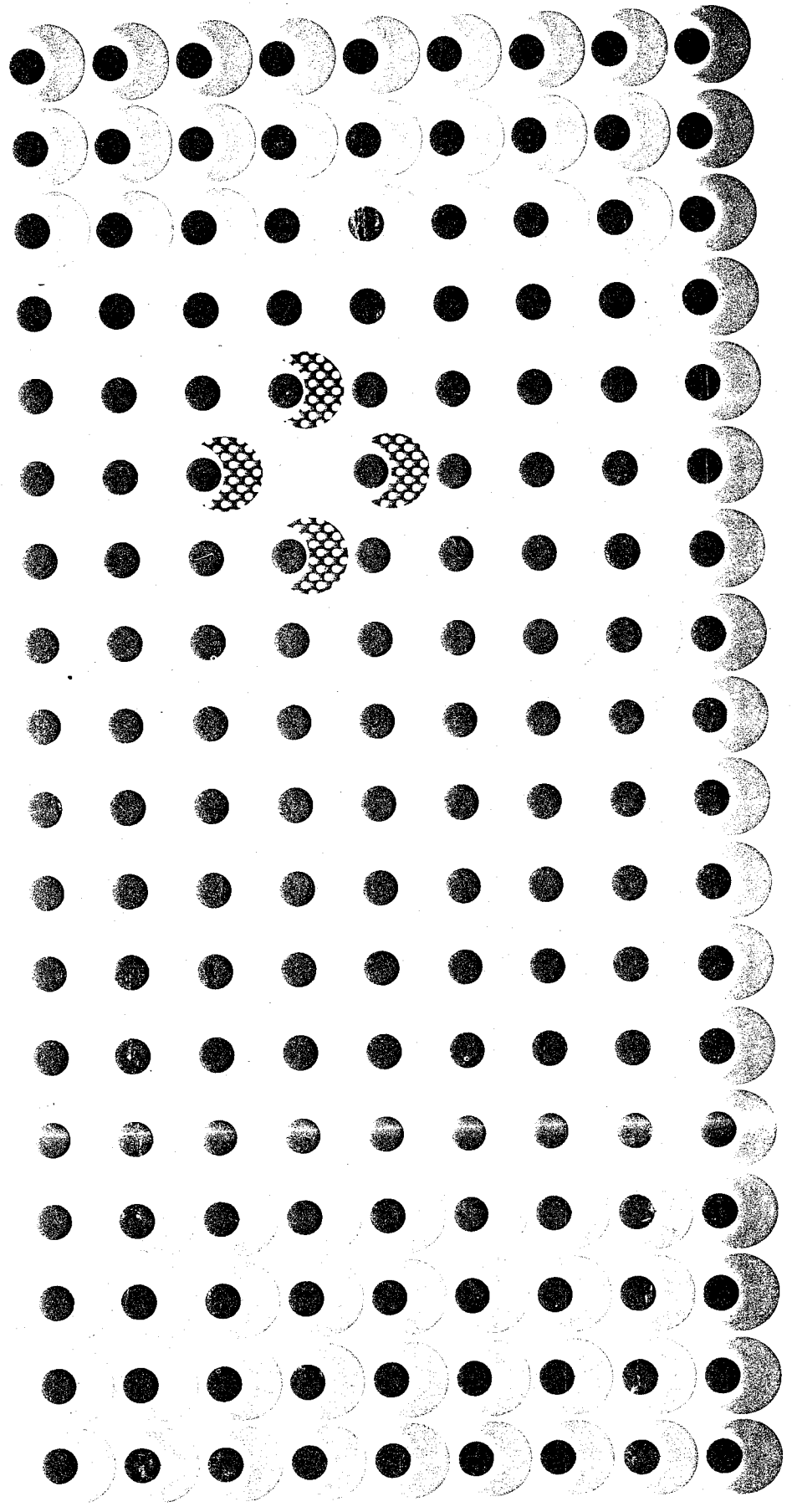


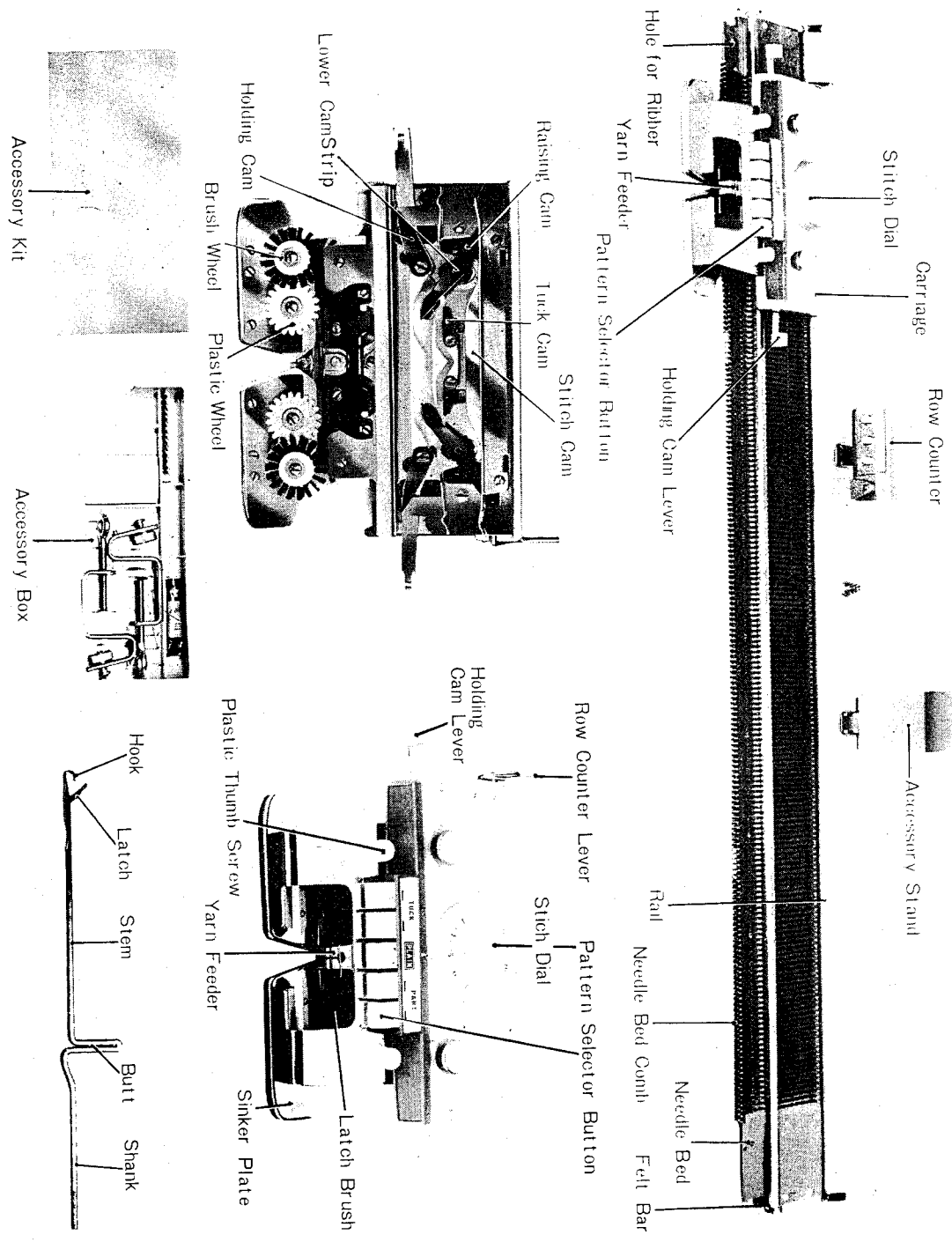
*instructions* **BROTHER-KNIT** *model*  
*How to master your automatic home Knitter* KH-550



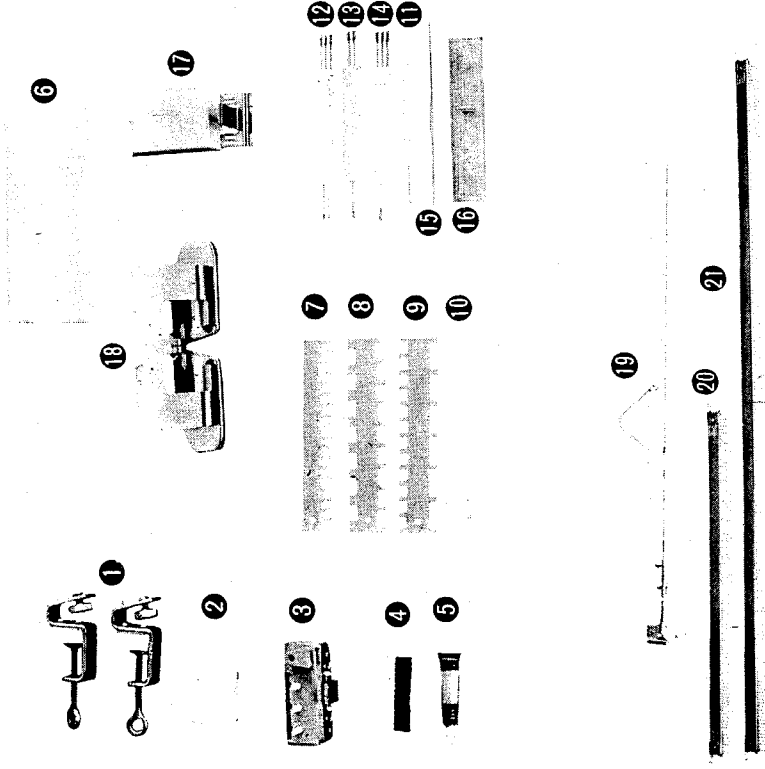
## BROTHER KNITTING MACHINE

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- (1) Table Clamp
- (2) Picker
- (3) Row Counter
- (4) Hand Brush
- (5) Lubriplate
- (6) Accessory Kit
- (7) 0, 1/1 Needle Pusher
- (8) 1/3, 2/3 Needle Pusher
- (9) 1/2, 1/5 Needle Pusher
- (10) Cast-on Thread
- (11) Latch Tool
- (12) 2x3 Transfer Tool
- (13) 1x2 Transfer Tool
- (14) 1x3 Transfer Tool
- (15) Crochet Hook and Work Hook
- (16) Plastic Case and Spare Needle
- (17) Accessory Stand
- (18) Sinker Plate Assembly
- (19) Automatic Yarn Tension Unit
- (20) Cast-on Comb Small
- (21) Cast-on Comb Large



## SETTING UP THE KNITTER

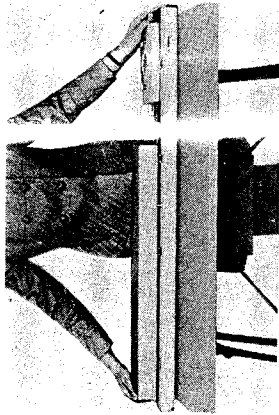


Fig. 1

1. Place your knitter on the edge of any firm and flat table, with the name plate on top away from you. (See Fig. 1)

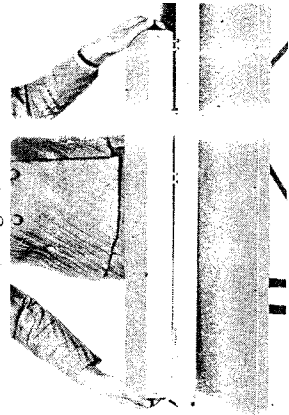


Fig. 2

2. Remove the accessory box on the needle bed, the accessory box is on the right. Lift the accessory box. (See Fig. 2)

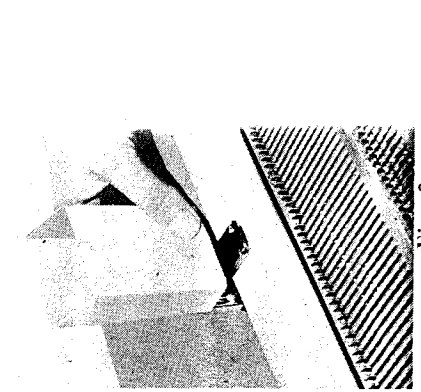


Fig. 3

3. Take out the accessory stand from the accessory box. Set it up on any one of the 3 row counter brackets which is free. (See Fig. 3.4)

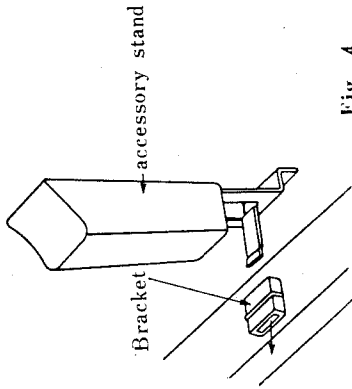


Fig. 4

4. Take out the table clamps from the accessory box. Raise the front of the knitter, insert the head of screw (B) into the aperture (C).

