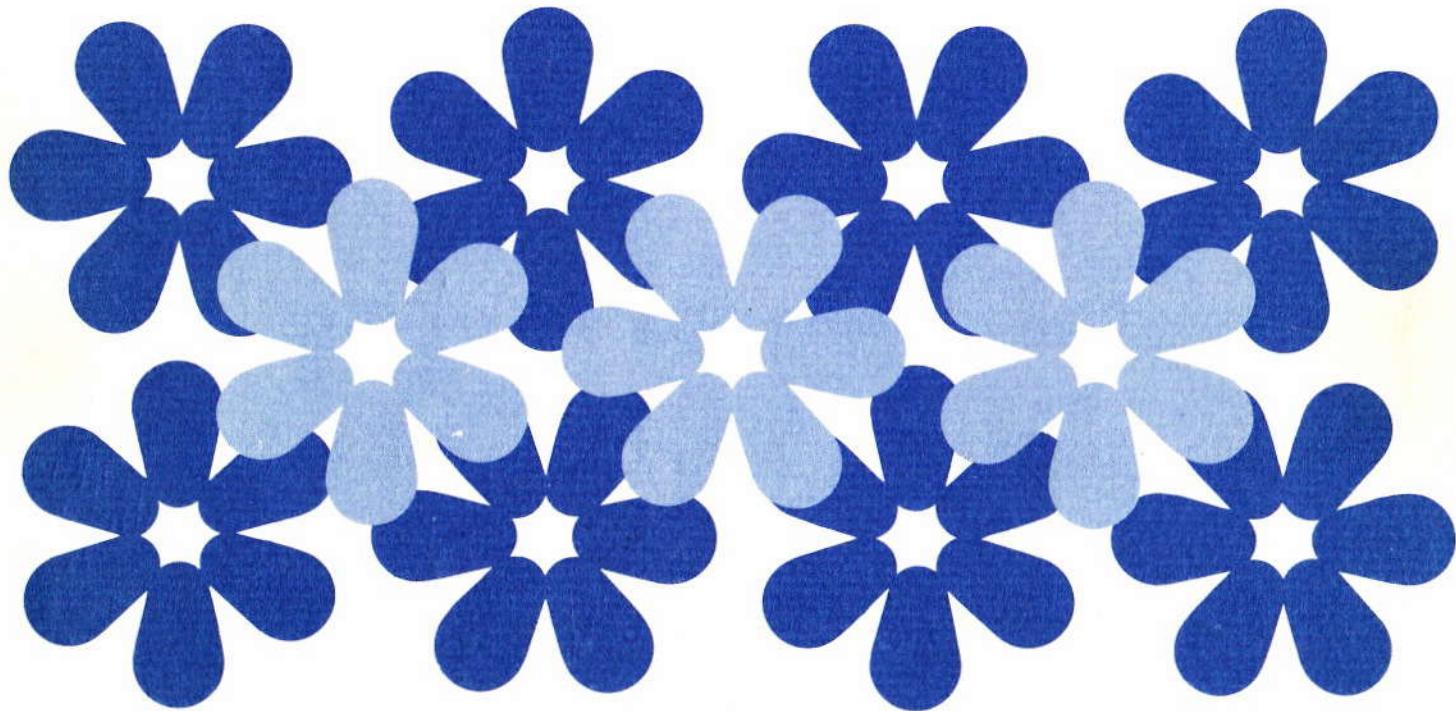




MITSUBISHI

KNITTING MACHINE

COLOR 7
MH-700



Introduction

MITSUBISHI KNITTING MACHINE MODEL MH-700 COLOR 7

We thank you for your purchasing our Mitsubishi Knitting Machine Model MH-700 "Color 7" and welcome to the happy and satisfied circle of Mitsubishi Knitter owners throughout the world.

As the new Model MH-700 "Color 7" has many advanced and easily operative faculties in that construction, we hope you will have a good command of these faculties and enjoy your knitting works.

Please read carefully this instruction manual before you operate the machine and master the effective functions.

One Touch for Knitting Start

One Touch for Needle Selection and Pattern Knitting

One Touch for Yarn Changing

Without using any weight or Casting-on Comb.

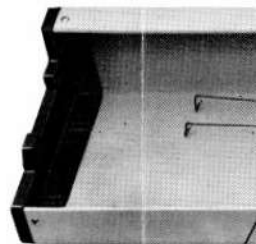
The knitting result is excellent and most reputable.



Special Features and Effective Functions

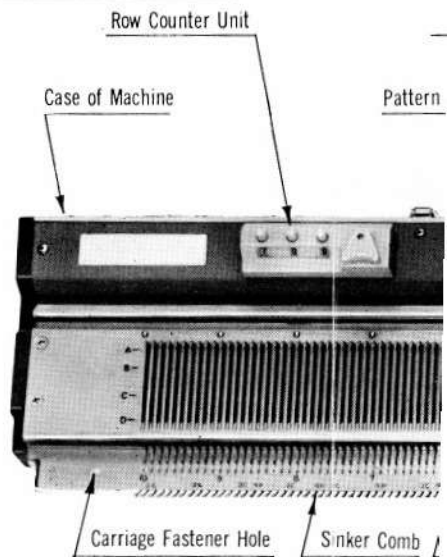
- Uniqueness:** Knitting Dial, 2 Switchable Feeder Buttons, Repeatable Needle Setting.
- Type of machine:** Moving Needle Full Automatic Flat Type Home Use Hand Knitting Machine
- Needles:** 200 needles in the needle bed, pitch is 4.5 m/m.
- Quality:** Needle Bed.....Extra Hard Frosted Stainless Steel Plate
Carrying Case.....Vinitop Coated Metal
- Needle Selection:** Push Button System, 8 Push Buttons enable to select the needles in 26 combinations.
- Carriage:** Auto-selecting Carriage. 2 Switchable Yarn Feeders equipped.
- Row Counter:** Attachable at two positions, reading number up to 999.
- Adaptable Yarns:** All kinds of knitting yarn in that Fine size to Coarse size, Cotton Lace Yarn is also adaptable.
- Pattern Cards:** 24 sheets of Pattern Card provided, performance of 94 patterns are explained by respective Operation Diagram.
- Threader:** A tool, Threader, is equipped for Thread Knitting.

Cover of Case



Cover of Case

Body of Machine



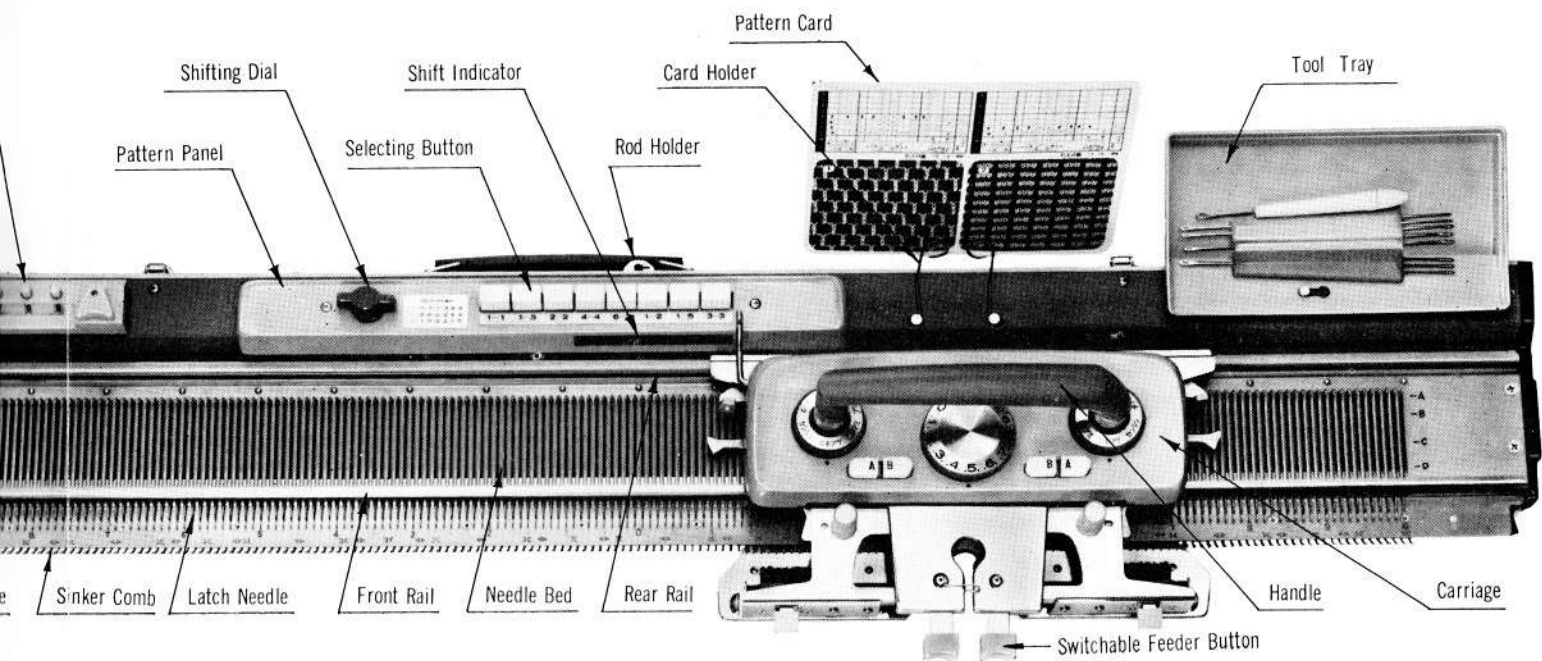
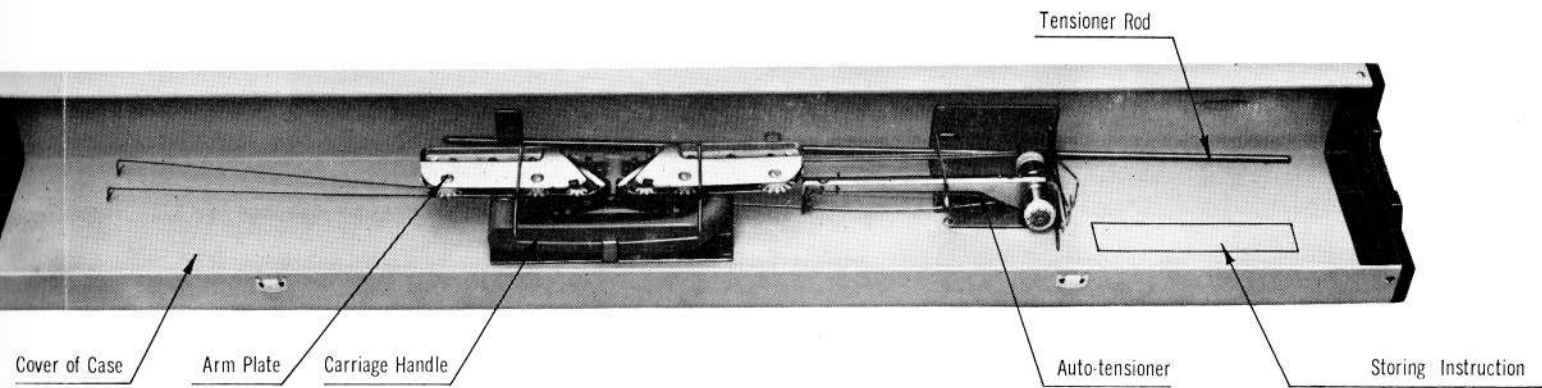
Row Counter Unit

Case of Machine

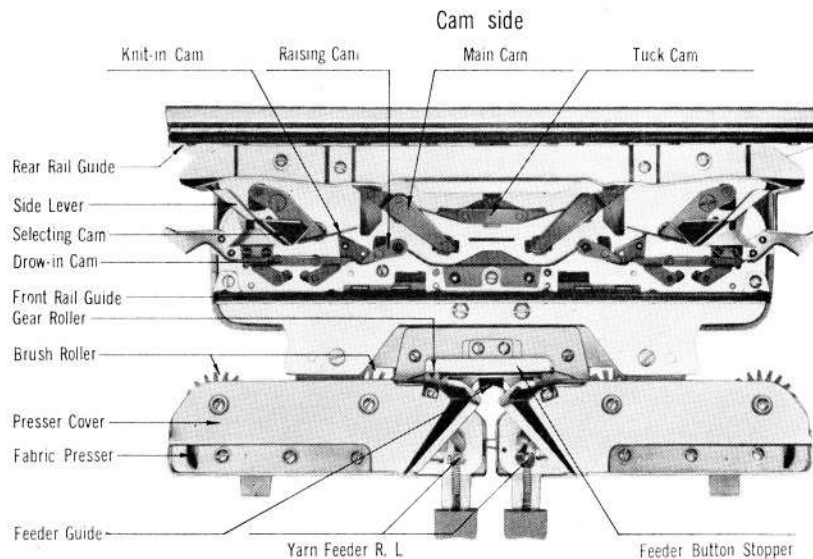
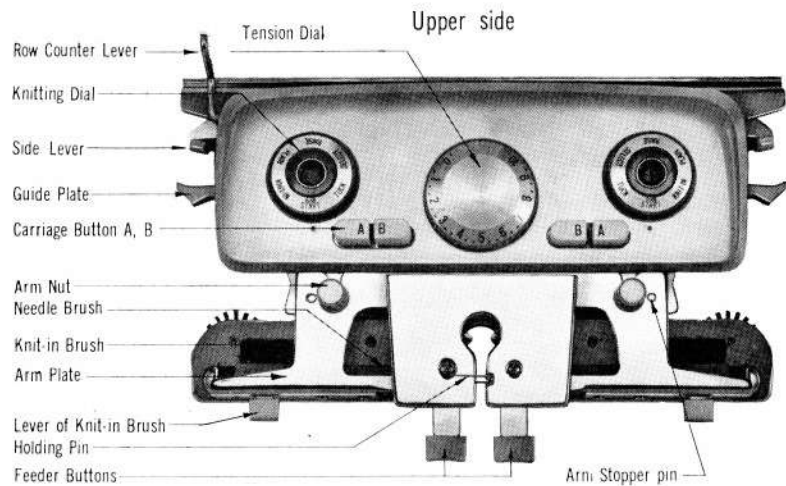
Pattern

Carriage Fastener Hole

Sinker Comb



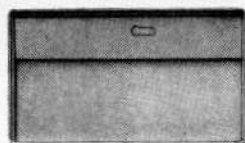
Carriage



Accessories



1. Tool Box



2. Cover of Tool Box
(used as Tool Tray)



3. Threader



4. Row Counter Unit



5. Clamps



6. Carriage
Fastener



7. Tappet



8. Transfer Needle
2-3 type



9. Transfer Needle
1-3 Type



10. Transfer Needle
1-2 type



11. Crochet Needle

12. Tapestry Needle



13. Latch Needles, spare



14. Raveling Cord



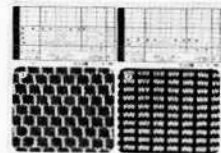
15. Hand Brush



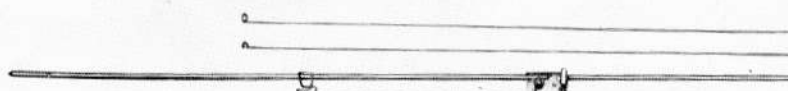
16. Oiler



17. Card Holder



18. Pattern Cards



19. Tensioner Rod



20. Auto-tensioner Unit

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Varied Knitting Procedures

Practices of Design Knitting, Color Knitting, Applications of Plain Knitting

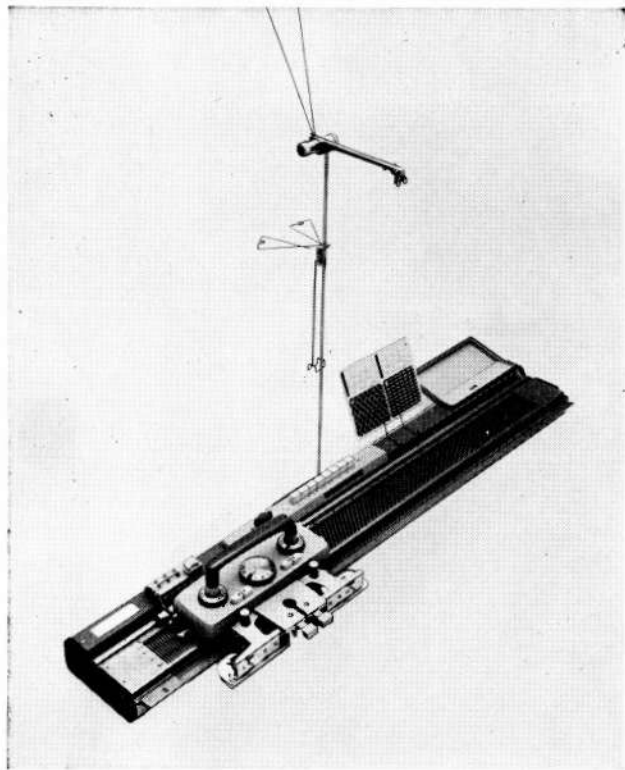
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For Your Better Patronizing

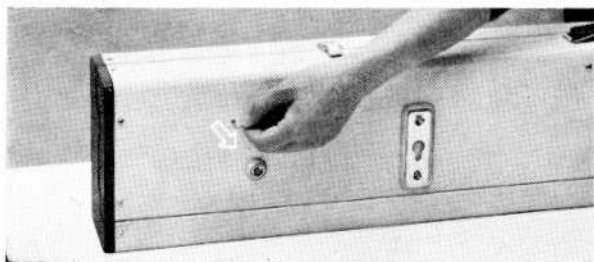
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1. Setting up the machine



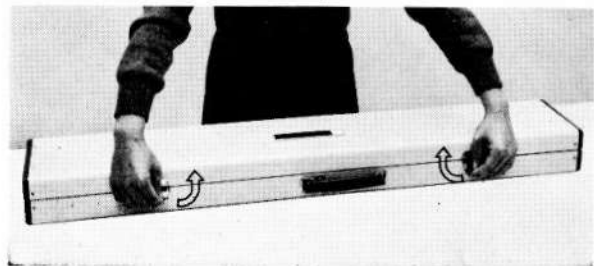
1. Pull out the safety pin:—

When you obtained the machine, at first pull out the Safety Pin which is fastened on the back of the carrying case. The pin is used for the purpose to secure the Pattern Panel of the machine while the machine is in transportation. (As the pin is specified with a small tag, meddling with the Shift Dial of the Pattern Panel, pull out the pin. The pin is not used for knitting operation nor for re-storing of the machine.)

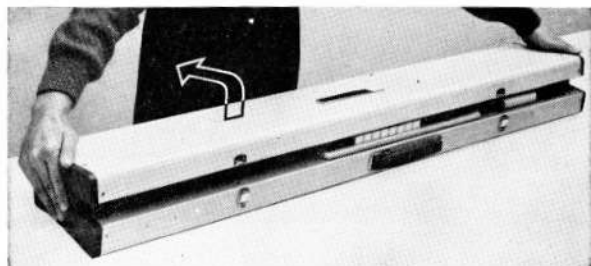


2. Remove the Cover of the Case:—

① Put the machine on a table, placing the carrying grip and the latches to the opposite side of you. And unlatch the two latch locks.

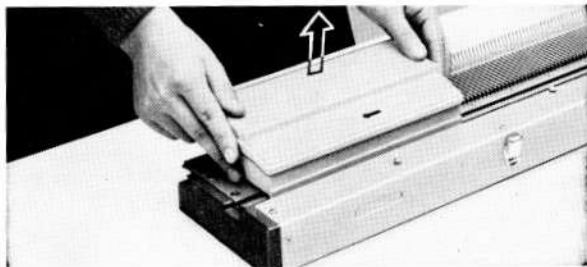


- ② Holding both sides of the cover, lift the back side and pull the cover toward you. The cover will be removed.



3. Remove the Tool Box:—

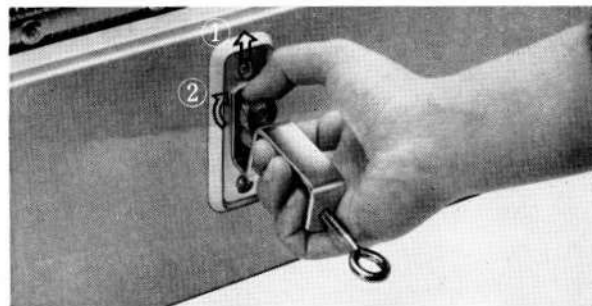
Remove the Tool Box by lifting it up. The box is fastened on the needle bed only by means of its several cuts opened at the bottom of the box. The box is secured by the butts of the needles.



