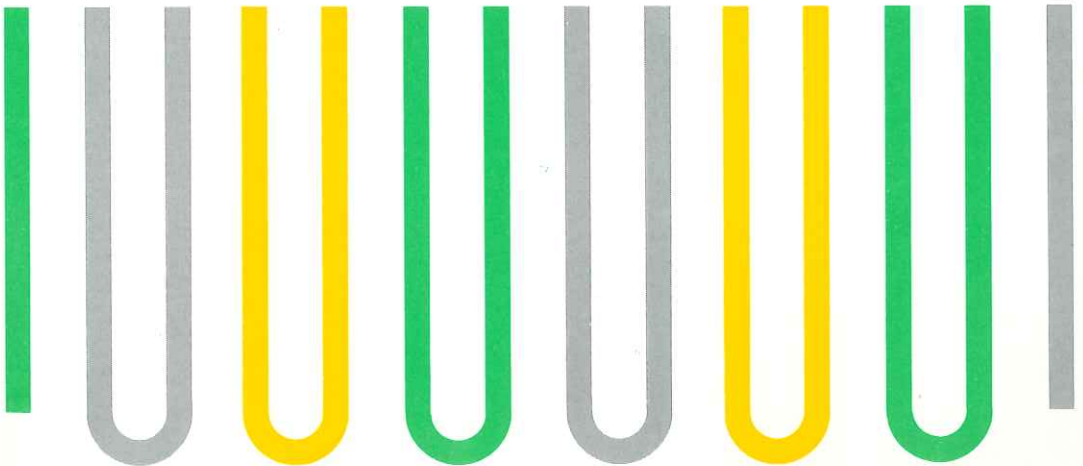


**Instruction manual  
for colour changer**

**Model  
KHC-820**

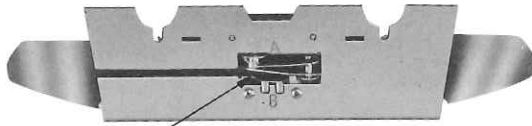


# THE CONTENTS

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# Part names and Functions

1

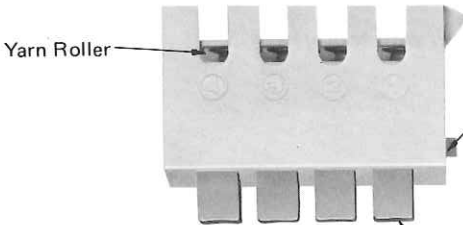


Changer sinker plate  
(sinker plate specially used for the colour changer.)

Yarn feeder

A . . . . . for 2nd colour yarn

B . . . . . for main colour yarn when knitting fair-isle pattern



Yarn Roller

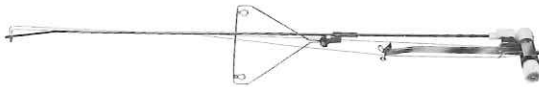
Release button

Changer  
for changing the yarn

Changer button



Knob  
for tightening the changer  
on the arm.



Yarn tension unit for the changer  
Set up this on the left side of the knitter  
when using colour changer.



