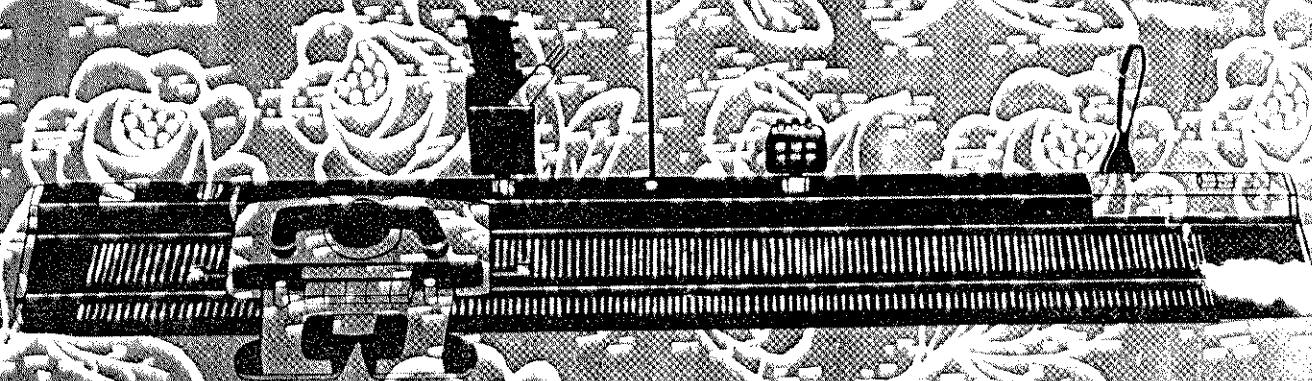


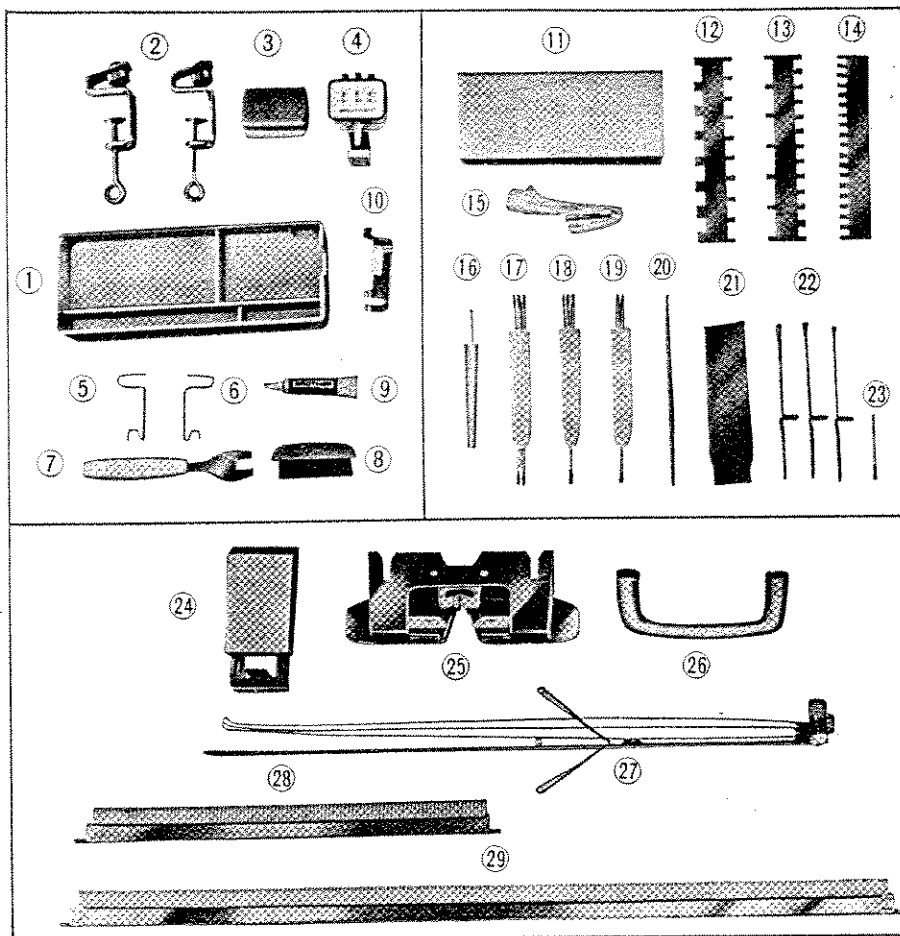
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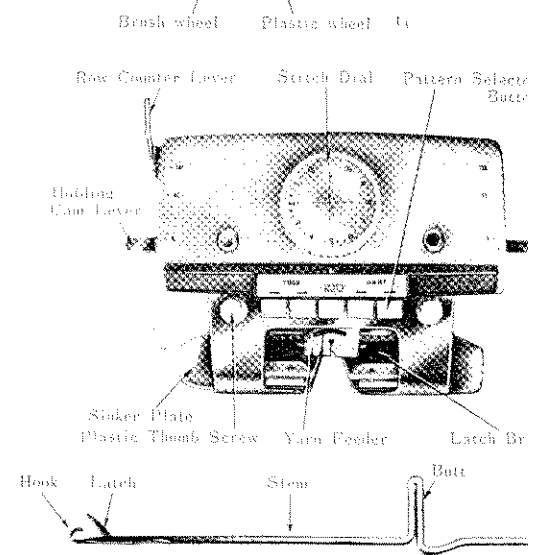
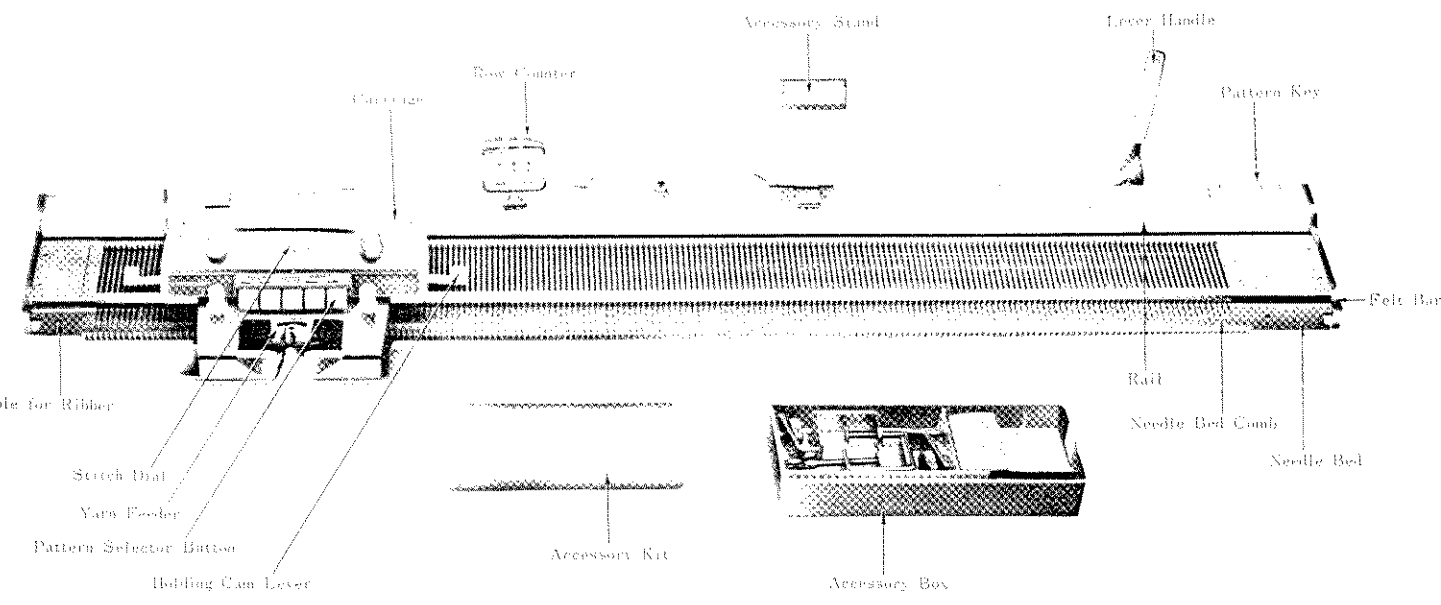
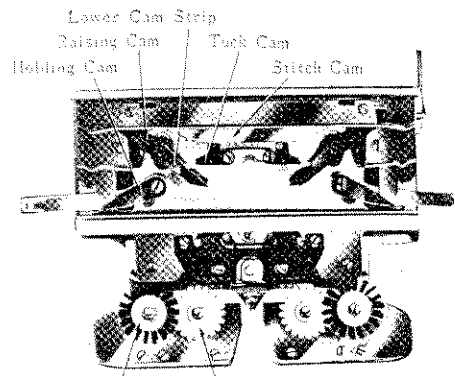
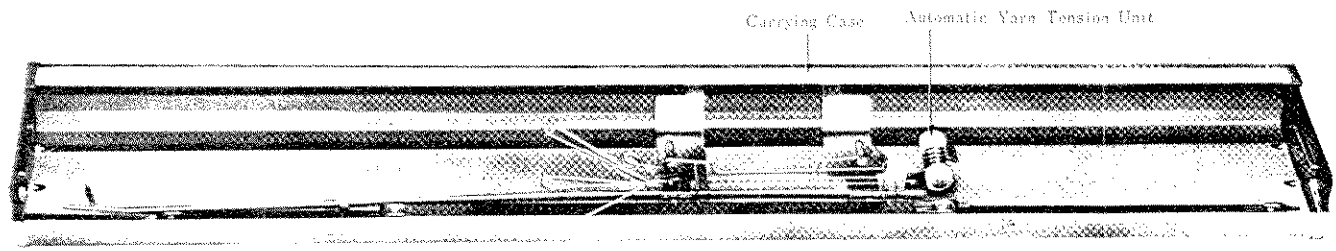
HAND KNITTING MACHINE



The first family of convenience products
BROTHER INTERNATIONAL CORPORATION



- (1) Accessory Box
- (2) Table Clamp
- (3) Picker
- (4) Row Counter
- (5) Sinker Plate Yarn Hanger Left
- (6) Sinker Plate Yarn Hanger Right
- (7) Lever Handle
- (8) Hand Brush
- (9) Lubriplate
- (10) Carriage Lock
- (11) Accessory Kit
- (12) 1/3, 2/3 Needle Pusher
- (13) 1/2, 1/5 Needle Pusher
- (14) 0, 1/1 Needle Pusher
- (15) Cast-on Thread
- (16) Latch Tool
- (17) 2×3 Transfer Tool
- (18) 1×3 Transfer Tool
- (19) 1×2 Transfer Tool
- (20) Crochet Hook and Work Hook
- (21) Plastic Case for Spare Needle
- (22) Spare Needle (3)
- (23) Tapestry Needle
- (24) Accessory Stand
- (25) Sinker Plate Assembly
- (26) Carriage Handle
- (27) Automatic Yarn Tension Unit
- (28) Cast-on Comb Small
- (29) Cast-on Comb Large