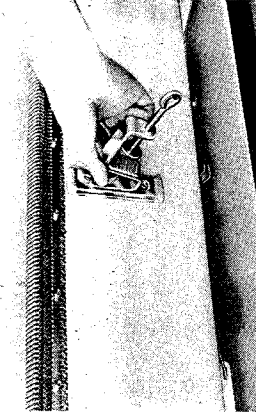


Fig. 5

Press upwards so that the head of screw (B) is in position (D) and fasten the knob (A). Fasten the knitter to the table by the tightening table clamps. It is essential that boss (E) fits snugly into aperture (F). (See Fig 5, 6)

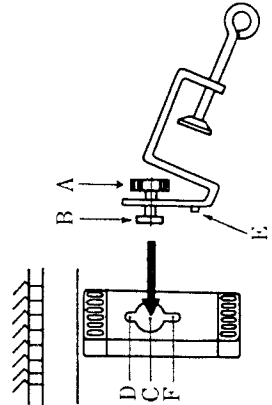


Fig. 6

Note : The knitter case has rubber cushion pads on the bottom side and knitting is possible without clamping the knitter to the table.

## ATTACH THE AUTOMATIC YARN TENSION UNIT

- a. Take out the automatic yarn tension unit from the carton case.

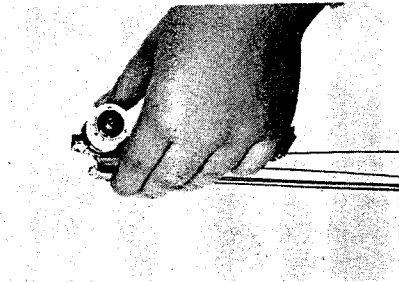


Fig. 7

- b. To straighten out, turn the front yarn guide arm in the direction of the red arrow. (See Fig. 8)

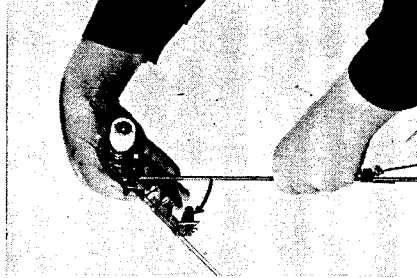


Fig. 8

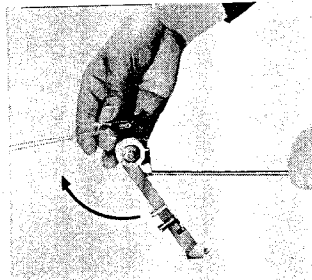


Fig. 9

- d. Turn out the rear yarn guide as far as it will go. (See Fig. 10)

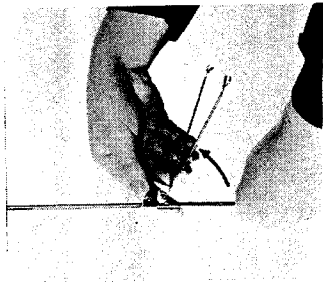


Fig. 10

- e. Fit the end of the rod into the stand hole at the centre of the knitter with rear yarn guide away from you. (See Fig 11)

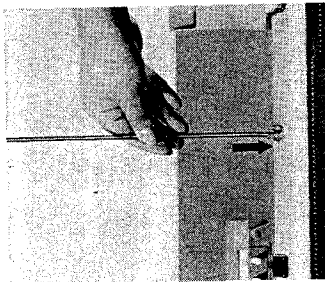


Fig. 11

- i. Set the row counter. Set the row counter into anyone of the 3 brackets on the back of the needle bed. (See Fig. 15)

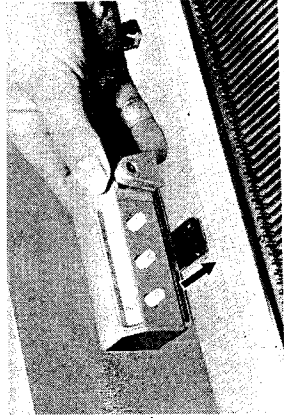


Fig. 15

- j. You can turn the figures on the row counter to zero, by turning as indicated by arrows the 3 knobs in order from right.

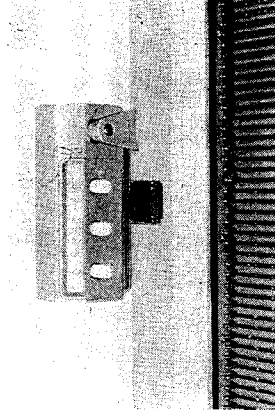


Fig. 16

- k. Snap the row counter tripper into position. The tripper located on the left side of the carriage. To set the row counter out of operation, turn it toward you. (See Fig. 17)

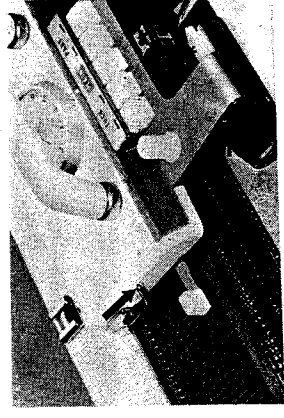


Fig. 17

- f. Remove the carriage lock. Loosen the plastic thumb screw of the carriage and remove the carriage lock. This will free the carriage, which can then be made to slide along or off the needle bed. (See Fig. 12)

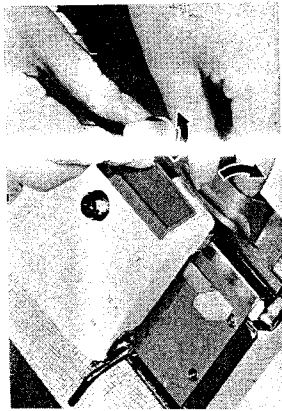


Fig. 12

- g. Assemble the carriage. Take out the handle from the carton case. Both sides of the handle should be screwed down at the same time to avoid stripping the thread. (See Fig 13)

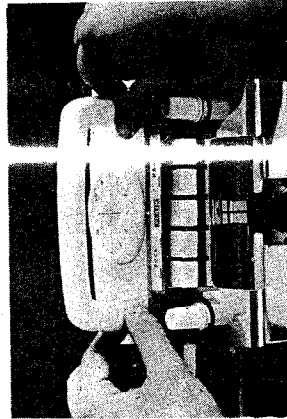


Fig. 13

- h. Take out the sinker plate assembly from the carton case. Loosen the plastic thumb screws of carriage, insert the sinker plate assembly as far as it will go and fasten the thumb screws securely. (See Fig. 14)

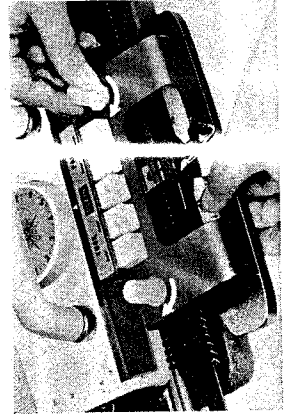
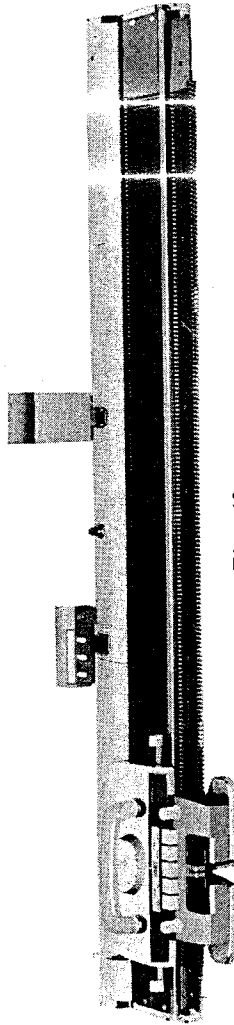


Fig. 14

**Number of needles**

There are numbered in red in front of the needle bed. The centre is "0". There are 200 needles from 0 to 100 to the left and similarly numbered to the right. For further convenience, the rivets at the back of the needle grooves are spaced 10 needles apart.



**Fig. 18**



### HOW TO FOLD UP THE KNITTER.



Fig. 19

1. All needles are to be placed in the position A (rear resting position) (See Fig. 19)

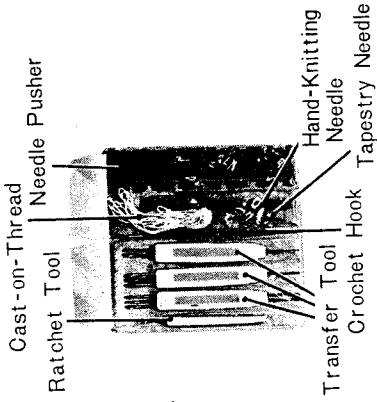


Fig. 22

2. Loosen the plastic thumb screws of the carriage. Remove the sinker plate and replace it in the part box. (See Fig 20)

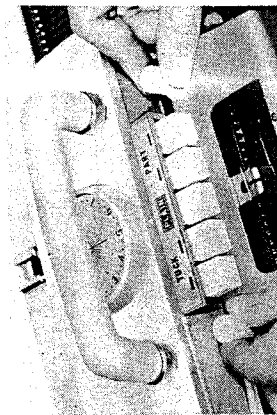


Fig. 20

3. Remove the carriage handle and replace it in the part box. (See Fig. 21)

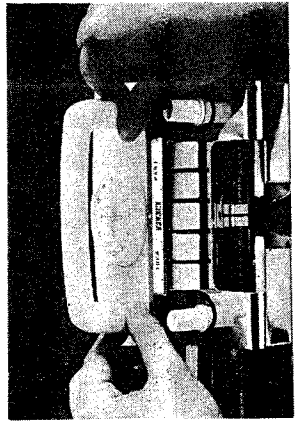
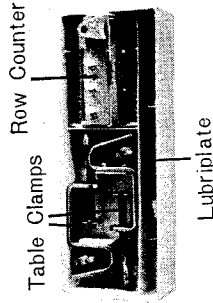


