



SUPER JUMBO KNITTER
MODEL CN-110

FOR KNITTING EXTRA HEAVY YARNS OF ALL TYPES

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THE MACHINE

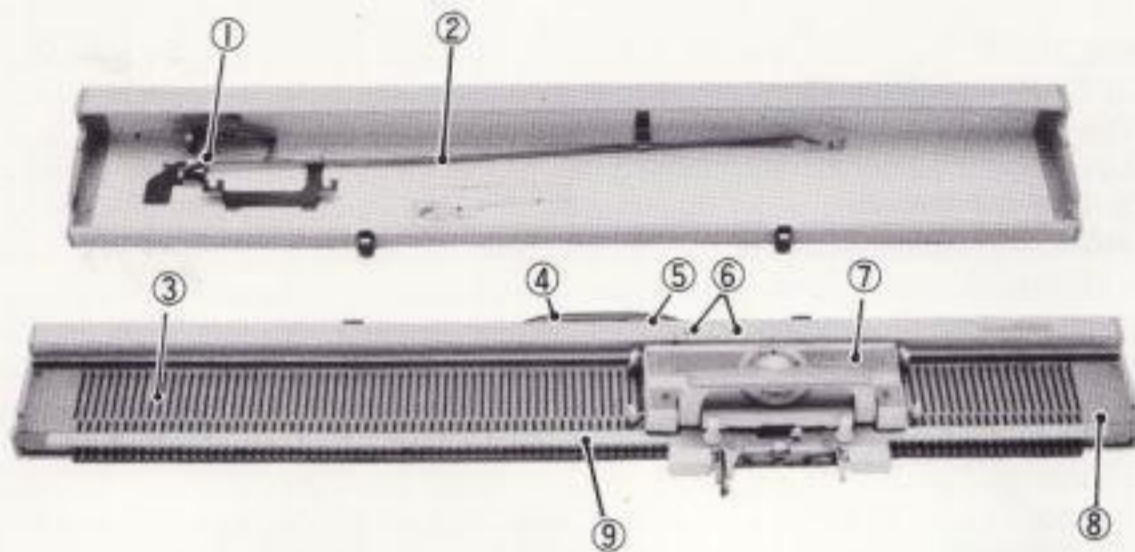


Fig.1

1. Overhead feeder unit.
2. Overhead feeder rod.
3. Needle bed.
4. Carrying handle.
5. Overhead feeder rod socket.

6. Row counter setting studs.
7. Carriage.
8. Carriage locking plate hole.
9. Needle guide scale.

TOP SIDE OF CARRIAGE

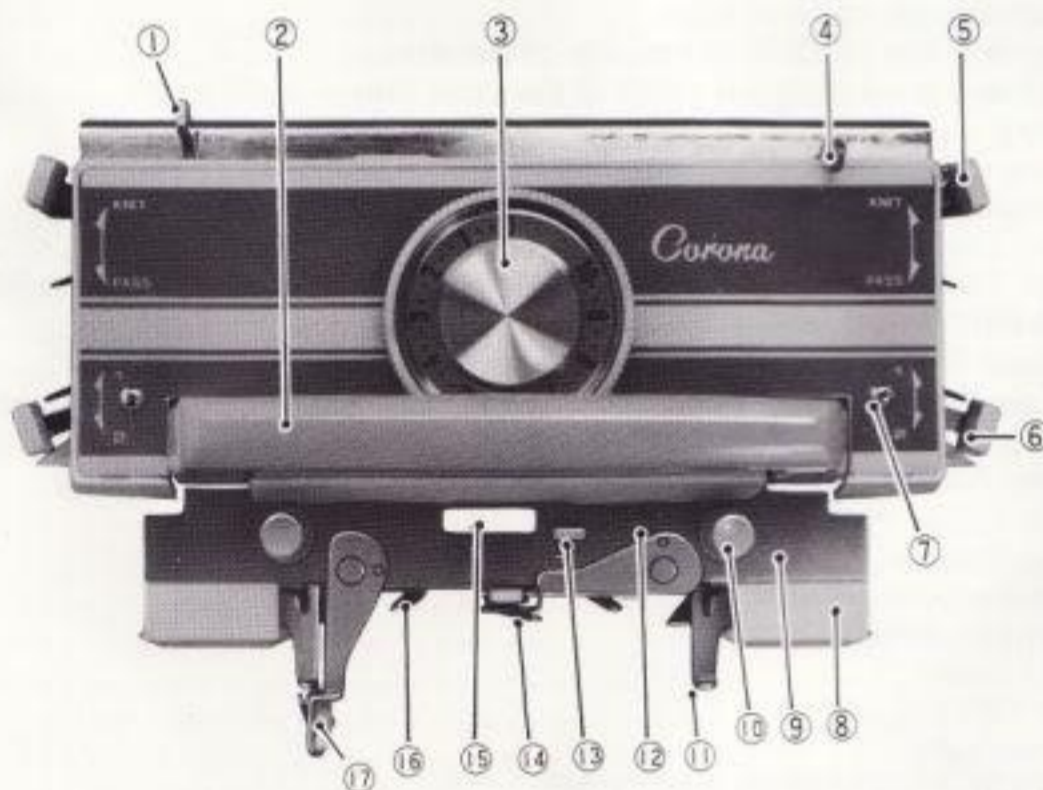


Fig.2

1. Row counter trip arm L/H. (in action)
2. Operating handle.
3. Tension dial.
4. Row counter trip arm R/H.(out of action)
5. Guide cam lever.
6. Return cam lever.
7. Carriage cover securing screw.
8. Latch brush.
9. Yarn feeder plate.

10. Yarn feeder plate securing nut.
11. Intarsia feeder R/H.
12. Feeder plate locating hole.
13. Carriage release lever.
14. Yarn feeder R/H. (in action)
15. Window for needle guide scale.
16. Subsidiary feeder L/H.
17. Yarn feeder L/H.(out of action)

BOTTOM SIDE OF CARRIAGE

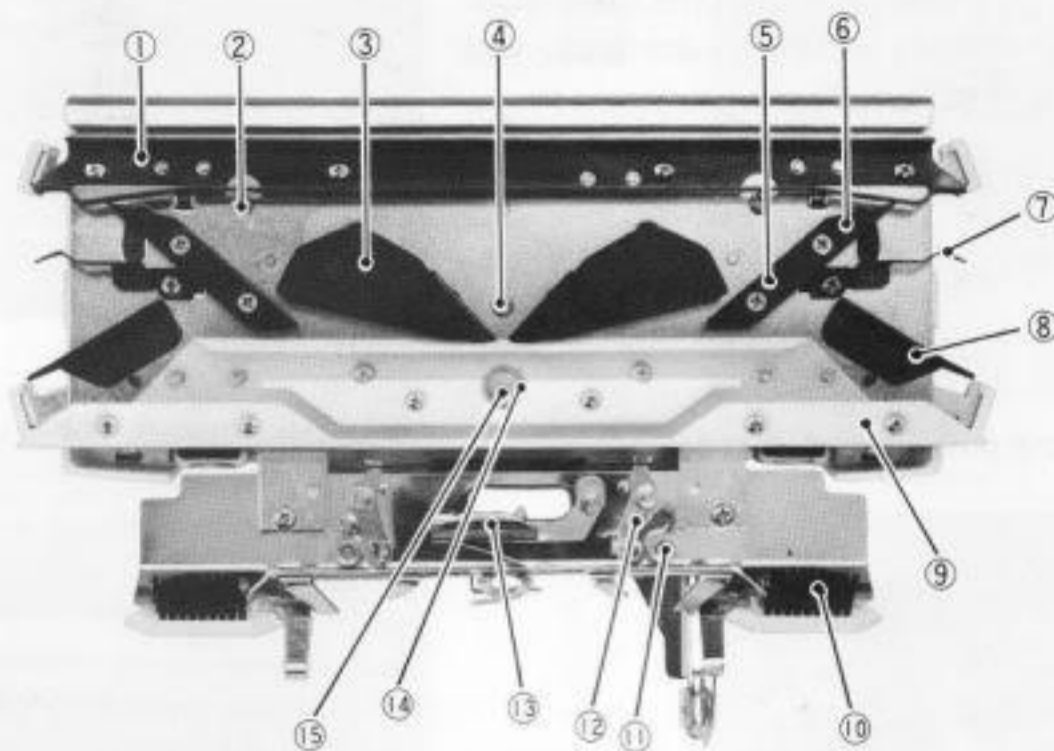


Fig.3

- | | | |
|----------------------------------|--------------------------|--|
| 1. Carriage rear runner. | 6. Guid cam. | 11. Yarn feeder axle. |
| 2. Carriage cover setting screw. | 7. Needle guide plate. | 12. Feeder setting lever. |
| 3. Main cam. | 8. Return cam. | 13. Carriage engagement hook. |
| 4. Tension dial setting screw. | 9. Nylon sinker rod cam. | 14. Main cam adjusting eccentric disc. |
| 5. Scooping cam. | 10. Latch brush. | 15. Eccentric disc securing screw. |

STANDARD ACCESSORIES

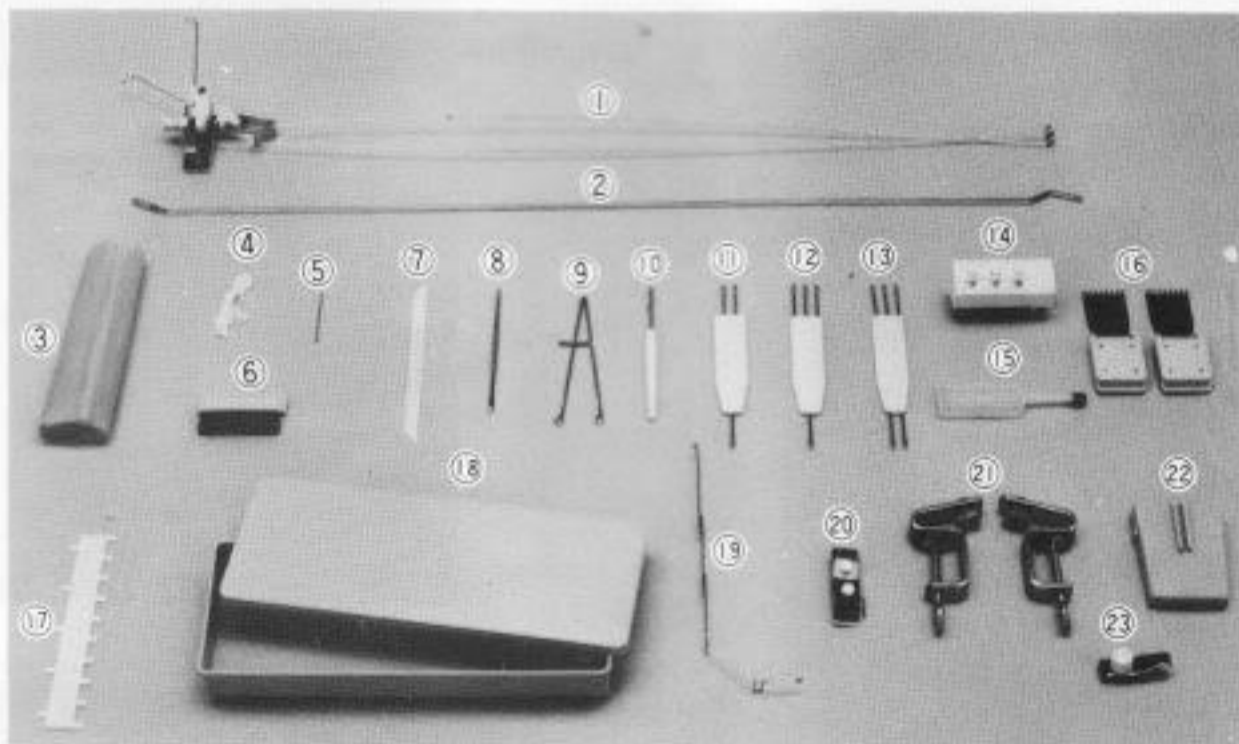


Fig.4

- | | | |
|-----------------------------|---------------------------|-------------------------------|
| 1. Overhead feeder unit. | 9. Spare latch needles. | 17. Selector plate. |
| 2. Overhead feeder rod. | 10. Latch needle tool. | 18. Accessory box. |
| 3. Soft plastic holder bag. | 11. Transfer tool (2-1) | 19. Yarn guide wire. |
| 4. Divider thread. | 12. Transfer tool (3-1) | 20. Fine yarn tension unit. |
| 5. Seaming needle. | 13. Transfer tool (3-2) | 21. Clamps. |
| 6. Cleaning brush. | 14. Row counter. | 22. Plastic hand tool holder. |
| 7. Sinker stopper. | 15. Rust-proof lubricant. | 23. Carriage locking plate. |
| 8. Crochet needle. | 16. Selvedge weights | |

HOW TO ASSEMBLE THE MACHINE

1. Place the machine on a firm table with the name plate uppermost and the carrying handle to the back, and unfasten both clasps. (Fig.5)



Fig.5

2. Remove cover lift and pull forward. (Fig.6)

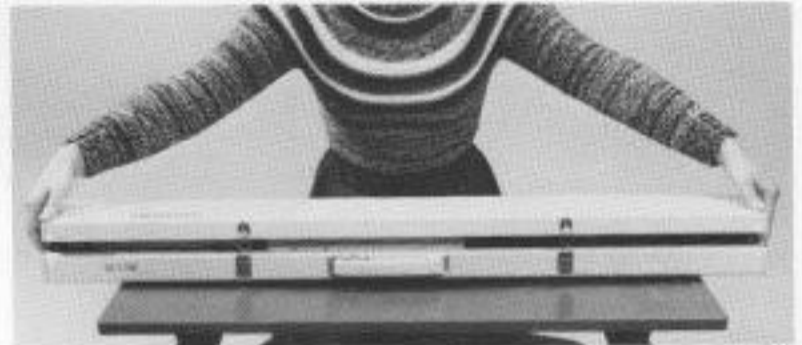


Fig.6

3. Take out the accessory box. (Fig.7)

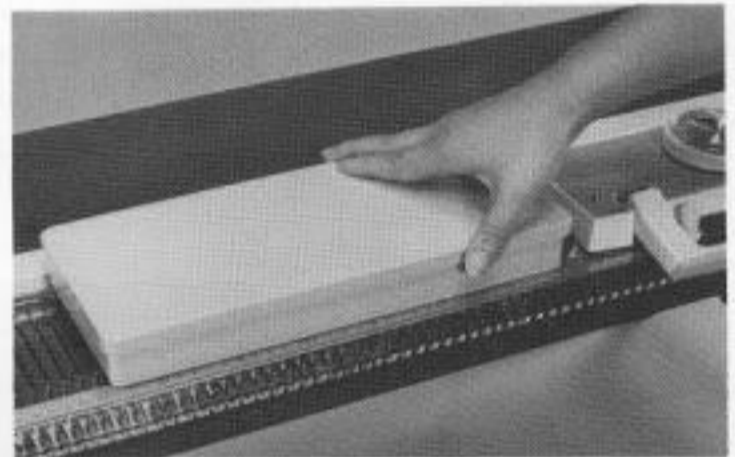


Fig.7

4. Fit clamps in position at base of the machine and clamp the machine to the table edge. (Figs.8 & 9)

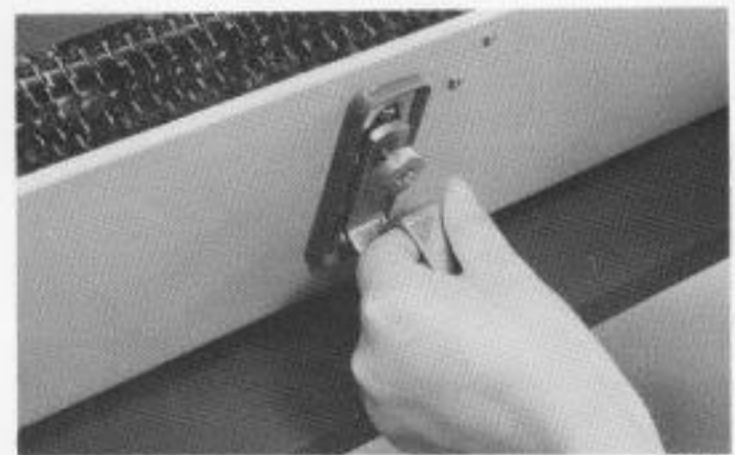


Fig.8

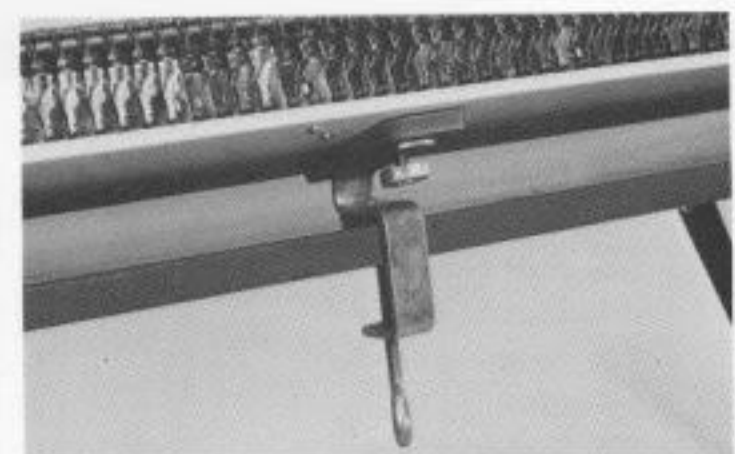


Fig.9

5. Raise up carriage handle in position. (Fig.10)

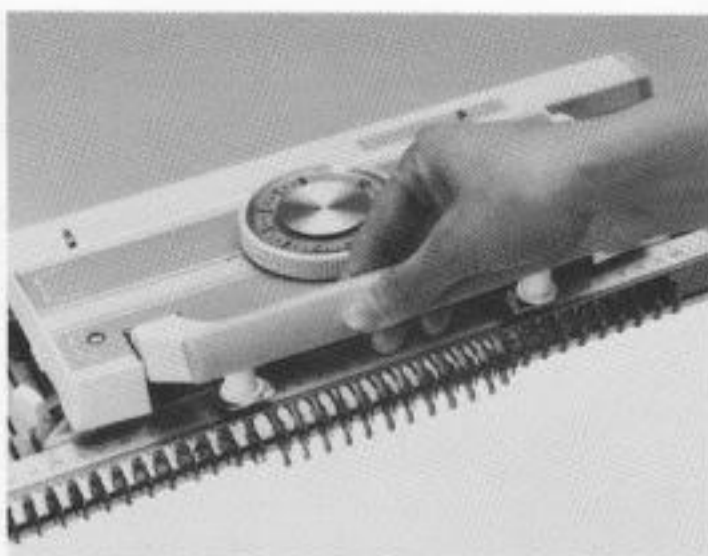


Fig.10

6. Detach carriage locking plate by unscrewing plastic knob. (Fig.11)

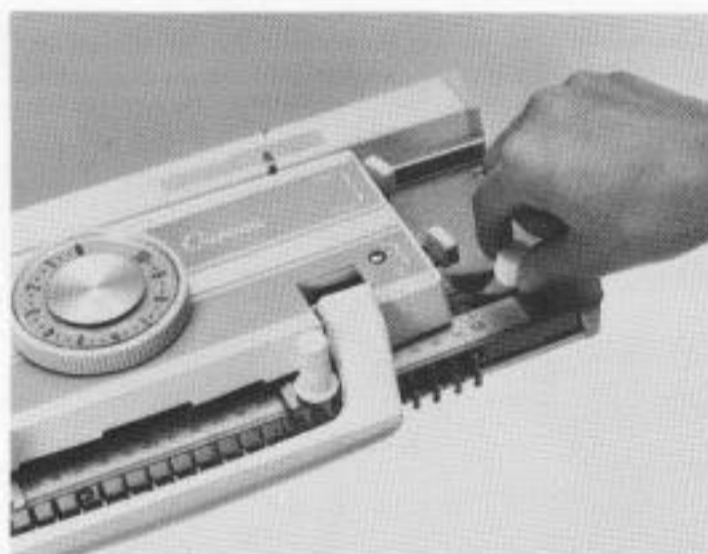


Fig.11

7. Loosen the yarn feeder plate securing nuts then slide the yarn feeder plate into position, being sure that the two locating holes on the feeder plate are placed directly over the two small protrusions, then tighten the securing nuts firmly. (Fig.12)

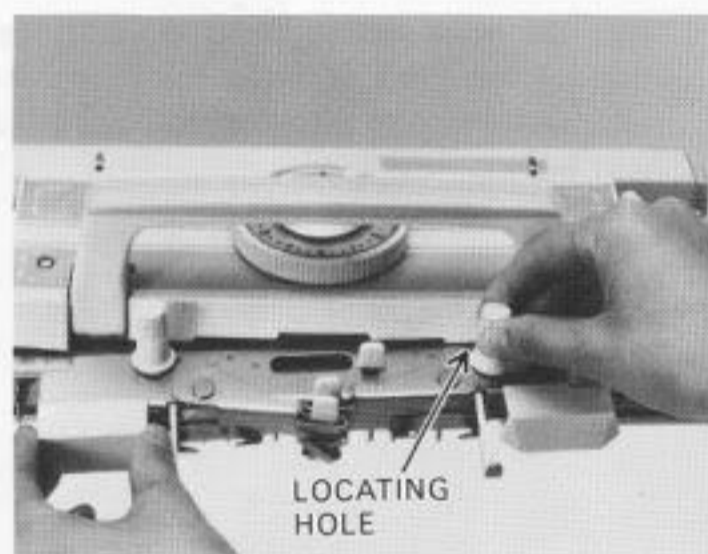


Fig.12

8. Place the row counter in position on the machine case. (Fig.13)

To do this, locate the keyhole slots of the metal bracket of row counter over the two studs on the machine case, then push the bracket back until the studs are in the narrow end of the keyhole slots.

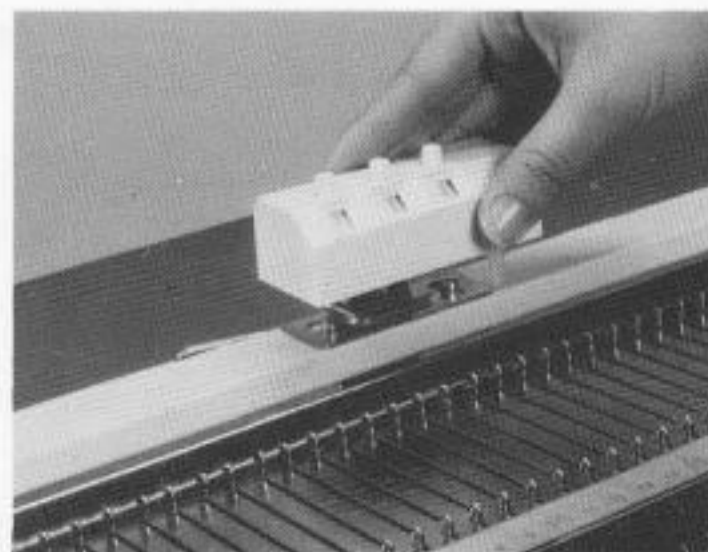


Fig.13

Note:

To bring row counter into operation, push back into position one or other of the two row counter trip arms. (Fig.14)

Do not bring both trip arms into action at the same time, but always use the one arm between the two.