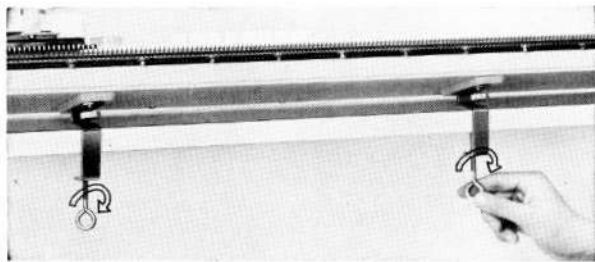
4. Set the machine on a table:—

Although the machine can be operated on a flat table without fixing to the table, if you want to fasten tightly the machine to a table, you can fix the machine with two clamps provided in the Tool Box.

- ① Loosen the head screw of the clamp and put the head of the screw into the hole opened within the rubber frame on the bottom of the case.

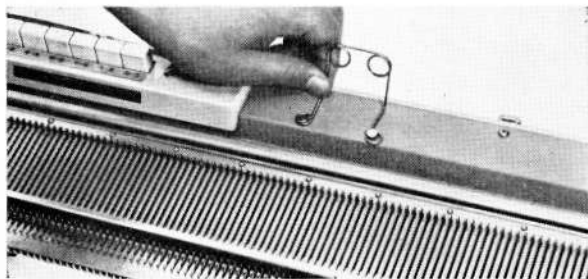


- ② Fasten the head screw and attach the clamps to the table.



5. Put the Card Holder:—

Taking up the Card Holder from the Tool Box, put it up on either holder pins which are located on the both sides of the case.



6. Put the Tool Tray:—

As the cover plate of the Tool Box is used as Tool Tray, put the Tool Tray on a pin which is protruded on the right side of the case.

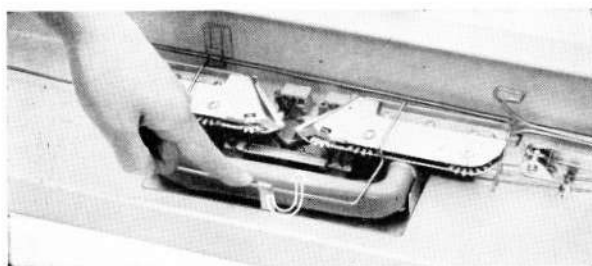


7. Setting up the Carriage:—

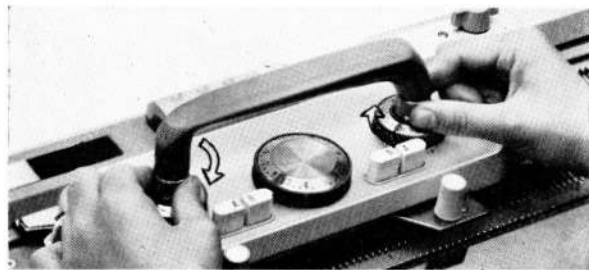
- ① As the carriage is fastened by a carriage fastener on the left side of the needle bed, loosen the left Arm Nut and remove the Carriage Fastener. The carriage fastener must be kept in the Tool Box for the fastener is used when the machine is stored away.



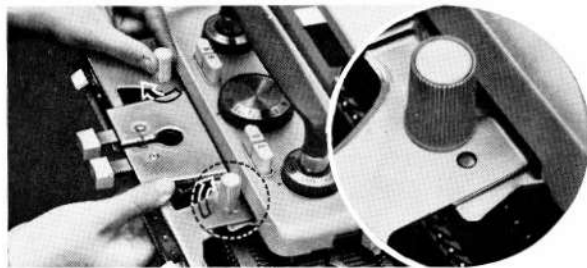
- ② Take out the Carriage Handle which is fastened by the retaining wire in the cover of the case.



- ③ Put up the Carriage Handle on the handle holes of the carriage, turning the two fastening screws of the handle at the same time.

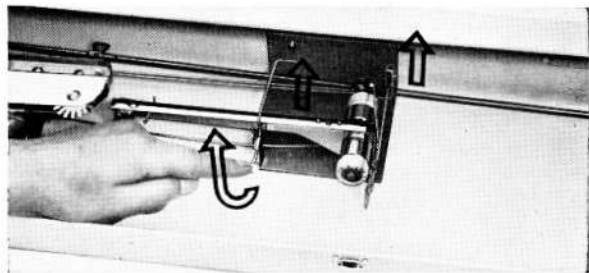


- ④ Put the Arm Plate at the front of the carriage. It is necessary to fit the plate correctly. Loosen the two Arm Nuts and insert the arm plate beneath the nuts as far as it stops and the Stopper Pins should be positioned in the small holes of the Arm Plate, then refasten the Arm Nuts.

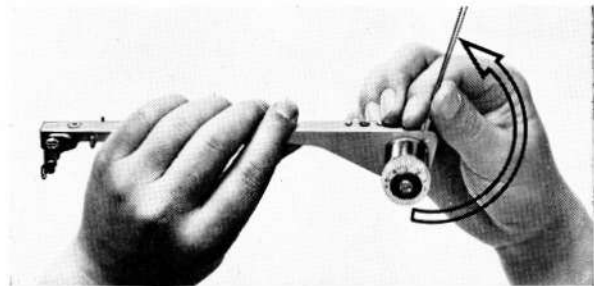


8. Put up the Tensioner Rod and Auto-tension Unit:—

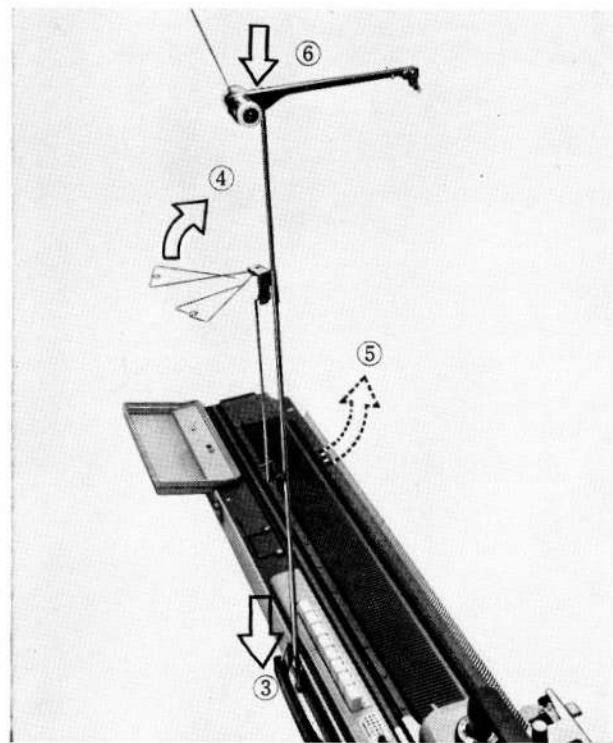
- ① Take out the Tensioner Rod and Auto-tension Unit from the cover of the case.



- ② Holding the Auto-tension Unit with your both hands, turn the Tension Spring anticlockwise as far as it stops.



- ③ Put up the Tensioner Rod on the Rod Holder which is located on the back of the case.
- ④ Open the two Yarn Guides to right and left-wards respectively. (The Yarn Guides must be positioned backway).
- ⑤ The long Auxiliary Yarn Guide is placed downwards.

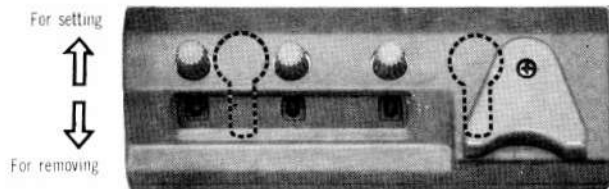


- ⑥ Put the Tension Unit on the top of the Tensioner Rod in a position that the two Tension Springs are standing upright and the Tension Keeper's Arm stretches toward you.

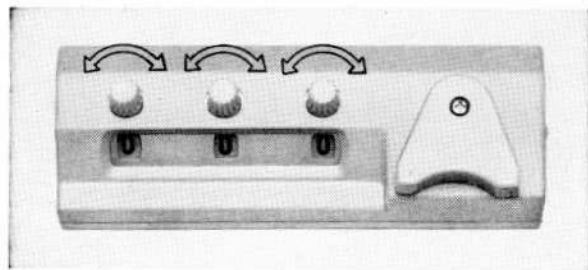
Note: When set up the Rod and Auto-tensioner Unit, the ribs projected on the both ends of the rod must be inserted into respective slits of the Rod Holder and Auto-tensioner Unit. The Auxiliary Yarn Guide which is running down from the fixing point of the Yarn Guide is used on an occasion of Knit-in Knitting using two yarns. Explanation how to set it will be shown in a later chapter.

9. Row Counter Unit:—

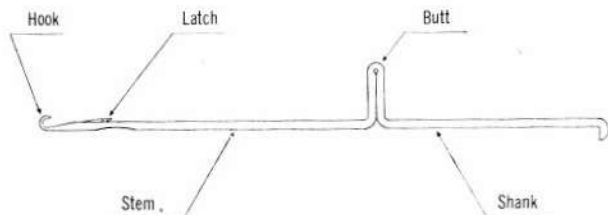
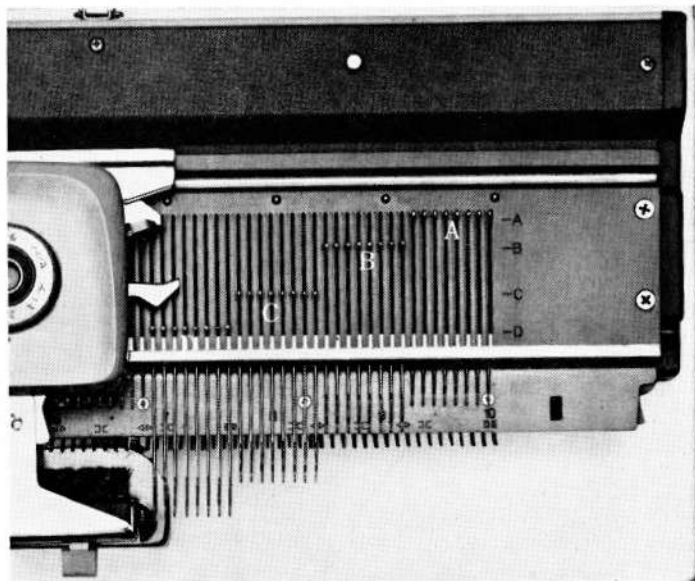
By shutting the carriage, the Row Counter Lever of the carriage hits the flap of the Counter and proceed the number one by one up to 999, then returns to zero. The Row Counter Unit can be removable and attachable on the other side of the machine.



Each number in the window is adjustable by turning respective knobs.



2. Functions of the parts of the machine



1. Positions of the needle on the Needle Bed

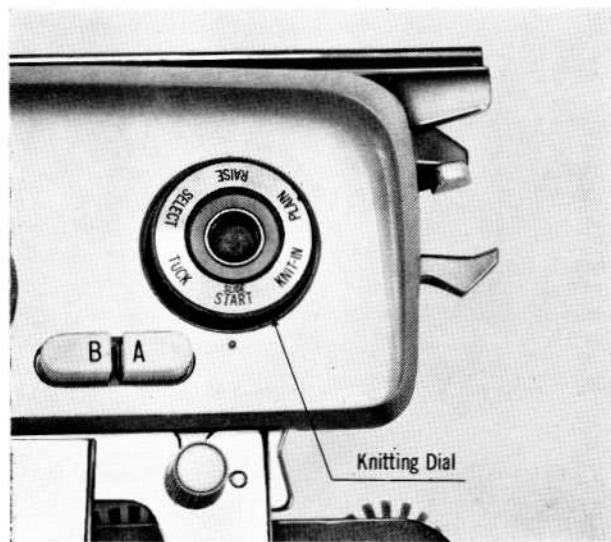
The Latch Needles (knitting needles) take four basic positions, A, B, C and D. These positions are indicated by the marks, A, B, C and D engraved on the both ends of the needle bed.

- A position..... Inoperative or storing position
- B position..... The needles are normally aligned on this position when operated.
- C position..... The needles are set at this position for pattern knitting and some partial knitting.
- D position..... Holding position, generally this position is used for partial knitting. In connection with the position of the cam, the needles on this position are rested, and only given the yarn on the stems of them. This position is used also for raising knitting.

2. Carriage

1. Knitting Dial:—

One of the typical advantages of this machine is the Knitting Dial system. In compliance with your desired pattern knitting, set the marks of the Knitting Dials at the red point on the carriage. Thus the Cams of the carriage are set for the specified knitting, and by operation of the carriage the needles are driven taking required positions for the design knitting.

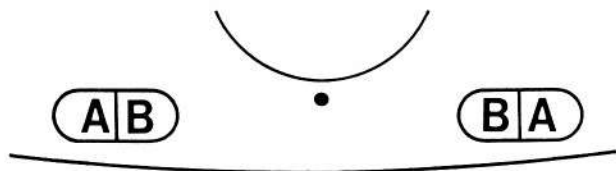


Marks of the Knitting Dial

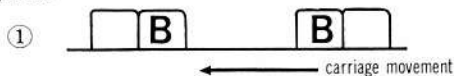
- START & SLIDE..... This position is taken for start of knitting and for Slide Knitting.
- KNIT-IN This position is taken for Knit-in Knitting.
- PLAIN This position is taken for Plain Knitting (Stockinet Knitting)
- RAISE..... This Position is taken for Raising Knitting.
- SELECT On this position, the needles are pushed up and placed in the Holding Position. The Holding Needles are used for Thead Knitting, or they are available to do hole knitting. If the Side Lever are placed on the P mark and the carriage is operated in the SELECT, the carriage is able to move right and left without knitting.
- TUCK.....This position is used for Tuck Knitting.

Note: Do not turn the Dial on a middle way of the Carriage movement.

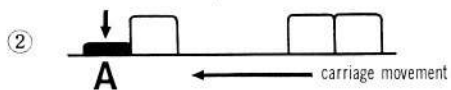
2. Push Button A & B on the carriage:—



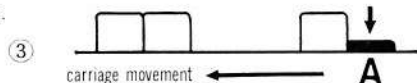
The Carriage Button A & B are used as follows in connection with the movement of carriage. Referring to the figures:



- ① Generally the Buttons are used in the raised position. The needles in the position B & C are operated, but the needles in the D position do not work.



- ② When the left side Button A is pushed down and the carriage is operated leftward, the needles in the D position are operated and return to the B position.

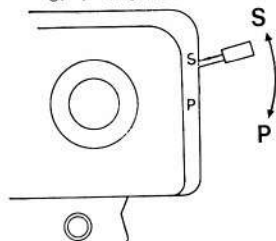


- ③ When the right Button A is pushed down and the carriage is moved leftward, the D position needles return to the C position without knitting. This technique is used for Continuous Rasing Knitting.

Note: The Button B is used only for releasing the setting of the Button A. By pushing the Button B, the depressed Button A is returned.

3. Side Lever:—

The Side Levers which are located at the both sides of the carriage are used to guide the running butt of needles. The Lever can be placed at two positions S or P marked at the side of the carriage.

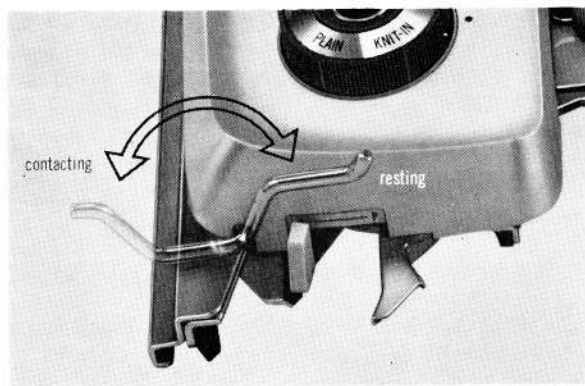


S..... When you do some needle selection, the lever must be placed on the S mark.

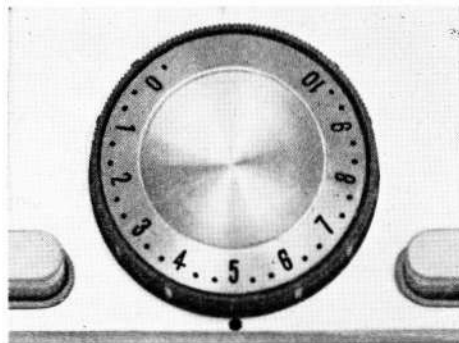
P..... On a plain knitting (Stack-inet Knitting), the Lever should be placed on the P mark.

4. Row Counter Lever:—

The Lever located at the left side of the carriage is the Row Counter Lever. Turn the lever backward as far as it stops, then the lever is ready for contacting with the flap of the Row Counter by each operation of the carriage and proceeds the numbers of the Row Counter. When you need not proceed the counting number, turn the lever toward you and operate the carriage.



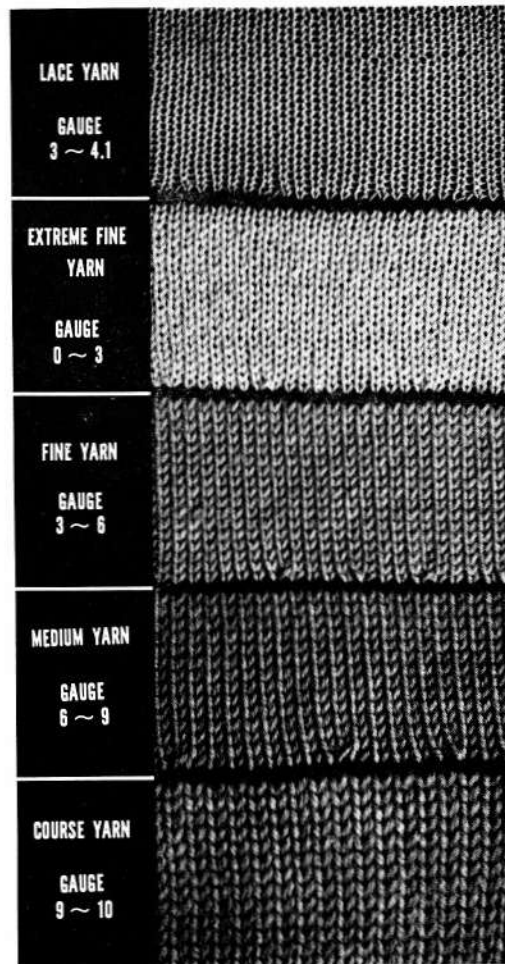
5. Tension Dial: —



The Tension Dial located at the center of the carriage controls the gauge of the stitches. By application of the larger number of the Dial, looser stitch is obtained and the smaller numbers are for denser stitches. Depending on the size of the knitting yarn, the dial number is to be adjusted as illustrations.

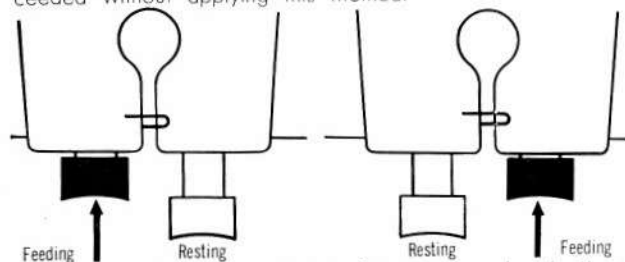
Note: —

- ① Although a cotton lace yarn is very fine, comparably larger number is applied as it has poor elasticity.
- ② When a bulky yarn is used, every other needle should be used.



6. Switchable Yarn Feeder Buttons:—

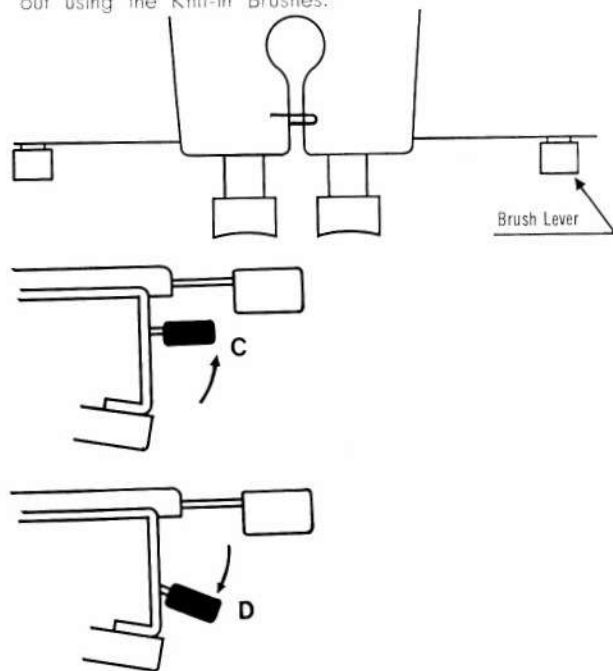
The Switchable Yarn Feeder Buttons are devised on the Arm Plate of the carriage. On a color knitting thread two yarns beforehand in each Feeder. By pushing the Feeder Buttons, the yarns are replaced alternately on the feeding position. As you need not change yarns by your hands, color knitting is proceeded very easily and speedily. However, the Knit-in Knitting explained in page 34 and the Plating Knitting (page 42) are proceeded without applying this method.