yarn clip

Arm



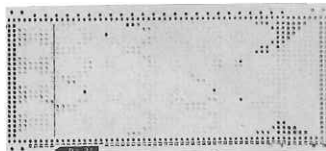
Yarn tension setting stand



KHC Arm connector

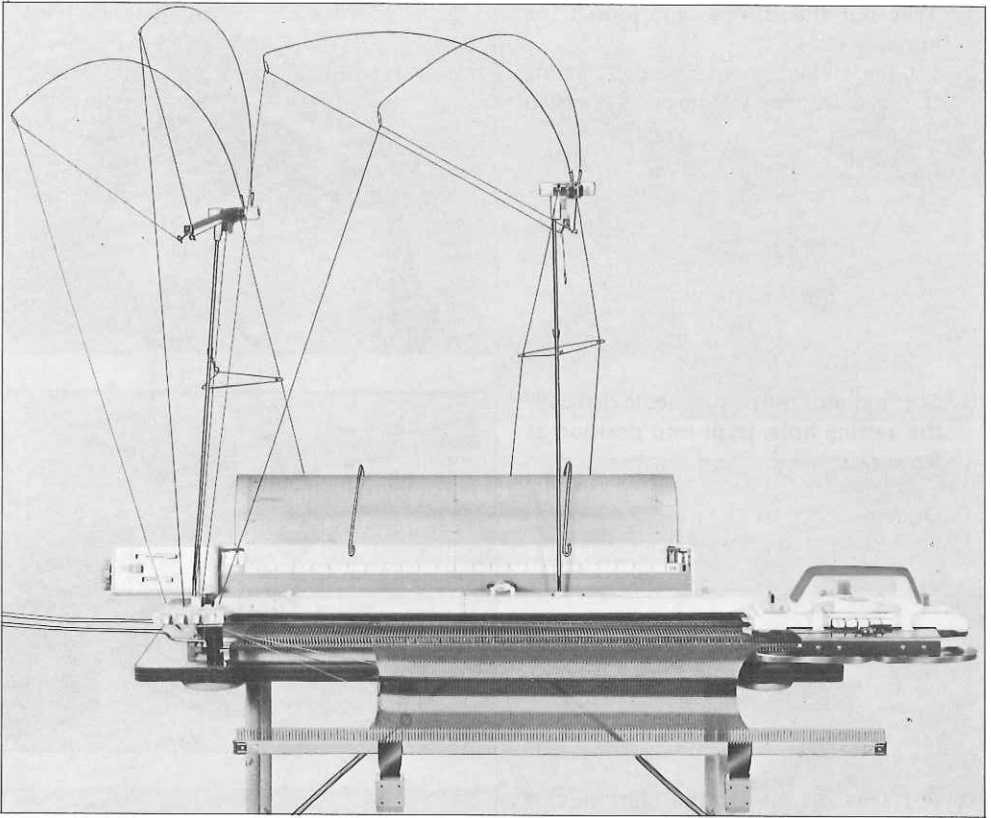


Wheel brush  
for TUCK knitting



Punch cards Nos. 31-40

# How to set up



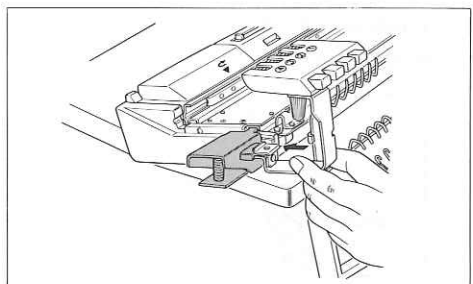
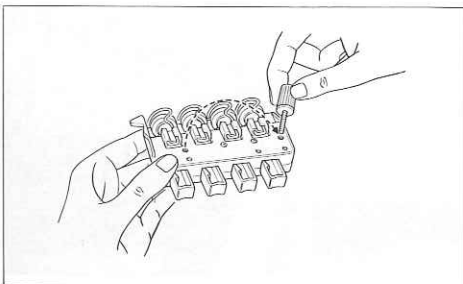
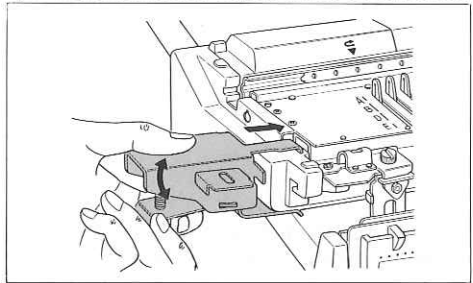
●The above shows that the colour changer is set up, and the knitting is on its way.

## KHC Arm connector

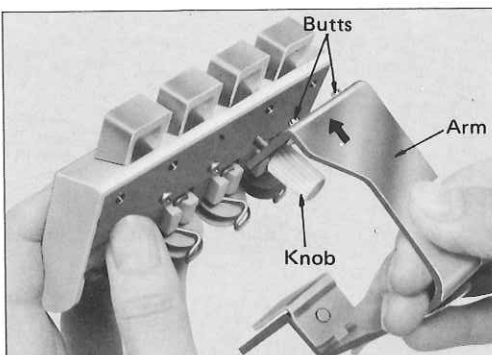
If you have a ribbing attachment, it is now not necessary to completely remove the ribber in order to use the KHC colour changer. Merely fit the connector and colour changer as per diagrams and then drop the ribber out of position.

### How to set

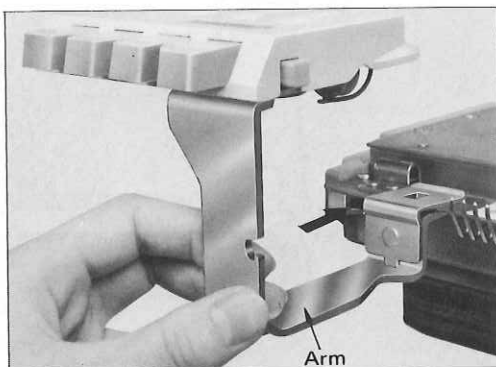
- (1) Pinch the clamping part of Arm Connector as much as possible, and push the projecting part of Arm Connector against the end of felt bar and insert it as far as possible.
- (2) Take away the knob of changer and fix the knob to the left screw hole. Fit the changer onto the arm and tighten the knob.
- (3) Push the arm into the setting hole of Arm Connector as far as possible.



1. Take out the changer and loosen the knob.
2. Fit the changer onto the arm putting the studs into the setting holes. Tighten the knob.



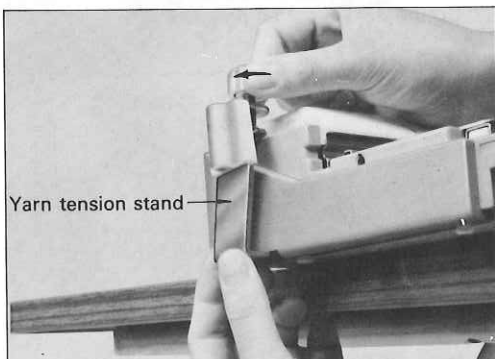
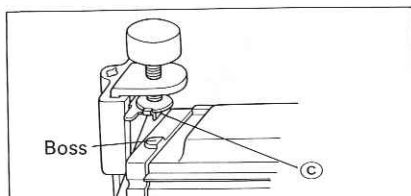
3. Clip the arm onto the needle bed over the setting hole, push into position as far as possible.