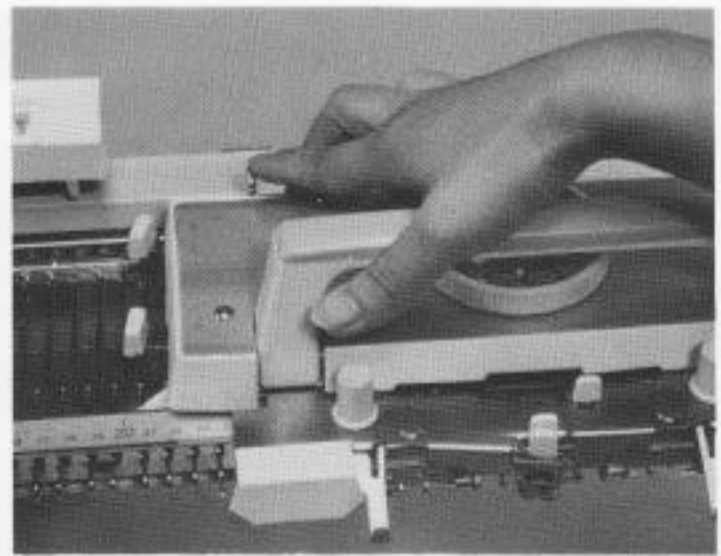


Fig.14

9. Take out the overhead feeder unit and rod from inside of the case lid. (Fig.15)

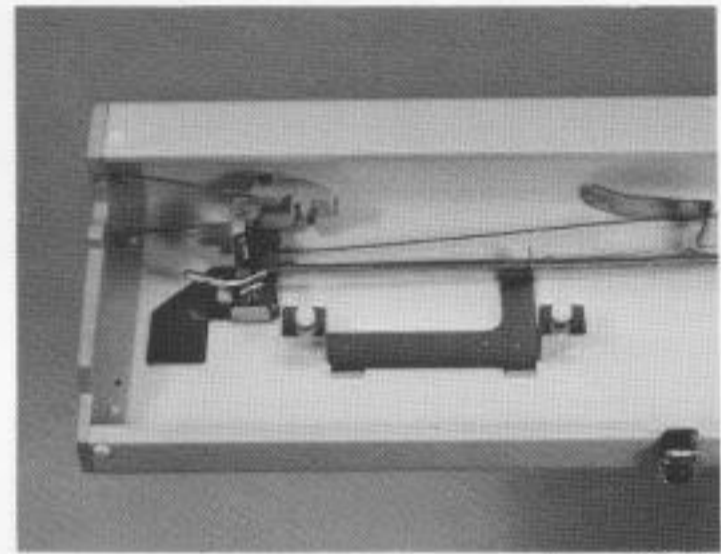


Fig.15

10. Into the small socket under the carrying handle at the back of the machine, insert the square end of the rod in such way that the rod leans backwards and the flat end is at the top. (Fig.16)

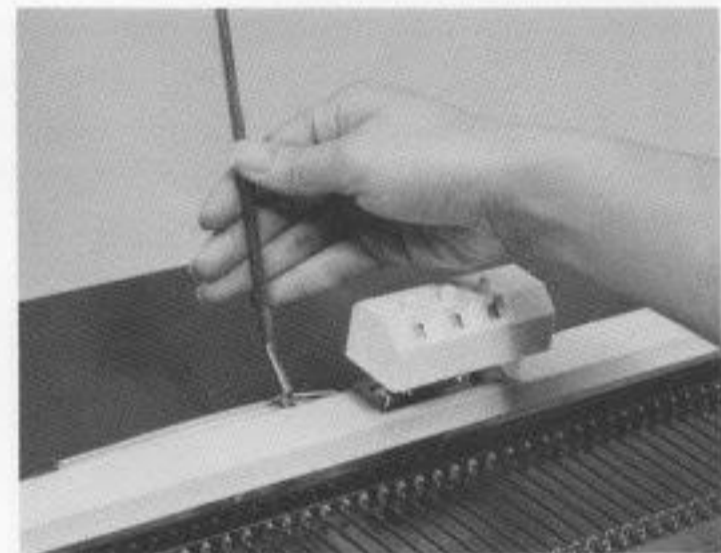


Fig.16

11. Clip yarn guide wire to rod about 8" to 10" from the top of the rod as shown in Fig.17.

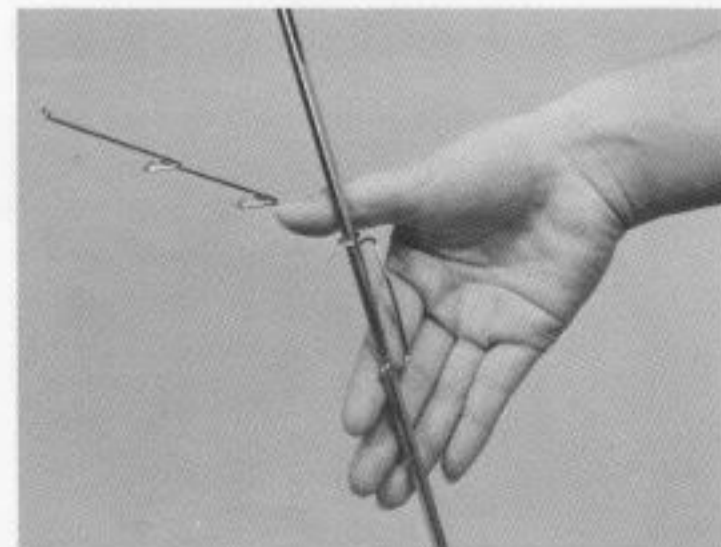


Fig.17

12. Fit overhead feeder unit to the top of the rod. (Fig.18)

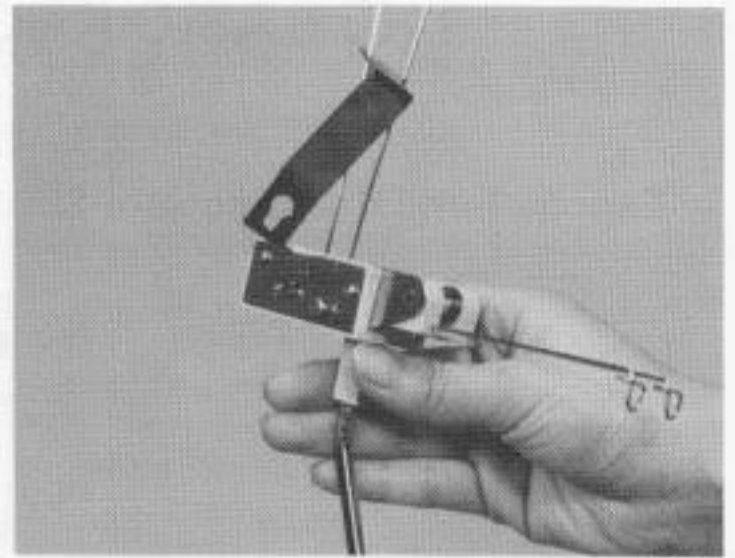


Fig.18

13. Clip plastic hand tool holder to the rod at a convenient height. (Fig.19)

Note:

The cut-out, to be found on both sides of the hand tool holder may be used for temporarily holding any loose end of wool not at present in the feeder. (Fig.19)

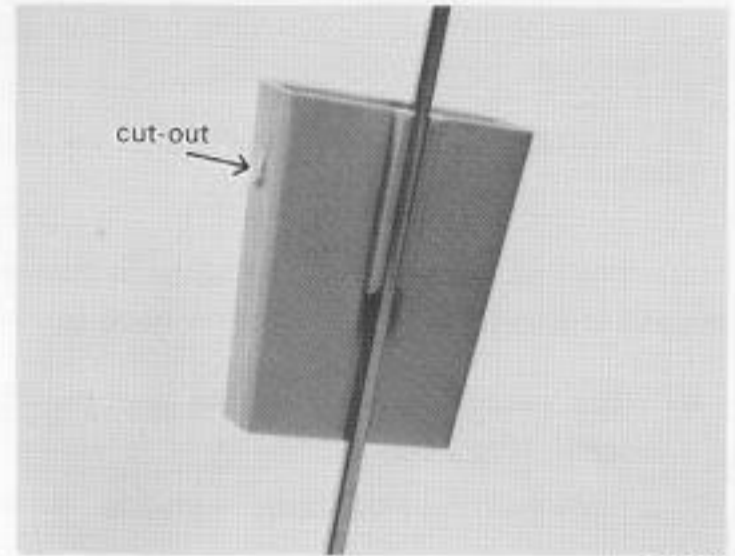


Fig.19

THE BASIC KNOW-HOW OF THE MACHINE

1. Expranation Of Needle And Sinker Action

The machine has latch needles in the needle bed and each stitch is formed by the latch needles operating in conjunction with the movement of the carriage. Below you will find an illustration of a latch needle and the names of its various parts (Fig.20) and also a description of how the stitches are formed by the latch needles and the special sinkers. (Fig.21)

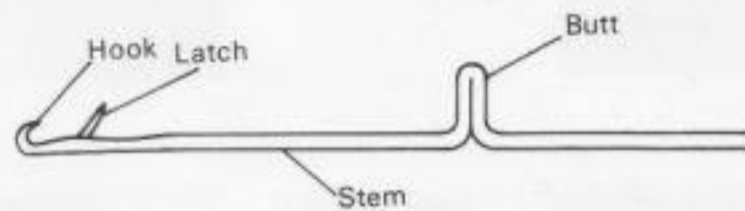


Fig.20

a) A stitch is held on the open latch by the sinker. (Fig.21-1)

b) The needle moves forward and the stitch passes behind the latch. (Fig.21-2)

c) As the needle moves back, new wool is fed into the hook and the previous stitch closes the latch. (Fig.21-3)

d) As the needle continues to move back, the sinker moves forward and the front of the sinker pushes the previous stitch over the closed latch to form a new stitch. (Fig.21-4)

e) The sinker now moves back and the sinker hook engages with the strand of wool between the stitches. (Fig.21-5)

f) The sinker continues to move back and downwards and at the same time the needle moves forward so that the new stitch opens the latch ready to commence forming yet another stitch. (Fig.21-6)

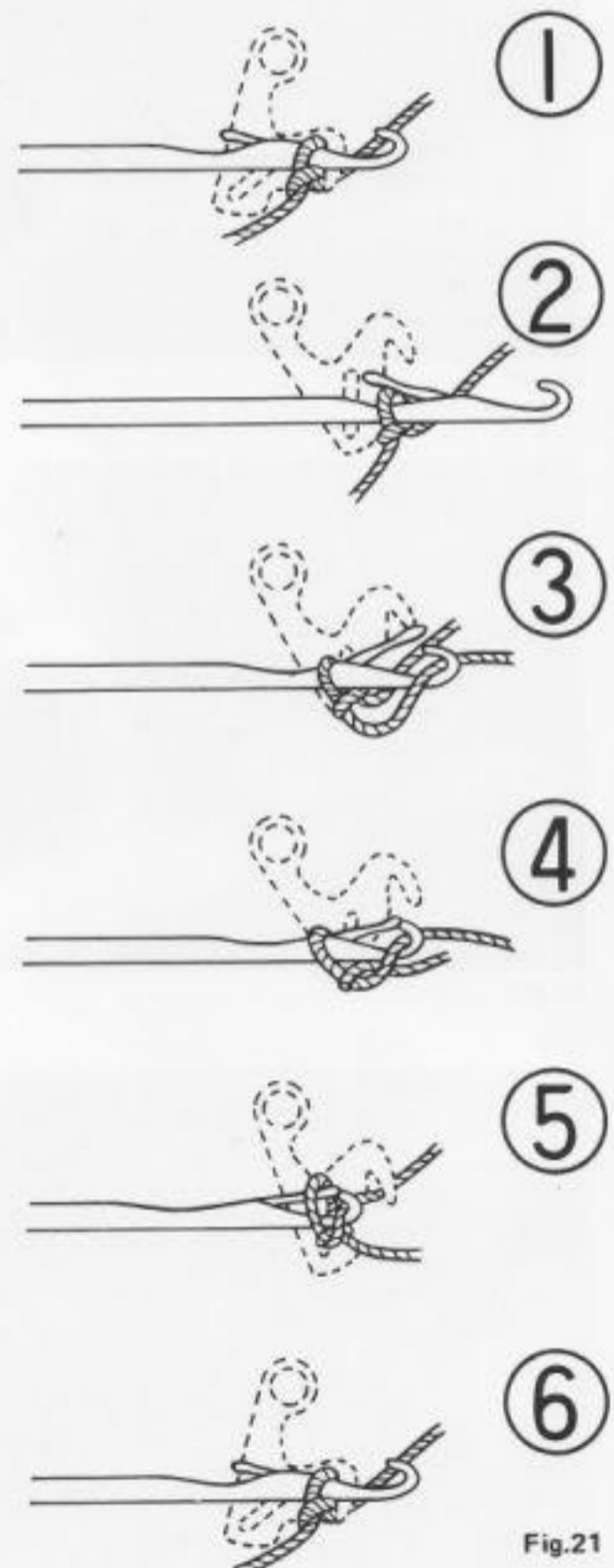


Fig.21

2. Needle Positions

Note:

Positions of the needles herein referred to are positions of the butts of the needles. (Fig.22)

(A) Rest Position (Non-Working Position)

Needle not in use. The needles when not in use should always be pushed back against the rear runner rail of the needle bed.

(B) Working Position

The required number of needles for knitting should be brought forward from position (A) into this position before commencing to knit.

Used to knit plain stocking stitches with the guide cam levers set to "KNIT".

When the guide cam lever is set to "PASS", the needles in this position do not knit but hold the stitches when the carriage is moved across them.

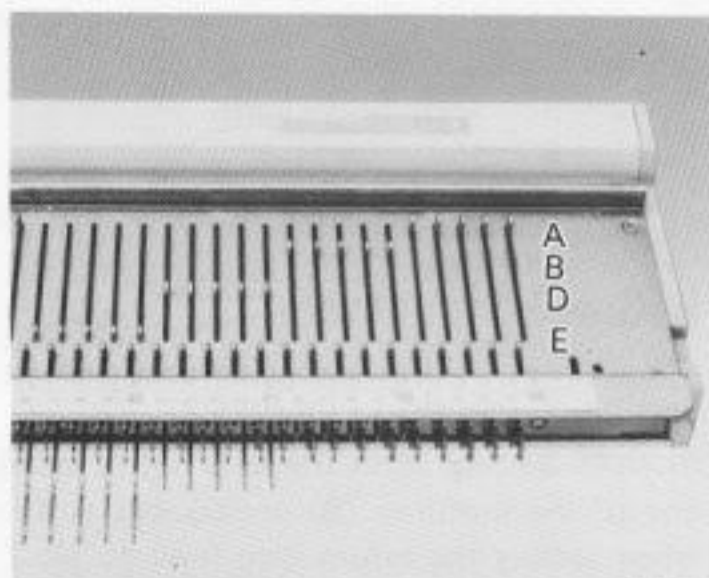


Fig.22

(D) Knit-in Pattern Position

Needle or needles are brought forward to this position from working position (B) for coloured knit-in pattern or casting-on. With the guide cam lever set to "PASS", needles in this position will knit while the other needles in position (B) will hold the stitches.

Needle or needles in this position will also knit when pushed back from the holding position (E).

(E) Holding Position

Needles hold stitches but do not knit when in this position. Used for tucking stitches, part knitting etc.

3. The Automatic Row Counter

- a) The row counter automatically counts the rows as the carriage is moved from side to side with one of the two row counter trip arms extended. (Fig.23)

Note:

Never use two row counter trip arms simultaneously

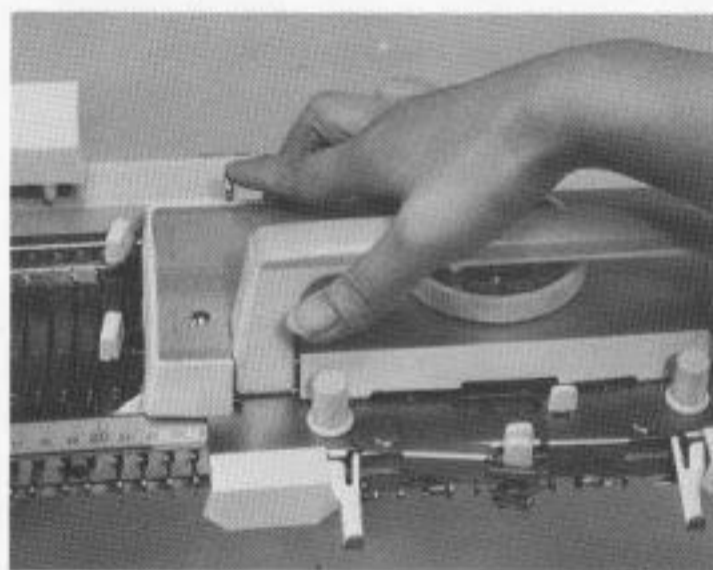


Fig.23

- b) The row counter registers single units on the right, tens in the centre and hundreds on the left. It counts automatically up to 999. (Fig.24)

- c) The numbers on the row counter may be adjusted or returned to zero by turning the adjusting knobs on the top of the counter. (Fig.24)

To obtain numbers 000 on the row counter, turn the adjusting knob for the single units at first so that it registers 0 for the single units, then proceed for tens units by turning the knob counter-clockwise and hundreds units by turning clockwise in order.

(Fig.24)

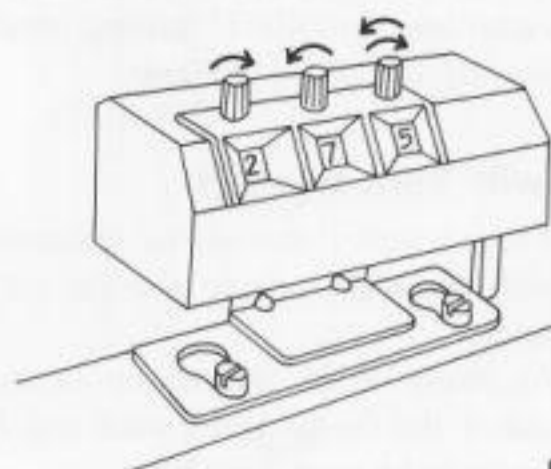


Fig.24

4. Tension Dial

This controls the size of the stitch, the higher number giving the looser tension. (Fig.25)

The following table gives approximate settings for various thicknesses of yarn.

0 – 3	Light heavy yarns
3 – 7	Heavy yarns
7 – 10	Very heavy yarns

5. Guide Cam Levers

These levers control the guide cam, and are set to two positions, "KNIT" and "PASS".

"KNIT" Setting: With the lever in this setting needles in any of the positions (B) or (D) will knit, and further, when setting the return cam lever to No.2, needles in position (E) will also knit. (Fig.26)

The lever should be at this setting when knitting in plain stocking stitch.

"PASS" Setting: With the lever in this setting needles in position (B) will not knit, but needles in position (D) will knit.

When setting the return cam lever to No.2, needles in position (E) will also knit. (Fig.27)

This setting is used when –

- (a) You need to move the carriage from one end of the machine to the other and across working needles in position (B) without affecting the knitting.
- (b) You wish to produce knit-in colour pattern – knitting on needles in position (D).

6. Return Cam Levers

These levers control the return cam, and are set to two positions, namely No.1 and No.2.

Setting to No.1: Needles in position (E) will not knit, but needles in position (D) will knit, and with the guide cam lever in "KNIT" setting, needles in position (B) will also knit.

This setting is therefore, used for part knitting, tucking etc. (See Fig.28)

Setting to No.2: With the lever in this setting, needles in position (E) will also knit, and therefore, with the guide cam lever in "KNIT" setting, needles in any of the position (B), (D) or (E) will knit.

7. Twin Yarn Feeders

When knitting two colour pattern, thread one feeder with the main colour and the other with the second colour.

To change from one colour to the other, pull out of action the feeder being used and flick into action the feeder to be used. (Fig.29)

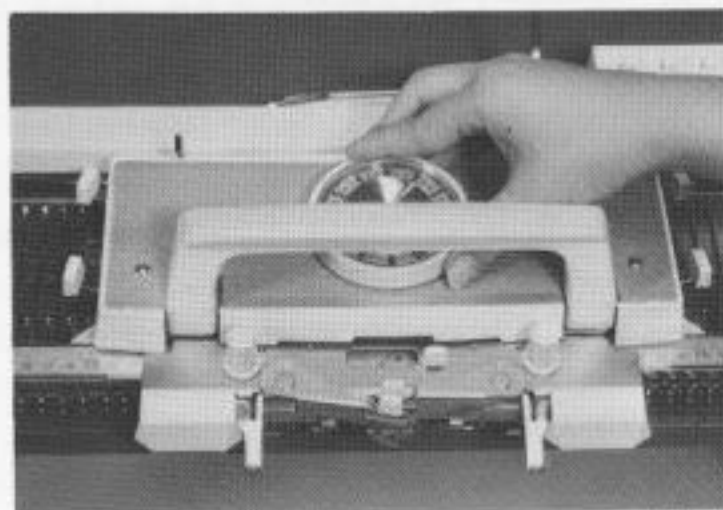


Fig.25

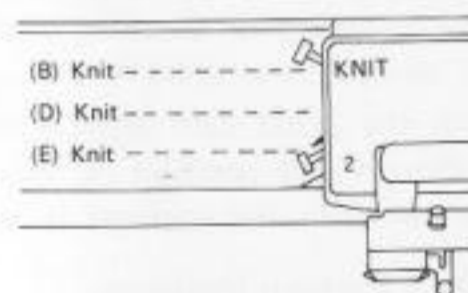


Fig.26

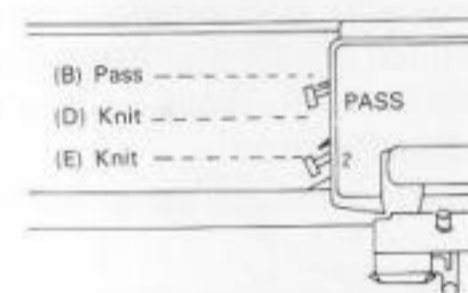


Fig.27

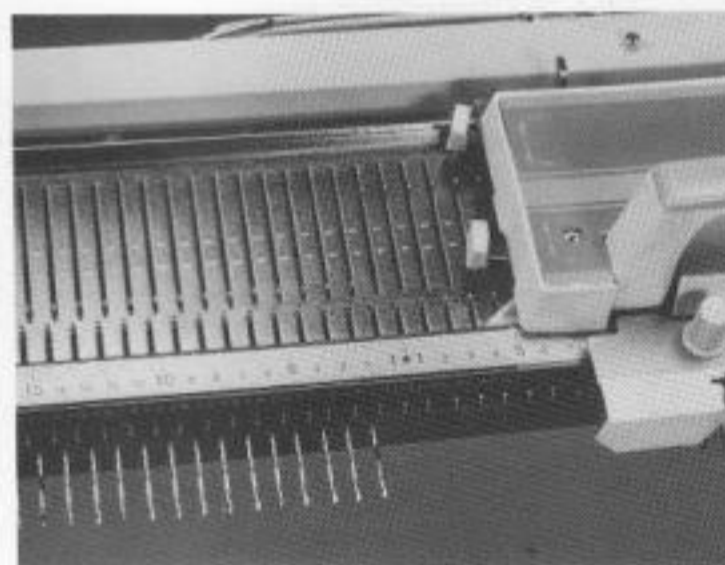


Fig.28

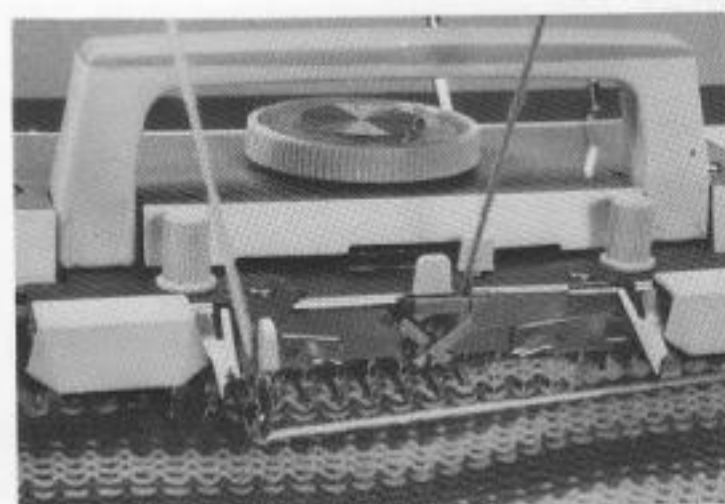


Fig.29

HOW TO CAST-ON AND KNIT

Now that you have prepared the machine for knitting you are ready to thread up the machine and knit your first sampler. Use a good quality heavy thickness wool, preferably wound onto a cone or a wool winder. When drawn from a cone or ball from wool winder the wool comes away freely, resulting in an even textured fabric.

1. Thread The Wool As Follows:

- a) through one of the eyelets of the yarn guide wire.
(Fig.30-A and Fig.31)
- b) up through yarn trap unit. (Fig.30-B)

Note:

Put in position the long wire take-up arm securing bracket as shown in Fig.32.

To do this, locate the wide section of the keyhole slot of the bracket over the stud in the metal plate of the yarn trap unit, then pull the bracket upward to allow the stud to be in the narrow end of the keyhole slot – see again Fig.32.

Move forward the small button visible through a slot located in the metal plate of the unit, and at the same time lift upwards the yarn trap unit, as shown in Fig.33.

Then, place the yarn into the base of the unit – see Fig.34.

