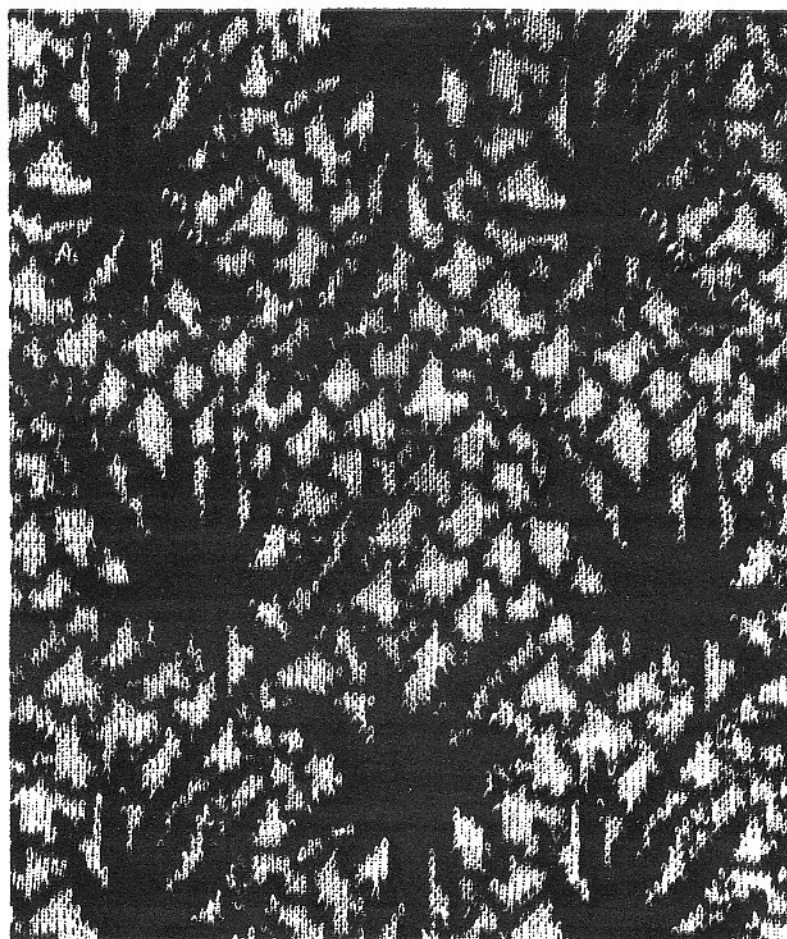


ELECTRONIC COLOUR CHANGER

Model: EC-2000



For Safety Usage

- The following are the rules for safety usage, please follow them.

Sign identification and description:

	Warning	If ignore this warning sign and keep operating in a wrong way, it may cause operation personnel injured or death.
	Attention	If ignore this warning sign and keep operating in a wrong way, it may cause operation personnel injured or equipment, parts damaged.

The meanings of those graphic signs in this manual are as follows:

	The forbidden action is not regulated by a specific item.		The action must be followed is not regulated by a specific item.		The warning is not regulated by a specific item.		Dangerous that may cause fire		Dangerous that may cause electric shock
---	---	---	--	---	--	---	-------------------------------	---	---

- In this product, current is flowing from KH-970 power converter, via signal cord to the yarn changer electric control part.