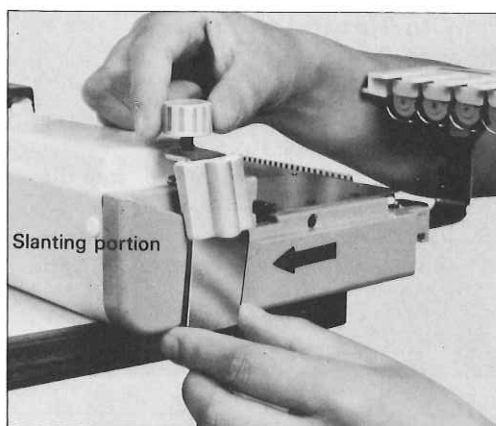
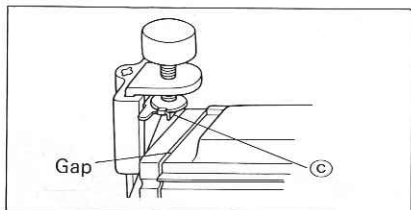
4. Put the carriage on the right side of the needle bed.
5. Replace the sinker plate of the knitter with that for the colour changer.



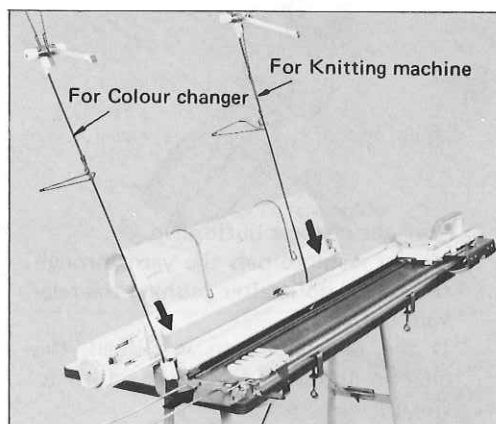
6. Set up the yarn tension stand on the left side of the needle bed. Putting the (b) portion of the stand to the grooved portion (a) of side plate. Then fasten the screw so that the setting portion (c) hooks on the boss.



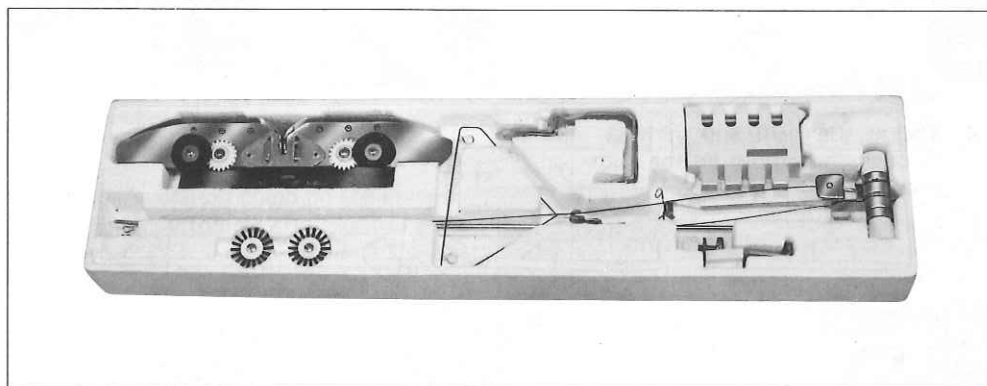
- When you set up the yarn tension unit on the knitters KH-820 or KH-810, slide the yarn tension stand in the direction of the arrow until the slanting portion of the side plate meets with that of the setting stand. Then fasten the screw so that the setting portion © gets into the gap of the side plate.



7. Set the yarn tension unit into the yarn tension stand.  
Yarn tension unit for the changer should be set up on the left side.
8. Insert the extension rail into the left side.



### When Folding up the Colour Changer



Fold up the colour changer set as shown in the above.

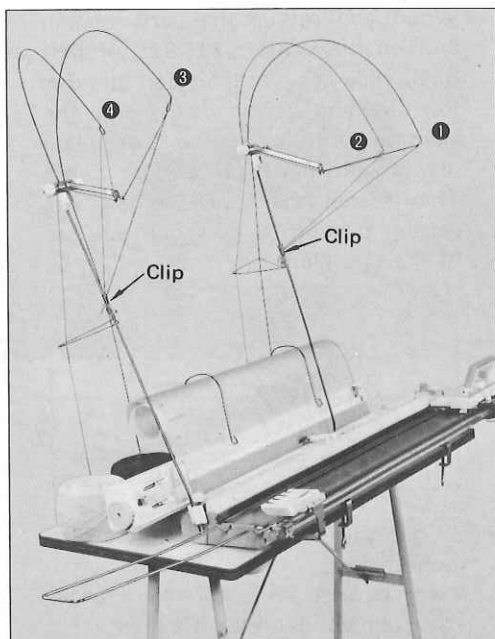
# How to make first row knitting

5

## How to Thread the Yarn How to Start Knitting (for stripes with four yarns)

Let's try with a basic stripes first.