Drop the yarn trap unit back in position and thread the wool through one of the front eyelets. (Fig.35)

c) through the pigtail at the end of the long wire take-up arm. (Fig.30-C & Fig.36)

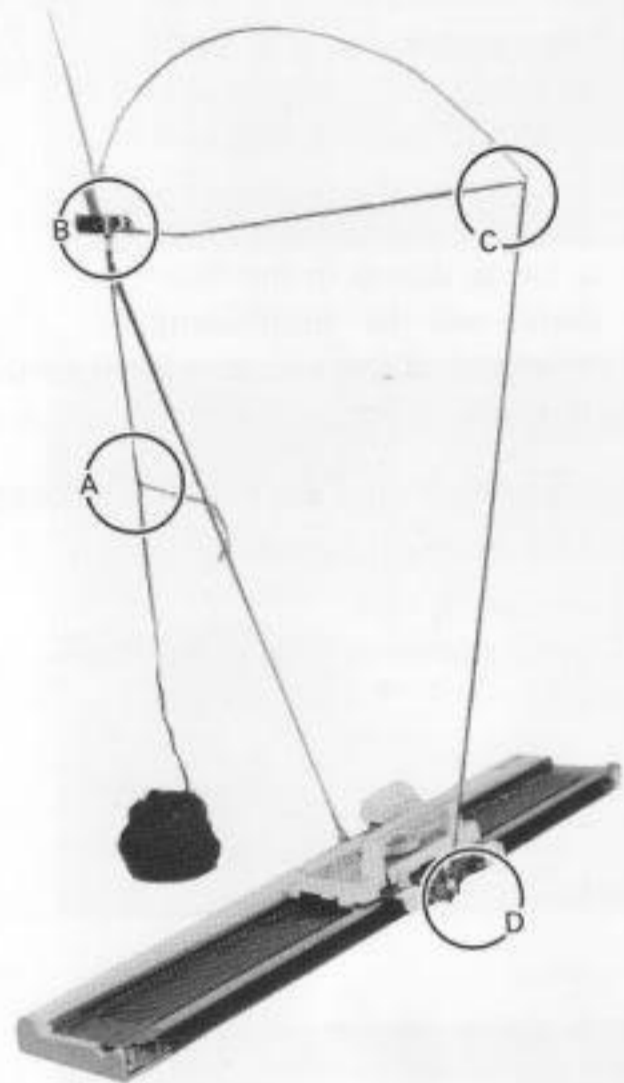


Fig.30

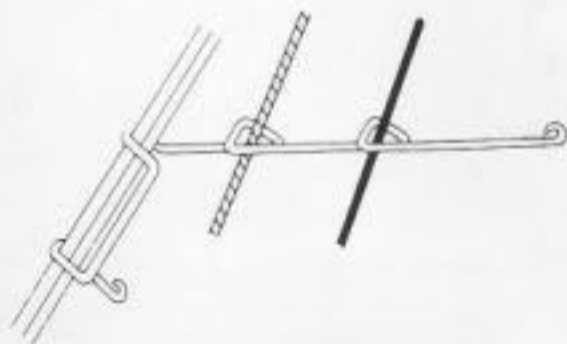


Fig.31

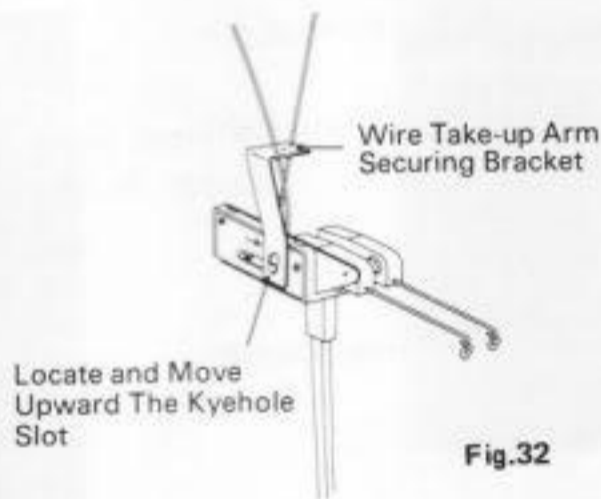


Fig.32



Fig.33



Fig.34

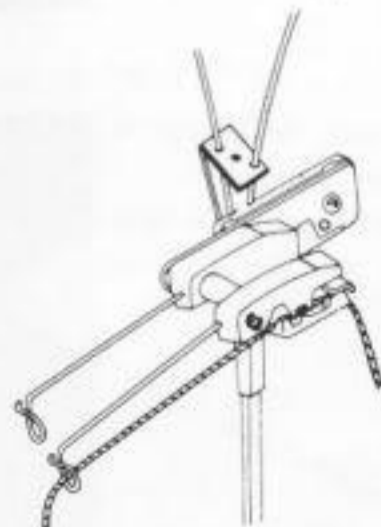


Fig.35

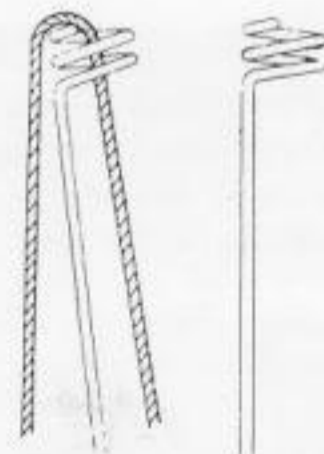


Fig.36

d) down to the carriage feeder (Fig.30-D) in the following sequence: Fig.37-A, B & C.

The function of the overhead feeder is to guide the wool from ball or cone to the carriage feeder and by means of the yarn trap unit (Fig.30-B) to bend the long wire take-up arm downwards during knitting as shown in Fig.30-C.

Unless the arm is pulled downwards at least as far as shown in the illustration there will be insufficient upward movement of the wire arm for it to take up the length of wool between the end needle and the carriage feeder when the direction of the carriage movement is reversed.

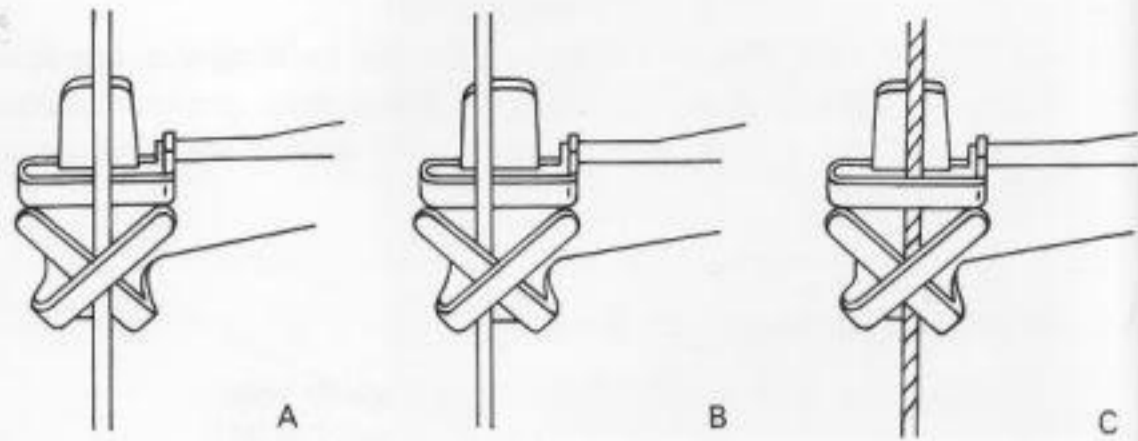


Fig.37

2. After Threading The Wool Through The Carriage Feeder Cast-On As Follows:

With the carriage on right,

- a) Set tension dial to No.2 or 3. (Fig.38)
- b) Move both return cam levers to No.2 – forward position. (Fig.39)
- c) Set left hand guide cam lever to "PASS" and right hand lever to "KNIT". (Fig.39)
- d) Bring upward to out of action both row counter trip arm.
- e) Using the plastic handle of the transfer tool, bring the required number (30 or so) of needles forward as shown in Fig.40 and align them in working position (B) – see also Fig.22.

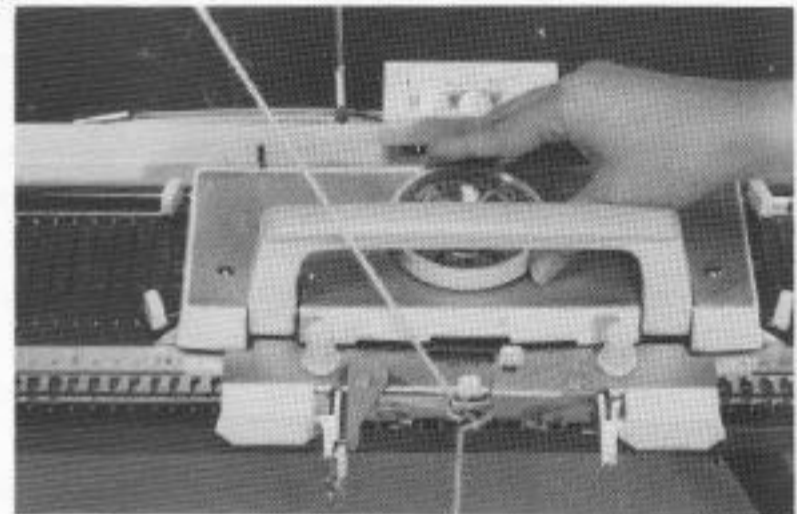


Fig.38

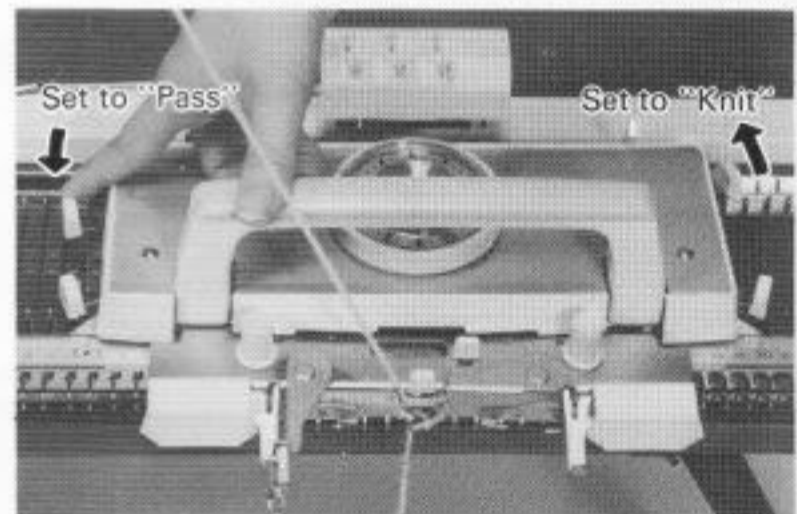


Fig.39

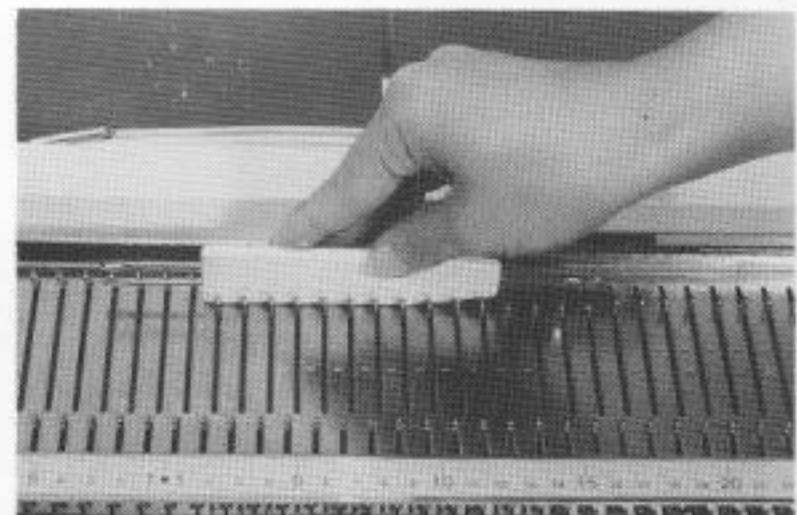


Fig.40

- f) With the 1 x 1 selector plate, bring forward into position (D) every alternate needle as shown in Fig.41.

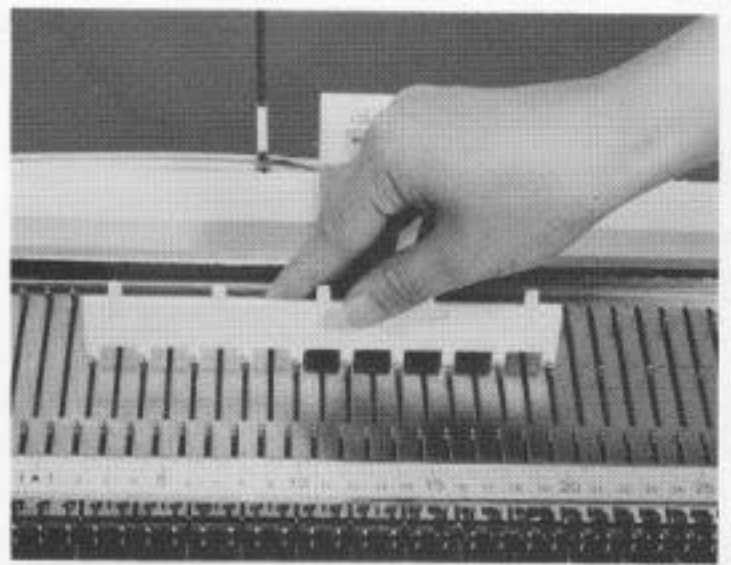


Fig.41

- g) Holding the loose end of the wool directly below the carriage feeder, move the carriage slowly from the right to the left across the working needles. (Fig.42)

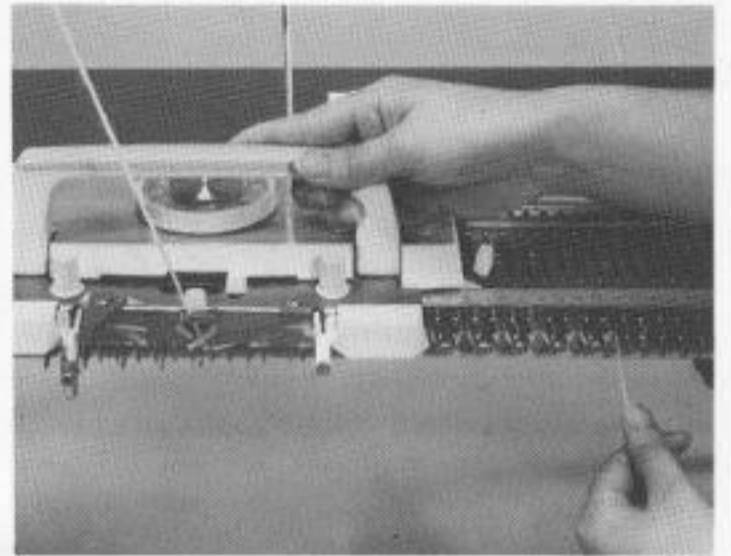


Fig.42

Now, it will be seen that every alternate needle has picked up the wool and all the needles have aligned in position (B). (Fig.43)

- h) Keeping hold of the loose end of wool, move the carriage slowly back to the right and all needles will engage the wool.

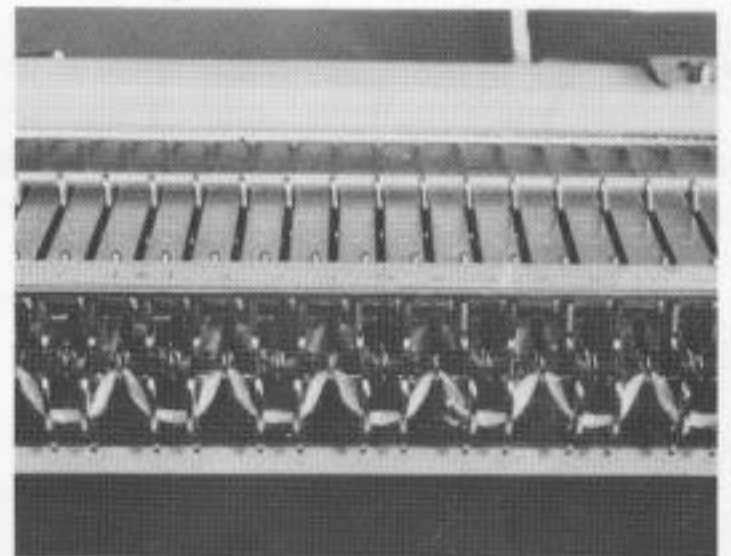


Fig.43

- i) With the carriage on the right, set to "KNIT" the left hand guide cam lever and turn the tension dial to No.4 or 5.
Turn backwards one of the row counter trip arms so that now it will activate the row counter. (Fig.44)

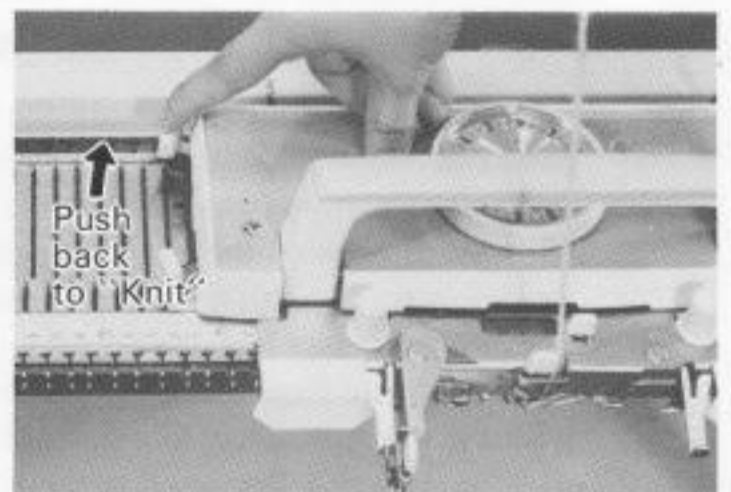


Fig.44

- j) Pull the loose end of wool gently along the sinkers towards the right until the wool is taut as shown in Fig.45.
- k) Move the carriage back and forth across the working needles.

Note 1:

The direction of the carriage movement should be reversed after it has passed the last working needle – at a point when the return cam lever is opposite the end needles. If the carriage is taken too far past the end needle the wool will go slack before it is picked up by this needle when the carriage movement is reversed. This will cause (a) a loop at the edge or (b) a dropped stitch or stitches.

Read & do

Note 2:

For the first 10 or 15 rows you should watch the knitting, which may tend to curl under the sinkers. Uncurl the knitting and check that the end stitches do not “double up” during the first few rows of knitting. If you find two loops on the end needle, knit these through manually before knitting the next row. (Fig.46)

Note 3:

When knitting a garment, if there is any tendency for the end stitches to drop off the needles or the end stitches do not knit off, hang the selvedge weights onto each end of the knitting, directly below the working needles. (Fig.47)

Move the weights up on the knitted fabric every 10 to 15 rows as the knitting progresses.

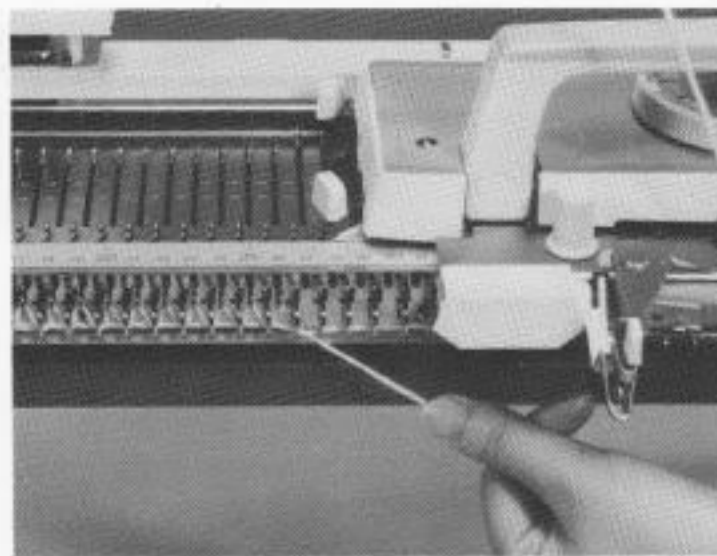


Fig.45

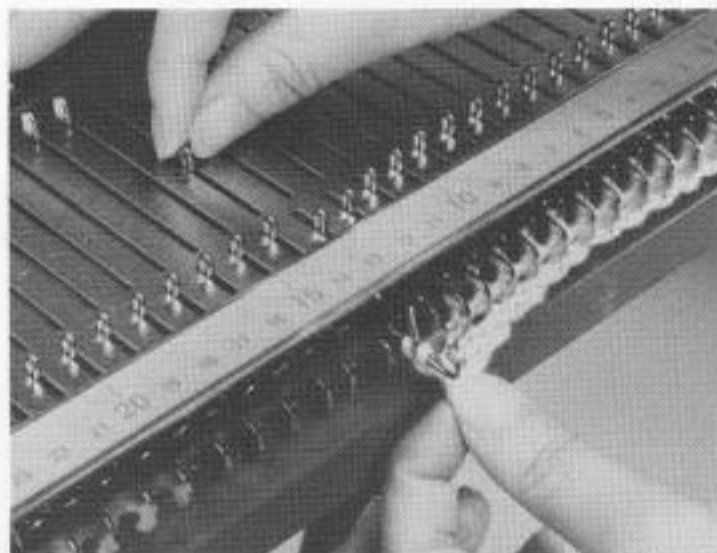


Fig.46

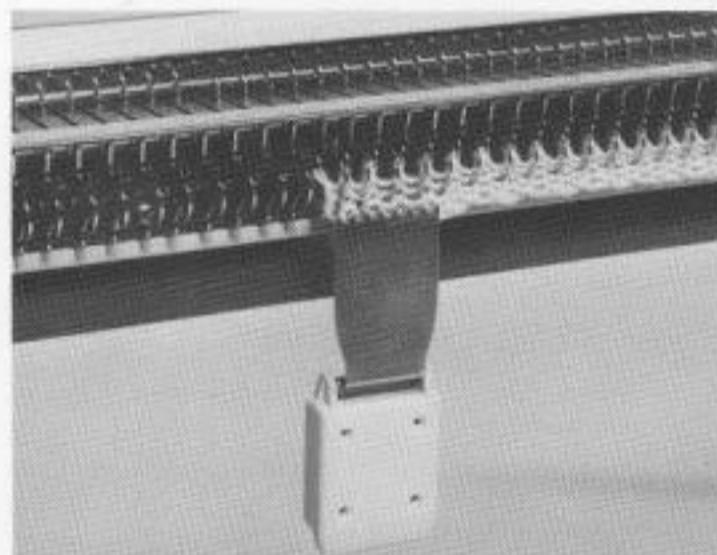


Fig.47

3. Casting-On Using The Divider Thread

This method will enable you to pick up the stitches more easily when knitting a ribbed welt. (see Figs.48 & 49)

- a) With odd wool of contrasting colour cast-on the required number of stitches by the preceding method and knit 6 or more rows.
- b) With the carriage on the left, break the wool and remove it from the feeder.
- c) Re-thread feeder with the divider thread.
- d) Feeding the thread into the feeder with the left hand, knit 1 row.
- e) Remove thread from feeder and re-thread feeder with the new wool.
- f) With the thread forming loops around the needles, cast-on again with the new wool.
- g) After completing the piece of knitting, release each end stitch of the divider thread then pull it out – this will separate the first piece of knitting from the main piece, leaving a neat cast-on edge.

4. To Form A Ribbed Welt

Cast-on as described under the heading "Casting-on Using The Divider Thread" and knit until you have a piece of stocking stitch the length required for the welt. Now proceed as follows: —

- a) Place the sinker stopper in position between the sinker butts and the front rail. (Fig.48)
- b) Drop the stitch, where the rib is required, from the needle hook, by moving the needle forward with the hand until the loop passes behind the latch, then move the needle back so that the stitch passes over the closed hook. Run this stitch down until it is within 2 or 3 rows of the divider thread.
- c) Insert latch needle tool into the loop immediately above the divider thread.
- d) Drop the stitch down into the hook of the latch needle tool.
- e) Holding the fabric firmly in the left hand knit up the stitch with the latch needle tool and place it back on the empty needle (Fig.48), see also Fig.49. Repeat for each rib. Remove sinker stopper before knitting.

Note:

A very elastic rib welt can be obtained by ribbing the stitch from every third needle.



Fig.48

5. How To Use The Latch Needle Tool For Ribbing

- a) Insert the open hook into the loop and push the needle forward under the strand above the loop until the loop is behind the latch. (Fig.49-1)
- b) Pull the needle back so that the loop closes the latch over the strand caught in the needle hook. (Fig.49-2)
- c) Continue to pull the needle back until the strand is drawn through the loop. (Figs.49-3 & 4)
- d) Repeat until the last strand has been picked up. (Figs.49-5 & 6)
- e) Hook the final loop back on the empty needle. (Fig.49-7)

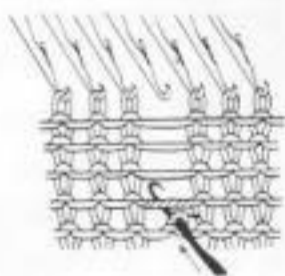


Fig.49-1

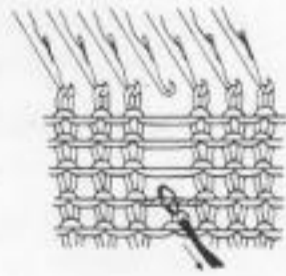


Fig.49-2

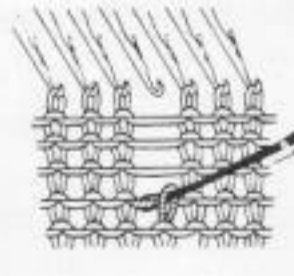


Fig.49-3

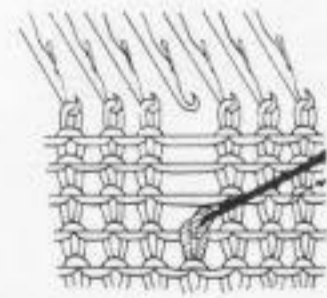


Fig.49-4

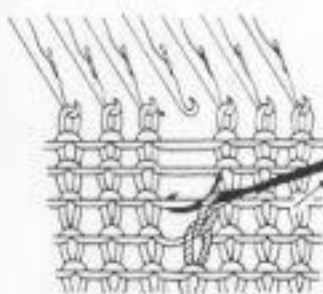


Fig.49-5

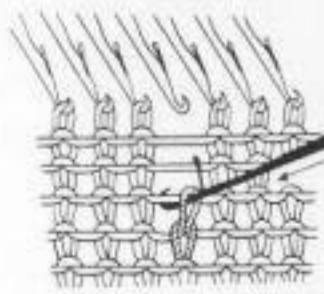


Fig.49-6

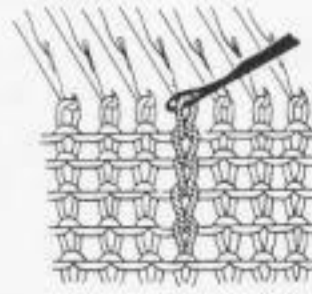


Fig.49-7

6. To Form A Hem

- a) Cast-on the number of stitches required.
- b) Knit until the piece is twice as long as depth of the hem.
- c) Place the sinker stopper between the sinker rod butts and the front rail. (Fig.48)
- d) Turn the knitting up towards you and, with the crochet needle or transfer tool, hook the loops of the cast-on edge onto the needles.
- e) With all loops hooked on to the needles bring the needles forward into the holding position (E).
- f) Remove the sinker stopper.
- g) Push the loops back along the needle stems until they are behind the open latches.
- h) With the return cam levers forward to No.2, move the carriage slowly across the needles to knit the first row. This completes the hem.

7. To Form A Hem With Picot Edge

Cast-on and proceed until half the number of rows (say 10) required for the hem have been knitted, now transfer the stitch from the 2nd needle onto the 3rd needle, the stitch from the 4th needle onto the 5th needle and so on to the end of the row. There must be a stitch on each end needle. Leave the alternate empty needles in the working position and continue to knit the same number of rows (a further 10). Now complete the hem as described under the heading "To Form A Hem".