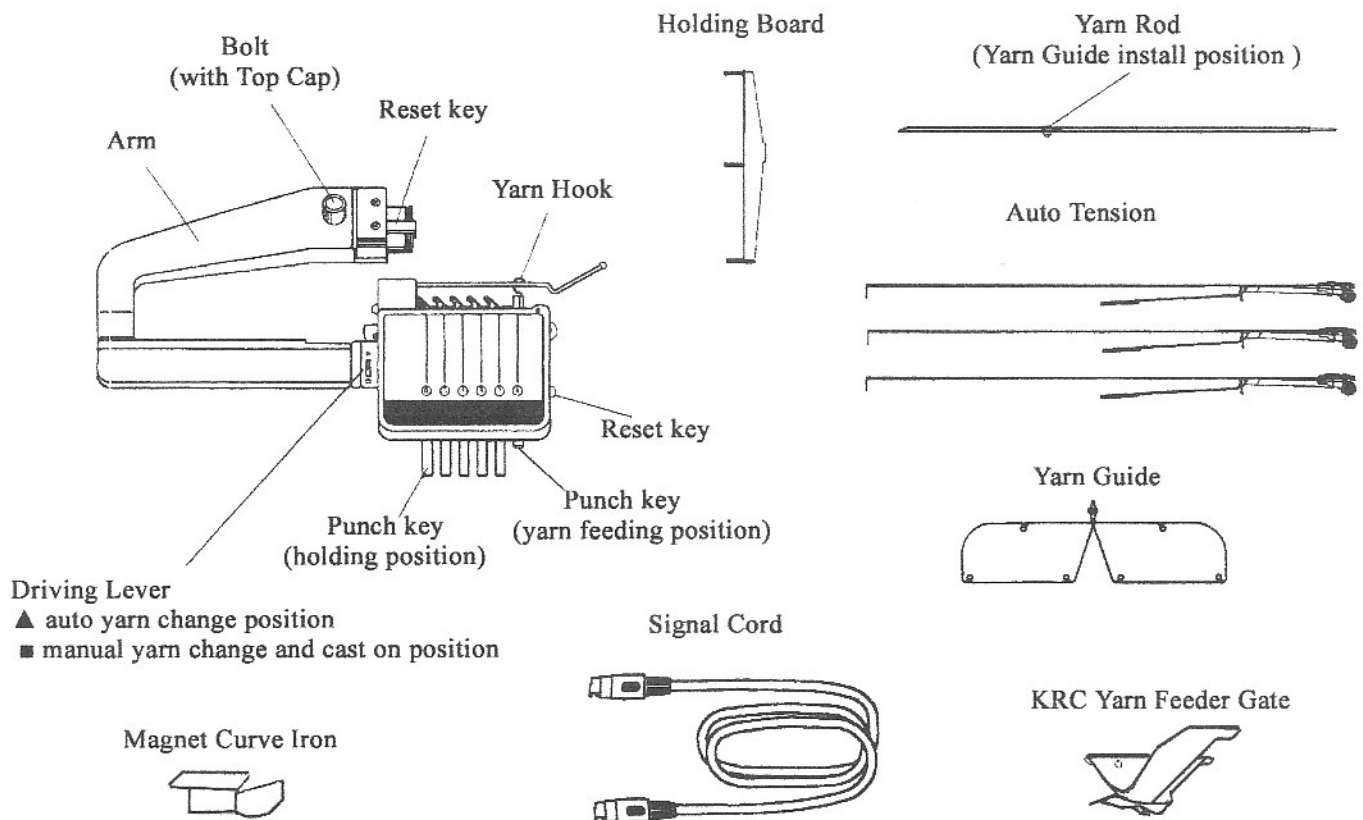
 Warning	
	● Damaged or broken signal cord is the factor result to fire or electric shock.
	● If not used for a long time, please plug off the signal cord, or the temperature inside the yarn changer may rise and cause fire. ● Do not use wet hand to touch signal cord, it may cause electric shock.

 Attention	
	● Do not disassemble, or rebuilt the product, it may cause fire, electric shock, injury or malfunction.
	● Using the damaged or broken signal cord may cause yarn change control part malfunction.
	● Please power off the computerized controller when plug in or off the signal cord, and plug in or off the cord end on yarn changer side first. If plug in or off the signal cord with power on, it may cause electric shock or malfunction.
	● Please buckle the signal cord inside the cord button at the Yarn Changer Arm, if the signal cord touch the arm and cause electric leak, it may cause malfunction or low garment quality.
	● Please detach the Yarn Changer Arm when the Sinkers Board is in used. If the board is mutated, it may cause malfunction. (please see page 6 for disassemble the Yarn Changer).
	● Please screw tight the Nut (with Top Cap), or the Yarn Changer may drop or cause injury.