- Note: ① Push a Feeder Button as far as it stops, then the Yarn Feeder is placed at the feeding position and the other Feeder returns to the resting position.
- ② Do not push the two Feeder Buttons at the same time.
- ③ Switching of the two yarns should be done after even number operations of the carriage counting from the previous switching. That means that the switching should be always done when the carriage is on the same side where the previous switching is done. If the switching is done when the carriage is on the other side of needle bed, tangling of the yarns will be caused.
- ④ The Feeder Button can not be switched on a middle way of a knitting row, because the Feeders will strike against the needles that are driven out by the carriage.
- ⑤ If the both yarn feeders are required to be on their resting position, push a resting button slightly.

7. Knit-in Brushes and the Brush Levers:—

The Knit-in Brushes are used for only Knit-in Knittings. By pushing the Brush Levers which are located on the Arm Plate, the brushes are taken into two positions. When you use the Brushes, push up the Levers into C mark of the arm plate, the brushes come down into the working position. When the levers are on D mark, the brushes are raised on the nonworking position. Most knittings, excepting knit-in knitting, are done without using the Knit-in Brushes.



3. Pattern Panel

The Pattern Panel has many interesting & useful functions and it is used for color knitting as well as mono-color design knitting.

The Pattern Panel is consisted of the following devices:—

Shift Dial.....

By turning the Shift Dial, the Pattern Panel is shifted and the position of the selecting needles are shifted to the right or left.

Selecting Buttons.....

To push a Selecting Button, the working needles are set in the body of machine for selection in the combination specified below the button such as 1-1, 1-3, etc.

Combination Figures.....

Specify the combinations of the needles to be selected by pushing the corresponding Selecting Button.

Extra Combination Figures ...

Specify extra combinations obtainable by pushing two Selecting Buttons.

Selection Mark

◀▶ or □□ marks, correspond to the same marks denoted on the Sinkers Plate which indicate the original points of the selected needles.

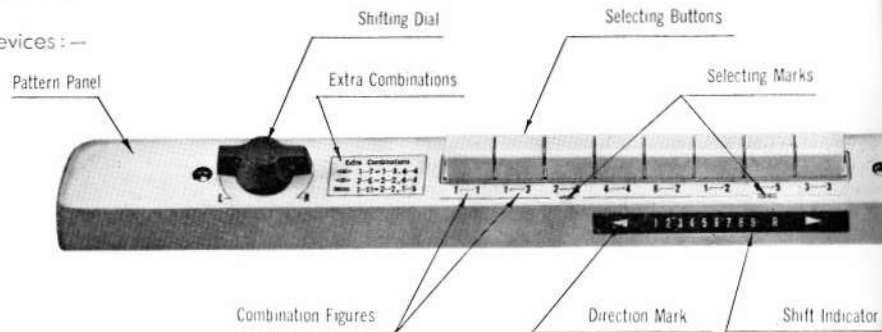
Shift Indicator

The figures in the Shift Indicator shows the shifting degree of the selected needles.

Direction mark.....

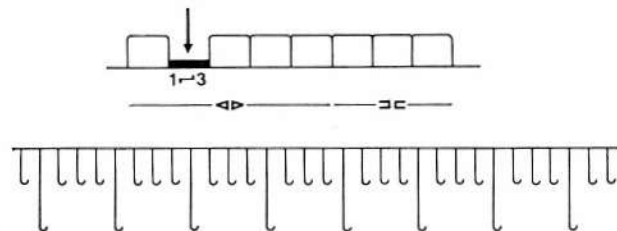
The Direction Mark shows the shifting direction of the selected needles.

- ◀ means shifting to the leftward
- ▶ means shifting to the rightward



1. Selecting Buttons:—

Depress a Selecting Button as far as it stops and set the Side Lever of the carriage on S mark, then operate the carriage. The needles are selected in the combination as specified below the pushed Button. For instance, 1-3 combination of the needles is obtained by depressing the Selecting Button of the same Combination Figures. Release of the setting of the button is done by pushing slightly any other Selecting Button.

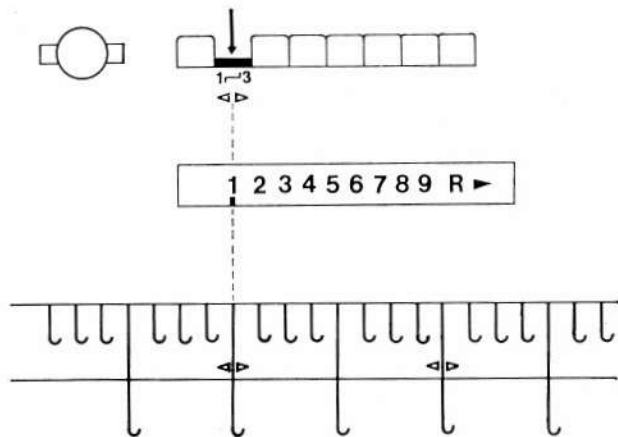


2. Relation between the Shift Indicator and the Selecting Marks:—

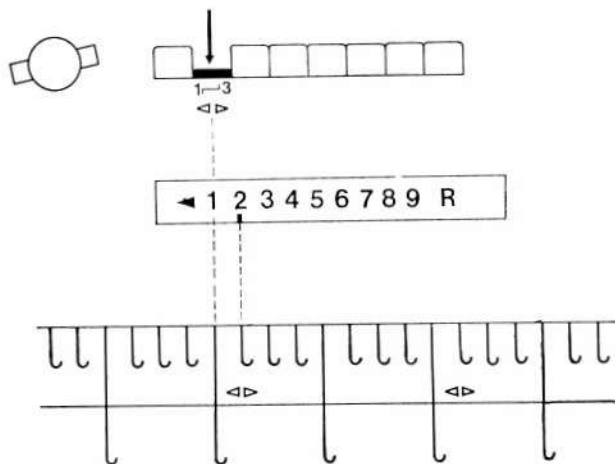
By means of turning of the Shift Dial, you can shift the position of the selected needles in that same combination. The numbers of the Shift Indicator are available to count the numbers of shifted pitch. The Direction Mark, the red cuneiform appeared on a side of the Shifting Indicator's plate, shows the direction to which the position of the selected needles are shifted.

Example 1, Selection 1-3:—

① When the Shift Indicator is appointing at the No.1 and the Selecting Button 1-3 is depressed, the selected needles are driven out to the mark <D> of the sinker plate with the movement of the carriage as shown below.

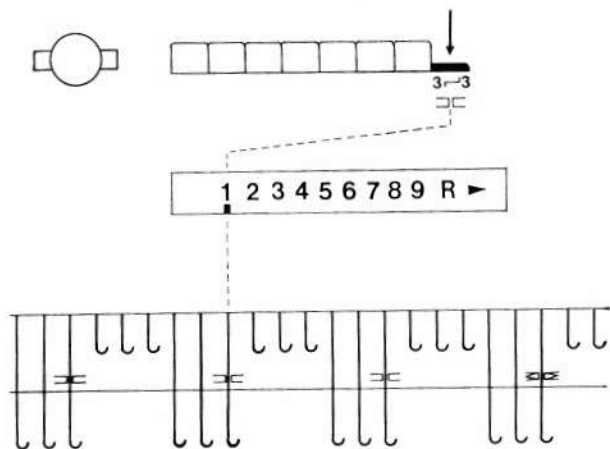


② When the Shift Dial is turned anticlockwise one pitch and the Shift Indicator is appointing at the No.2, the left Direction Mark turns red. This means that the selecting position is moved one pitch leftward. Thus you can shift the position of the selected needle without changing their combination.



Example 2, Selection 3-3:-

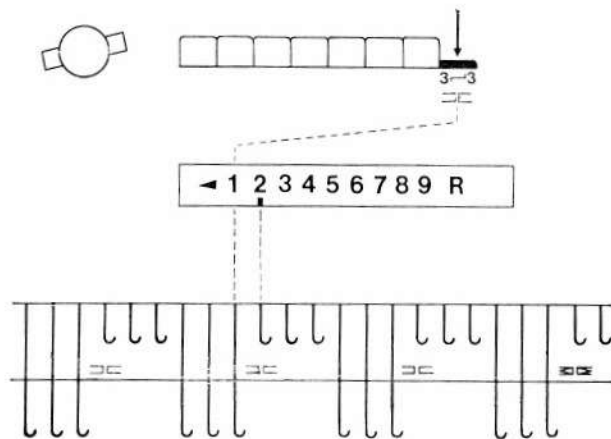
① When the Shift Indicator is appointing at the No.1 and the Push Button 3-3 is depressed the first needles of the 3 selected needles is driven out to the mark $\sqsubset\sqsubset$ with the movement of the carriage as shown below.



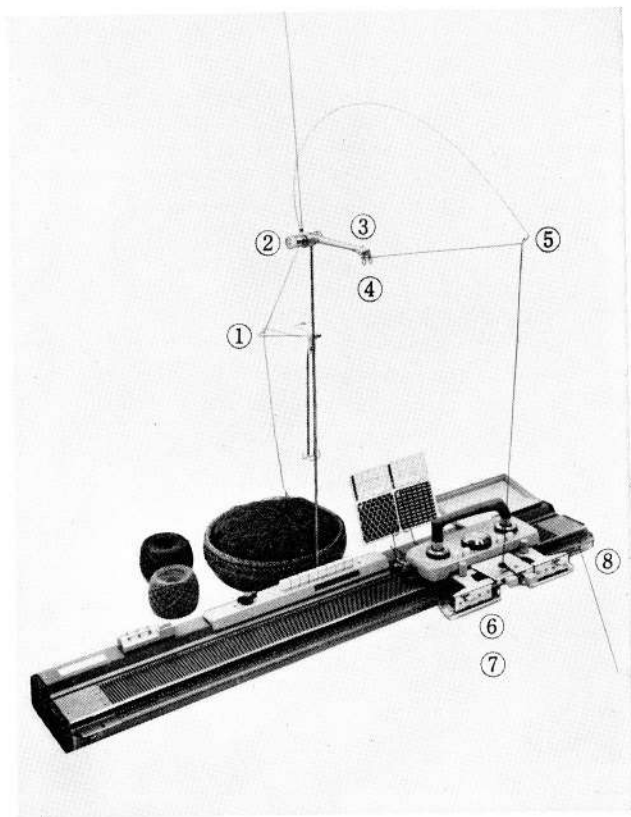
② When the Shift Dial is turned anticlockwise one pitch and the Shift Indicator is appointing at the No. 2, the first needle of the 3 selected needles are shifted one pitch leftward as shown below.

Note:-

The mark $\boxtimes\boxtimes$ shown on the Sinker Plate is a doubled marks of \triangleleft and $\sqsubset\sqsubset$, and is not a third mark.



3. Start of knitting



1. Threading with the machine

1. Preparing of Yarn:—

A skein of yarn should be untied loosely into a box or wound up into a ball. (The yarn should be fed to the machine smoothly, so undoing of yarn ball must be done from the center of the ball. A rolling ball when undoing is unavailable for smooth feeding.)

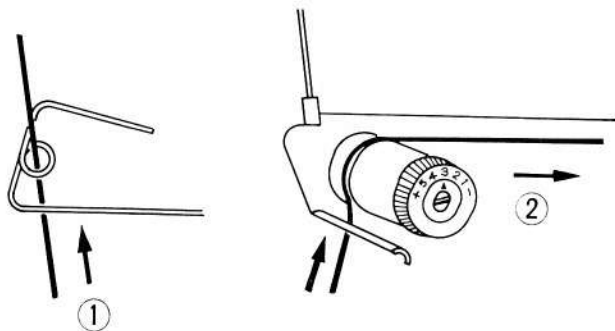
2. How to thread yarn on the Auto-tensioner:—

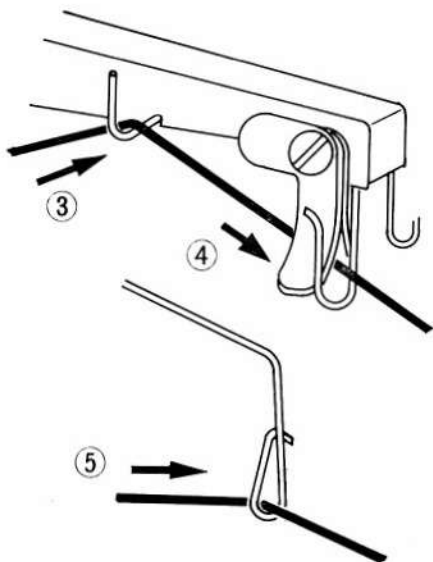
Referring to the illustrations and the threading order 1—5 shown in the following figures, thread the knitting yarn through the Auto-tensioner and lead it to the Yarn Feeder and the Yarn Holder.

As the Auto-tensioner is provided with two Tension Springs for threading two yarns for color knitting, a main yarn should be threaded on the left side Yarn Guide and left Tension Spring, and a contrasting yarn is to be threaded on the right side Yarn Guide and spring.

① Firstly lead the yarn into the Yarn Guide.

② Lead the yarn between the protruding bar and wheel of the Tension Unit.



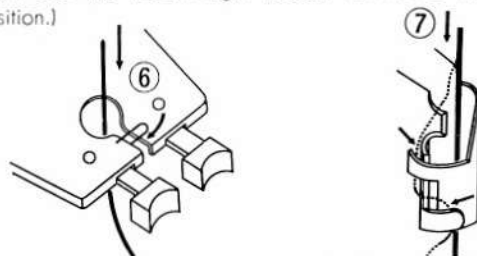


- 3 Lead the yarn onto the hooked wire which is protuded from a side of the Tension Keeper Arm.
- 4 Thread the yarn through the gate way of the Tension Keeper Arm.
- 5 Pull down the Tension Spring toward you and thread the yarn into the top ring of the Tension Spring.
Pull down the Tension Spring toward you and thread the yarn into the top ring of the Tension Spring.

Note: Regarding the number denoted on the Tension wheel usually the No.3 is used but if the tensioning is too loose turn it to a bigger number in order to give more pressure to the yarn.

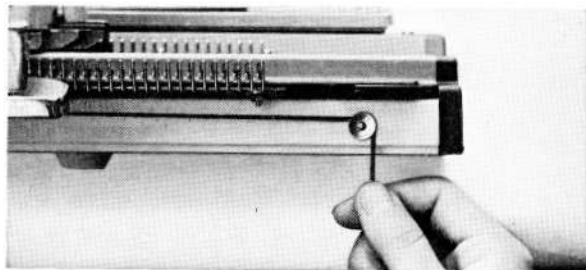
3. Putting the yarn through the Yarn Feeder:—

Firstly push-in the right side Switchable Feeder Button so that the left side Feeder comes out to the free position. Referring the figures 6 and 7, thread the yarn into the Guide Hole opened on the Arm Plate and put the yarn into the left side Yarn Feeder. (Before you operate the carriage to knit, push-in the left Feeder Button. Then the left Feeder is placed on the feeding position and the vacant right Feeder returns to the resting position.)



4. Stop the End of the Yarn on the Yarn Holder:—

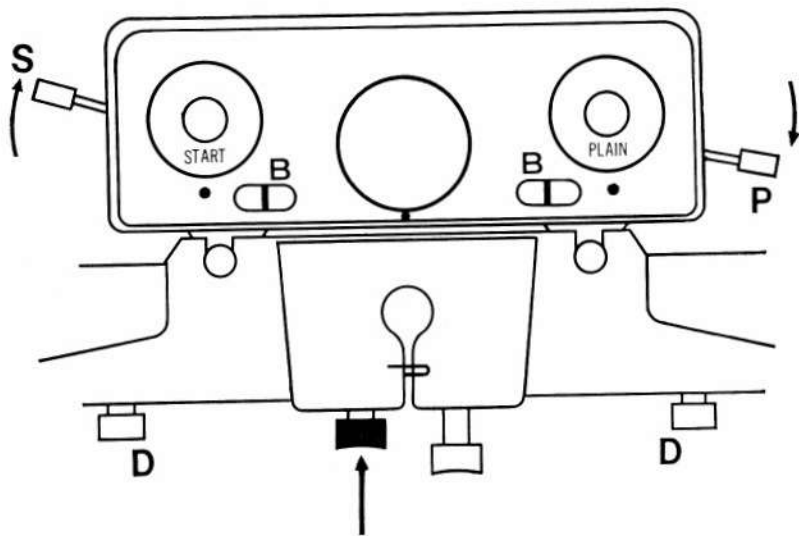
Lead the yarn to the right side Yarn Holder as shown in the photo. After you have knitted 4-5 rows, release the yarn from the Yarn Holder. If the yarn is kept by the Yarn Holder throughout your knitting, the knitted fabric would be obliquely hung down from the machine and smooth knitting would be hindered.



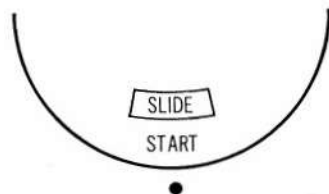
2. Setting the Carriage and the Pattern Panel

1. Carriage: —

- ① Place the carriage at the right hand side on the Needle Bed.
- ② Place the left Side Lever on S mark. (The right Side Lever is on P mark.)
- ③ Push-in the left Feeder Button, which the knitting yarn is threaded through, to take feeding position.



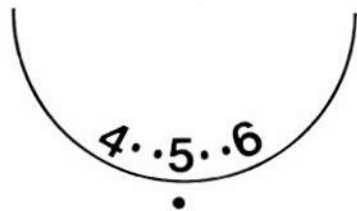
- ④ Set the left Knitting Dial at "START" (The right Knitting Dial is set at "Plain".)



- ⑤ Set the Tension Dial at the number 5 for 2 ply wool that is preferably used for knitting start.

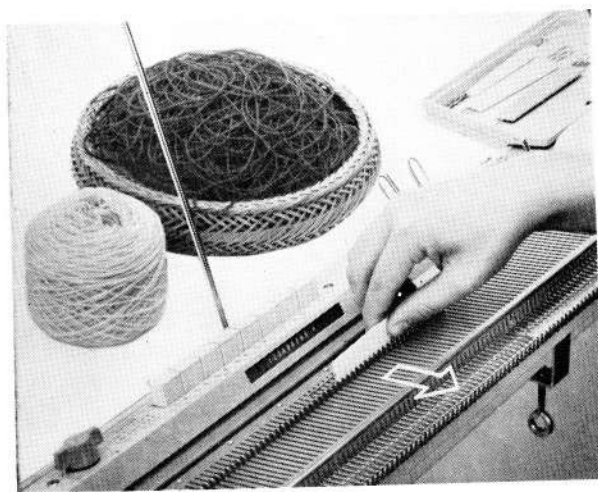
Note:

You can start placing the carriage on the left side of the needle bed, if you like. In that case, set the right Side Lever on S mark and left Side Lever on P mark, and right Knitting Dial at "START" and left Knitting Dial at "PLAIN"



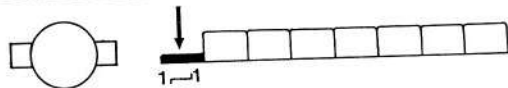
2. Knitting Needles:—

Push-up required number of the needles into the B position on the Needle Bed.



3. Pattern Panel:—

Turning the Shift Dial clockwise, set the Shift Indicator at the No.1. Then depress the Selecting Button 1-1.



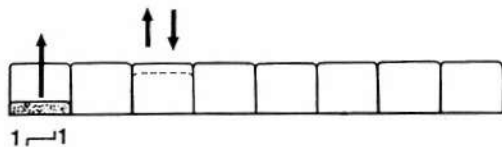
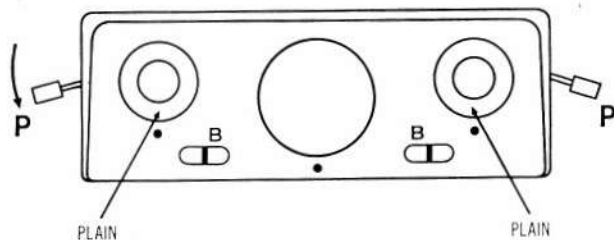
3. Knitting Start, Casting on.

- ① Move the carriage, which has been set as mentioned previously, from right to left slowly. The yarn runs in zig-zag on every other needle.
- ② Before you return the carriage to the right side, set the left Knitting Dial at Plain; and left Side Lever at the P mark. Thus the both Knitting Dials and the both Side Levers are symmetrically set.
- ③ Release the setting of the Selecting Button I—I. (Pushing slightly some other button, the depressed button will return to its free position.)
- ④ Operate the carriage from left to right. Thus the yarn is casted-on to all the knitting needles.

- ⑤ Shuttle the carriage continuously without changing the setting of the Levers and Dials. Thus the plain knitting (stockinet knitting) is produced.