8. How To Use The Transfer Tool

- a) Place the eye of the transfer tool into open needle hook. (Fig.50-1)
- b) Draw the needle towards you with the tool until the stitch passes behind the latch. (Fig.50-2)
- c) Push the needle back until the stitch slips onto the transfer tool. (Fig.50-3)
- d) Lift the 'eye' of the transfer tool out of the needle hook and place it into the hook of the next needle. (Fig.50-4)
- e) By tilting the handle of the tool upwards, slide the stitch off the transfer tool into the hook of the needle. (Fig.50-5)

Note:

Make sure that the work is under the sinker hooks before moving the carriage.

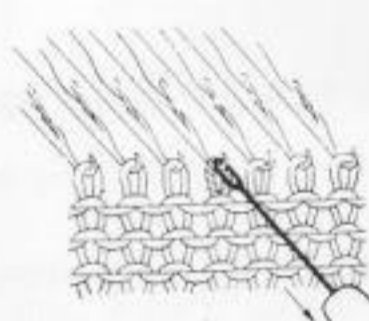


Fig.50-1

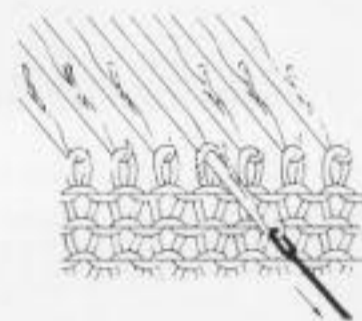


Fig.50-2

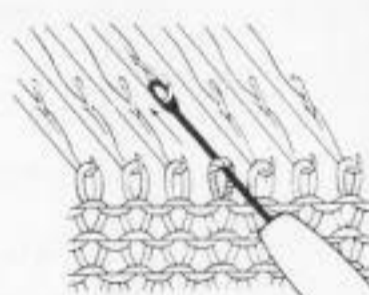


Fig.50-3



Fig.50-4



Fig.50-5

9. Increasing Stitches

(A) To Increase One Stitch At Edge

Plain Increasing

This can only be done at the start of row. To do this pull forward into working position the next empty needle at the end nearest the carriage, and knit. (Fig.51)

Full Fashion Increasing

This can be done at either or both ends simultaneously.

- Bring the next empty needle into the working position. (Fig.51)
- Using the double eye transfer tool transfer the first two stitches so that the first stitch is on the empty needle and the second stitch is on the adjacent needle, (Fig.52-1) leaving the third needle empty.
- With the single eye transfer tool, pick up a loop from the next stitch one row below and place it in the empty third needle hook. (Fig.52-2)

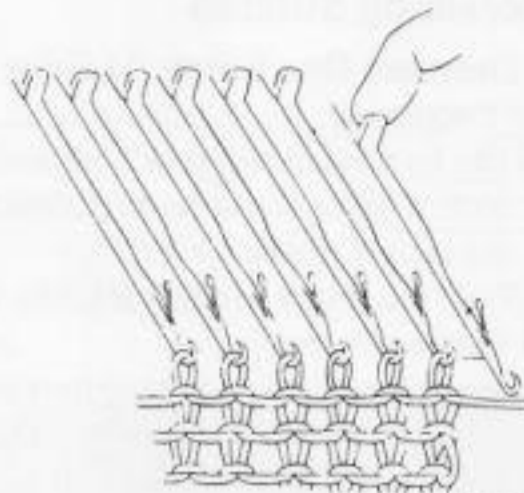


Fig.51

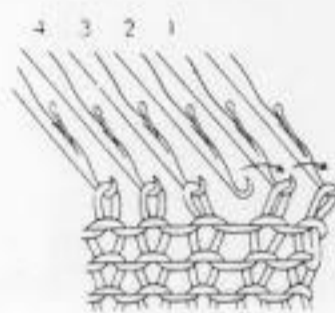


Fig.52-1

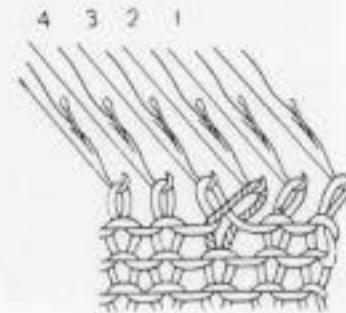


Fig.52-2

(B) To Increase One Stitch In The Middle Of A Row

- Bring into working position the next empty needle at the nearest end. (Fig.51)
- Using the treble point transfer tool, move the first three stitches outwards so that the first stitch is on the empty needle.
- Continue moving the stitches outwards until you have an empty needle at the point where you wish to increase. (Fig.53-1)
- Pick up a loop from below the previous stitch and hang it on this empty needle. (Fig.53-2)

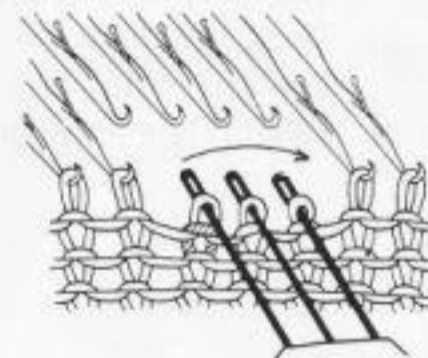


Fig.53-1

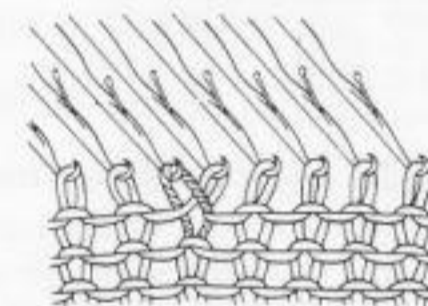


Fig.53-2

(C) To Increase More Than One Stitch At The Same Time

- At the same end as the carriage, bring forward into the holding position the number of empty needles over which you wish to increase.
- Wrap the yarn from the feeder around the stem of each of these needles as shown in Fig. 54, making sure that all the loops are behind the open latches.
- Ensure that the return cam levers are in the forward position (No.2).
- Move carriage slowly across the machine and the increased stitches will have been formed on these needles.



Fig.54

10. Decreasing Stitches

(A) To Decrease One Stitch At Edge

Plain Decreasing

This can be done at either or both ends simultaneously.

- With the single eye transfer tool transfer the stitch from the end needle onto the second needle. (Fig.55)
- Push the empty needle back into the rest position.

Full Fashion Decreasing

- Using the double eye transfer tool transfer the first and second stitches onto the second and third needles. (Fig.56)
- Return empty end needle to rest position.

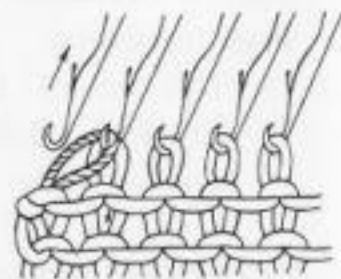


Fig.55

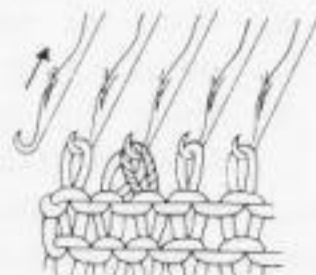


Fig.56

(B) To Decrease One Stitch In The Middle Of The Work

- Using the single eye transfer tool transfer the stitch from the needle where you wish to decrease onto the next needle towards the centre. (Fig.57-1)
- Using the treble eye transfer tool, move all the stitches over until the end needle is empty. (Fig.57-2)
- Return the empty end needle to the rest position.

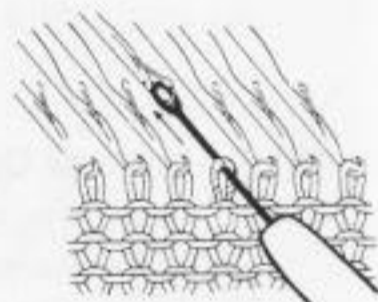


Fig.57-1

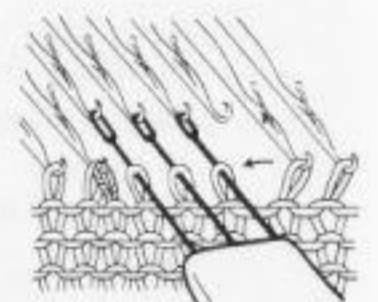


Fig.57-2

(C) To Decrease More Than One Stitch At The Same Time – Casting Off

This can only be done at the same end as the carriage.

- Using the single eye transfer tool, transfer the stitch from the second needle onto the first needle. (Fig.58-1)
- Push the first needle forward until the two stitches on it are behind the latch and place the yarn from the feeder into its hook. (Fig.58-2)
- Push the needle back until the two stitches pass over the closed hook and form a single stitch. (Fig.58-3)
- Transfer this single stitch onto the empty second needle. (Fig.58-4)
- Repeat until the desired number of stitches have been decreased.
- Push empty needles back into rest position.



Fig.58-1

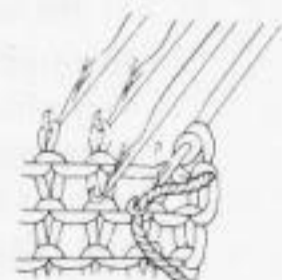


Fig.58-2



Fig.58-3

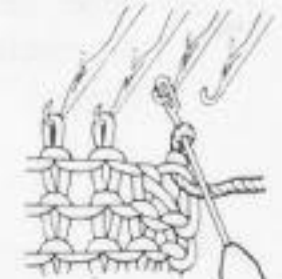


Fig.58-4

Note:

When decreasing more than one stitch the sinkers should be locked with the sinker stopper.

11. Part Knitting

Part Knitting Increasing – Using Short Rows

- Set both guide cam levers to "KNIT" and return cam levers to No.1 on each side of the carriage. (Fig.59)
- At the opposite end to the carriage bring forward into position (E) the required number of needles – see also Fig.59, and knit one row.
- *In order to avoid making a hole, push forward into position (E) the inside end needle in position (B), nearest the needles in position (E), as shown in Fig.60.
Knit one row.
- Push back into position (D) from position (E) the required number of needles nearest the needles in position (B). (Fig.61)
Knit one row. *
- Repeat from * to * until you have completed the part knitting increasing.
Bring the return cam levers on each side forward to No.2 and continue to knit.

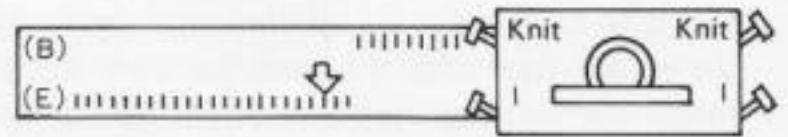


Fig.59

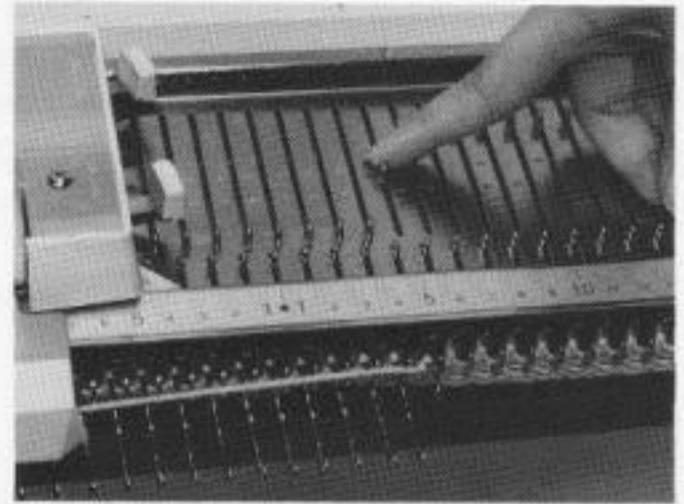


Fig.60

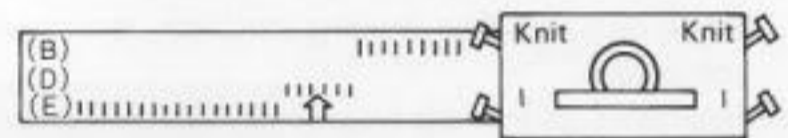


Fig.61

Part Knitting Decreasing – Using Short Rows

- Set both guide cam levers to "KNIT" and return cam levers to No.1 on each side. (Fig.62)
- At the opposite end to the carriage bring forward into position (E) the number of needles. (see also Fig.62)
Knit one row.
- *Push forward into position (E) the inside end needle in position (E), as shown in Fig.60.
Knit one row.
- Bring forward from position (B) into position (E) the required number of needles farthest from the carriage. (Fig.63)
Knit one row.*
- Repeat from * to * according to your design of the garment.
Bring the return cam levers on each side forward to No.2 and continue to knit.



Fig.62

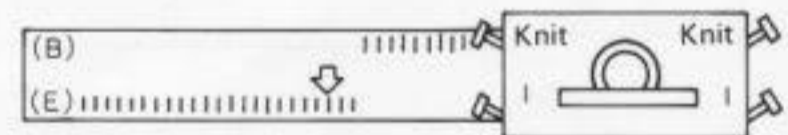


Fig.63

12. To Transfer The Work Onto A Knitting Needle Or Stitch Holder

Hold the fabric firmly with one hand and bring forward the needles from which you wish to transfer the stitches until the loops are behind the latches. Then push the needles back until the loops just close the latches. (Fig.64-1)

Insert the knitting needle or stitch holder into the first stitch, from the back. (Fig.64-2)

With the first finger push the needle back until the stitch drops onto the knitting needle. Repeat until all the stitches have been transferred to the knitting needle or stitch holder.

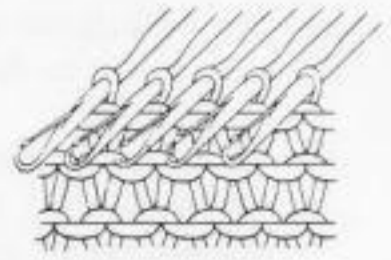


Fig.64-1

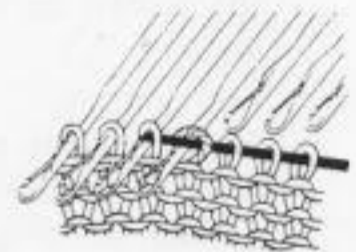


Fig.64-2

13. To Transfer The Work From A Knitting Needle Or Stitch Holder Onto The Machine

Draw out, into the holding position, the required number of needles and open the latches.

Beginning at the left transfer the stitches from the knitting needle onto the machine needles. (Fig.65)

When all the stitches are on the machine push them back along the needle stems until all the loops are behind the open latches.

Thread up the machine and using the return cams bring all the needles into the working position.

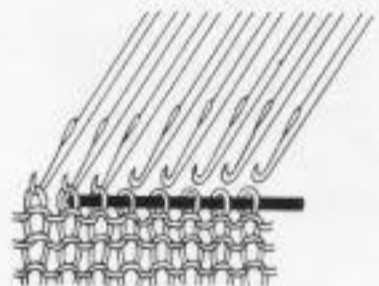


Fig.65

FANCY PATTERN KNITTING

1. How To Read The Pattern Chart

- The symbol ' ∩ ' indicates a tuck stitch. The needle represented by this symbol should be brought forward into position (E) from position (B) before knitting a row. Return cam levers should be set to No.1 and the guide cam levers to "KNIT".
- The symbol ' √ ' indicates a needle holding a stitch in position (B) when the guide cam levers set to "PASS" and the return cam levers to No.2, while other needles to knit stitches should be brought forward into position (D) from position (B) before commencement of a row.
- Reading along the chart from right to left each square represent a needle, and the figures reading along bottom of the chart indicate end needles at the right hand end.
- Reading up the chart each square represents a row.
In the margin 'A' is the main colour and 'B' the contrasting colour, and when no letters seen on the chart one colour pattern should be knit.

2. How To Knit The Pattern

(A) Tucking Pattern In One Colour

Turn the tension dial to one or two settings looser than the tension to be used for stocking stitches.

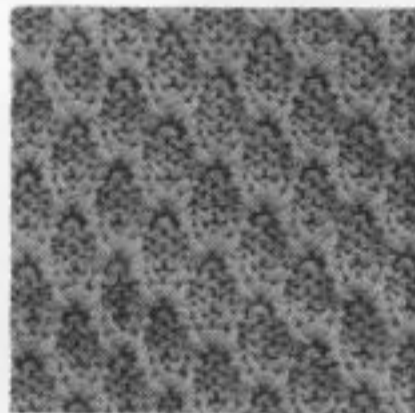


Fig.66

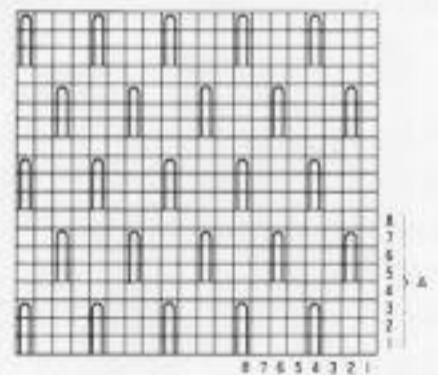


Fig.67

* 1st row

With the carriage on right, set to No.1 both return cam levers and to "KNIT" both guide cam levers. (Fig.68) Using the 1 x 3 selector plate, bring forward into position (E) from position (B) every 4th needle from right end needle. (Figs.68 & 69)

Knit one row moving the carriage from right to left.

2nd row

With carriage on left.

Move the carriage across needles to right, ensuring that every 4th needle is still in position (E) and the both return cam levers are set to No.1.

3rd row

With carriage on right. Knit this row by moving the carriage from right to left.



Fig.68

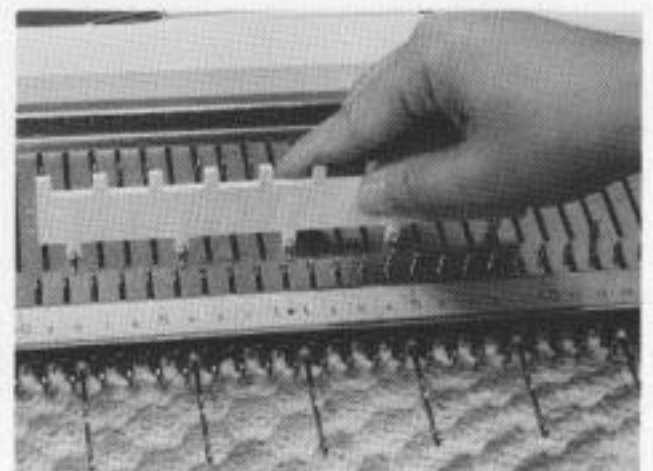


Fig.69

4th row

With carriage on left. Pull forward the leading return cam lever (right hand) to No.2 (Fig.70), and move the carriage from left to right so that the tucking needles in position (E) will knit along with the rest and align in position (B).

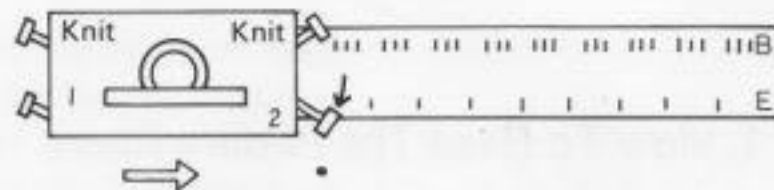


Fig.70

5th row

With carriage on right. Replace right hand return cam lever to No.1.

Bring forward into position (E) every 4th needle starting from the 2nd needle from right end. (Fig.71)

Knit one row.

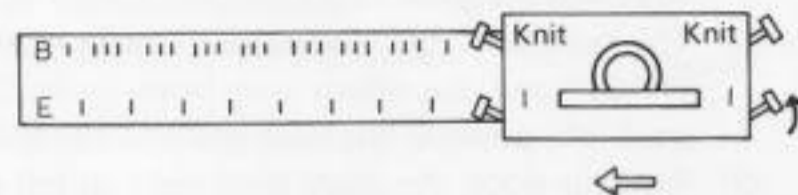


Fig.71

6th row

With carriage on left. Knit this row.

7th row

With carriage on right. Knit this row.

8th row

With carriage on left. Bring forward leading return cam lever and move the carriage from left to right. *

For pattern repeat from * to *.

(B) Tucking Pattern In Two Colours

Turn the tension dial to one or two settings looser than the tension to be used for the stocking stitch.

Through overhead feeder unit, thread one feeder with 1st colour yarn and the other feeder with the 2nd colour as shown in Fig.74.

* 1st row

With the carriage on right, set to No.1 both return cam levers and to "KNIT" both guide cam levers. Flick into action the feeder with 1st colour while the other feeder should be pulled out of action.

Using the 1 x 3 selector plate bring forward into position (E) from position (B) every 4th needle from the right end needle. (Fig.75)

Knit one row with 1st colour moving the carriage from right to left across needles.

2nd row

With carriage on left, knit one row from left to right.

3rd row

With carriage on right, knit one row from right to left.



Fig.72

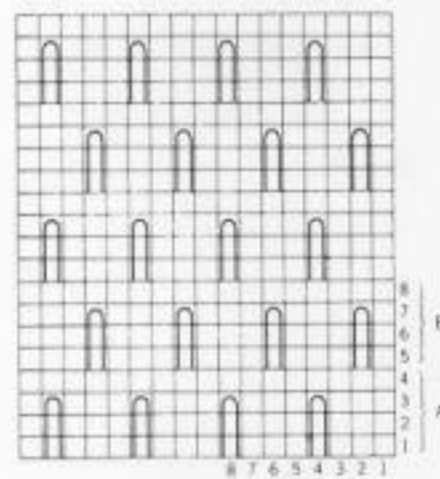


Fig.73

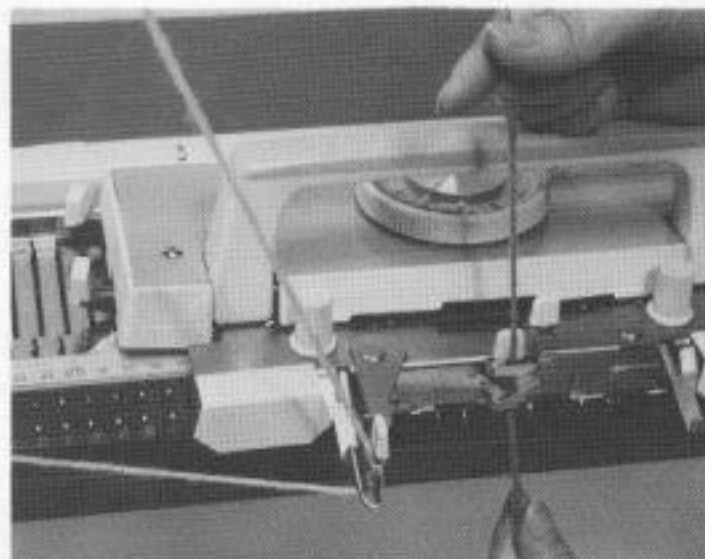


Fig.74

4th row

With carriage on left, bring forward to No.2 the leading (right hand) return cam lever and move the carriage across needles from left to right to knit this row – Fig.76, so that the tucking needles will knit along with rest.

5th row

With the carriage on right, pull out of action the feeder with 1st colour and flick into action the other feeder threaded with 2nd colour. Push back to No.1 the right hand return cam lever.

Bring forward into position (E) every 4th needle starting from 2nd needle from right end. (Fig.77)

Give a light pull downwards with your left hand at the 1st colour yarn between the right end needle and the feeder now in out of action as shown in Fig.78 and, at the same time move the carriage across needles from right to left.

Note:

It is advisable when knitting two colours pattern using two feeders to always pull lightly downwards the yarn between the end needle and the feeder being out of action in the fully open position with your left hand and at the same time move carriage with right hand, otherwise sometimes two strands of yarn may be caught by the needles.

6th row

With carriage on left. Knit this row with 2nd colour.

7th row

With carriage on right. Knit with 2nd colour from right to left.

8th row

With carriage on left, bring forward to No.2 the leading (right hand) return cam lever.

Move the carriage from left to right to knit this row.*
For pattern repeat from * to *.



Fig.75

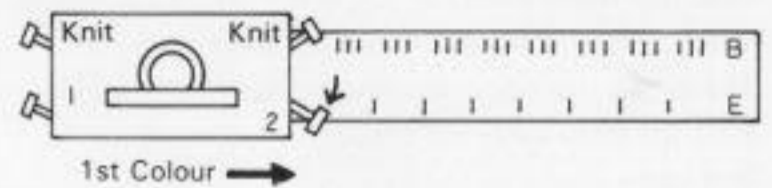


Fig.76



Fig.77

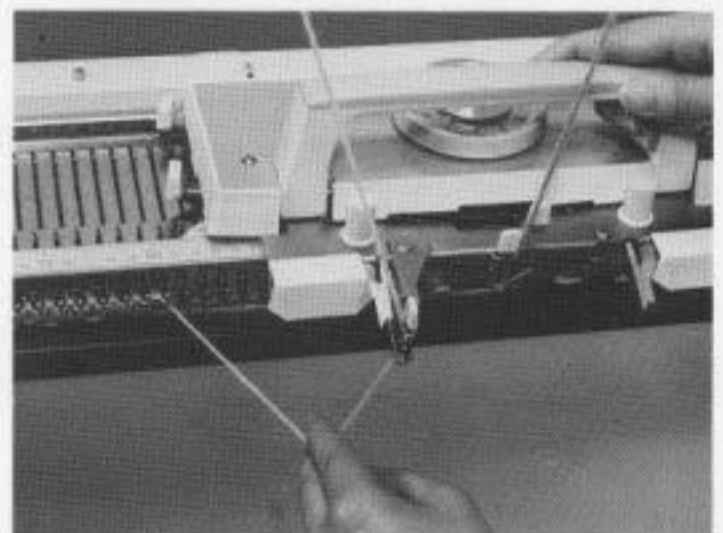


Fig.78

(C) Knit-In Colour Pattern

Set both return cam levers at No.2, and push back to "KNIT" guide cam levers in either side.