Fig. 21



4. Place the part box on the right side of needle bed and replace the knitter into the carton box.

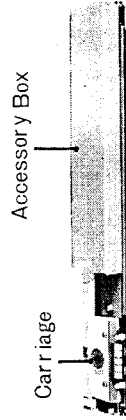


Fig. 23

5. Replace the knitter into the carton box.

## NEEDLE POSITION

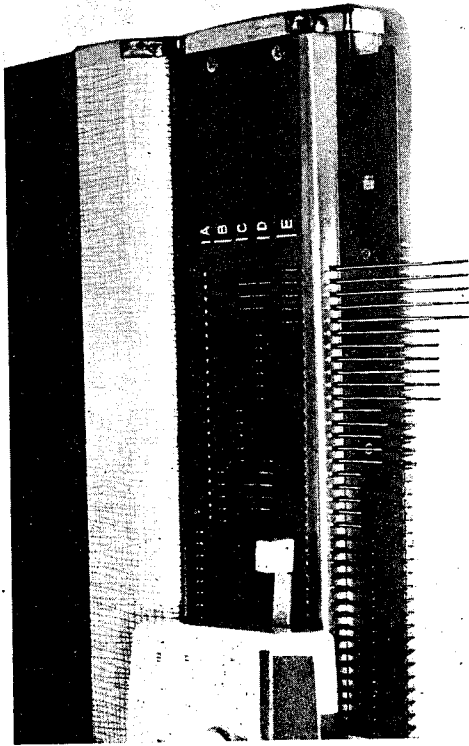


Fig -24

1. POSITION "A". (Out of Action)

The needles are fully back, and the carriage, no matter what is done to the controls, will not move the needles in any way.

2. POSITION "B". (In Action)

This is the first of the four positions in which the needles will be actuated by the carriage, and is gradually referred to as the "NORMAL KNITTING POSITION".

In this position the needle has been push out about half-an-inch. The needle hooks are nearly level with the gate pegs.

3. POSITION "C". (Multi-Pattern)

To obtain needle position C raise the needles to E then return it to C (by having Picker shifting from left to right) so that the stitch rides on top of the closed latch.

This position is used for shaping polo, round, square and V neck ; for berets, skirts, dolies and in certain patterning.

4. POSITION "D". (Pattern-knit)

Called the "Pattern-Knit" position because the needles functioning from this position will form the knit stitch required, while those in the B position are forming the pattern stitch as selected by the Pattern dial.

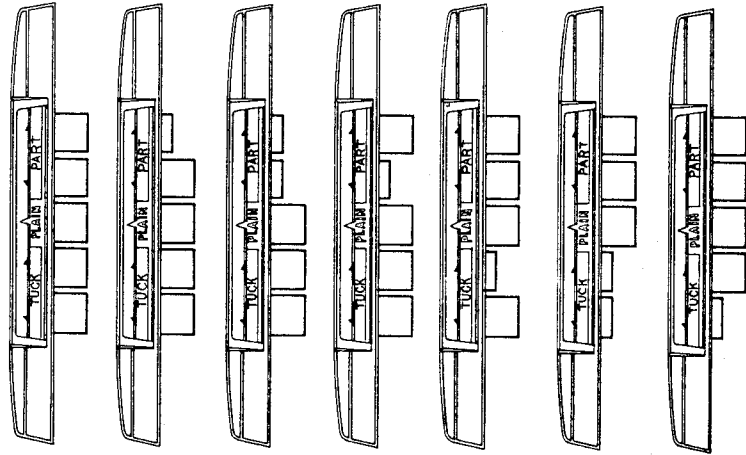
This position is used in conjunction with advanced patterning and certain fair-isle pattern. (by having Picker shifting from right to left.)

5. POSITION "E". (Holding)

Used for Partial Knitting in Fair-isle patterning and certain other advanced patterning.

### THE PATTERN SELECTOR BUTTONS

The 5 buttons on the carriage, control all the stitch formations. The center button marked "Plain" if pushed in acts as a release for all others. When all 5 are even, you get plain knitting or the stockinette stitch. Part or partial knit is used principally for Fair Isle designs; each button controls the direction you are knitting.



	Code 1 ; PLAIN
plain knitting.....	Left course
plain knitting.....	Right course
	Code 2 ; PLART
plain knitting.....	Left course
partial knitting.....	Right course
	Code 3 ; PART
partial knitting.....	Left course
partial knitting.....	Right course
	Code 4 ; PART
Partial knitting.....	Left course
Plain knitting.....	Right course
	Code 5 ; TUCK
plain knitting.....	Left course
tucking.....	Right course
	Code 6 ; TUCK
Tucking.....	Left course
Tucking.....	Right course
	Code 7 ; TUCK
Tucking.....	Left course
Plain Knitting.....	Right course

The COURSE refers to the direction of the carriage across the knitting.

LEFT COURSE means carriage movement from right TO LEFT.

RIGHT COURSE means carriage movement from left TO RIGHT.

The points of the arrows on the plate indicate the direction of the operation.

## HOLDING CAM LEVER POSITION

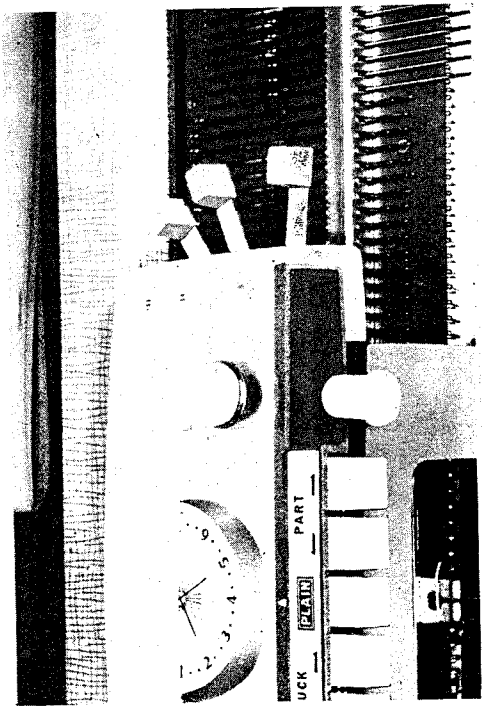


Fig. 25

The Holding Cams, operated by the lever, work independently, on what is known as the "Knitting Side" of the carriage which is always that nearest the needles in action, i. e. nearest the knitting.

This is a most significant development, because it more than doubles the patterning possibilities of the knitter.

There are five needle positions, and the Holding Cams react to the various needle positions in different ways.

A) When the Holding Cam Levers are raised (Position I) the carriage will knit all needles in normal knitting position as well as any needles pushed out to their fullest extent. These latter needles will be drawn back into the normal knitting position.

For all normal knitting, the Holding Cam Levers remain "Raised" (Position I). They must only be "Centered" (Position II) or Lowered (Position III) when specially required for patterning purposes.

B) When the Holding Cam Levers are "Centered" (Position II) they operate on C & D position needles for special patterning mainly in conjunction with tucking Cams, and especially when patterning and knitting on part fabric as on one side of a placket or V-neck, to avoid removing part of the knitting from the needle bed.

C) When the Holding Cam Levers are "Lowered" (Position III) the carriage will knit all needles in normal Knitting position. All needles pushed out to their fullest extent will not be knitted, they remain stationary, and will do so until the relative lever is "Raised" (Position I)

## HOLDING CAM KNITTING

Working on a piece of knitting in your knitter, set your controls as follows:

Both Holding Cam Levers "Lowered".

Knit several rows.

You will note that the needles knit normally.

Both Holding Cam Levers "Raised".

Knit several rows.

You will note that the needles still knit normally.

From the above we draw the conclusion that when the needles are in the normal knitting position, the Holding Cams have no effect on them.

Both Holding Cam Levers "Centered".

This is for advanced patterning. An example of the use of the Holding Cams centered is given on Page 12.

Both Holding Cam Levers "Raised", all needles pushed up to their fullest extent.

Knit one row.

You will note that normal knitting action has taken place and all needles are drawn into the normal knitting position.

From this we draw the conclusion that the Holding Cams activate the needles in the Holding position.

Holding Cam Lever nearest the knitting "Lowered", opposite Holding Cam Lever "Raised".

Raise every 5th needle to its fullest extent.

Knit two rows.

You will note that on the first row the needles in Holding Position were "held" there, but on the return row, they were drawn into the

knitting, at the same time creating a small pattern.

If you wish to repeat this pattern, you must again push up every 5th needle to its fullest extent.

From this we draw the conclusion that each Holding Cam works independently, on the "knitting side", i. e. the side of the carriage nearest the knitting.

### EXAMPLE OF A SIMPLE PATTERN

1. Set needles 4, 8, 12, 16, 20 to Pos. E.
2. Push both Hold Cam Levers to Position III.
3. Knit 4 rows.
4. Raise Hold Cam Lever to Position I.
5. Knit 2 rows, (notice all needles are back in position B).  
Repeat steps 1 to 5 except that in Step 1 set needles 2, 6, 10, 14, 18 to Position E etc (A diamond pattern is formed).

**RELATIVE POSITIONS  
OF  
PATTERN SELECTOR BUTTONS,  
NEEDLE POSITIONS AND  
HOLDING CAM LEVERS**

**NOTES:**

1. Needle position A (Out of Action) is not referred to in the Tabulation as no movement of the carriage will affect the needles.
2. To obtain needle position C raise the needle to E and then return it to C so that the stitch rides on top of the closed latch (This position is only used in special patterning, shaping, increasing, decreasing, circular knitting, all "short row" knitting.  
N. B. - If the wool rides on top of the open latch the needle is in an extended "B" position and the needle movement will then be as for a B position needle.
3. STATIONARY needles remain in normal knitting position and do not pick up any additional stitches.  
HOLDING needles remain fully extended and can pick up additional stitches.  
Neither of these will move until the knitting (or the holding cams) are appropriately adjusted.

\*For the reason given in note 2. needle position C should not be used where stated as it will cause a stitch to be dropped.

Pattern Selector Button	Holding Cam Lever Position					
	1		2		3	
	← Left Course	→ Right Course	← Left Course	→ Right Course	← Left Course	→ Right Course
1	B	KNIT	KNIT	KNIT	KNIT	KNIT
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"
2	B	KNIT	KNIT	KNIT	KNIT	KNIT
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"
3	B	STATIONARY	STATIONARY	STATIONARY	STATIONARY	STATIONARY
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"
4	B	STATIONARY	STATIONARY	STATIONARY	STATIONARY	STATIONARY
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"
5	B	KNIT	KNIT	KNIT	KNIT	KNIT
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"
6	B	TUCK	TUCK	TUCK	TUCK	TUCK
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"
7	B	TUCK	TUCK	TUCK	TUCK	TUCK
	C	"	"	"	"	"
	D	"	"	HOLDING	HOLDING	HOLDING
	E	"	"	"	"	"

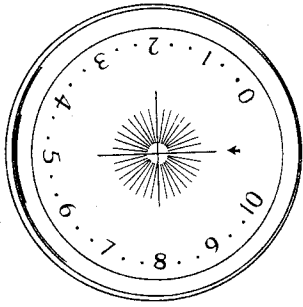


Fig 26

**TENSIONS:**

Tension in knitting denotes the size of the stitch. The TENSION DIAL, which is graduated from 0 to 10 and subdivided into thirds controls the stitch size on the KII 550 knitter.