BROTHER KNITTING MACHINE

INDEX

SETTING UP THE KNITTER	2	A. Increasing One Stitch on Either Side	23
ATTACH THE AUTOMATIC YARN TENSION UNIT	3	Full Fashioned Method of Increasing One Stitch	23
HOW TO FOLD UP THE KNITTER	6	B. Increasing Several Stitches at Either Edge	23
NEEDLE POSITION.....	8	C. Increasing One Stitch in Center of Row	24
THE PATTERN SELECTOR BUTTONS	9	D. Increasing Many Stitches in the Row	24
HOLDING CAM LEVER POSITION.....	10	DECREASING.....	24
HOLDING CAM KNITTING	11	A. DECREASING ONE STITCH at EITHER EDGE.....	24
EXAMPLE OF A SIMPLE PATTERN.....	11	B. FULL FASHIONED DECREASING.....	24
RELATIVE POSITIONS OF PATTERN SELECTOR BUTTONS,		C. DECREASING in the CENTER of ROW.....	24
NEEDLE POSITIONS AND HOLDING CAM LEVERS.....	12	1) Decreasing one stitch	
YARN TENSIONS	13	2) Decreasing many stitches in row	
THE PUSHBUTTON PATTERN KEYS.....	14	FINISHING	25
PATTERN KEY OVERLEAF	15	WEAVING STITCHES	26
HOW TO PREPARE FOR KNITTING	16	HOW TO WEAVE THE STOCKINET STITCH	26
HOW TO THREAD THE YARN THROUGH AUTOMATIC		HOW TO BIND OFF ONE KNIT ONE PURL.....	26
YARN TENSION UNIT	16	HOW TO WEAVE ONE KNIT ONE PURL	26
PREPARING THE CARRIAGE	17	HOW TO WEAVE THE SIDE STITCHES	27
CAST ON.....	18	I DIAMOND DESIGN	28
Plain Knitting.....	18	II POPCORN STITCH	29
Waste Course Knitting	18	III SEED STITCH (A)	30
HOW TO MOVE THE CARRIAGE(In Neutral)	18	SEED STITCH (B)	30
HOW TO THREAD MULTI-COLOR YARNS	18	IV HERRINGBONE (A)	31
PLATING FEED	19	HERRINGBONE (B).....	31
HOW TO THREAD	19	V CHECKER BOARD.....	32
HOW A STITCH IS FORMED	19	VI PURL-LIKE-STITCH	33
FINISHED EDGE CAST-ON	20	CABLES	34
QUICK RIB	20	YARN OVER PATTERNS	34
HOW TO USE THE TRANSFER TOOL	21	LACE OR OPEN WORK PATTERN	34
PURL STITCH (RIBBING)		LEAF CLOVER.....	35
HOW TO REMOVE THE KNITTING FROM THE KNITTER.....	22	LACE CABLE.....	35
A. Unbound method	22	DIAMOND YARN OVER PATTERN	36
B. To transfer to hand-knitting needle	22	POCKETS.....	36
TO TRANSFER THE KNITTING NEEDLE TO THE KNITTER	22	ARGYLE	37
A. Using transfer tool	22	CARE OF YOUR KNITTING	38
B. Alternate method	22	HOW TO REPLACE THE NEEDLES	
INCREASING	23	CLEANING AND OILING	

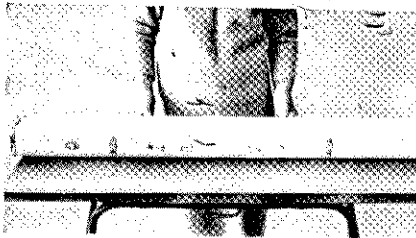


Fig. 1

SETTING UP THE KNITTER

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

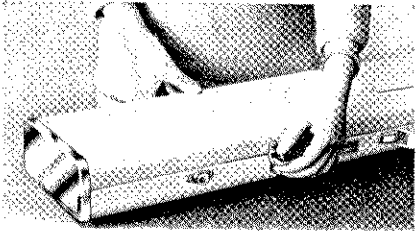


Fig. 2

2. Remove the upper case. Unlock the catches on both side of the handle. (See Fig.2)

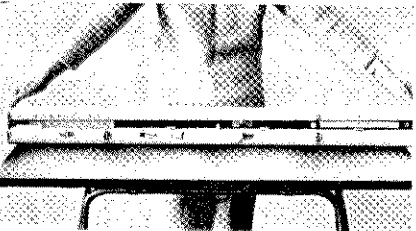


Fig. 3

3. Lift the upper case slightly and pull towards you. (See Fig.3)

This will release the upper case which should be placed on the table beyond the knitter, inside up. The upper case contains large cast-on comb, small cast-on comb, automatic yarn tension unit, sinker plate assembly, and carriage handle.

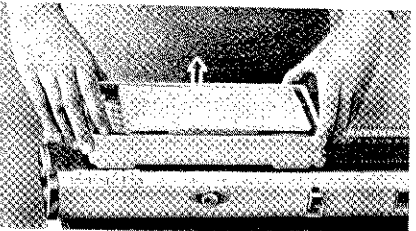


Fig. 4

4. Remove the accessory box on the needle bed, the accessory box is on the right. Lift the accessory box and it will come off from the needle butts and rail. (See Fig. 4)

Place it in the upper case, it contains table clamp, rowcounter, accessory kit etc.

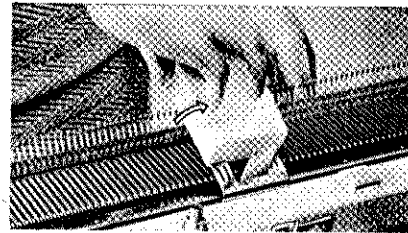


Fig. 5

5. Remove the accessory stand and set in the rowcounter bracket.

Lift up the accessory stand and it will come off from the needle butts and rail. (See Fig.5)

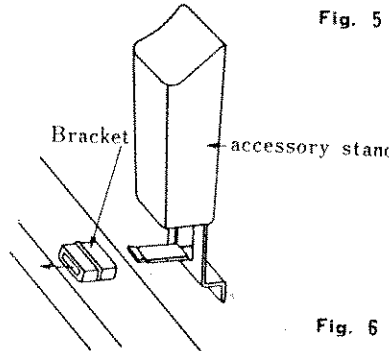


Fig. 6

6. Set it up on any one of the 3 row counter brackets which is free. (See Fig.6)

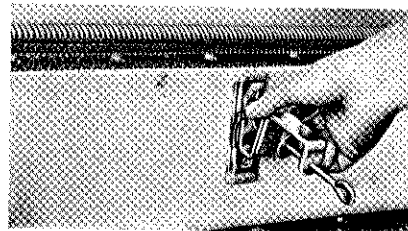


Fig. 7

7. 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).

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. 7, 8.)

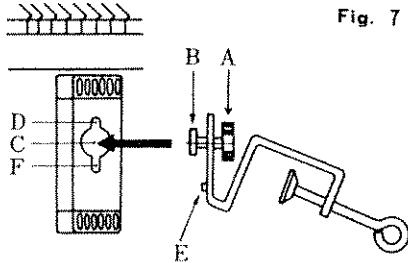


Fig. 8

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

ATTACH THE AUTOMATIC YARN TENSION UNIT

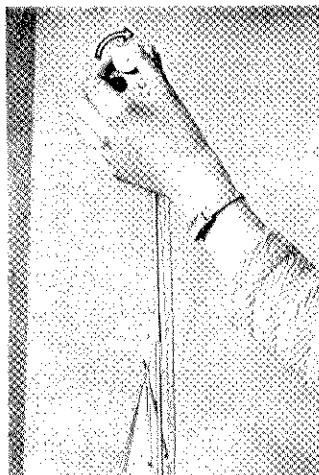


Fig. 9A

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

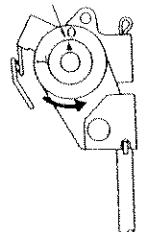


Fig. 9B

- b. To straighten out, turn the knob which has the mark "L" and "O", onto "O".
(See Fig. 9)

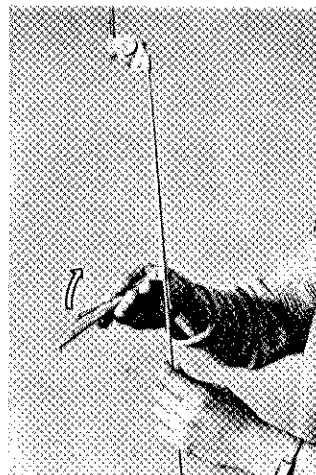


Fig. 11

- e. Raise up the 3-pronged rear yarn guide.
(See Fig. 11)

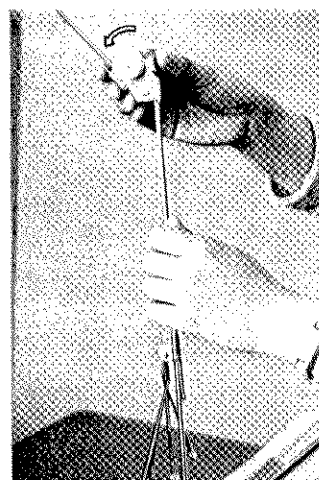


Fig. 10A

- c. Turn the unit to stand up the tension springs on the top of tension rod, until you hear a click. (See Fig. 10A)

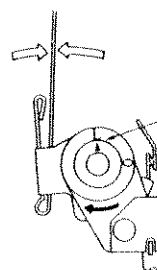


Fig. 10B

- d. Turn the knob to "L" and fix the spring unit. (See Fig. 10B)

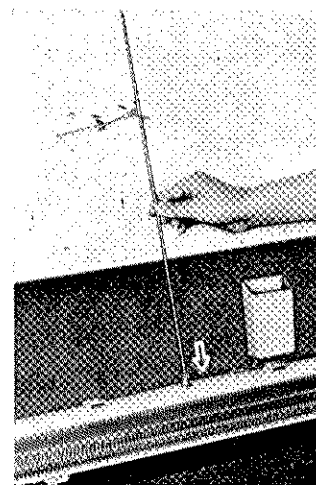


Fig. 12

- f. Set up the automatic yarn tension unit by fitting rod's end into the stand hole at center of knitter, with the 3 pronged rear yarn guide away from you.
(See Fig. 12)

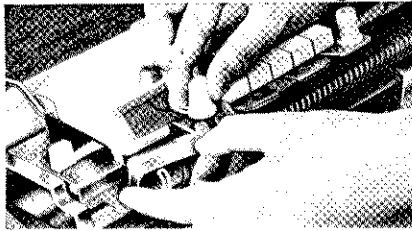


Fig. 13

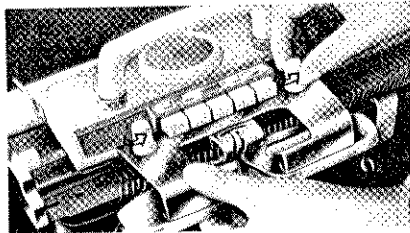


Fig. 14

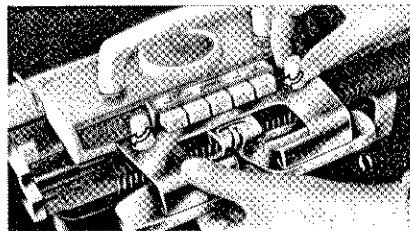


Fig. 15

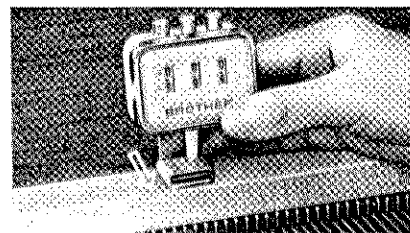


Fig. 16

7. 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 13)

As the carriage lock is required when repacking the knitter, keep it the accessory box while the knitter is in operation.

8. Assemble the carriage
 - a. Take out the handle from the upper carrying case and the two threaded studs on carriage. Both sides should be screwed down at the same time to avoid stripping the thread.
 - b. Take out the sinker plate assembly from the upper carrying 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, 15)

9. Set the row counter
 - a. Set the row counter into anyone of the 3 brackets on the back of the needle bed. (See Fig. 16)
 - b. The brack numerals count up from zero to the number of rows you wish to knit. The red numerals count down so that you can set to the number of rows to be knitted before starting and work down to zero.