Note:—

- * For the beginning two or three rows, operate the carriage slowly and carefully. The carriage must be moved to each side as far as it perfectly clears the knitting needles. When the carriage clears the last needle, you will hear a sound of click, then you may return the carriage.



4. Waste Knitting

For making real products such as Sweater, Cardigan, Pullover, etc. usually 5-6 rows of waste part is made with a waste yarn before you use the yarn for the product.

- ① Using a waste yarn start and knit 5-6 rows.
- ② Change the yarn into the Raveling Cord and knit only one row.
- ③ Change the Raveling Cord into the knitting yarn for the product.
- ④ Adjust the Tension Dial according to the size of the knitting yarn.
- ⑤ Adjust the Row Counter's number to zero. And proceed the knitting.

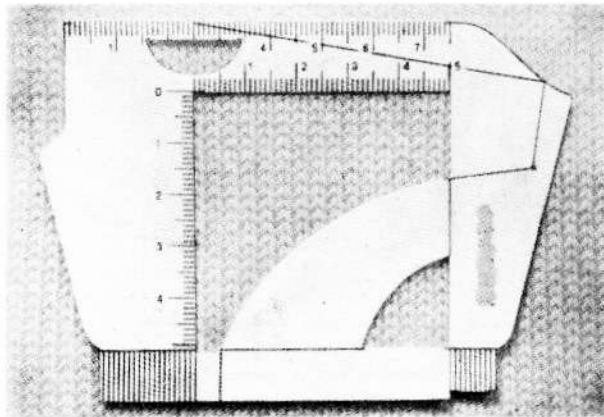
Note:

When you have finished the works of knitting, pull out the Raveling Cord. The waste part will be removed from the original part, and there will appear fine and clear end stitches that are available to treat for binding off or seaming with another knitted piece.

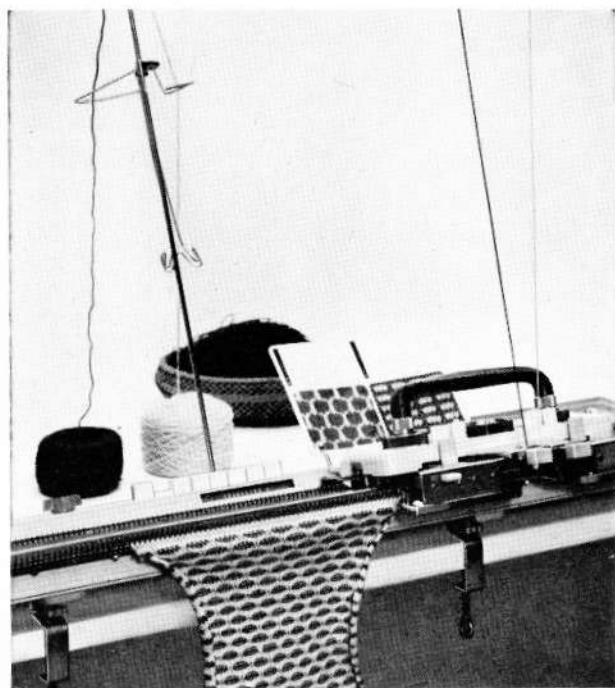
5. Testing the Gauge of fabric: —

Before you commence the knitting of a real product, always do test pieces of different number of the Tension Dial in order to determine a gauge. One test piece should be made of about 80 rows with 60 needles because a small piece is no use to test gauge correctly. Stretch a chosen test piece on a flat table, and count the number of the stitches and rows per 10 centimeters or 4 inches. Applying the gauge, figure out the numbers of rows and stitches required for your real product.

It is very important to count correctly the number of rows and stitches, for an error of one stitch or one row can cause your garment to be sized incorrectly. Remember, no two brand of yarns, even the same ply or number, will give the same gauge. therefore, always do a test piece using exactly same yarn to be used.



Varied Knitting Procedures Practices of Design Knitting, Color Knitting, Applications of Plain Knitting



1. Design Knittings

1. How to use the Operation Diagram and the Pattern Cards

Various knitting techniques and setting of the machine for doing most design knittings are symbolized and summarized in the respective Operation Diagram. By only following the symbols specified in the column of the Diagram, you can easily perform the fancy design knitting.

As the usage of the Operation Diagram of the Pattern Cards provided with the machine is also quite same to it of this book, kindly make yourself getting well acquainted with the Symbolized Instructions for doing the illustrated patterns.

Operation Diagram

8																				
7																				
6																				
5																				
4																				
3																				
2																				
1																				
O R D E R	Shift Dial	Select Button	S.L.	Knit Dial	A.B. Button	Knit Dial	S.L.	B.L.	M.Y.	C.Y.	Feeder	O.P.E.								
	Pattern Panel		Carriage				Feeder Plate													

Explanations about the Symbols in the Operation Diagram:—

ORDER... Order of the knitting procedures. Proceed the operation from the order 1 up to the last column filled with symbols or letters. Then repeat the same operations from the Order 1. Thus you can achieve the pattern.

Column of the Pattern Panel:—

Shift Dial..... Turn the Shift Dial so that the Shift Indicator is set at the number specified in the column. The Direction Mark is turned red indicating the moved direction of the Panel.

Select Button... Depress the specified Selecting Button such as 1—3, 3—3 etc.

Column of the Carriage:—

S.L. Side Lever

S, P The Side Lever should be placed on the respective mark.

Knit Dial Set the Knitting Dial at marks KNIT-IN, PLAIN, RAISE, SELECT, TUCK and SLIDE as specified.

A.B. botton..... Carriage Button A and B

A Depress the Carriage Button A.

B Depress the Button B to return the depressed Button A.

Column of the Feeder Plate:—

B.L. Lever of Knit-in Brush

C Push up the Lever into C position.

D Push down the brush lever.

Feeder Switchable Feeder Buttons
M.Y. Means to use main yarn on that knitting.

C.Y..... Means to use Contrasting Yarn on that knitting.

OPE. Operation of the carriage. The Arrows in the column mean directions and times of movement of the carriage with a same setting.

↑ and : The bold arrow **↑** and **:** appeared in the column mean continuation of the same setting of the respective part of the machine.

Extra denotions:—

H.C.Y. H.C.Y. appeared in the Knit-in Diagram means to place contrasting Yarn on the needles by hand without using Yarn Feeder.

W.C.Y. W.C.Y. appeared in the Thread Knitting, means to weave Contrasting Yarn by Threader. The arrow in that column show the W.C.Y. should be placed in that direction.

THREAD Means to use the Threader. The Threader must be operated in the arrowy direction after operations of the carriage.





















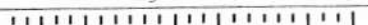











Rel. Means to release the previous setting of the Selecting Button.

Summary of the usage of the Operation Diagram:

At first, set the Pattern Panel and the Carriage according to the respective Symbols in the specified column of ORDER 1, then operate the carriage following the arrows specified in the OPE column. After the operation is finished, reset the Pattern Panel and Carriage as specified in the column of ORDER 2, then operate the carriage following the arrows in the column of OPE. Thus you can proceed design knitting very easily.

Extra Combinations of the Needles made by multipul combining of the Selecting Buttons.

Besides the 3 extra combinations specified on the body of the machine, you can obtain 15 extra combinations of the needles as shown in this Diagram.

Extra Combinations 	Select Mark 	Selecting Buttons	
		1-1.4-4	1
		1-1.6-2	2
		1-1.3-3	3
		1-3.3-3	4
		2-2.1-2	5
		2-2.3-3	6
		4-4.1-2	7
		4-4.1-5	8
		4-4.3-3	9
		6-2.1-2	10
		6-2.1-5	11
		1-1.4-4.3-3	12
		1-1.6-2.3-3	13
		2-2.4-4.1-2	14
		2-2.4-4.3-3	15

Pattern



Knitting Symbol

															12
															11
															10
															9
															8
															7
															6
															5
															4
															3
															2
															1
12	11	10	9	8	7	6	5	4	3	2	1				

2. Raising Knitting

This pattern is very easily performed by just changing the setting of one Carriage Button. The Purl stitch side of this fabric is suitable for ladies' or children's sweater and one-piece wear as the raised stitches appear more distinctively on that side.

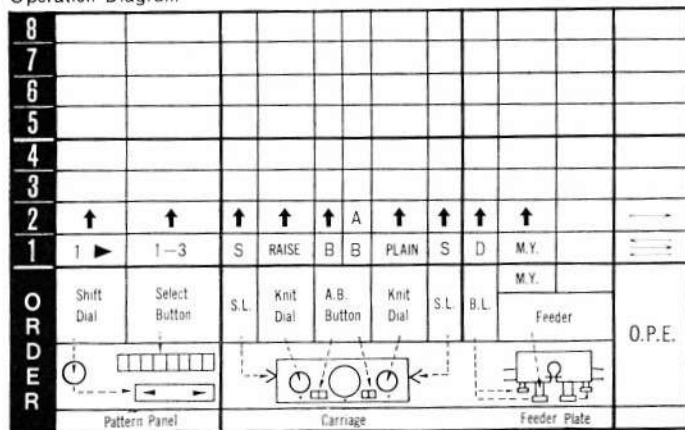
- ① After several rows of plain knitting, enter into this pattern Knitting.
- ② Set the respective parts of the Pattern Panel and the Carriage according to the specifications of the ORDER 1, then operate the carriage.

Referring to the Operation Diagram

ORDER 1

- ① Pattern Panel
 - Turning the Shift Dial, set the Shift Indicator at the No.1. The right coneiform turns red.
 - Depress the Select Button 1-3.
- ② Carriage
 - Left Side Lever set on S mark.
 - Left Knitting Dial ... set on RAISE.
 - Left and right Carriage Buttons... Push the Button B if the Button A is depressed.
 - Right Knitting Dial... set on PLAIN.
 - Right Side Lever ... set on S mark.
 - Brush Levers..... set the both Levers on D.
 - Feeder Button..... Push-in the left side Feeder Button provided with knitting yarn.

Operation Diagram



③ OPERATION

Operate the carriage three times starting from right side.

ORDER 2

① Pattern Panel

As specified by the bold arrows, you need not change the setting of the Pattern Panel.

② Carriage

Depress the right Carriage Button A. (All the other setting is needless to change.)

③ Operation

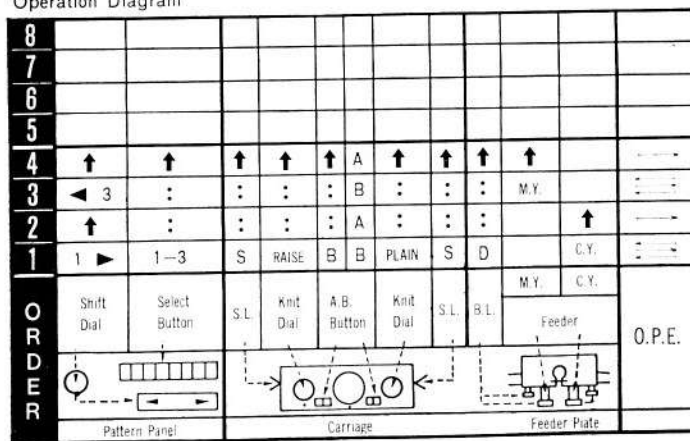
Operate the carriage from left to right one time. Thus a unit of the pattern is achieved. Then repeat the setting and operation of ORDER 1 and 2 continuously.

3. Colored Raising Knitting

Main Yarn and Contrasting Yarn are used. Thread the main yarn through the left side Yarn Feeder and the contrasting yarn through the right side Yarn Feeder. This pattern is widely applied for ladies' and children's sweaters and one-piece wears etc.

- This pattern Knitting is proceeded by changing the setting of the Shift Dial, Carriage Buttons and the Yarn Feeders as shown in the Diagram.

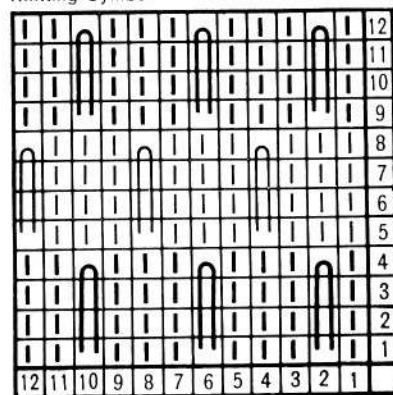
Operation Diagram



Pattern



Knitting Symbol



4. Colored Continuous Raising Knitting

This pattern has no row of plain knitting, and the stitches of the contrasting yarn appear without break, so you can obtain a fabric of very unique patterns.

- This pattern Knitting is proceeded by changing the setting of the Shift Dial, the Carriage Buttons and the Yarn Feeders as shown in the Diagram.

Operation Diagram

12	↑	↑	↑	↑	A	↑	↑	↑	↑		---
11	1 ▶	:	:	:	B	:	:	:	:	M.Y.	≡≡≡
10	↑	:	:	:	A	:	:	:	:		↑
9	2 ▶	:	:	:	B	:	:	:	:		C.Y.
8	↑	:	:	:	A	:	:	:	:		↑
7	3 ▶	:	:	:	B	:	:	:	:	M.Y.	≡≡≡
6	↑	:	:	:	A	:	:	:	:		↑
5	4 ▶	:	:	:	B	:	:	:	:		C.Y.
4	↑	:	:	:	A	:	:	:	:		↑
3	5 ▶	:	:	:	B	:	:	:	:	M.Y.	≡≡≡
2	↑	:	:	:	A	:	:	:	:		↑
1	6	1-5	S	RAISE	B	B	PLAIN	S	D		C.Y.
ORDER	Shift Dial	Select Button	S.L.	Knit Dial	A B Button	Knit Dial	S.L.	B.L.	M.Y.	C.Y.	O.P.E.
	Pattern Panel		Carriage				Feeder		Feeder Plate		

Pattern



Knitting Symbol

													13
													12
													11
													10
													9
													8
													7
													6
													5
													4
													3
													2
													1
13	12	11	10	9	8	7	6	5	4	3	2	1	

Pattern



Knitting Symbol

													13
													12
													11
													10
													9
													8
													7
													6
													5
													4
													3
													2
													1
13	12	11	10	9	8	7	6	5	4	3	2	1	

Operation Diagram

12																		
11																		
10	10	↑	↑	↑	A	↑	↑	↑	↑	↑					→			
9	9	SELECT	:	:	B	:	:	:	:	M.Y.					←			
8	8	↑	:	:	A	:	:	:	:				↑		→			
7	7	SELECT	:	:	↑	B	:	:	:			:			←			
6	6	↑	:	:	:	A	:	:	:			:			→			
5	5	SELECT	:	:	B	↑	:	:	:				C.Y.		←			
4	4	↑	:	:	A	:	:	:	:			↑			→			
3	3	SELECT	:	:	B	:	:	:	:	M.Y.					←			
2	2	↑	:	:	A	:	:	:	:					↑	→			
1	1	SELECT	P	PLAIN	B	B	PLAIN	P	D				C.Y.		←			
ORDER	Row numbers	Select by hand	S.L.	Knit Dial	A.B. Button	Knit Dial	S.L.	B.L.	M.Y.	C.Y.	Feeder	O.P.E.	Carrage			Feeder Plate		
													Carrage			Feeder Plate		

5. Colored Raising without using the Pattern Panel

When you want to do a special colored raising pattern like this illustration accompanied general Knitting Symbol, the needle selections should be done by your finger without using the Pattern Panel.

1. After several rows of plain knitting, place the carriage on the right hand side of the needle bed.
2. All the Selecting Button of the panel must be released.

ORDER 1

1. Referring to the Knitting Symbol, drive out the 4th, 10th, 16th.....needles to the D position of the needle bed.
2. Push-in the right side Feeder Button (C.Y.) and set the carriage as specified in the Operation Diagram. Then operate the carriage from right to left.

ORDER 2

1. Without changing the needle setting, depress the left Carriage Button A.
2. Operate the carriage from left to right. (The needles that were in D position come to C position.)

ORDER 3

- 1 Drive out the 3rd, 5th, 9th.....needles to the D position.
- 2 Push the Carriage Button B and push-in the left Feeder Button (M.Y.).
- 3 Operate the carriage from right to left.

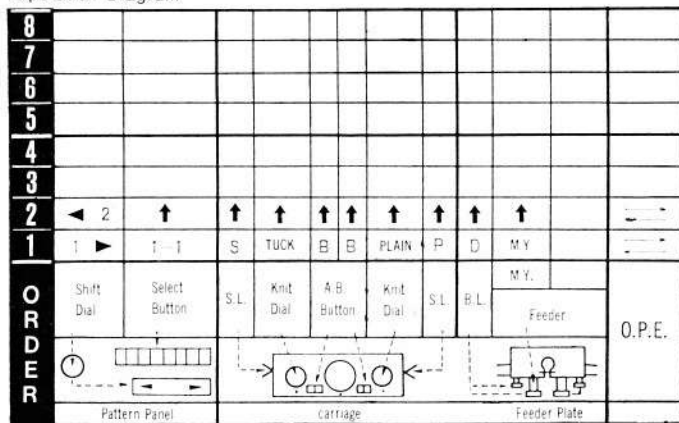
Like these, referring to the Knitting Symbol and Operation Diagram proceed the knitting to the ORDER 10, and repeat from the ORDER 1.

6. Tuck Stitch Knitting

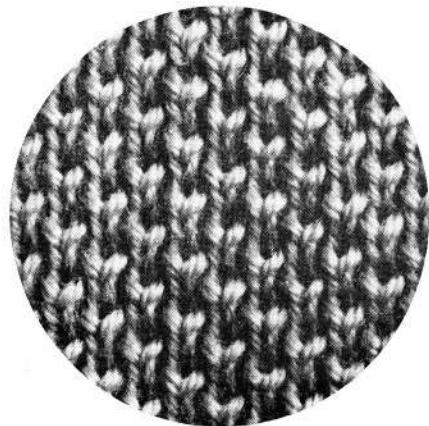
Tuck Knitting and Plain Knitting are combined in each other row of this knitting. The fabric of the Tuck Knitting is almost same to it of the Raising Knitting, but its appearance is softer than it of the Raising Knitting. This fabric is suitable for Cardigan, Sweater, Vest, etc.

- This is very easily and speedily proceeded. After every two rows, turn the Shift Dial in one pitch.

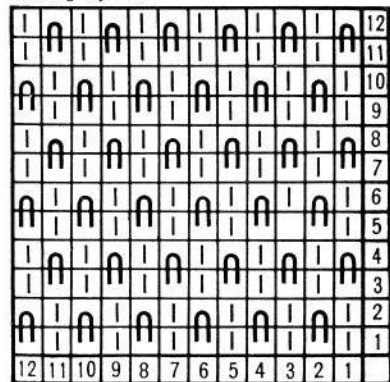
Operation Diagram



Pattern



Knitting Symbol

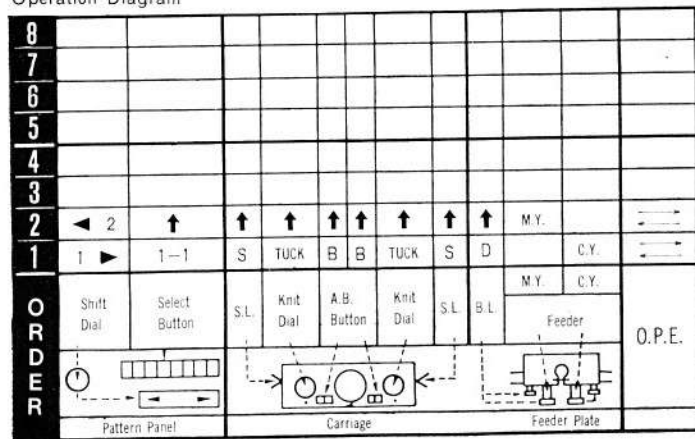


7. Colored Continuous Tuck Knitting

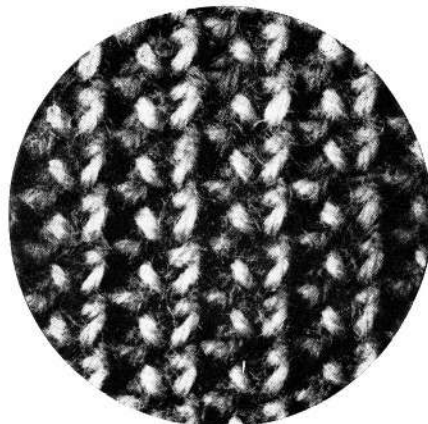
Using a main yarn and a contrasting yarn, you can enjoy a beautiful knitting. This knitting has no row of plain knitting, and the rows of the Tuck Knitting are succeeded continuously.

- After every tow rows, turn the Shift Dial and switch the Feeder Buttons.