The figure 0 denotes the tightest tension, i. e. the smallest stitch, and the 10 the loosest or largest stitch.

As the tension at which a garment is knitted depends not only on personal taste but also on the type of garment required and the thickness of the yarn used on list of recommended tensions is given. Yarns vary in their make up, so that 3-ply wools from different manufacturers will vary in thickness. For these reasons it is recommended that before any type of wool is used a tension "Swatch" be knitted from which to make your choice of stitch size.

Approximate tension for the most popular yarns.

Type of Yarn	Tension No.
(Ashmore)	3
Baby yarns	3
Fingering yarns	5-6
Sport and Sock yarns	6-7
Pompadour	6-7
Worsted (use alternate needles)	8-10
4 ply yarns	8-10
Dress yarn (Boucle, Velveteen, etc.)	7-8
Crochet Thread	2-3
Mohair (alternate needles)	10
Angora (alternate needles)	8-10

**NOTE:** For correct size, a test swatch should be knitted. Always knit ribbing 2 points tighter than given gauge.

## HOW TO PREPARE FOR KNITTING

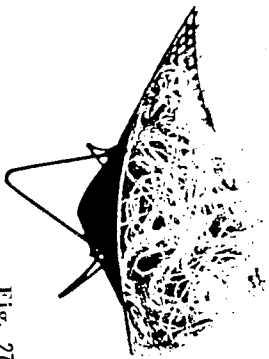


Fig. 27

### •YARN. METHOD (A)

Prepare the yarn by piling it loosely into a box or basket in order to prevent the knitting from being uneven.

### METHOD (B)

(1) Wind the yarn with "Yarn Winder".

(2) Take out the first yarn end which is in the groove of the yarn winder stud.

(3) Thread it through the Automatic yarn tension unit.

It is important that the yarn feeds freely as any pull or interference of the yarn affects the smooth even motion of the carriage, resulting in uneven stitches at the edges of the knitting.

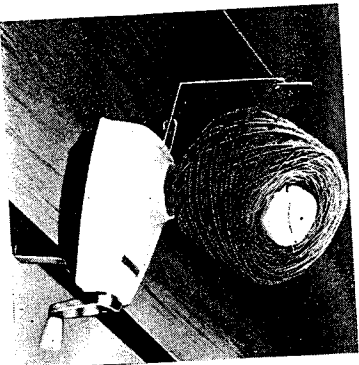


Fig. 28

2. How to use the automatic yarn tension unit.

The automatic yarn tension unit is a specially designed device to ensure an even feed on the yarn while knitting, and consequently, an even size of stitch.

The tension assembly is made so that 3 different yarns can be threaded onto it for multi-color pattern knitting. Each different yarn should be threaded through separate eyelets, discs and guide as provided for on the tension assembly.

## HOW TO THREAD THE YARN THROUGH AUTOMATIC YARN TENSION UNIT

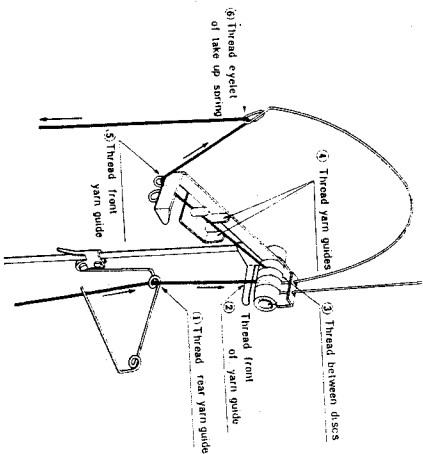


Fig. 29

It is, therefore, necessary to keep an eye on the yarn at the end of each stroke, and if necessary, to clear any loops that may form. Another possible fault of too long a movement is the tendency of the yarn to catch in the gate pegs of the bed, or the wheels and bushes. A yarn holder on the tension assembly upright rod is used to hold the yarn while mounting the cast on comb, holding yarn not in use while doing multi-color knitting, etc., which prevents yarn from getting in the way or having it pulled out of the yarn feeder by the tension of the take-up spring.

The yarn is threaded through eyelet ① and bed through and under guide ② and up and over between the tension discs ③, thence through guide ④ and finally through the eyelet ⑤ at the end of the take-up spring and into the yarn feeder in the center of carriage.

(See Fig. 29)

When knitting, care must be taken not to move the carriage too far beyond the last needle. If you do there will be insufficient tension in the take up spring and a loose loop will form in the yarn between the feeder and the first needle when the carriage is on the return movement.



## PREPARING THE CARRIAGE

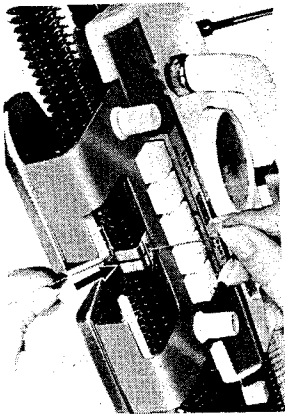


Fig. 30

A. Thread yarn into hole of the yarn feeder by holding yarn taut with both hands, pull back into slit until you hear a click of the yarn holder spring. When removing the yarn, pull yarn up and over the yarn holder spring. (See Fig. 30)

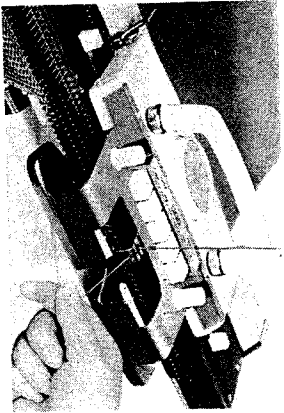


Fig. 31

B. Pull enough yarn down from automatic take up spring to extend about 8 inches below carriage.

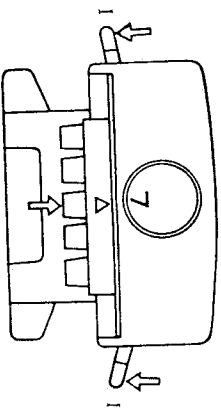


Fig. 32

C. Push center selector button for plain knitting. This button releases the others if any have previously been used for patterning.  
D. Place carriage a few needles to be used.

E. Hold handle at the extreme end and a direct push from side to side is advisable, so no downward pressure is used.  
F. To get the tension turn dial until tension number (7) is above triangular white indicator.

G. Raise the Holding (Yarn Levers to Position (1)). The carriage may be at either side of the needle bed, clear of the needles to be knitted.

H. Using the edge of a needle pusher, bring forward to position B (about 1/2" from the resting position (A) the desired number of needles. (See Fig. 33)

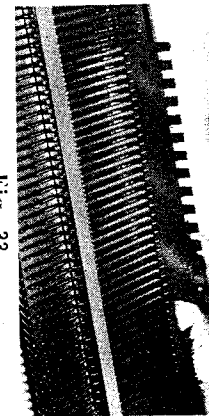


Fig. 33

This will cause loops to be picked up in the needles and to form around the hooks of the cast on comb. Continue the carriage movement until the carriage clears the cast-on comb.

Carefully unhook the comb from the pegs by turning the secure pin handle A of the cast-on comb hanger B and let the cast-on comb hang in the loops of wool. (See Fig. 34, 35)

Turn the loose end of the wool round the cast-on comb knob to keep it out of the way and to secure the first stitch. Continue knitting.

**NOTE:** a. At the beginning knit slowly speed comes with practice.  
b. Do not reverse the movement of the carriage in the middle of a row as carriage will jam.  
c. Move the carriage at an even speed and listen to a click at the end of each row.

## CAST ON

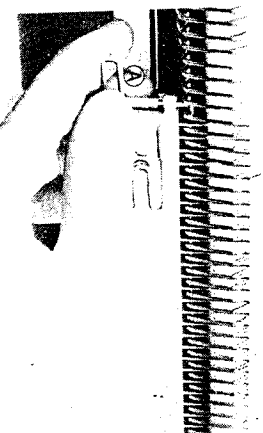


Fig. 34

1. Hold comb centered to the edge of the needle bed with the wire hooks of the comb facing you.
2. Turn securing pins A at both ends to face you.
3. Place hooks between pegs of needle bed as far up as possible. (See Fig. 34)
4. Turn the two handle A outwardly to the right and left respectively and the cast-on comb will hang correctly on the machine. The comb should be hung in front of the needles to be knitted so that the central needle is centered to the comb.

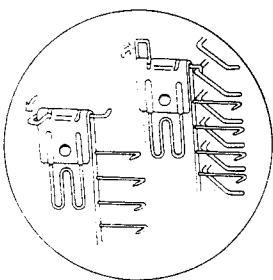


Fig. 35

1. Hold comb centered to the edge of the needle bed with the wire

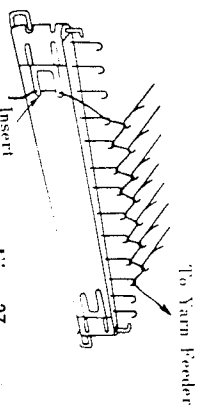


Fig. 36

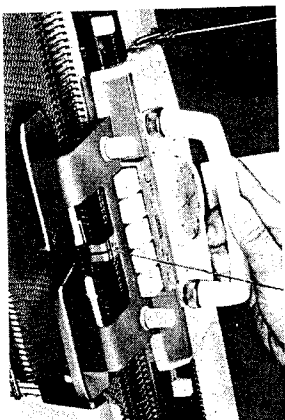


Fig. 37

## Plain Knitting

After you have finished to cast on.

1. Set Pattern selector button to "PLAIN".
2. Holding Cam Levers (right and left) to position I.
3. Set Tension Dial to 5 (medium size yarn). Knit rows required.

**NOTE:** Return carriage after you hear a click of carriage.

## Waste Course Knitting

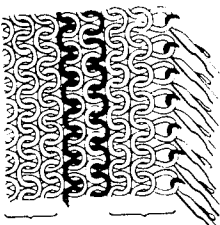


Fig. 38

Waste Course knitting is done by plain knitting and is used at the start and finish of the knitting work. Between the knitting work and the waste course knitting, knit one row with the cast on thread. When you pull out cast on thread the knitting work and waste course knitting portion will separate.

## HOW TO MOVE THE CARRIAGE

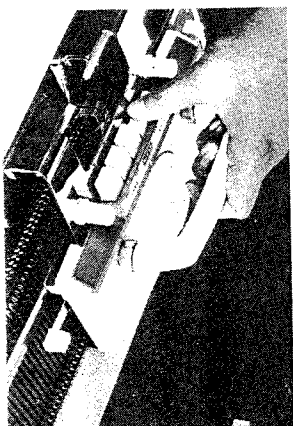
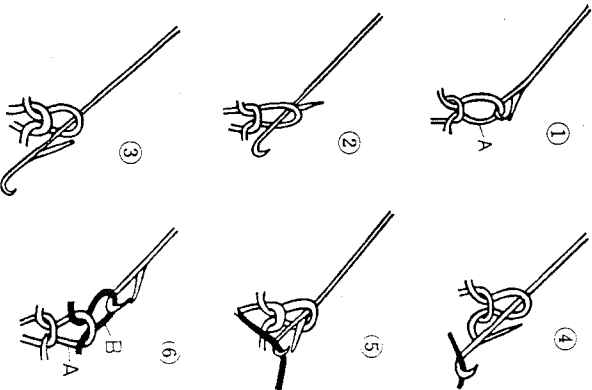


Fig. 39

In order to move the carriage in either direction with or without threading, push both Pattern Selector Buttons to "PATTERN". (See Code 6), and set both Holding Cam Levers to Position III.