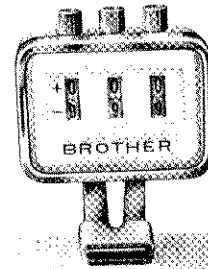


Fig. 17

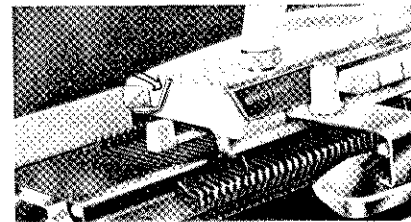


Fig. 18

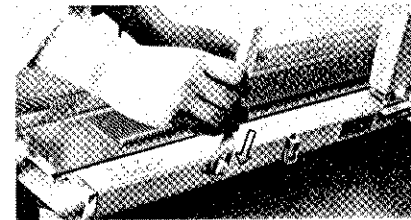


Fig. 19

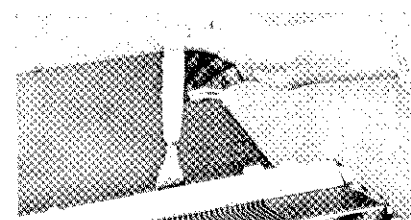


Fig. 20

- c. There are three winders on the top of the counter which turn either way except when the right hand side black numeral is at 9 or 0. When the black numeral is at 9 or 0, the left hand side winder of it will turn only one way.
 - d. When you want to present the figures on the row counter, begin from the left one and finish to right one
10. Snap the row counter tripper into position.
 - a. The tripper is located on the left side of the carriage.
 - b. To set the row counter out of operation turn toward you. (See Fig. 18)
 11. Fit the set lever onto the shaft of the needle setter.
 - a. Take the set lever out of accessory box and fit onto the shaft of the setter located at the rear right of the needle bed. (See Fig. 19)
 - b. Push buttons which is pushed in will release by turning the set lever to the right direction. (See Fig. 20)

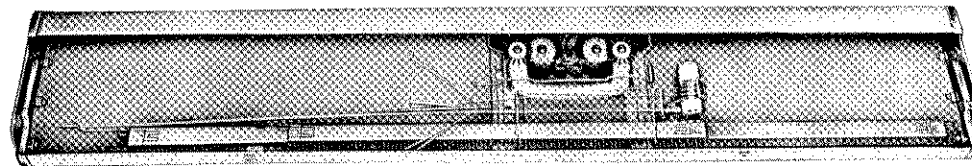
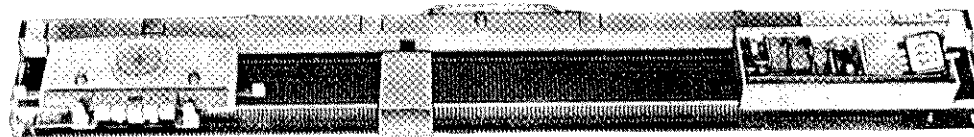


Fig. 21

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.

HOW TO FOLD UP THE KNITTER.

1. Release all push buttons by using set lever (Swivel the Set Lever to the right.)

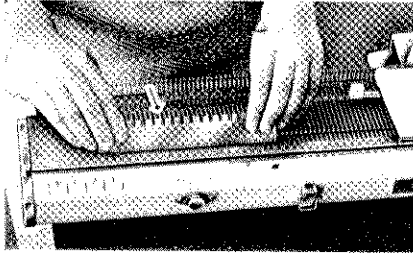


Fig. 22

2. Remove the set lever and replace in the accessory box.
3. All needles are to be placed in the position A (rear resting position) (See Fig. 22)

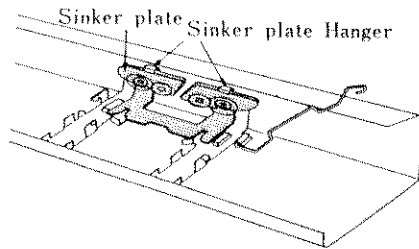


Fig. 23

4. Remove the sinker plate and carriage handle.
5. Replace the sinker plate in side of the upper carrying case (see Fig. 23)

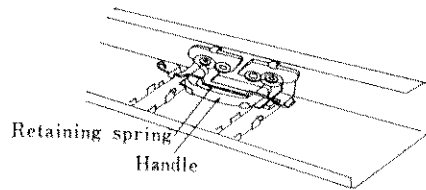


Fig. 24

6. Place the carriage handle on the sinker plate and set by retaining spring. (See Fig. 24)

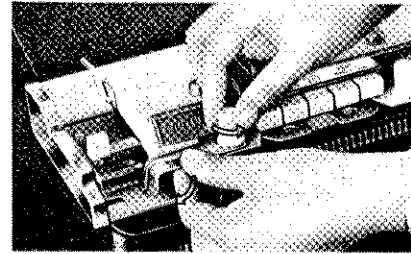


Fig. 25

7. Take out the carriage lock from the accessory box and lock the carriage on the left end of the needle bed. (See Fig. 25)

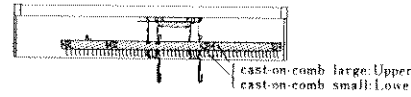


Fig. 26

8. Replace the cast-on comb large and small into the upper carrying case (See Fig. 26)

9. Close up the tension unit.

By turning the plastic knob of the unit to "O" close up the tension spring and also close up the rear yarn guide of the upright rod. (See Fig. 27)



Fig. 27

Yarn

Ratch

Transfer



Fig. 28



Fig. 29

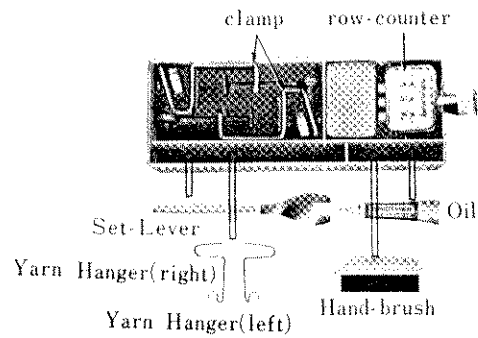


Fig. 30

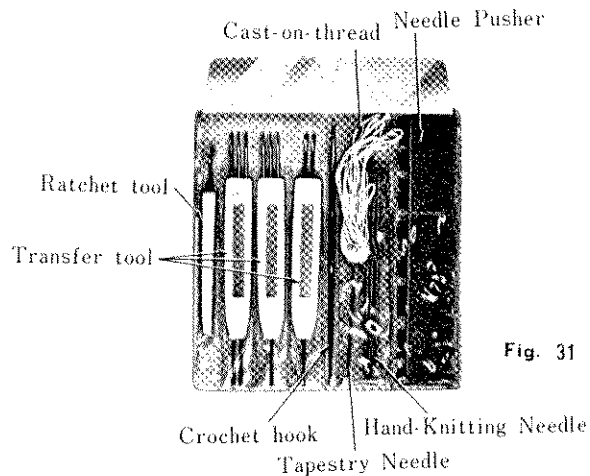


Fig. 31

10. Remove the tension unit with upright rod. Replace it into upper carrying case. (See Fig. 28)

a. Hold up the cast-on comb large and small and tension unit by the retaining spring.

b. Hang the upright rod and the ends of tension spring into the clip. (See Fig. 29)

11. Replace the accessories into the parts box.

a. Remove the row counter from the bracket and replace it into the parts box.

b. Remove the table clamps from the carrying case and replace it into the parts box.

c. Replace the small carriage (Picker), hand brush, lubricate tube etc. into the parts box. (See Fig.30)

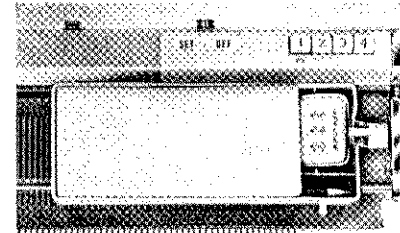


Fig. 32

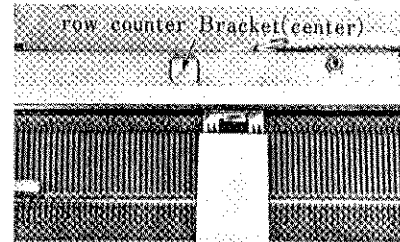


Fig. 33



Fig. 34

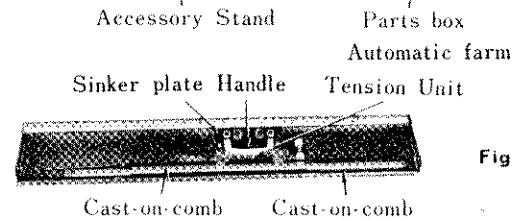


Fig. 35

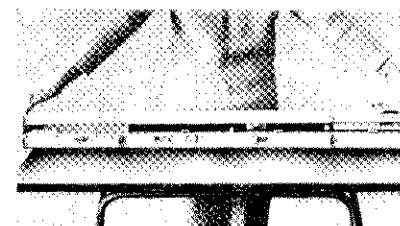


Fig. 36

12. Place the accessory kit on the parts box and place the parts box on the right side of needle bed.

a. The left end of the parts box has to be placed on the number "60" of the needle. (See Fig.32)

b. The metal foot of the parts box must be fitted into the rear rail of the needle bed.

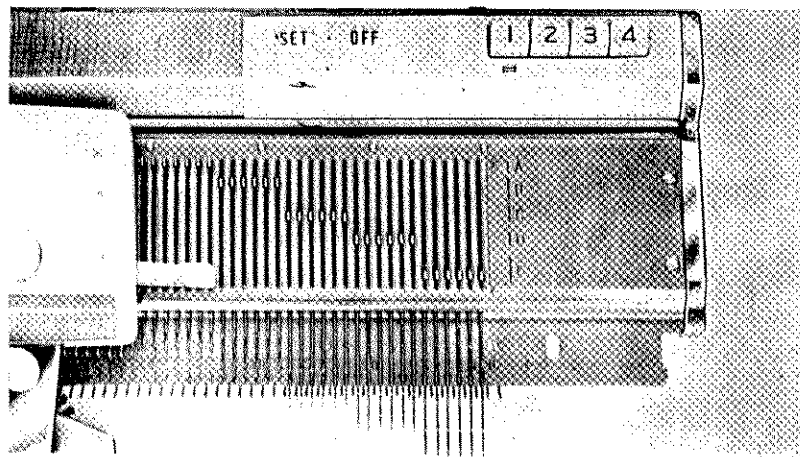
13. Remove the accessory stand from the bracket and set it near of middle of row-counter bracket by fitting its foot onto needle butts.

(See Fig.33)

15. Close the upper carrying case (See Fig.36) on the knitter.

16. Lock the two locks.

NEEDLE POSITION



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, doilies 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.