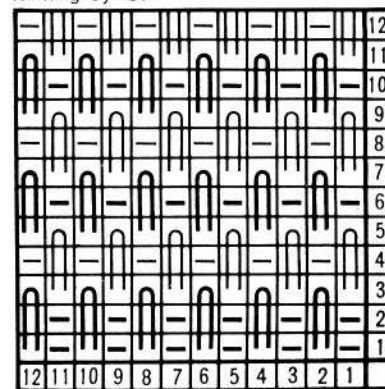
Operation Diagram



Pattern



Knitting Symbol



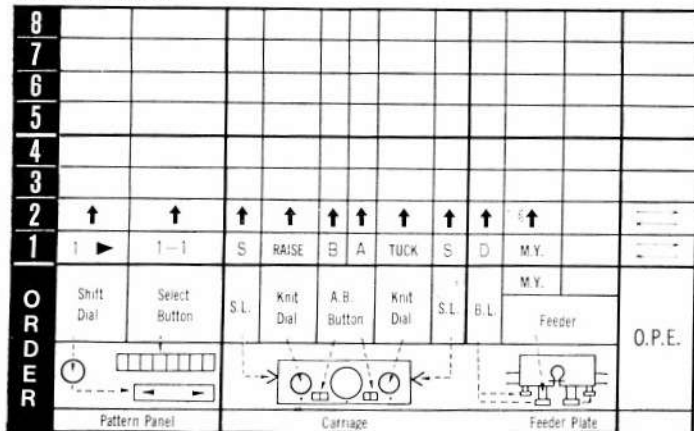
8. Raised Tuck Knitting

Raising Knitting and Tuck Knitting are combined in each other row of this fabric. As the appearance of the fabric is resembling to that of English Ribbing, this is suitable for winter cloths.

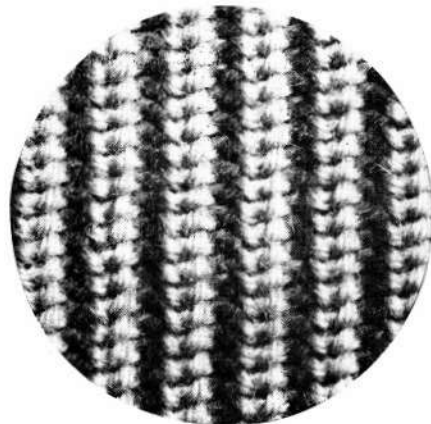
- No change of the setting is required.

Operate the carriage comparatively slowly to make fabric soft and effective.

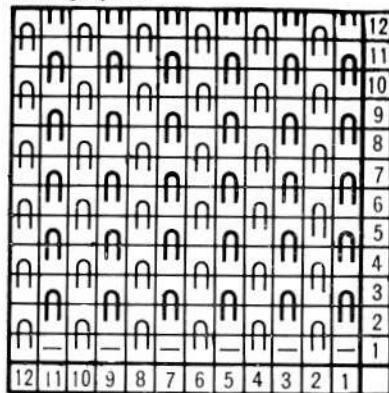
Operation Diagram



Pattern



Knitting Symbol



9. Continuous Slide Knitting

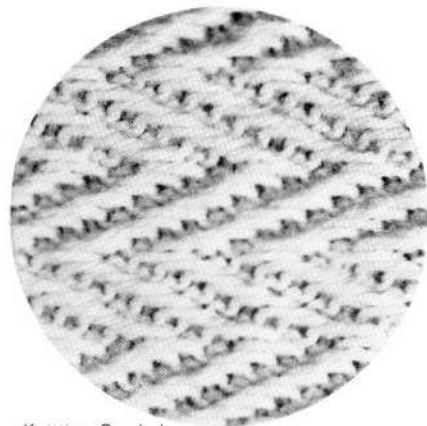
This very interesting fabric is achieved very easily. Purl stitch side of this fabric is generally used for a garment. This is suitable for a lady's wears.

- After each operation of the carriage, turn the Shift Dial.

Operation Diagram

16	2 ▶	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	→	
15	3 ▶	:	:	:	:	:	:	:	:	:	:	←	
14	4 ▶	:	:	:	:	:	:	:	:	:	:	→	
13	5 ▶	:	:	:	:	:	:	:	:	:	:	←	
12	6 ▶	:	:	:	:	:	:	:	:	:	:	→	
11	7 ▶	:	:	:	:	:	:	:	:	:	:	←	
10	8 ▶	:	:	:	:	:	:	:	:	:	:	→	
9	◀ 9	:	:	:	:	:	:	:	:	:	:	←	
8	◀ 8	:	:	:	:	:	:	:	:	:	:	→	
7	◀ 7	:	:	:	:	:	:	:	:	:	:	←	
6	◀ 6	:	:	:	:	:	:	:	:	:	:	→	
5	◀ 5	:	:	:	:	:	:	:	:	:	:	←	
4	◀ 4	:	:	:	:	:	:	:	:	:	:	→	
3	◀ 3	:	:	:	:	:	:	:	:	:	:	←	
2	◀ 2	:	:	:	:	:	:	:	:	:	:	→	
1	1 ▶	2-2	S	SLIDE	B B	SLIDE	S	D	M.Y.			←	
ORDER	Shift Dial	Select Button	S.L.	Knt Dial	A.B. Button	Knt Dial	S.L.	B.L.	Feeder	M.Y.		O.P.E.	
	Pattern Panel		Carriage						Feeder Plate				

Pattern



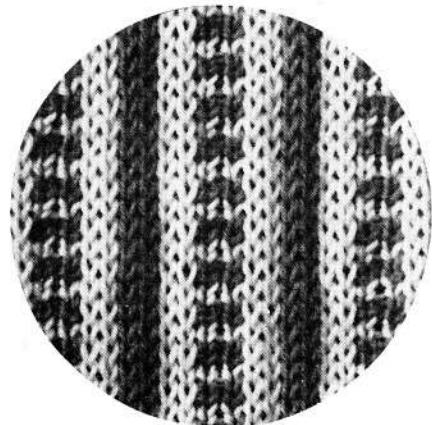
Knitting Symbol

—	∇	∇	—	—	—	—	—	—	—	—	—	—	17
—	—	∇	∇	—	—	—	—	—	—	—	—	∇	16
—	—	—	∇	∇	—	—	—	—	—	—	—	∇	15
—	—	—	—	∇	∇	—	—	—	—	—	—	∇	14
—	—	—	—	—	∇	∇	—	—	—	—	—	∇	13
∇	—	—	—	—	—	∇	∇	—	—	—	—	∇	12
—	—	—	—	—	—	—	∇	∇	—	—	—	∇	11
—	—	—	—	—	—	—	—	∇	∇	—	—	∇	10
—	—	—	—	—	—	—	—	—	∇	∇	—	∇	9
—	—	—	—	—	—	—	—	—	—	∇	∇	—	8
—	—	—	—	—	—	—	—	—	—	—	∇	∇	7
—	—	—	—	—	—	—	—	—	—	—	—	∇	6
—	—	—	—	—	—	—	—	—	—	—	—	—	5
—	—	—	—	—	—	—	—	—	—	—	—	—	4
—	—	—	—	—	—	—	—	—	—	—	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	2
—	—	—	—	—	—	—	—	—	—	—	—	—	1
13	12	11	10	9	8	7	6	5	4	3	2	1	

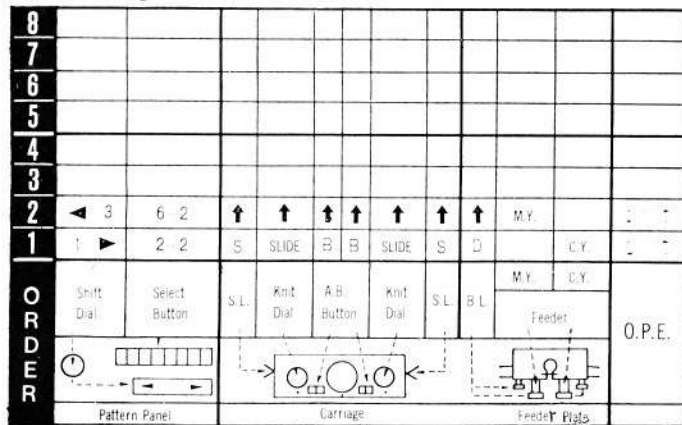
10. Colored Continuous Slide Knitting.

After every two rows, change the setting of the Selecting Button and switch the Yarn Feeders.

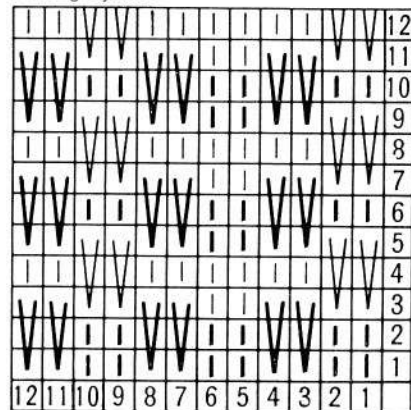
Pattern



Operation Diagram



Knitting Symbol



Pattern



Knitting Symbol

--	--	V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1									

Operation Diagram

12	12	↑	↑	↑	↑	↑	↑	↑	↑				→
11	11	:	:	:	:	:	:	:	:	M.Y.			←
10	10	:	:	:	:	:	:	:	:		↑		→
9	9	:	:	:	:	:	:	:	:		C.Y.		←
8	8	:	:	:	:	:	:	:	:	↑			→
7	7	:	:	:	:	:	:	:	:	M.Y.			←
6	6	:	:	:	:	:	:	:	:		↑		→
5	5	:	:	:	:	:	:	:	:		C.Y.		←
4	4	:	:	:	:	:	:	:	:	↑			→
3	3	:	:	:	:	:	:	:	:	M.Y.			←
2	2	:	:	:	:	:	:	:	:		↑		→
1	1	SELECT	P	SLIDE	A	A	SLIDE	P	D			C.Y.	←
ORDER	Row numbers	Select by hand	Carriage					Feeder Plate				O.P.E.	
			S.L.	Knit Dial	A.B. Button	Knit Dial	S.L.	B.L.	M.Y.	C.Y.	Feeder		

11. Colored Continuous Slide Knitting without using the Pattern Panel

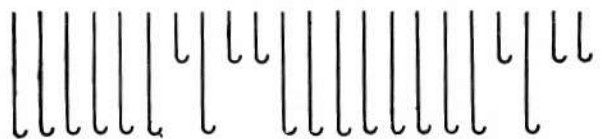
Applying this knitting method, please enjoy your original designs, too.

- After several rows of plain knitting, place the carriage on the right side.
- Set the Selecting Buttons on their free position.
- Set the carriage according to the specification of the ORDER 1 in the Operation Diagram.
- Referring to the Knitting Symbol, select the — mark needles into the D position and leave the V mark needles in the B position (see the figure below).
- Operate the carriage from right to left, the D needles return to the B position. Then select the needles again, and operate the carriage to right.
- On the third time, do needle selection and change the knitting yarn by pushing the left Feeder Button, then operate the carriage.

Like these, proceed the ORDER 1 to 12, and repeat the knitting orders.

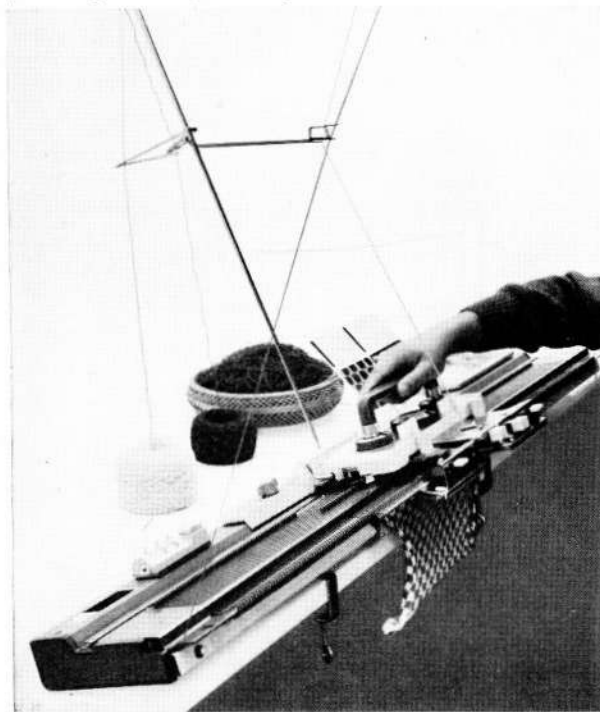
Key point of this knitting is that needle selection is done by hand before each operation of the carriage, and the switching of the Yarn Feeder is done after every two rows.

Remember that this Knitting Symbol is particularly shown in purl stitch side for your operational convenience.



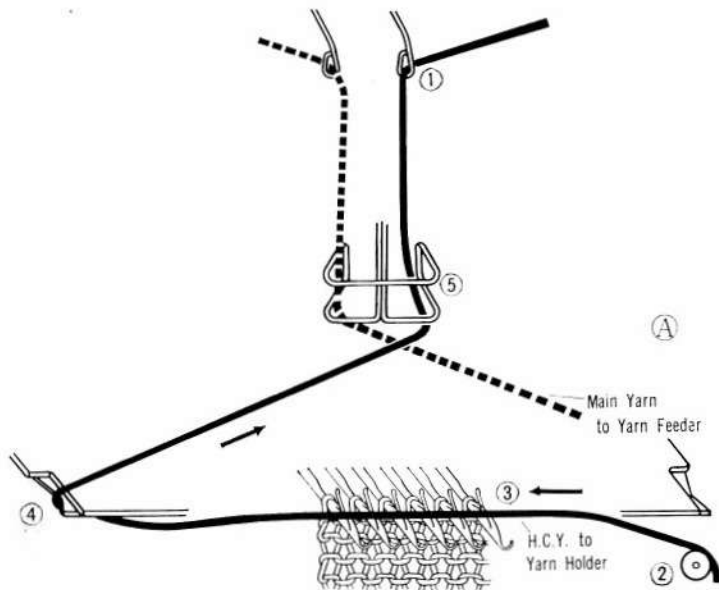
12. Knit-in Knitting

Knit-in Knitting is a most popular colorful knitting so called Fair Isle Knitting. Generally on knit-in knitting, main yarn and a contrasting yarn are knitted by respective operation of the carriage. However, on this machine, by placing a contrasting yarn on the C position needles, you can knit concurrently the main part and colored part of the fabric with one motion of the carriage. This knitting method is widely applicable for your original design knitting.



Preparation for commencing the Knit-in Knitting:

- ① After doing plain knitting, place the carriage on the left hand side of the needle bed.
- ② To drive out the knitting needles on the C position, set the carriage as follows:
Place the both Side Levers on the S mark.
Set the both Knitting Dials on the KNIT-IN.
Place the both Brush Levers on the C mark,
and operate the carriage one time from left to right, thus the needles knit one row and come to the C position. (The carriage have come to the right side.)
- ③ Turn-up the long Auxiliary Yarn Guide toward you, and put the main yarn on its left angle as shown by the dotted line in the fig. A.



- ④ Thread a H.C.Y. (contrasting yarn) through the Auto-tensioner's Wheel, Ring, Tension Spring as shown in the fig. A.
- ⑤ Retain the end of yarn at the right Yarn Holder of the machine. (Do not thread the H.C.Y. into the Yarn Feeder.)
- ⑥ Place the H.C.Y. on the knitting needles with your hand from right to left and hook the yarn on the left end of the Sinker Plate and the right side angle of the Auxiliary Yarn Guide as like as ③ ④ ⑤ shown in the fig. A.

Knitting of a Checker Knit-in Pattern:

- ① Set the Tension Dial on one larger degree than pervious number.
- ② According to the the ORDER 1 of the Operation Diagram, depress the Selecting Button 3-3. (Other parts of the carriage are not necessary to change.)
- ③ Operate the carriage from right to left. By this operation of the carriage, the M.Y. (main yarn) and H.C.Y. are knitted on the respective needles of the pattern.
- ④ Place the H.C.Y. on the needles from left to right and operate the carriage from left to right.
- ⑤ Like these, repeat the operation 4 times for the ORDER 1 to 4.
- ⑥ When you do the ORDER 5, turn the Shift Dial and set the Shift Indicator at No.4. Then, repeat the same operation for 4 rows.

Thus you can proceed the Knit-in Knitting.

Note: Please remember that the H.C.Y. must be always fed on the needles by hand for Knit-in Knitting, and all the needles are working on the C position of the needle bed.

Pattern



X Contrasting Yarn

1	1	1	1	X	X	X	1	1	1	X	X	X	12
1	1	1	X	X	X	1	1	1	X	X	X	11	
1	1	1	X	X	X	1	1	1	X	X	X	10	
1	1	1	X	X	X	1	1	1	X	X	X	9	
X	X	X	1	1	1	X	X	X	1	1	1	8	
X	X	X	1	1	1	X	X	X	1	1	1	7	
X	X	X	1	1	1	X	X	X	1	1	1	6	
X	X	X	1	1	1	X	X	X	1	1	1	5	
1	1	1	X	X	X	1	1	1	X	X	X	4	
1	1	1	X	X	X	1	1	1	X	X	X	3	
1	1	1	X	X	X	1	1	1	X	X	X	2	
1	1	1	X	X	X	1	1	1	X	X	X	1	
12	11	10	9	8	7	6	5	4	3	2	1		

Operation Diagram

9													
8	↑	↑	↑	↑	↑	↑	↑	↑	↑	→	→		
7	:	:	:	:	:	:	:	:	:	←	←		
6	:	:	:	:	:	:	:	:	:	→	→		
5	← 4	:	:	:	:	:	:	:	:	←	←		
4	↑	:	:	:	:	:	:	:	:	→	→		
3	:	:	:	:	:	:	:	:	:	←	←		
2	:	:	:	:	:	:	:	:	:	→	→		
1	1 ▶	3-3	S	KNT-IN	B	B	KNT-IN	S	G	M.Y.	←	←	
ORDER	Shift Dial	Select Button	S.L.	Knit Dial	A.B. Button	Knit Dial	S.L.	B.L.	M.Y.	H.C.Y.	O.P.E.		
	Pattern Panel		Carriage					Feeder Plate					

14. Colored Floating Stitch

The stitches of the contrasting yarn look like floating in this fabric.

The denotation (1-1, 3-3) of the Select Button in the ORDER 3 means that the two Selecting Buttons should be depressed at once.

Operation Diagram

8																			
7																			
6	↑	↑	↑	PLAIN	↑ ↑	PLAIN	↑ ↑	M.Y.											
5	◀ 2	1-5	:	SLIDE	:	SLIDE	:		C.Y.										
4	↑	↑	:	PLAIN	:	PLAIN	:	M.Y.											
3	1 ▶	1-1, 3-3	:	SLIDE	:	SLIDE	:		C.Y.										
2	↑	↑	:	PLAIN	:	PLAIN	:	M.Y.											
1	2	1-5	S	SLIDE	B B	SLIDE	S D		C.Y.										
ORDER	Shift Dial	Select Button	S.L.	Knit Dial	A.B. Button	Knit Dial	S.L.	B.L.	M.Y.	C.Y.	O.P.E.								
	Pattern Panel			Carriage				Feeder Plate											

Pattern



X Contrasting Yarn

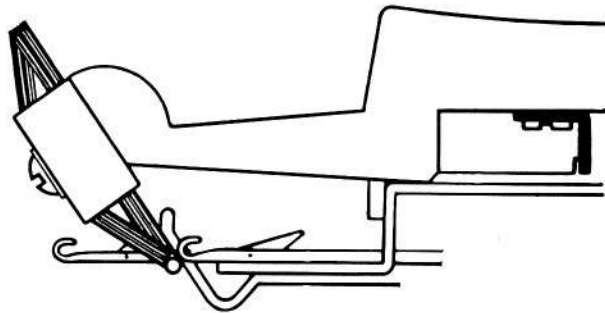
																			14
																			13
																			12
																			11
X						X											X		10
X						X											X		9
																			8
																			7
																			6
	X					X	X										X		5
	X					X	X										X		4
																			3
																			2
X						X											X		1
X						X											X		13
13	12	11	10	9	8	7	6	5	4	3	2	1							

15. Thread Knitting using the Threader

The fabric of this Knitting is made by weaving an additional yarn into the stitches of plain knitting of main yarn.

ORDER 1.

- ① After several rows of plain knitting, put the carriage at the right side on the needle bed.
- ② Set the Pattern Panel and the Carriage as specified in the ORDER 1.
- ③ Move the carriage to left. Every other needles are driven out to D position. Return the carriage to the right. Though the main yarn is in the feeder, it is not knitted by the operation of the carriage. The purpose of the operations is just to select needles and to return the carriage to the right side.
- ④ Place the W.C.Y. (weaving yarn) behind the latches of the needles staying on D position.
- The weaving yarn should be prepared in front of machine. Retain the end of the yarn at the yarn Holder in the side of the carriage being.
- ⑤ Give a gentle tension to the weaving yarn by your hand as shown in the photo (just pull down the yarn gently).



