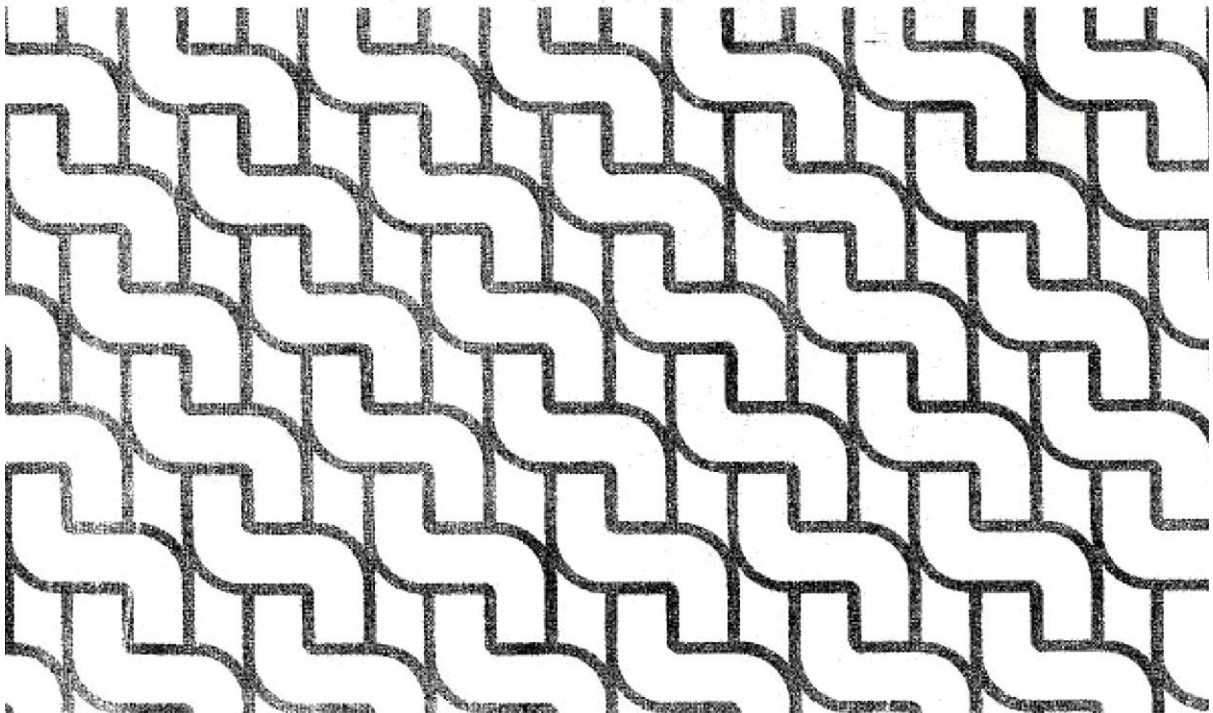


# INSTRUCTION BOOK

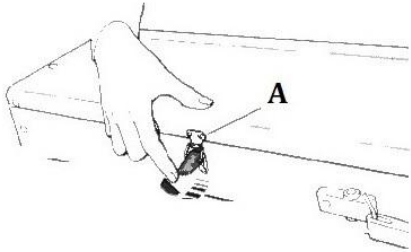
Chunky Punch Card Knitter MOD. 155



## CONTENTS

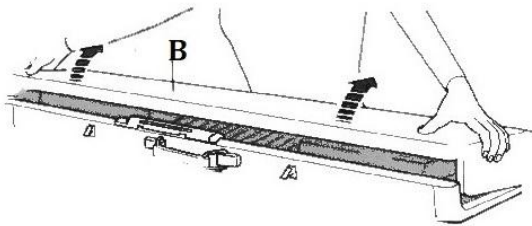
<b>MACHINE AND ACCESSORIES</b> .....	<b>1</b>
<b>SETTING UP THE KNITTER</b> .....	<b>3</b>
<b>NAME &amp; FUNCTIONS OF EACH PART</b> .....	<b>5</b>
<b>YARN PREPARATION</b> .....	<b>8</b>
<b>THREADING THE YARN</b> .....	<b>9</b>
<b>YARN AND STITCH DIAL</b> .....	<b>10</b>
<b>CAST ON &amp; KNITTING</b> .....	<b>11</b>
<b>PATTERN KNITTING</b> .....	<b>20</b>
<b>Fair Isle (Knit In)</b> .....	<b>23</b>
<b>Tuck Stitch</b> .....	<b>25</b>
<b>Tuck Stitch in Colours</b> .....	<b>26</b>
<b>Slip Stitch</b> .....	<b>27</b>
<b>Slip Stitch in Colours</b> .....	<b>27</b>
<b>Punch Lace</b> .....	<b>28</b>
<b>Weaving</b> .....	<b>29</b>
<b>L Knob Function</b> .....	<b>31</b>
<b>MAKING A TENSION GAUGE</b> .....	<b>32</b>
<b>KNITTING TECHNIQUES</b> .....	<b>35</b>
<b>Fully Fashioned Decrease</b> .....	<b>35</b>
<b>Fully Fashioned Increase</b> .....	<b>35</b>
<b>Partial Knitting by Decreasing Stitches</b> .....	<b>36</b>
<b>Partial Knitting by Increasing Stitches</b> .....	<b>37</b>
<b>K1. P1. Rib</b> .....	<b>38</b>
<b>Picot hem</b> .....	<b>41</b>
<b>Holding Stitches</b> .....	<b>43</b>
<b>Making a Yarn Mark</b> .....	<b>45</b>
<b>Buttonhole</b> .....	<b>46</b>
<b>Cable Patterning</b> .....	<b>47</b>
<b>Garter Stitch</b> .....	<b>47</b>
<b>Making Joins on the Machine</b> .....	<b>48</b>
<b>Blind Stitch</b> .....	<b>51</b>
<b>Grafting</b> .....	<b>51</b>
<b>Slip Stitching</b> .....	<b>52</b>
<b>Sewing in Yarn Ends</b> .....	<b>52</b>
<b>Cord Knitting</b> .....	<b>53</b>
<b>Making a Pom-pom</b> .....	<b>54</b>
<b>HOW TO KNIT A GARMENT - Lady's Sweater</b> .....	<b>55</b>
<b>HELPFUL HINTS</b> .....	<b>60</b>
<b>MAINTENANCE</b> .....	<b>66</b>
<b>RE-PACKING THE KNITTER</b> .....	<b>67</b>

## MACHINE & ACCESSORIES

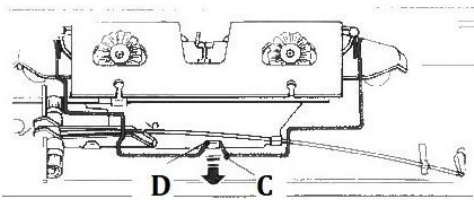


Place the machine on the table with the carrying handle away from you.

Unfasten the two latches 'A'.

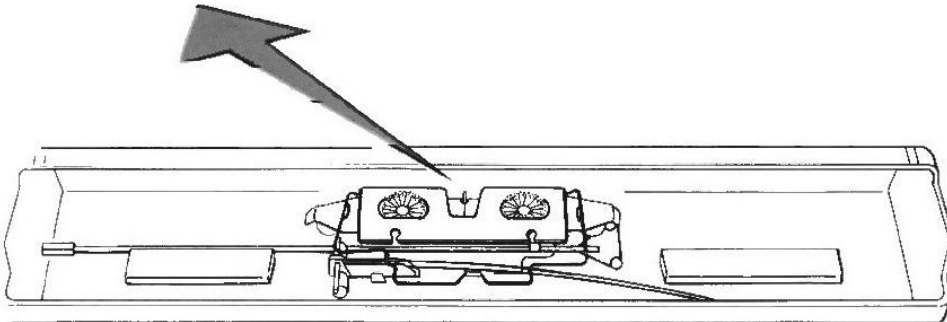


Lift the top cover 'B' slightly - and pull it toward you to remove it from the knitting bed.



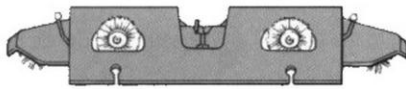
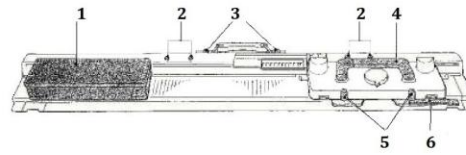
Place the top cover as shown below.

Release the wire spring 'C' from its holding bracket 'D' located inside the top cover.

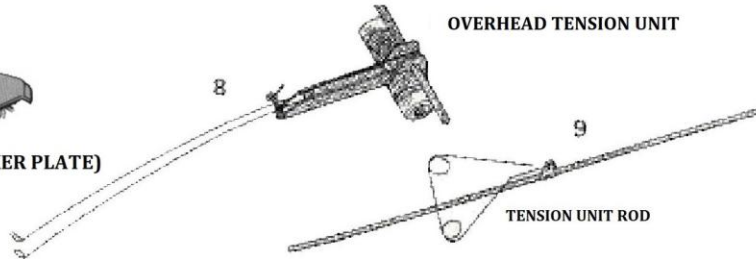




1. ACCESSORY BOX
2. ROW COUNTER STUDS
3. BRACKET SOCKET
4. CARRIAGE HANDLE
5. CARRIAGE ARM SECURING NUTS
6. CARRIAGE LOCK



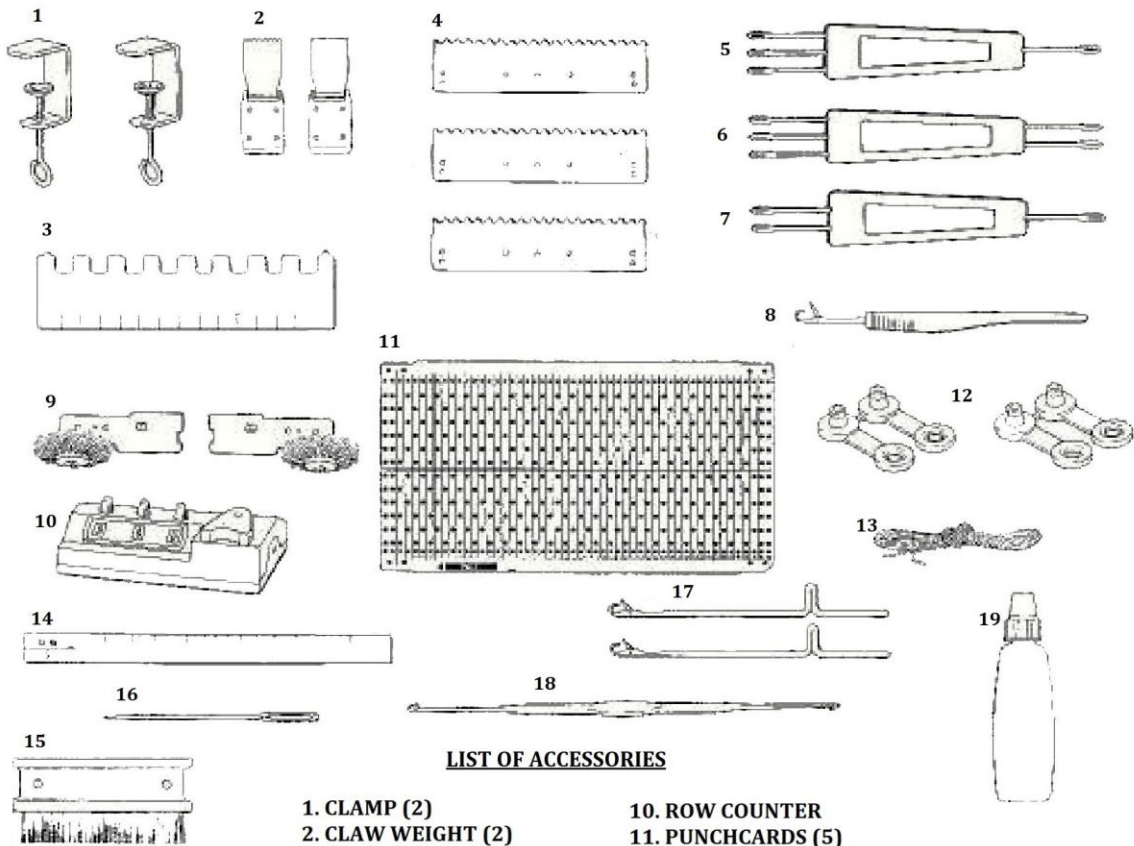
CARRIAGE ARM (ALSO KNOWN AS SINKER PLATE)



OVERHEAD TENSION UNIT

TENSION UNIT ROD

ACCESSORY BOX - CONTAINS THE FOLLOWING ITEMS

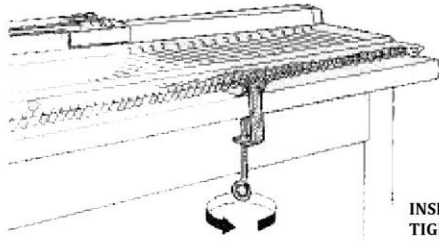


**LIST OF ACCESSORIES**

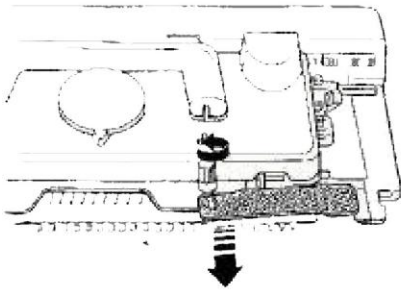
- |                                |                       |
|--------------------------------|-----------------------|
| 1. CLAMP (2)                   | 10. ROW COUNTER       |
| 2. CLAW WEIGHT (2)             | 11. PUNCHCARDS (5)    |
| 3. NEEDLE PUSHER (1/1)         | 12. CARD SNAPS (4)    |
| 4. WIDE CLAW WEIGHT (3)        | 13. RAVEL CORD        |
| 5. TRANSFER TOOL (1 X 3)       | 14. GAUGE SCALE       |
| 6. TRANSFER TOOL (2 X 3)       | 15. LATCH BRUSH       |
| 7. TRANSFER TOOL (1 X 2)       | 16. TAPESTRY NEEDLE   |
| 8. LATCH TOOL<br>(TAPPET TOOL) | 17. SPARE NEEDLES (2) |
| 9. L & R TUCK BRUSHES          | 18. CROCHET HOOK      |
|                                | 19. BOTTLE OF OIL     |



## SETTING UP THE KNITTER

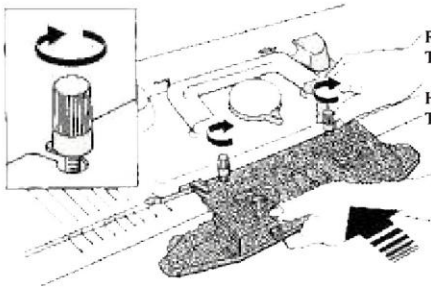


INSERT THE CLAMPS INTO SLOTS "A" UNDERNEATH THE NEEDLE BED AND TIGHTEN THE CLAMPS BY TURNING THE SCREW IN THE DIRECTION INDICATED BY THE ARROW.



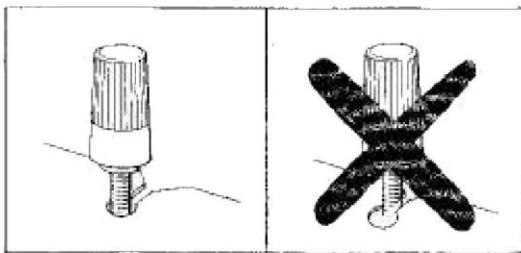
LOOSEN THE ASRM NUTS BY TURNING IN THE DIRECTION INDICATED BY THE ARROW. REMOVE THE CARRIAGE LOCK.

KEEP THE CARRIAGE LOCK SAFE IN THE ACCESSORIES BOX. REFIX IT WHEN THE MACHINE IS TO BE TRANSPORTED.

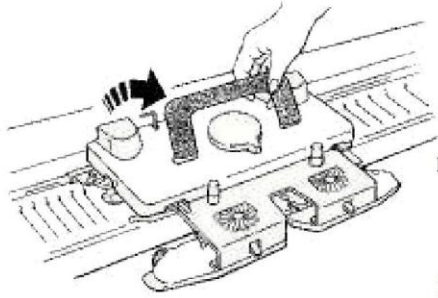


REMOVE THE ARM (SINKER PLATE) FROM THE TOP COVER AND POSITION ITS SLOTS UNDER THE TWO ARM NUT SCREWS.

HOLD THE ARM SECURELY AGAINST THE CARRIAGE WHEN TIGHTENING THE NUTS, TURNING AS INDICATED BY THE ARROWED DIRECTION.

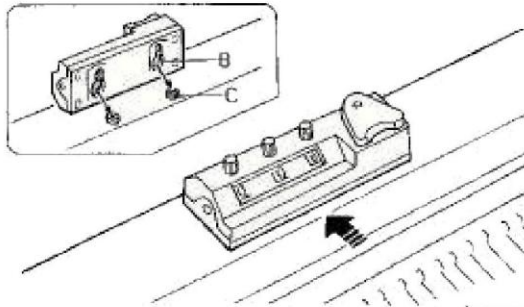


ENSURE THE ARM NUTS FIT PROPERLY INTO THE CUT OUTS ON THE ARM.



**RAISE THE CARRIAGE HANDLE AND IT WILL CLICK INTO POSITION**

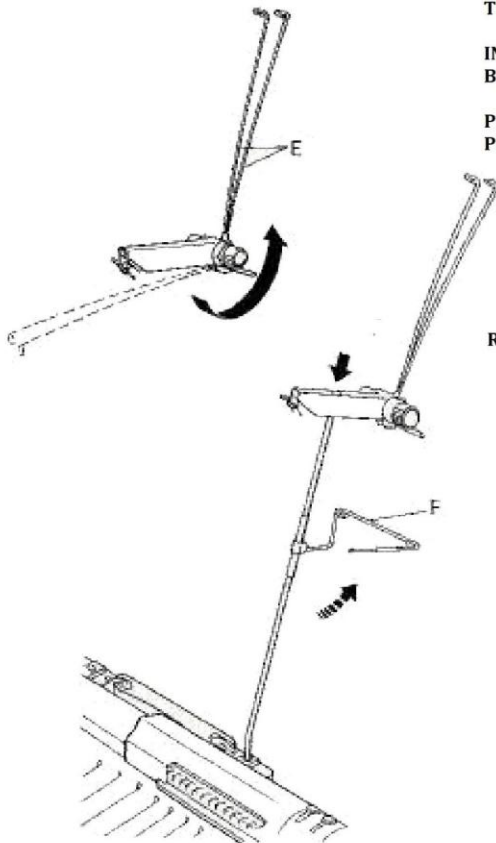
**ATTACH THE ROW COUNTER BY LOCATING THE SLOTS ON THE UNDERNEATH OF THE ROW COUNTER (B) ONTO THE STUD (C) ON THE TOP OF THE MACHINE AND PUSHING IT BACKWARDS UNTIL IT CLICKS INTO PLACE.**



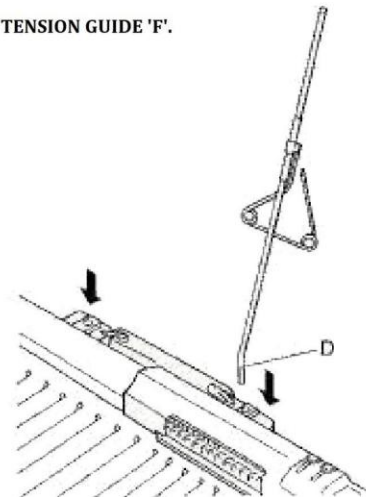
**REMOVE THE AUTO TENSION ROD AND YARN ROD FROM THE INSIDE OF THE TOP COVER.**

**INSERT THE SHORT BENT END OF THE ROD, INTO ONE OF THE HANDLE BRACKET SOCKETS.**

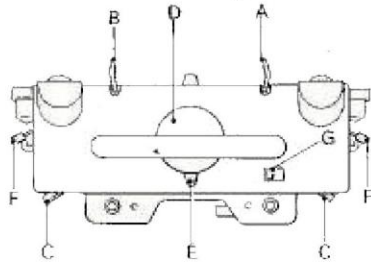
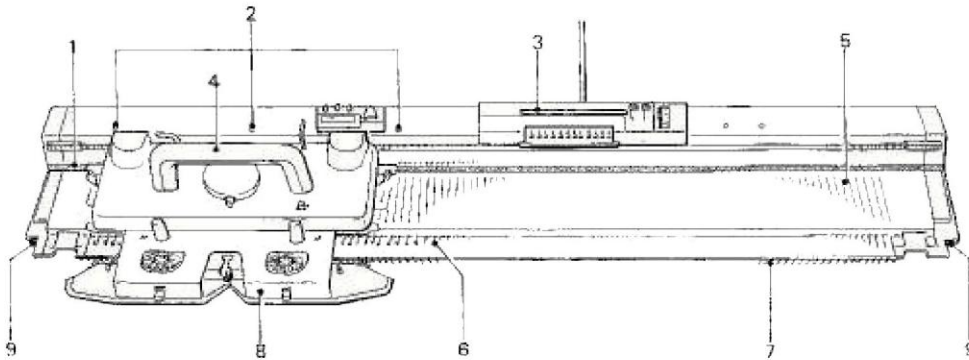
**PLACE THE AUTO TENSION UNIT ON TOP OF THE YARN ROD, IN THE SLOT PROVIDED.**



**RAISE THE REAR TENSION GUIDE 'F'.**



## NAMES AND FUNCTIONS OF EACH PART



- 1. RAIL
- 2. KNIT CONTOUR SECURING STUDS
- 3. PATTERN CARD PANEL (SEE PAGE 20)

- ← 4. CARRIAGE
  - A - RC TRIPPER
  - B - KC TRIPPER
  - C - RUSSEL LEVERS
  - E - CAM LEVER
  - F - SIDE LEVERS
  - G - RELEASE LEVER

- 5. NEEDLE BED

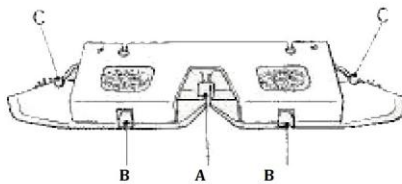
- 6. LATCH NEEDLE
  - A - HOOK
  - B - LATCH
  - C - STEM
  - D - BUTT
  - E - SHANK



- 7. SINKER POSTS

- ← 8. ARM (SINKER PLATE)

- A - YARN FEEDER
- B - WEAVING KNOBS
- C - WEAVING YARN HOLDERS



- 9. YARN HOLDERS

On both left and right ends of the Needle Bed, the letters A, B, C and D associated with brackets "J" are engraved.

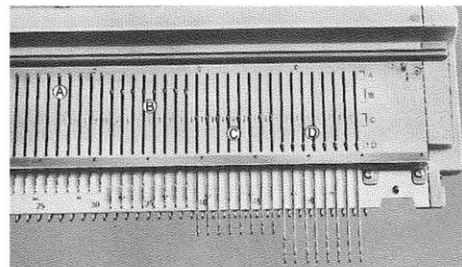
To operate the needles, align their butts within the brackets.

**A - NEEDLES DO NOT KNIT**

**B - NEEDLES KNIT STOCKINET & STITCH PATTERN**

**C. NEEDLES KNIT STOCKINET ONLY.**

**D. NEEDLES DO NOT KNIT WHEN RUSSEL LEVERS ARE SET AT - NEEDLES ARE KNITTED BACK TO B POSITION WHEN RUSSEL LEVERS ARE SET AT =.**

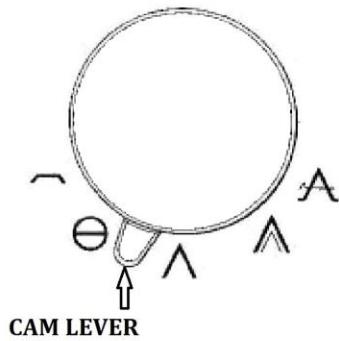




CAM LEVER IS USED TO SELECT STITCH TYPE.