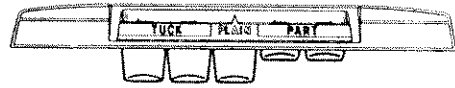
Code 1 ; PLAIN

plain knittingLeft course
 plain knittingRight course



Code 2 ; PART

plain knittingLeft course
 partial knittingRight course



Code 3 ; PART

partial knittingLeft course
 partial knittingRight course



Code 4 ; PART

Partial knittingLeft course
 Plain knittingRight course



Code 5 ; TUCK

plain knittingLeft course
 tuckingRight course



Code 6 ; TUCK

TuckingLeft course
 TuckingRight course



Code 7 ; TUCK

TuckingLeft course
 Plain KnittingRight 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

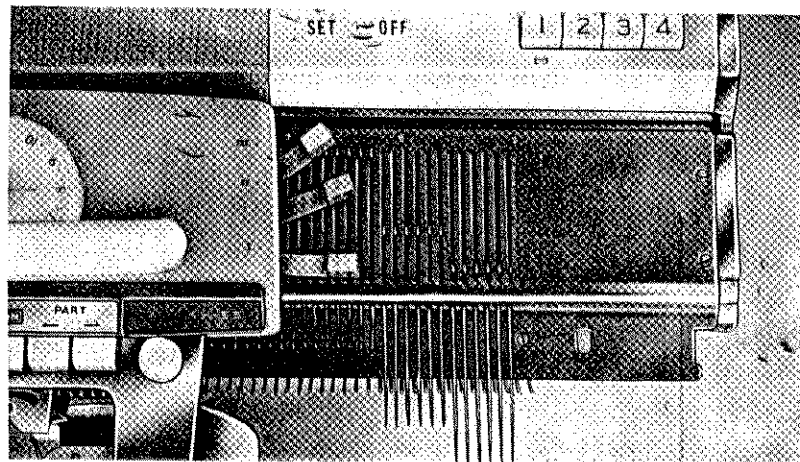


Fig. 38

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 needle 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	Needle Position	Holding Cam Lever Ppsition					
		1		2		3	
		← Left Course	→ Right Course	← Left Course	→ Right Course	← Left Course	→ Right Course
1	B	KNIT	KNIT	KNIT	KNIT	KNIT	KNIT
	C	"	"	"	"	"	"
	D	"	"	"	"	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"
2	B	KNIT	STATION-ARY	KNIT	STATION-ARY	KNIT	STATION-ARY
	C	"	*	"	*	"	*
	D	"	KNIT	"	KNIT	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"
3	B	STATION-ARY	STATION-ARY	STATION-ARY	STATION-ARY	STATION-ARY	STATION-ARY
	C	*	*	*	*	*	*
	D	KNIT	KNIT	KNIT	KNIT	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"
4	B	STATION-ARY	KNIT	STATION-ARY	KNIT	STATION-ARY	KNIT
	C	*	"	*	"	*	"
	D	KNIT	"	KNIT	"	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"
5	B	KNIT	TUCK	KNIT	TUCK	KNIT	TUCK
	C	"	*	"	*	"	*
	D	"	KNIT	"	KNIT	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"
6	B	TUCK	TUCK	TUCK	TUCK	TUCK	TUCK
	C	*	*	*	*	*	*
	D	KNIT	KNIT	KNIT	KNIT	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"
7	B	TUCK	KNIT	TUCK	KNIT	TUCK	KNIT
	C	*	"	*	"	*	"
	D	KNIT	"	KNIT	"	HOLDING	HOLDING
	E	"	"	HOLDING	HOLDING	"	"

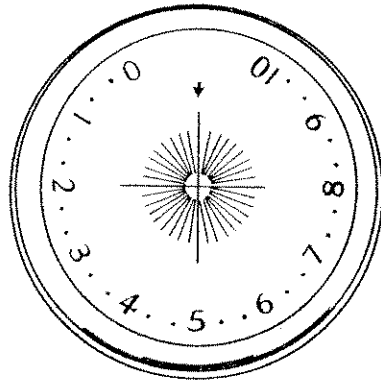


Fig. 39

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 a ~~knitting machine~~.

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.
Cashmere	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.

THE PUSHBUTTON PATTERN KEYS

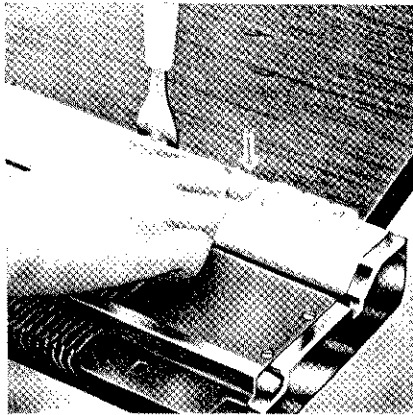


Fig. 40

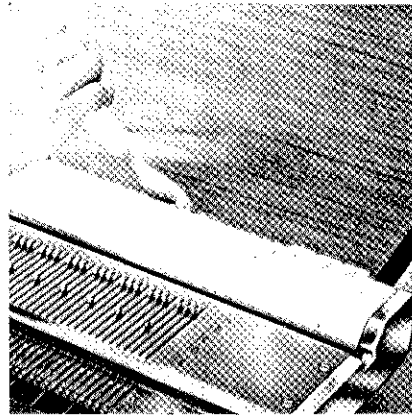


Fig. 41

The push-Button Patterning System is the most revolutionary features of this knitter.

Multicolor and textured designs now become really automatic and the Push-buttons in conjunction with the Holding Cams can produce most intricate designs effortlessly.

- (1) Place the Set-Lever into the lock which is at the back of the case between the word "SET" and "OFF" just to the left of the Push-Buttons.

OPERATING THE PUSHBUTTON MECHANISM

- (1) The Push-Buttons are connected with the knitter's needles. No. 1 Button in each case is connected with all needles in front of which appears the mark on the needle No. 2, 3 and 4. Buttons are connected consecutively with all the adjacent needles to the right of the mark.

The Push-button mechanism only operates on needles in action raising from "B" or "C" positions to "D" to do this;

- a) Press the required Button or combination of Buttons.
- b) Swivel the Set-Lever to the left (to "SET") and the corresponding needles will be moved to position "D".

Thereafter each time the Set-lever is swivelled over to the left, the same needle combinations will be raised.

If it is necessary to change the needle combination;

- a) Swivel the Set-lever to the right (to "OFF" and the Buttons will be returned to their raised position.
- b) Reset the new combination.
- c) Swivel the Set-lever to the left and the new needle combination will come into operation.

If by error incorrect needles are raised;

- a) Release the Buttons (Swivel Set-lever to "OFF").
- b) Manually return the needles to Knitting position.
- c) Reset the Buttons for the correct pattern.
- d) Swivel the Set-lever to the left and the correct needles will be raised.

NOTE : (1) Never push the needles back by hand whilst the Buttons are down.

(2) Always release the Push-Buttons when not in use for patterning.

Remembering these two simple rules will avoid damage to the control spring under the needle bed.

In actual Knitting and patterning the selector Buttons and Holding Cam-levers will be used in various combinations.

Refer to the Selector Button Key on Page 15 for the relative needle positions of all Push Button Combinations.

PATTERN KEY OVERLEAF


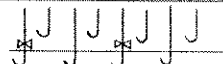

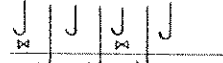

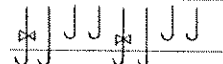





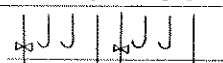

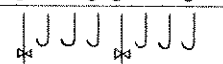



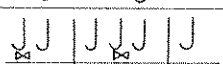



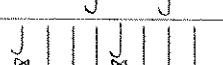



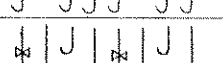

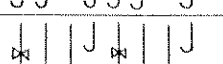
EXAMPLE OF A SIMPLE PUSH BUTTON PATTERN

- (1) Knit several rows of plain stockinette on your Knitter.
- (2) Press Button 1 and 3.
- (3) Swivel Set-Lever to Left ("SET").
- (4) Set both Holding Cam Levers, on the Carriage to Position I.
- (5) Knit 2 rows.
- (6) Raise both Holding Cam Levers to Position I.
- (7) Knit 1 row.
- (8) Repeat steps 3, 4, 5, 6 and 7.
- (9) Release Pattern Buttons(Swivel Set-Lever to Right).
- (10) Lower both Holding Cam Levers to Position III.
- (11) Set Buttons 2 and 4 (i. e. press the buttons and swivel the Set-Lever to the Left).
- (12) Knit 2 rows.
- (13) Raise both Holding Cam Levers to Position I.
- (14) Knit 1 row.
- (15) Repeat Steps 10-11-12-14.

To repeat the pattern start at Step 1 again.

If the same pattern is to be repeated (as in 8 and 15 above) the Push-Buttons need not to be touched or reset only the Set-Lever is moved to the Left to re-position the needles. It is only when the needle combination changes (as in Step 11) that the Buttons and corresponding needles are unlocked and re-set.

You will notice in Steps 5 and 12 that whilst the 2 rows are knitted the raised needles are "HELD" out while they gather yarn without actually knitting it. It is only when the Holding Cams are raised (to Position I) that they are knitted in. It is not advisable to "HOLD" needles for will result in dropped stitches or jamming the carriage.

Combination code	Buttons Pushed	Needles Selected
$\frac{1}{4}$		
		
$\frac{2}{4}$		
		
		
		
$\frac{1}{3}$		
		
		
		
$\frac{3}{4}$		
		
		
		

HOW TO PREPARE FOR KNITTING

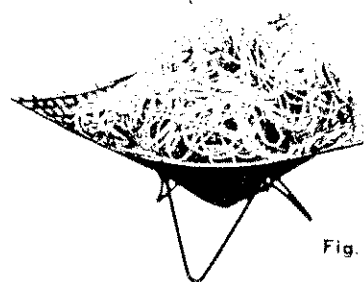


Fig. 42

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.

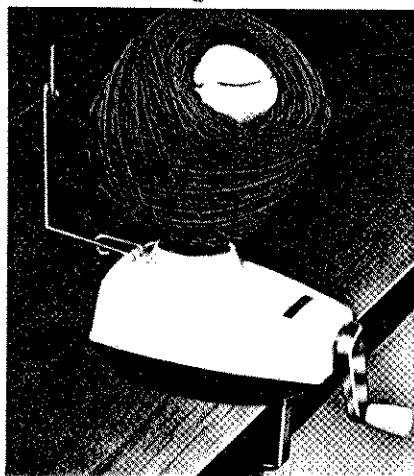


Fig. 43

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

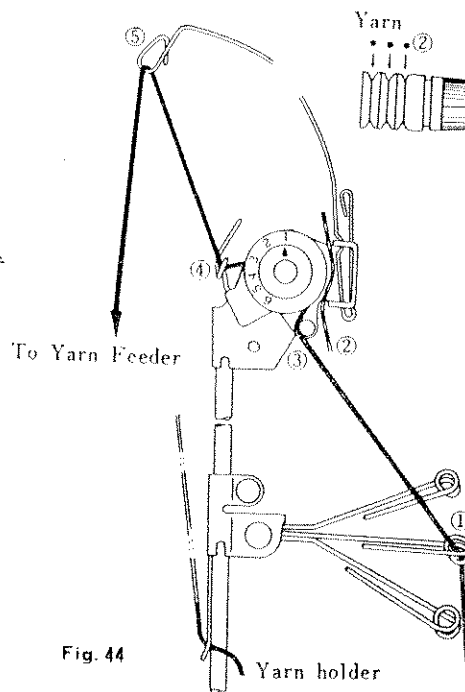


Fig. 44

The yarn is threaded through eyelet (1) and led 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. 44)

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.

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 brushes. 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.