- ⑤ Place the Threader at the right side on the needle bed as shown in the figure, and move it to the left. All the needles are aligned on C position, the needles that had been on D position is holding the weaving yarn on the stems of them. The other needles have the weaving yarn under the stems of them.

Thus you have finished the ORDER 1.

ORDER 2

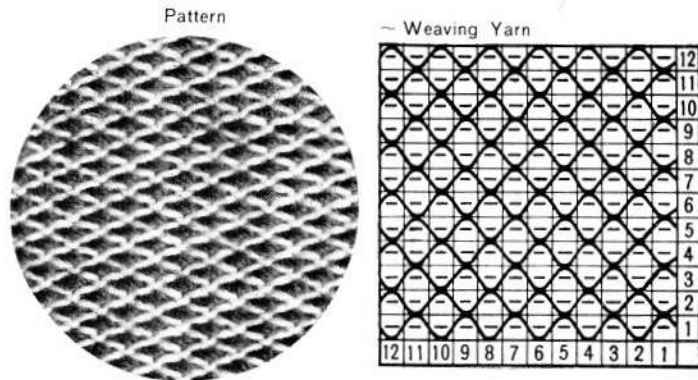
- ① Release (Rel. in the column) the setting of the Selecting Button.
- ② Depress the left Carriage Button A.
- ③ Operate the carriage to the left.

ORDER 3

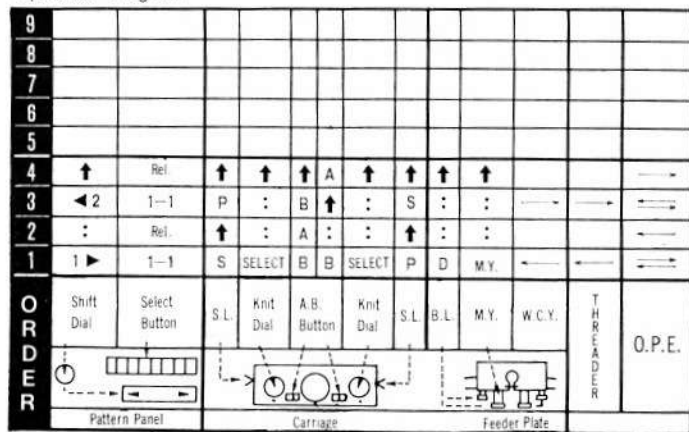
- ① Set the Shift Indicator at No.2.
- ② Set the left Side Lever on the P mark, and the right Side Lever on the S mark.
- ③ Push the left Carriage Button B.
- ④ Operate the carriage to the right and back to the left for only needle selection.
- ⑤ Then lead the weaving yarn from left to right on the stems of the needles on D position.
- ⑥ Move the Threader from left to right.

Thus, continue the thread knitting referring to the Operation Diagram.

- Note: 1. Operate the Threader always after the operation of the carriage.
2. When the Turning Course Knitting of Increasing Method is proceeded in Thread Knitting, place the stitches of the increasing needles in their hooks before these D needles are pushed to C position, otherwise the stitches would be dropped.

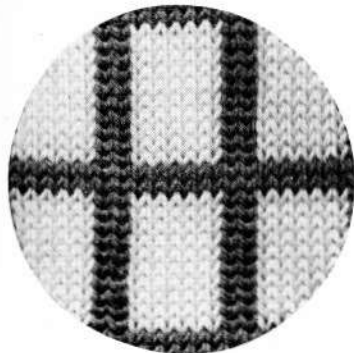


Operation Diagram



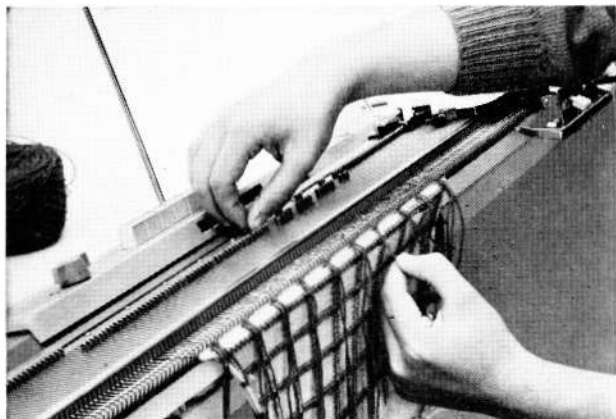
2. Applications of Pattern Knitting and Plain knitting

Pattern



X Contrasting Yarn

1	1	X	X	1	1	1	1	1	1	X	X	1	1	14
1	1	X	X	1	1	1	1	1	1	X	X	1	1	13
X	X	X	X	X	X	X	X	X	X	X	X	X	X	12
X	X	X	X	X	X	X	X	X	X	X	X	X	X	11
1	1	X	X	1	1	1	1	1	1	X	X	1	1	10
1	1	X	X	1	1	1	1	1	1	X	X	1	1	9
1	1	X	X	1	1	1	1	1	1	X	X	1	1	8
1	1	X	X	1	1	1	1	1	1	X	X	1	1	7
1	1	X	X	1	1	1	1	1	1	X	X	1	1	6
1	1	X	X	1	1	1	1	1	1	X	X	1	1	5
1	1	X	X	1	1	1	1	1	1	X	X	1	1	4
1	1	X	X	1	1	1	1	1	1	X	X	1	1	3
1	1	X	X	1	1	1	1	1	1	X	X	1	1	2
1	1	X	X	1	1	1	1	1	1	X	X	1	1	1
14	13	12	11	10	9	8	7	6	5	4	3	2	1	



1. Cross Stripe Knitting

The vertical stripe of this pattern is made by manipulation and the horizontal stripe is made by operation of carriage.

So the yarns are provided as follows:

Put Main Yarn on the left Yarn Feeder, put contrasting Yarn on the right Yarn Feeder, and prepare Free contrasting Yarns in length six times long of the product to be made. The numbers of the Free Yarn must be prepared as many as numbers of the vertical stripes.

- 1 Set the carriage:
 - Side Levers Both Levers on P.
 - Knitting Dials Both Dials on PLAIN.
 - Carriage Button... Both Buttons B (free)
 - Brush Levers Both Levers on D.
- 2 According to the Knitting Symbol, pull out to D position the needles denoted by X marks.
- 3 Feed the free contrasting yarns to the hooks of the D positioned needles by your hand. Then push the D needles to A position (non-operative position).
- 4 Operate the carriage and knit one row with main yarn.
- 5 Pull out the A needles to B position and correct the stitches in these needles.
- 6 Repeat the operations mentioned above 2-5.
- 7 When the operations reached the point to knit horizontal stripe of contrasting yarn, switch the Yarn Feeder Button. And knit 2 rows with the contrasting yarn.

Pattern



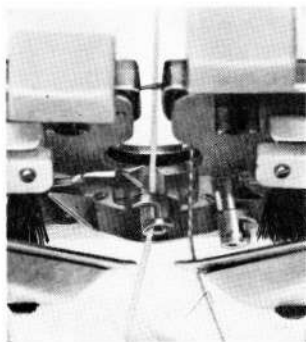
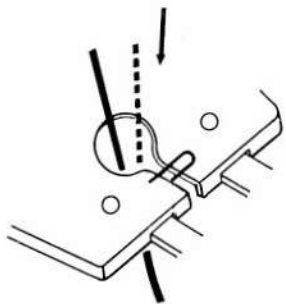
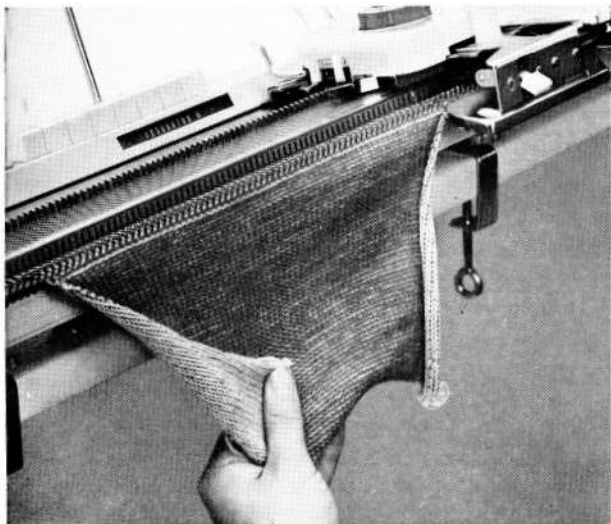
Knitting Symbol

																		13
																		12
																		11
																		10
																		9
																		8
																		7
																		6
																		5
																		4
																		3
																		2
																		1
13	12	11	10	9	8	7	6	5	4	3	2	1						

} C.Y.
} M.Y.
} C.Y.

2. Vertical Slide Knitting

- 1 Carriage
Side Levers Both on P
Knitting Dials Both on PLAIN
Carriage Buttons... Both B (free)
Brush Levers Both on D
Provided two wools in each Yarn Feeder.
- 2 Apply 1 or 2 degree larger number of the Tension Dial.
- 3 Knit 2 rows with the contrasting yarn.
- 4 Return the Tension Dial at the original number.
- 5 According to the Knitting Symbol, push the needles denoted by **V** mark to the A position (non-operative position).
- 6 Knit 4 rows with the main yarn.
- 7 Pull the fabric slightly down so that the A needles come to B position.
- 8 Repeat the above operations of 2-7.

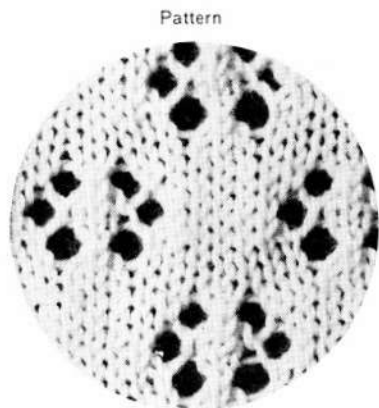


3. Plating Knitting

This fabric is made by knitting with two thin yarns putting them into a Yarn Feeder and the Guide Hole. Main yarn appears on its knit stitch side and the other yarn appears on its purl stitch side.

- 1 Set the carriage as same as plain knitting.
- 2 Tension Dial
When the both yarns are fine yarn, set the Dial at 7 or 8, and if the main yarn is a fine yarn and the plating yarn is an extreme fine yarn, set the Dial at 5 or 6.
- 3 Put the both yarns respectively on the Auto-tensioner.
- 4 Thread the main yarn through the left Yarn Feeder, and put the plating yarn into the Guide Hole (the large hole opened at the center of the Arm Plate). (see fig. & photo.)
- 5 Retain the ends of the both yarn at the Yarn Holder.
6. And operate the carriage as like as plain knitting. The both yarns are knitted on the needles at a sametime.

4. Lace Knitting (How to use Transfer Needle)



Pattern

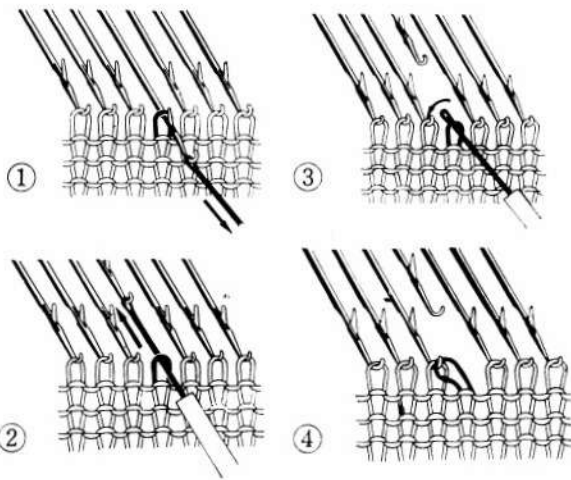
Knitting Symbol

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

The holes on this fabric is made by transferring the stitches to the adjoining needles.

Referring to the Knitting Symbol

- ① Knit two rows of Plain Knitting.
- ② Transfer the stitches denoted by ○ mark in the Knitting Symbol to the adjoining needles that are marked ▲.
- ③ Then knit two rows of plain knitting, and transfer the ○ marked stitches to the × or ◁ marked needles. Thus you can proceed the Lace Knitting.

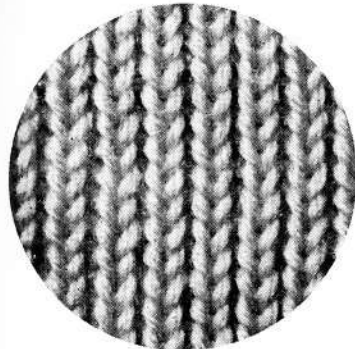


Transferring method:

- ① Place the eye of the Transfer Needle into the hook of the latch needle and draw the latch needle out to D position.
 - ② Push back the Transfer Needle so that the stitch will slide over the latch onto the Transfer Needle.
 - ③ Take up the stitch with the transfer needle and place the eye of the Transfer Needle into the hook of the adjoining latch needle.
 - ④ Turning upright the Transfer Needle, and transfer the stitch to the Latch Needle.
- After the all transferring is finished, align the vacant needles on B position and operate the carriage two times.

5. Rib Stitches (How to use Tappet)

Pattern

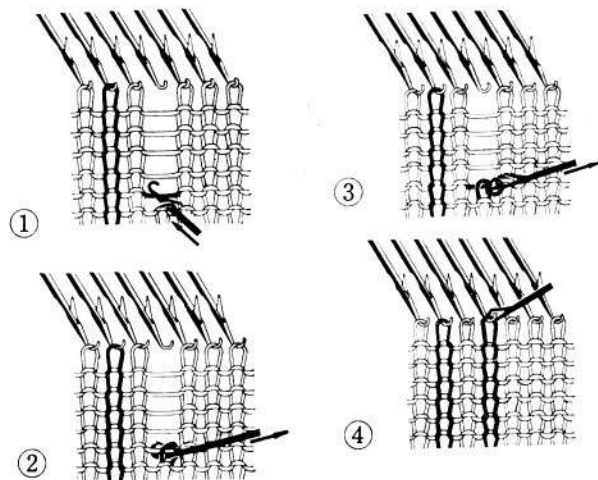


Knitting Symbol

-		-		-		-		-		-		12
-		-		-		-		-		-		11
-		-		-		-		-		-		10
-		-		-		-		-		-		9
-		-		-		-		-		-		8
-		-		-		-		-		-		7
-		-		-		-		-		-		6
-		-		-		-		-		-		5
-		-		-		-		-		-		4
-		-		-		-		-		-		3
-		-		-		-		-		-		2
-		-		-		-		-		-		1
13	12	11	10	9	8	7	6	5	4	3	2	1

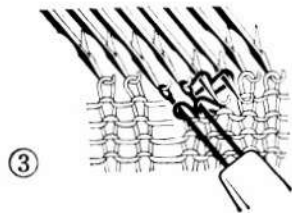
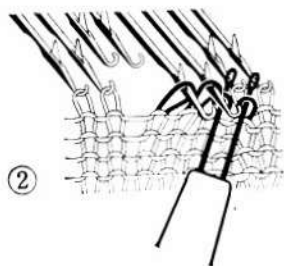
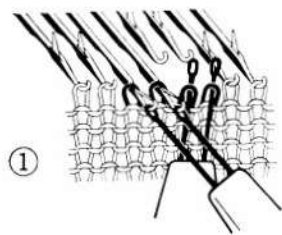
This Ribbing Stitches are performed by changing the purl stitches of plain knitting into knit stitches on every other vertical row.

- ① Set the Tension Dial to a number one degree smaller than usual.
- ② Knit plain knitting as many rows as required for Rib Stitches.
- ③ Draw out to D position the 3rd needle counting from right, and again back it to B position. The stitch on the needle will be slipped off. Using the handle of Tappet, release the stitches down to the 3rd or 4th row from the point where ribbing to begin.
- ④ Insert the hook of the Tappet through the loop of the stitch from where the ribbing is to begin. Then, further release the rest of stitches by pulling the Tappet down. Then, turn the laddering stitch into knit using the Tappet as follows:

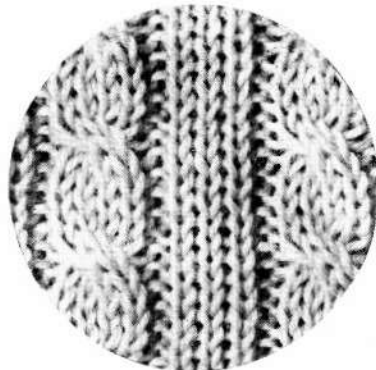


- 1) Push the Tappet forward until the stitch comes behind the opened latch of the Tappet. Pull it back catching the above cross yarn in the hook of the Tappet.
- 2) Continue to pull, the latch of the Tappet will be closed by the loop.
- 3) Pulling the cross yarn further, the loop slip over the latch and forms a new stitch.
- 4) Thus continue to handle the Tappet until the vertical row is knitted, then place the last stitch on the hook of the vacant needle.

6. Cable Stitch



Pattern



Knitting Symbol

—																	14
—																	13
—																	12
—																	11
—																	10
—																	9
—																	8
—																	7
—																	6
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—																	1
13	12	11	10	9	8	7	6	5	4	3	2	1					

Using a pair of two eyed Transfer Needles, take four adjoining stitches at a time on the Transfer Needles.

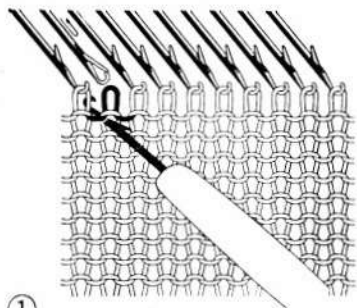
Crossing the Transfer Needles, transfer the stitches onto the vacant needles (See the fig. ①~③)

Operate the carriage 6 times.

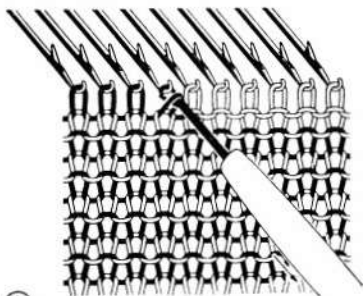
Then repeat the cross transferring.

By means of Ribbing work, using a Tappet turn the side stitches of the Cable Stitch into knit stitch so that the cable stitch will be appeared distinctively.

7. Garter Stitches

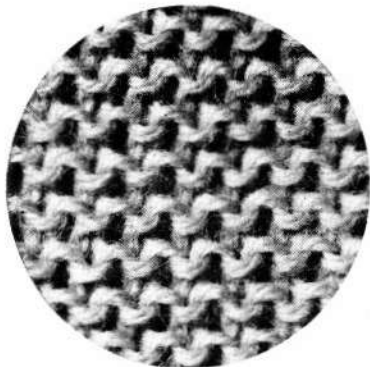


①



②

Pattern



Knitting Symbol

—	—	—	—	—	—	—	—	—	—	—	—	12
												11
—	—	—	—	—	—	—	—	—	—	—	—	10
												9
—	—	—	—	—	—	—	—	—	—	—	—	8
												7
—	—	—	—	—	—	—	—	—	—	—	—	6
												5
—	—	—	—	—	—	—	—	—	—	—	—	4
												3
—	—	—	—	—	—	—	—	—	—	—	—	2
												1
12	11	10	9	8	7	6	5	4	3	2	1	

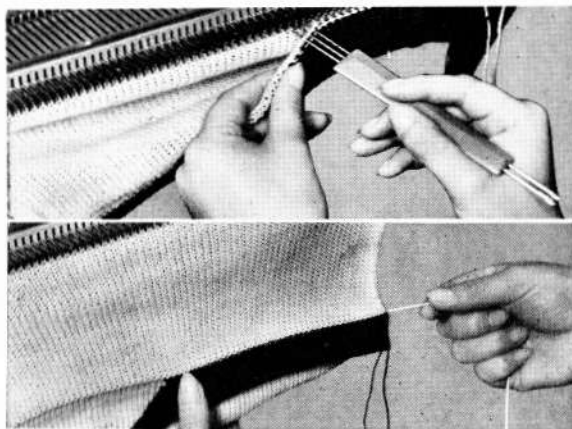
The fabric of Garter Stitch is made of knit stitch rows and purl stitch rows in alternate.

- ① Knit two rows of Plain Knitting.
- ② Open all of the latches of the needles.
- ③ Insert the Tappet through the second row. (fig. 1)
Pull out a knitting needle on D position and back to B position. The stitch of the first row slips off onto the tappet.
- ④ Using the Tappet, make a stitch and place it onto the vacant needle. (fig. 2)
- ⑤ Thus, turn all the stitches of the same horizontal row into knit stitch.
- ⑥ Repeat the operation ①—⑤

8. Double Hem

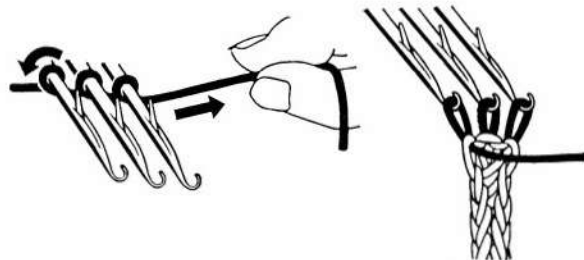
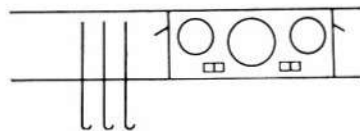
This Hem is generally used for the bottom of cardigan.