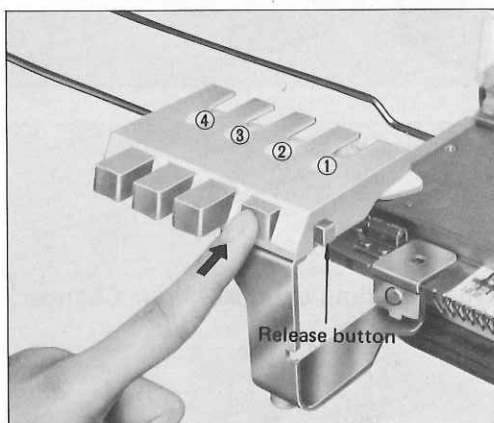
1. Prepare four yarns (3 ply) of four different colours.
2. Pass the yarn into either yarn tension units and hook these yarns on the yarn clips.



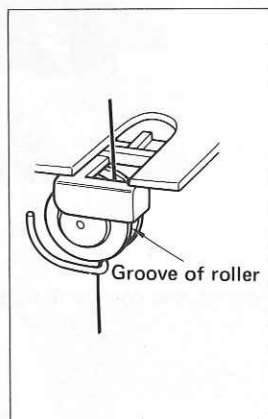
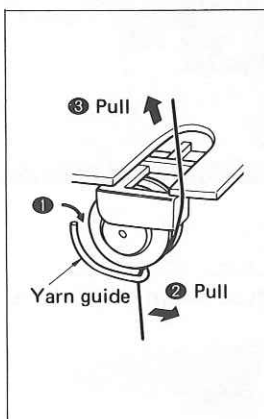
3. Push the changer button No. ①.

\* If you want to pass the yarn through the roller, do it after pushing the relevant button.

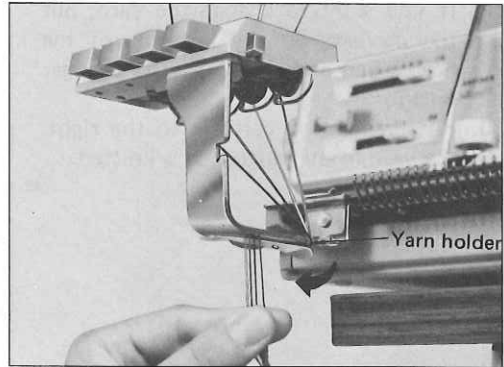
\* If the release button is pushed, the changer buttons depressed return to the original position.



4. Thread the right end yarn ① through the groove on the right end roller ①.



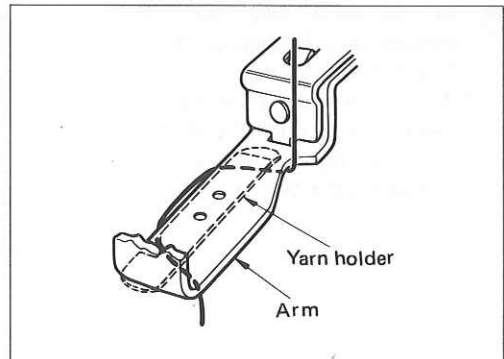
5. Secure the end of yarn under the yarn clip on the changer arm.



6. Push the button ②, and pass the yarn ② through the roller ② and the yarn ③ through the roller ③, the yarn ④ through the roller ④, and then hook them on the yarn holder.

\* Don't cross the yarns.

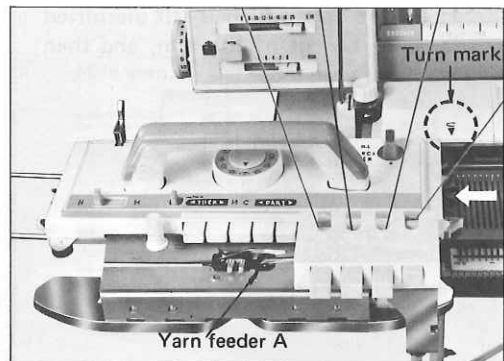
7. Bring forward to B-position as many knitting needles as you want to knit.



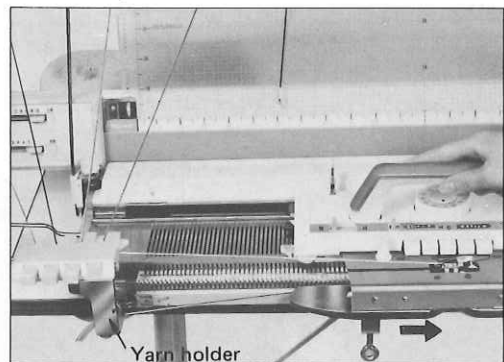
8. Set the carriage for plain knitting and move the carriage a few times to arrange the needles and place it on the left end of the needle bed.

\* Make sure to move the carriage until its right end passes the turn mark.

\* In case of models KH-820 and KH-810, make sure to move the carriage until its right end passes the needle for 100th stitch on the left side.