PREPARING THE CARRIAGE

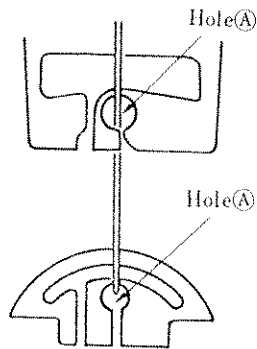


Fig. 45

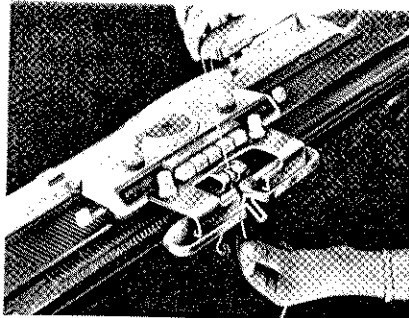


Fig. 46

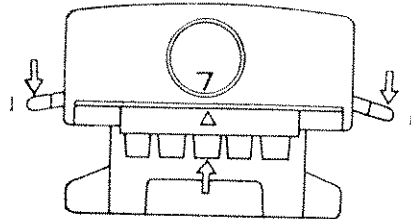


Fig. 48

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. 47)

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

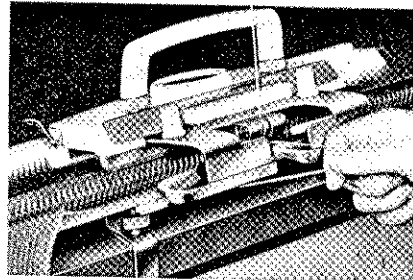


Fig. 47

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 Cam 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

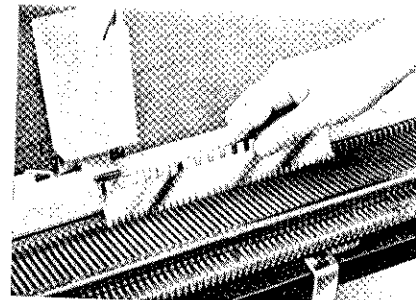


Fig. 49

B (about $\frac{1}{2}$ " from the resting position (A)) the desired number of needles.

(See Fig. 49)

I. Check to see that the needles pass freely between the cast-on comb teeth.

The threaded carriage should now be pushed across the needles to be knitted.

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. 50, 51)

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.

NTOE:

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

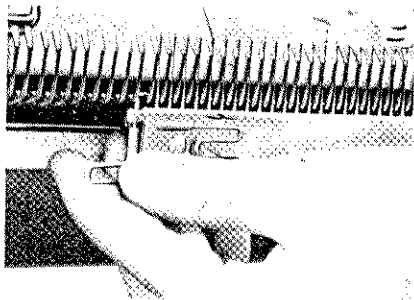


Fig. 50

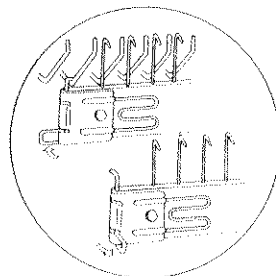


Fig. 51

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. 50)
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.

CAST ON

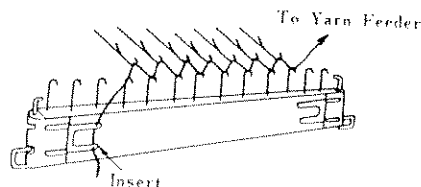


Fig. 52

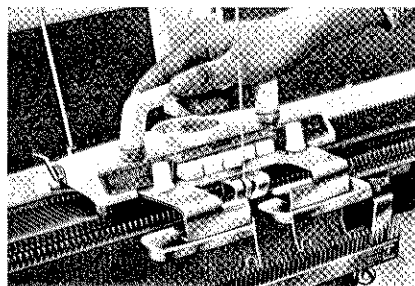


Fig. 53

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 1
3. Set Tension Dial to 5 (medium size yarn). Knit rows required.

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

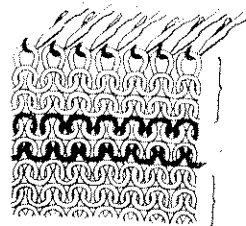


Fig. 54

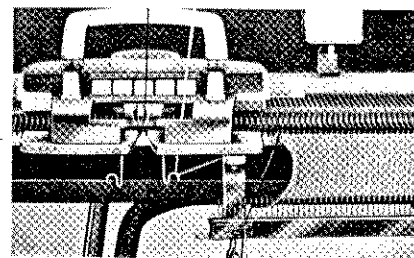


Fig. 55

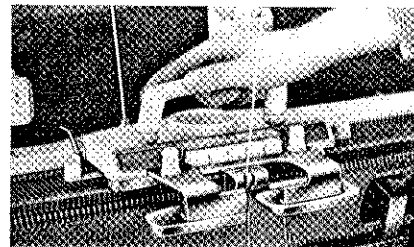


Fig. 56

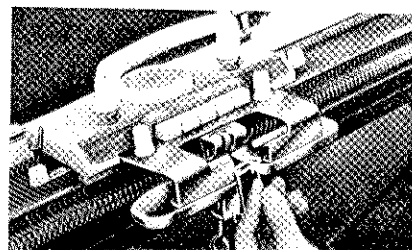


Fig. 57

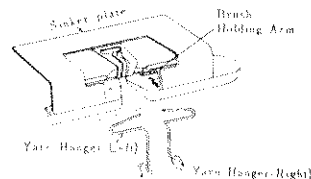


Fig. 58

Waste Course Knitting

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

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

This is very convenient to combine different color yarns.

HOW TO THREAD MULTI-COLOR YARNS

When two or more yarns are being used in a pattern knitting hang yarn that are not being knitted to the yarn hangers, left and right, as illustrated in Fig. 58.

Yarn B: Yarn on the inside
Yarn A: Yarn on the outside

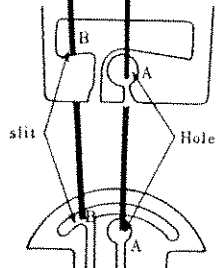


Fig. 59 A

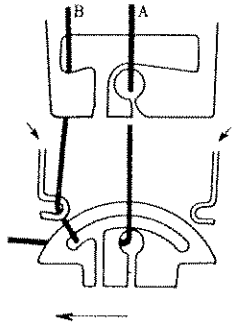


Fig. 59 B

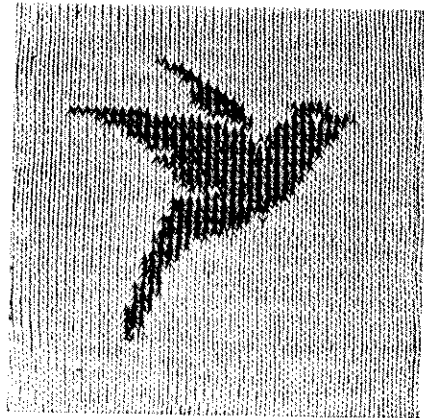


Fig. 60

PLATING FEED

In addition to pushbutton pattern keys and stitch button features, the knitting machine has a feature in the yarn feeder which makes it very easy to do plating.

A combination of new yarn for the outside of the garment and reclaimed yarn for the inside can be used in different color yarns to produce a new, fluffy appearing single color yarn on the inside.

HOW TO THREAD

Yarn "A", which is to appear on the surface of the garment is threaded through the hole (A) of the yarn feeder.

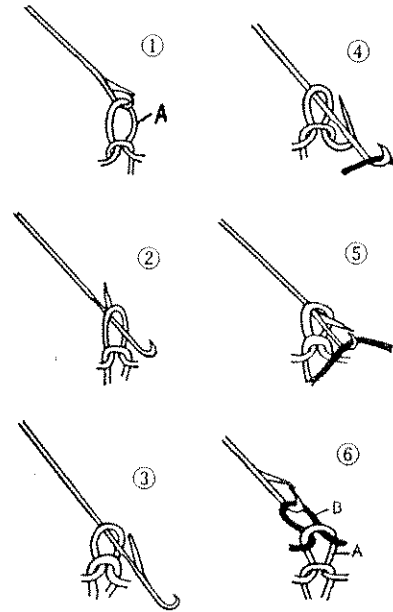
Yarn "B", which is to appear on the inside of the garment, is threaded through the slit (B).

- (1) Set Pattern Selector Button to "PLAIN".
- (2) Set Holding Cam Levers to Position 1.
- (3) Set Tension dial to the number according to the thickness of yarn which is knitted.

When using two different color yarns A and B, colors can be alternated without interchanging the yarns.

At the left and right sides of the yarn feeder, there are two yarn hanger hooks. In illustration, hang the inner yarn B on left yarn hanger hook which is the side that the knitting work is and the direction in which the carriage will be moved. The row knitted will have the yarns reversed from the previously knitted row. If you continue to knit with yarn B on yarn hanger hook, every other row will reverse in color and a striped pattern will be knitted.

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 E)
4. Fasten end of yarn with slip knot on left of knitter.
5. Loop yarn around each needle from left to right, counter clockwise. Loops must be on stem of 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.

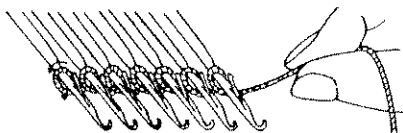





Fig. 61

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 as 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 "O".
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

- 1  2x3 transfer tool
- 2  1x3 Transfer tool
- 3  1x2 transfer tool

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

HOW TO USE THE TRANSFER TOOL

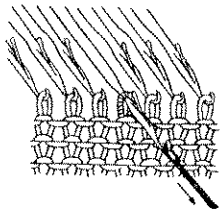


Fig. 62

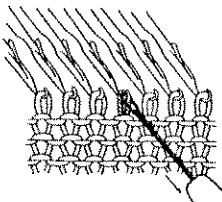


Fig. 63

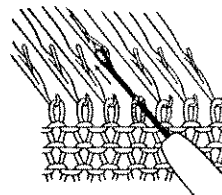


Fig. 64

- 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) Without releasing the transfer tool, push the needle all the way back. The latch will automatically close dropping the stitch onto the transfer tool.

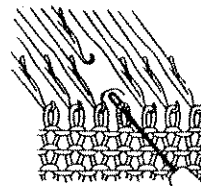


Fig. 65

- 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.

PURL 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, 1 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 tighter tension.

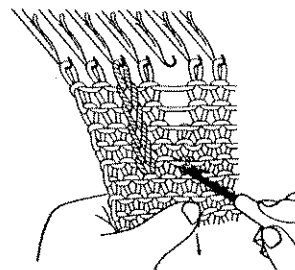


Fig 66

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.

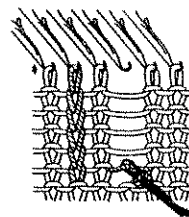


Fig. 67

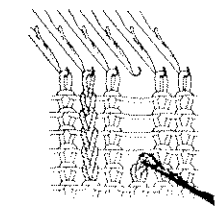


Fig. 68

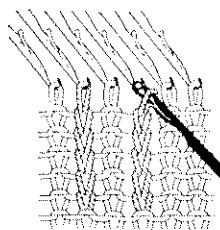


Fig. 69

- c) 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.
- 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.

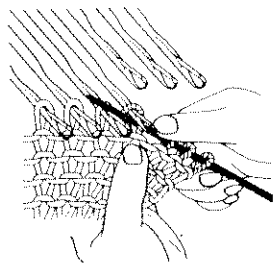


Fig. 70

- 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 E 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.

TO TRANSFER THE KNITTING NEEDLE TO THE KNITTER.

A. Using transfer tool

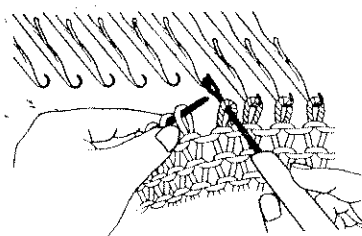


Fig. 71

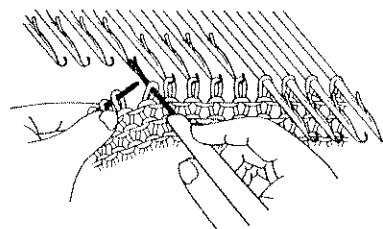


Fig. 72

- a) Open the latches of machine needles with hand brush.
- b) Hold the knitting with your left hand, and insert the transfer tool into a 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.