FIVE POSITIONS ARE MARKED AS SHOWN OPPOSITE.

CLICK THE CAM LEVER ONTO THE SYMBOL REPRESENTING YOUR REQUIRED STITCH TYPE, AS INDICATED BELOW.



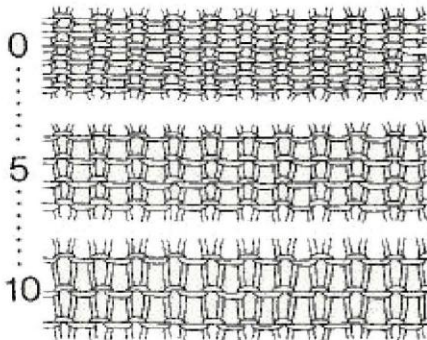
▲ FOR : STOCKINET, WEAVING, CAST ON

⊖ FOR : SLIP STITCH

⌒ FOR : TUCK STITCH

▲▲ FOR : PUNCH LACE

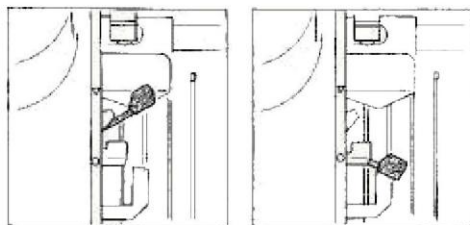
A FOR : FAIR ISLE (KNIT IN)



THE STITCH DIAL IS USED TO REGULATE THE SIZE OF THE KNITTED STITCHES. SET THE REQUIRED NUMBER SIZE TO THE ▲ AT THE BOTTOM OF THE DIAL.



The "R" setting is only needed when a ribber is attached to the main bed.

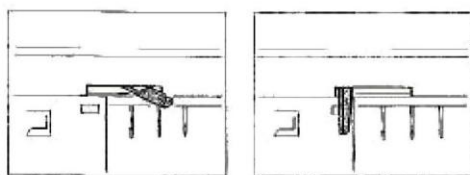


**SIDE LEVERS**

These control needles in 'B' position

SET AT ● NEEDLES KNIT STOCKINET ONLY

SET AT ▼ WHEN USING PATTERN PUNCHCARDS

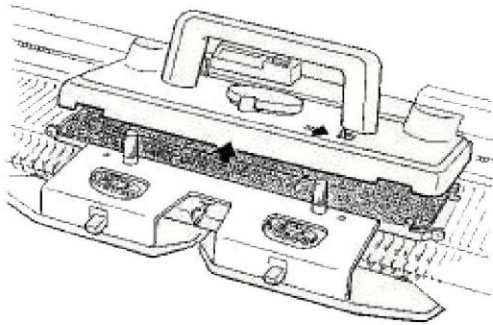


**RUSSEL LEVERS**

These control needles in 'D' position

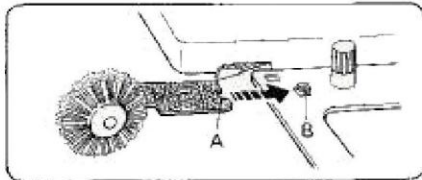
SET AT I NEEDLES IN 'D' DO NOT KNIT

SET AT II NEEDLES IN 'D' KNIT STOCKINET



**RELEASE LEVER**

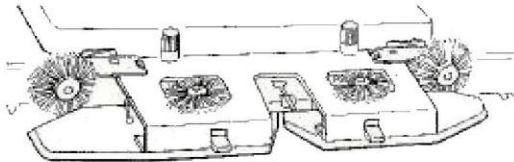
By using this lever you can release the carriage from a jam as well as moving it across the bed without knitting.



**TUCK BRUSH**

Attach the right tuck brush to the right side of the sinker plate and the left brush, to the left side - placing brush cut out "A" under stud "B" on the sinker plate.

Depending on the type of yarn the stitches may be loose on the needles. Using the tuck brushes will rectify this and of course, they can be used when knitting tuck stitch patterns.

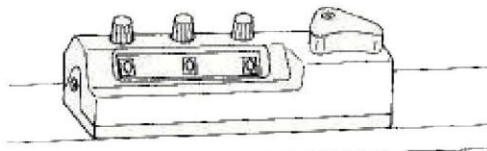
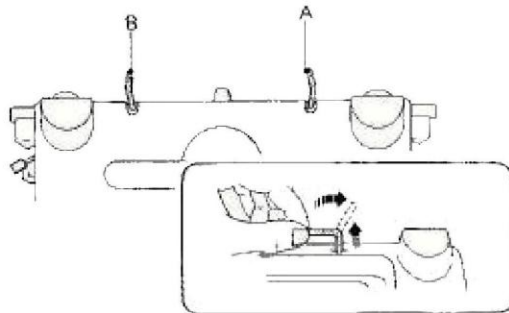


**FEEDING TRIPPERS**

The feeding tripper "A" on the right side of the carriage operates both the row counter and the Knit Contour (if one is fitted).

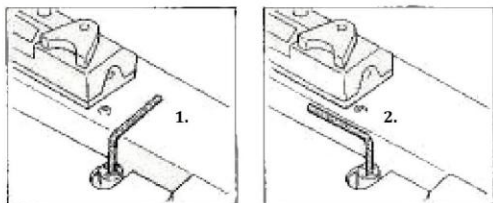
The feeding tripper "B" on the left side of the carriage, operates the Knit Contour only.

To engage either feeding tripper with the row counter or Knit Contour, lift it up and turn it towards the back of the needle bed. To disengage the feeding trippers, lift and turn to the side.



**OPERATING THE ROW COUNTER**

Set the right feeding tripper to working position, pointing toward the back.



1. Feeding tripper operates the row counter and knit contour if fitted.

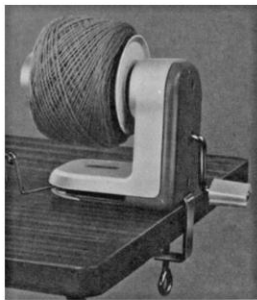
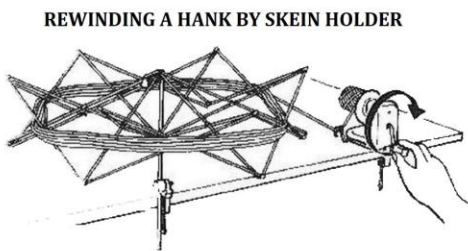
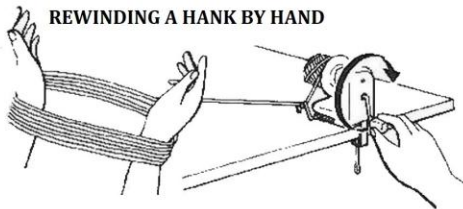
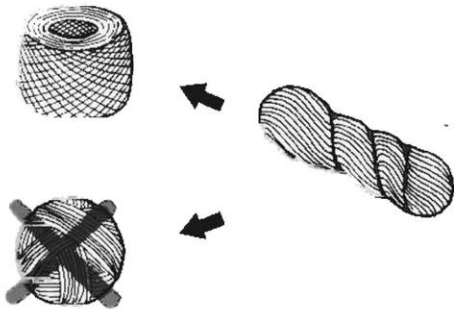
2. Feeding tripper is in non-working position.

## YARN PREPARATION

Your machine is designed to knit a wide variety of bulky yarns but it is recommended to use extra thick yarn for practice (see page 10).

Correct preparation of yarns before you start knitting is very important. This will make knitting more enjoyable, easier and your finished garment will be much improved.

It is impossible to machine knit from a hank of wool or a hand wound ball.

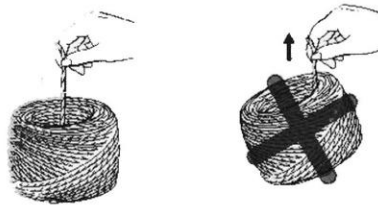


An optional yarn winder is recommended for winding these yarns into a suitable centre pull ball.

For the best results - an optional yarn ball winder is recommended for winding yarn.

*When yarn is re-wound, ensure that the yarn end comes out freely from the centre, without lifting the ball.*

*If the ball has been wound too tight for the yarn to come out freely, re-wind it more loosely.*





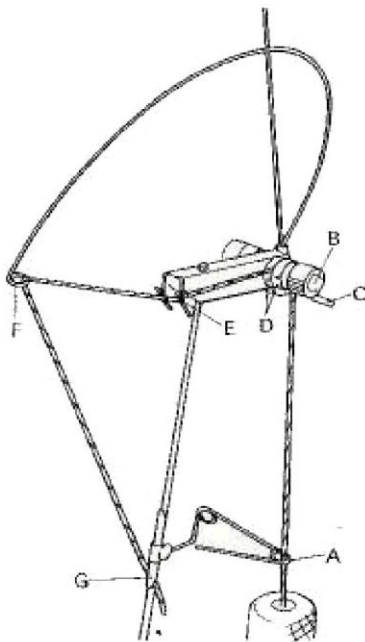
## THREADING THE YARN

For practice, prepare extra thick yarn to use.

Thread the right side of the tension unit as follows:

1. Through the right rear tension guide eyelet "A"
2. Between (& behind) tension dial "B" and guide bar "C"
3. Between the unit's two tension discs "D"
4. Through the right yarn guide eyelet at the front of unit "E"
5. Through the right overhead tension spring eyelet "F"

Place the end of the yarn under the mast's yarn clip at "G"

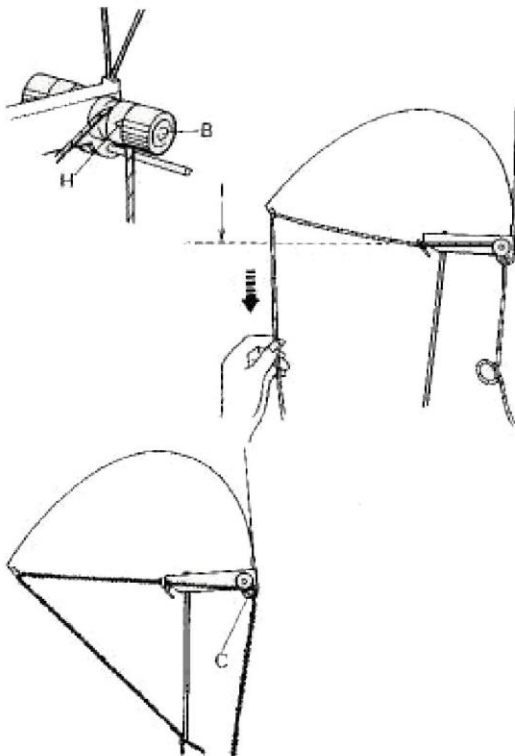


### ADJUSTING THE YARN TENSION DIAL

Adjust the tension dial, according to the type of yarn you are using, by turning tension dial "B" until the required number corresponds to the < shape "H" using the following as a guide:

1. Yarn runs freely out of the ball
2. Distance between the overhead tension spring and the horizontal line "I" (10-20 cm) must be maintained.

*The higher the number, the tighter the tension. The lower the number, the looser the tension.*



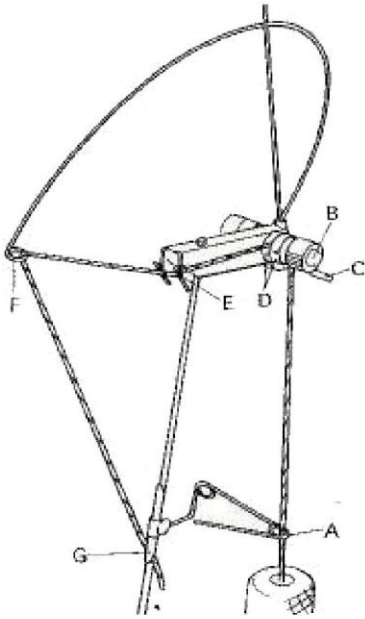
When using heavyweight slub yarn - place it under the guide bar "C" only - and not between the tension discs at "D".

It is advisable to pull out a good length of yarn from the yarn ball, before casting on.

## THREADING THE YARN

For practice, prepare extra thick yarn to use.

Thread the right side of the tension unit as follows:

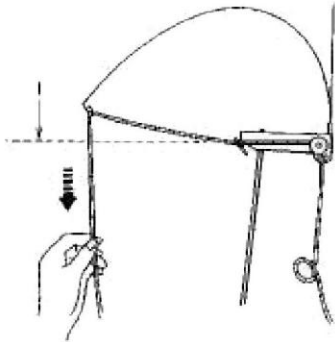


1. Through the right rear tension guide eyelet "A"
2. Between (& behind) tension dial "B" and guide bar "C"
3. Between the unit's two tension discs "D"
4. Through the right yarn guide eyelet at the front of unit "E"
5. Through the right overhead tension spring eyelet "F"

Place the end of the yarn under the mast's yarn clip at "G"

## ADJUSTING THE YARN TENSION DIAL

Adjust the tension dial, according to the type of yarn you are using, by turning tension dial "B" until the required number corresponds to the < shape "H" using the following as a guide:



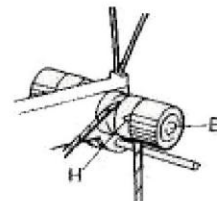
1. Yarn runs freely out of the ball
2. Distance between the overhead tension spring and the horizontal line "I" (10-20 cm) must be maintained.

*The higher the number, the tighter the tension. The lower the number, the looser the tension.*

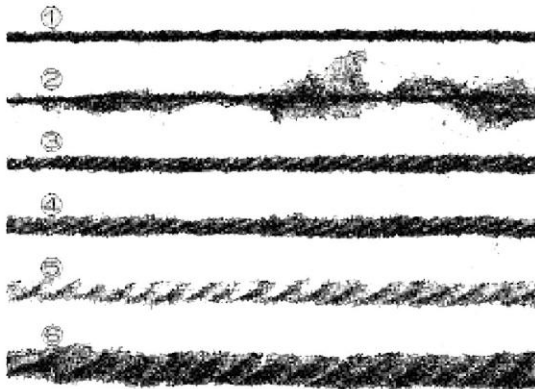


When using heavyweight slub yarn - place it under the guide bar "C" only - and not between the tension discs at "D".

It is advisable to pull out a good length of yarn from the yarn ball, before casting on.



## YARN AND STITCH DIAL

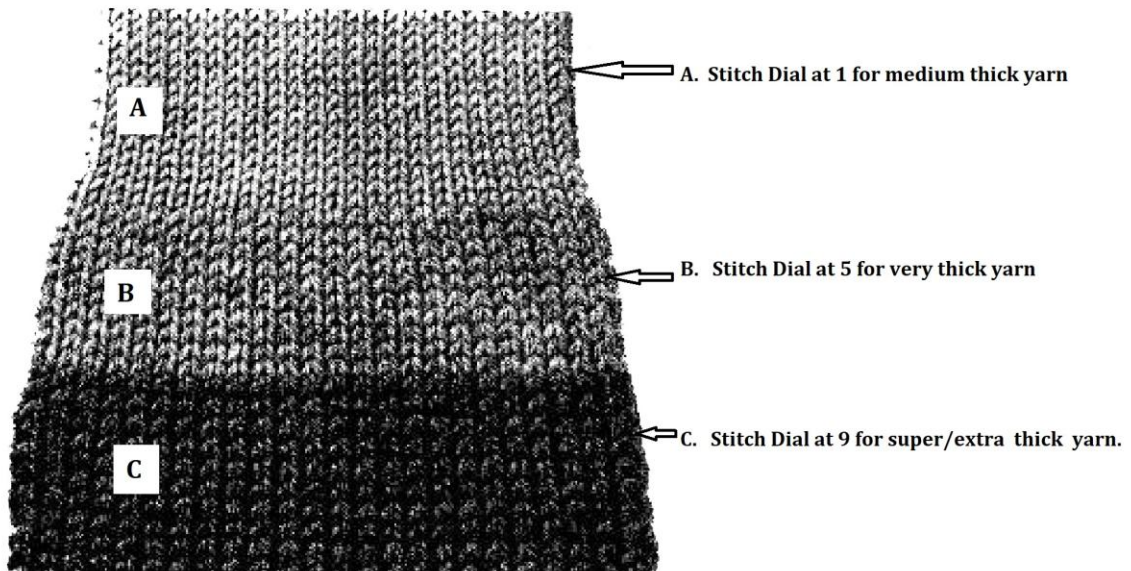


To obtain suitable stitch size or a suitable tension for a garment, set the stitch dial number, according to the thickness of your yarn - referring to the yarn table opposite.

*The thicker the yarn - the higher the stitch dial number.*

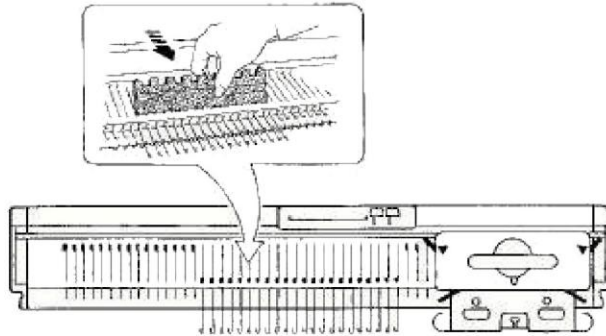
*The thinner the yarn - the lower the stitch dial number.*

TYPE OF YARN	STITCH DIAL
1. Medium Thick	1 - 2
2. Mohair	3 - 4
3. Very Thick	5 - 6
4. Extra Thick	6 - 8
5. Super Extra Thick	8 - 10
6. Super Extra Thick, using every other needle	6 - 7





## CAST ON AND KNITTING

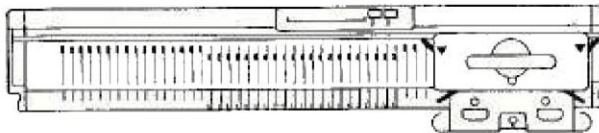


**Cast On (1) Weaving Method :**

**Push up the required number of needles from A position to D position.**

**Set the carriage as follows:**

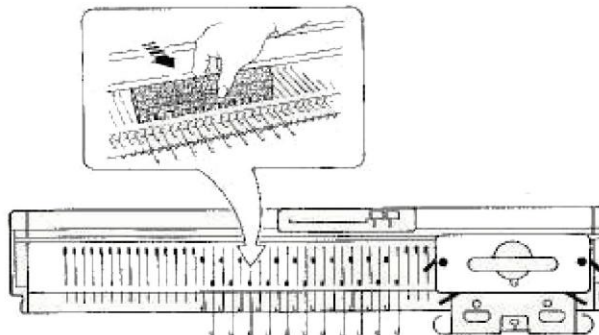
CAM LEVER	▲
SIDE LEVER	▼
RUSSEL LEVERS	
WEAVING KNOBS	○



**Slowly move the carriage across the needle bed until it has passed all the needles.**

**The needles are aligned in B position.**

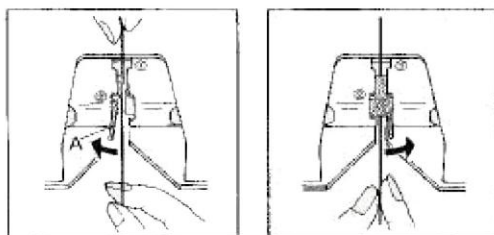
**Leave carriage at the right side of the bed.**



**Using the needle pusher, bring every 2nd needle from B to D position.**

SIDE LEVER	●
WEAVING KNOBS	∞

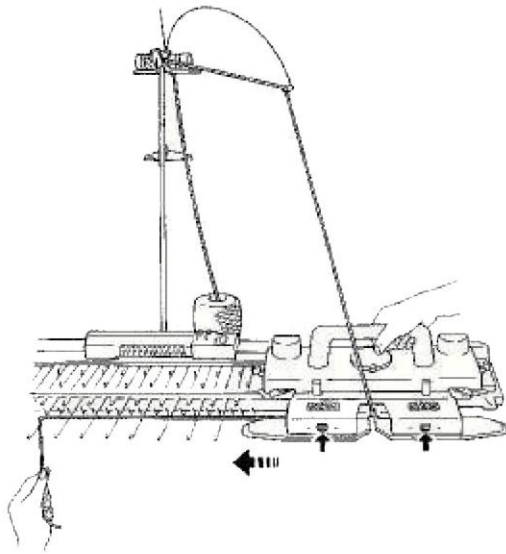
**Set the stitch dial - referring to the table on page 10.**



**Open the yarn feeder by moving yarn gate "A" to the left.**

**Take the yarn from tension mast yarn clip and bring it to the feeder.**

**Slide it into the yarn feeder gap and push yarn feeder gate to the right, keeping hold of the yarn end.**

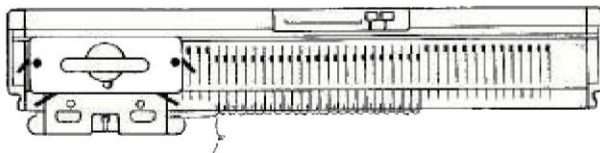


Pull out a good length of the yarn end you're still holding (below the sinker plate arm) and lay it across all the needles in D position.

Hold the yarn loosely at the left, about 60 cm from the yarn end.

Slowly move the carriage from right to left until it has passed all the needles, knitting 1 row.

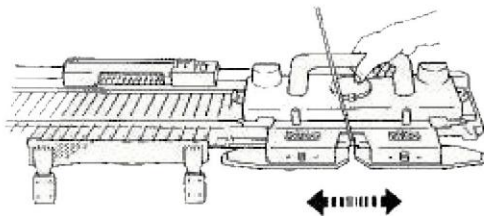
The whole carriage must clear the last stitch by 2 or 3 cms before beginning the next row.



Knit a further 2-3 rows and your cast on is finished.

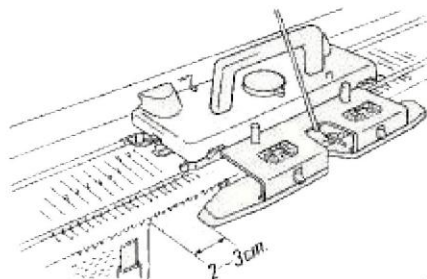
Set the side levers at: ▼

Set Weaving Knobs at: ○



Knit 4-5 rows and hang a claw weight at each end of the fabric.

Continue to knit the carriage from side to side to knit stockinet



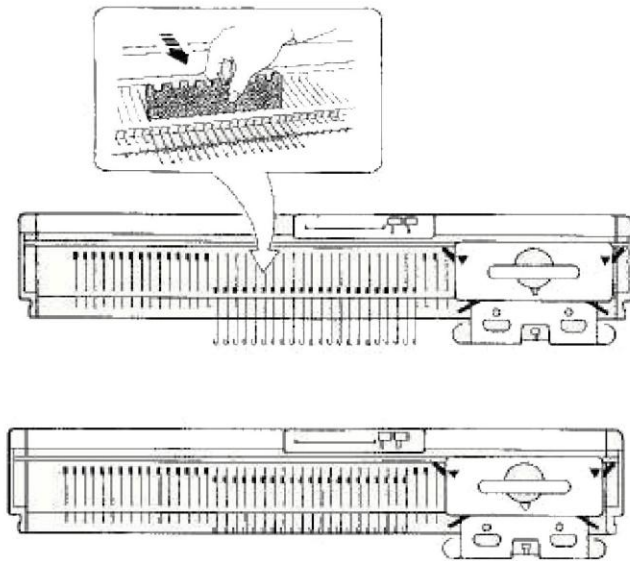
*Always ensure that the carriage arm has passed the last knitting needle by at least 2-3 cms before beginning the next row.*

## Cast On (2)

Push up the required number of needles from A position to D position.

Set the carriage as follows:

CAM LEVER	▲
SIDE LEVER	▼
RUSSEL LEVERS	
WEAVING KNOBS	○



Slowly move the carriage across the needle bed until it has passed all the needles.