- Thank you for using Brother Knitter machine.
- In order to properly master the excellent capability and the usage of six color Yarn Changer, read through the operation manual carefully.
- Together with the KH-970, this Yarn Changer can yarn change automatically. In addition, if connect with other model, it can work properly as well if change yarn manually.

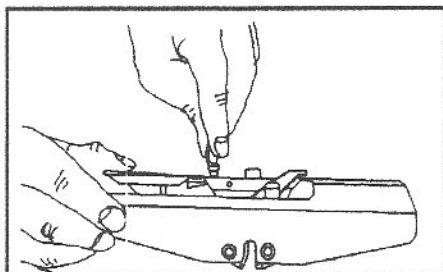
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[Change yarn automatically (Connect with KH-970)]-----	7
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◆ Use pattern number 1-107, 509-518 and 2 color self designed pattern to knit -----	10
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[Details to be concerned]-----	15
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[Parts Identification]

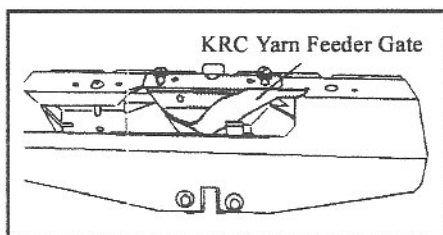


[Assemble Method]

- Attach KRC Yarn Feeder Gate and Magnet Curve Iron to Ribber Arm.
- KRC Yarn Feeder Gate Assemble Method



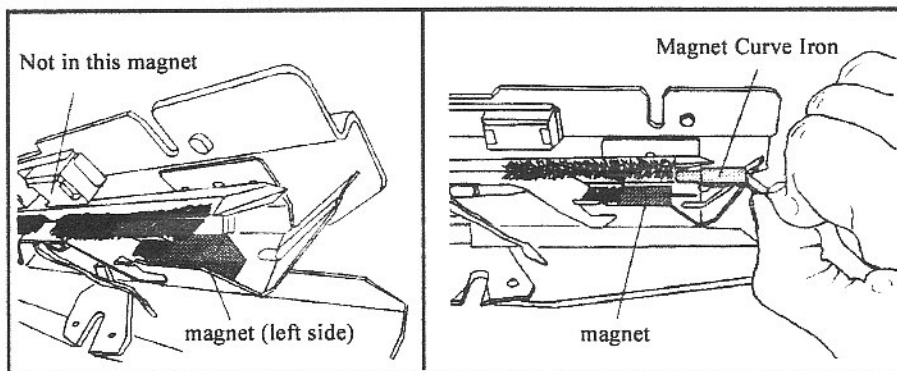
- (1) Detach the original Yarn Feeder Gate and screw from the Ribber Arm, keep the detached Yarn Feeder Gate safety.
* After finish using the Yarn Changer, attach the Yarn Feeder Gate to the its original place.



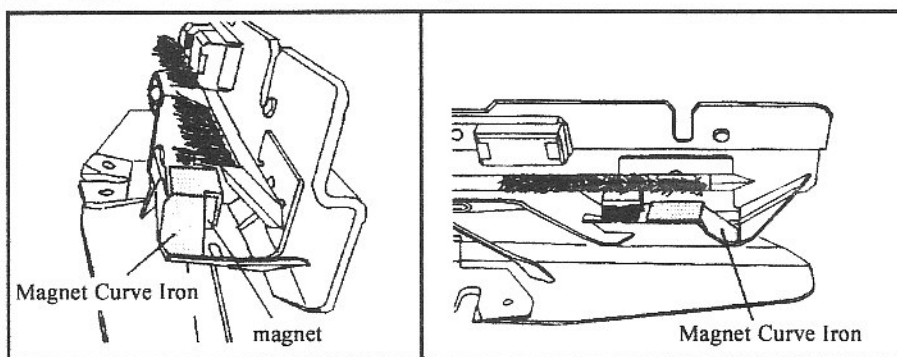
- (2) Attach the KRC Yarn Feeder Gate to the old Yarn Feeder Gate place, fasten by screw.