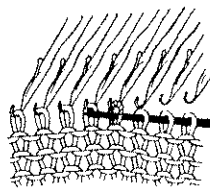


Fig. 73

INCREASING

A. Increasing One Stitch on Either Side

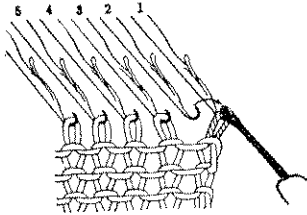


Fig. 74

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.

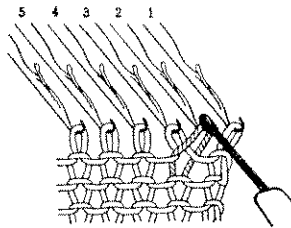


Fig. 75

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

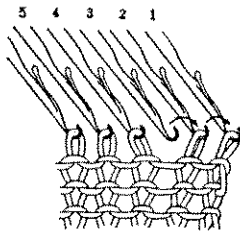


Fig. 76

Method (B)

Full Fashioned 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.

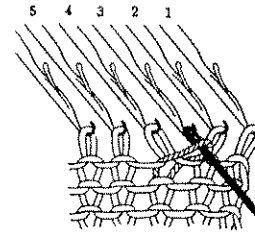


Fig. 77

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.

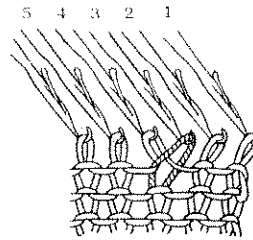


Fig. 78

B. Increasing Several Stitches At Either Edge

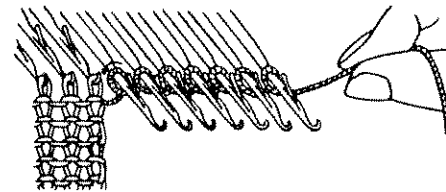


Fig. 79

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 levers to position T.

4) Knit across.

5) To insure perfect knitting on the increased stitches, raise these needles to position E manually before knitting across for 4 or 5 rows.

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.

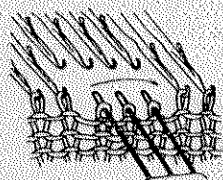


Fig. 80

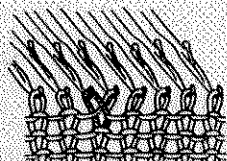


Fig. 81

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)

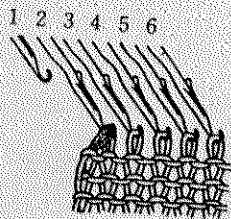


Fig. 82

B) Full Fashioned Decreasing.

- a) With a single needle transfer tool, 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)

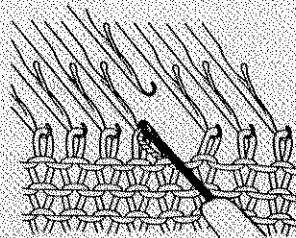


Fig. 83

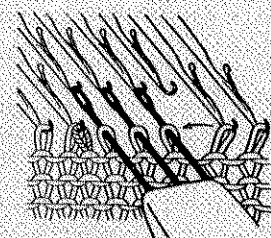


Fig. 84

2) Decreasing many stitches in row

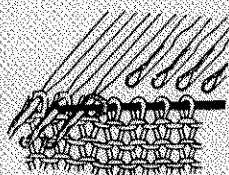


Fig. 85

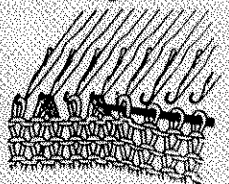


Fig. 86

- a) Transfer the knitting to a hand knitting needle. (See Fig. 85)
- b) 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. 86)
- c) The number of needles with double stitches represents the number of stitches decreased.

FINISHING

(1) Crochet Hook

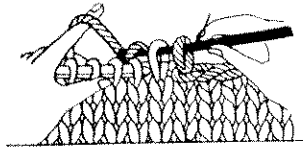


Fig. 87

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. 87.

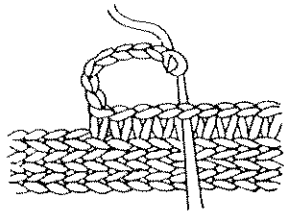


Fig. 88

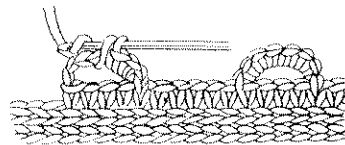


Fig. 89

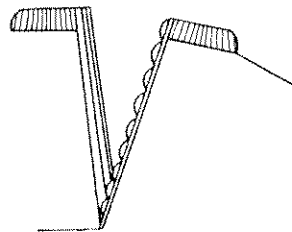


Fig. 90

This Crochet Hook is also used for making button-hole on the edge of the garment as shown in Fig. 88, 89 and 90.

(2) Tapestry Needle

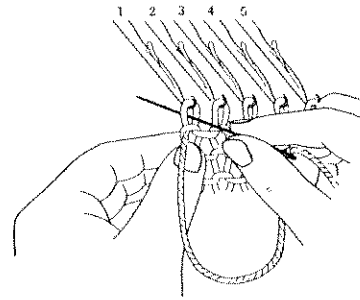


Fig. 91

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

- (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. 91

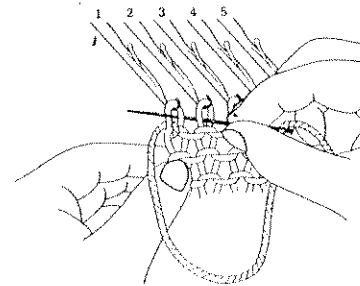


Fig. 92

- (B) Insert the needle into the second stitch and back through the first stitch. (Fig. 92) 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.

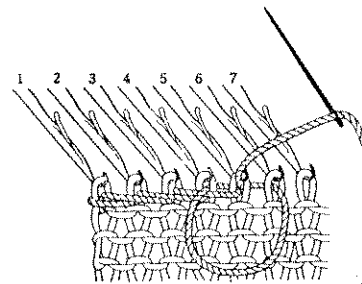


Fig. 93

WEAVING STITCHES

How to weave in stockinet stitches.

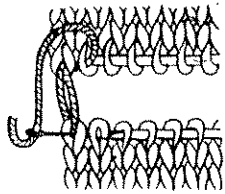


Fig. 94

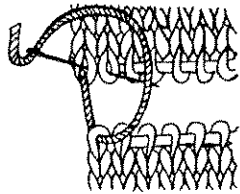


Fig. 95

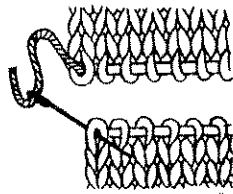


Fig. 96

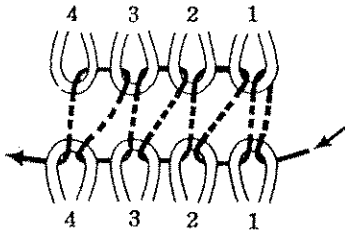


Fig. 97

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

(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 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. 97) Repeat this procedure until you finish the seam.

HOW TO WEAVE THE STOCKINET STITCH

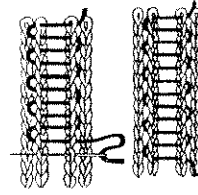


Fig. 98

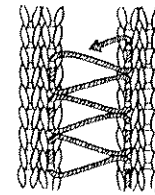


Fig. 99



Fig. 100

HOW TO BIND OFF ONE KNIT ONE PURL

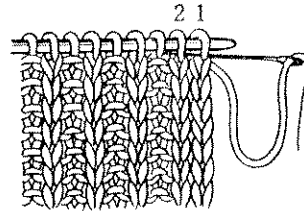


Fig. 101

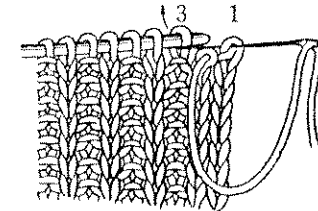


Fig. 102

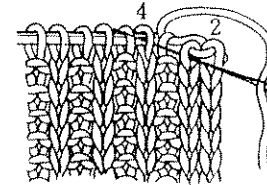


Fig. 103

HOW TO WEAVE ONE KNIT ONE PURL

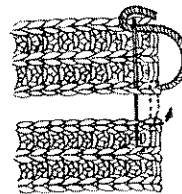


Fig. 104

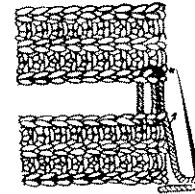


Fig. 105

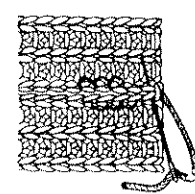


Fig. 106

HOW TO WEAVE THE SIDE STITCHES

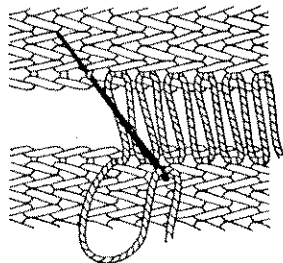


Fig. 107

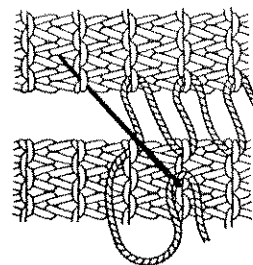


Fig. 108

Weaving side stitches.

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

Weave each edge stitch on both pieces by passing the needle through the loop which is inside (Method A as shown in Fig. 107) or the loop which is outside (Method B as shown in Fig. 108) on every row.

Combine both edges neatly.

I DIAMOND DESIGN

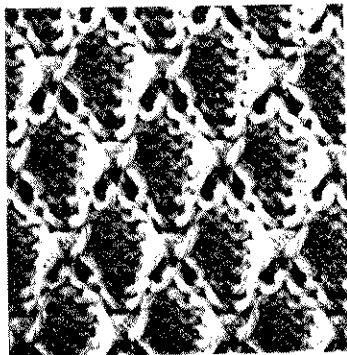


Fig. 109 A

12	←	△	○	○	○	○		
11	→	○	○	○	○	○		
10	←	△	○	○	○	○		
9	→	○	○	○	○	○		
8	←	△	○	○	○	○		
7	→	○	○	○	○	○		
6	←	△	○	○	○	○		
5	→	○	○	○	○	○		
4	←	△	○	○	○	○		
3	→	○	○	○	○	○		
2	←	△	○	○	○	○		
1	→	○	○	○	○	○		

STEPS	CARRIAGE DIRECTION	TENSION DIAL	YARN	H.C.L. (Left)	H.C.L. (Right)	PATTERN SELECTOR BUTTONS
		6		STOCKINET STITCHES		1 2 3 4

Fig. 109 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. Push PATTERN KEY No.1 and swivel "SET-LEVER" to "SET".
 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) Swivel "SET-LEVER" to "OFF" (to release the PATTERN KEY No.1)

- Step 6
- 2) Set "HOLD CAM LEVERS" back to POSITION I.
- Step 7
- 3) Knit one row from left to right.
 - Knit one row from right to left.

- Step 8
1. Set "HOLD CAM LEVERS" to POSITION III.
- Step 9
2. Push "PATTERN KEY No.3"
- Step 10
3. Swivel "SET-LEVER" to "SET"
- Step 11
4. Knit one row from left to right.
 - Knit one row from right to left.