This is very convenient to combine different color yarns.

## HOW A STITCH IS FORMED



No. 1 The needle is in the knitting Position and stitch A is hanging from the needle hook.

No. 2 The cam of the carriage raise the needle. Stitch A opens the latch of the needle.

No. 3 The cam of the carriage have commenced to raise the needle and now needle is forward. Stitch A is below the needle latch and is hanging onto the needle stem.

No. 4 The needle has reached its maximum forward working position. Stitch A is hanging on the needle stem, while the yarn feeder has placed in to the hook a new thread which will form the next stitch B.

No. 5 The needle is returning to the normal knitting position pulling the new loop B with it. The old stitch A is at the same time closing the latch, causing the new stitch B to be locked inside the needle hook.

No. 6 The needle has completed its return movement. It has pulled the loop B through the stitch A, thus making a completely new stitch B. This is now hanging onto the needle hook.

## FINISHED EDGE CAST-ON

1. Use tension recommended for weight of yarn; knitter carriage to the right.
2. Hang cast-on comb on pegs of needle bed and spaces clear for needle to come through.
3. Push needles to be used all the way up toward you. (Position B)
4. Fasten end of yarn with slip knit on left of knitter.
5. Loop yarn around each needle from left to right, counter-clockwise. Loops must be on stem or needles past the latches.
6. Thread yarn feeder on carriage and knit one row. The carriage should be eased across gently.
7. Lower comb after this row.
8. Knit garment.

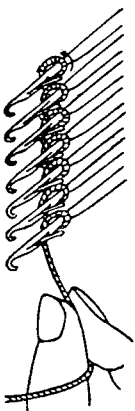


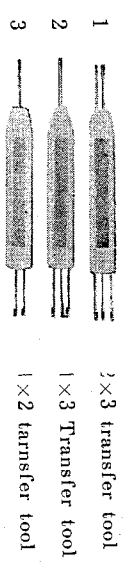
Fig. 40

## QUICK RIB (1×1)

This rib may be used at the waist and cuffs of any knitted garment where a tight fit is required. This is suggested to the beginner as a simple method when learning to use the knitter.

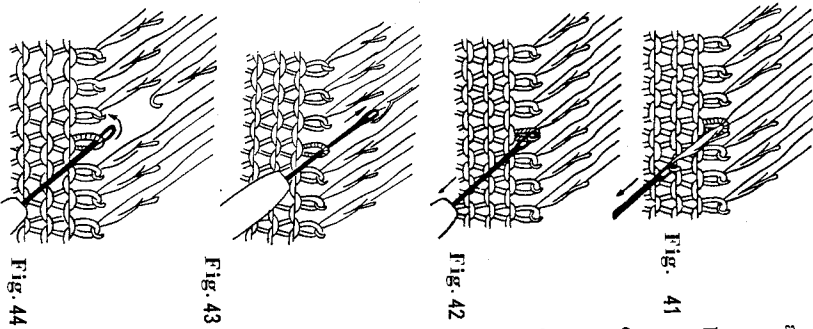
1. Thread yarn into automatic yarn feeder and carriage feeder. Place carriage at the left of knitter.
2. Hold cast on comb, centered, to the edge of the needle bed, with the hooks of the comb facing you. Place teeth of the comb between pegs of the needle bed. With the tails of the securing pins at the ends of the comb up, now turn tails outward. This secures comb to the edge of knitter a hooks catch into gate pegs.
3. Take your 1 × 1 needle pusher, using the even edge, push up the desired number of needles to position "B", the needles distributed evenly on each side of "Q".
4. Turn pusher to cut out edge and pull back alternate needles. This sets needles to the one knit one purl border.
5. Place carriage at the left, set tension dial to #10 for the first cast-on row. Knit by pushing carriage gently across past the cast-on comb.
6. Release comb by turning pins at the ends of the comb and pull down carefully. Stitches must remain in the hooks. Carefully fasten beginning of yarn on left side of cast-on comb spring.
7. Re-set tension to a tight knit, about 3 for fingering yarn. Knit double the depth of the required border (about 40 rows for #2). Always remember to hear "click" at the end of each row. Grasp each end of cast-on comb and at the same time place index finger at edges of knitting to keep it from contracting and jumping off hooks.
8. Now, fold knitting in half by holding cast-on comb with the hooks down and the knitting hanging from the hooks close to the edge of needle bed. Hold comb steady and insert each empty needle through each loop on the comb. Remove comb from the stitches by tipping back and slipping hooks out of stitches now held by the needles.
9. Loosen the tension to No. 6 or recommended gauge and continue making garment.

### Transfer Tool



These transfer tools are used for transferring stitches from needle to needle.

### HOW TO USE THE TRANSFER TOOL



- a) Open the latches of machine needle with hand brush.
- b) Hold the transfer tool parallel with the machine needle.
- c) Place the eye of the transfer tool into the hook of the machine needle.
- d) With the transfer tool, draw out the machine needle, so that the stitch slides back over the latch and onto the stem of the machine needle.
- e) With it releasing the transfer tool, push the needle all the way back. The latch will automatically close dropping the stitch onto the transfer tool.
- f) Place the eye of the transfer tool holding the stitch on the latch of the machine needle where the stitch is to be transferred and slip the stitch onto it.

## PURI STITCH (RIBBING)

The knit and purl stitch together on one side of the material leaves an uneven texture of a ribbed effect. The ribbing is produced by having knit stitch over knit stitch and purl stitch over purl stitch, in vertical lines. The ribbing narrows and lengthens the knitted fabric and increases its elasticity.

It is widely used for waist bands in sweaters, cuffs, collars, pockets, and for many other decorative purposes. You can make many variations of ribbing. For example, knit 1 purl, 2 knit 2 purl, 3 knit 1 purl etc.

Select any number of combinations of knit and purl to suit your particular requirements.

To reverse knit to purl stitches on your knitter:

Knit as many rows as required for the length of the ribbing on a slightly lighter tension.

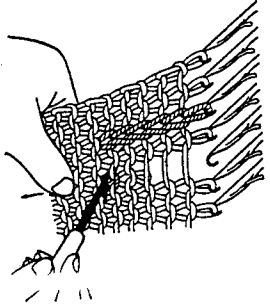


Fig. 45

Drop a stitch in the line you wish two rows above where you are to start ribbing.

Place the latch tool in the stitch where you wish to start ribbing and drop the last two stitches.

Push the latch tool through the stitch so that the stitch goes behind the latch.

Catch the loose loop over the hook of the latch tool.

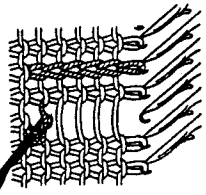


Fig. 46

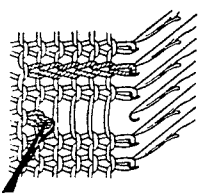


Fig. 47

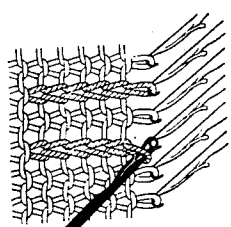


Fig. 48

d) Pull the latch tool toward you automatically closing the latch enclosing the loose loop and slide the stitch over the latch to knit a new stitch.

e) Repeat this procedure to the top row.

f) To put the last stitch to the machine needle, make sure that stitch on the latch tool is behind the latch. Place the latch tool hook onto the machine needle hook and pull the machine needle, so that the stitch can be transferred to the machine needle hook.

## HOW TO REMOVE THE KNITTING FROM THE KNITTER

### A. Unbound method:

a. Take the yarn out of the yarn feeder on the carriage.

b. Slide the carriage across the needle in action.

c. The work will be released.

You may prefer to transfer your finished work to hand knitting needles. Do this as follows.

### B. To transfer to hand knitting needles.

a. With your left hand, holding the knitting close to the knitter, push toward you the needles to position B so that the stitch in the hook of the machine needle slides onto the stem of the machine needle behind the latch, and pull the knitting slightly toward you.

b. Insert the hand knitting needle into the right edge stitch from wrong side. Draw the stitch forward while you push back the needle with your thumb.

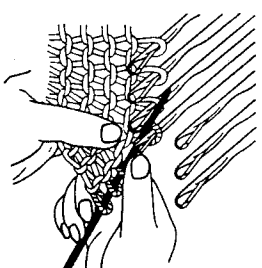


Fig. 49

## TO TRANSFER THE KNITTING NEEDLE TO THE KNITTER.

### A. Using transfer tool

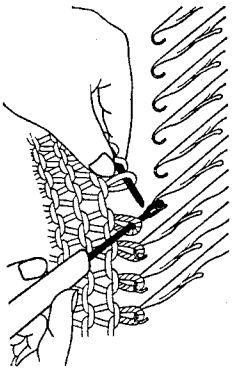


Fig. 50

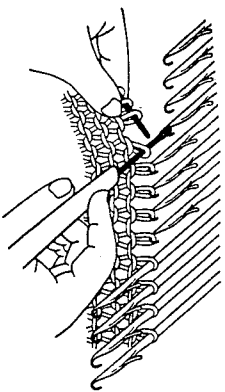


Fig. 51

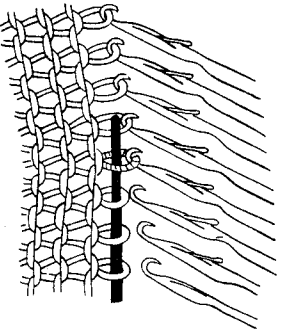


Fig. 52

a) Open the latches of machine needles with hand brush.

b) Hold the knitting with your left hand, and insert the transfer tool into at stitch on the hand knitting needle from the front.

c) Take the stitch off the hand knitting needle and place it onto the machine needle hook.

d) Repeat this process until all stitches are removed.

When a large number of stitches is transferred in this manner the stitches on the knitter are likely to come up and out of the hooks.

To prevent this such the needles with transferred stitches back as far as they will go.

### B. Alternate method

a) Open the latches of the machine needles with hand brush.

b) Place the needles to Position E.

c) Begin from left side.

d) Transfer the stitches from the hand knitting needle onto the machine needle hooks.

## INCREASING

### A. Increasing One Stitch on Either Side

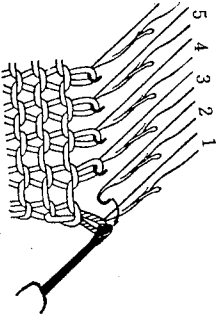


Fig. 53

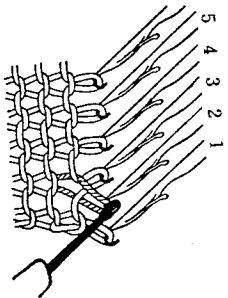


Fig. 54

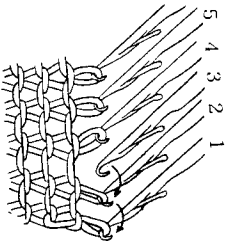


Fig. 55

### Method A

a) With the single transfer tool, place an edge stitch onto the hook of the next empty needle, leaving the second needle empty.

d) Take the top loop of the purl stitch and place the stitch on the 3rd needle and place it on 2nd empty needle hook to form a new stitch.

