto the needle hook.



HOW TO CHANGE A NEEDLE



Les aiguilles sont maintenues par un fil d'arrêt ayant un bout recourbé à droite, sous la reglette graduée.

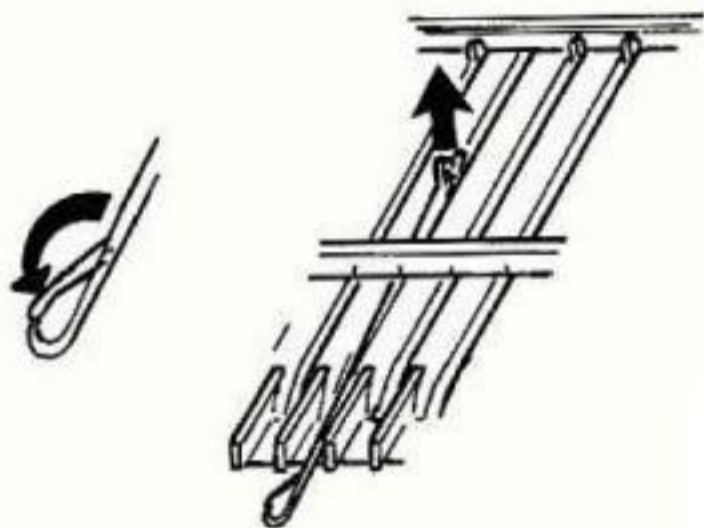
- A l'aide du crochet du poinçon remailleur, tirez à droite la partie recourbée du fil d'arrêt, jusqu'à ce que l'aiguille à changer soit libérée.

How to change a needle:

- The needles are held in place by a rod. It has a bent end at the right hand side under the graduated scale.
- With the hook of the latch needle tool, pull the bent end of the rod until the rod clears the needle to be changed.

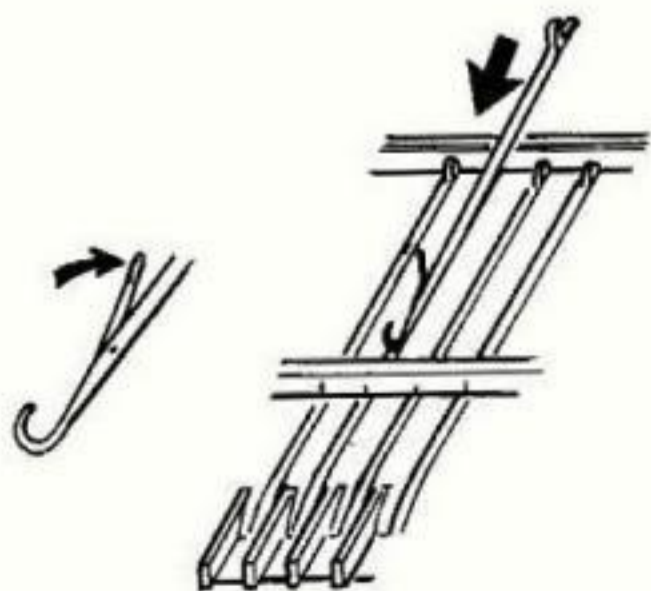
Las agujas se mantienen en su lugar mediante una varilla. Esta tiene un borde doblado en el lado derecho, por debajo de la escala graduada.

- Con la corva del punzón de lengüeta, tire del dobléz del extremo de la varilla hasta que la aguja a cambiar esté libre.



To remove the needle: **close the latch** (it prevents the needle hook from catching the needle retaining spring located under the slide rail). Pull the needle out by the heel, towards the back.

- **IMPORTANT:** If the latch is broken or badly bent, clip the hook and latch from the needle with a wire cutters before changing.



- To replace the needle **open the latch** and slide it under the graduated scale, pressing on the needle body to make insertion easier.
- Push the needle rod back into place (bent end to the front) to lock all needles in place

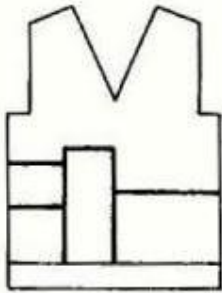
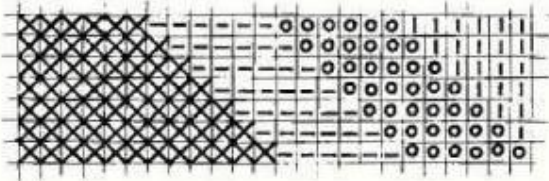
Maintenance

Care and maintenance

- A - Regularly remove the dust and the fluff from your machine, especially the needle grooves, with a nylon brush.
- B - With a clean cloth soaked with oil (special oil for sewing or knitting machine), lubricate the needle heels. In the same way, lightly lubricate the underside of the carriage. To distribute the oil evenly place needles in position 2. Take the carriage across several times without yarn. Wipe of excess.