- ① Cast-on with a waste yarn and knit about 8 rows. Then knit one row with the raveling cord.
- ② Knit 40 rows with the main yarn.
- ③ Using a Transfer Needle, transfer the stitches of the first row of the main yarn to the needles. (see the upper photo.)
- ④ And continue the knitting of body part. When you finished the knitting, pull out the raveling cord from the fabric. (see lower photo.) Then the waste yarn will be removed and a Double Hem remains.



9. Cord Knitting

- ① Setting of the Carriage:
Side LeversBoth on P.
Knitting DialsLeft Dial ... on PLAIN
Right Dial... on SLIDE
Carriage Buttons...LeftDepress A
Right..... B (free)
Brush Levers: Both on D.
- ② Pull out 3 or 5 needles on D position. The other needles should be on A (non-operative) position.
- ③ Wind the yarn on the stems of the needles.
- ④ Shuttle the carriage, pulling gently the knitted part downward with free hand, the stitches will be pulled together to form a cord.



3. Turning Course Knitting

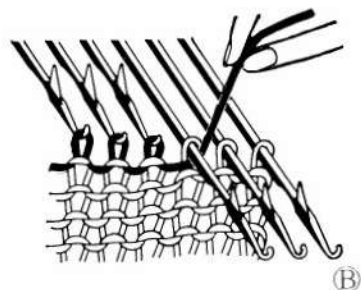
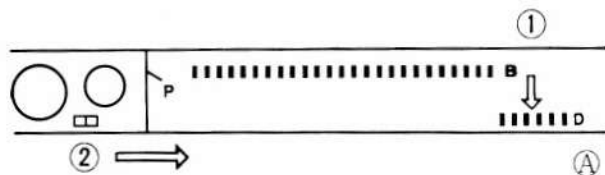
This technic is very important to make a shape of shoulder or sleeve top.

1. Turning Course of Plain Knitting

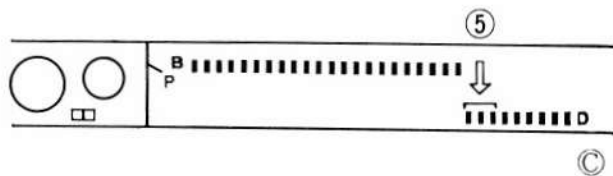
1. Decreasing Method (Knitting the Shoulder): —

This is continued from plain knitting. Setting of the Pattern Panel and the Carriage is not necessary to change from the setting for plain knitting.

- ① Push out to D position the required number of working needles that lie to the opposite side where the carriage lies. (fig. A)
- ② Move the carriage to the right, the D position needles do not work.
- ③ Pass the yarn underneath the needle next to the last knitting needle (fig. B). Otherwise a hole will be formed between the last knitting needle and the D position needle.



- ④ Move the carriage to the left. Thus, the needles on B position knitted two rows, while the D position needles are resting.
 - ⑤ Then push out to D position the required number of working needles. (fig. C)
 - ⑥ Repeat the operation of ② — ⑤ decreasing the number of the working needle after two operations of the carriage.
- When the required turning course knitting is performed, depress the right Carriage Button A and move the carriage to the right. Then all the needles on B and D position knit one row and align on B position.

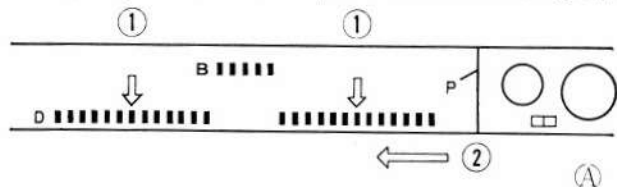


2. Increasing Method (Knitting the Sleeve Top): -

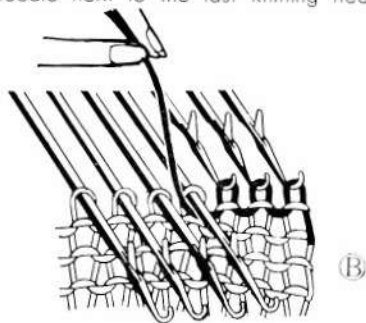
This technique is used to make sleeve top that is started from arm hole of body part. Put required numbers of stitch of the arm hole on the knitting needles.

- Set the Pattern Panel and the carriage as same as plain knitting.

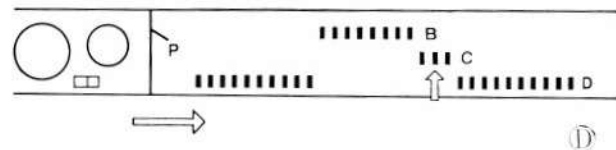
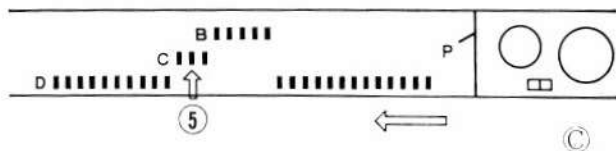
- ① Place some numbers of center needles (about 30 ~ 40 needles) on the B position and push up rest of working needles into the D position. (fig. A)
- ② Thread with the carriage and operate the carriage to the left. B position needles knit one row and the yarn pass over the D position needles of left group.



- ③ Pass the yarn underneath the needle next to the last knitting needle. (fig. B)
- ④ Move the carriage to the right. And pass the yarn underneath the needle next to the last knitting needle.



- ⑤ Push the required number of resting needles (D position needles of the left group) to C position. (fig. C) Then move the carriage to the left. B position needles and C position needles knit one row, and all of them are aligned on B position. Then push back the right side needles to C position and operate the carriage. Thus proceed the Turning Course Knitting increasing the working needles in the center part of the fabric after each operation of the carriage.
- Increasing of the working needle must be always made on the opposite side where the carriage lies. (fig. C D)

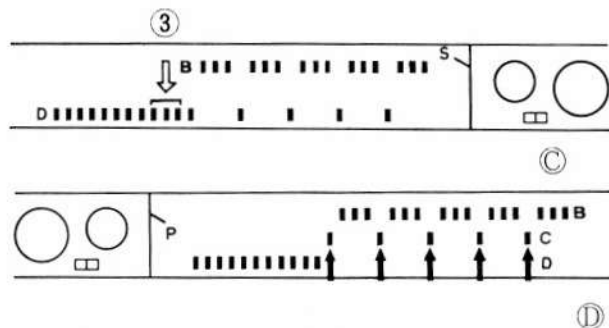
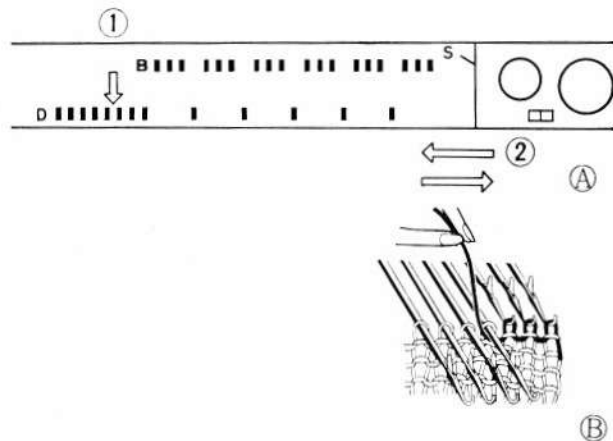


2. Turning Course in Raising Knitting

1. Decreasing Method: —

Setting of the Pattern Panel and the Carriage is not necessary to change from the setting of your commencing Raising Knitting. But the both Carriage Buttons should be kept on free setting. (do not depress the buttons A.)

- ① Push out to D position the required number of needles that lie on the opposite side where the carriage lies. (fig. A)
- ② Operate the carriage to the left and pass the yarn underneath the needle next to the last knitting needle. (fig. B) and return the carriage to the right.
- ③ Push out to D position the other required number of needles. (fig. C)

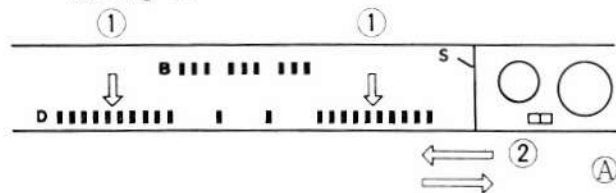


- ④ After 3 or 4 rows with decreasing working needles, push all the raising needles to the C position by your hand (fig. D), and set the Knitting Dial on PLAIN. Then, operate the carriage, all the needles will knit one row excepting the needles remained D position.

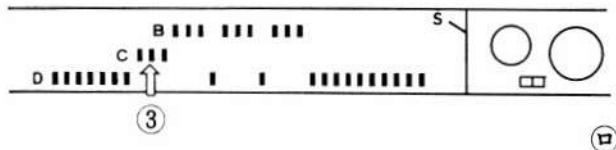
2. Increasing Method (Sleeve Top): —

Pattern Panel is to be set as required for your raising knitting. Both Carriage Buttons should be kept on free setting, and the both Side Levers are on S.

- ① Set the both Knitting Dials on RAISE.
- ② Push out to D position the required number of needles to D position. (fig. A)



- ④ Operate the carriage to the left and pass the yarn underneath the needle next to the last knitting needle. And return the carriage to the right.
- ⑤ Push the required number of the resting needles to C position in order to increase working needles. (fig. B) and operate the carriage to the left.
- ⑥ Increase the working needles at the other side by pushing the D position needles to C position, and push all the raising needles to C position.
- ⑦ Set the right Knitting Dial on PLAIN, and operate the carriage to the right.
Thus, you have made three rows of raising knitting and one row of plain knitting while proceeding the Increasing Turning Course Knitting.
- ⑧ Repeat the operation 1-6.



3. Turning Course in Continuous Raising Knitting

Set the carriage as same as Continuous Raising Knitting. However, in order to make raised stitches proceeding Turning Course Knitting, the raising needles in the D position must be pushed into C position by hand instead of using the Carriage Button A.

Therefore, when you do the Operation Diagram of the Colored Continuous Raising Knitting shown in the page 26, on the operation of the ORDER 2, operate the carriage without

depressing the Carriage Button A, then push back the raising needles to C position by hand.

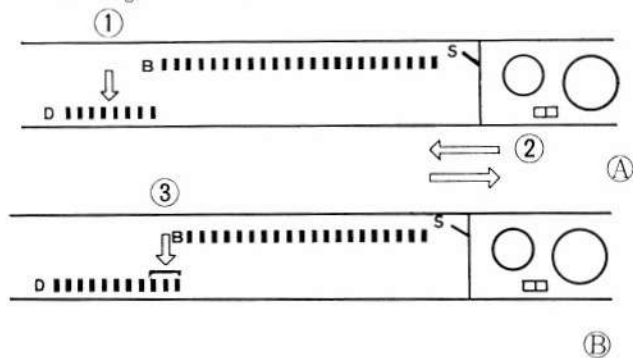
Increasing or decreasing technic for the Turning Course Knitting is same as it for Turning Course in Raising Knitting.

4. Turning Course in Tuck Knitting

1. Decreasing method (Knitting the Shoulder): -

Setting of the Pattern Panel and the Carriage is not necessary to change from Tuck Knitting as specified in the page 28, 29.

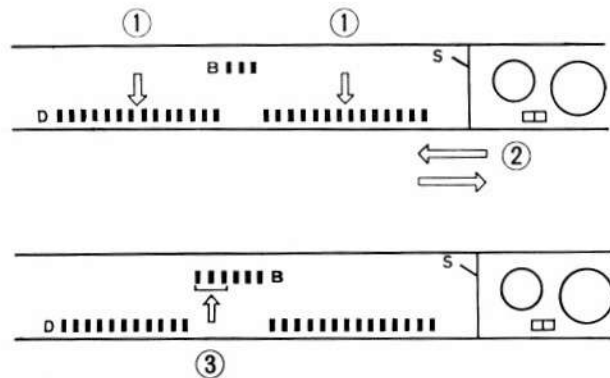
- ① On the point commencing the turning course, push out the required number of needles to the D position. (fig. A)
- ② Operate the carriage from right to left, and pass the yarn underneath the needle next to the last knitting needle. Then, return the carriage to the right.
- ③ Push out to D position the other required number of needles (fig. B), then operate the carriage.
Thus, you can proceed the Turning Course in Tuck Knitting.



2. Increasing Method (Knitting the Sleeve Top):—

Set the Pattern Panel and the carriage as same as Tuck Knitting.

- ① Push out required needles to D position. (see fig.)
- ② Operate the carriage from right to left, and pass the yarn underneath the needles next to the last knitting needle, then return the carriage to the right.
- ③ As some of the holding needles (D needles) must be placed back B position for the increasing, using a Transfer Needle, place the stitches held on the stem into the hook of increasing needles, then push back them to the B position.



5. Turning Course in Rasing Tuck

The method of increasing or decreasing of this Turning Course in Raising Tuck" is same as it for "Turning Course in Tuck Knitting" explained in the page 51.

- Carriage setting is same as it for Raising Tuck Knitting, but the both Carriage Button should be kept on free position.
- After each operation that drove out needles to D position, push back the needles to the C position by your hand.

6. Turning Course in Slide Knitting

Setting of the Pattern Panel and the carriage is not necessary to change from the Slide Knitting. Increasing and decreasing of the working needle is done by same manner as explained in the previous Turning Course in Tuck Knitting.

Set the both Carriage Buttons on free position, even in case that the selection of the needle is made by hand.

7. Turning Course in Knit-in Knitting

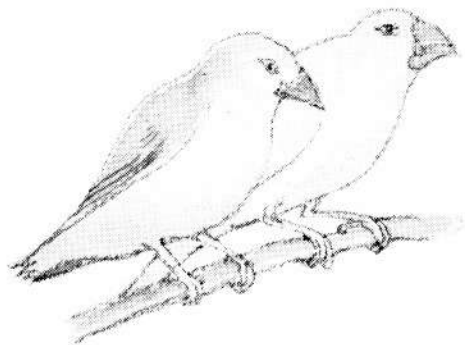
Setting of the Pattern Panel and the carriage is not necessary to change from the Knit-in Knitting, and the manner of increasing and decreasing of the working needle is same as it for Turning Course of Plain Knitting.

- When you increased the working needles by pushing the D position needles to the C position, open the latches of the needles because the yarn should be placed in their hooks by hand.
- In case of "Knit-in Knitting without using the Pattern Panel", push out the decreasing needles to D position or push the increasing needles to C position.
- After you placed a contrasting yarn on the C position needles, push the needles that are making contrasting stitches to the position shown in the figure.

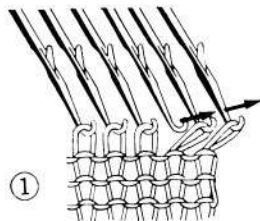


4. Fundamental technics using the Tools

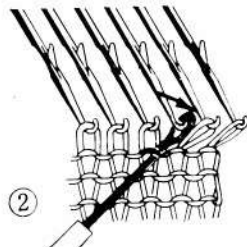
In regard to the usage of the Transfer Needle, and the Tappet, as it is explained in the paragraphs of the "Lace Knitting" (page 43) and the "Rib Stitches" (page 44), kindly refer those paragraphs.



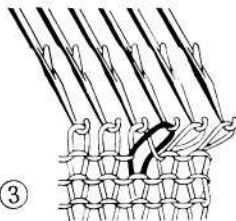
1. Increasing Stitches



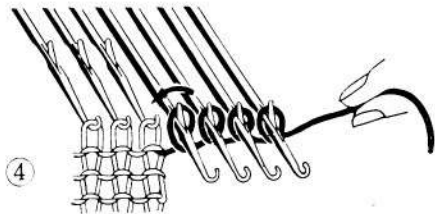
①



②



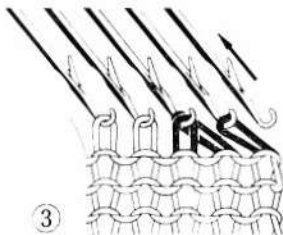
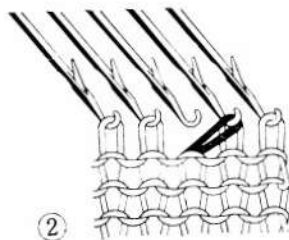
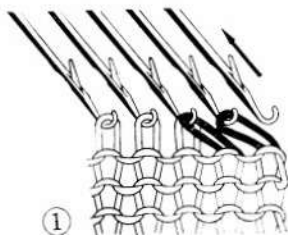
③



④

- 1 Transfer the first stitch to the adjoining empty needle and transfer the second stitch to the first needle. (fig. 1)
- 2 Pick up the loop of the purl stitch below of the third needle and put it on the second needle. (fig. 2. 3)
- 3 When increase two or more stitches, wind the yarn on the stems of the needles and align the needles on C position (fig. 4), and operate the carriage from the side where the increasing is to be made.

2. Decreasing Stitches



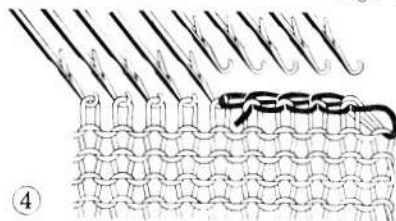
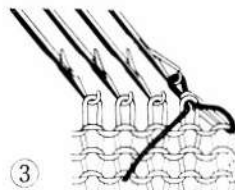
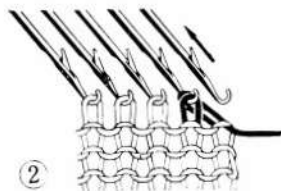
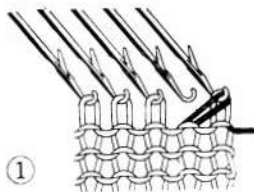
Method 1:—

Transfer the two stitches to the inner needles, and push the vacant needle to A position. (fig. 1)

Method 2:—

- 1 Transfer the third stitch to the second needle. (fig. 2)
- 2 With a two eye transfer needle, transfer the two stitches of the second and the first needle at once to the third and second needle. (fig. 3)

3. Binding off

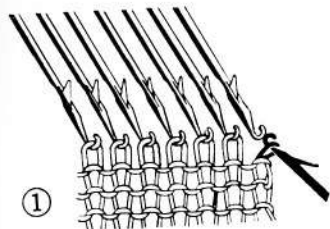


Method 1:—

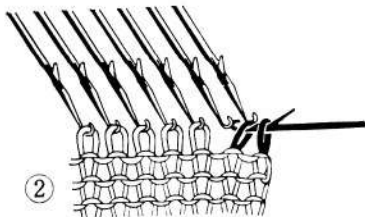
- 1 Transfer the second stitch to the first needle. (fig. 1)
- 2 Transfer the two stitches of the first needle to the second needle. (fig. 2)
- 3 Make out a stitch on the second needle. (fig. 3)
 - Push out the second needle on D position and place the yarn in the hook, then back the needle to B position.

Repeat the same work mentioned above.

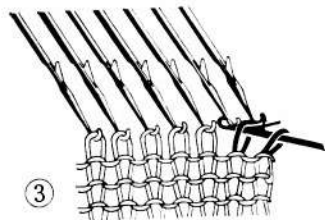
This method is also applicable to decrease two or more edge stitches on the side where the carriage lies.



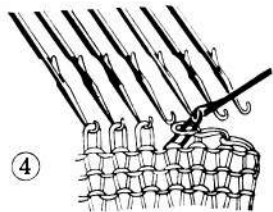
①



②



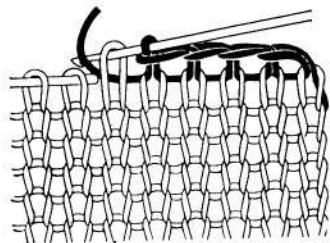
③



④

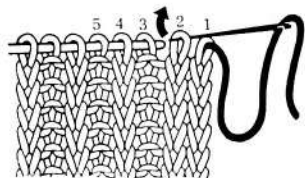
Method 2:—

Using the Tarpet, make chain stitches horizontally. This method is also applicable to decrease two or more edge stitches on the side opposite to the carriage lying.

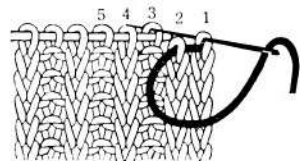


Method 3:—

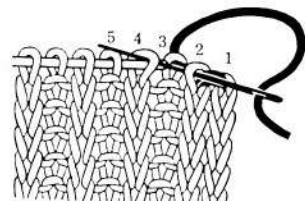
Holding the stitches with a Bamboo needle, bind off the stitches with a Crochet needle.