The needles are aligned in B position.

Leave carriage at the right side of the bed.

Open the yarn feeder by moving yarn gate "A" to the left.

Take the yarn from tension mast yarn clip and bring it to the feeder.

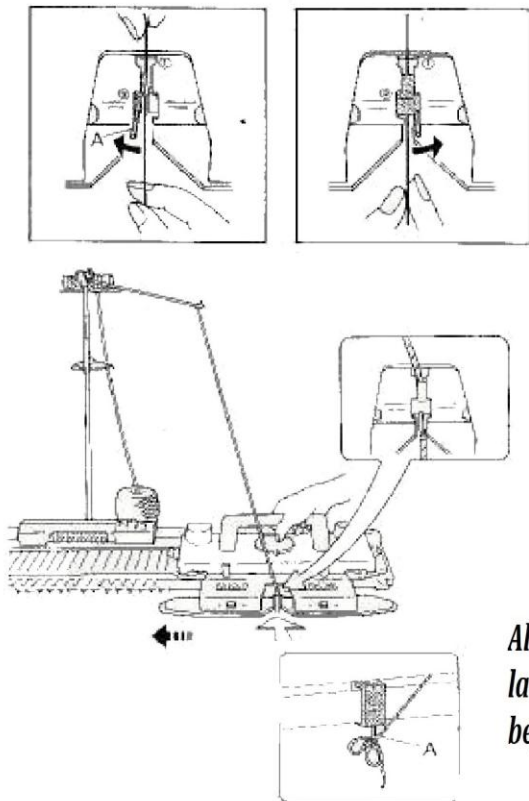
Slide it into the yarn feeder gap and push yarn feeder gate to the right, keeping hold of the yarn end.

Pull the yarn end down through the feeder and ties the end to the table clamp screw "A"

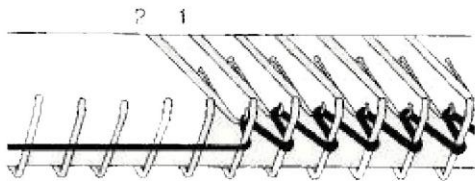
Set the stitch dial referring to the table on page 10.

Slowly move the carriage from right to left until it has passed all the needles in B position.

*Always ensure that the carriage arm has passed the last knitting needle by at least 2-3 cms before beginning the next row.*



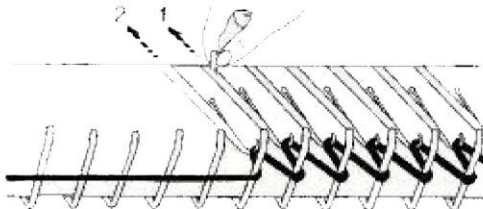




When knitting the first row, the loops may get smaller towards the edge.

To achieve a successful cast on, these smaller loops must be increased in size.

To correct, hold the yarn above the yarn feeder and pull it down, to allow some slack.



Starting with the loop on needle 1 - push the needles with small loops back - one by one - to B position.

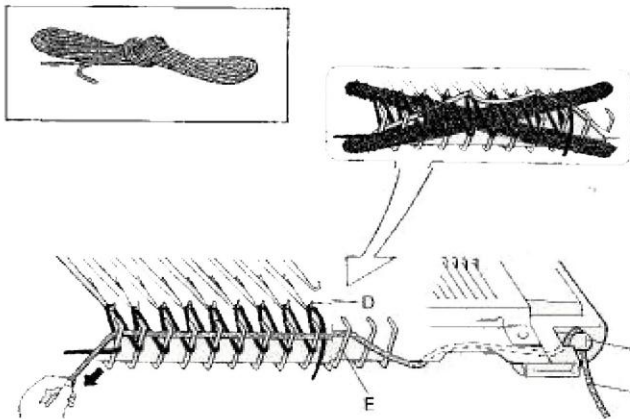
Take the ravel cord from the accessory box and undo it, making sure there are no knots in the cord.

Place the end of the ravel cord 'B' into the clip 'C' at the right end of the needle bed as shown.

Lay the cord across the yarn loops, between the needle hooks 'D' and sinker posts 'E'.

Pull the ravel cord straight with the left hand.

Ensure that the ravel cord lies in the correct position as shown - and is not caught on needle hooks.

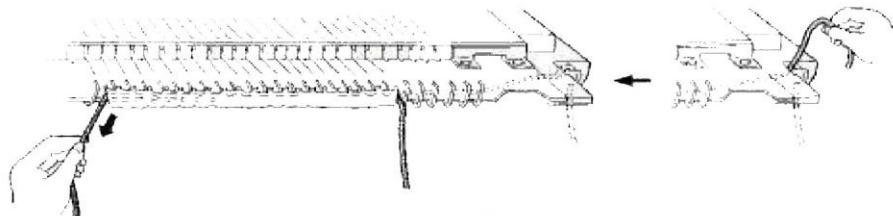
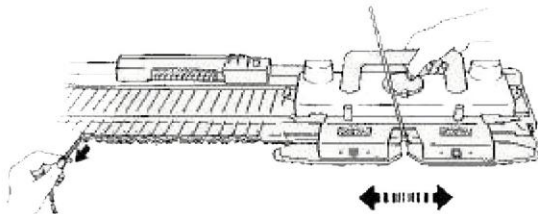


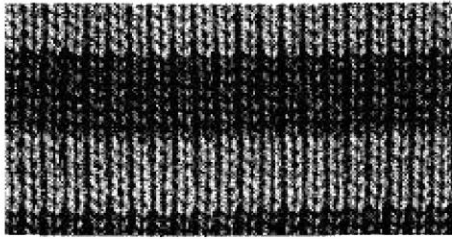
While pulling down on the left end of the ravel cord, move the carriage slowly to the right side.

Continue to knit another 5-6 rows.

Release the end of the ravel cord from the clip on the right and pull it out, from the left end.

Cast on has been completed.

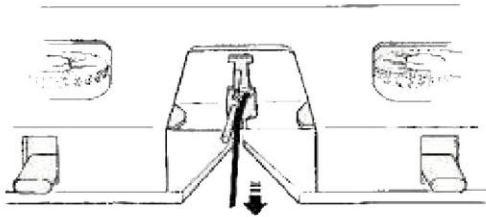




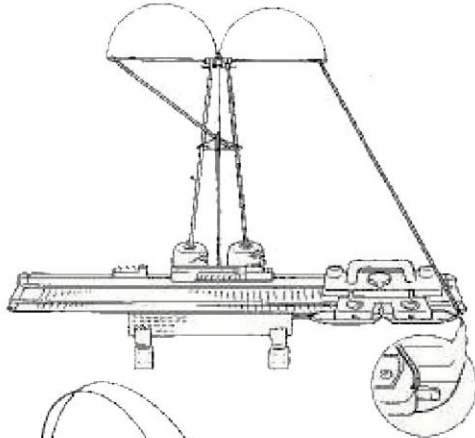
## KNITTING STRIPE PATTERNS

Knit stripes by changing the yarn in the feeder 1, every few rows.

Cast on with main yarn. Either method is acceptable. Knit 4-5 rows in stockinet and hang claw weights at each end of the fabric. Unfasten the yarn end from the clamp screw if you used cast on method 2.



Open the yarn feeder by moving yarn feeder gate 'A' to the left. Remove the main yarn from the yarn feeder.

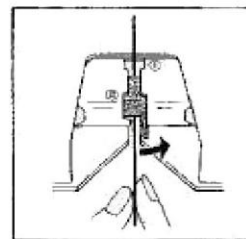
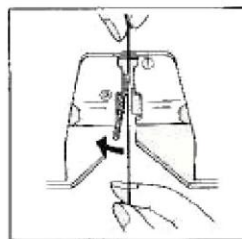
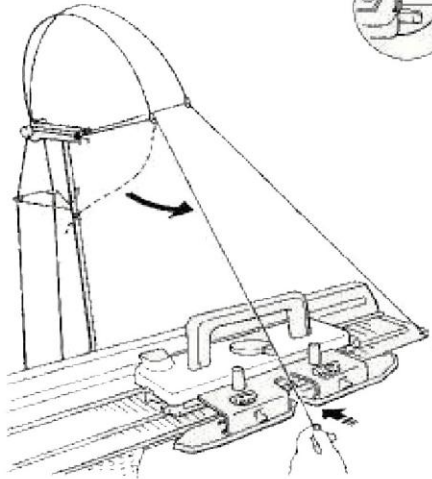


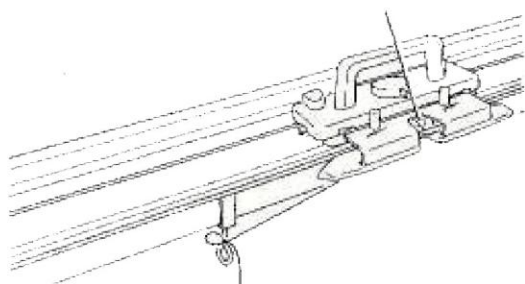
Place the main yarn in the yarn rest at the side of the bed.

### **IMPORTANT**

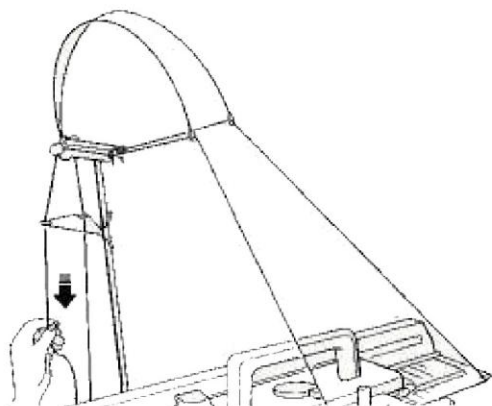
*The yarn in the left tension spring must always be placed in the yarn rest at the left end of the needle bed and the yarn in the right tension spring, in the right yarn rest.*

*You must always rest the yarn at these ends of the needle bed - no matter which side you change yarns.*



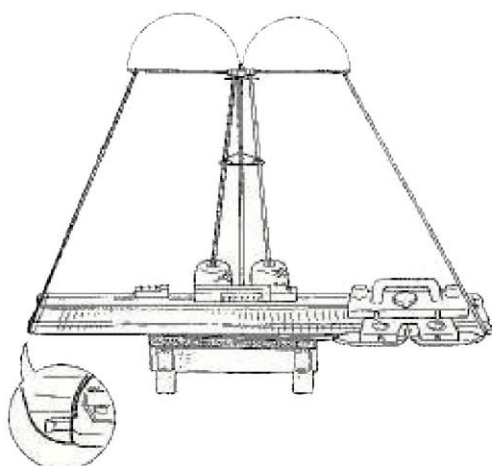


**Fasten the yarn end to either clamp.**



**Eliminate slack yarn by pulling the yarn down at the back of the yarn rod until until the overhead tension spring is almost horizontal.**

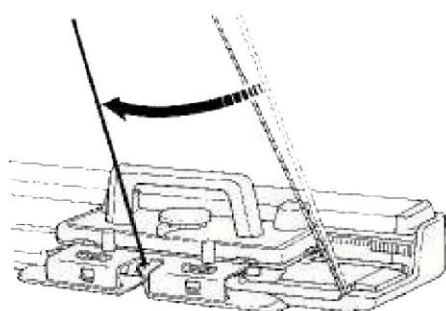
**Knit an even number of rows.**



**Remove the 2nd colour yarn from yarn feeder 1 and place it in the empty yarn rest.**

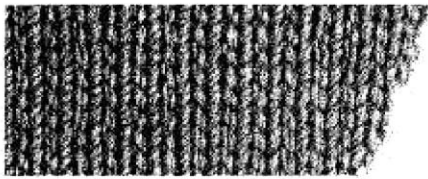
**Remove the main yarn from the yarn rest and place it into the yarn feeder 1.**

**Eliminate slack yarn.**



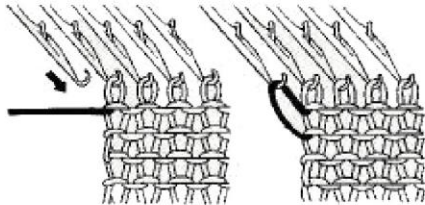
**Knit an even number of rows, using two yarns alternately**



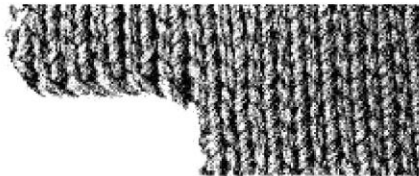


## INCREASING 1 STITCH

You can increase 1 stitch at a time only on the carriage side of the knitting.

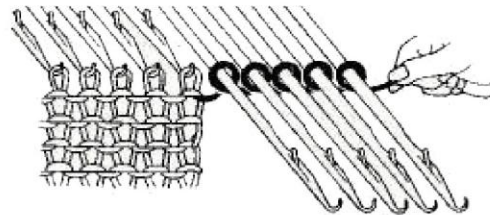
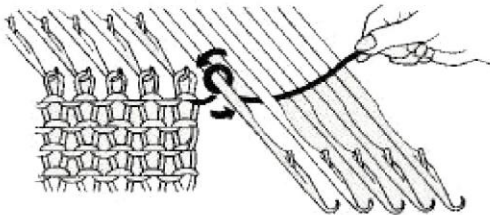


Push 1 needle at the carriage side from A to B



## INCREASING MULTIPLE STITCHES

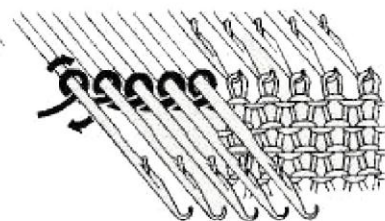
You can increase, only on the carriage side.



WHEN THE CARRIAGE IS AT THE RIGHT SIDE :

1. Push the required number of needles from A to D position. Pull some yarn from the yarn feeder and wind it loosely around the empty needles - in an anticlockwise direction.

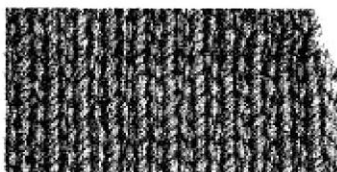
2. Push loops against the sinker posts, eliminate slack yarn and continue knitting.



WHEN THE CARRIAGE IS AT THE LEFT SIDE:

Work as given in steps 1 and 2 but instead, wind the yarn around the needles in a clockwise direction

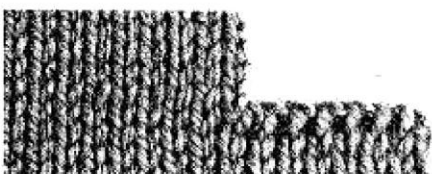
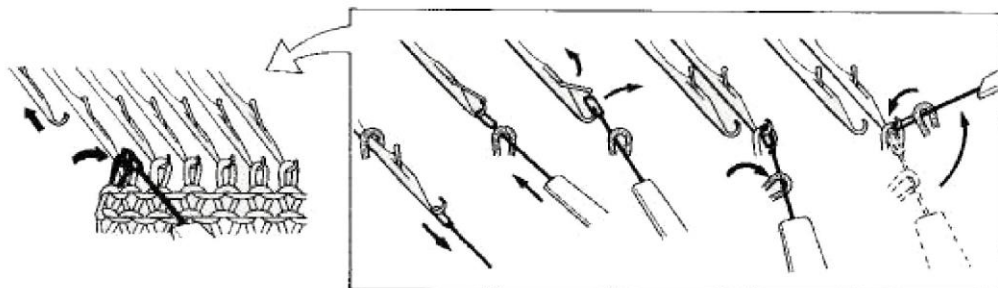
## DECREASING ONE STITCH



You can decrease one stitch on both sides of the row.

Using the transfer tool, move the end stitch and place it onto its adjacent needle (2 sts on one needle).

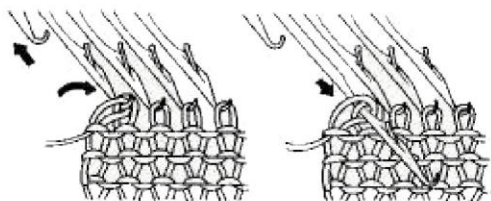
Push the empty needle back to A position.



## DECREASING MULTIPLE STITCHES

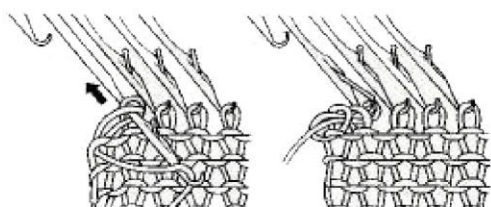
You can only decrease on the carriage side.

### TO DECREASE AT THE LEFT EDGE:



1. With carriage at the left, hold the fabric back toward the needle bed and transfer the end stitch onto its adjacent needle. Push the empty needle back to A position.

2. Push the second needle to D position until both stitches are behind the latch.



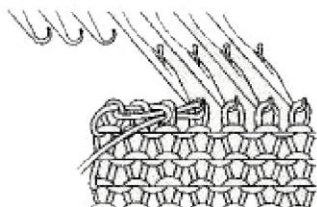
3. Lay yarn from left to right over the open hook of the needle.

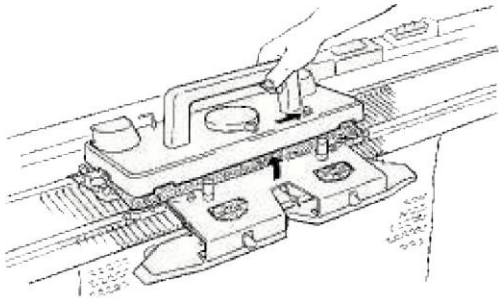
4. Hold yarn down slightly and push the needle back to B position. The two stitches have slipped off the needle leaving one new stitch.

5. Follow the same procedure until the required number of stitches have been decreased.

Place the last decreased stitch onto its adjacent needle.

Repeats above steps in reverse, to decrease at the right edge of your work.





## **PASSING THE CARRIAGE WITHOUT KNITTING.**

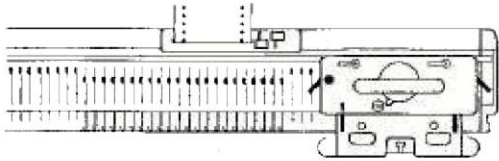
Stop the row counter, pattern panel & knit contour.

### **USING THE RELEASE LEVER**

Push this lever to raise the main part of the carriage and move the carriage across the fabric.

### **USING THE CAM LEVER**

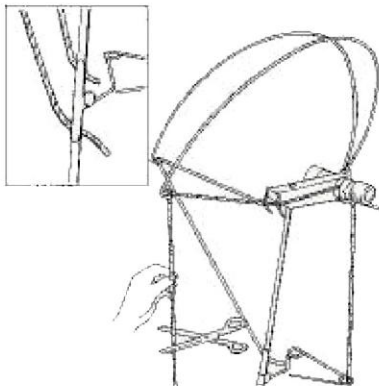
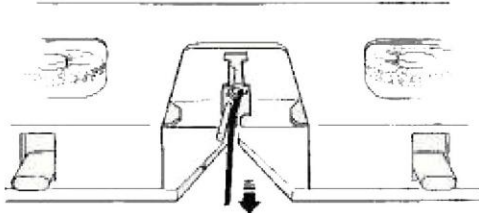
Set the carriage as follows and move it across the fabric.



Cam Lever  $\emptyset$

Side lever (on knitting side) ●

Russel Lever (on knitting side) I



## **REMOVING KNITTED FABRIC**

Without Casting Off.

This is used to remove a tension gauge or sample quickly.

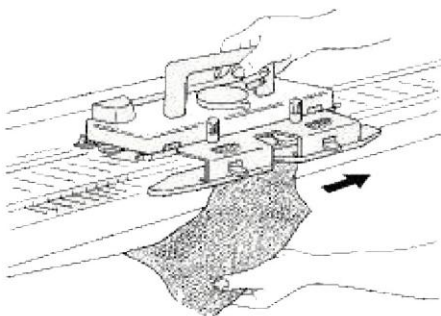
Remove the yarn from the yarn feeder.

Jold the yarn between the carriage and overhead tension spring and cut it.

Place the yarn ends into the yarn clips.

Remove weights from the fabric.

Set Cam Lever to  $\Lambda$  and move carriage across. The fabric will come off the needles.

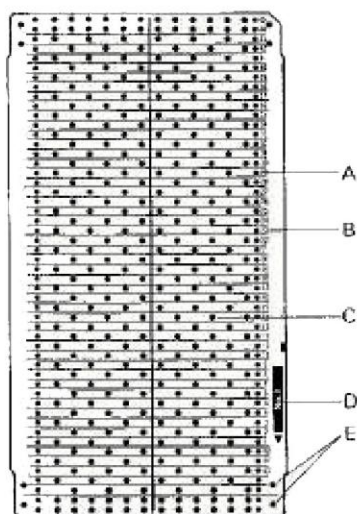




# PATTERN KNITTING

## STANDARD PUNCH CARDS

Five Punch Cards are Supplied



- A. Card Feeding Hole
- B. Pattern Row Number
- C. Punched Pattern Holes
- D. Card Number
- E. Card Snap Holes

Optional Blank Card Set is also available.

### IMPORTANT

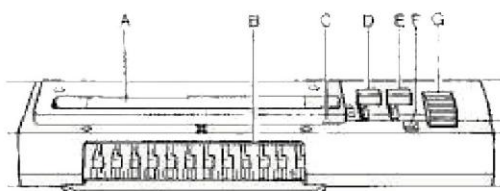
*Keep the cards away from heat and direct sunlight.  
Do not fold or bend the card.*

Using the punch cards, the following patterns can be achieved:

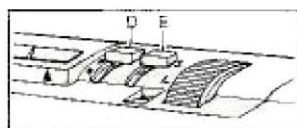
Card No.	A	B	C	D	E
1	○	○	○	○	○
2			○		○
3	○	○			○
4	○	○			
5	○			○	

- A. FAIR ISLE / KNIT IN
- B. SLIP STITCH PATTERN
- C. TUCK STITCH PATTERN
- D. PUNCH LACE
- E. WEAVING PATTERN

### PATTERN PANEL:



- A. Punch Card Insertion Slot
- B. Touch Levers
- C. Pattern Row Number Indicator
- D. Stop Knob
- E. L Knob
- F. L Knob Indicator
- G. Punch Card Feeding Dial

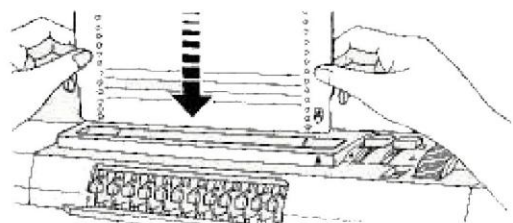


### INSERTING PUNCH CARD

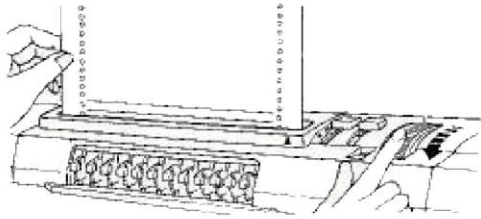
Prepare two card snaps and a Punch Card

Stop Knob "D" ..... ▼

L Knob "E" ..... S

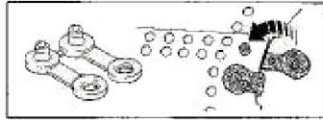


Holding the punch card straight, with numbers at the right, insert the card into the punch card slot and push it down slightly.



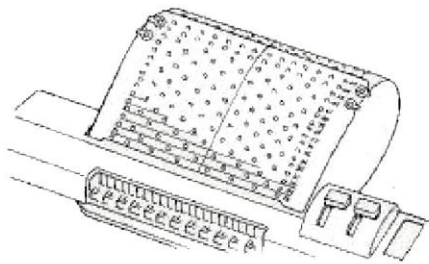
Turn the Punch Card Feeding Dial towards you and at the same time check that the horizontal lines on the Punch Card are parallel with the Punch Card Insertion Slot.