### Method B

Full Push and Method Of Increasing One Stitch

a) With a double needle transfer tool, move the stitches to the adjacent needles. Now, the 3rd needle from the end becomes empty.

- 5
  - 4
  - 3
  - 2
  - 1
- b) Take the top loop of the purl stitch under the stitch on the 4th needle and place it on the 3rd empty needle hook to form a new stitch.

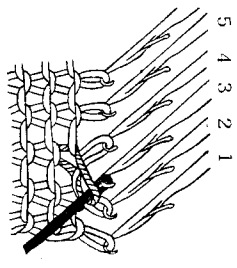


Fig. 56

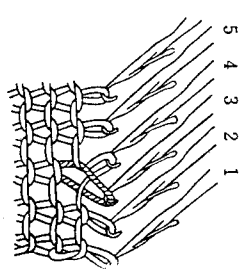


Fig. 57

**B. Increasing Several Stitches At Either Edge**

- 1) Push the needles to position E, on the same side as the carriage as many needles as there are stitches to be increased.
- 2) Loosely wind yarn around the stems of each needle past the latches.
- 3) Raise the holding cam covers to position I.
- 4) Knit across.
- 5) To insure perfect knit, raise these needles to position E manually before knitting across for 4 or 5 rows.

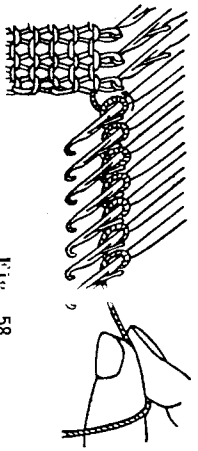


Fig. 58

- C. Increasing One Stitch in Center of Row**
- 1) Determine the position where you want to increase one stitch.
  - 2) Use the 3 needle transfer tool, start in from either end, transfer all the stitches outward in either direction until the required needle is free. (See Fig. 80)
  - 3) Pick up the neighboring purl stitch onto the empty needle.

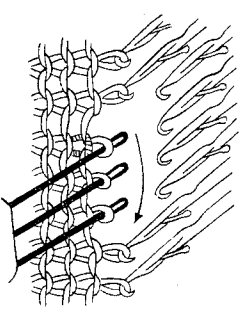


Fig. 59

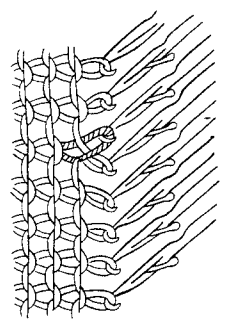


Fig. 60

**D. Increasing Many Stitches in the Row**

The above method "C" can be used or you can transfer the knitting from the knitter to a hand knitting needle before the knitting is transferred, back from the knitting needle to the knitter, determine the number of stitches to be increased and space the replaced stitches so that there will be an equal number of stitches transferred between each extra needle then transfer the knitting from the hand knitting needle to the knitter (leaving empty needles where additional stitches are required)

Raise the neighboring purl stitches to the empty needles. (See Fig. 81)

**DECREASING**

- A) Decreasing One Stitch at Either Edge.**
- a) With a single needle transfer tool, place the last stitch to the 2nd needle.
  - b) Place the empty needles to position A (out of action)

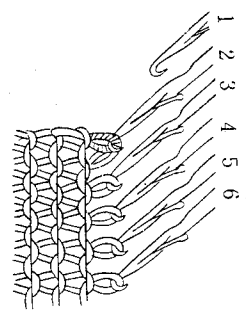


Fig. 60

## FINISHING

### (1) Crochet Hook

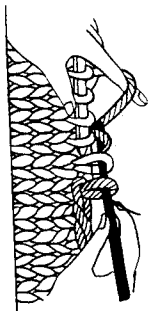


Fig. 65

Crochet hook is used for binding off the knitting.

1. Transfer all stitches of the last row to the hand Knitting needle.

2. Bind off the knitting as shown in

Fig. 65

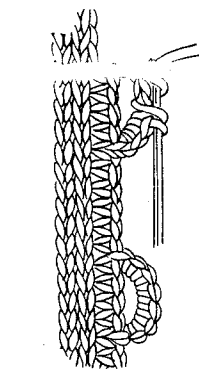


Fig. 67

This Crochet Hook is also used for making button-hole on the edge of the garment as shown in Fig. 67, 69 and 90.

### B) Full Fashioned Decreasing:

a) With a single needle transfer loop, transfer the 2nd stitch to the 3rd stitch, and the end stitch to the 2nd stitch.

b) Place the empty needles to position A (out of action)

C) Decreasing in the Center of Row.

1) Decreasing one stitch

a) With the single needle transfer tool, transfer the center stitch onto a neighboring needle on either side. (see Fig. 83)

b) With the 3 needle transfer tool, transfer all stitches inward onto the empty needle. (See Fig. 84)

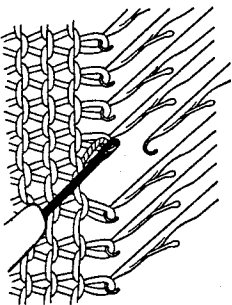


Fig. 61

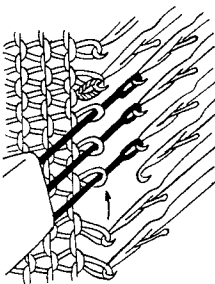


Fig. 62

2) Decreasing many stitches in row

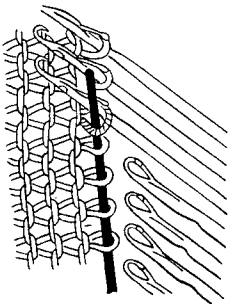


Fig. 63

a) Transfer the knitting to a hand knitting needle. (See Fig. 63) b)

d) Before returning the knitting from the knitting needle back to the knitter, calculate the proportional reduction in the number of stitches.

For example, to decrease one stitch in every third, hang the 2nd and 3rd stitches onto one needle. (See Fig.

c) The number of needles with double stitches represents the number of stitches decreased.

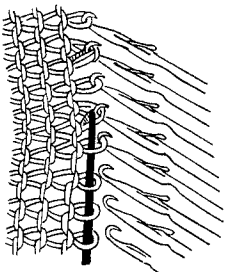


Fig. 64

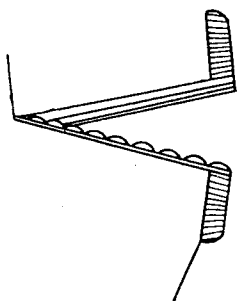


Fig. 68



(2) Tapestry Needle

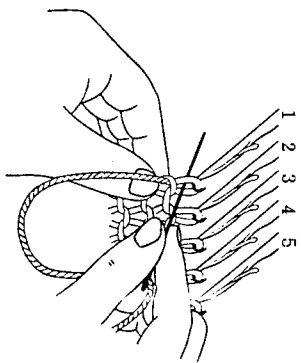


Fig. 69

Tapestry needle is used for binding off the stitches of 1st row, sewing up to pieces of knitting or embroidery.

(A) Thread the needle with yarn three times the length of the garment to be bound off. Insert the needle into the first stitch as shown in Fig. 71

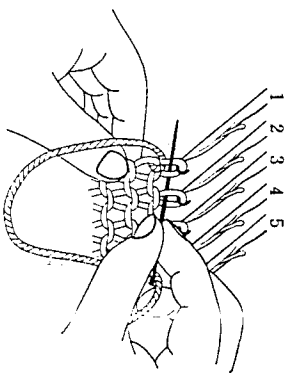


Fig. 70

(B) Insert the needle into the second stitch and back through the first stitch. (Fig. 72) Then insert the needle into the third stitch back through the second stitch pulling the yarn snug.

Repeat this procedure to the end. Remove the garment from the machine.

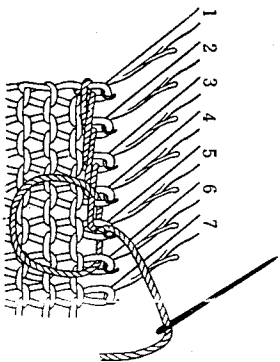


Fig. 71

WEAVING STITCHES

How to weave in stockinet stitches.

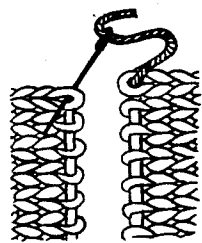


Fig. 72

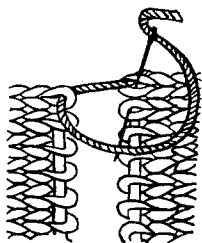


Fig. 73

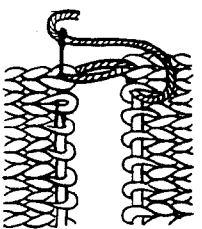


Fig. 74

(A) Put two pieces of knitting closely together with the stitches on the hand knitting needles. Yarn on the tapestry needle is about three times as long as the seam.

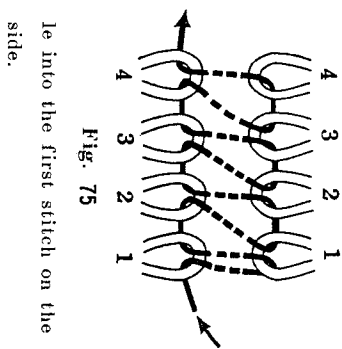


Fig. 75

(B) Insert the needle into the first stitch from the wrong side of the lower piece. Next insert the needle into the first stitch on the upper piece of knitting from the wrong side.

(C) Again draw the yarn from the right side of the first stitch on the lower piece back through the wrong side of the second lower stitch.

(D) Insert the needle into the first stitch on the upper side back through the wrong side of the second upper stitch. (Fig. 75)

Repeat this procedure until you finish the seam.

**HOW TO WEAVE THE STOCKINET STITCH**

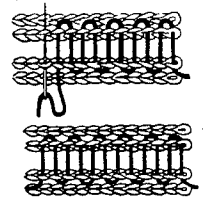


Fig. 76

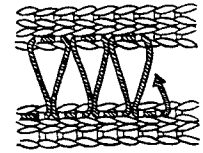


Fig. 77

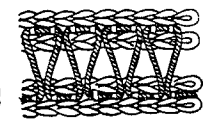


Fig. 78

**HOW TO WEAVE THE SIDE STITCHES**

Weaving side stitches.

Thread the tapestry needle with yarn about two times the length of the garment. Bring the two pieces to be joined closely together.