◆ Magnet Curve Iron Installation Magnet

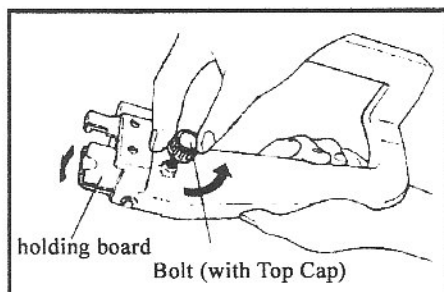
- (1) Reverse the Ribber Arm which is attached with KRC Yarn Feeder Gate.
Install the Magnet Curve Iron on the magnet at the Yarn Changer left side.



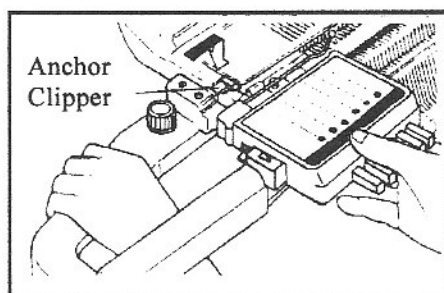
- (2) Attach the Magnet Curve Iron firmly to both side of the magnet.
This graph is the after status of the installation
* Magnet Curve Iron is secured by magnetic power. Do not lose the Magnet Curve Iron.
Detach it after the usage of the Yarn Changer.



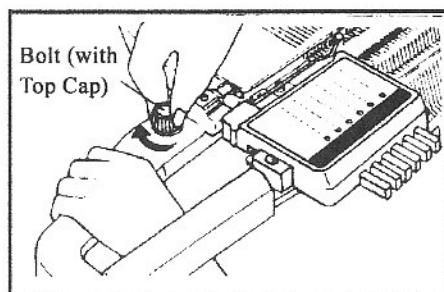
- Install the yarn changer after the Ribber is attached on the main bed.



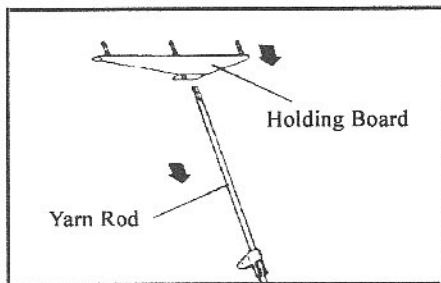
- (1) Screw the Bolt (with Top Cap) to the loosest position.



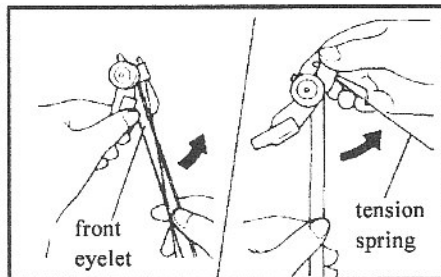
- (2) Align the front part of the Anchor Clipper to the left side Needle Retainer, keep pushing it to the end.



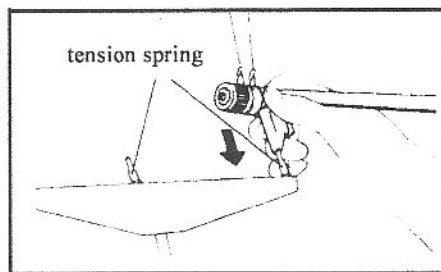
- (3) When the Yarn Changer is in the proper position, fasten the Bolt (with Top Cap).



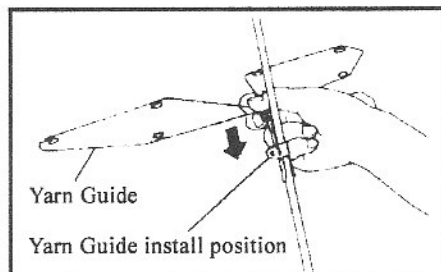
- (4) Insert the Yarn Rod to the jack on the main bed.
Attach the Holding Board on Yarn Rod.
- * For safety use, the holding board and the Yarn Rod installation must be firmly.
 - * Do not use the Auto Tension accessory carried by the main knitter machine.