Continue turning the Feeding Dial, until the Punch Card end comes out at the back.



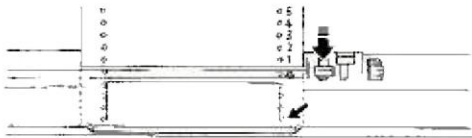
Overlap the ends of the Card, as shown in the diagram (front over back).

Line up the two small holes on each side and insert the snaps and close.



Turn the Feeding Dial until the pattern row number '1' shows above the pattern row number indicator.

Set the Stop Knob to ●



There is a 5 row difference between the row being knitted and the row showing above the pattern row number indicator.



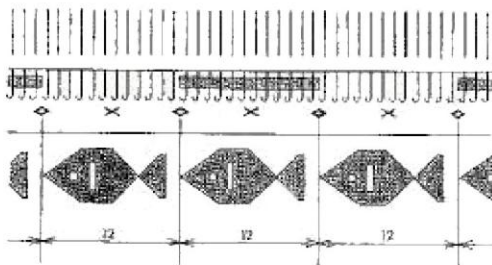
On the front of the Pattern Card Panel & the front of the Needle Bed, are the markings ◊ and ×

× ..... indicates the centre of a pattern

◊ ..... indicates the width of a pattern

Between two markings, are 12 needles

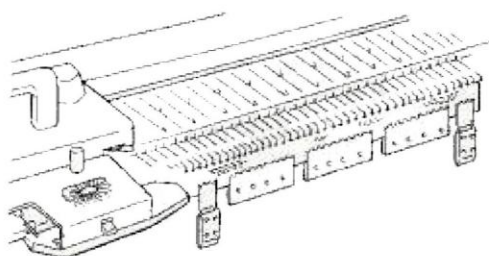
The centre of a pattern is seen at the centre (0)



### READING OPERATION TABLE

<b>1</b>	I	●	S	▼		○	A	○		▼	A	↔
<b>2</b>	↖	▼	"	"	"	"	"	"	"	"	"	B

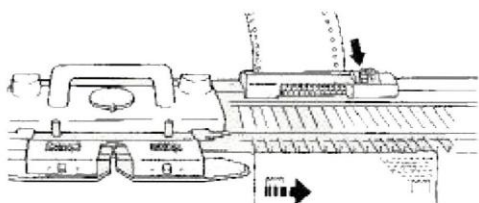
- 1 ..... Order
- 2 ..... Pattern Row Number
- 3 ..... Stop Knob
- 4 ..... L Knob
- 5 ..... Side Levers
- 6 ..... Russel Levers
- 7 ..... Weaving Knobs
- 8 ..... Cam Lever
- 9 ..... Yarn Feeder ① and ②  
Yarn Feeder ② Column  
also means Weaving  
Yarn Holder
- 10 .... Carriage Direction
- 11 .... Number of rows to be knitted
- 12 .... A, B & C represent yarn colours



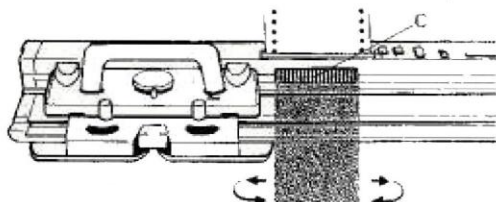
### CAUTION ON PATTERN KNITTING

Before starting pattern knitting, knit 7-8 rows of stockinet or waste knitting, leaving carriage at the left.

Always use weights. Hook claw weights "A" at both edges of the knitting.



Hook wide claw weights "B" evenly across the knitting when you are knitting slip or tuck stitch, and when using extra thick or rough yarn. Place them 3-4 rows below the needles and move up, as the knitting progresses.

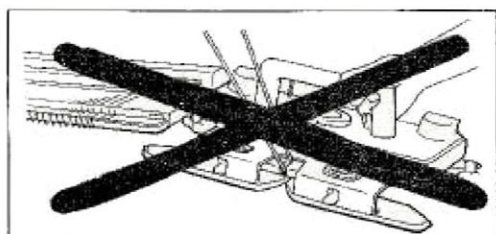


Set the Punch Card (see pages 20-21).

Stop Knob at ● knit 1 row from left to right with main yarn to memorise 1st row of pattern. Operation Table order ①

Stop Knob at ▼ start pattern knitting, following the Operation Table.

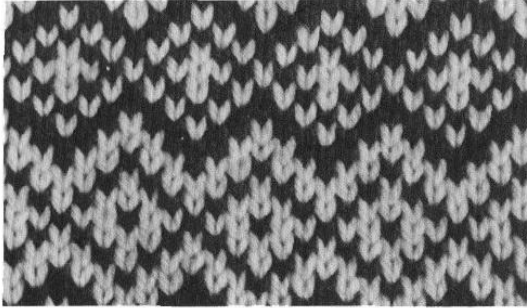
When moving carriage back and forth, ensure it has completely passed at the Touch Levers "C". Move the carriage at an even speed.



Do not remove the carriage from the needle bed. If the carriage has been removed by accident - see pages 62-63 to re-set pattern.

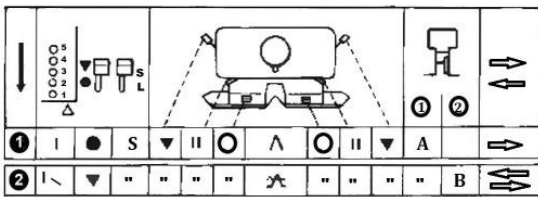


## FAIR ISLE (KNIT-IN)



Two yarns of different colours are knitted simultaneously and form patterns on the fabric.

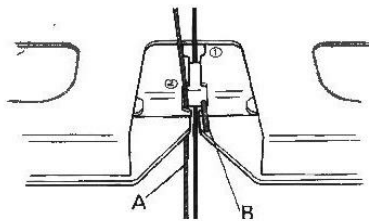
Perforated are of the punch card knits the in feeder and non-perforated area knits the yarn in feeder which is the ground or main colour yarn.



The sample shown, is knitted with punch card 3.

Hang the claw weights on each side of the fabric.

Set controls as shown in order ①  
Knit 1 row from left to right.  
Set controls as shown in order ②



Remove 2nd second yarn from the yarn clip and pull down towards the carriage.

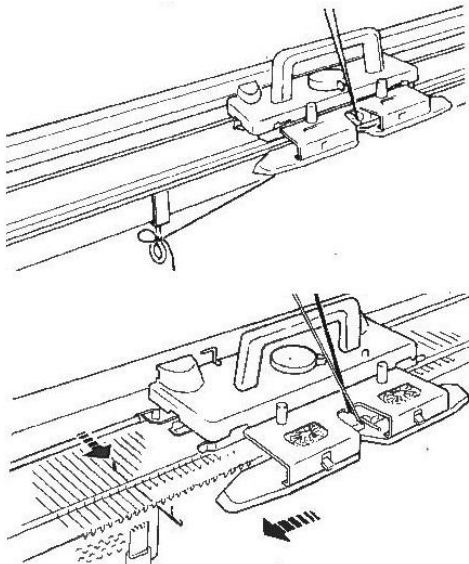
Insert 2nd yarn into yarn feeder ② left side of the guide pin "B".

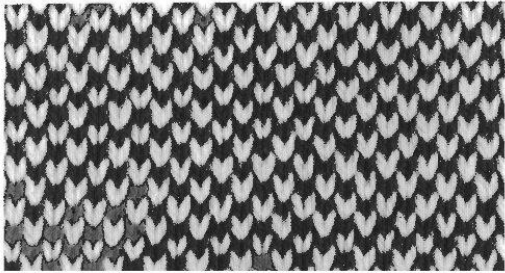
Fasten yarn end to clamp and eliminate slack yarn by pulling yarn down at the back of the yarn rod.

Knit the required number of rows.

If the end stitches do not knit properly, pull the end needle on the carriage side to D position (or C for partial knitting) before knitting the next row.

Continue as above.

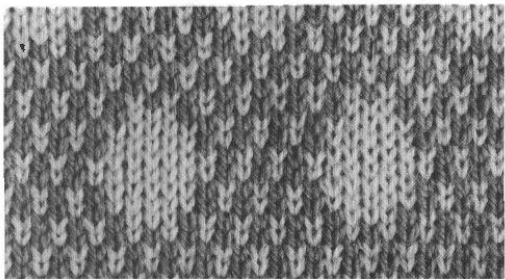




CARD 1

**CARD NO. 1**

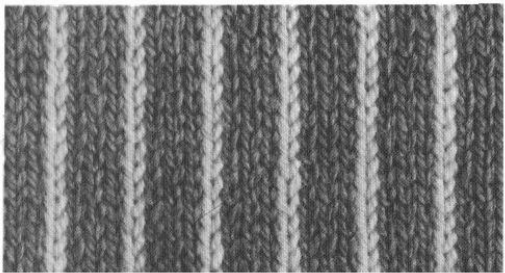
Knit following the operation table on page 23.



CARD 5

**CARD NO. 5**

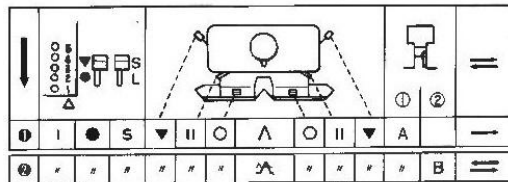
Knit following the operation table on page 23.



CARD 2

**CARD NO. 2**

Although card 2 is unsuitable for fair isle, it can be achieved by setting the Stop Knob to ● with pattern row number 1 showing.

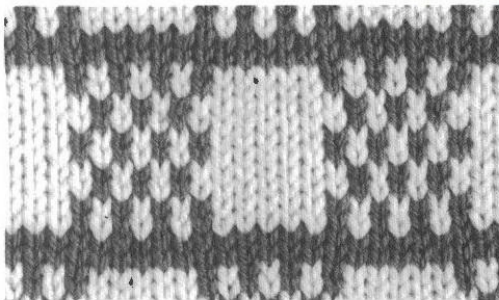


**CARD NO. 4**

To make a stripe on the pattern, set Stop Knob at ● and Cam Lever at Λ on pattern rows number 1, 2, 13, 14, 25, 26, 37 & 38 and knit only with yarn in feeder

↓	00000	Stop Knob	S	L	①	②	=					
①	I	●	S	▼	II	○	Λ	○	II	▼	A	—
②	x	x	x	x	x	x	Λ	x	x	x	B	≡
①	1-2	▼	x	x	x	x	x	x	x	x	x	≡)2
②	3-12	x	x	x	x	x	Λ	x	x	x	B	≡)10
①	13-14	x	x	x	x	x	Λ	x	x	x	x	≡)2
②	15-24	x	x	x	x	x	Λ	x	x	x	B	≡)10
①	25-26	x	x	x	x	x	Λ	x	x	x	x	≡)2
②	27-36	x	x	x	x	x	Λ	x	x	x	B	≡)10
①	37-38	x	x	x	x	x	Λ	x	x	x	x	≡)2
②	39-48	x	x	x	x	x	Λ	x	x	x	B	≡)10

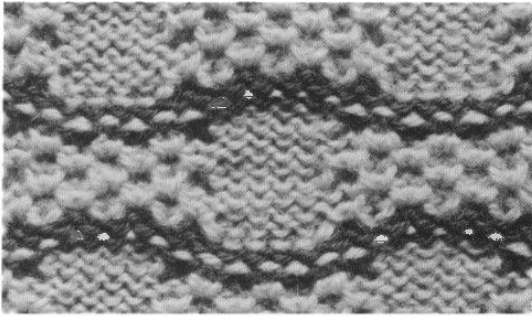
CARD 4







## TUCK STITCH IN COLOURS



Knit two or more colour yarns alternately in tuck stitch pattern.

The sample opposite is knitted with punch card 4.

Hang claw weights and wide claw weights on the fabric.

①	1	●	S	▼		○	Λ	○		▼	A	→
②	1-2	▼	u	u	u	u	u	u	u	u	B	⇒2
3	12	u	u	u	u	u	u	u	u	u	A	⇒10
13	14	u	u	u	u	u	u	u	u	u	B	⇒2
15	24	u	u	u	u	u	u	u	u	u	A	⇒10
25	26	u	u	u	u	u	u	u	u	u	B	⇒2
27	36	u	u	u	u	u	u	u	u	u	A	⇒10
37	38	u	u	u	u	u	u	u	u	u	B	⇒2
39	48	u	u	u	u	u	u	u	u	u	A	⇒10

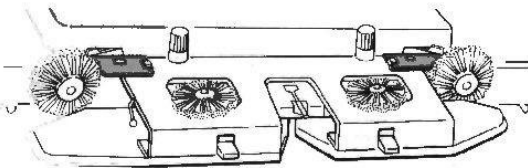
Set controls required in order ①

Knit 1 row from left to right.

Attach Tuck Brushes (See page 7)

Set the controls required in order ②

Knit following the operation table, changing the different colour yarns in the same way as for "knitting stripe pattern" on pages 15-16.



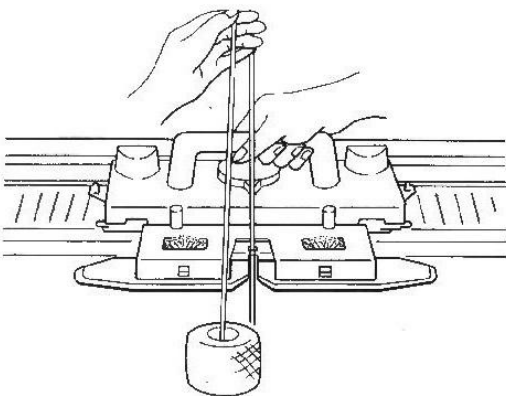
## HAND FEEDING YARN

Feeding the yarn into the yarn feeder by hand is useful in the following cases.

- Knitting 3 different colours.
- Knitting Ravel Cord to separate main knitting and waste knitting.
- The yarn end being too short to thread through the auto tension.

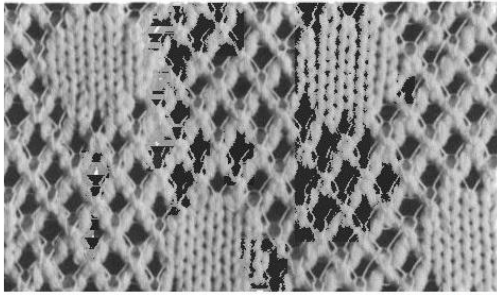
HOW TO HAND FEED:

- Place yarn 3 in yarn feeder ①
- Hold the yarn between thumb and forefinger lightly above the yarn feeder and move the carriage slowly, to knit the first row - repeat to continue.

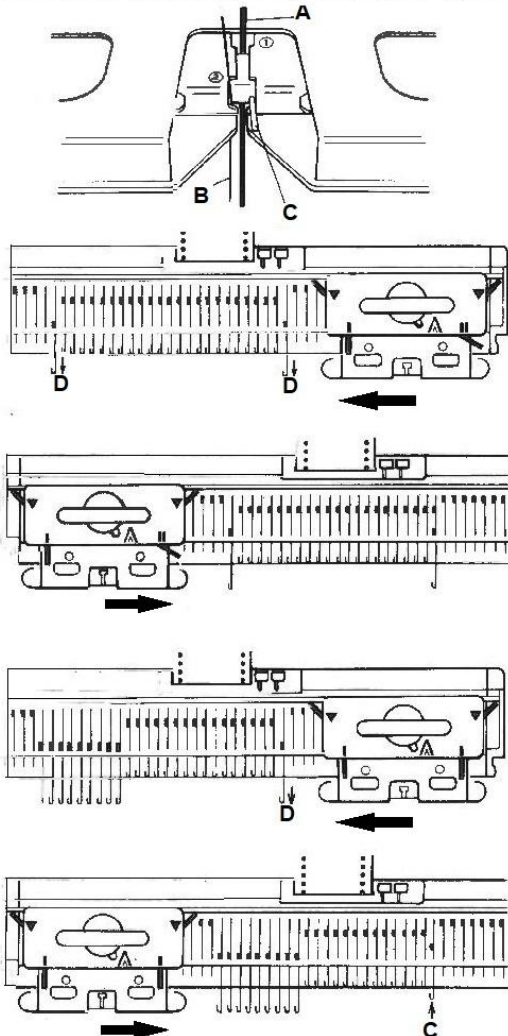
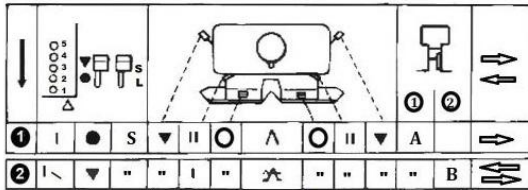








CARD 5



## PUNCH LACE

A combination of thick yarn and very fine self-coloured yarn, produces a lace effect pattern.

Perforated area of punch card knits the yarn in feeder ② (thinner yarn) and non perforated area knits both yarns together.

Claw weights at both edges of knitting.

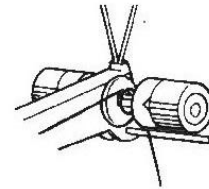
Set controls as required in order ①

Knit one row left to right

Set controls as required in order ②

Thread the thinner yarn through the auto tension unit.

If the fine yarn is loose on the auto tension, wind it once around the shaft of the tension disc



Put the thicker yarn "A" into feeder and thinner yarn "B" into feeder left side of the guide pin "C".

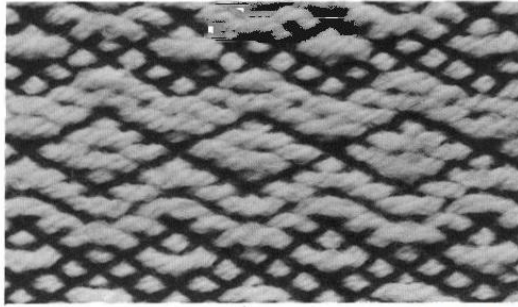
Bring first and last needles out to D position and knit from right to left.

The two end needles will be knitted back to B position.

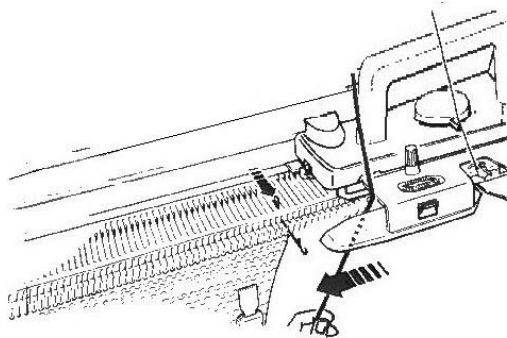
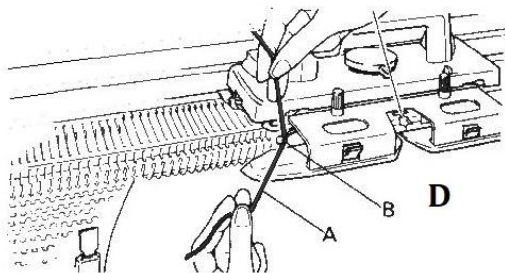
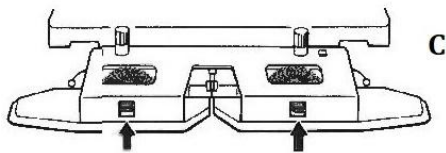
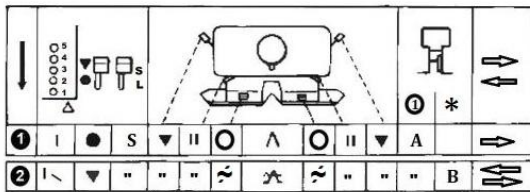
Knit the required number of rows - always putting first and last needle to position D, when carriage is at the right.

When partial knitting, set both Russel levers to I, bring forward 1 needle (at opposite end to resting needles) to D position, to knit from right to left and push back the needle to C position, when knitting from left to right.





CARD 3



## WEAVING

By passing fancy yarn or materials (called weaving yarn) between the stockinet stitches on the purl side, a pattern is made on the surface of the fabric.

Perforated area of the punch card passes the weaving yarn over the needles and non-perforated areas pass the weaving yarn under the needles.

Hang claw weights at both edges of the fabric.

Set controls as required in order ①

Knit 1 row from left to right

Thread the weaving yarn into the auto tension and pull it down towards the needle bed.

Adjust the tension dial.

Set controls as required in order ②

Push weaving knobs to  $\approx$  (see "C")

v mark in the yarn feeder column refers to (weaving) yarn holder.

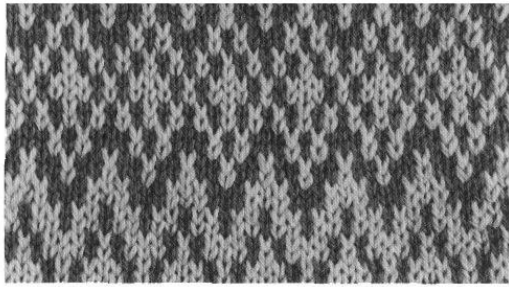
Main Yarn into yarn feeder ① hook weaving yarn "A" into left weaver holder "B". Always put weaving yarn into holder nearest to knitting, as shown in illustration "D". Set stitch dial one number higher than that used for stockinet.

Push one end needle on the carriage side to position D (or C for partial knitting).

Slowly move the carriage from right to left.

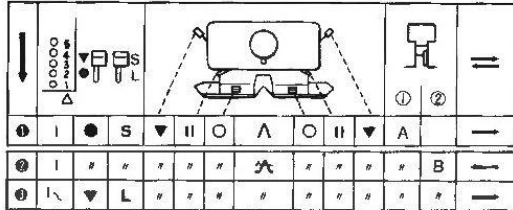






## L KNOB FUNCTION

When the L Knob is set to L, the punchcard moves only on every alternate row, thus producing an elongated pattern. To get correct patterning using the L Knob, set the Stop Knob and L Knob, as follows:



Set controls as required in order ①

First row - order ②

Stop Knob ..... ●

L Knob ..... S

Following rows - order ③ }

Stop Knob ..... ▼

L Knob ..... L

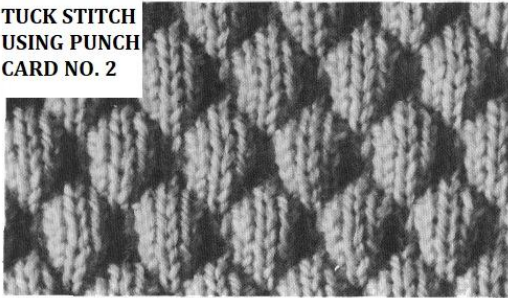
Colours in the L Knob indicator alternate.

Blue ..... the current row will be repeated.

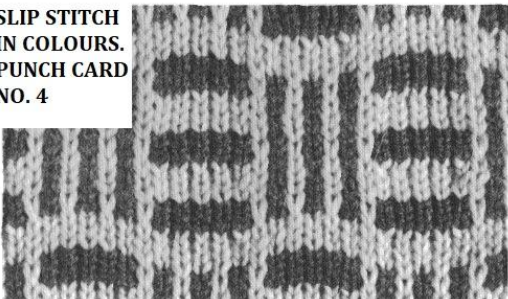
Red ..... punch card moves to the next row and a new pattern row will be knitted next.