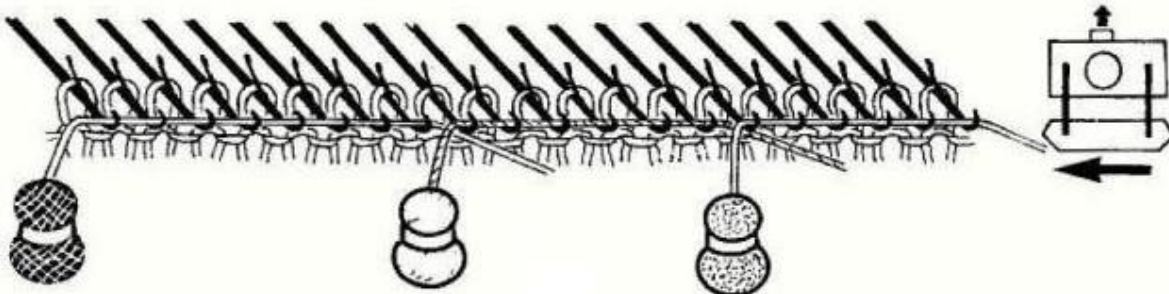
FANCY PATTERNS

Intarsia - INTARSIA - Intarsia

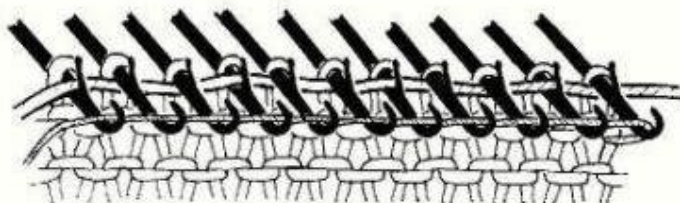


Intarsia is a method for pattern knitting with two or more colors, without floats of yarn on the reverse side of fabric.

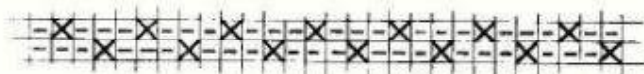
- Prepare a diagram before knitting.
If your pattern is very complex make a complete drawing on graph paper.



- All needles are in working position 2.
- Needle selector switch pressed out.
- Use one ball of yarn for each color.
- Lay the yarn across the needles, according to your drawing.



- Descendez les aiguilles en position 2. Le fil de tissage doit être derrière les clapets d'aiguilles. Posez votre fil à tricoter et passez le chariot.
- After weaving push the needles in position 3 back into position 2. The weaving yarn must be behind the needle latches. Lay the main yarn across all needles and knit one row.
- Lleve de nuevo las agujas a la posición 2. La segunda lana debe estar por detrás de las lenguetas de las agujas. Ponga la lana para tricotar y teja una vuelta.



Il est préférable de définir son diagramme avant de commencer à tricoter.

X = aiguilles en position 3

Prepare your diagram before you start knitting

Example:

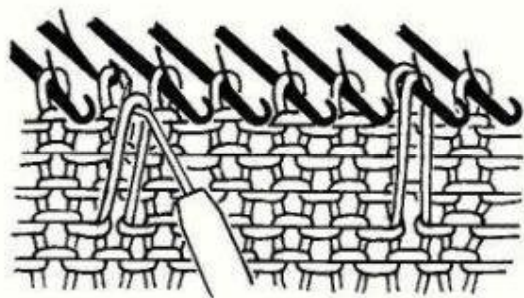
X = needles to be put into position 3.

Prepare su diagrama antes de empezar a tricotar.

X = Agujas a situar en posición 3.