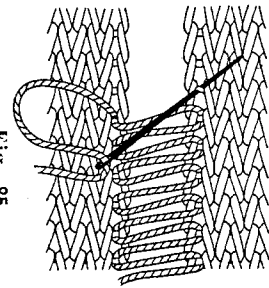


Fig. 85

**HOW TO BIND OFF ONE KNIT ONE PURL**

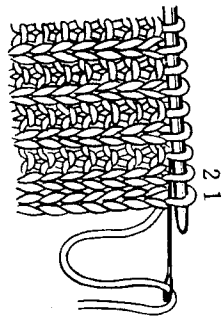


Fig. 79

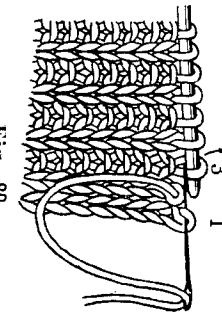


Fig. 80

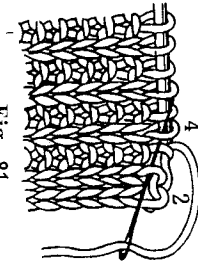


Fig. 81

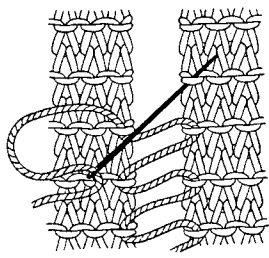


Fig. 86

**HOW TO WEAVE ONE KNIT ONE PURL**

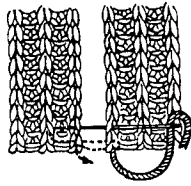


Fig. 82

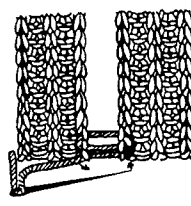


Fig. 83

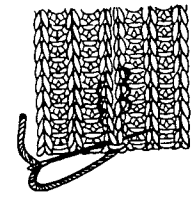


Fig. 84

Weave each edge stitch on both pieces by passing the needle through the loop which is inside (Method A as shown in Fig. 86) or the loop which is outside (Method B as shown in Fig. 86) on every row. Combine both edges neatly.

# I DIAMOND DESIGN

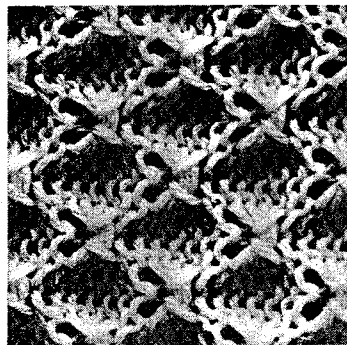
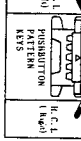


Fig. 87 A

STEPS	CARRIAGE DIRECTION	TENSION DIAL	YARN	H.C.L. (L.R.)	STRAIGHT STITCHES	H.C.L. (L.R.)
16	→	6	■	■	■	■
15	→	6	■	■	■	■
14	→	6	■	■	■	■
13	→	6	■	■	■	■
12	→	6	■	■	■	■
11	→	6	■	■	■	■
10	→	6	■	■	■	■
9	→	6	■	■	■	■
8	→	6	■	■	■	■
7	→	6	■	■	■	■
6	→	6	■	■	■	■
5	→	6	■	■	■	■
4	→	6	■	■	■	■
3	→	6	■	■	■	■
2	→	6	■	■	■	■
1	→	6	■	■	■	■

Fig. 87 B



- Preparation
1. Set TENSION DIAL to No. 6.
  2. Set "HOLDING CAM LEVERS" to POSITION I.
  3. knit several rows in "PLAIN KNITTING" (stockinet stitches) before making the designed pattern.
  4. Place the carriage at the left side of the knitting machine.

- Step 1
- (1) TENSION DIAL remains at same position No. 6.
  - (2) Set "HOLD CAM LEVERS" to POSITION III.
  - (3) Using the 1/3 needle pusher, bring every fourth needles forward to the Position "D".
  - (4) Knit one row from left to right.
- Step 2
- Knit one row from right to left.
- Step 3
- Knit one row from left to right.
- Step 4
- Knit one row from right to left.
- Step 5
- (1) Using the straight edged needle pusher, push the selected needles back to the Position "B".

Step 6

- (2) Set "HOLDING CAM LEVERS" back to POSITION I.
  - (3) Knit one row from left to right.
- Knit one row from right to left.
- Step 7
- (1) Set "HOLDING CAM LEVERS" to POSITION III.
  - (2) Using the 1/2 needle pusher, bring forward the second needles from the needles selected in step 1.
  - (3) Knit one row from left to right.

- Knit one row from right to left.
- Step 8
- Knit one row from left to right.
- Step 9
- Knit one row from left to right.
- Step 10
- Knit one row from right to left.
- Step 11
- Using the straight edged needle pusher, push the selected needle back to the Position "B".

- (1) Set "HOLDING CAM LEVER" to POSITION I.
  - (2) Knit one row from left to right.
- Knit one row from right to left.
- Step 12

Repeat steps 1, 2 ..... 8, 12. Then you can make the DIAMOND PATTERN as shown in Fig. 87 A.

# I SEED STITCH

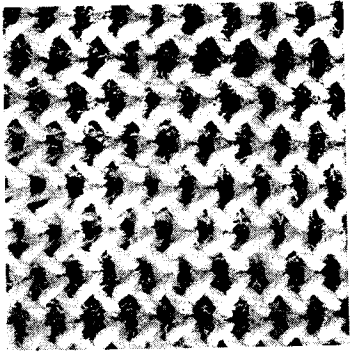


Fig. 88 A

STEPS	CARRIAGE POSITION	TENSION DIAL	HOLDING CAM LEVERS	YARN POSITION	HOLDING CAM LEVERS	TUCK (L, R)	STITCHES	HOLDING CAM LEVERS
1	←	5	OFF	1	1	1	1	1
2	→	5	OFF	1	1	1	1	1

Fig. 88 B

Preparation 1. Set "TENSION DIAL" to No. 5.

2. Set "HOLDING CAM LEVERS" to "POSITION 1"
3. Knit several rows in "PLAIN KNITTING" (stockinet stitches) before making the desired pattern.
4. Place the carriage at the left side of the knitting machine.

## Step 1.

- (1) TENSION DIAL remains a same position No. 5.
- (2) Set "HOLDING CAM LEVERS" to "POSITION 1".
- (3) Set "PATTERN SELECTOR BUTTONS" to "TUCK" (right & left) See Code No. 6
- (4) Using the 1/2 needle pusher, bring the uneven needles forward to the Position "D".
- (5) Knit one row from left to right.
- (6) Swivel "SET-LEVER" to "OFF".
- (7) Using the straight edged needle pusher, push the selected needles back to the Position "B".

## Step 2.

- (1) HOLDING CAM LEVERS remain at the same position 1.
  - (2) Using the needle pusher, bring the even needles forward to the Position "D".
  - (3) Knit one row from right to left.
  - (4) Using the straight edged needle pusher, push the selected needles back to the Position "B".
- Repeat Steps 1 & 2, then you can make the SEED STITCH as shown in Fig. 89 (A)

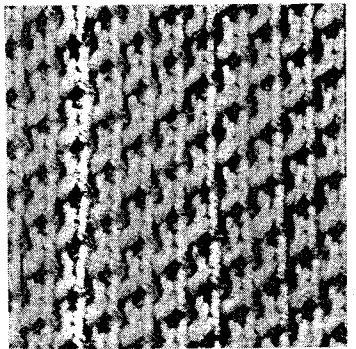


Fig. 89 A

STEPS	CARRIAGE POSITION	TENSION DIAL	HOLDING CAM LEVERS	YARN POSITION	HOLDING CAM LEVERS	TUCK (R)	STITCHES	HOLDING CAM LEVERS
1	←	5	OFF	1	1	1	1	1
2	→	5	OFF	1	1	1	1	1

Fig. 89 B

Preparation (1) Set "TENSION DIAL" to No. 5.

- (2) Set "HOLDING CAM LEVERS" to "POSITION 1"
- (3) Knit several rows in "PLAIN KNITTING" (stockinet stitches) before making the desired pattern.
- (4) Place the carriage at the left side of the knitting machine.

## Step 1.

- (1) TENSION DIAL remains at the same position No. 5.
- (2) Set "HOLDING CAM LEVERS" to "POSITION 1"
- (3) Set "PATTERN SELECTOR BUTTON" to "TUCK" (right) See Code No. 5
- (4) Using the 1/2 needle pusher, bring the uneven needles forward to the Position "D".
- (5) Knit one row from left to right.

## Step 2.

- (1) Knit one row from right to left.
- (2) Using the straight edged needle pusher, push the selected needles back to the Position "B".

## Step 3.

- (1) Using the 1/2 needle pusher, bring the even needles forward to the Position "D".
- (3) Knit one row from left to right.

## Step 4.

1. Knit one row from right to left.
  2. Using the straight edged needle pusher, push the selected needles back to the Position "B"
- Repeat Step 1 (4, 5.) 2, 3 & 4, then you can knit the pattern as shown in Fig. 89 A.

## III CHECKER BOARD

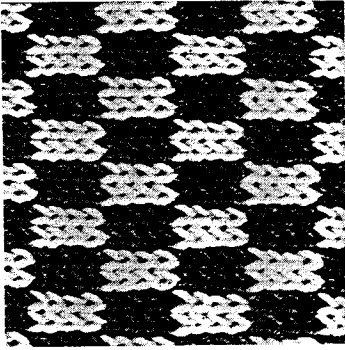


Fig. 90 A

Preparation 1. Set "TENSION DIAL," to No. 7.

2. Set "HOLDING CAM LEVERS" to POSITION I

3. Knit several rows in "PLAIN KNITTING" (Stockinet stitches) before making the desired pattern.

4. Place the Carriage at the left side of the knitting machine.

5. Thread Yarn Color A.

Step 1. (1) Set "HOLDING CAM LEVERS" to POSITION I.

(2) Push "PATTERN SELECTOR BUTTONS" to PART, (Right & Left) See Code No. 3.

(3) Use Yarn Color A.

(4) Using the 1 x 3 needle pusher, bring the every other two needles forward to the Position "D".

(5) Knit one row from left to right.

Step 2. (1) Repeat Step 1.(4).

(2) Knit one row from right to left.

(3) Using the straight edged needle pusher, push the selected needles back to the Position "B".

Step 3. (1) Thread Yarn Color B.

(2) Using the 1/3 needle pusher, bring the rested needles in Step 1.(4) forward to the Position "D".

STEPS	CARRIAGE DIRECTION	HESSES TAKEN (DIAL)	H.C.L. POSITION (U.L.R.)	STOCKINET STITCHES	H.C.L. POSITION (U.L.R.)	NEEDLES SETS
16	→	A	A	→	A	→
15	→	A	A	→	A	→
14	→	B	B	→	B	→
13	→	B	B	→	B	→
12	→	A	A	→	A	→
11	→	A	A	→	A	→
10	→	B	B	→	B	→
9	→	B	B	→	B	→
8	→	B	B	→	B	→
7	→	B	B	→	B	→
6	→	A	A	→	A	→
5	→	A	A	→	A	→
4	→	B	B	→	B	→
3	→	B	B	→	B	→
2	→	A	A	→	A	→
1	→	A	A	→	A	→
7						

Fig. 90 B

(3) Knit one row from right to left.

Step 4. (1) Repeat Step 2.(2)

(2) Knit one row from right to left.

Step 5. (1) Thread Yarn Color A.

(2) Bring the every other two needles selected in Step 1. forward to the Position "D".

Step 6. (1) Repeat Step 5. (2)

(2) Knit one row from right to left.

(3) Push the selected needles back to the Position "B".  
Select "YARN COLOR" as illustrated in the above list as same procedures as mentioned above to the Step 1~6.