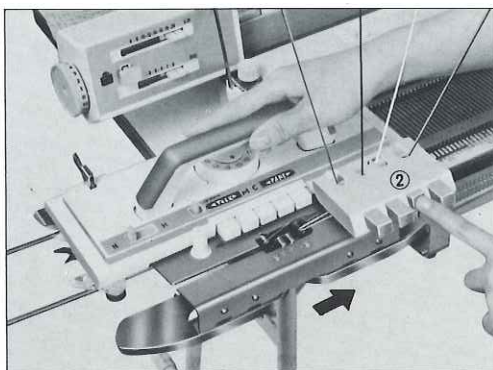


9. Hang the cast-on comb on the knitter.  
 10. Push the button No. ①.  
 11. Move the carriage from the left to the right end slowly thus the yarn is threaded into the yarn feeder A and is caught by the knitting needles.  
 12. Lower the cast-on comb and take out the end of the yarn from the yarn holder on the arm.  
 13. By moving the carriage from the left to right and back again, you can make a plain knitting.





14. If you want to change the yarn, put the carriage on the left side of the needle bed and then push the changer button ②.
15. By moving the carriage to the right, the yarn in the button ② is knitted.

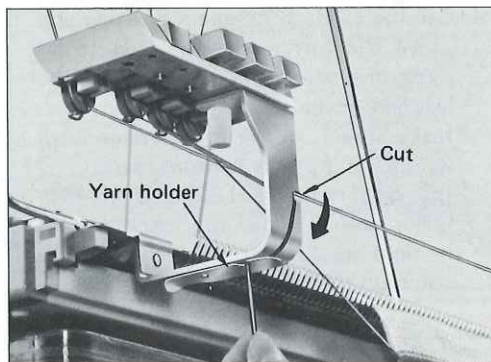


16. In the same way, by pushing the buttons ③, ④, you can knit with different colour yarns.

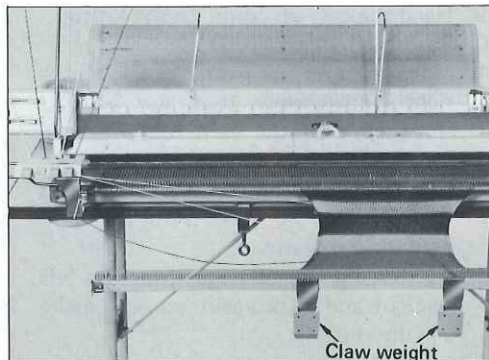
\* When you want to change the yarn, make sure to push the changer button after moving the carriage until its right end passes the turn mark.



\* Hook the yarn which is left unknitted long in the cut of the arm, and then leave the yarn loose.



\* Continue knitting with the claw weights hanged on either ends of the work. When the work becomes long, change the position of the these weights.



# How to make pattern knitting

## How to Read Punch Card

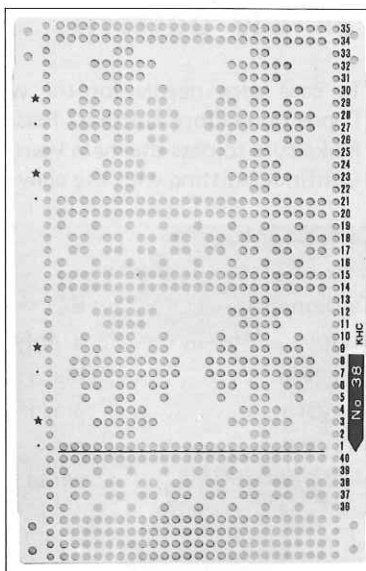
When knitting by changing the yarn with the colour changer, the pattern which is covered by the unperforated portion of the card is changed.

How to produce a pattern for Fair-isle pattern using the colour changer. . . . Please refer to page 16.

The mark ★ on the card shows the position to change the yarn.

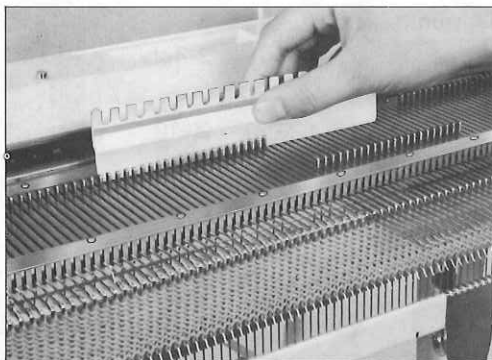
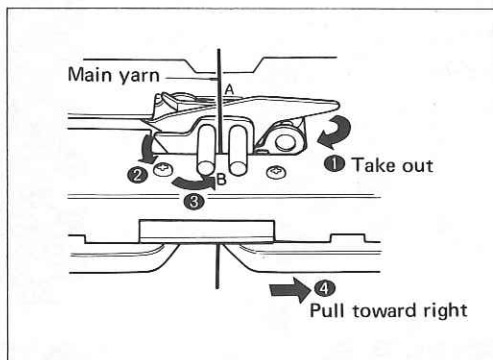
To mark • on the card shows the position to knit by releasing all buttons of the changer.