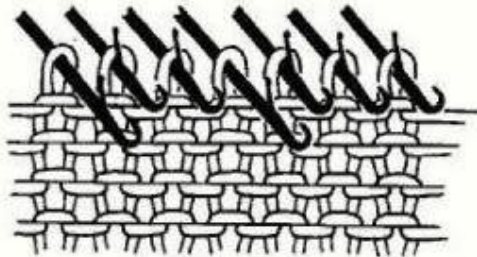
Mailles remontées - PULLED UP STITCHES

Remontado de puntos

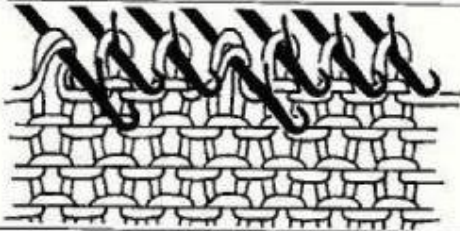


- Tricotez en jersey. Tous les 3, 4 ou 6 rangs remontez une maille avec la pointe du crochet remailleur sur les aiguilles choisies.
- Knit in stocking stitch. Every 3rd, 4th or 6th row, take the heel of the stitch and place it behind the latch of the needle directly above it. Continue knitting.
- Teja en punto liso. Cada 3., 4., ó 6. vuelta, suba un punto con el punzón de gancho sobre la aguja requerida.

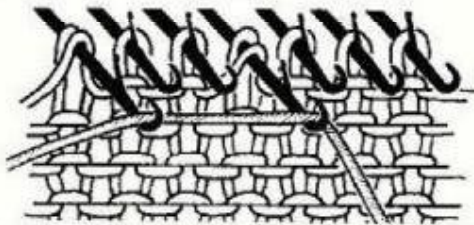
FAIR ISLE



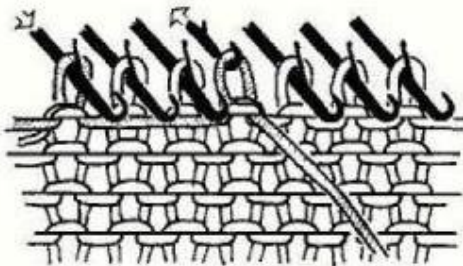
- All needles are in position 2.
- Bring the needles desired for contrast color into position 3.



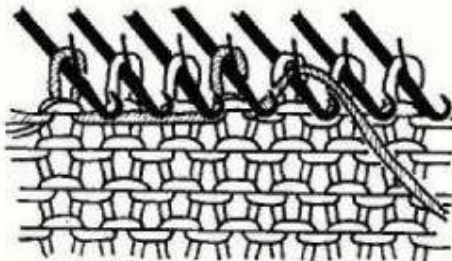
- Knit one row with the main yarn.



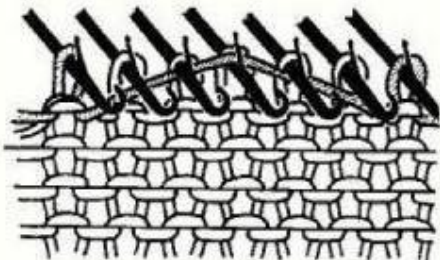
- Lay the contrast color over needles in position 3.



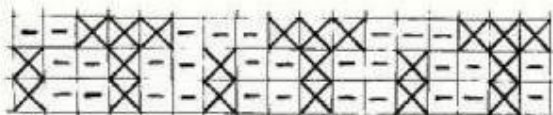
- Knit the stitches one after the other manually. Make sure to get the same sized stitches as for the stitches knitted with the carriage. You can use as many different colored yarns as you like.



- When the pattern is finished, cut the yarn and weave it into the knitting.
- Lay the end of the yarn behind the latch of the adjacent few needles.
- The yarn will be knitted in the next row and invisible from the right side.

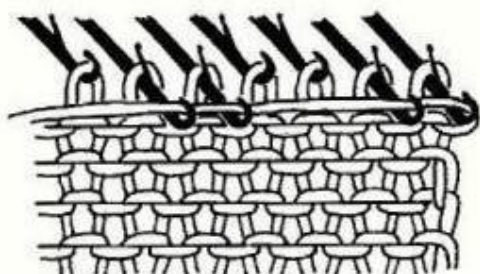


- When long floats occur between two stitches of a same color, lay the float behind the latch of a needle, in the center of the float. It will be knitted in the next row and invisible from the right side.

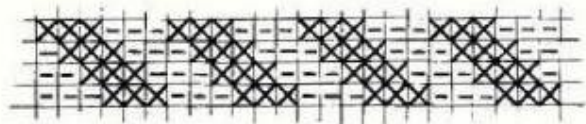


Prepare a diagram before knitting.

SLIP STITCH

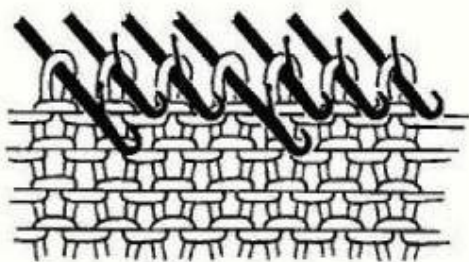


- All needles are in position 1.
- Needle selector switch is pressed in.
Bring the needles required for the pattern stitch into position 2. The remainder stay in position 1 to form the slip stitch.
- Please note: the stitches behind the slip stitches must be knitted at least once every third passage of the carriage, according to the quality of the yarn.