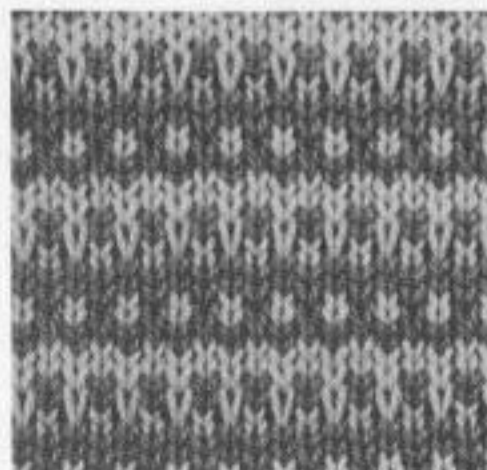


Fig.79

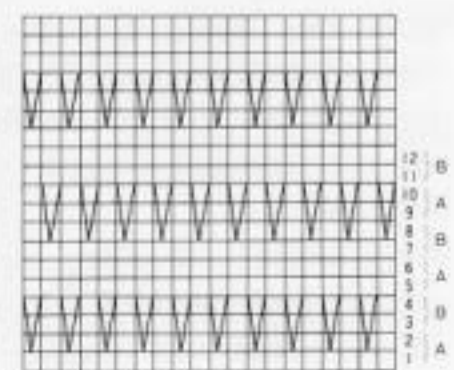


Fig.80

*** 1st row**

With carriage on right, knit plain stocking stitches with 1st colour by moving the carriage from right to left across needles. (Fig.81)

2nd row

With carriage on left, move forward both guide cam levers to "PASS"

Using the 1 x 1 selector plate, push forward into position (D) from position (B) every alternate needle starting with right end needle. (Figs.82 & 83)

Move the carriage across needles from left to right to knit this row with 1st colour.

3rd row

With carriage on right, replace 1st colour with 2nd colour by switching feeders.

With the 1 x 1 selector plate push forward into position (D) from position (B) every alternate needle starting with right end needle. (Fig.84)

Move carriage from right to left.

4th row

With carriage on left. Push forward into position (D) from position (B) every alternate needle (same needle brought forward into this position for 2nd and 3rd row), and knit one row.

5th row

With carriage on right, move back to "KNIT" guide cam levers in either side and replace 2nd colour with 1st colour. (see Fig.81)

Move carriage from right to left to knit with 1st colour stocking stitch portion of the garment.

6th row

With carriage on left. Move carriage with 1st colour from left to right.

7th row

With carriage on right, replace 1st colour with 2nd colour, and knit one row from right to left.

8th row

With carriage on left, move forward to "PASS" both guide cam levers. With the 1 x 1 selector plate push forward into position (D) every alternate needle starting with the 2nd needle from right end needle. Knit one row from left to right.

9th row

With carriage on right, replace 2nd colour with 1st colour. Push forward into position (D) from position (B) every alternate needle — same needle brought forward to this position for 8th row.

Knit one row from right to left.

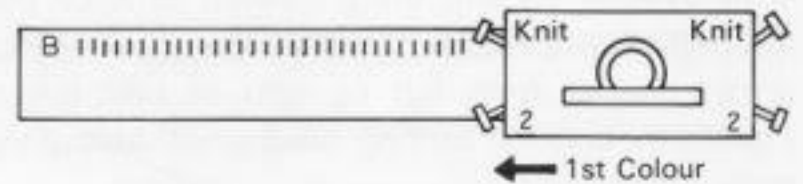


Fig.81

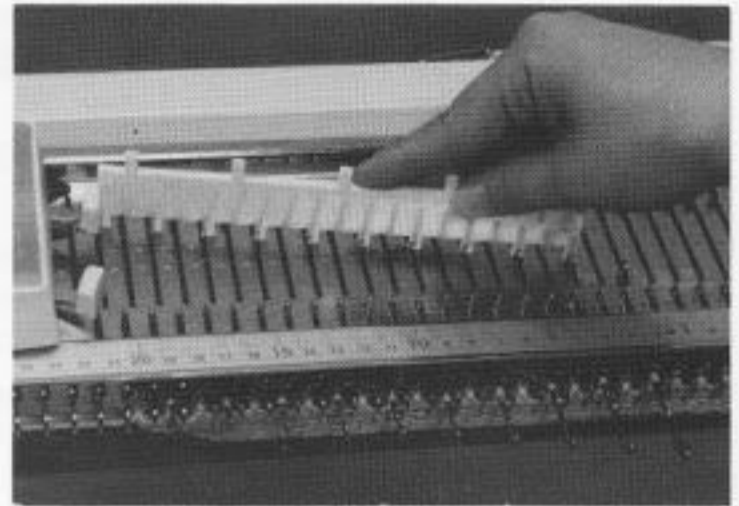


Fig.82

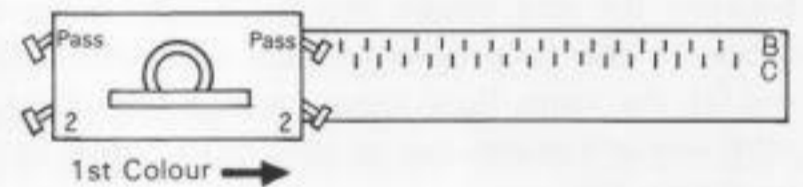


Fig.83

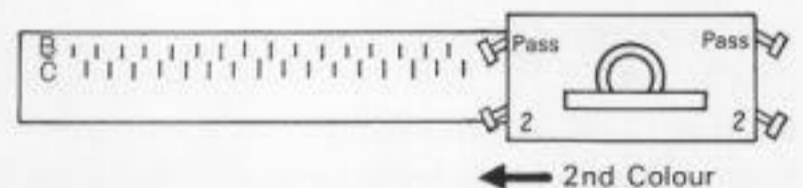


Fig.84

10th row

With carriage on left, push forward into position (D) every alternate needle — same needle as for 8th and 9th row.

Knit one row from left to right.

11th row

With carriage on right, move to "KNIT" both guide cam levers and replace 1st colour with 2nd colour. Move carriage from right to left to knit stocking stitches with 2nd colour.

12th row

With carriage on left. Move back the carriage to right to knit stocking stitches.

At the right side of the machine, replace 2nd colour with 1st colour. *

For pattern repeat from * to *.

(D) Intarsia Pattern

This is fancy colour knitting using two or more colours in the same row of stocking stitch with the same pattern appearing on both sides of the knitting.

For knitting a two colour pattern as shown in Fig.85, cast on and knit a few rows of normal stocking stitch, ending with the carriage on the right side. Unthread the yarn from the overhead feeder unit and carriage feed finger, then use the intarsia feeder.

Note:

The figures 1, 2, 3 and so on, up to 20 on the bottom line of the chart (Fig. 86) denote needle numbers on the needle guide scale. At the center of the scale is a small red dot with numbers from 1 to 50 on the scale beginning at the red dot and reading from left to right and also from right to left.

Each figure on the scale represents a needle and can be seen through a window on the carriage. (Fig.87).

Therefore, following the chart, knit this sample pattern on the right half of the needle bed. Work with needles directly opposite the numbers 1 to 20 on the scale, reading from left to right. After casting on, knit a few rows of stocking stitch.

- a) To use the intarsia feeders, first remove both main feed fingers from the feeder plate. To do this, loosen the feeder plate securing nuts and remove the plate from the carriage. (Fig.88)

Turn the feeder plate over so the underside is up. Open both feed fingers so they are out of action. With your right thumb, press the feeder setting lever toward the center of feeder plate and at the same time, pull out the feed finger as shown in Figs.89 & 90 so that an axle of the feeder comes out of the tubed socket and a small stud of the feeder is, at the same time, removed from the keyway slot.

Remove the other feed finger in the same way.

Note:

To attach the feed fingers to the feeder plate, reverse the above procedure.

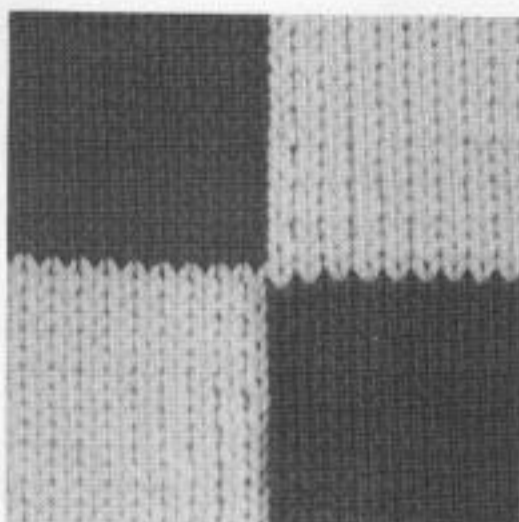


Fig.85

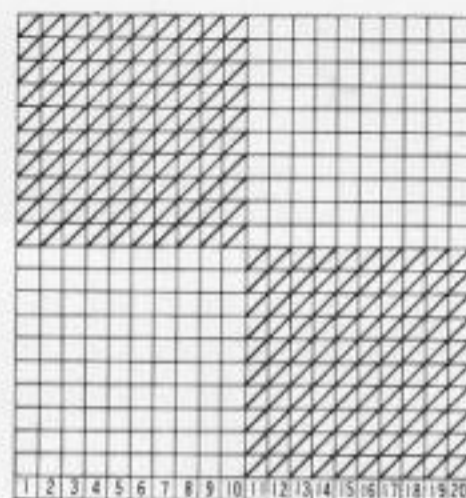


Fig.86

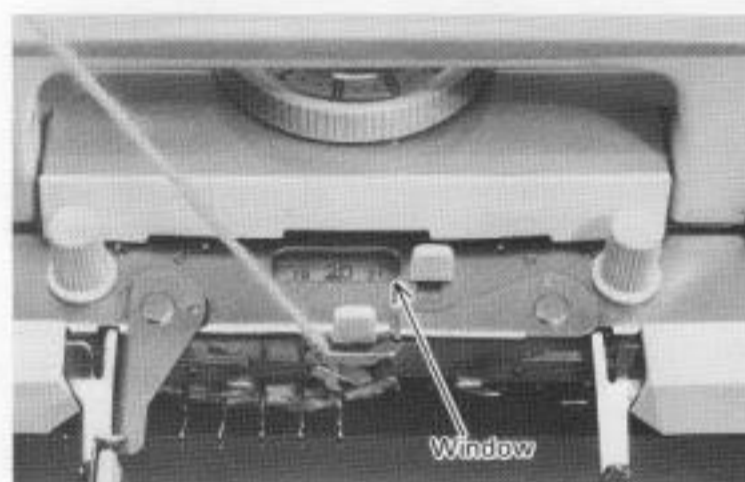


Fig.87

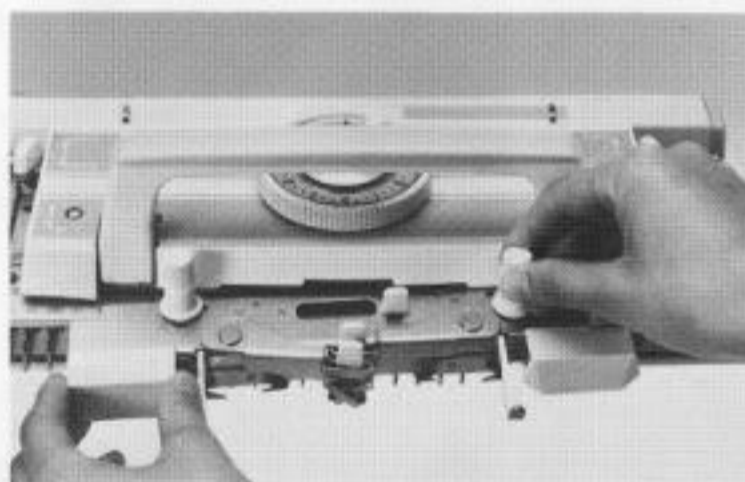


Fig.88

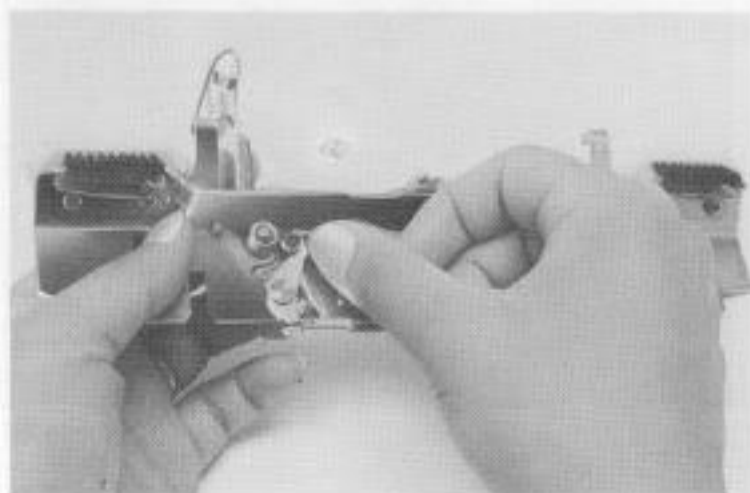


Fig.89

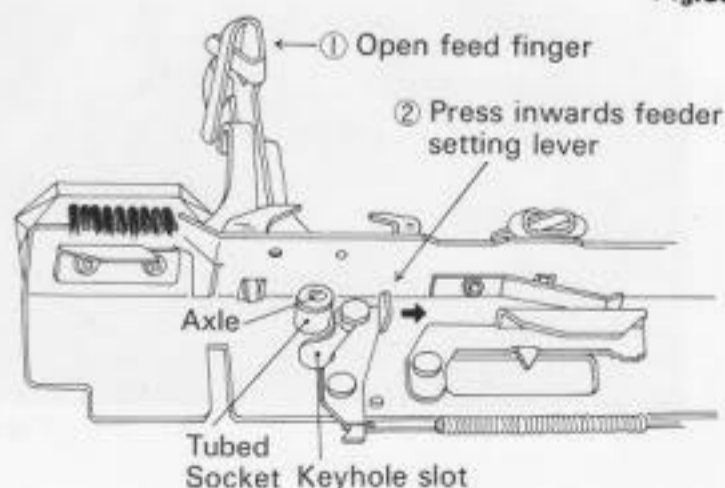


Fig.90

- b) With the carriage on the right side and the first colour removed from the overhead feeder unit, place this ball of yarn on the floor.

Set both needle guide cam levers to "KNIT" and both return cam levers to No.2.

Bring the yarn coming from the ball on the floor, up and over the right end needle and place it onto the leading (left hand) intarsia feeder. (Figs.91 & 92) (it is important that you remember to always bring the yarn from the inside and place it over the leading intarsia feeder.)

Note that No.20 will show opposite the red pointer through the window on the carriage and will be the first or edge stitch on the right.

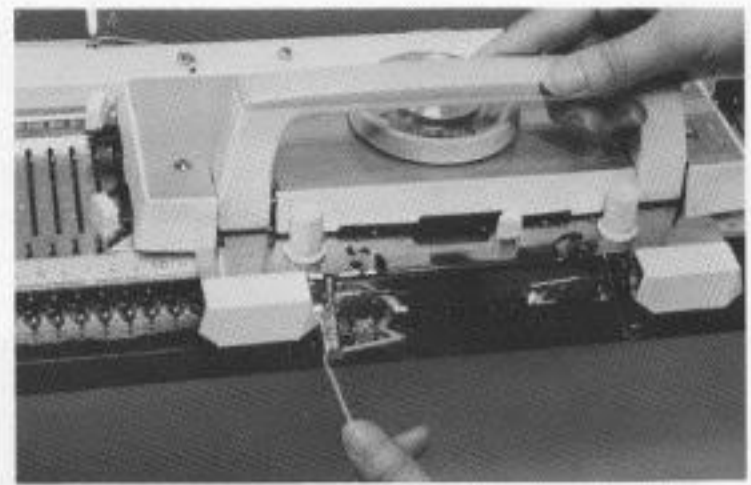


Fig.91

- c) Move the carriage slowly to the left until the red pointer is at needle 11. Drop the 1st colour and pick up the 2nd colour.

Place the 2nd colour between needle 11 and 10 (Fig.93), then over the leading (left) intarsia feeder (Fig.94), then continue knitting across to the left side.

You will have to hold the end of the 2nd colour down until it catches in the first few needles. (Fig.95)

Note:

In the first row of intarsia knitting, wherever you have changed colours, the ends of yarn must be woven into the knitting so there is no hole. On the following rows when you change colour, always bring the new colour under the last colour knitted, then over and onto the feeder.

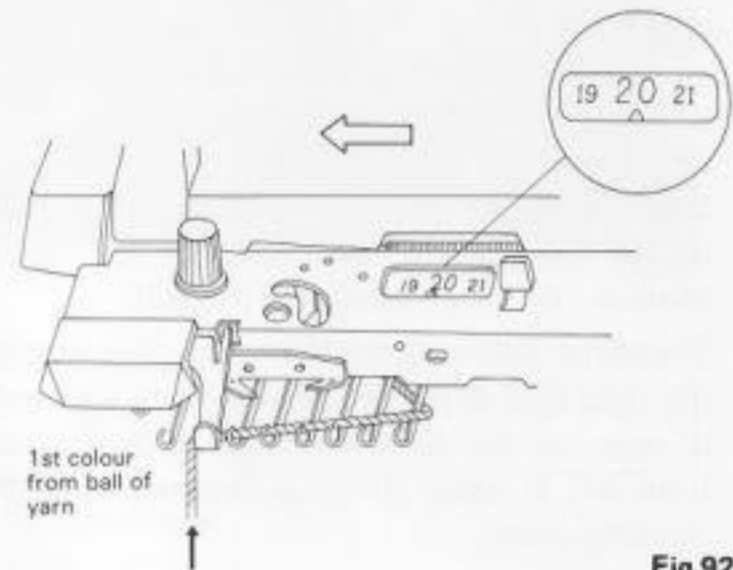


Fig.92

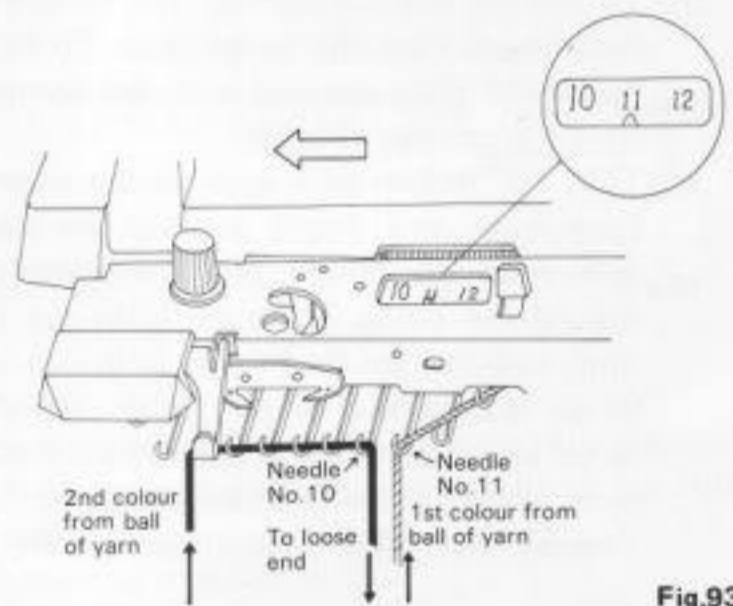


Fig.93

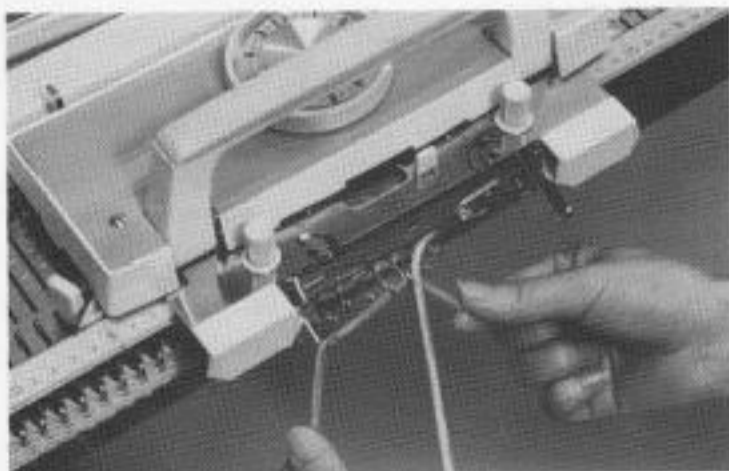


Fig.94

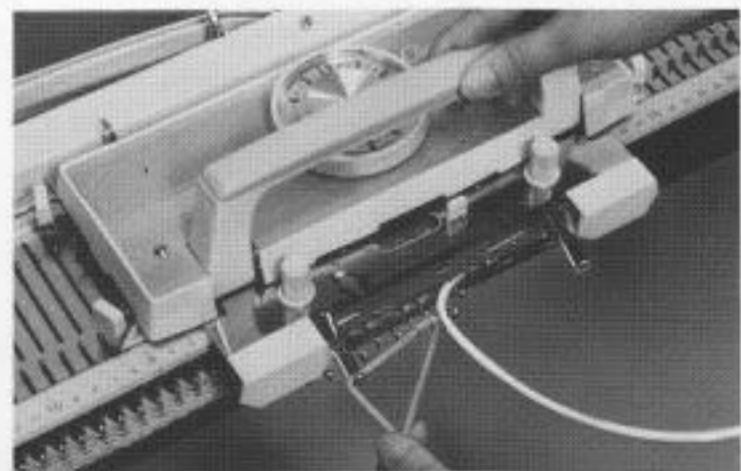


Fig.95

- d) With the carriage on the left, place the 2nd colour over the leading (right) intarsia feeder and knit to the right across to needle 10 (watch window in carriage).

Change to 1st colour and be sure to bring 1st colour under 2nd colour and then to the feeder.

(Fig.96, 97 & 98)

Continue across to the right side.

Continue in this manner, working to the left, then again to the right, following the instructions as given. When you have completed the pattern (Fig. 86), you will have sufficient practice to understand the workings of the intarsia feeders.

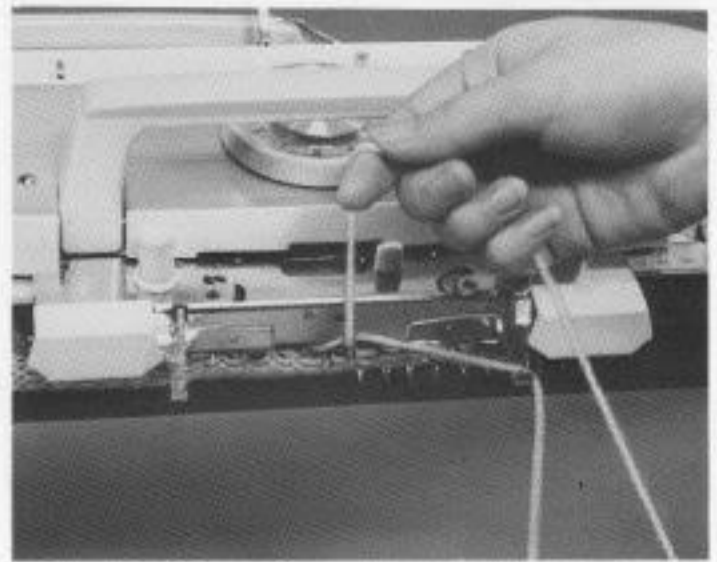


Fig.96

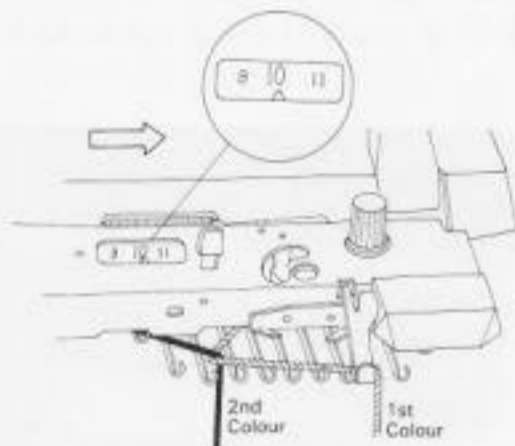


Fig.98

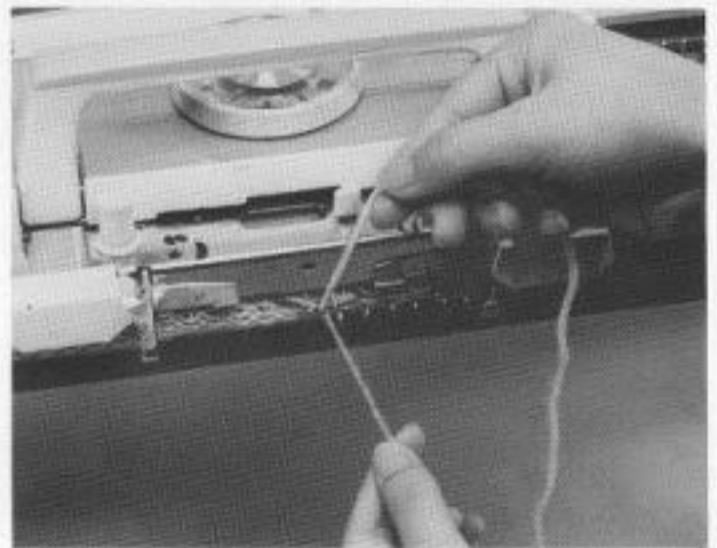


Fig.97

(E) Reversible Colour Knitting

Two strands of yarn are knitted together.

The main colour should be threaded into the main feeder and contrasting colour should be fed through the leading subsidiary feeder.

The contrasting colour will appear on the knit-side and the main colour on the purl side of the fabric.