Even if the same punch card is used, you can knit different tastes of the pattern by altering the position of the change of the yarn.



## Preparation for Pattern Knitting

1. Knit several rows with PLAIN using the main yarn through the changer, and then place the carriage on the right side of the needle bed.
2. Set the change knob at "KC" and push the "MC" button.  
(Please make sure if the holding cam lever is set on "N".)
3. Set the punch card for start and set the card lock lever "•".
4. Take out the main yarn in yarn feeder A and pass it into the yarn feeder B.
5. Take the main yarn off the roller ①, and cancel the changer button ①. If the main yarn is slackened, pull it back on the rear yarn guide.
6. Bring forward all knitting needles from B-position to E-position by using the needle pusher.
7. Move the carriage from right to left so as to select the needles. After moving the carriage as far as left end of the needle bed, push the changer button for the yarn you want to knit.
8. Set the card lock lever at "▼" and then, move the carriage from left to right.
9. Continue knitting and push the changer button when the ★ mark appears on the punch card.



## Fair-isle pattern

\* In case edge needle for the work is not selected, make sure to bring forward it to D-position before knitting. Pass the traversing yarn under the edge needle.

\* Make sure to pass the main yarn through the sub-take up spring.

\* Continue knitting with the claw weights on either ends of the garment.

### Card No. 31

6 sts., 12 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . black

3rd yarn . . . . . green

4th yarn . . . . . pink

Main yarn . . . . . white



### Card No. 32

24 sts., 12 rows: 1 pattern

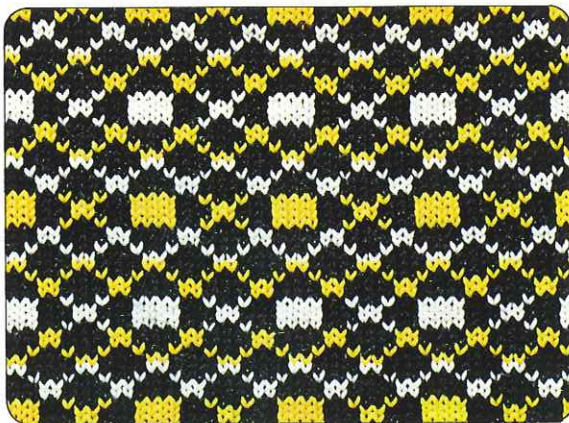
Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . yellow

3rd yarn . . . . . white

Main yarn . . . . . black



### Card No. 33

8 sts., 24 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . blue

3rd yarn . . . . . green

4th yarn . . . . . red

Main yarn . . . . . light green



**Card No. 34**

24 sts., 28 rows: 1 pattern

Tension dial . . . . . 6

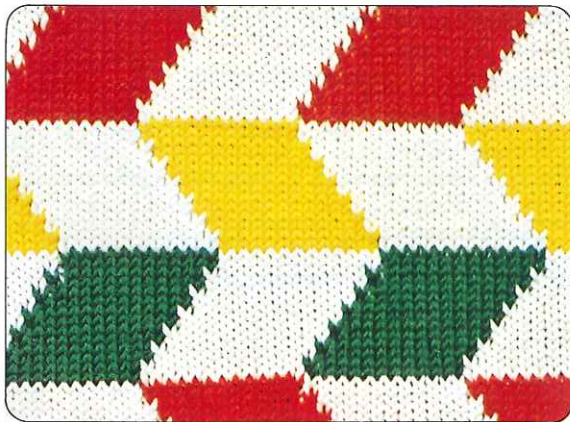
Yarn . . . . . 3-4ply

2nd yarn . . . . . green

3rd yarn . . . . . yellow

4th yarn . . . . . red

Main yarn . . . . . white

**Card No. 35**

24 sts., 24 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . green

3rd yarn . . . . . pink

4th yarn . . . . . red

Main yarn . . . . . white

**Card No. 36**

24 sts., 28 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . blue

3rd yarn . . . . . red

4th yarn . . . . . green

Main yarn . . . . . white



**Card No. 37**

24 sts., 24 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . green

3rd yarn . . . . . brown

Main yarn . . . . . white

**Card No. 38**

12 sts., 20 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . yellow

3rd yarn . . . . . white

4th yarn . . . . . pink

Main yarn . . . . . red

\* Cancel the changer button when the "•" mark appears on the punch card.

**Card No. 39**

24 sts., 24 rows: 1 pattern

Tension dial . . . . . 6

Yarn . . . . . 3-4ply

2nd yarn . . . . . blue

3rd yarn . . . . . green

4th yarn . . . . . red

Main yarn . . . . . white



## Multi-colour TUCK pattern

- This pattern is knitted by changing the yarn in the feeder A every two rows.