Work other operations in the same way as for other types of patterns

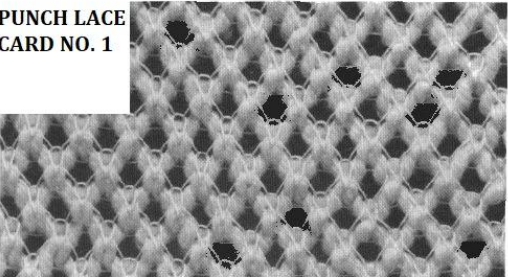
TUCK STITCH  
USING PUNCH  
CARD NO. 2



SLIP STITCH  
IN COLOURS.  
PUNCH CARD  
NO. 4



PUNCH LACE  
CARD NO. 1



*The L Knob can also be used if the punch card is suitable for: FAIR ISLE, WEAVING, SLIP STITCH AND PUNCH LACE.*

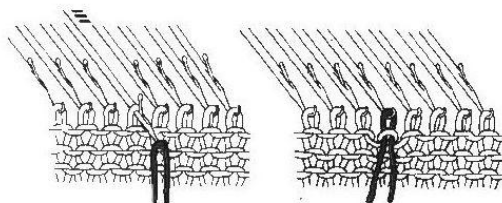
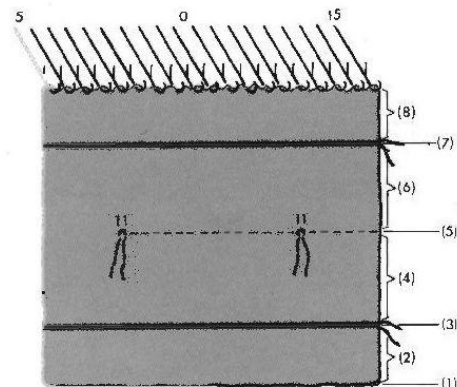
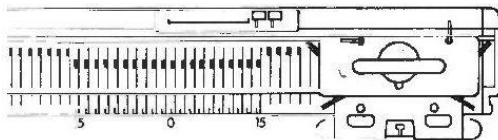


## MAKING A TENSION GAUGE SWATCH

A tension gauge indicates how many stitches and rows you have knitted per 10 cms.

It is very important to take a correct tension gauge to kit your garment in the desired size.

To make a tension gauge, you must knit a swatch using the same stitch type, the same yarn and ensuring the stitch dial is the same as will be used for the garment.



Before knitting a tension swatch, prepare the yarn you will need and also a few short pieces of contrast yarn, to use as markers.

Determine the stitch dial size - referring to page 10.

Then knit the tension swatch :

(1) Arrange 15 needles on both sides of the centre '0' so 30 needles in all.

(2) Cast on with main yarn and knit 10 rows continuously in your selected stitch type and stitch dial size.

(3) Exchange the yarn in the main feeder for the contrast yarn and knit 2 rows stockinet.

(4) Cut the contrast yarn and re-thread the main yarn and knit 15 rows of the selected stitch type and stitch dial size.

(5) Push each 11th needle from centre '0' into D position and place a short piece of contrast yarn on both of those needle hooks, then push them back to B position, by hand.

(6) Knit another 15 rows.

(7) Thread the contrast yarn and knit 2 rows in stockinet.

(8) With main yarn re-threaded, knit 10 rows in selected stitch type and stitch dial size.



Remove the yarn from the yarn feeder and remove the swatch from the machine. By moving the carriage across once - your work will be freed from the needles.

***MAKE A NOTE OF THE STITCH DIAL NUMBER***

Allow several hours for the swatch to return to its natural, unstretched condition.

The swatch can then be lightly pressed with a steam iron or a non-steam iron and a damp cloth.

Be aware that acrylic can melt if touched with a hot iron.

Alternatively, you can wash and dry the swatch, using the same method you will be using to launder the finished garment. This will give an indication of how well the yarn holds up in the longer term.

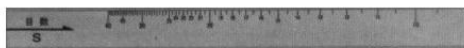
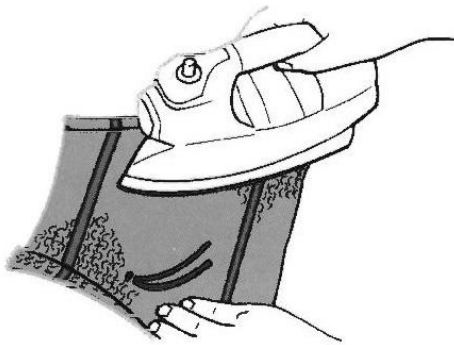
**GAUGE SCALE**

This scale is designed to measure how many rows and stitches have been knitted - per 10 cms - measuring between the markers on the tension swatch.

The "S" side of the scale measures the number of stitches

The "R" side of the scale measure the number of rows.

Following the instructions on the next page - measure your swatch to discover the correct tension gauge.

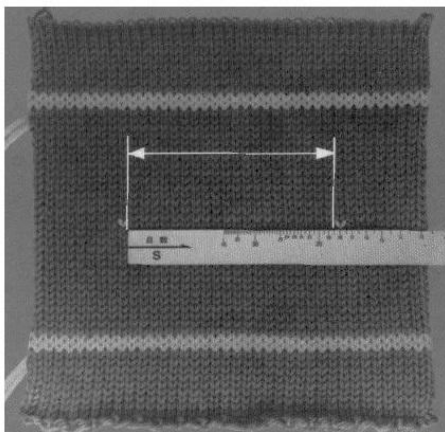


**Stitch Gauge Scale**



**Row Gauge Scale**

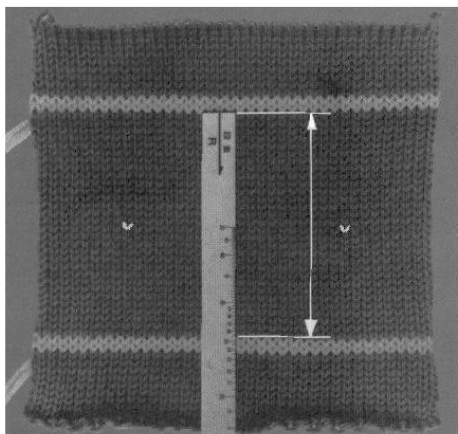
## HOW TO MEASURE YOUR TENSION SWATCH



A

### STITCH (HORIZONTAL)

Place the blue gauge scale onto the tension swatch, with the "S" side uppermost. Lay it so that the left end of the scale is touching the inside of a stitch marker knitted in the contrast yarn. Measure to the point of the opposite contrast stitch marker and note the scale number which corresponds with this second marker stitch. The scale should be read from the side indicated by the arrow i.e. from the left side.

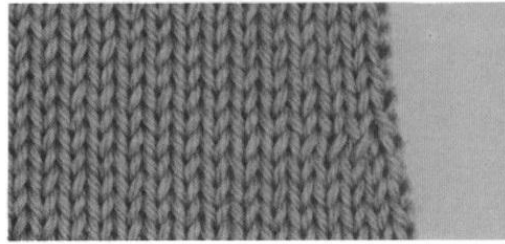
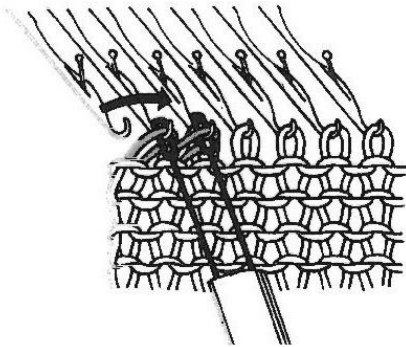


B

### ROW (VERTICAL)

Place the blue gauge scale onto the tension swatch, with the "R" side uppermost. Lay it so that it covers the length in between the rows knitted in the contrast yarn. Measure this length. The scale should be read from the side indicated by the arrow in picture B.

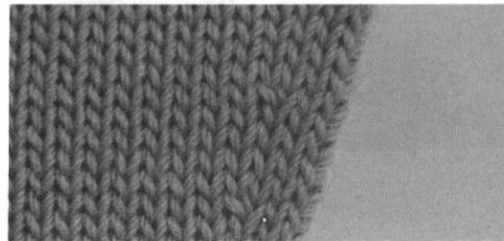
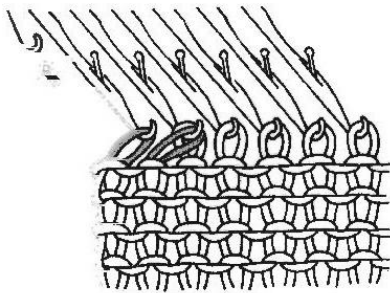
## KNITTING TECHNIQUES



### FULLY FASHIONED DECREASE

1. With the two prong transfer tool, transfer the two end stitches - one needle along the row. If using every other needle to knit - use the three prong tool.

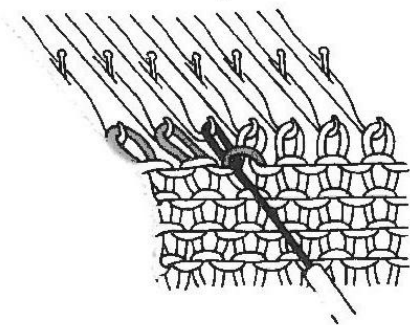
2. Push the end empty needle back to A position and continue knitting.



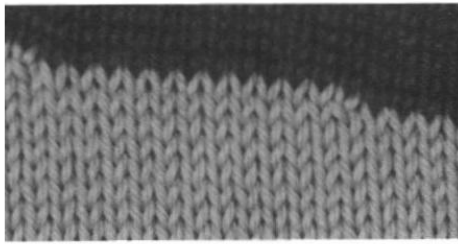
### FULLY FASHIONED INCREASE

1. Push the adjacent empty needle to B position and with two pronged tool, move the two end stitches, one needle along onto the adjacent empty needle. If knitting on every other needle - use the three prong tool.

2. Pick up a loop below the third needle and transfer it up to that - now empty needle - and continue knitting.



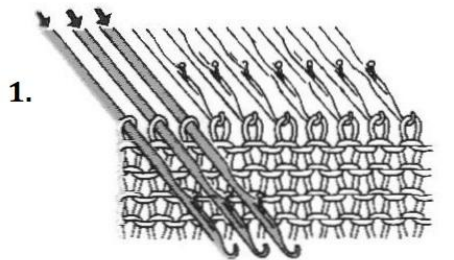




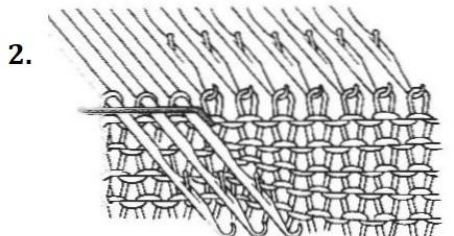
**PARTIAL KNITTING** is a practical method for shaping a gentle slope such as a shoulder, bust darts etc.

**PARTIAL KNITTING BY DECREASING:**

**SET RUSSEL LEVERS TO I POSITION**

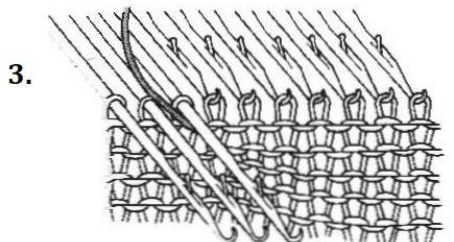


**1. Push the needles to be decreased to D position on the opposite side of the carriage.**



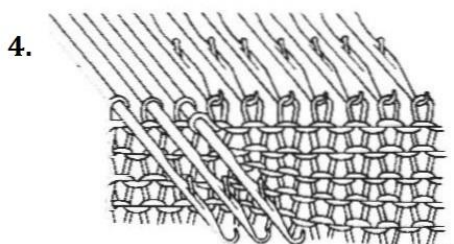
**2. Knit one row.**

**The needles in B position knit the yarn . The needles in D position remain inactive and the yarn passes over them.**



**3. To prevent a hole being formed in the fabric, pass the yarn under the first inside needle in D position and over the other needles.**

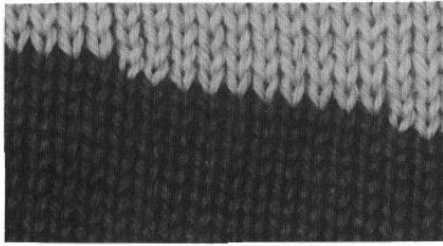
**(If partial knitting is required on both sides, apply step 1 before knitting the next row.)**



**4. Knit one row by moving the carriage back. This completes the first operation of partial knitting. (If partial knitting is required on both sides, apply step 3).**

**Repeat steps 1 - 3.**

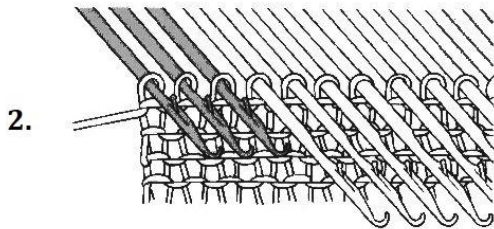
**When the partial knitting is completed push back the needles in D position to C position and continue to knit.**



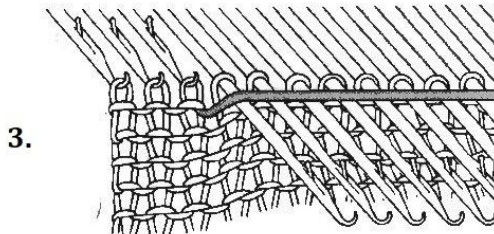
## **PARTIAL KNITTING BY INCREASING:**

### **SET RUSSEL LEVERS TO I POSITION**

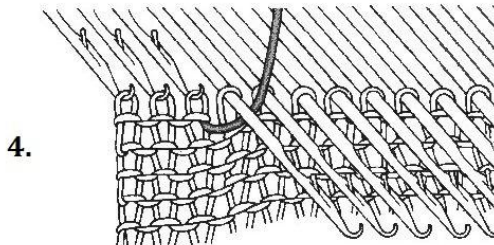
**1. Push all working needles to D position.**



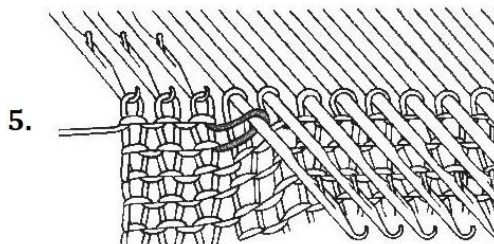
**2. On the carriage side, push the number of needles you wish to increase by, back to C position. (If you are knitting a pattern - push back the needles to B using a transfer tool.)**



**3. Knit one row. The needles in C position knit the yarn. The needles in D position remain active and the yarn passes over them.**



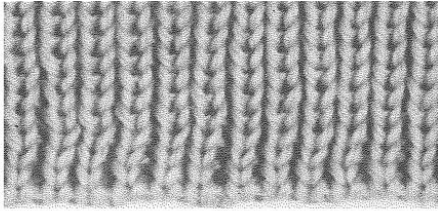
**4. To prevent a hole from being formed in the fabric, pass the yarn under the first inside needle in D position and over the other needles.**



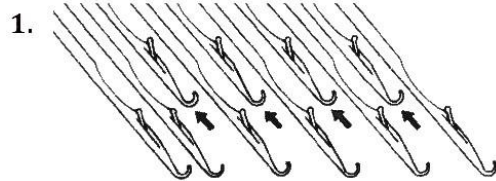
**5. Knit one row by moving the carriage back.**

**Repeat steps 2 - 5.**

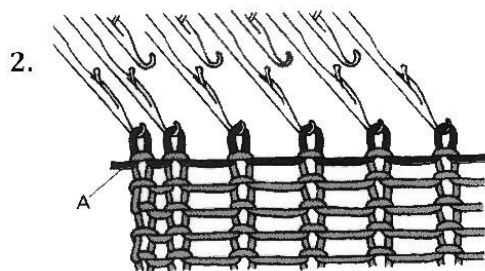




## K1. P1 RIB

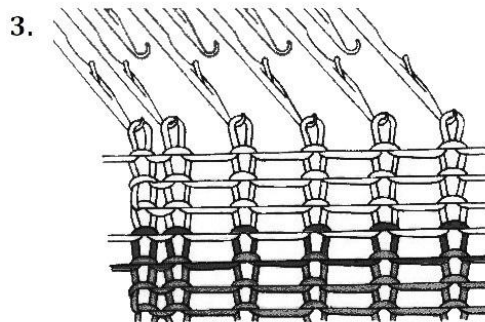


1. Push the required number of needles to B position - then push back every other needle to A position - starting with the 3rd needle on the left side.

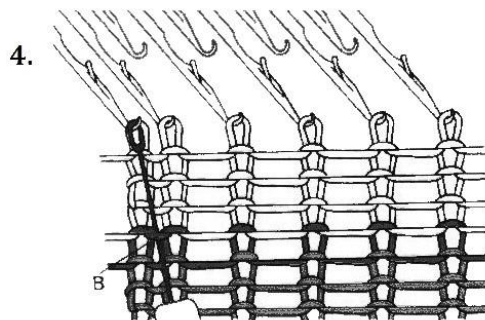


2. Cast on and knit several rows of waste knitting and hang claw weights on both sides of the fabric.

Knit one row with ravel cord 'A'.

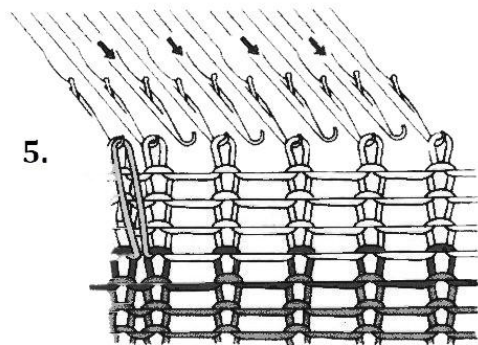


3. Thread the main yarn into the feeder and knit 4 rows with stitch dial at '0'.



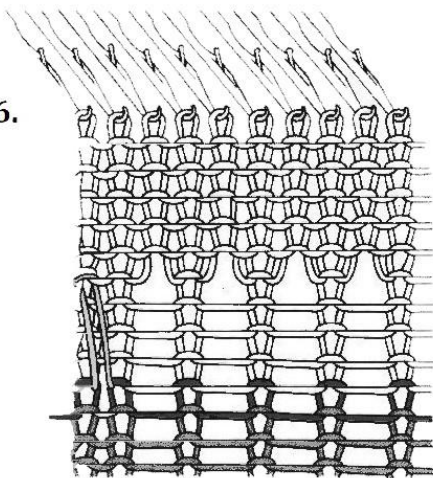
4. Insert the transfer tool into the left end sinker loop 'B' on the first row of the main knitting.





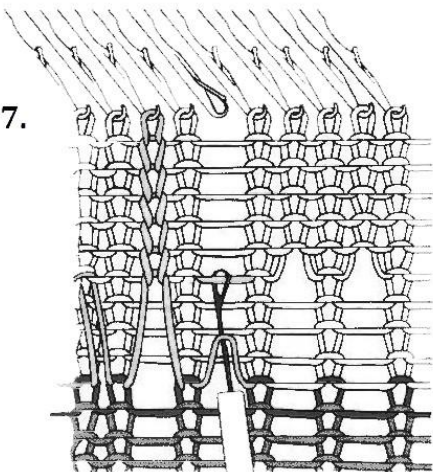
5.

5. Place the loop onto the end needle. Push back those needles that were pushed back to A position in step 1 - to B position.



6.

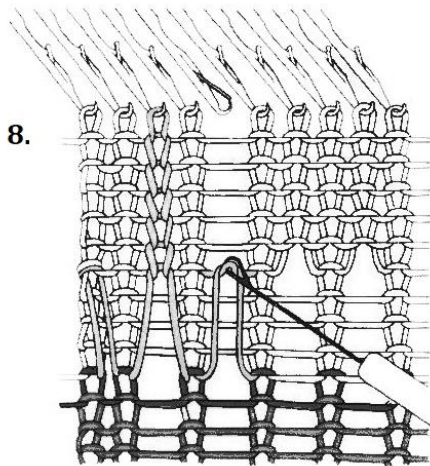
6. Knit the length required for ribbing - with the stitch dial 2 numbers lower than used for stockinet knitting.



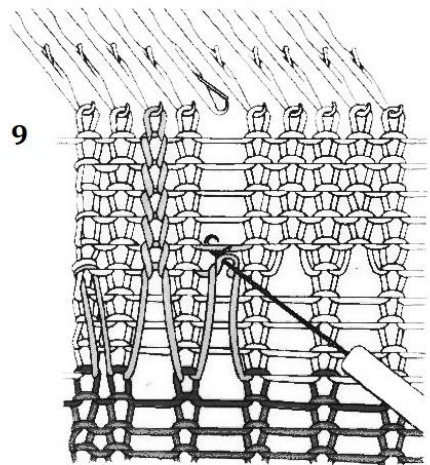
7.

7. Insert the latch tool into the loop of the first row of main knitting and unravel the stitches as shown.

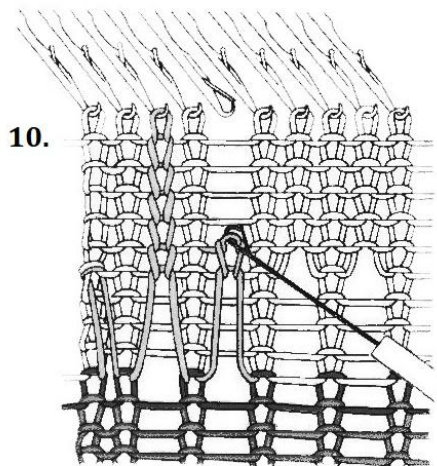
Skip over the next 3 rows and hook the yarn on the 5rg row crossing above, into the hook of the latch tool



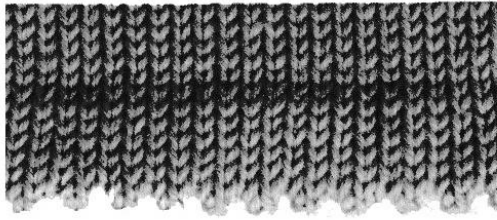
**8. Pull the latch tool towards you. The first stitch will slip off the latch tool, forming a new stitch.**



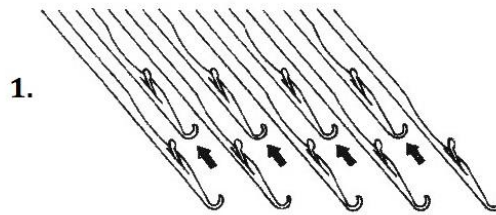
**9. Hook the yarn on the next row crossing above and pull the latch tool towards you and again - a new stitch is formed.**



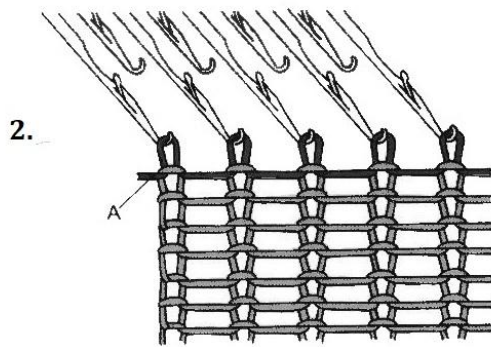
**10. Repeat step 9 for every row going upwards. Place the last reformed stitch back onto its original needle in line with the rest of the knitting.**



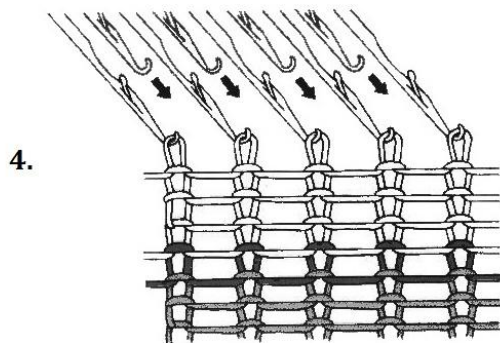
## PICOT HEM



1. Arrange required number of needles in B position and push back every other needle to A position.



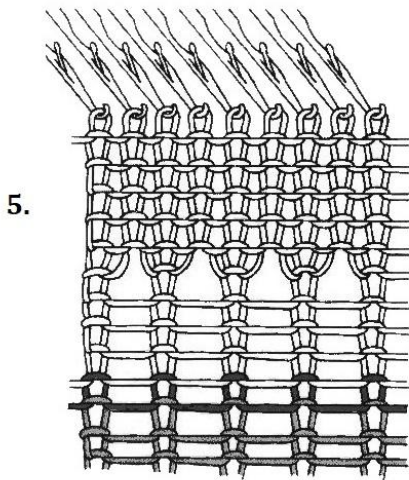
2. Cast on and knit several rows of waste knitting, then knit 1 row with ravel cord "A".