It is advisable that a fine yarn must be used as the contrasting colour.

- a) Turn the tension dial to one or two settings looser than the tension for the normal stocking stitch. Set to No.2 both return cam levers and to "KNIT" both guide cam levers.
- b) In the same manner as described under the heading "Intarsia Pattern", remove one of the main feeders from the feeder plate leaving the other main feeder in position.

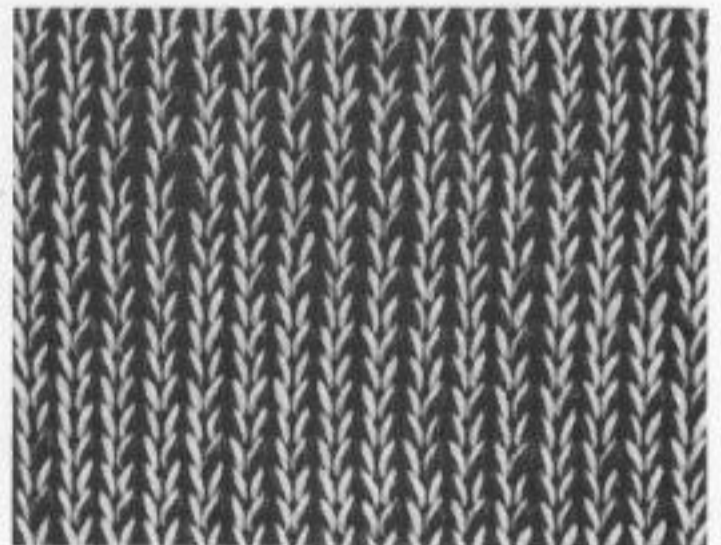


Fig.99

- c) With the carriage on right, thread main colour yarn through one of the overhead feeder wires and down to the main feeder. Contrasting colour yarn should be threaded through the other overhead feeder wire, and holding the loose end of it with your left hand, guide it to the leading (left hand) subsidiary feeder as shown in Fig.100, and at the same time move carriage to left. (see also Fig.100)

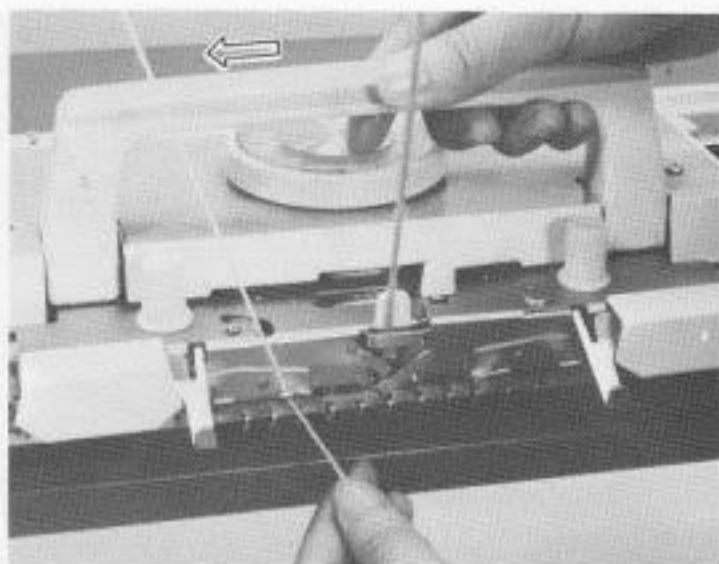


Fig.100

- d) With the carriage on left, remove your left hand from the loose end of contrasting colour yarn since the yarn is now taut between the overhead feeder and the left end working needle.
- e) Take off the contrasting colour yarn from left hand subsidiary feeder, and put it into the right hand sub-feeder. (Fig.101)
- Move the carriage from left to right. (Fig.102)
- g) With the carriage on right, replace contrasting colour yarn into the left hand sub-feeder, and move the carriage from right to left. For pattern, repeat (e) and (g).

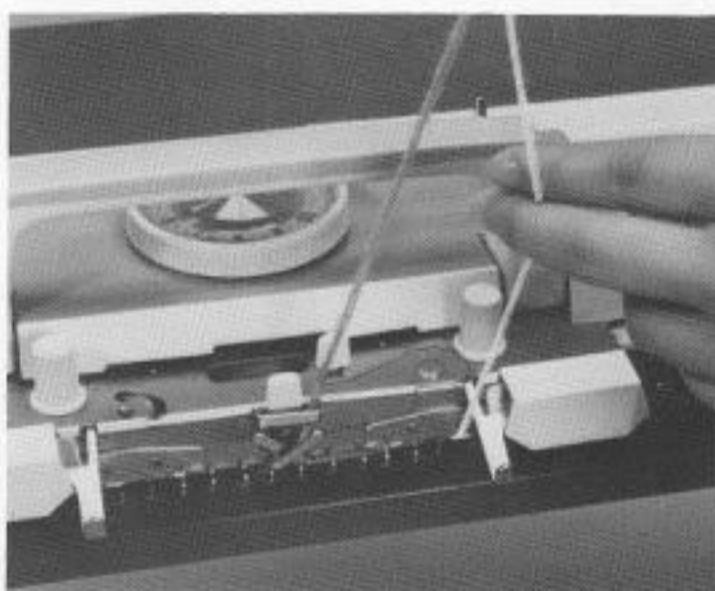


Fig.101

Note 1:

It should be noted that you always have to use the leading sub-feeder, e.g. when moving the carriage from right to left, use left hand feeder, while moving from left to right use right hand feeder.

Note 2:

When extra fine yarn such as cotton is used for the contrasting colour, there may be insufficient tension on the yarn when using the overhead feeder unit.

In this case, we suggest that you use the special tension unit (item 20 – Standard Accessory).

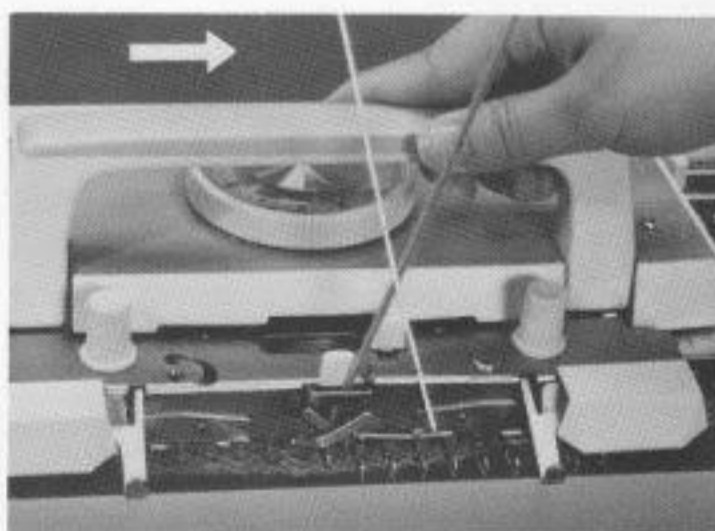


Fig.102

To use the unit, first loosen its plastic securing nut and place it around the stem of the overhead feeder rod approximately 3" to 4" from the top of the rod. Be sure when placing the unit onto the rod that the metal teeth are at the top. Tighten the securing nut (Fig.103).

After threading the contrasting colour yarn through one of the eyelets of the yarn guide wire, insert it under the spring plate of the tension unit, and then up through the metal teeth of it as shown in Fig.104. Thread the overhead feeder in the usual way.

Pull on the contrasting colour yarn to check if there is sufficient tension on the yarn and if not, turn the adjusting nut to tighten it. (Fig.104)

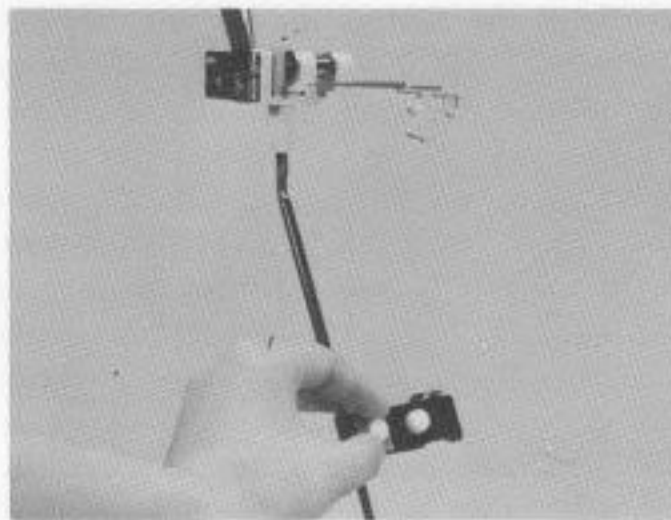


Fig.103

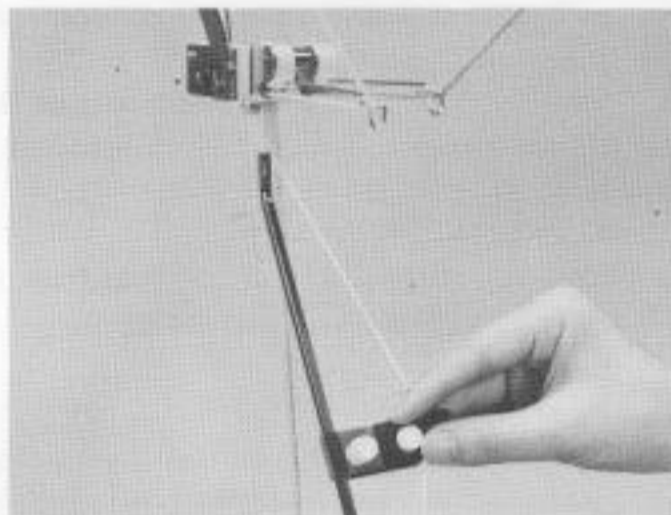


Fig.104

(F) Embroidery Effect Knitting

After knitting stocking stitch for the required number of rows (up to the point where you wish to place a design), proceed as follows:

- a) Move the carriage across the needles from right to left until the yarn feeder is 2 or 3 needles to the right of the selected needle for the first stitch of the embroidery design.
- b) Cut a strand of embroidery thread and fold it in half, then hook the fold over the first selected needle (Fig.106). Continue to move the carriage to the left to complete this row.



Fig.105

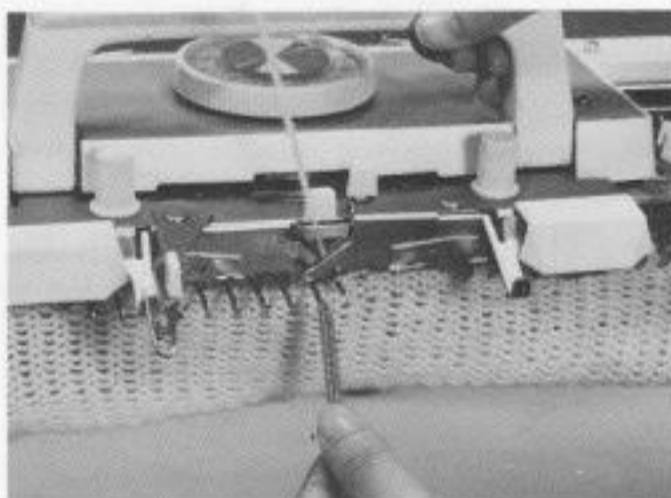


Fig.106

- c) With the carriage on the left side, knit from left to right until the feeder is 3 or 4 needles to the left of the original selected needle on the previous row.

Pick up the single (left) strand of the embroidery thread and hook it over the adjacent needle on the left (Fig.107) then use the right single strand and hook it over the right adjacent needle (Fig.108). Continue to knit across to the right side to complete the row.

- d) Knit the diamond pattern as shown in Fig.105 – each time moving the embroidery thread one needle out and adding the second diamond, then center diamond as shown (use separate strand of embroidery thread each time you start a new diamond shape).

When you reach the turning point of the diamond shape, you must move the threads of the design in instead of out.

Note 1:

The length of embroidery thread required is approximately 3 times the overall length of embroidery pattern.

Note 2:

The position of the carriage is important when working the embroidery design and the correct position is when a needle for the design appears between the main feeder and the leading intarsia feeder.

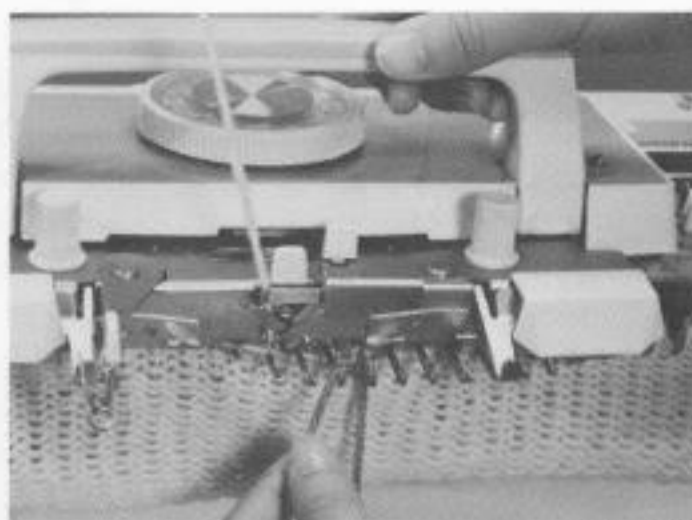


Fig.107

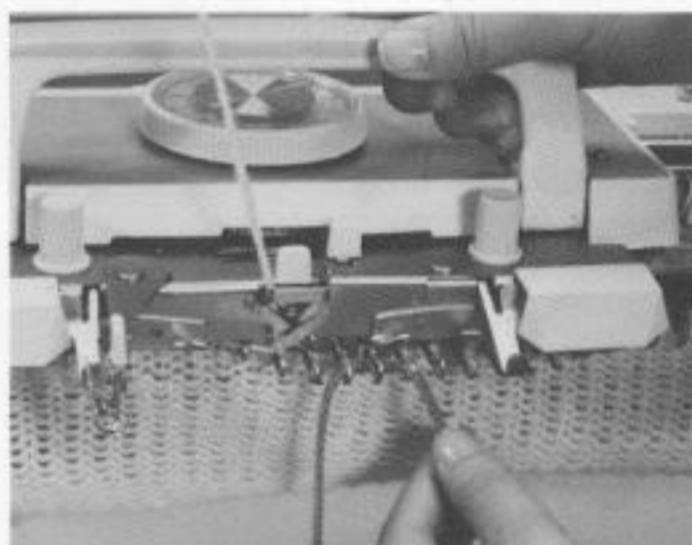


Fig.108

(G) Cable Pattern

Using the two eye Transfer Tools, proceed as follows:

- Take three stitches from three needles onto one of the tools, and drop the right adjacent two stitches from the needle hooks, by moving the needle forward with the hand until the loops pass behind the latches, then move needles back to position (A) so that the stitches pass over the closed hook. Run these stitches down to 2 or 3 rows below the beginning of the cable pattern.
- Take the left adjacent three stitches from three empty needles onto the second tool, and also drop left adjacent two stitches from the needle hooks.
- Place the stitches from the first tool onto the second three empty needles.
- Place the three stitches from the second tool onto the first three empty needles. These two sets of three stitches will now be crossed over each other. (Fig.110)
- Pull these six needles into position (E), leaving two empty needles on either side of the cable pattern in position (A).



Fig.109

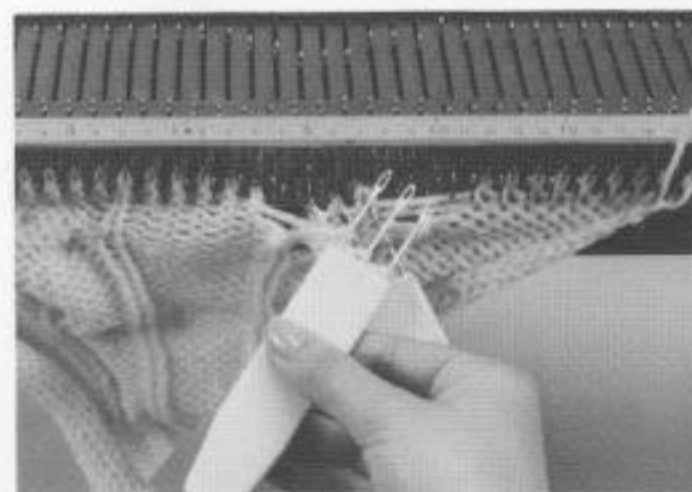


Fig.110

- f) Bring forward to No.2. the leading return cam lever. Move the carriage across needles and continue to knit the number of rows required between each twist of the cable.
- g) Using the latch needle tool knit up the ribbing stitch and place it back on the empty needle, and repeat for remaining three empty needles as shown in Fig.111.
For complete pattern repeat the above procedure.

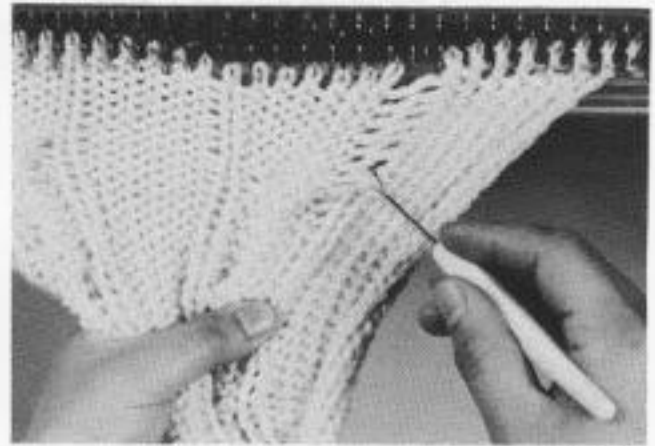


Fig.111

(H) Garter Knitting

- a) Knit two rows of plain stocking stitch.
- b) Insert the open hook of the latch needle tool through the first loop below the one on the machine needle until the loop is behind the latch.
- c) Drop the loop off the machine needle onto the tool. (Fig.113)
- d) Knit up with the tool and replace it onto the empty needle. (Fig.114)

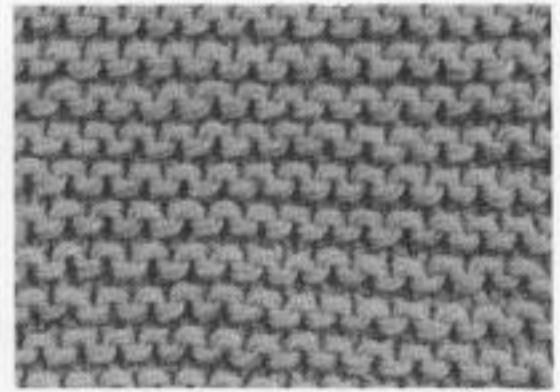


Fig.112

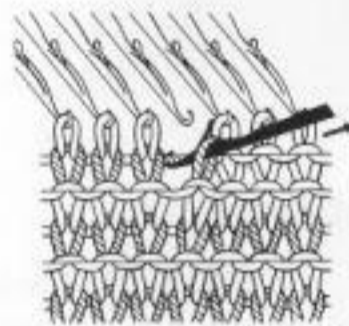


Fig.113

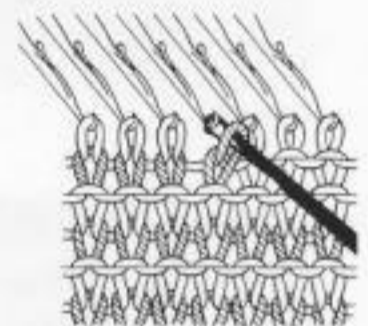


Fig.114

(I) Cord Knitting

- a) With the carriage on right, set right hand guide cam lever to "PASS" and left hand lever to "KNIT", and then both return cam levers to No.2.
- b) Bring forward into position (E) 3 or 4 needles and, starting with the left end needle, wind the yarn counter-clockwise around stems of needles in position (E) as shown in Fig.115, and then thread up main feeder and overhead feeder unit. (see also Fig.115)
- c) Hold the loose end of the yarn with your left hand, and at the same time move the carriage across needles from right to left and return it to right. (Fig.116)
- d) After knitting several rows, hold the cord down with your hand and continue to knit. Lightly pull the cord down while you are knitting.

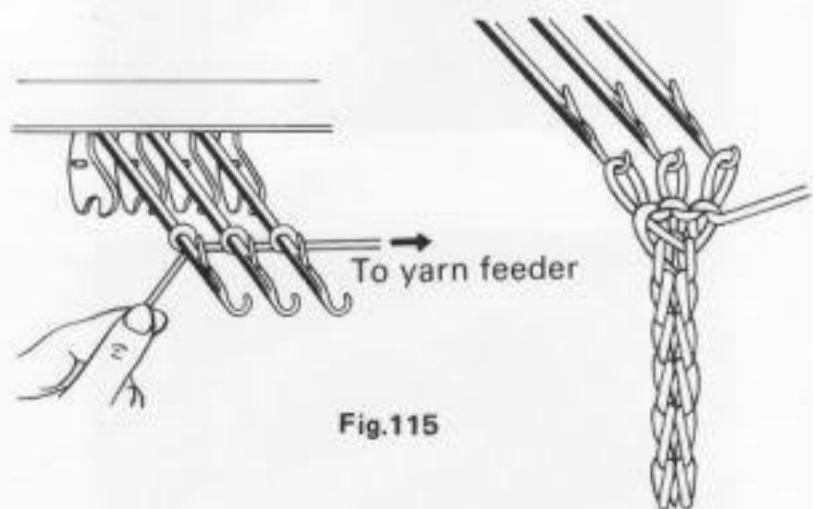


Fig.115

Fig.116

Note:

To obtain a neat cord use a slightly tighter tension.

HELPFUL HINTS FOR SUCCESSFUL KNITTING

1. Stitch Must Be Under The Sinker Hooks

- a) Be sure that all the stitches are under the sinker hooks during knitting. (Fig.117-a)
- b) If the stitch is out of sinker hooks (Fig.117-b), the needle will not knit the next row but hold the stitch making a tucking stitch.
- c) Even if the stitch is out of the sinker hooks, when it is behind the needle latch (Fig.117-c), the needle will knit normally.



Fig.117-a



Fig.117-b



Fig.117-c

2. End Needle Does Not Knit

If stitches held on the end needle 'double-up' during knitting, knit these through manually before knitting the next row (see Fig.118), and then, give a light pull to the garment by your left hand during next few rows. (Fig.119)

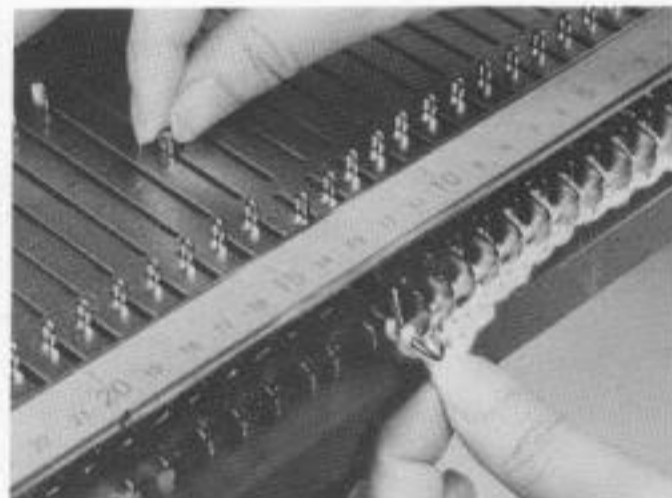


Fig.118

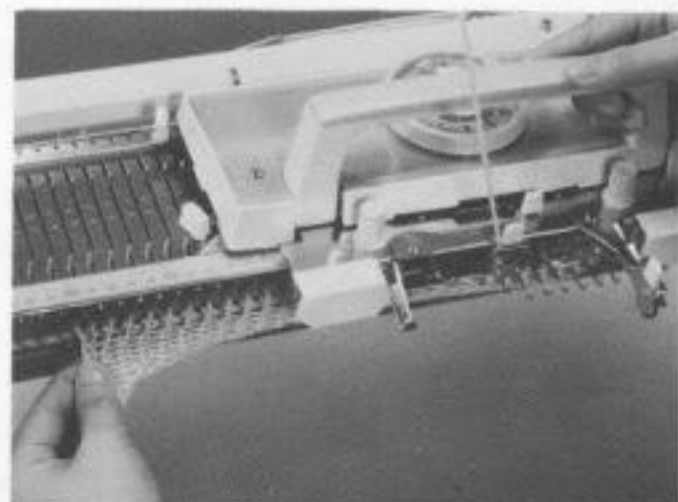


Fig.119

3. Moving The Carriage Across Needles Without Affecting The Knitting

A. when all the needles are in position (B) for knitting plain stocking stitch:—

Bring forward to "PASS" the leading guide cam lever, and move the carriage across needles to the other side. (Fig.120)

B. when some needles are in position (D) while others in position (B) for colour pattern making:—

Push back every needle in position (D) into position (B). To do this, if the stitch is behind the needle latch, with the transfer tool move it into the needle hook.

Now, push forward to "PASS" the leading guide cam lever, and move the carriage across working needles to the other side.

C. when some needles are in position (E) while others in position (B) for tucking pattern:—

Set to "PASS" the leading guide cam lever, and also set to No.1 the leading return cam lever.

Pull out of action both feeders, and pulling lightly downwards the yarn with your left hand and at the same time move carriage to the other side. (Fig.121.)

D. when knitting in complicated pattern making:—

Pull the release lever toward you with your finger as shown in Fig.122, and at the same time lift the carriage slightly at the front, then slide it to the opposite end. (Fig.122)

To do this, it is very important that you move the carriage to the extreme right (or left) so that the carriage will drop down into position on the needle bed. If the carriage is lifted even slightly, it is not in the correct position and the stitches will not knit.