### Card No. 40

24 sts., 48 rows: 1 pattern

Tension dial . . . . . 5

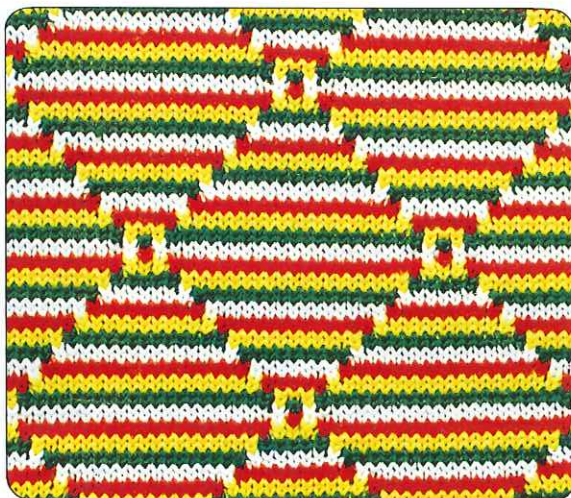
Yarn . . . . . 3-4ply

1st yarn . . . . . green

2nd yarn . . . . . yellow

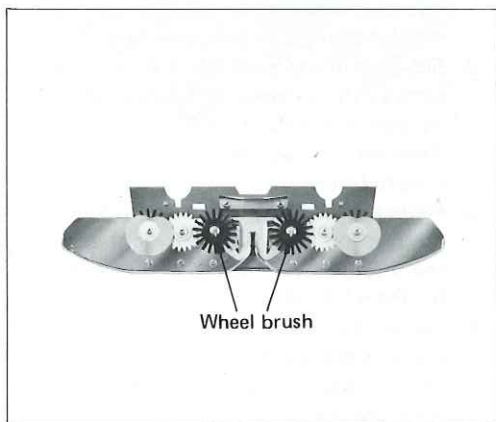
3rd yarn . . . . . red

4th yarn . . . . . white



When knitting TUCK pattern, attach the wheel brushes of the accessory on the sinker plate.

**\*REMOVE THIS WHEEL BRUSH EXCEPT WHEN KNITTING TUCK PATTERN.**



- Prepare for pattern knitting.

1. After knitting some rows of plain knitting with the colour changer, put the carriage on the right side of the needle bed and then set the change knob to "KC".
2. Set the punch card and set the card lock at "•" and then move the carriage from right to left end.
3. Push the cam button TUCK L, R and then set the card lock lever at "▼".
4. Start knitting after making sure that the yarn goes into the feeder A.

\*When the edge needle for the work is not selected, make sure to bring forward it to D-position before starting knitting.

\*Continue knitting with the claw weights hung on either ends of the work.

\*When you want to change the yarn before starting knitting, straighten the yarn by hand so as to remove the slack of the yarn you have been knitting.

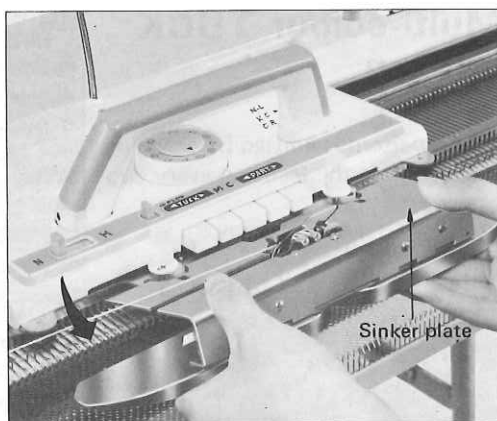
# Important points to remember

13

## If the Carriage is Jammed during Knitting

Without moving forcibly, how to remove the carriage and then start knitting again.

1. Remove the sinker plate
  - a. Loosen the sinker plate knobs as much as possible.
  - b. Holding the sinker plate, pull in arrow direction and remove it.

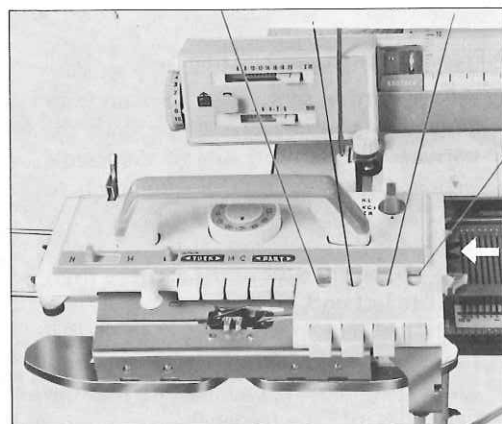
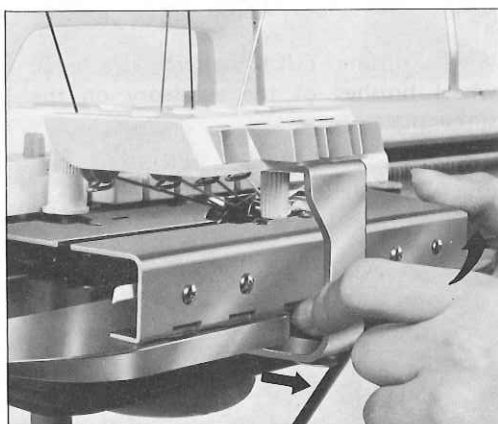


- \* When removing the sinker plate on the left end near the colour changer, take off the changer at the same time.
2. Set the change knob at "CR" and then remove the carriage by holding up.

\* In case of KH-820/KH-810.

Remove carriage by turning carriage release levers.