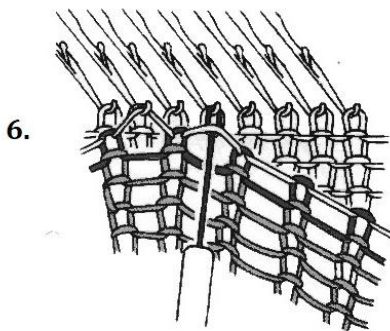
3. Set the stitch dial 2 numbers lower and knit with the main yarn 2 rows fewer than required, for the length of the hem.

4. Bring forward - those needles that were pushed back to A position in step 1 - to B position.

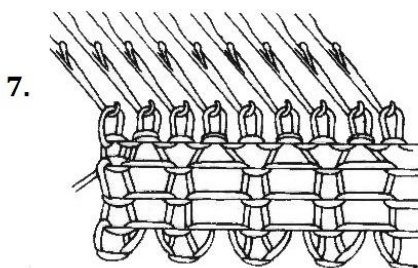




5. Reset the stitch dial to the number originally used for stockinet knitting, then knit the required number of rows for the desired hem length.



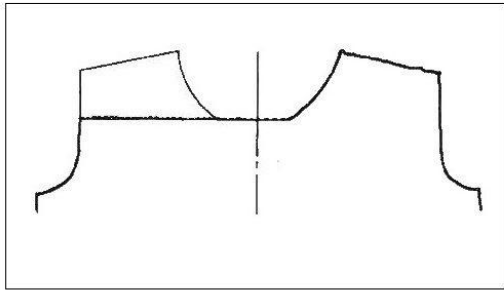
6. Place the sinker loops on the first row of the main knitting onto their corresponding needles. Pull out the ravel cord to remove the waste knitting.



7. Set the stitch dial one number higher than the number originally used.

Push the needles in B position to D position and knit one row.

8. Reset the stitch dial to the original number and continue to knit.



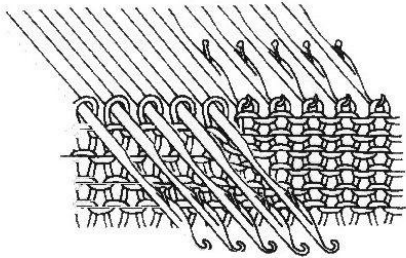
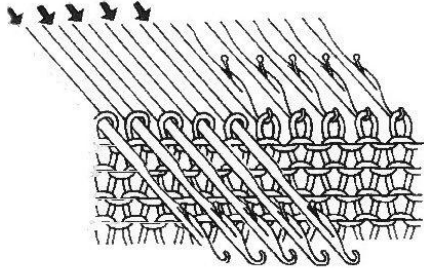
## **HOLDING STITCHES**

If it is necessary to shape a garment partly, the following methods are practical to hold the stitches for later shaping or work.

### **IN D POSITION**

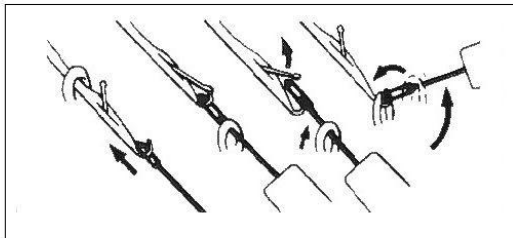
1. Push the needles for the section to be held, into D position.

2. Set the Russel Lever to I position and continue to knit.



To knit the stitches which have been in holding position, push the needles back to C position and continue to knit.

*\*When pattern knitting is in progress push the needles which have been in holding position, back to B position using a transfer tool, replacing the stitches onto their correct needles.*

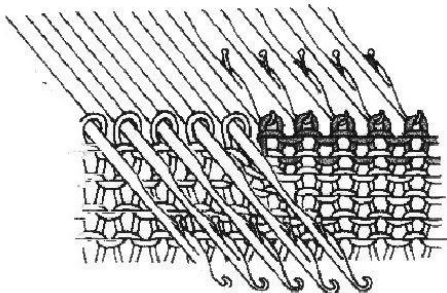


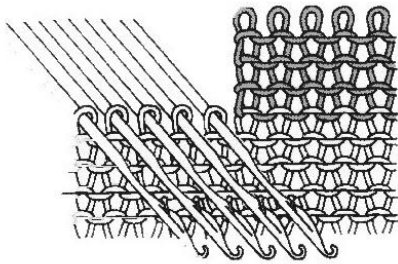
### **ON WASTE KNITTING**

Set the cam lever to A position and both Russel Levers to I position.

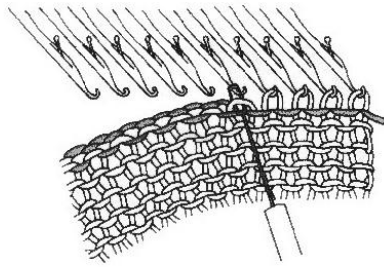
1. Leaving the needles for the stitches to be held on waste knitting - push the other needles to D position.

Thread a contrast yarn for waste knitting into the yarn feeder and knit several rows.



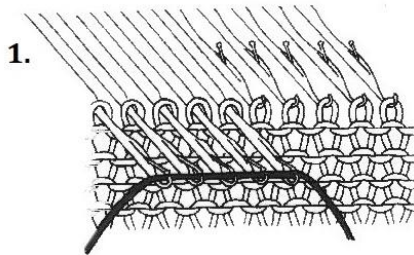


2. Remove the section on the waste knitting from the machine. Re-set the carriage to original setting and continue to knit.

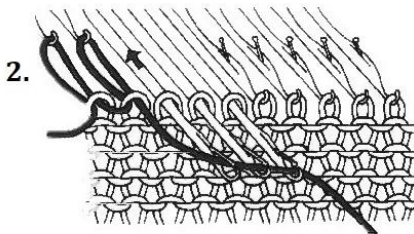


When knitting the stitches held on waste knitting pick up the stitches on the last row of the main knitting and place them onto the corresponding needles.

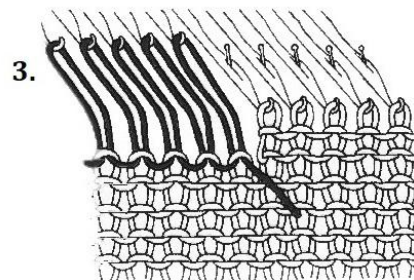
### USING RAVEL CORD



1. Push the needles for the section to be held, to D position and lay the ravel cord across the needle hooks.



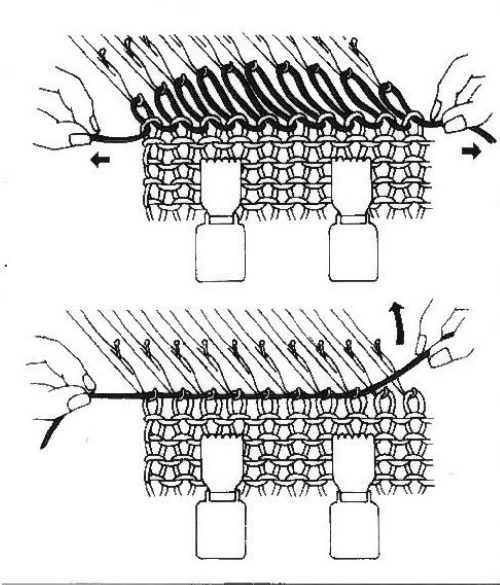
2. Starting from the end needle, knit ravel cord needles back to position A manually, one by one.



3. Continue to knit.

Before knitting each row, it is important to ensure that all the needles have been pushed back correctly into A position.

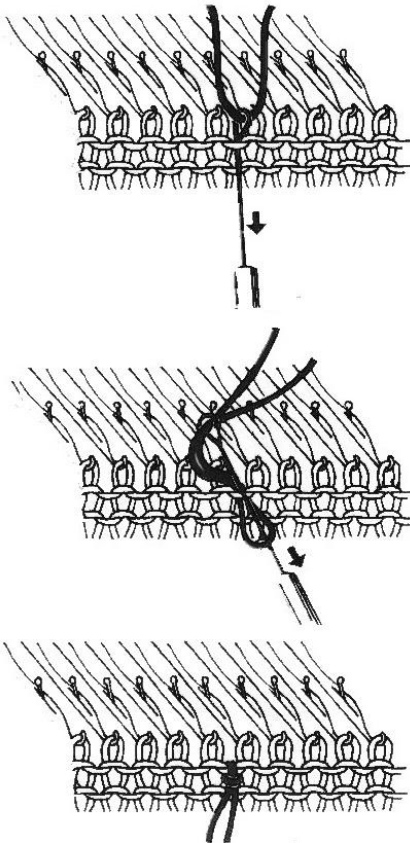




**Hang claw weights on the fabric.**

**To bring the needles back into B position, pull the ravel cord tightly, with both hands.**

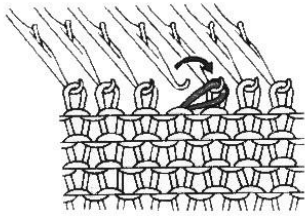
**When the needles are brought to B position, hold the left end of the ravel and lift and gently the other end upwards and the stitches will be replaced in the hooks.**



#### **USING A YARN MARK**

**Insert the latch tool into the sinker loop that is to be marked and by using a short piece of waste yarn, make a loop on the latch tool. Pull the latch tool through the sinker loop.**

**Catch both ends of the waste yarn and pull out the latch tool through the loop.**



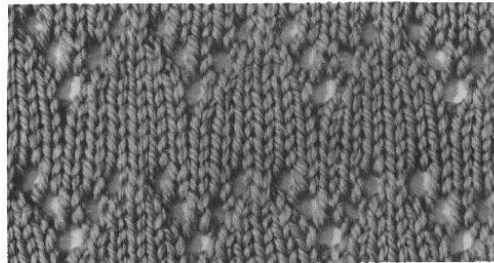
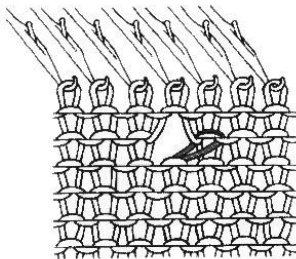
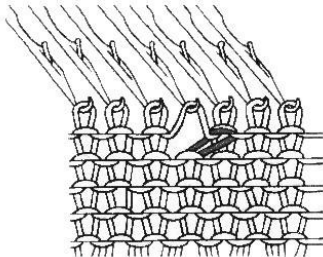
## **BUTTONHOLES**

**1. Place the stitch (where you want the buttonhole) onto its adjacent stitch.**

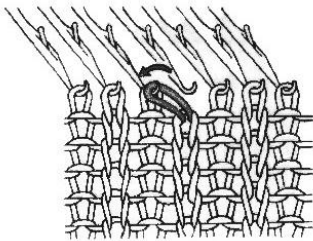
**2. Knit 1 row, so the hole is formed.**

**3. Continue knitting.**

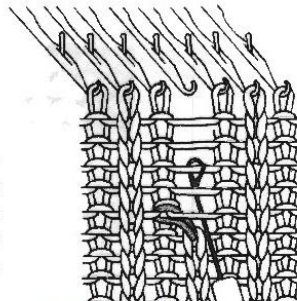
*This buttonhole method can also be used to produce an openwork fabric.*



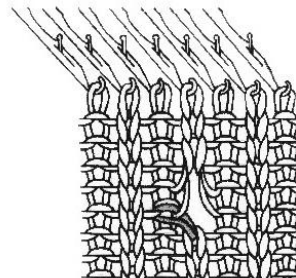
## **K1. P1. RIB**



**1. Reform the stitch for K1 P1 rib and place the reformed stitch onto its adjacent needle.**



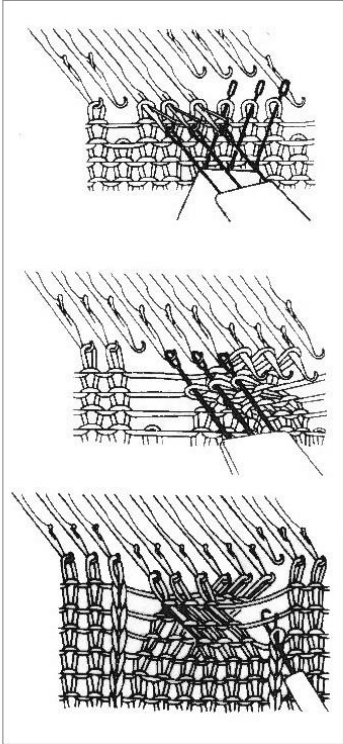
**2. With the empty needle in B position, continue to knit. Unravel the row and insert the latch tool behind the first two rows and hook the third row.**



**3. Continue to reform the stitches for K1 P1 rib. Use the side as the wrong side**



### CABLE STITCH

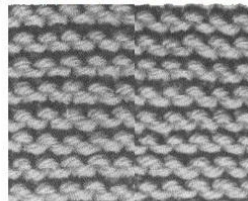
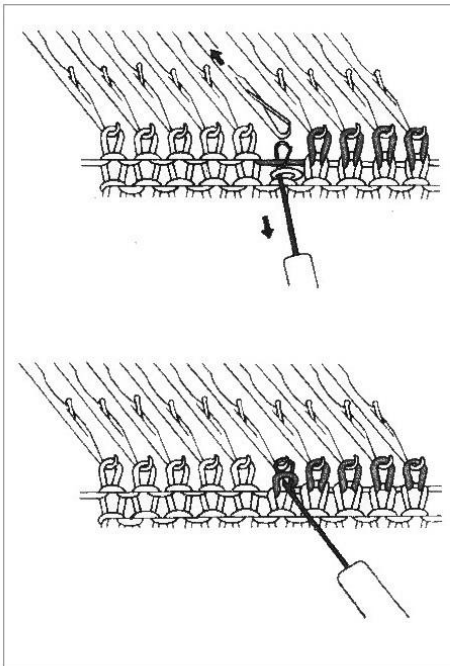


Cable stitch is formed by crossing one group of stitches over another group of stitches using two transfer tools.

Try a cable of 6 knit stitches.

1. Drop one stitch either side of the 6 chosen stitches. Using two 3 prong transfer tools, pick up two sets of 3 stitches.
2. Cross the two transfer tools and replace each set of three stitches onto new needles.
3. Reform the dropped stitches at the sides of the cable using the latch tool and replace them onto their original needle.
4. Before knitting - push the 6 cabled needles into C position and continue to knit until you reach the next row earmarked for cabling.

### GARTER STITCH

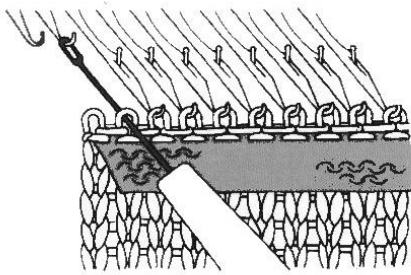


Garter stitch is often used for collars and borders etc.

Knit the pattern by purling the stitches, every alternate row.

1. With stitch dial 2 numbers lower than is used for stockinet - knit two rows of stockinet.
2. Insert the latch tool into the stitch below that which is hooked on the needle and push the needle to D position.
3. Push the needle back to B position and pull the latch tool in the arrowed direction, forming a purl stitch.
4. Place the newly formed stitch back onto the needle and repeat steps 2-4 for all stitches on the row.
5. Knit 2 rows stockinet. Continue repeating this sequence until the required length of knitting is achieved.

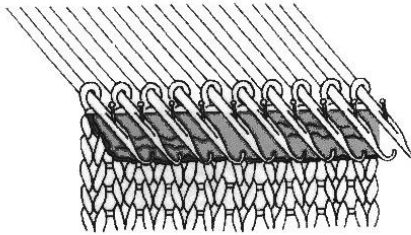




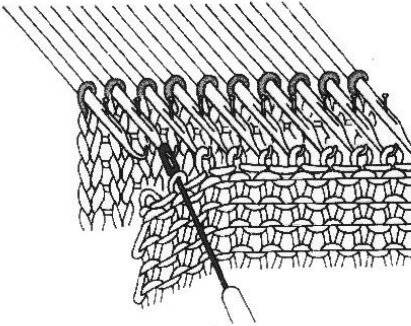
## **MAKING JOINS ON THE MACHINE**

**Stitch to stitch - used for joining side seams etc.**

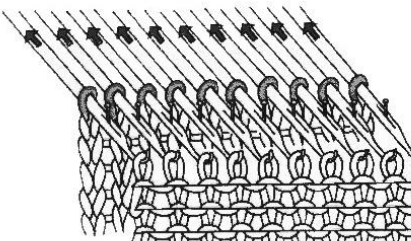
**1. With the right side of the first fabric facing you, pick up the stitches on the last row of the main knitting and place them onto the needles.**



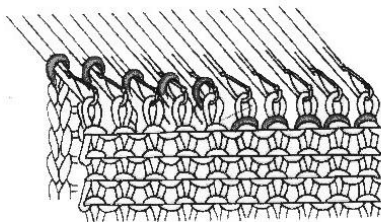
**2. Push the needles to D position and bring the stitches of the fabric behind the latches. Unravel the waste knitting.**



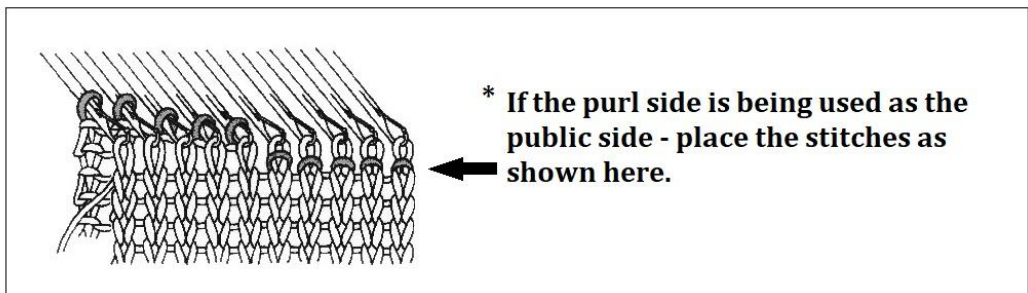
**3. With the wrong side of the second fabric facing you, pick up the stitches on the last row of the main knitting and place them onto the needles.**



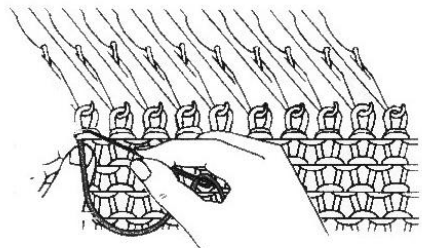
**4. Unravel the waste knitting.**



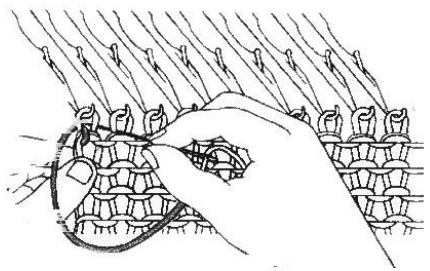
**5. Push the needles towards B position. The rear stitches will slip off the needles and interloop with the front stitches.**



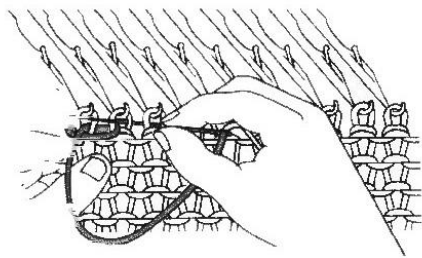
**6. Cast off the stitches by using the back stitch method.**



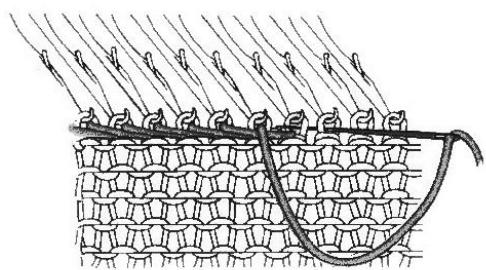
**(1) Thread the tapestry needle and insert into the first stitch and pull the yarn.**



**(2) Insert the Tapestry needle through the second stitch and pull out from the first stitch.**



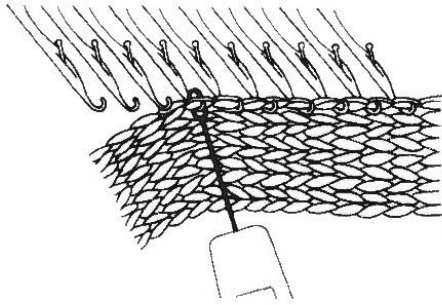
**(3) Insert the tapestry needle through the third stitch and pull out from the second stitch.**



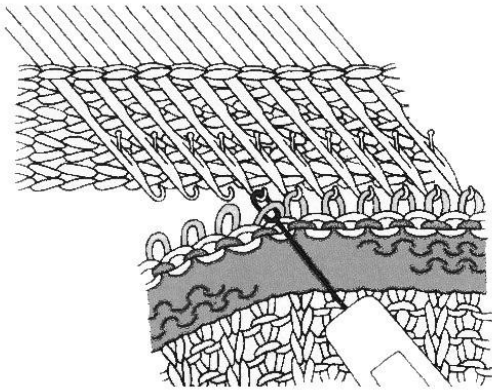
**(4) Repeat steps 2 - 3 to continue and close the last stitch by inserting the yarn and guiding it out of the stitch.**

## OPEN STITCH TO SIDE EDGE

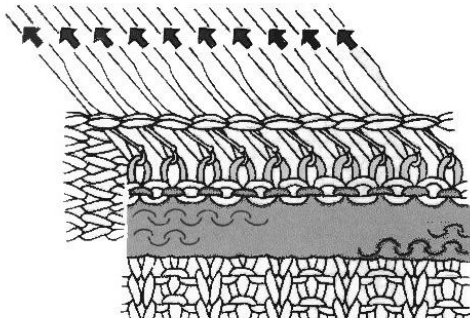
This is used to join the border to the front open edge of a cardigan etc.



(1) With the knit side of the fabric facing you, pick up the stitches on the side edge (omitting a stitch where needed - to ensure it lies flat) and place them onto the needles.



(2) Push the needles to D position. With the purl side of the second fabric facing you, pick up the stitches on the last row of the main knitting and place them onto the same needles.

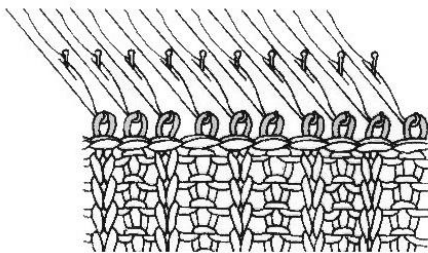


(3) Push back the needles to B position.

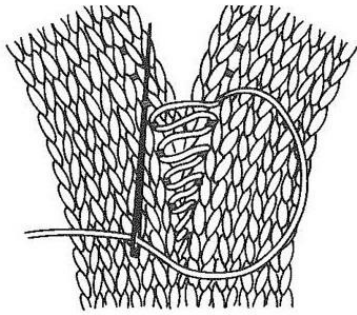
(4) The stitches behind the latches will slip off the needles.

Unravel the waste knitting.

Cast stitches using the Back Stitch method. (Refer to Page 49 - step 6)







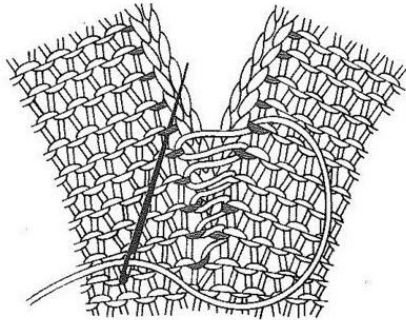
### **BLIND STITCH**

This is used for joining seams. Medium yarn recommended.