## CABLES

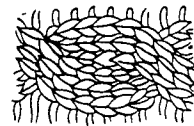


Fig. 91

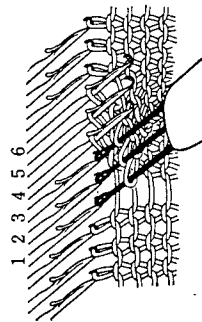


Fig. 92

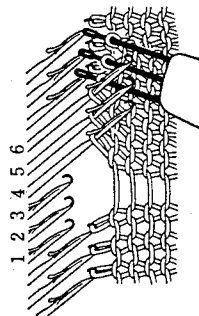


Fig. 93

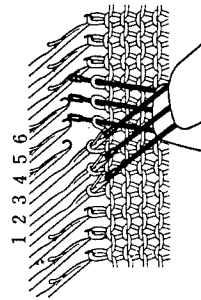


Fig. 94

A) Knit several rows in PLAIN KNOTTING before transferring the stitch to make cables.

B) Using a pair of three eye transfer tools, pick up three stitches with one transfer tool, and pick up the adjacent three stitches with the other tool.

C) Place the three stitches on the tool in your left hand onto the books of the machine needles on the right. Push the stitches behind the latches.

D) Place the three stitches on the other transfer tool in your right hand onto the books of the needles on the left. Push the stitches behind the latches.

E) Push those six needles to Position E.

F) Knit from 6 rows or 8 rows according to the length of pattern which you want.

G) Repeat (B) (C) (D) (E) and (F) for your required length in order to make the cable pattern clear, rib two or three stitches on both sides of the pattern starting at the beginning of the knitting.

## YARN OVER PATTERNS

This stitch is very popular among hand knitters and can be duplicated very easily on the knitter. The basic stitch is to knit 2 together, this is done by transferring 1 stitch to the adjacent needle, always return empty needle to knit position, as carriage knits across, this needle automatically picks up the stitch to form Y. O.

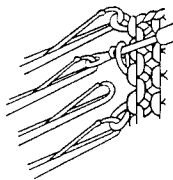


Fig. 95

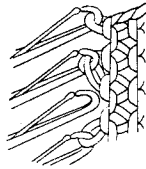


Fig. 96

## LACE OR OPEN WORK PATTERN

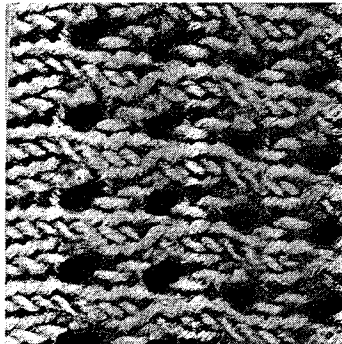


Fig. 97

1. Knit 4 rows.
2. Transfer every second stitch to the next needle.
3. Bring the empty needles to the edge of the needle bed.
4. Knit 4 rows.
5. Repeat steps 2, 3 & 4.

## LEAF CLOVER

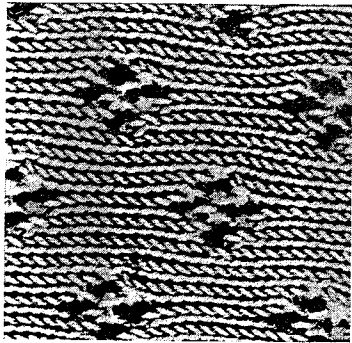


Fig. 98

cent needle to its left and yarn on right side to adjacent needle to its right.

Be sure that the empty needles are back in knitting position (B position).

5. Knit two rows.

6. Transfer the stitch directly over the first yarn over stitch to needle adjacent to its left. Be sure that the empty needles are back in Knitting position (B position).

7. Knit two rows.

8. To stagger the second row of the pattern so that they come between patterns of the first row, transfer the middle stitches between the patterns of the first row to needles adjacent to the right and repeat steps 2 to 5.

## LACE CABLE

Manually knit across row by pulling each individual needle as far back as possible to form the longest stitch. When the row is completed insert cast-on comb into the knitting and with the comb carefully pull knitting forward. The needles are now in position B, the stitches hanging on the hooks, using the 2 transfer tools proceed to cross the loops as you make cables.

Transfer the carriage to the opposite side and proceed with your knitting.

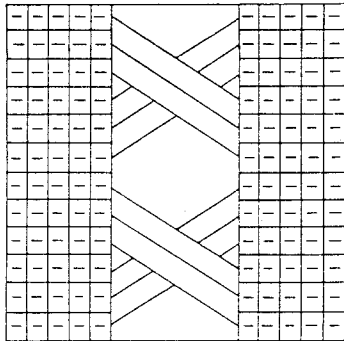


Fig. 99

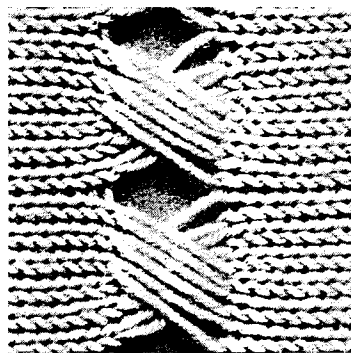


Fig. 100

## POCKETS

Knit the pockets in one piece without binding off or picking up stitches. These are basic instructions, some changes have to be made for the differences in sizes and yarns.

Pockets should be placed about 3" from side seam of cardigan. Assuming you cast on 90 stitches. Put 25 stitches from side edge, and 35 stitches from front edge to pos. D. Set both H. C. to pos. III, using another ball of yarn knit on the 30 stitches remaining in the center. Knit double the depth of the pocket. The stitches at the edges must be watched, pull knitting down every few rows to help knitting feed down. This is the lining of the pocket and should be knitted double, about 40 rows. When lining is long enough, tear yarn, set H. C. to position. I, knit in the usual manner to continue with garment.

## ARGYLE

Multiple-colored argyle pattern knitting is easy to do. Large and patterns can be made since the inside yarn does not jump across patterns.

Prepare as many balls of yarn of the different colors as are to be used for one complete row of the pattern to be knit. In a checkerboard design, you must have another set of yarns to be used when you alternate the pattern.

Do not use the tension assembly. Place the balls of yarn in a basket or some other container on the floor. Be careful the yarns do not become tangled.

Depress both left and right partial knit cam buttons and set holding cam lever to position I.

From the side at which the carriage is, proceed as follows:

1. Bring equal number of needles up to E position as the number of stitches in the first knitting row of the first pattern.

Use the Knitting Cam Picker to bring needles to D position.

The Picker is manually moved over the needle butts from right to left and the needles automatically come to D position.

2. Place yarn across and on the hooks of the needles which are in D position from the side at which the carriage is and slide Picker from left to right. Needles come to C position and the needle latches close with yarn in hook.

3. Bring equal number of needles up to E position as are in the number of stitches in the first knitting row of the second pattern. Place yarn across hook of needle as in 2 above. Move Picker across from right to bring needles to D position.

4. Pass second yarn under and over first yarn at the side at which the carriage is and slide picker from left to bring needles to C position. Second yarn is closed within needle hook.

5. For third and successive pattern, repeat steps 3 and 4 to full width of the knitting work to be done. Knit first row.

6. Repeat steps 1 to 5.



## CARE OF YOUR KNITTING MACHINE

### HOW TO REPLACE THE NEEDLES

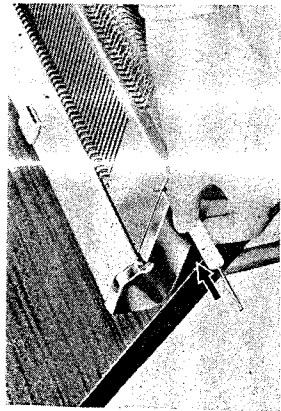


Fig. 100

a. Push either side of the felt bar end piece with the end of latch tool. The felt bar end then appears on the side.

b. Withdraw it by hand from the knitter until the needle you wish to change is freed.

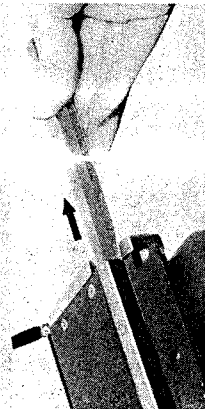


Fig. 101

c. Bring forward the needle as far as it will go.

d. Push down the hook of the needle, until shank end of the needle rises free of the needle bed.

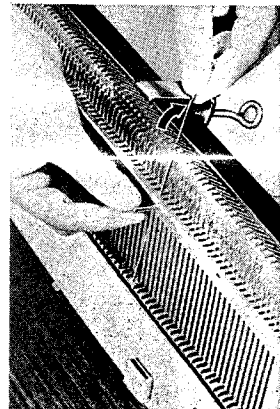


Fig. 102

e. Grasp the shank end and draw it out backwards.

f. Replace with a needle by holding it as shown in Fig. 131. (with latch opened)

g. Now push back the needle to the resting position (A).  
h. Push in the foam bar, making sure that the foam face downward.

**NOTE:** Make sure that neither foam bar end piece protrudes from the ends of the lower case.

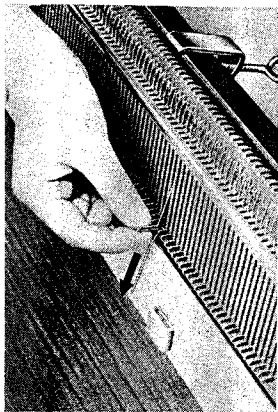


Fig. 103

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## CLEANING AND OILING

For best results your Knitter must be kept clean and all visible working parts regularly oiled.

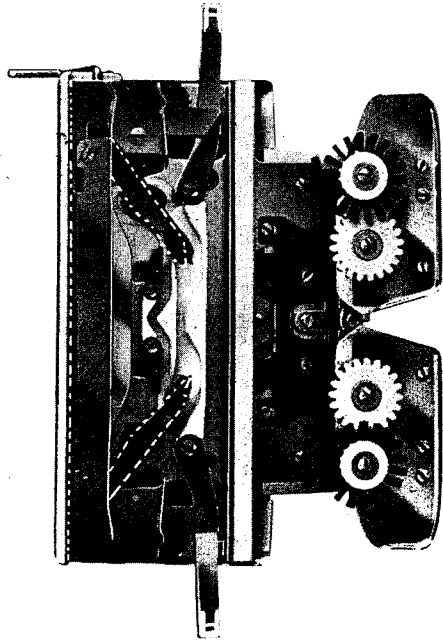


Fig. 104

### The Carriage

- 1) Remove the Carriage from the needle Bed.
- 2) With a lightly oiled lint free cloth, wipe away all fluff that has gathered on the working parts underneath the carriage.
- 3) Leave a very film of oil over all moving parts of the carriage and the upper and lower cam strips and back and front rails.
- 4) Avoid getting oil onto the brushes and brushwheels as this will transmit itself to the knitting.

### The Needles Bed

- 1) With a very soft brush clean out the needles bed grooves.
- 2) With a lightly oiled lint free cloth wipe away all fluff that has gathered on the needle bed and along the carriage slide rails.
- 3) Leave a very film of oil over the carriage slide rails the top of the needle bed and the needle butts.
- 4) Avoid getting oil onto the needle hooks and latches this will transmit itself to the knitting.
- 5) Keep your knitter when not in use, in a dry place.

**NOTE:** Clean and oil it each time you have finished knitting and clean off all excess oil before use, especially from those parts which will come into contact with the knitting. Always leave a light film of oil under the carriage on all parts between the rail.

411-550

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Printed in Japan