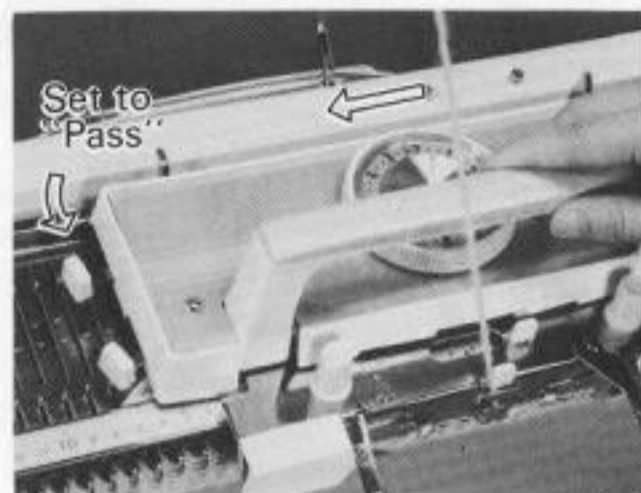


Fig.120

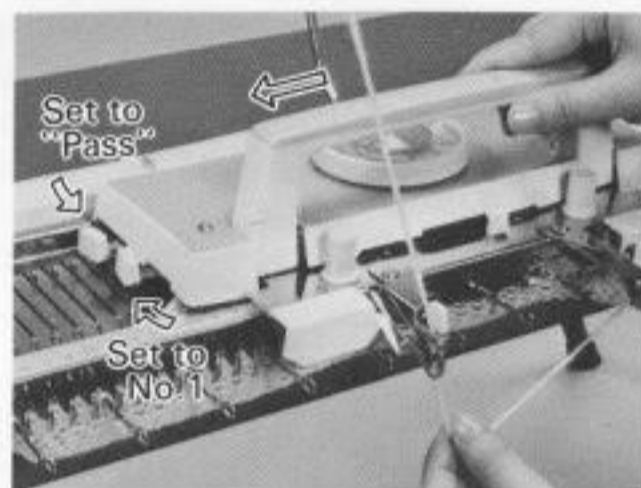


Fig.121

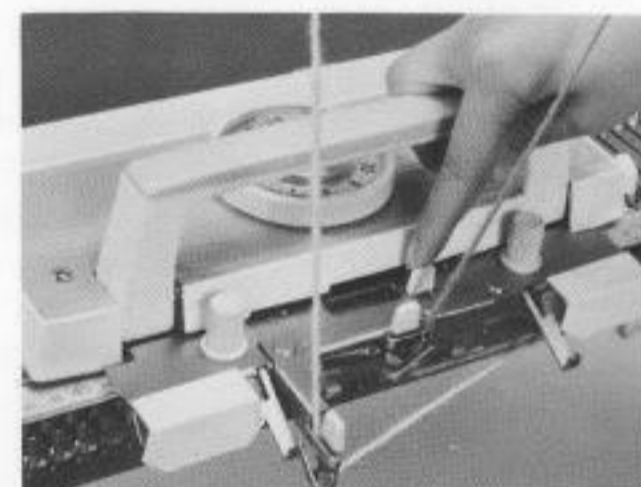


Fig.122

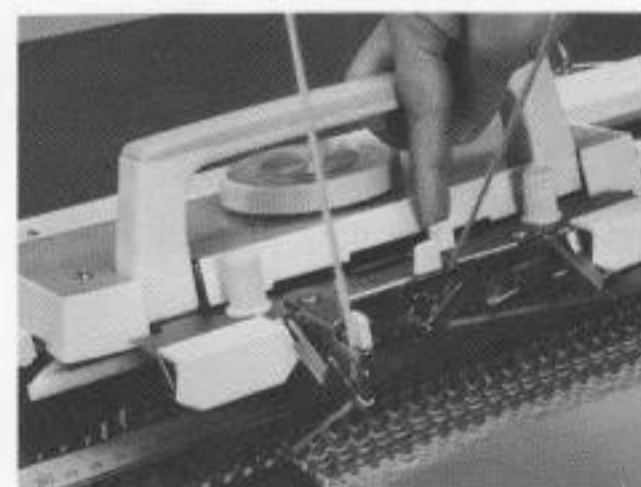


Fig.123

4. Carriage Jamming During Knitting

Never use force to operate the carriage, and check —

- a) If the yarn has twisted around any eyelets of the overhead feeder unit or carriage feeder.
- b) If the tension setting is too tight for the thickness of yarn being used.

If the carriage still jams at the middle of a row, and does not move, do not use force to free it but proceed as follows:—

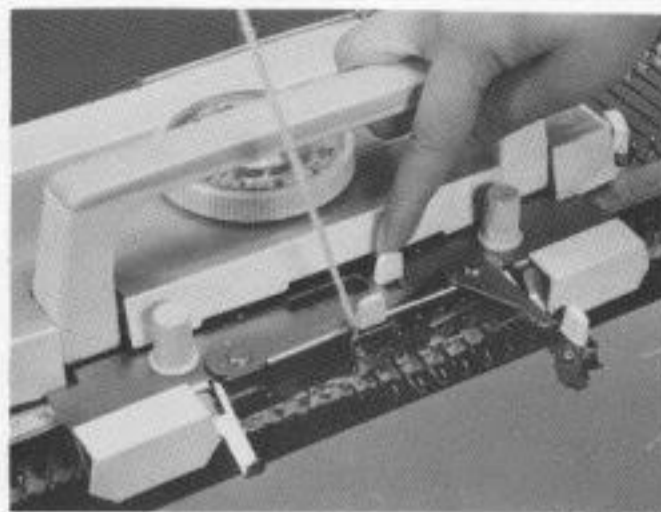


Fig.124

A. when knitting in plain stocking stitches

- a) Pull the release lever toward you and at the same time raise the carriage slightly at the front in order that the carriage is disconnected from the front runner rail. (Fig.124)
- b) Still lifting the carriage at the front and, at the same time move back the carriage to the starting end of this row. (Fig.125)

Note:

The carriage should be moved back to the extreme end of the needle bed so that it will drop down into position on the bed and will be connected with front runner rail.

- c) Push back into position (B) all the needles which have already knit the stitches of this row. Other needles which have not knit this row should be brought forward into position (E). The yarn should run from last inside needle in position (B) to the carriage feeder. (Fig.126)
- d) Move forward to "PASS" the leading guide cam lever, and also move forward to No.2 the leading return cam lever.

Move the carriage across needles.

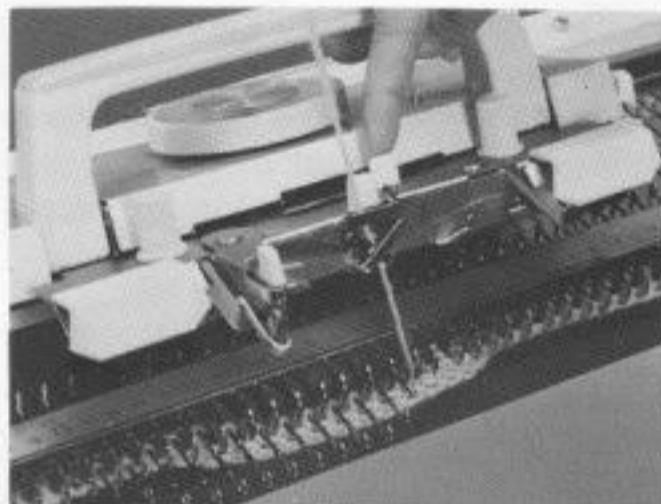


Fig.125

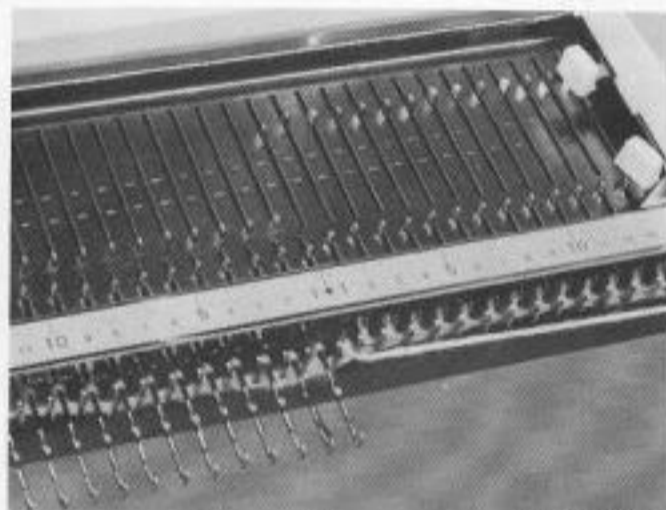


Fig.126

B. when knitting in colour pattern

- a) Lift and move back the carriage to the starting end. (Fig.127)

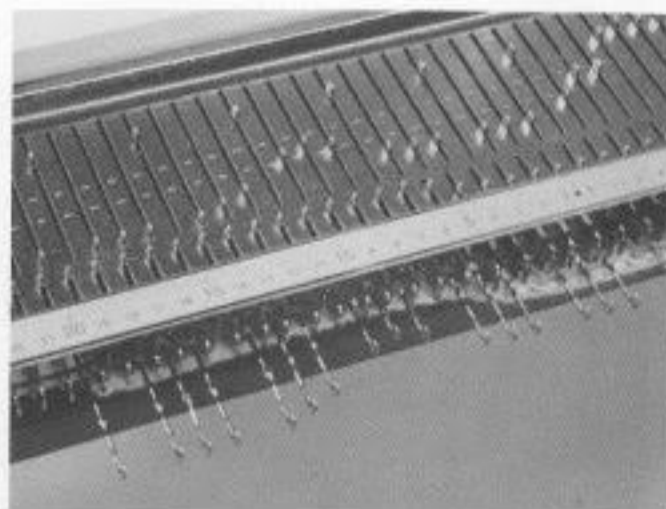


Fig.127

- b) Push back and align in position (B) all the needles which have already knit the stitches this row. The other needles which have not knit and placed in position (D) before commencement of this row should be brought forward into position (E), leaving still in position (B) those needles placed in this position at the start of the row. The yarn should run from inside needle in position (B) to the carriage feeder. (Fig.128)
- c) Ensuring that the leading guide cam lever is set to "PASS" and the leading return cam lever is no.2 move the carriage across needles.

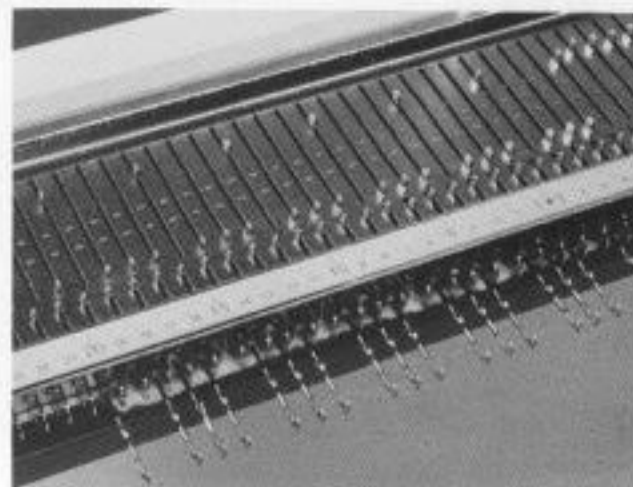


Fig.128

C. when knitting in tucking pattern

- a) Lift and move back the carriage to the starting end. (Fig.129)
- b) Align in position (B) all the needles which have already knit the stitches of this row, leaving in position (E) those needles brought forward into this position before starting of the row. Among the needles which have not yet knit this row, leave in position (E) each needle pushed forward to this position before commencing the row, and the other needles should be aligned in position (D). (Fig.130)
- c) Push forward to "PASS" the leading guide cam lever. Make sure that the leading return cam lever is set to No.1 and the wool run from last inside needle in position (B) over needle stems in position (E) to the carriage feeder. Move the carriage across needles.

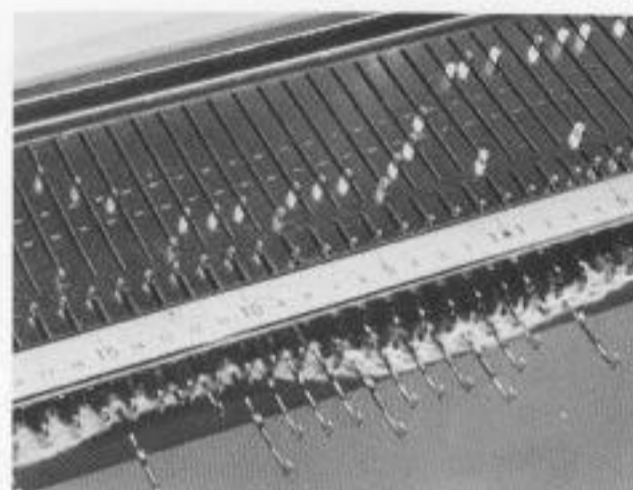


Fig.129

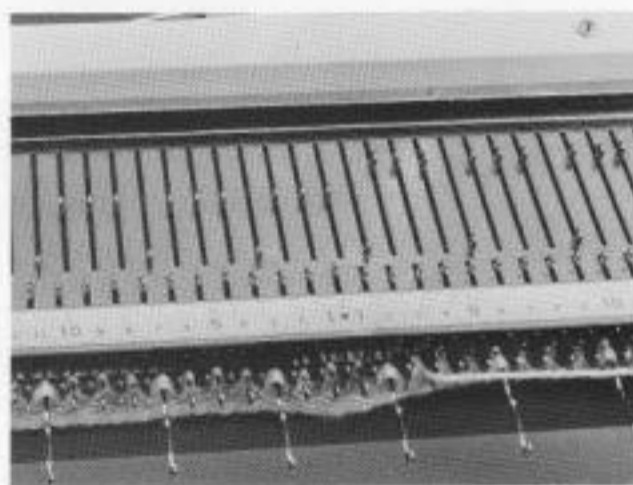


Fig.130

5. How To Pick Up A Dropped Stitch

If the stitch has only dropped one row, proceed as follows:-

- a) Put the single eye transfer tool through the loop of the dropped stitch (Fig. 131-a)
- b) Pick up the stitch together with the loose strand of yarn and place them in the needle hook. (Fig.131-b)
- c) Holding up the loose strand of yarn with the tool push the needle forward until the loop passes behind the latch and leave the loose strand in the hook. (Fig.131-c)

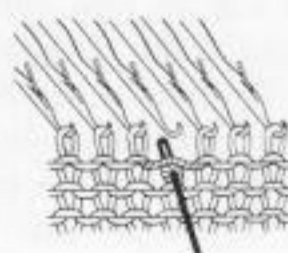


Fig.131-a

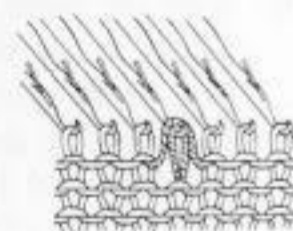


Fig.131-b

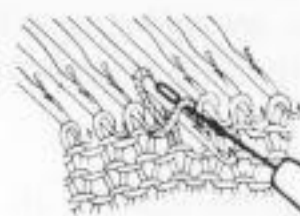


Fig.131-c

- d) Push the needle back until the loop passes over the closed latches as shown in Fig.131-d and reforms the stitch. (Fig. 131-e)

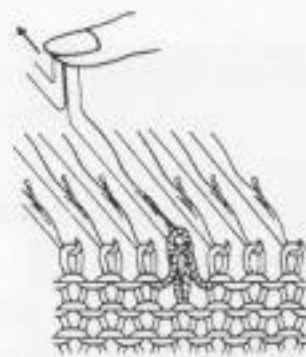


Fig.131-d

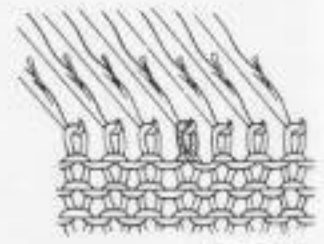


Fig.131-e

If the stitch has dropped more than one row, the following procedure should be used:

- a) Insert the hook of the latch needle tool into the loop of the dropped stitch from the back of the work. Push the tool towards you so that the hook passes under the strand of yarn and the loop passes behind the latch. (Fig.132-a)
- b) Pull the tool back so that the latch closes over the strand of yarn in the hook. (Fig.132-b & 132-c)
- c) Continue pulling the tool back until the strand has been pulled through the loop forming a new loop. (Fig.132-d)
- d) Repeat with the next strand and continue to repeat until the last strand has been re-knitted. Now hang the loop on the empty needle. (Fig.132-e)

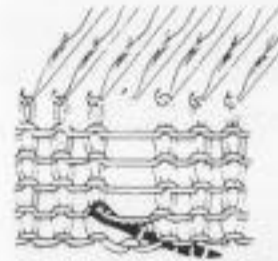


Fig.132-a

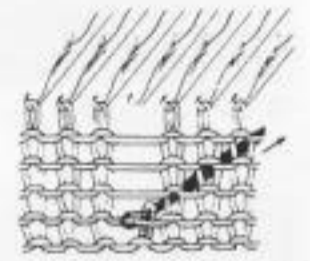


Fig.132-b

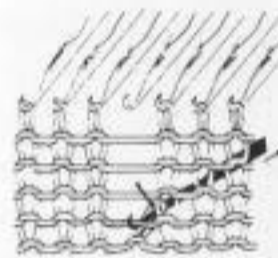


Fig.132-c

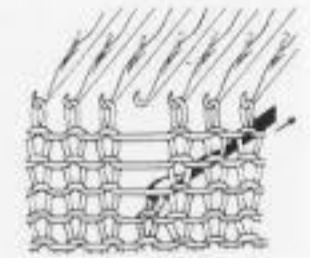


Fig.132-d

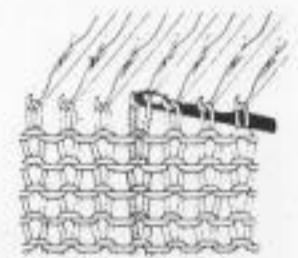


Fig.132-e

Note:

When picking up a dropped stitch in this manner the sinkers should be locked with the sinker stopper.

6. To Pull Back A Row Of Knitting

- a) Hold the fabric down gently with one hand.
- b) With the other hand pull the yarn lightly until the fabric comes out from under the sinkers and the yarn forms a straight line in the needle hooks.
- c) Continue to pull the yarn gently in an upward direction and it will lift out of the needle hooks leaving the stitches of the previous row in the hooks. (Fig.133)
- d) Before proceeding to knit, bring all needles into the holding position (E).
Be sure that all loops are behind open latches, and knit first row slowly with return cam levers in position 2.

Note:

When pulling back on the machine all the stitches must be in the needle hooks.

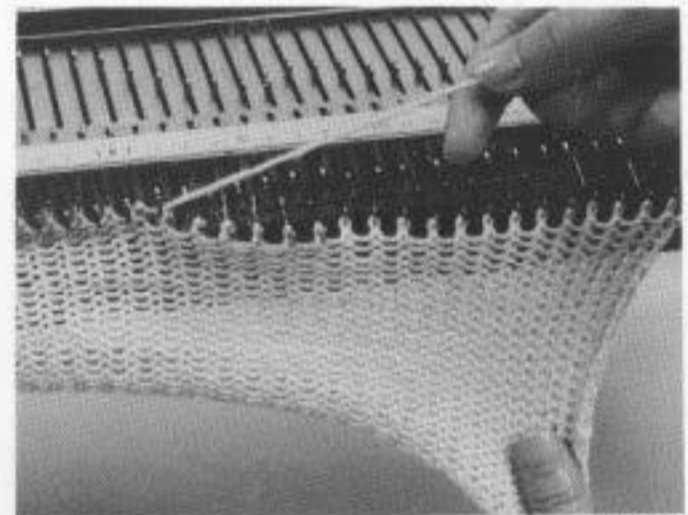


Fig.133

7. How To Replace A Faulty Needle

The needles are retained in position by a metal rod extending the full length of the machine. The ends of the rod are visible through holes in the needle bed end plates.

Bring forward into position (E) all the needles. (Fig.134)
At the end nearest to the needle to be changed, push in the rod with the blade of the screwdriver – see Fig.134 – until an inch or so of the rod appears through the hole at the opposite end of the machine. (Fig.135)

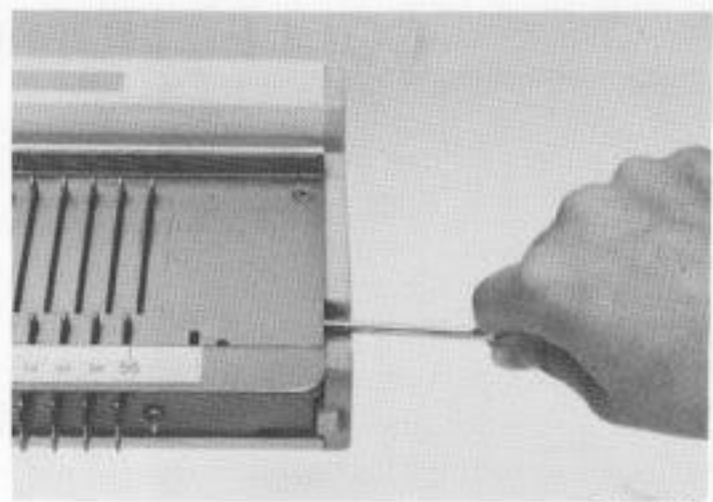


Fig.134

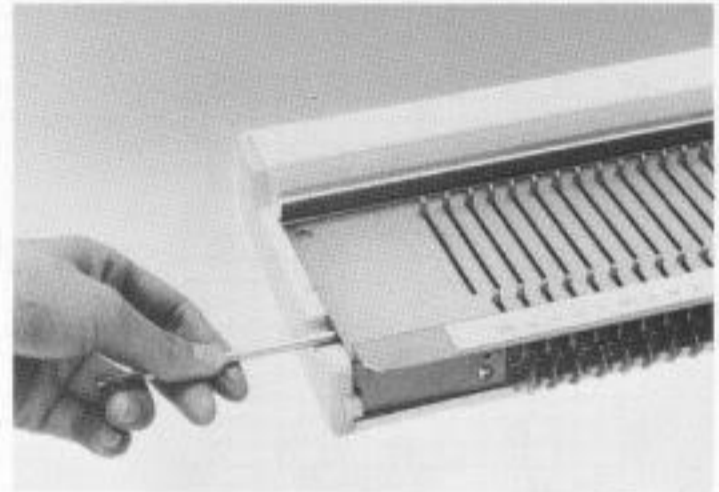


Fig.135

Pull on the rod until the other end of it is clear of the needle to be changed. It is never necessary to withdraw the rod completely.

Bring the butt of the needle forward and raise the back of the needle stem up through the needle groove.

Slide the needle back over the back runner rail. Replace the needle by reversing the process. (Fig.136)

Push the metal rod back into its original position.

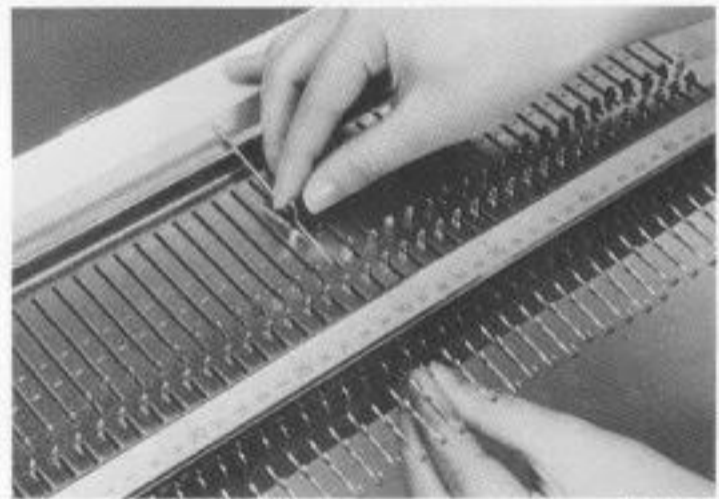


Fig.136

COLLECTION OF FANCY PATTERNS

Pattern 1

- Set both guide cam levers to "KNIT".
 - Set both return cam levers to No.2.
 - Knit 4 rows of stocking stitch.
 - Push back both return cam levers to No.1.
 - Bring forward into position (E) every alternate needle starting with 2nd needle from right end.
 - Knit 2 rows.
- For pattern repeat from (b) to (f).

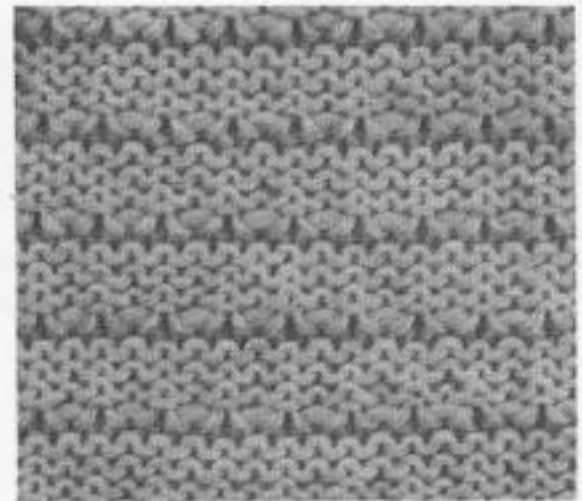


Fig.137

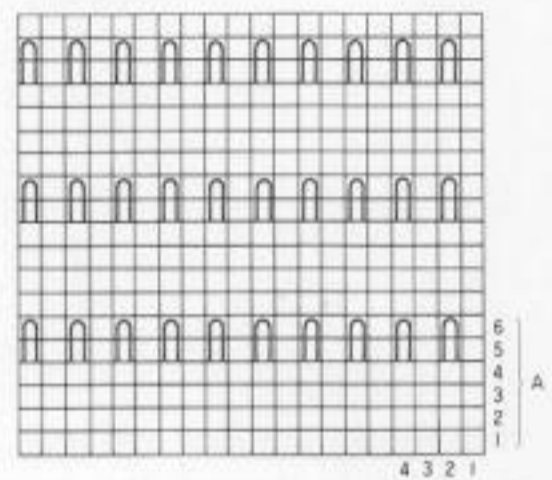


Fig.138

Pattern 2

- Set both guide cam levers to "KNIT".
- Set both return cam levers to No.1.
- Bring forward into position (E) every 6th needle from right end, and knit 2 rows.
- Push back into position (D) from position (E) every 6th needle (holding needle for previous row).
- Push forward into position (E) from position (B) every 6th needle starting with 5th needle from right end, and knit 2 rows.
- Push back into position (D) from position (E) every 6th needle. Repeat from (c) to (f).