#### **KNIT SIDE AS THE PUBLIC SIDE**

With the right sides facing you, pick up each sinker loop between the last 2 stitches from the side edge.

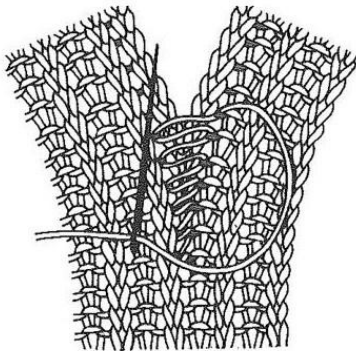
Repeat this step alternately for every row.



#### **PURL SIDE AS THE PUBLIC SIDE**

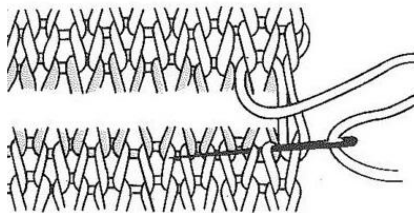
With the purl sides facing you pick up each sinker loop between the last 2 stitches from the side edge.

Repeat this step alternately for every row.



#### **K1. P1. RIB**

With the public side facing you, pick up the sinker loops between the last 2 stitches from the side edge alternately, for every row.



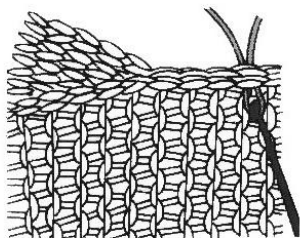
### **GRAFTING**

This is used for joining two open rows where ridges formed by seaming - should be soft to the touch.

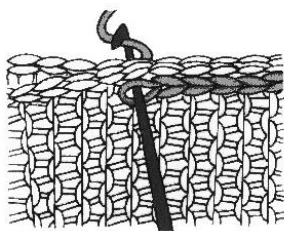
Align both fabrics as shown and thread the knitting yarn through the stitches with the Tapestry Needle.

### SLIP STITCHING

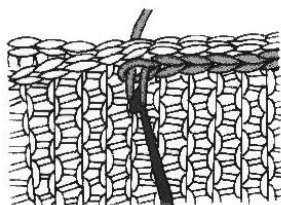
This is used for setting in sleeves or joining side seams.



1. Place the fabric to be joined, with the right sides facing each other. Insert the crochet hook into each sinker loop between the last two stitches from the side edge. Catch the yarn and pull it back.

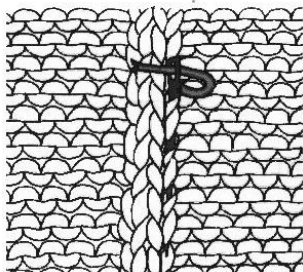


2. Insert the crochet hook into the next loop and catch the yarn.



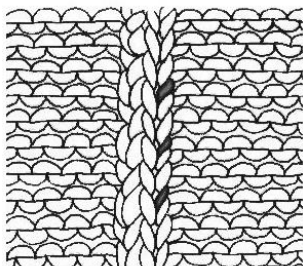
3. Pull back the crochet hook.

Repeat steps 2 - 3.

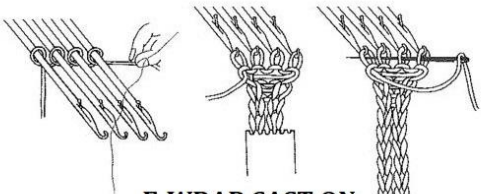
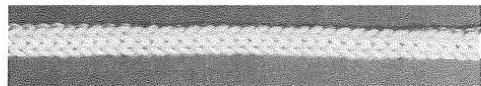
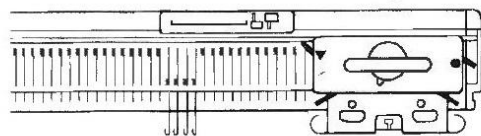


### SEW IN YARN ENDS

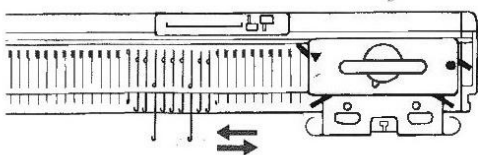
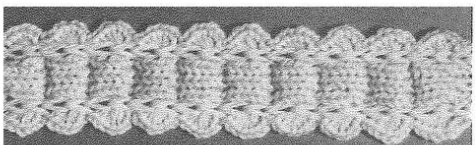
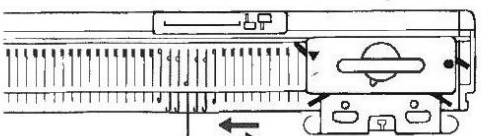
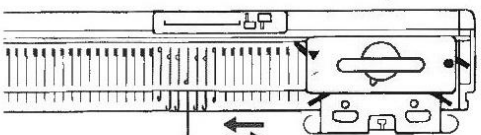
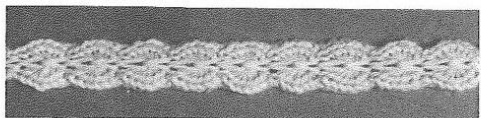
Push the Tapestry Needle into the seamed ridge. Thread the yarn end through the eye of the Tapestry Needle and sew in the yarn end into the ridge.







E-WRAP CAST ON



## CORD KNITTING

1. Place the carriage on the right side of the needle bed and set the machine as follows:

- Cam Lever ..... 0
- Stitch Dial ..... lower than stockinet
- Side Lever ..... ▽ (left) ● (right)
- Russel Levers ..... II
- Weaving Knobs ..... 0
- Stop Knob ..... ●

2. Depending on the thickness of the cord, bring 3-5 needles to D position. Cast on stitches using the e-wrap method as shown.

3. Move the carriage back and forth.

4. Repeat Step 3 five times. Hang claw weights.

5. Continue knitting until the desired length has been achieved.

**BRAID.** These braids are knitted in tuck stitch using medium thick yarn.

### USING 5 STITCHES

1. Cast on 5 stitches and knit 5 rows of stockinet leaving carriage at the right. Hang a claw weight and attach tuck brushes.

2. Set the carriage as follows:

- Cam Lever ..... 0
- Russel Lever ..... = (both)

3. Push up the centre needle to D position and knit 6 rows.

4. Set the Russel Lever at = and knit 2 rows.

5. Re-set the left Russel Lever to =.

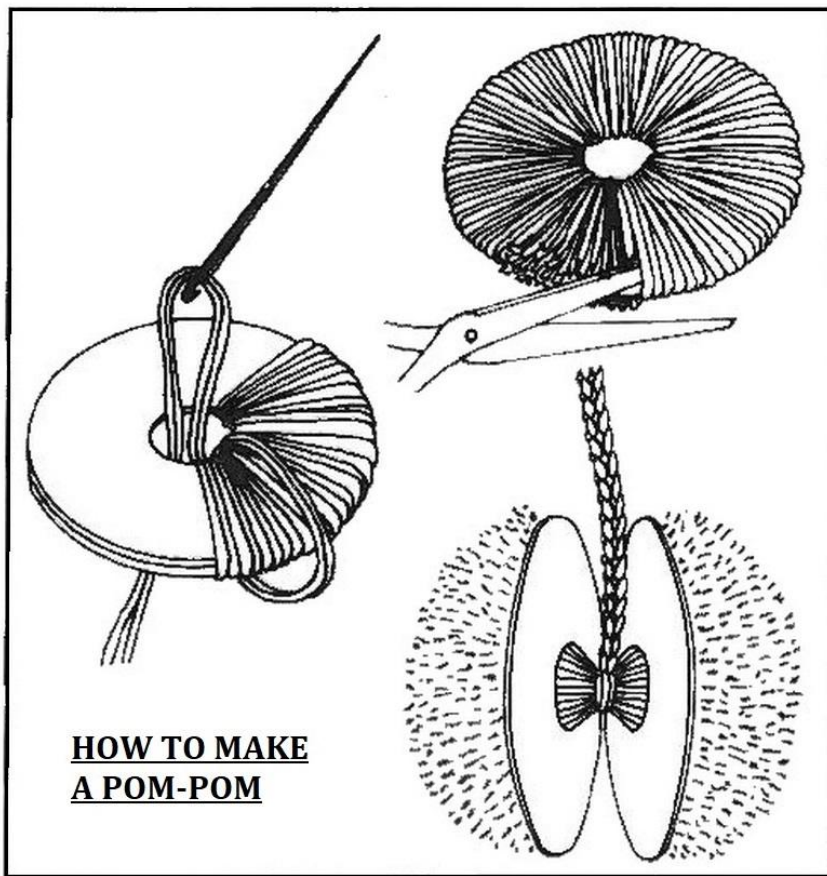
Repeat steps 3 - 5

### USING 9 STITCHES

Cast on 9 stitches and knit in the same manner as instructed above, for 5 stitches.

However - at step 3 - push up the 3rd needles from both sides and knit 6 or 8 rows.





**(1) Cut out 2 cardboard discs of same diameter for the size of the pom-pom with a central  $\frac{1}{4}$  the size of the diameter.**

**(2) Thread tapestry needle with desired yarn and wind evenly around the discs until the central hole is filled.**

**(3) Insert one scissor blade between the two discs and evenly cut the yarn all around the edge.**

**(4) Separate the discs and with cotton thread and tie the centre together tightly. Pull out the discs and trim the pom-pom into shape.**

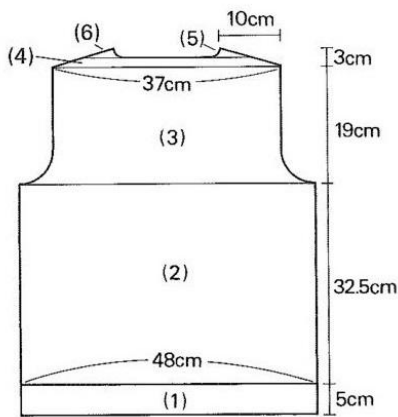
**HOW TO KNIT A GARMENT - LADY'S SWEATER**

The instruction below explains how to knit a garment without using the Knit Contour. A sweater is taken as an example based on the size and tension gauge as shown below.

**Measurements of finished garment:** Bust ..... 96cm  
 Length ..... 59cm  
 Back Width ..... 37cm  
 Sleeve Length ... 56cm

**Material:** 500 grm thick yarn

**Tension :** 16 stitches x 22 rows to 10cm square for Stockinet at Stitch Dial 5.



**(1) Hem -** arrange 80 needles and knit hem of 12 rows in K1. P1. rib (see Pgs 38 to 40).

**(2) Body -** Stitch Dial 5 - knit 72 rows without shaping. RC reads 084. Carriage at right side.

**(3) Shape Armhole:**

Decrease 5 stitches at the beginning of the next 2 rows.

*Decreasing multiple stitches - page 18*

Dec 1 st at both ends and on following alternate rows - 3 times in all. RC 092

*Decreasing 1 stitch - page 18*

Knit 34 rows without shaping.

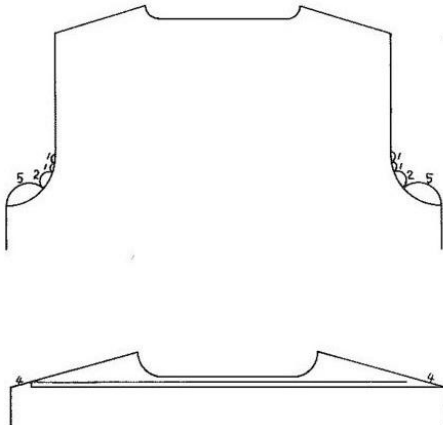
RC 126 - carriage at right side..

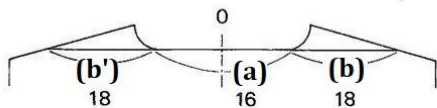
**(4) Shape Shoulder by partial knitting:**

Set Russel Levers to I. Push 4 needles on the left side to D position. Knit 1 row.

Push 4 needles on the other side to D position and knit 1 row.

*Partial knitting by decreasing stitches - page 36.*





**(5) TO SHAPE NECK EDGE & RIGHT SHOULDER**

At the neckline, divide into three sections: right = (b) centre straight = (a) and left = (b'). Work each section separately to shape the neck edge and shoulder at the same time, as instructed below.

Push up 34 needles on section an (a) and (b') to D position. *Holding stitches in D position - page 50.*

Knit 1 row and decrease 3 stitches at the neck edge. *Partial knitting by decreasing stitches - page 43*

Knit 1 row and decrease 2 stitches at neck side.

Decrease 4 stitches by partial knitting.

Knit 1 row. Carriage is at left and RC is at 121

Break yarn leaving 10cm end. Unthread the yarn.

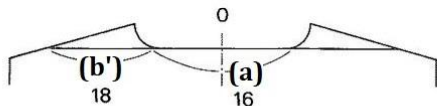
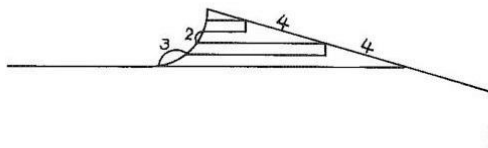
Push back the needles for the right shoulder to C position.

With waste yarn knit a few rows & take that section off the machine. Push empty needles to A position.

Push 16 needles on section (a) back to C position.

Yarn mark at centre (0) of needle bed. *See Page 52.*

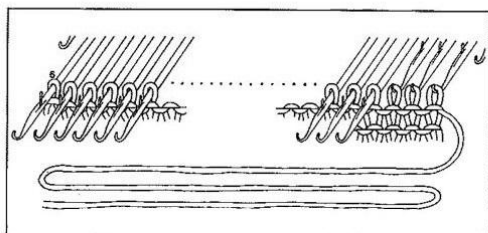
Remove the section on waste knitting and push empty needles to A position.



**(6) TO SHAPE NECK EDGE AND LEFT SHOULDER**

Push back the needles of section (b') to C position. Carriage at left - work this section the same as worked in (b') but using reverse shaping.

Break off yarn leaving 3 x shoulder width length and unthread the yarn.

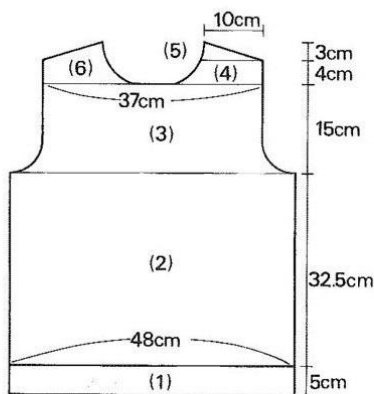


**FRONT**

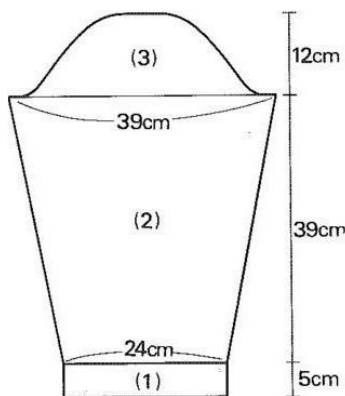
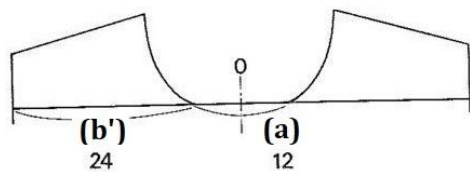
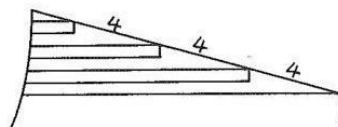
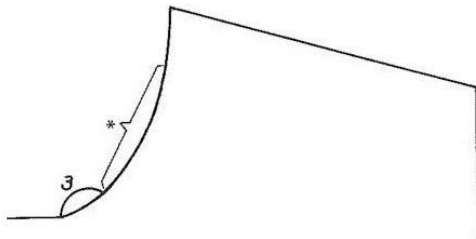
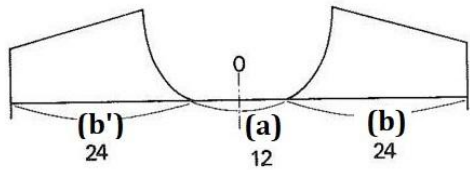
(1) - (3) To knit up the neckline:

Knit in the same manner up to neckline as done for the back until the row counter shows 094.

Knit 10 rows without shaping. Carriage at the right side. Row counter at 104







**(4) SHAPE FRONT RIGHT NECKLINE**

Set the Russel Lever to —

Push 36 needles on sections (a) and (b') to D position.

Knit 1 row and decrease 3 stitches at the neck edge and knit 1 row.

Decrease 1 stitch at the beginning of the next and every following alternate rows - 4 times in all (\*)

**(5) SHAPE RIGHT SHOULDER**

Work partial knitting by decreasing stitch in the same manner as that used on the back.

Push back the needles for right shoulder, to C position.

Remove the section on waste knitting. Break the yarn, leaving a length that is 3 times the width of the shoulder and unthread the yarn.

**(6) SHAPE NECK EDGE AND LEFT SHOULDER**

Pushback 12 needles on section (a) to C position.

Put a yarn mark at centre 0 on needlebed and the section on waste knitting.

Work section (b') in the same manner as used for section (b) but using reverse shaping.

Break the yarn, leaving a 10cm yarn length.

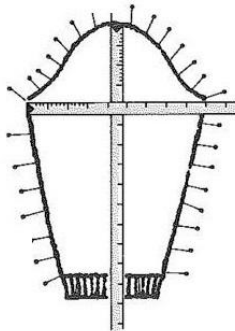
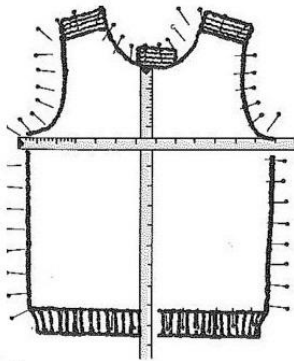
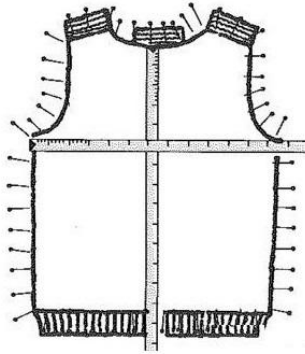
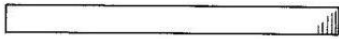
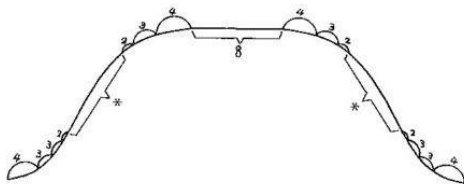
**SLEEVES (2) BOTH ALIKE.**

**(1) To knit cuff**

Arrange 40 needles and knit in the same manner as used for the hem.

**(2) SHAPE UNDERARM**

Stitch dial 5, increase one stitch at both ends of the next and every following 6th row x 5 times and the following 7th row x 7 times in all until row counter reads 097 and 64 stitches remain on the needle bed.



### (3) SHAPE SLEEVE TOP (2)

Decrease 4 stitches at the beginning of the next 2 rows, 3 stitches on the next 4 rows and two stitches on the next 2 rows.

Decrease 1 stitch on both ends on the next row and every following alternate row, 7 times in all (\*).

Decrease 2 stitches at the beginning of the next 2 rows.

Decrease 3 stitches on the next 2 rows.

Decrease 4 stitches on the next 2 rows. Row counter at 125.

Put a yarn mark at centre 0 of the needlebed and cast off the remaining 8 stitches using the back stitch method. (*Joining on the machine - step 6 - page 56*).

**NECKBAND** - arrange 69 needles for K1. P1 rib and knit 7 rows as used in the hem.

Remove the neckband on waste knitting. Break the yarn, leaving the end three times the width of the neckband and unthread the yarn.

### BLOCKING AND PRESSING.

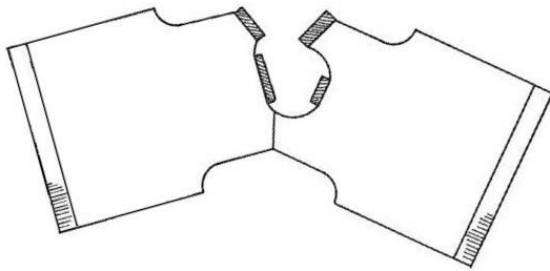
After knitting the pieces of your garment you must lay them flat and pull them out to their correct shape and size.

Pin out a piece with its wrong side facing up on an ironing board at the widest point, afterwards, pinning it to its correct length.

Pin all around the edges spacing the pins about 2-3cm apart. (Place the pins inside the ribbed edge).

Press them lightly with a steam iron or over a damp cloth. (Remember that acrylic can melt.)

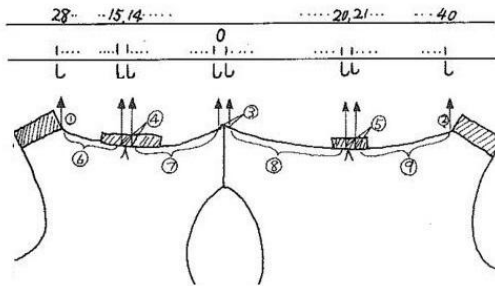
Leave the pieces to dry before removing the pins.



**MAKING UP**

Join the right shoulder on the machine, using the yarn end.

*(Joining on the machine, stitch to stitch - page 55. Replace the back shoulder on the needles first.)*



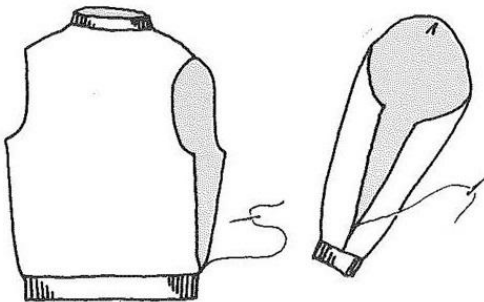
Join the neck edge and neckband on the machine.

*Joining on the machine, open stitch to side edge - page 57).*

Arrange 40 needles on right side of centre (0) for the front neck edge and 28 needles on the left side for the back.

With right side facing, hang neck edge in the order as illustrated.

With wrong side facing, hang the neckband.



Pick up and finish off the left shoulder to correspond with the right shoulder.

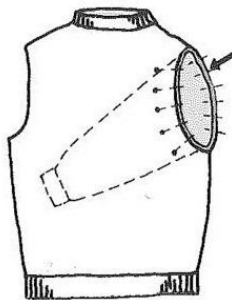
Join the side, neckband and sleeve seams. *(Blind stitch - page 58).*

Turn the garment onto the wrong side and slip the sleeves into the armhole. Pin them as illustrated and work slip stitches along the edges.

*(Slip stitch - page 59)*

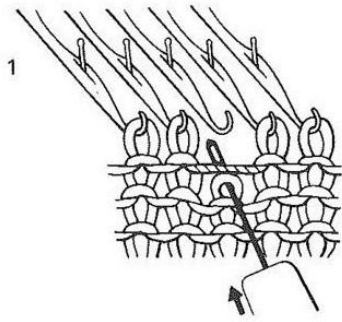
Sew in yarn ends on the wrong side. *(Sew in yarn end - page 59)*

Give garment a final press.