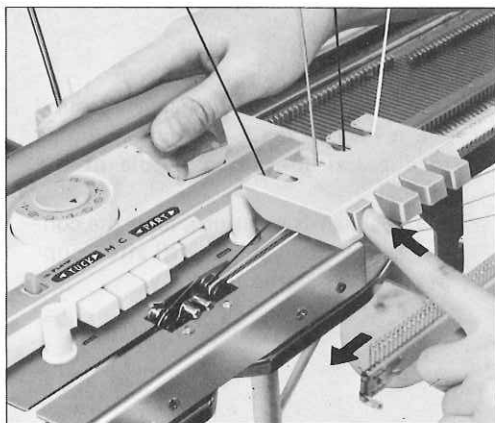
3. Return the change knob and put the carriage on the rail from right end of the needle bed. Set the cam button for PART L, R.
  4. Set up the sinker plate.
  5. Let out the yarn from the yarn feeder and unravel the last row of knitting. Align the knitting needle on B-Position.
- \* Make sure that the end of the yarn is on the left side.
6. After moving the carriage as far as the left end and cancel both PART buttons, push the changer button for the yarn you want to knit.



## How to Correct an Error in Pattern Knitting

1. Set the card lock lever at "●".
2. Take off the carriage and put it on the right side of the knitting.
3. Unravel incorrect rows of the work. (Let the yarn end to be on the left side.)
4. Rewind the punch card as many as the incorrect rows you unravelled.

5. Set the cam button for PART L, R, and move the carriage until the left end. Push the changer button for the yarn you want to knit.



6. Reset the cam button and set the card lock lever at "▼".

If you want to move the carriage without feeding the punch card, set the change knob to N. L.

## When Making a Partial Knitting

In case of Partial knitting, the yarn can be changed by the colour changer as follows:

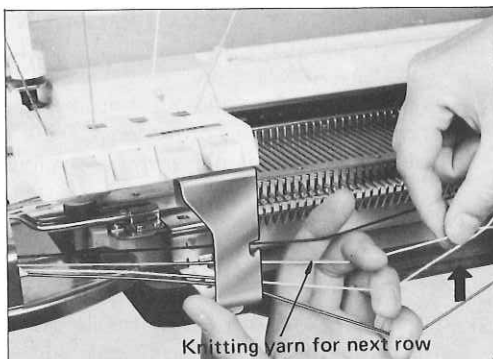
1. When knitting partially on the side where the colour changer is, hold the all yarns in order of the changer button number as shown in the picture. Each yarn should separate from others. When holding the yarns, pass the traversing yarn under the resting needles.

\* In case of partial knitting for Fair-isle pattern, first hold the main yarn, then contrast yarn as well.

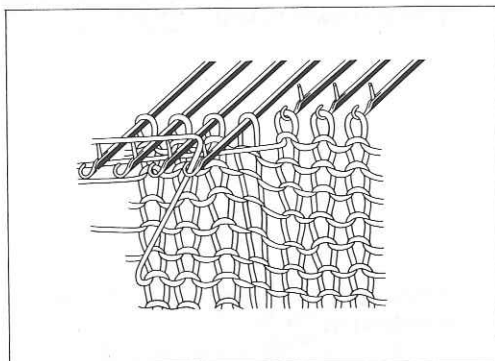




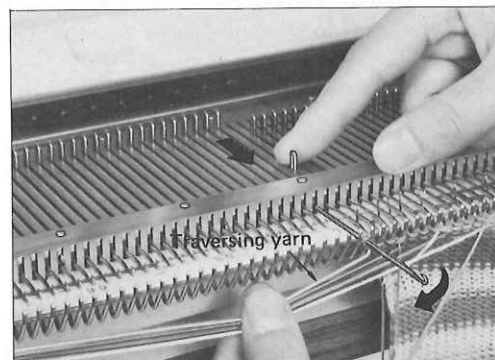
2. Without changing the order of the yarns you are holding, pick up the yarn to be changed out of the yarns, and then release the rest.  
For the Fair-isle pattern, pick up the contrast colour of yarn at the same time.



3. Loop the yarn to be changed around the needle in the E-position adjoining to the last B-position needle of the work.  
\* For the Fair-isle pattern, loop the contrast colour of yarn as well after looping the main yarn.



4. When you change the yarn after finishing the partial knitting, bring forward the edge needle to E-position on the side of the colour changer and then pass the traversing yarn under the needle.



After finishing the increasing stitches, take the same steps as above.

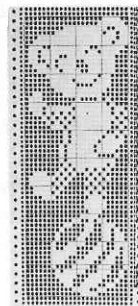
### How to produce a punch card for Fair-isle pattern using the colour changer

The special punch card for KHC-820 differs from that usual punch card for KH-820/KH-830 and it is impossible to apply usual punch card for KH-820/KH-830 to colour changer KHC-820 as is. When making out this special punch card, you are required to perforate in a reverse manner, that is, unlike usual punch card, you have to make perforations for main colour yarn and leave the card unpunched for contrast colour yarn on special punch card for KHC-820.

#### \* Example



Usual punch card



Modified card for colour changer