- Step 12
- Knit one row from left to right.
 - Knit one row from right to left.

Repeat steps 1,2.....8,12. Then you can make the DIAMOND PATTERN as shown in Fig. 109 A.

I POPCORN STITCH

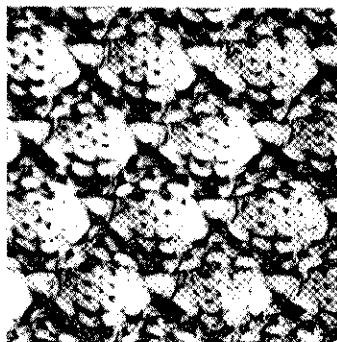


Fig. 110 A

12	←	6	A	1																
11	←	6	B	1																
10	←	6		1																
9	←	6		1																
8	←	6		1																
7	←	6	A	1																
6	←	6		1																
5	←	6	B	1																
4	←	6		1																
3	←	6		1																
2	←	6		1																
1	←	6	A	1																
		6		1																
STEPS	CARRIAGE DIRECTION	TENSION DIAL	YARN	H. C. L. 1 Left	POPCORN STITCHES				H. C. L. 1 Right	PATTERN SELECTOR BUTTONS										

Fig. 110 B

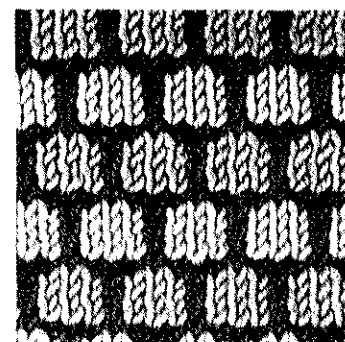


Fig. 110 C

- Preparation
1. Set "TENSION DIAL" to No.6.
 2. Set "HOLDING CAM LEVERS" to POSITION I.
 3. Knit several row 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. TENSION DIAL remains at same position No.6.
 2. Set "HOLD CAM LEVERS" to POSITION III.
 3. Push "PATTERN KEY No.1"
 4. Swivel "SET-LEVER" to "SET"
 5. Use Yarn Color A as before.
 6. Knit one row from left to right.
- Step 2.
1. Knit one row from right to left.
 2. " " " left to right.
 3. " " " right to left.
 4. " " " left to right.
 5. " " " right to left.
- Step 3.
1. Thread Yarn Color B.
 2. Knit one row from right to left.
- Step 4.
1. Knit one row from left to right.
- Step 5.
1. Knit one row from right to left.
- Step 6.
1. Knit one row from left to right.
- Step 7.
1. Set "PATTERN KEY No.3.
 2. Set "SET-LEVER" to "SET".
 3. Set "HOLDING CAM LEVERS" to POSITION III.
 4. Thread Yarn Color A.
 5. Knit one row from left to right.
- Step 8.
1. Knit one row from right to left.
- Step 9.
1. Knit one row from left to right.
- Step 10.
1. Knit one row from right to left.
- Step 11.
1. Swivel "SET-LEVER" to "OFF"
 2. Set "HOLDING CAM LEVERS" to POSITION I.
 3. Thread Color Yarn B.
 4. Knit one row from left to right.
- Step 12.
1. Knit one row from right to left.
- Repeat STEPS 1,2,3.....&12, then you can make the Popcorn Pattern.

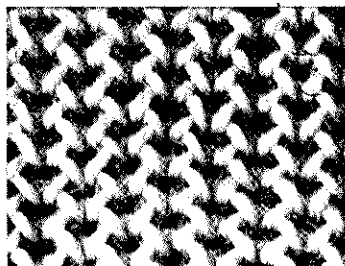


Fig. 111 A

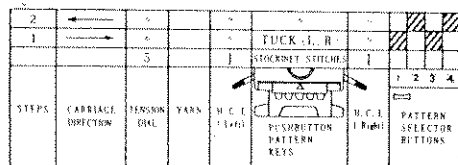


Fig. 111 B

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

- Step 1.
1. TENSION DIAL remains a same position No.3.
 2. Set "HOLDING CAM LEVERS" to POSITION I.
 3. Set "PATTERN SELECTOR BUTTONS" to "TUCK" (right & left) See Code No. 6
 4. Push "PATTERN KEYS No.1 and 3"
 5. Swivel "SET-LEVER" to "SET".
 6. Knit one row from left to right.
 7. Swivel "SET-LEVER" to "OFF".

- Step 2.
1. HOLDING CAM LEVERS remain at the same position I.
 2. Set PATTERN KEYS No.2 and 4.
 3. Swivel SET-LEVER" to "SET"
 4. Knit one row from right to left.
 5. Swivel "SET-LEVER" to "OFF"(to release PATTERN KEY No.284)

Repeat Steps 1 & 2, then you can make the SEED STITCH as shown in Fig. 111A).

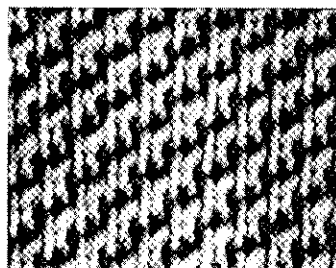


Fig. 112 A

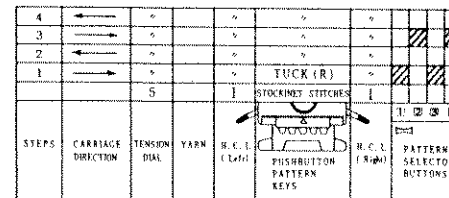


Fig. 112 B

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

- Step 1.
1. TENSION DIAL remains at the same position No.5.
 2. Set "HOLDING CAM LEVERS" to "POSITION I"
 3. Set "PATTERN SELECTOR BUTTON" to TUCK (right) See Code No.5
 4. Push "PATTERN KEYS No.1 and 3.
 5. Swivel "SET-LEVER" to "SET".
 6. Knit one row from left to right.

- Step 2.
1. Knit one row from right to left.
 2. Swivel "SET-LEVER" to "OFF".

- Step 3.
1. Push Pattern Keys No.2 and 4.
 2. Swivel "SET-LEVER" to "SET".
 3. Knit one row from left to right.

- Step 4.
1. Knit one row from right to left.
 2. Swivel "SET-LEVER" to "OFF".

Repeat Step 1 (4,5,6), 2, 3 & 4, then you can knit the pattern as shown in Fig. 112A.

V HERRINGBONE (A)

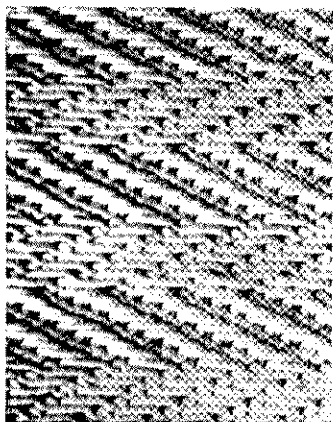


Fig. 113 A

16	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
15	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
14	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
13	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
12	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
11	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
10	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
9	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
8	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
7	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
6	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
5	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
4	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
3	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
2	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
1	→	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	
				PART (L. R.) STOCKINET STITCHES														
STEPS	CARRIAGE DIRECTION	TENSION DIAL	YARN	H. C. L. (Left)	PUSHBUTTON PATTERN KEYS		H. C. L. (Right)	PATTERN SELECTOR BUTTONS			1	2	3	4				

Fig. 113 C

HERRINGBONE (B)

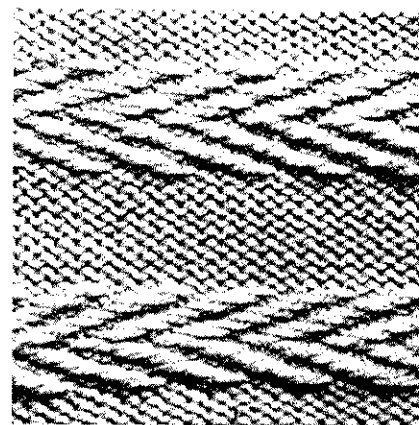


Fig. 113 B

- Preparation
1. Set TENSION DIAL to No.6
 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. Set "HOLDING CAM LEVERS" to POSITION 1.
 2. Set "PATTERN SELECTOR BUTTONS" to "PART" (right & left). See Code No. 3.
 3. Push PATTERN KEYS No. 1 & 2.
 4. Swivel "SET-LEVER" to "SET".
 5. Knit one row from left to right.
 6. Swivel "SET-LEVER" to "OFF".
- Step 2.
1. Push PATTERN KEYS No. 2 & 3.
 2. Swivel "SET-LEVER" to "SET".

3. Knit one row from right to left.
 4. Swivel "SET-LEVER" to "OFF".
- Step 3.
1. Push PATTERN KEYS No.3 & 4.
 2. Swivel "SET-LEVER" to "SET".
 3. Knit one row from left to right.
 4. Swivel "SET-LEVER" to "OFF".
- Step 4.
1. Push Pattern Keys No.1 & 4.
 2. Swivel "SET-LEVER" to "SET".
 3. Knit one row from right to left.
 4. Swivel "SET-LEVER" to "OFF".
- Step 5~16
- Select Pattern Keys as illustrated in the above list as same procedures as mentioned above to Step 16.

Herringbone A.

Continuous Procedures make Herringbone A, but, if you want to make Herringbone B, you should knit several row in Plain Knitting after finishing Step 16.

VI CHECKER BOARD

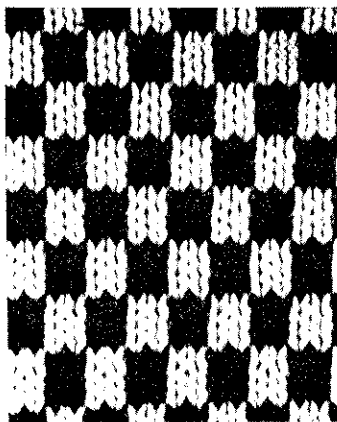


Fig. 114 A

- 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. Push "PATTERN KEYS No. 1 & 2.
 5. Swivel "SET-LEVER" to "SET".
 6. Knit one row from left to right.
- Step 2.
1. Swivel "SET LEVER" to "SET".
 2. Knit one row from right to left.

16	←	A							
15	→	A							
14	←	B							
13	→	B							
12	←	A							
11	→	A							
10	←	B							
9	→	B							
8	←	B							
7	→	B							
6	←	A							
5	→	A							
4	←	B							
3	→	B							
2	←	A							
1	→	A							

Diagram illustrating the knitting machine settings for the checkerboard pattern. The diagram shows the carriage position (PART I, R) and the tension dial (TENSION DIAL) set to 7. The carriage is positioned at the left side of the machine. The diagram also shows the pattern selector buttons (PART I, R) and the pattern keys (1, 2, 3, 4) being pushed.

Fig. 114 B

3. Swivel "SET-LEVER" to "OFF".
- Step 3.
1. Thread Yarn Color B.
 2. Push "PATTERN KEYS No. 3 & 4.
 3. Swivel "SET-LEVER" to "SET".
 4. Knit one row from left to right.
- Step 4.
1. Swivel "SET-LEVER" to "SET".
 2. Knit one row from right to left.
- Step 5.
1. Thread Yarn Color A.
 2. Push "PATTERN KEYS No. 1 & 2".
 3. Swivel SET-LEVER" to "SET".
 4. Knit one row from left to right.
- Step 6.
1. Swivel "SET-LEVER" to "SET".
 2. Knit one row from right to left.
 3. Swivel "SET-LEVER" to "OFF". Select "PATTERN KEYS" & "YARN COLOR" as illustrated in the above list as same procedures as mentioned above to the Step 16.