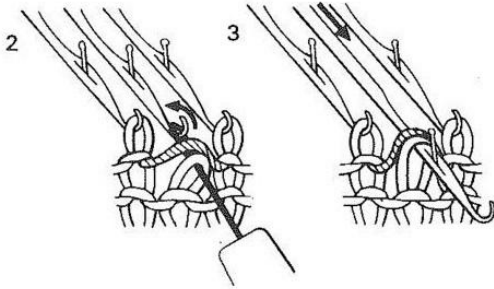


## **FIVE PAGES OF HELPFUL HINTS**



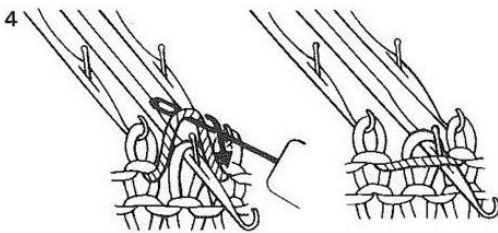
### **TO REPLACE A DROPPED STITCH**

**1. Insert the prong of a transfer tool into the dropped stitch.**

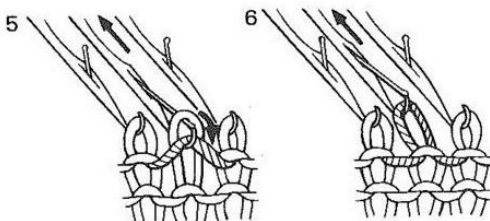


**2. Replace the stitch onto the empty needle together with the bar above the stitch.**

**3. Push forward the needle till both stitches move behind the latch.**

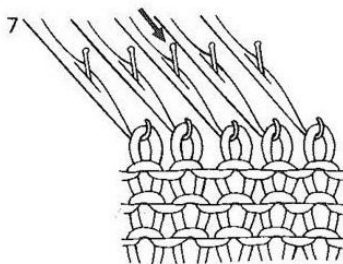


**4. Lift up the bar using the transfer tool and bring it over the latch.**

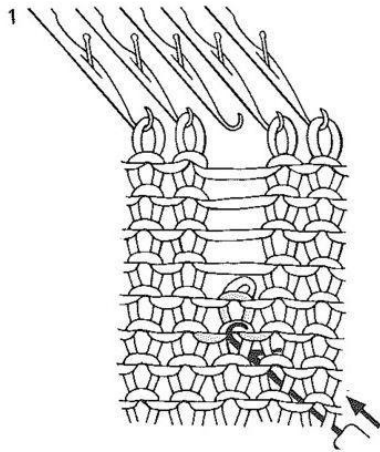


**5. Push back the needle till the stitch behind the latch slips off the needle.**

**6. Push the needles towards A position to correct the size of the stitch.**

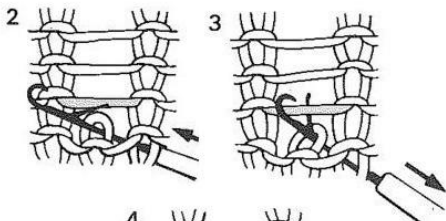


**7. Align the needle correctly in B position.**

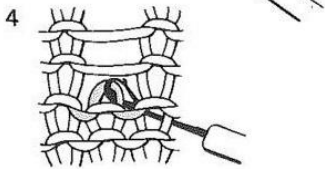


**IF A STITCH HAS DROPPED SEVERAL ROWS**

**1. Insert the latch tool into the rear of a stitch which is further down than the dropped stitch and let the stitch run down to the latch tool.**

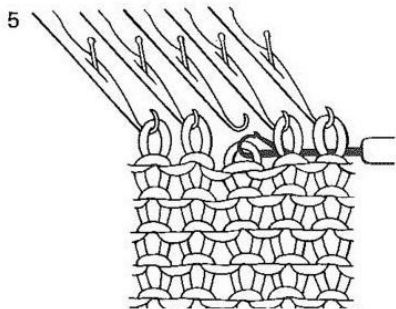


**2. Push the tool forward until the stitch moves over the latch of the tool.**

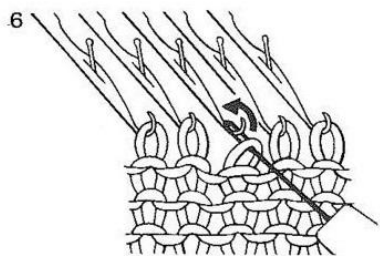


**3. Pulling the tool backwards, catch the bar that crosses above it.**

**4. The stitch behind the latch slips off the tool and interloops with the bar in the hook.**



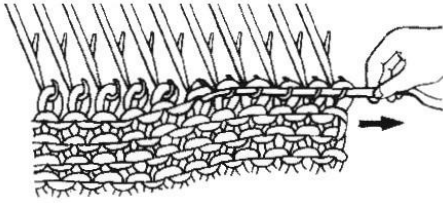
**5. Repeat the above steps to take the stitch back up to the top.**



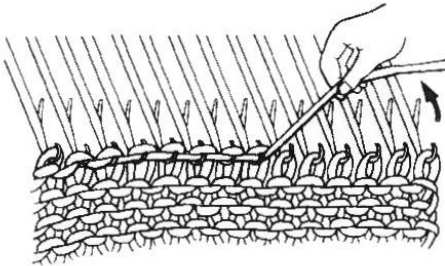
**6. With the stitch now at the top and on the transfer tool - on the front side - place it onto the empty needle.**

**If more than one stitch has dropped - or when pattern knitting - it would be easier to unravel all the rows, than to repair the stitches**

**TO UNRAVEL KNITTED FABRIC ON THE MACHINE.**



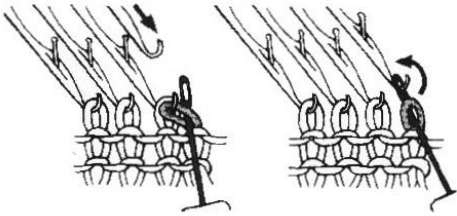
**1. Holding the fabric downward, pull the yarn outwards and the row gets tight.**



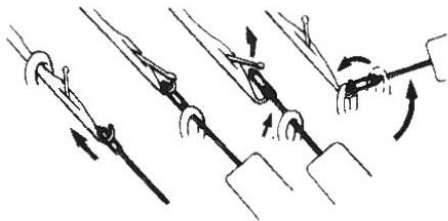
**2. Lift the yarn upwards and very slightly - backwards until the stitch of the previous row, falls back into the needle hook. Continue in this way until unravelling is complete.**

**3. Align needles in B position.**

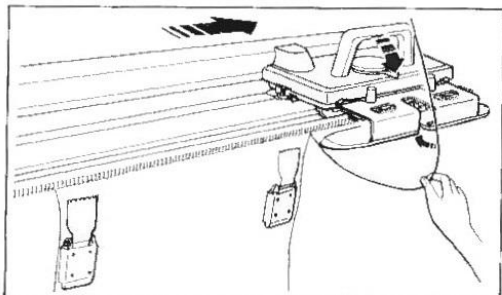
**FABRIC SHAPED IN DECREASE OR PARTIAL KNITTING.**



**1. Fabric with Decreased Edge:** On the row of the decrease, the end needle has two stitches. After unravelling, place one stitch back onto its original needle.

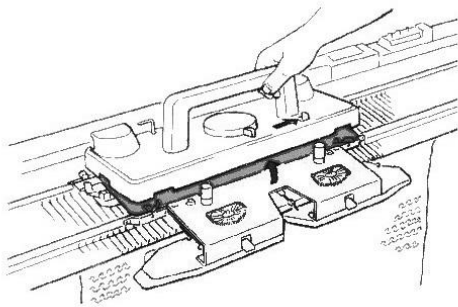


**2. Partial Knitting:** Replacing the stitches in the needle hooks, push back the needles in D position, using the transfer tool.



**3. BEFORE CONTINUING TO KNIT:** Pull the unravelled yarn back, towards the yarn ball at the back of the tension unit. Move the carriage to the side of the yarn end by pushing the Release Lever. Adjust the Row Counter and replace the yarn in the Yarn Feeder.

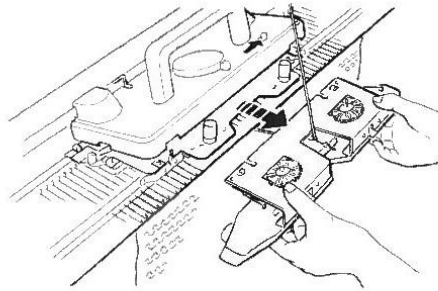




**IF THE CARRIAGE HAS JAMMED:** in the middle of the row, do not push the carriage by force. Proceed as follows to release the jammed carriage.

1. Disengage the feeding trippers.
2. Remove the yarn from the feeder.

*\*If the yarn entangled within the yarn feeder brushes, loosen the sinker plate and remove it.*

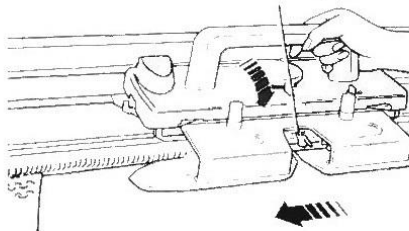


3. Push the Release Lever in the arrowed direction.

4. Lifting the handle, move the carriage in its preceding direction, to outside of the working needles.

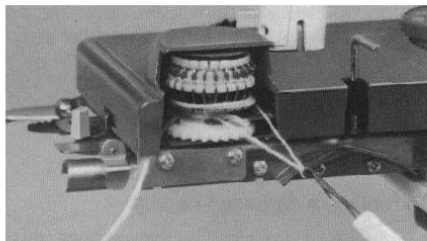
5. Push carriage handle down until it clicks.

6. Pick up any dropped stitches (See Pages 59-60). Push back the needles in C or D position to B position replacing any reformed stitches into their respective needle hooks using the transfer tool.



Unravel the complete row and pass the carriage to the side of the yarn end (see Page 61).

*\*If the Punch Card is in use, let the carriage memorise the pattern. (See Page 63). Continue to knit.*

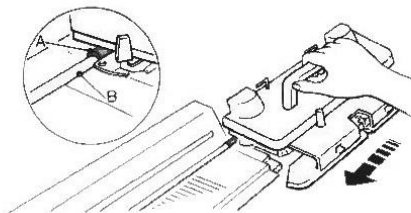


**IF THE YARN IS ENTANGLED IN MEMORY DRUMS:** Move the carriage to the side of the needle bed and carefully remove the yarn using the latch tool.

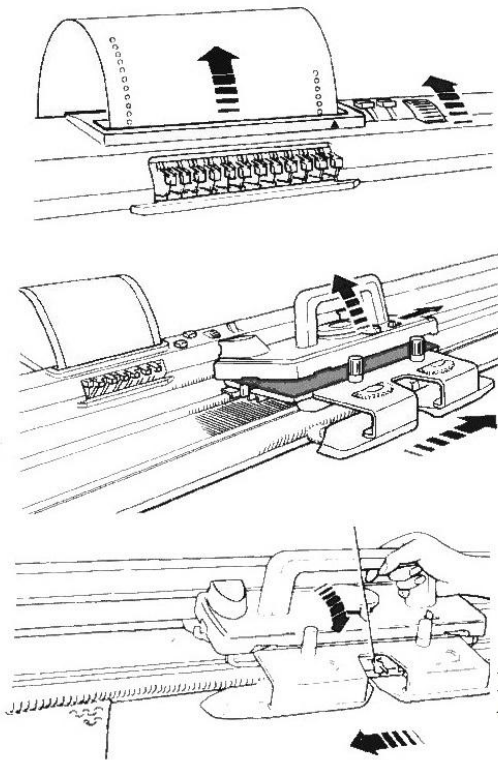
*\*If this happens during pattern knitting, let the carriage memorise the pattern. (See Page 63).*

**IF THE CARRIAGE HAS BEEN PULLED OFF THE BED:**

Mount it back on the needle bed sliding carriage pipe "A" onto bed rail "B".



*\*If the Punch Card is in use, let the carriage memorise the pattern. (See Page 63).*



### TO MEMORISE THE PATTERN:

**When unravelling has been done :** Return the Punch Card and Row Counter by the number of rows unravelled.

When using L knob, unravel even rows and return the Card, ONLY HALF THE NUMBER of the rows unravelled.

e.g. If 3 rows incorrectly knitted you'd unravel 4 rows, so return the card 2 rows.

Set the Stop Knob to ● and disengage the Row Counter tripper. Push the Release Lever to the right and with the carriage handle lifted, move the carriage once or twice across the needle bed until it has passed the 12 needles corresponding to the Touch Levers and place it at the side of the yarn.

Insert yarn into yarn Feeder and reset controls to original positions. Continue to knit.

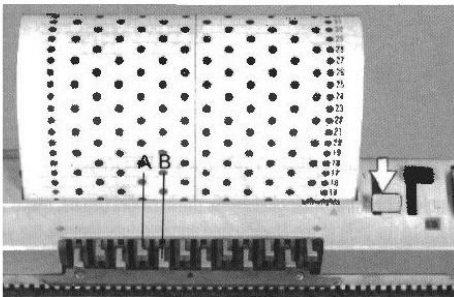
### TO CHECK THE PATTERN WITH PUNCH CARD:

By setting the Stop Knob to ● the pattern of the row is indicated by the Touch Levers.

To check the pattern on the last row, return the Card 1 row and set the Stop Knob to ● .

Touch Levers at the Back "A" show the punched area.

Touch Levers at the Front "B" show the non-punched area.



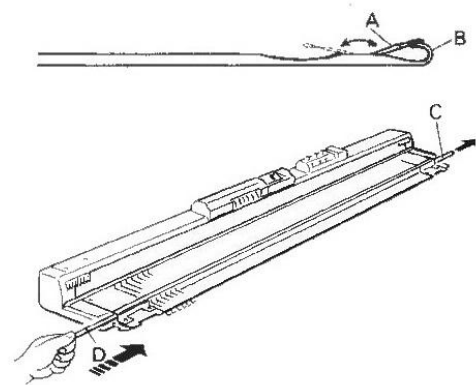
### REPLACING A DAMAGED NEEDLE

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

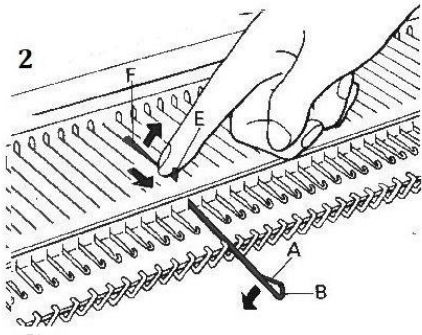
The needle latch "A" must move smoothly and lie flat over its hook "B".

1. At each end of the needle bed you can see the needle retaining bar (sponge bar) "C".

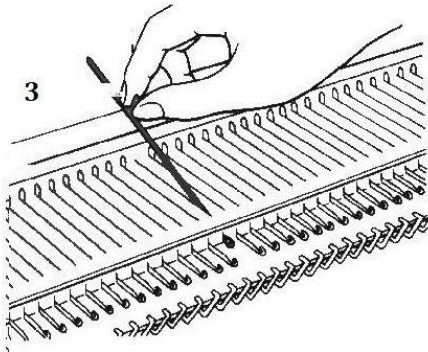
If the damaged needle is at the left half of the needle bed, place the carriage at the right and using the flat end of a pencil, push the needle retainer bar from the left until it appears at the right hand side of the bed. Pull the bar out in the same direction (you will see it move beneath the needles) until it has passed the damaged needle.



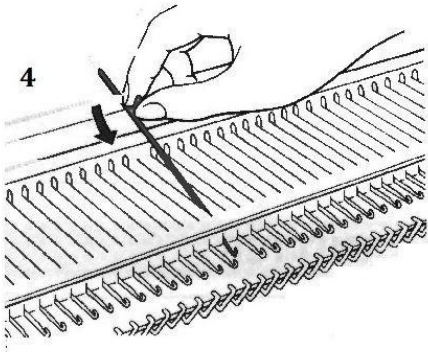




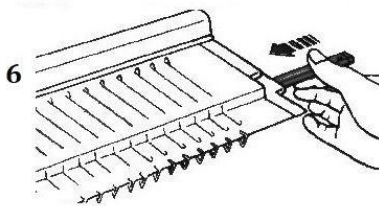
2. Push the damaged needle to D position by pressing its butt "E". Close the latch "A" and ensure hook "B" is down. The shank "F" can then come out of the needle groove.



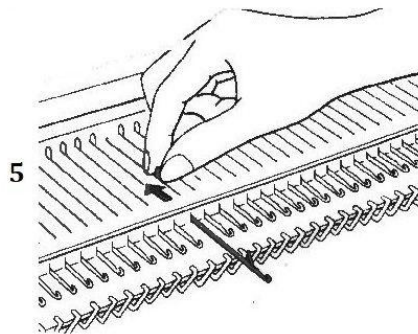
3. Lift up the needle by holding the butt and pull it out of the needle bed.



4. To replace a new needle, open its latch and slide it into the needle groove as shown, until the hook appears at the front of the needle bed.

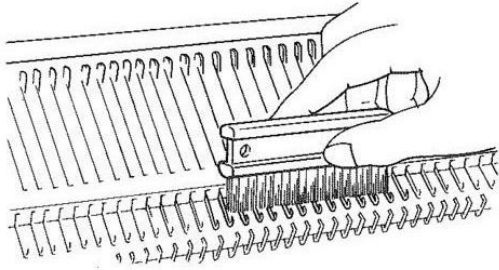


6. Push the retainer bar back in. (over the needles & sponge side down)



5. Push the needle back to A position by holding the butt.



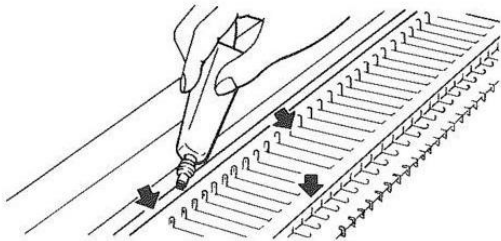


**MAINTENANCE**

To clean your Knitter, remove the Carriage from the Needle Bed.

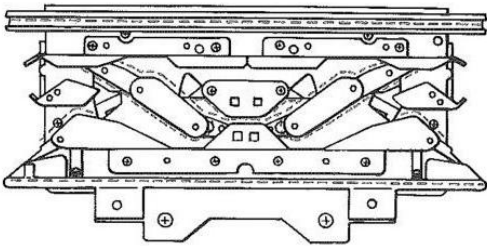
**NEEDLE BED:**

Use the Cleaning brush to remove all lints.



Apply Oil along the rail and front guide of the Needle Bed.

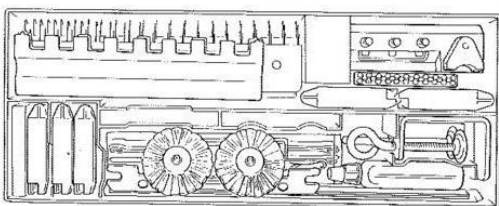
With a lightly oiled soft cloth, wipe across the needle butts.



**CARRIAGE:**

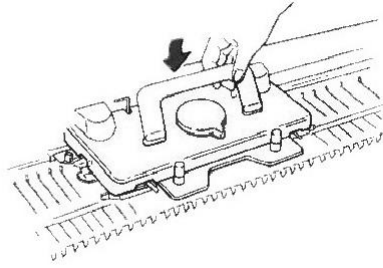
On the underside of the carriage, brush off all fluff and lint and oil all the metal parts and carriage slider pipe.

With a lightly oiled soft cloth, wipe the places indicated by the dotted lines in the diagram.

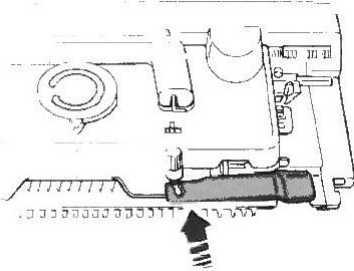


**RE-PACKING THE KNITTING MACHINE:**

Replace all accessories in the Accessory Box.

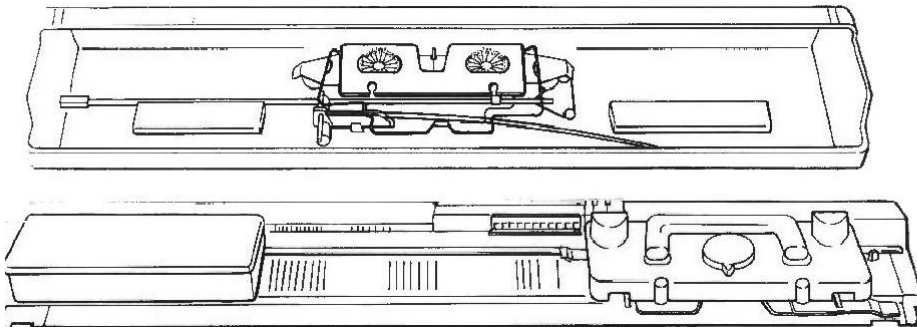


**LAY THE CARRIAGE HANDLE DOWN.**

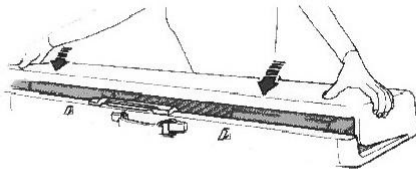


**SECURE THE CARRIAGE TO THE BED (ON THE RIGHT) WITH THE CARRIAGE LOCK.**

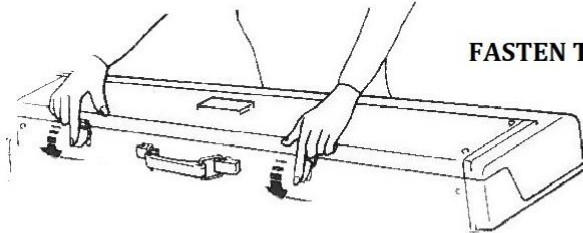
**PLACE THE ACCESSORY BOX AT THE LEFT END OF THE NEEDLE BED.**



**PLACE THE TOP COVER ON THE NEEDLE BED.**



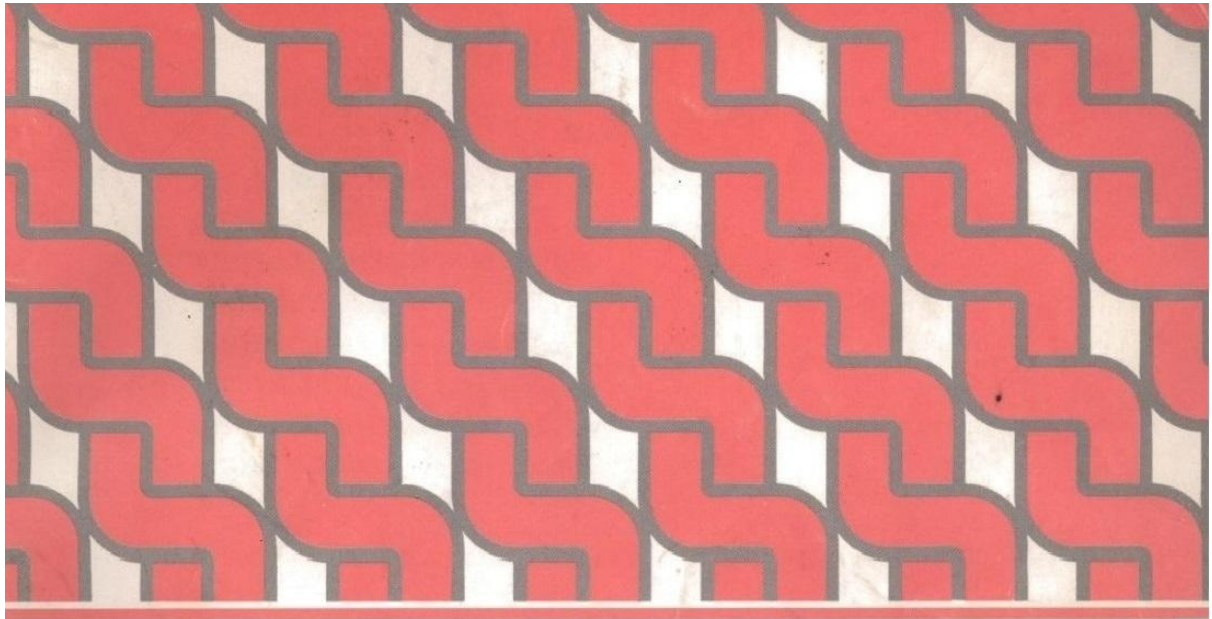
**FASTEN THE LATCHES.**



***TO STORE THE MACHINE***

*Keep the machine away from*

- 1. too much moisture.*
- 2. abnormal change of temperature.*
- 3. salt or chemicals.*



**INSTRUCTION MANUAL**  
**KNITMASTER 155**