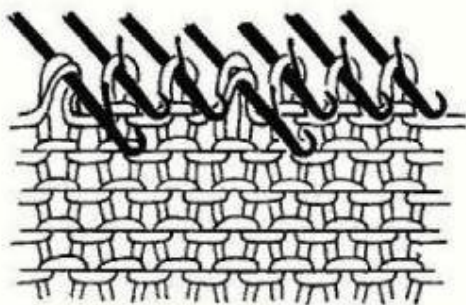


Prepare a diagram before knitting.

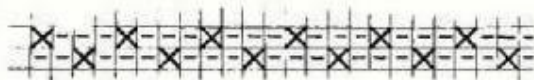
TUCK STITCHES (NEEDLES IN HOLDING POSITION)



- All needles are in position 2.
- Needle selector switch is pressed out.
- Bring the needles required for tuck stitch to position 3.
- Please note: never select two or more needles into holding position next to each other on any row.
- Knit 1, 2 or 3 rows according to the thickness of your yarn

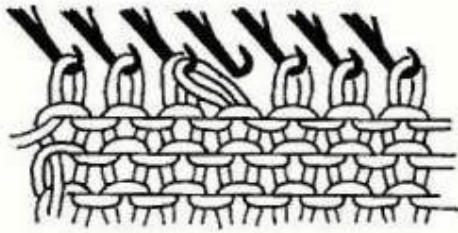


- Return needles from position 3 to position 2.
- Knit one row.

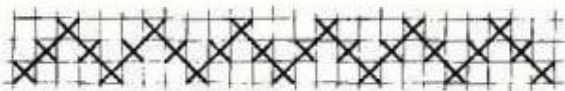
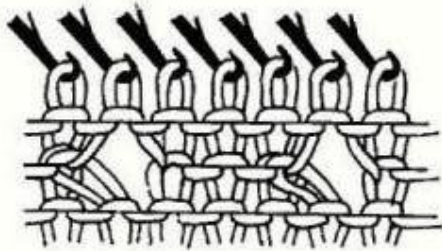


Prepare a diagram before knitting.
X = Needles in holding position.

LACE PATTERNS

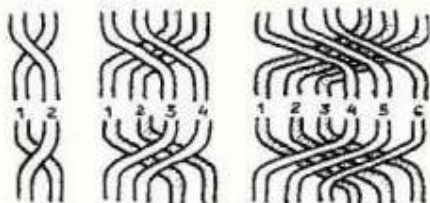


- All needles are in position 1.
- Transfer stitch required for pattern onto its adjacent needle.
- Bring needles forward to position 2.
- Knit two rows.

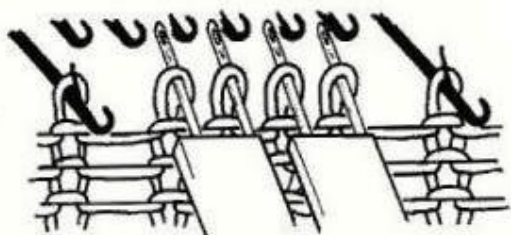


Prepare a diagram before knitting.

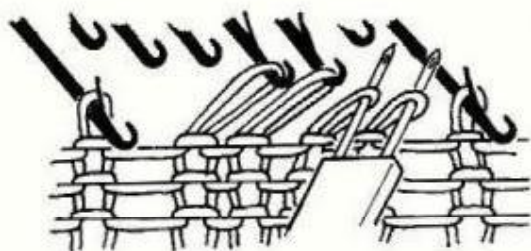
CABLES



- Cables are made by crossing stitches.
You can cross 2, 4 or 6 stitches depending on the width of the cables you want.



- All needles are in position 1.
- Select the area where you wish to produce your cable. Unhook two stitches with one of your double eyelet tools, and the two adjacent ones with a second tool.



- Now cross the stitches, moving the right-side ones to the left-side needles and the left-side ones across to the right-side needles.

Note: if you have only one eyelet tool, the second two stitches can be transferred one after the other with the latch needle tool.

- Knit several rows before repeating the same operation.



Hint:

To cross the stitches easily, let a stitch "fall" on the right and on the left at each side of the cable. You can latch up the stitches when the garment is finished, to create a purl stitch at each side of the cable.