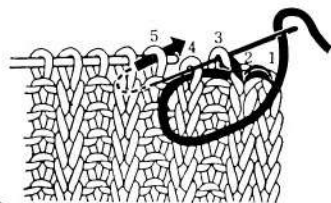
①



②



③



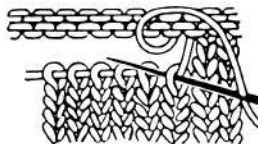
④

Method 4: —
Binding off Rib Sitches using
a Bamboo needle and a Tapestry
needle.

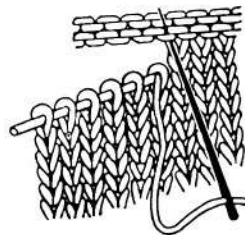


⑤

4. Linkings

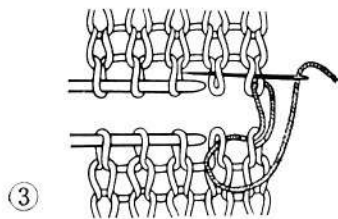
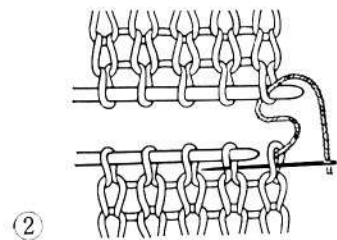
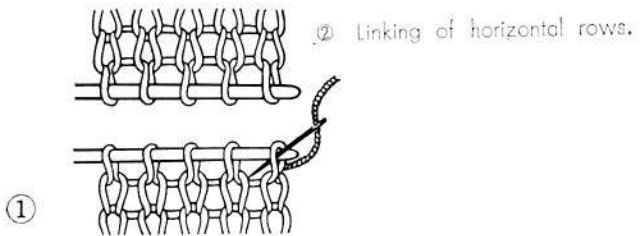


①

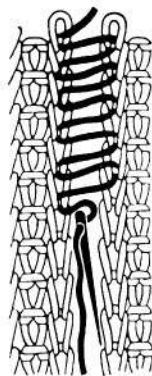


②

① Linking of knit stitches and
purl stitches using a Bamboo
needle and a Tapestry
needle.



③ Linking of vertical rows.



④ Linking of rib stitches.

For Your Better Patronizing



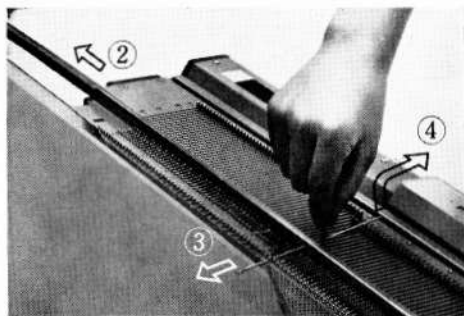
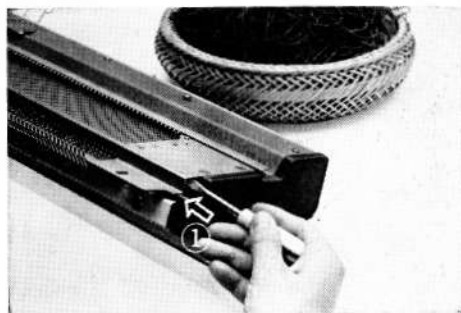
1. How to replace a needle

Replacement of a needle can be done when a fabric is on the needle or not.

- ① With a screwdriver or something like that, push on the Needle Stopper which lies inside of the needle bed. (direction 1)
- ② Pull out the Needle Stopper as far as the broken needle slightly float up. (direction 2)
- ③ Push the needle out in direction 3 as far as possible.
- ④ Grasping the Needle Butt, lift the shank of the needle to appear above the needle bed, and draw it backward. (direction 4)

To place a new needle in the needle bed, insert it in the reverse manner.

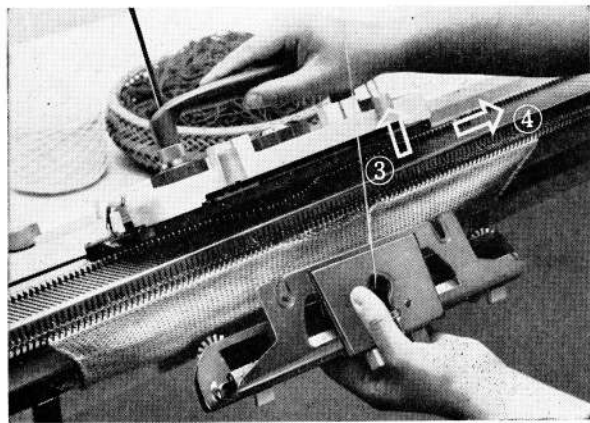
As a small needle hole is opened on the inner back plate, the shank of needle must be inserted into the hole.



2. If the carriage jams while knitting

Do not try to move the carriage by force.

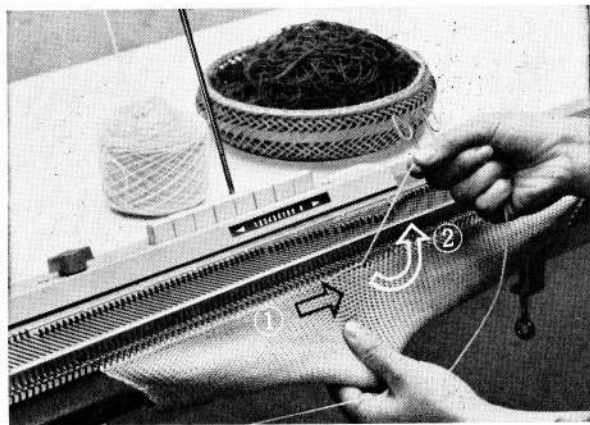
- ① Draw the Row Counter Lever toward you.
- ② Take off the Carriage Arm Plate.
- ③ Lift the front side of the carriage.
- ④ Return the carriage to the side from where it came.



3. Undoing stitches on needles.

If you wish to undo stitches of some rows or half a row, do not remove the work from the machine but carry out the following procedure.

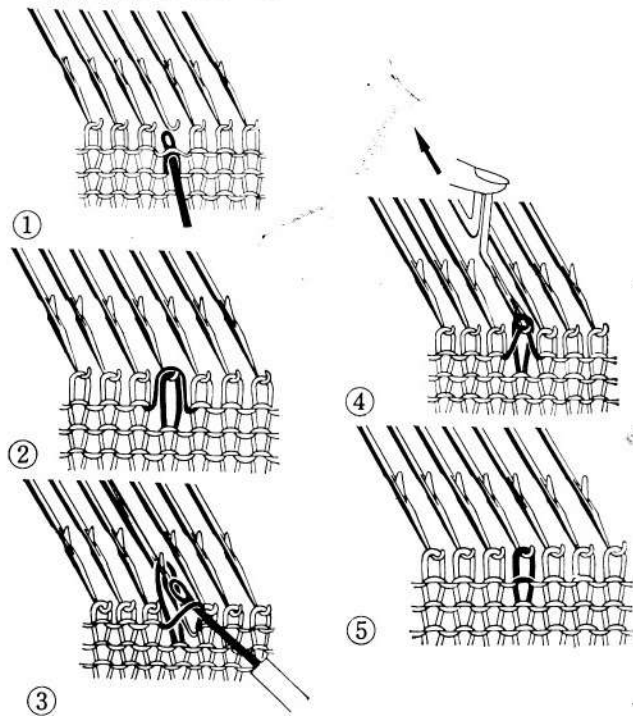
- ① Pull the yarn horizontally to the direction ①.
- ② Pulling the fabric gently down, lift the yarn up. (direction ②) The stitches of the last row will be undone and the stitches of the previous row remains on the needles.



4. If stitches are dropped

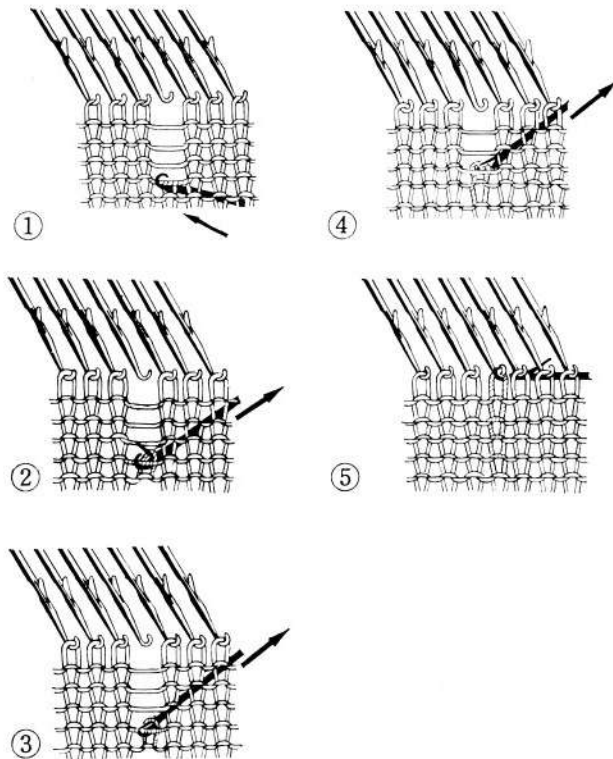
1. Reforming one dropped stitch:—

- ① Insert the Transfer Needle into the stitch just under the dropped stitch, and place the stitch and the dropped yarn onto the needle. (fig. ① ②)
- ② Push the needle so that the stitch comes passing over the latch to the stem of the needle and the dropped yarn is placed in the hook. (fig. ③)
- ③ Push back the needle to B position. Thus the dropped stitch is reformed.



2. Reforming two or more dropped stitches:—

When two or more stitches are dropped, use the Tappet as like as rib knitting, but it must be done on the knit side (behind) of the fabric.



5. Free operation of the carriage

If you wish to move the carriage freely while a fabric is on the machine, set the carriage as follows.

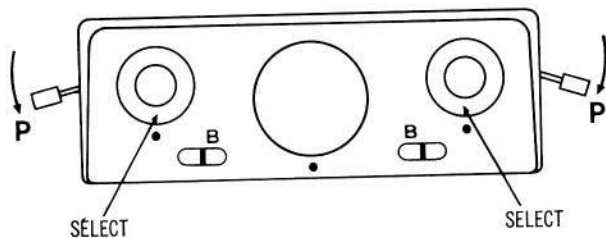
Side Levers..... on P marks.

Knitting Dials..... SELECT or START.

Carriage Buttons..... B (free setting)

And if there are some needles on C position, push them on D position or B position, and operate the carriage.

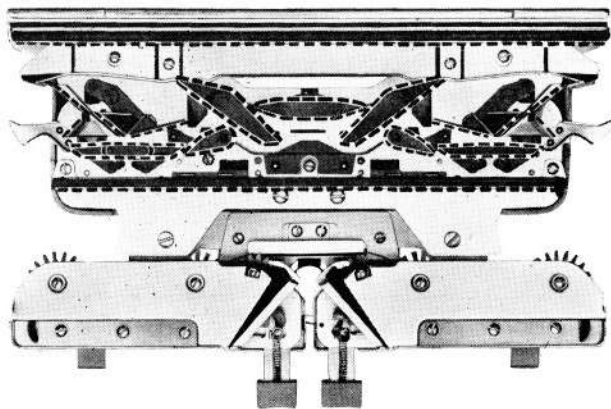
- As the Side Levers are set on P marks, any setting of the Pattern Panel has no connection to the operation of the carriage.



If all the Selecting Buttons are depressed and do not return.

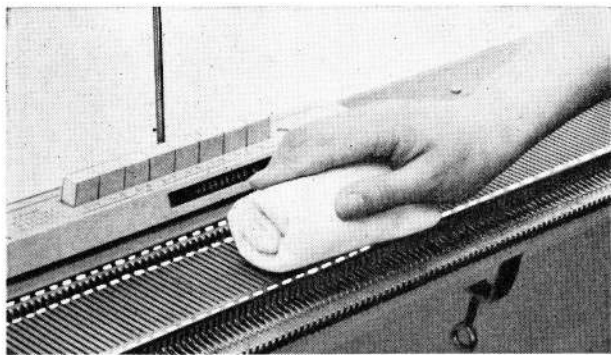
Turning the Shift Dial, set the Shift Indicator at the mark R of the number plate. Thus all the Selecting Buttons will return into free position.





7. Maintenance

- Give proper care and oiling before and after using the machine.
- Before oiling, brush away dust of yarn, then oil slightly on the cam side of the carriage along the dash-lines shown in the photo. Use the attached oil or sewing machine oil.
- However, regarding the Needle Bed, do not give oil with oiler but wipe it with oiled cloth. If the oil is dropped on the pattern plates which are constructed in the body of the machine, it will be caused to happen that the pattern plates are adhered each other and do not work.

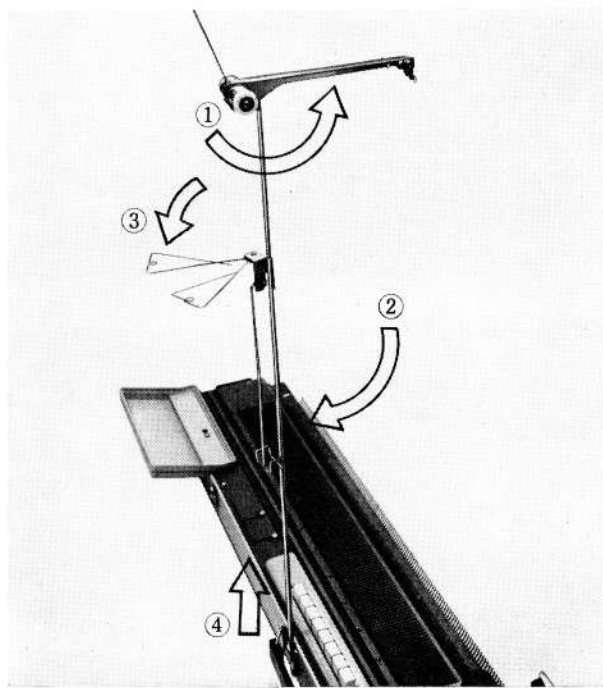


8. Storing away the machine

Auto-tensioner

After detaching the Auto-tensioner Unit from the Tensioner Rod, turn the Tension Spring. (direction ①)

- ② Pull down the Auxiliary Yarn Guide. (direction ②)
- ③ Close the Yarn Guides. (direction ③)



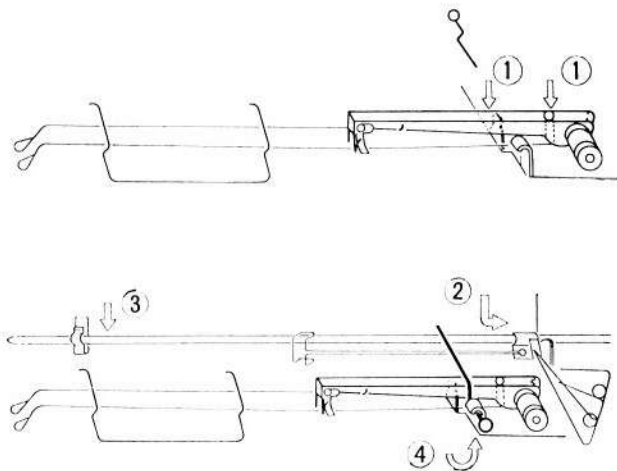
Putting into the cover of carrying case

Put the pipe of the Tension Unit on the projecting pin and at the same time, put the arm plate of the Tension Unit in the slit of the fixing plate. (arrow 1)

Insert the Tensioner Rod into the holder and shift it to the direction of arrow 2.

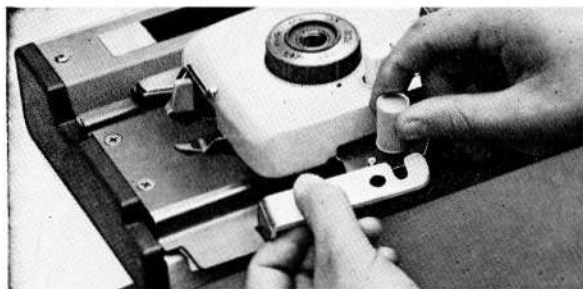
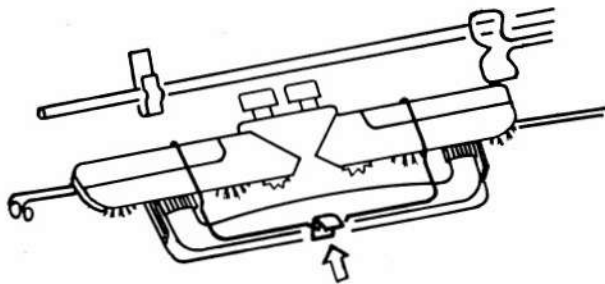
Fix the rod with the other holder. (arrow 3)

Hook the wire of the retainer to hold the Tensioner Rod and the Tension Unit. (arrow 4)



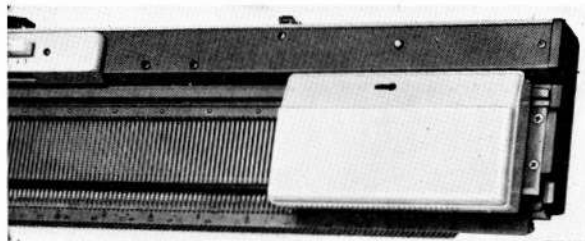
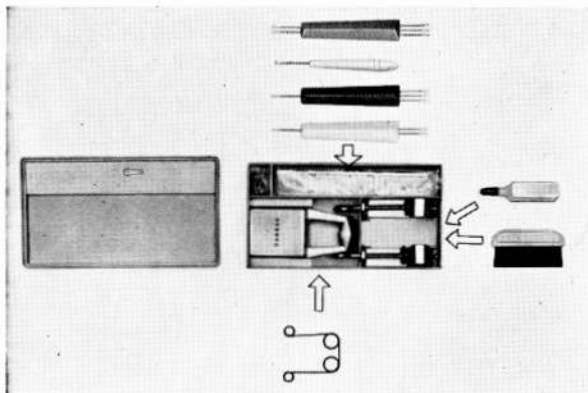
Carriage, Arm Plate, -Carriage Handle

- ① Detach the Arm Plate and the Carriage Handle from the carriage, and put the Handle in the carriage arm. Place the Tension Springs, Arm Plate of carriage and Carriage Handle on the retainer, and hook the wire.
- ② Fasten the carriage on the left side of the needle bed.




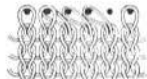







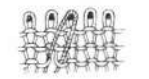



















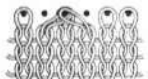

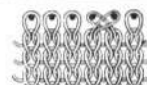





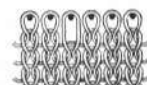





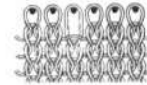


Tool Box

- ① Put the accessories and tools in the Tool Box and put the Cover of the Tool Box on the box. And place it on the right side of the needle bed. The Tool Box must be placed on the proper position. (see photo) otherwise, it might be an obstruction when the cover of the case is put on the machine.
- ② Put the Cover of the Case on the machine taking reverse manner of opening. (see page 1.2)



Knitting Symbols

Symbol		Explanation	Symbol		Explanation	Symbol		Explanation
 Knit stitch		Knit side	 Three stitches transferred to left		Three loops each moved one stitch to the left	 Drawn stitch		Drop a stitch and put all loops back on needle
 Purl stitch		Purl side	 Increased stitch to right		Pick up the increased stitch from the left lower loop	 Drawn and leaned to the right		Drop and pull up a stitch to the right adjacent needle.
 Two stitches on one needle to right		Left loop placed underneath right loop	 Increased stitch to left		Pick up the increased stitch from the right lower loop	 Drawn and leaned to the left		Drop and pull up a stitch to the left adjacent needle.
 Two stitches on one needle to left		Right loop placed underneath left loop	 Three loops on one needle		Make two increased loops from single loop and place all three on needle	 Twisted drawn stitch		Drop a stitch and put all loops back on needle after twisting them.
 Three stitches or center needle		Left and right loops placed underneath center loop	 Cross right stitch over left		Right loop crosses over left loop	 Twisted stitch		Take loop off needle, twist and replace
 Three stitches on center needle		Center and left loops placed underneath right loop	 Cross left stitch over right		Left loop crosses over right loop	 Wrapped stitch		Wrap yarn around needle
 Three stitches on center needle		Center and right loops placed underneath left loop	 Slip stitch		Drop a stitch, pull the long loop over the dropped stitch and place on needle	 Empty needle		Place one stitch underneath the adjacent stitch
 Three stitches transferred to right		Three loops each moved one stitch to the right	 Floating stitch		Drop a stitch, pull the long loop behind the dropped stitch and place on needle			

NOTE: These explanations apply to the knit side

mitsubishi electric corporation ,japan