M PURL-LIKE-STITCH

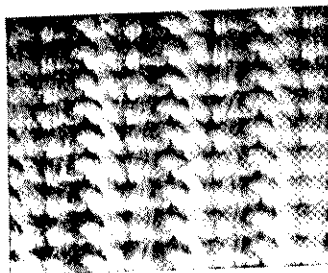


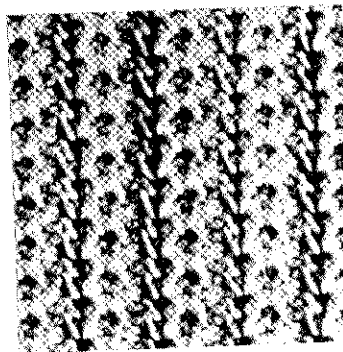
Fig. 115 A

STEPS	CARRIAGE DIRECTION	TENSION DIAL	YARN	H. C. L. (Left)	PUSHBUTTON PATTERN KEYS	H. C. L. (Right)	PATTERN SELECTOR BUTTONS
2	←	5					TUCK (R)
1	→	5					STOCKINET STITCHES

Fig. 115 B

- Preparation
1. Set "TENSION DIAL" to No. 5.
 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.
- Step 1.
1. Set "LEFT HOLDING CAM LEVER" to POSITION I, and "RIGHT HOLDING CAM LEVER" to POSITION II.
 2. Set "PATTERN SELECTOR BUTTON" to "TUCK" (right). See Code No. 5.
 3. Push PATTERN KEYS No. 1 and 3.
 4. Swivel "SET-LEVER" to SET.
 5. Knit one row from left to right.
- Step 2.
1. Knit one row from right to left.
- Repeat Step 1 (4&5) and Step 2, then you can make the "PURL LIKE STITCH" as shown in Fig. 115A.

VI



STEPS	CARRIAGE DIRECTION	TENSION DIAL	YARN	H. C. L. (Left)	TUCK (L, R)	H. C. L. (Right)	PATTERN SELECTOR BUTTONS
4	←	5					
3	→	5					
2	←	8					
1	→	8					

Fig. 116 B

- Preparation
1. Set "TENSION DIAL" to No. 8.
 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.
- Step 1.
1. Set "TENSION DIAL" to No. 8.
 2. HOLDING CAM LEVERS POSITION is always placed at POSITION I.
 3. Set "PATTERN SELECTOR BUTTONS" to "PART" (See Code No. 3.)
 4. Push PATTERN KEYS No. 1, 2 & 3.
 5. Swivel "SET-LEVER" to "SET".
 6. Knit one row from left to right.
- Step 2.
1. Swivel "SET-LEVER" to "SET".
 2. Knit one row from right to left.
 3. Swivel "SET-LEVER" to "OFF"
- Step 3.
1. Set "TENSION DIAL" to No. 5.
 2. Push "PATTERN KEYS No: 1, 2 & 4.
 3. Swivel "SET-LEVER" to "SET"
 4. Knit one row from left to right.
- Step 4.
1. Swivel "SET-LEVER" to "SET".
 2. Knit one row from right to left.
- Repeat step 1, 2, 3 & 4, then you can knit the pattern as shown in Fig. 116 A.

CABLES

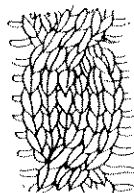


Fig. 117

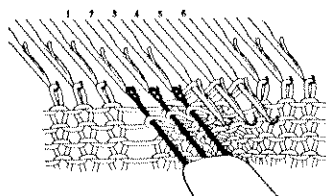


Fig. 118

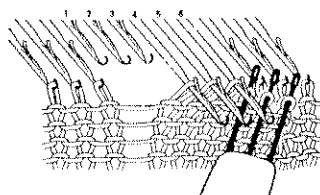


Fig. 119

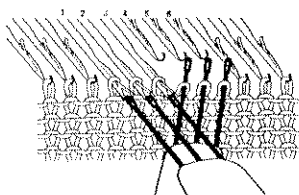


Fig. 120

A) Knit several rows in **PLAIN KNITTING** 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 hooks 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 hooks 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.

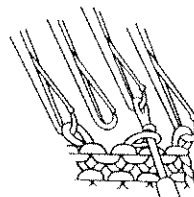


Fig. 121

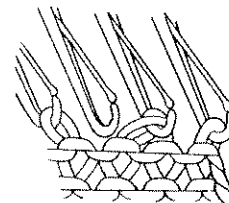


Fig. 122

LACE OR OPEN WORK PATTERN

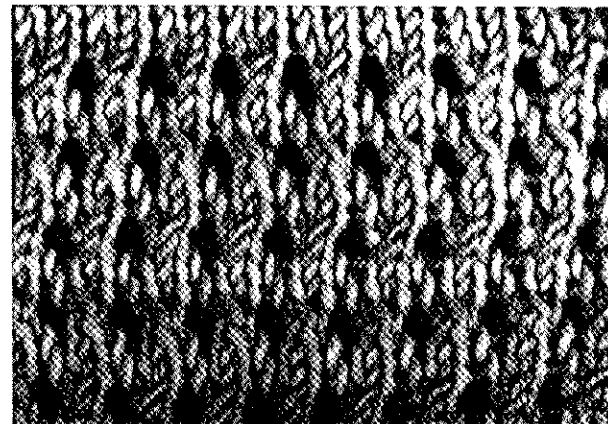


Fig. 124

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

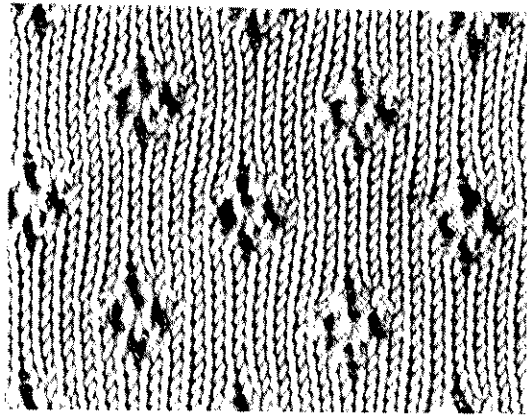


Fig. 123

1. Knit several rows in PLAIN KNITTING before transfer the stitches to make leaf cover.
2. With the single transfer tool, transfer every 10th stitch to needle adjacent to its right. Be sure that the empty needles are back in knitting position (B position).
3. Knit two rows.
4. From needles at left and right sides of first yarn over stitch, transfer yarn on left side to adjacent 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.

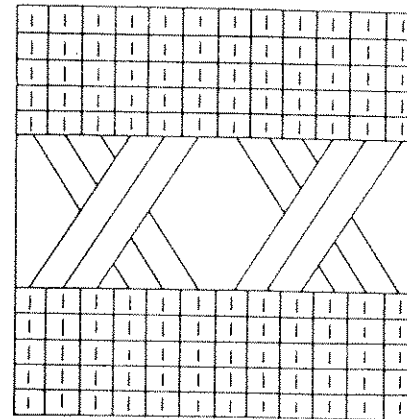


Fig. 125

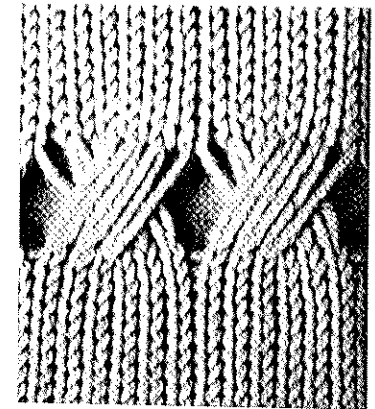


Fig. 126

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.

DIAMOND YARNOVER PATTERN

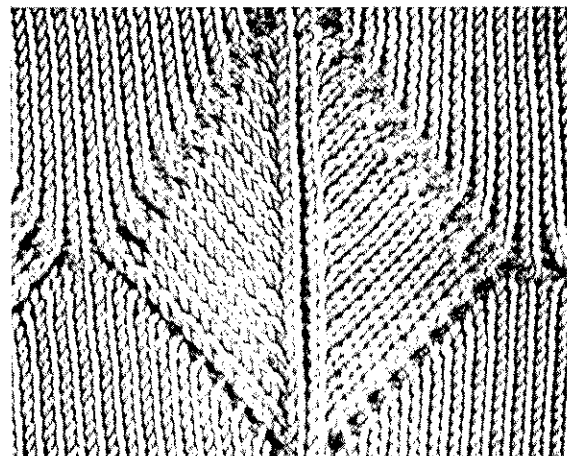


Fig. 127

20 stitches for design—10 on each side of center "O". Remember to put back empty needle to knitting position after each line of transfer.

Always knit two rows between each line of transfer.

Start each transfer row by moving stitch 2 to needle 1 then every other row 1 more stitch is shifted toward the central needle to form the vein.

	Right	Left	
Row 1	transfer stitches 2 to 1	2 to 1	Knit 2 rows even
Row 3	transfer stitches 3 to 2	3 to 2	Knit 2 rows even
Row 5	transfer stitches 4 to 3	4 to 3	Knit 2 rows even
Row 7	transfer stitches 5 to 4	5 to 4	Knit 2 rows even
Row 9	transfer stitches 6 to 5	6 to 5	Knit 2 rows even
Row 11	transfer stitches 7 to 6	7 to 6	Knit 2 rows even
Row 13	transfer stitches 8 to 7	8 to 7	Knit 2 rows even
Row 15	transfer stitches 9 to 8	9 to 8	Knit 2 rows even
Row 17	transfer stitches 10 to 9	10 to 9	Knit 2 rows even

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 1.

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 left 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

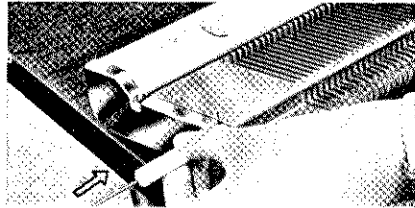


Fig. 128

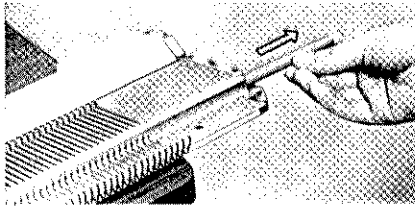


Fig. 129

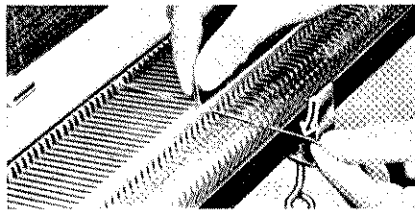


Fig. 130

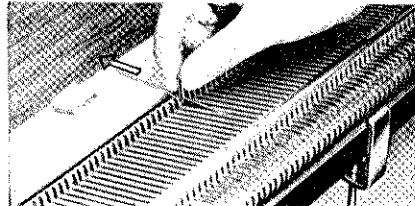


Fig. 131

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.

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.

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.

CLEANING AND OILING

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

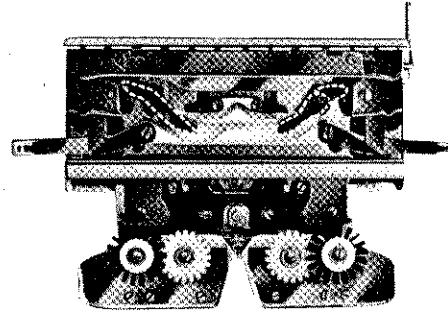


Fig. 132

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 fine 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 brush-wheels 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 fine 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 as this will transmit itself to the knitting.
- 5) Keep your knitter covered when not in use, and 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.