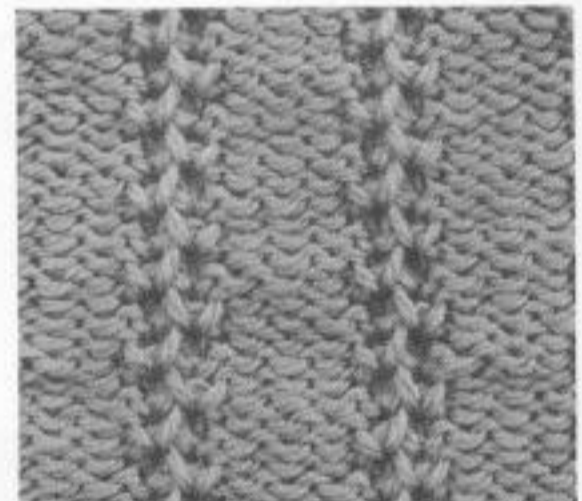


Fig.139

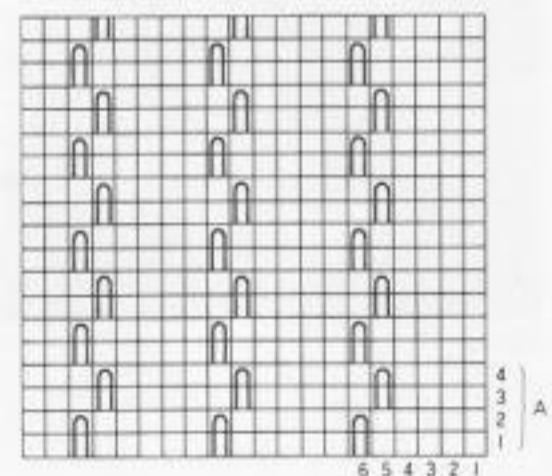


Fig.140

Pattern 3

- a) Set both return cam levers to No.1.
Set both guide cam levers to "KNIT".
- b) Bring forward into position (E) from position (B) every 5th needle from right end needle, and knit 2 rows.
- c) Push back into position (D) from position (E) every 5th holding needle.
- d) Push forward into position (E) from position (B) 1st, 4th, 6th, 9th, 11th, 14th, 16th needles and so on from right to the left end.
- e) Knit 2 rows.
- f) Push back into position (D) from position (E) every holding needle.

Repeat from (b) to (f).

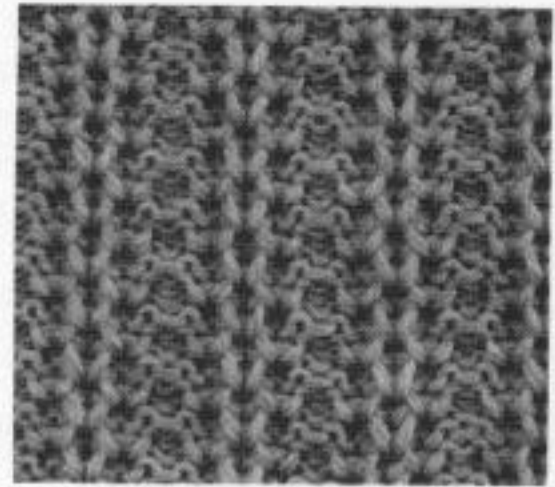


Fig.141

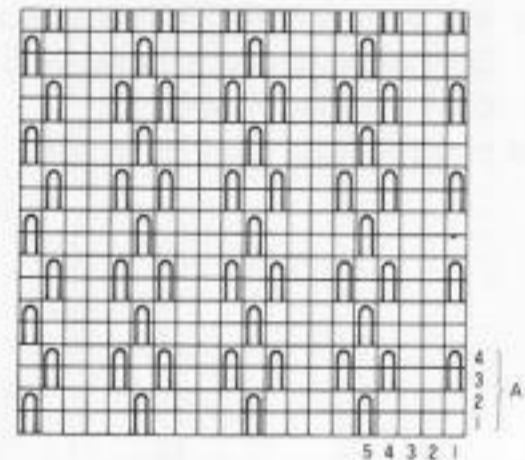


Fig.142

Pattern 4

- a) Set both return cam levers to No.1.
Set both guide levers to "KNIT".
- b) Push forward into position (E) from position (B) every alternate needle starting with 2nd needle from right end.
Knit 2 rows with 1st colour.
- c) Replace 1st colour with 2nd colour.
- d) Push back into position (D) from position (E) every alternate holding needle, and all needles in position (B) should be brought forward into position (E).
- e) Knit 2 rows with 2nd colour.
- f) Change to 1st colour, and push back into position (D) every alternate holding needle.

For pattern repeat from (b) to (f).

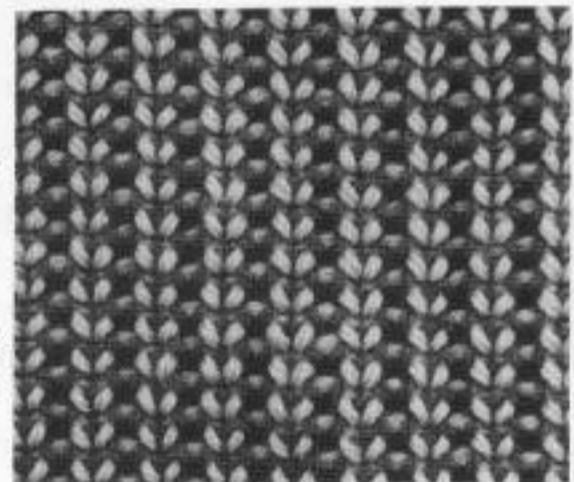


Fig.143

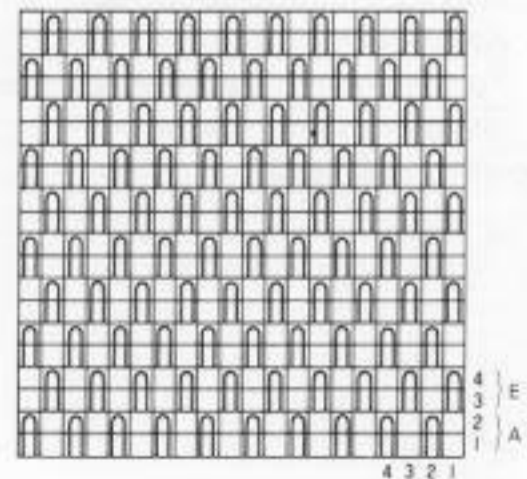


Fig.144

Pattern 5

- Set both guide cam levers to "KNIT".
 - Move backward to No.1 return cam levers on each side.
 - Push forward into position (E) from position (B) every 4th needle starting with 2nd needle from right end, and knit 4 rows with 1st colour.
 - Set both return cam levers to No.2, and change to 2nd colour by switching the feeders.
Knit 2 rows.
 - Move backward to No.1 both return cam levers, and replace 2nd colour with 1st colour.
 - Push forward into position (E) from position (B) every 4th needle starting with 4th needle from right end, and knit 4 rows.
 - Set both return cam levers to No.2 and replace 1st colour with 2nd colour, and knit 2 rows with 2nd colour.
 - Change to 1st colour.
- For pattern repeat from (b) to (h).

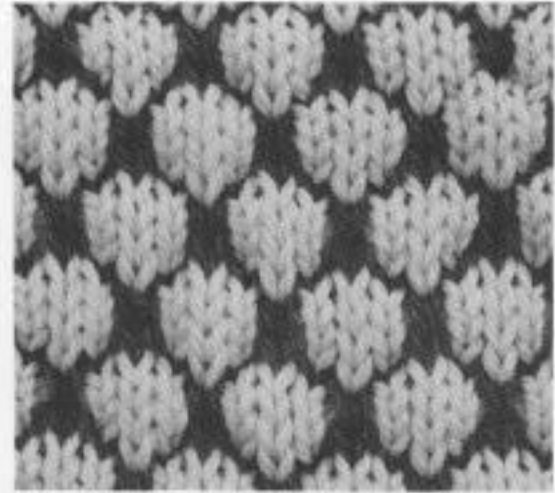


Fig.145

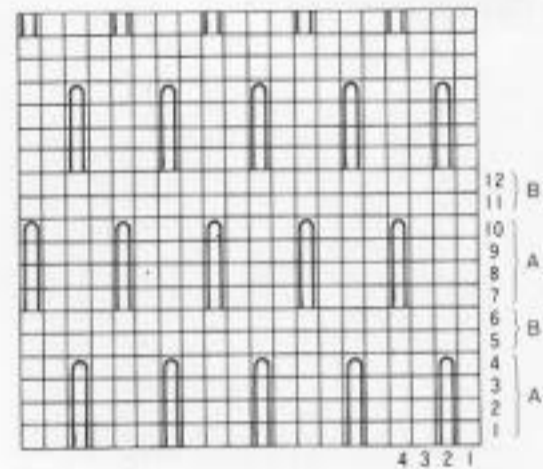


Fig.146

Pattern 6

- Before commencing to knit, transfer every 4th stitch to the next needle, and those empty needles should be pushed back into rest position (A).
 - Set both guide cam levers to "KNIT".
Set both return cam levers to No.1.
 - Bring forward into position (E) from position (B) every 8th needle (2nd, 10th, 18th etc. from right end).
Knit 4 rows.
 - Push back into position (D) from position (E) every 8th holding needle.
 - Bring forward into position (E) from position (B) every 8th needle starting with 6th needle from right end.
Knit 4 rows.
 - Push back into position (D) from position (E) every 8th holding needle.
- Repeat from (c) to (f).

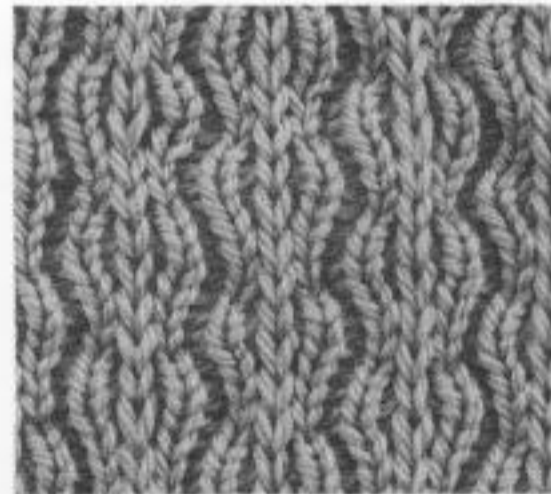


Fig.147

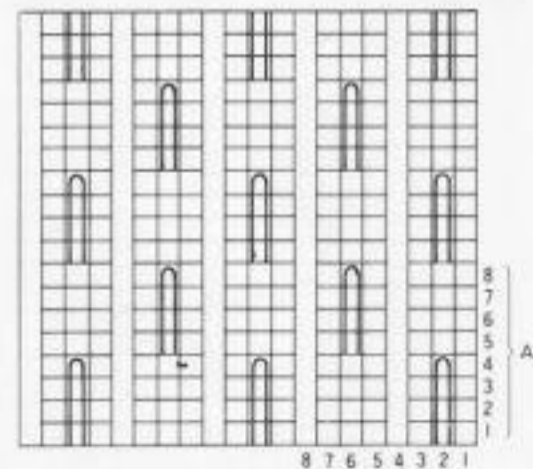


Fig.148

Pattern 7

- Before commencing to knit, transfer every alternate stitch to the adjacent needle, and push those empty needles back to rest position (A).
 - Set both guide cam levers to "KNIT".
 - Set both return cam levers to No.1.
 - Bring forward into position (E) from position (B) every 4th needle starting with 3rd needle from right end, i.e. 3rd, 7th, 11th, 15th etc. and so on to the left end.
Knit 3 rows.
 - Pull forward to No.2 the leading return cam lever.
Knit one row.
- For pattern repeat from (c) to (e).

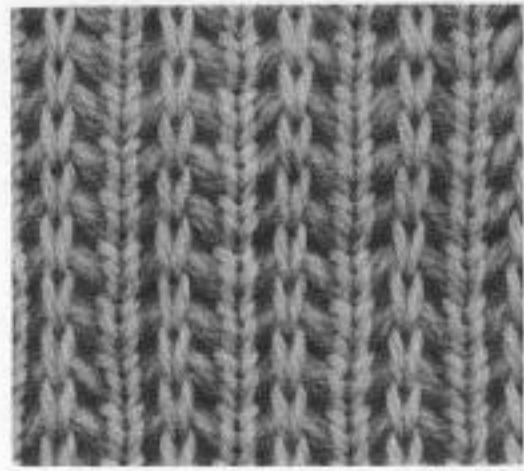


Fig.149

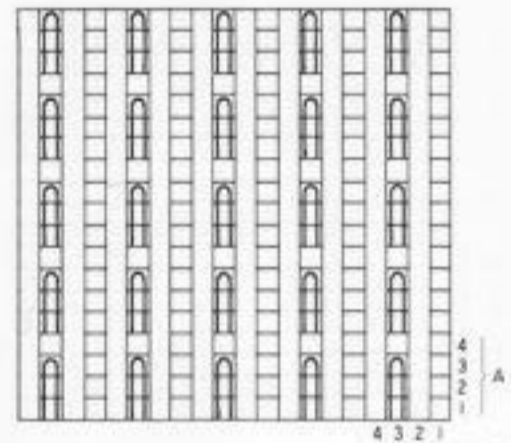


Fig.150

Pattern 8

- Set both return cam levers to No.2, and pull forward to "PASS" both guide cam levers.
 - Leaving in position (B) every 4th needle starting with the right end needle, bring forward into position (D) from position (B) all other working needles, preferably using the treble eye transfer tool as shown in Fig. 153.
Knit one row.
 - In the same manner as described in (b) above, bring forward the needles into position (D) leaving every 4th needle in position (B). But, every 4th needle to remain in position (B) should start from 2nd needle from right end needle.
Knit one row.
 - Following the pattern chart (Fig.152), knit upto 8th row moving the holding formation to each left adjacent needle per each row.
 - From 9th to 14th row proceed in reverse order, i.e. moving the tucking formation to each right adjacent needle per each row.
- Repeat from (b) to (e).

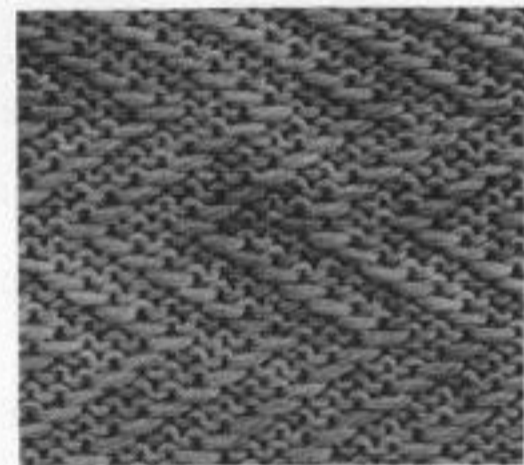


Fig.151

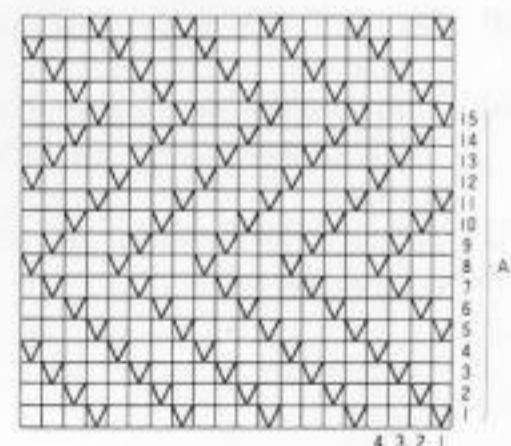


Fig.152



Fig.153 — 40 —

Pattern 9

- a) Set both return cam levers to No.2.
Set both guide cam levers to "PASS".
- b) Leaving in position (B) every 5th and 6th needles from right end, bring forward into position (D) from position (B) all other working needles.
Knit one row.
- c) Following the pattern chart, knit upto 7th row moving the holding formation to right adjacent needle per each row in order.
- d) From 8th to 12th row, proceed in reverse order.
Repeat from (b) to (d).

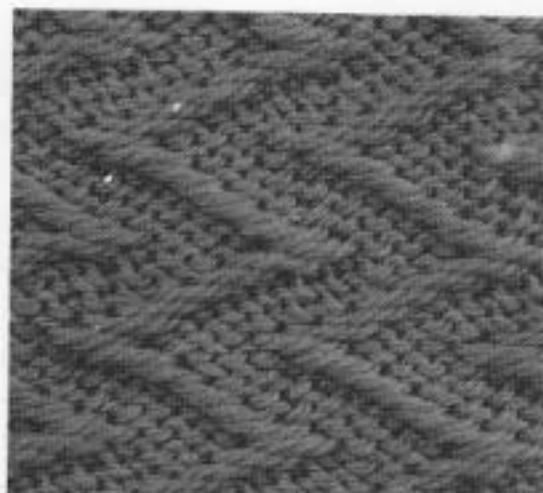


Fig.154

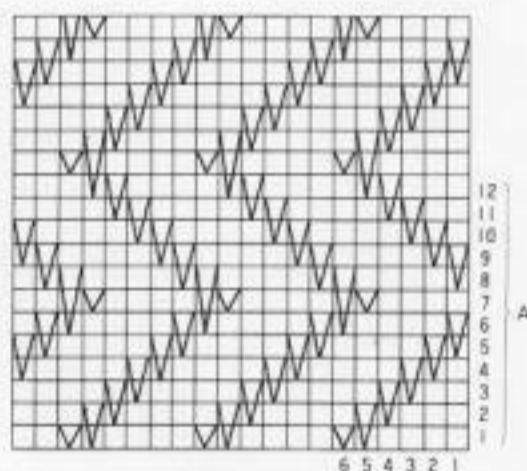


Fig.155

Pattern 10

- a) Set both return cam levers to No.2.
- b) Push back to "KNIT" both guide cam levers and knit two rows with 1st colour.
- c) Push forward to "PASS" both guide cam levers and replace 1st colour with 2nd colour.
- d) Push forward into position (D) from position (B) every alternate needle starting with the right end needle and knit one row with 2nd colour.
- e) Repeat as (d) above for further 3 rows upto 6th row.
- f) Set to "KNIT" both guide cam levers, and change 2nd colour with 1st colour.
Knit two rows of stocking stitch.
- g) Set to "PASS" both guide cam levers and replace 1st colour with 2nd colour.
- h) Push forward into position (D) every alternate needle starting with the 2nd needle from the right end, and knit one row with 2nd colour.
- i) Repeat as (h) above for further 3 rows upto 12th row.
Repeat from (b) to (i).

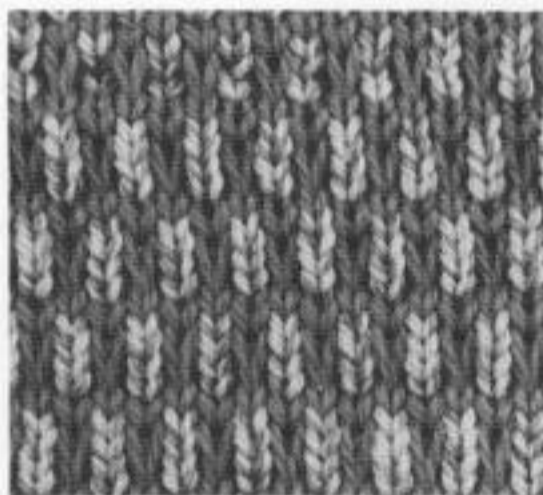


Fig.156

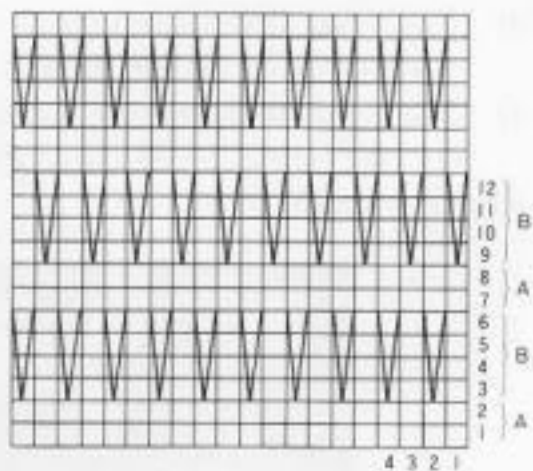


Fig.157

Pattern 11

- a) Set both return cam levers to No.2.
- b) Bring forward to "PASS" both guide cam levers.
- c) Using the 1 x 3 selector plate push forward into position (D) from position (B) every 4th needle starting with 3rd needle from the right end needle and again push forward into position (D) every 4th needle starting with 4th needle from the right end.
- d) Knit one row with 1st colour.
- e) Repeat as (c) above, and knit one row with 1st colour.
- f) Push both guide cam levers back to "KNIT", and replace 1st colour with 2nd colour.
Knit two rows of stocking stitch.
- g) Set both guide cam levers to "PASS", and replace 2nd colour with 1st colour.
- h) Push forward into position (D) in 2 by 2 formation starting with right end needle, i.e. 1st, 2nd, 5th, 6th, 9th, 10th and so on.
- i) Knit one row.
- j) Repeat as (h) above, and knit one row.
- k) Push both guide cam levers back to "KNIT", and replace 1st colour with 2nd colour.
Knit two rows.

For pattern repeat from (b) to (k).

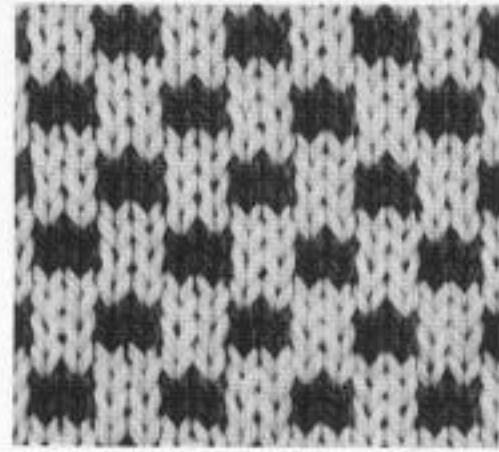


Fig.158

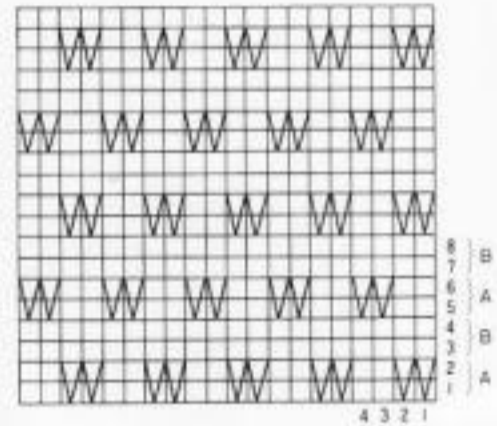


Fig.159

Pattern 12

- a) Set both return cam levers to No.2.
- b) Push back to "KNIT" both guide cam levers.
- c) Knit two rows of stocking stitch with 1st colour.
- d) Push forward to "PASS" both guide cam levers, and replace 1st colour with 2nd colour.
- e) Leaving in position (B) every 4th needle from right end, bring forward into position (D) from position (B) all other working needles, and knit one row.
- f) Repeat as (d) above for further 3 rows.
- g) Move forward to "PASS" both guide cam levers, and replace 1st colour with 2nd colour.
- h) Leaving in position (B) every 4th needle starting with 2nd needle from right end, bring forward into position (D) all other working needles, and knit one row.
- i) Repeat as (h) above for one row.
Repeat from (b) to (i).

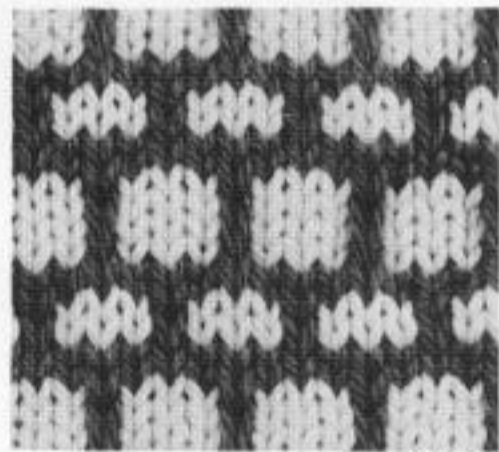


Fig.160

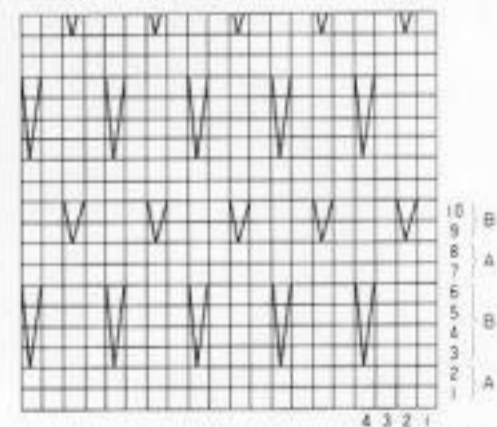


Fig.161