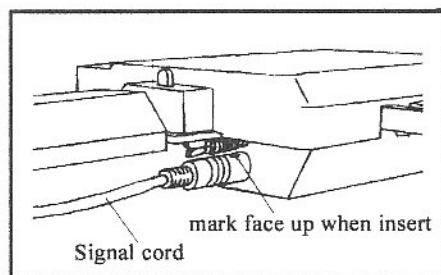
- (5) Turn the two Tension Springs until they snap into the position.



- (6) Insert the other three Auto Tension separately into the fingers on the Holding Board.

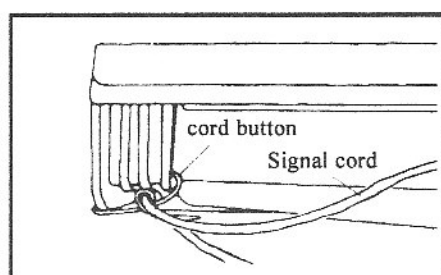


- (7) Attach the Yarn Guide to the Yarn Rod.

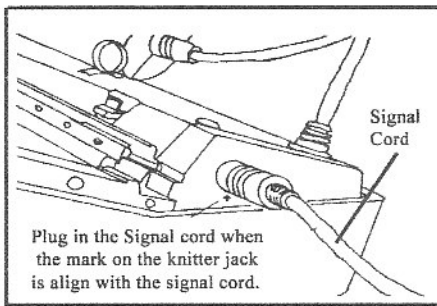


- (8) Switch off the computerized controller power.
With the arrow on the signal cord face up, attach this end to the jack on the left side beneath the Yarn Changer

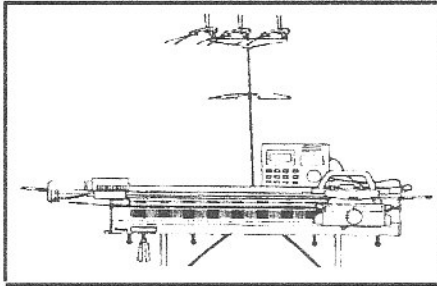
- | | |
|---|---|
| ⊘ | • When the computerized controller is power on, plug in the signal cord may cause an electric shock or damage the controller. |
| ⚠ | • Do not plug in the signal cord when change yarn manually. |



- (9) Buckle the signal cord in the cord button beneath the Arm, make sure the Carriage will not damage the signal cord when moving to the end of the left side.



- (10) Pull the signal cord cross the knitter machine back side, when the signal cord is align with the mark on the machine jack on the right side, plug in the signal cord.



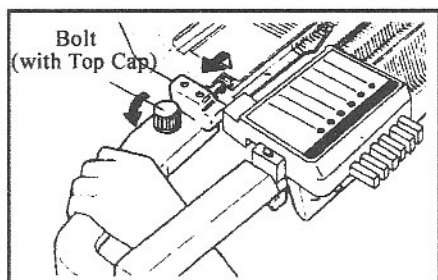
- The layout of the knitter machine (together with Ribber) after the Yarn Changer is attached on it.

[Disassemble Method]

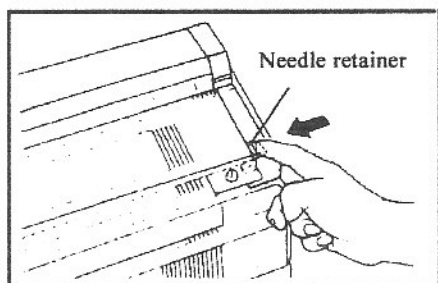
- (1) Power off the controller, unbuckled the cord button from the Yarn Changer Arm, plug off the signal cord on the knitter side first, then the Yarn Changer side.



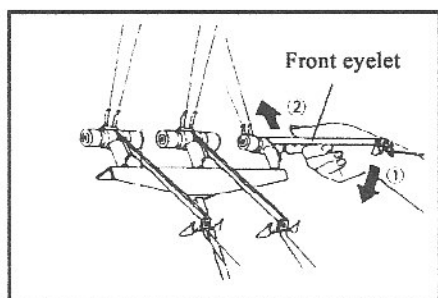
When the controller is power on, plug off the signal cord may cause the electric shock or malfunction of the controller and main knitter.



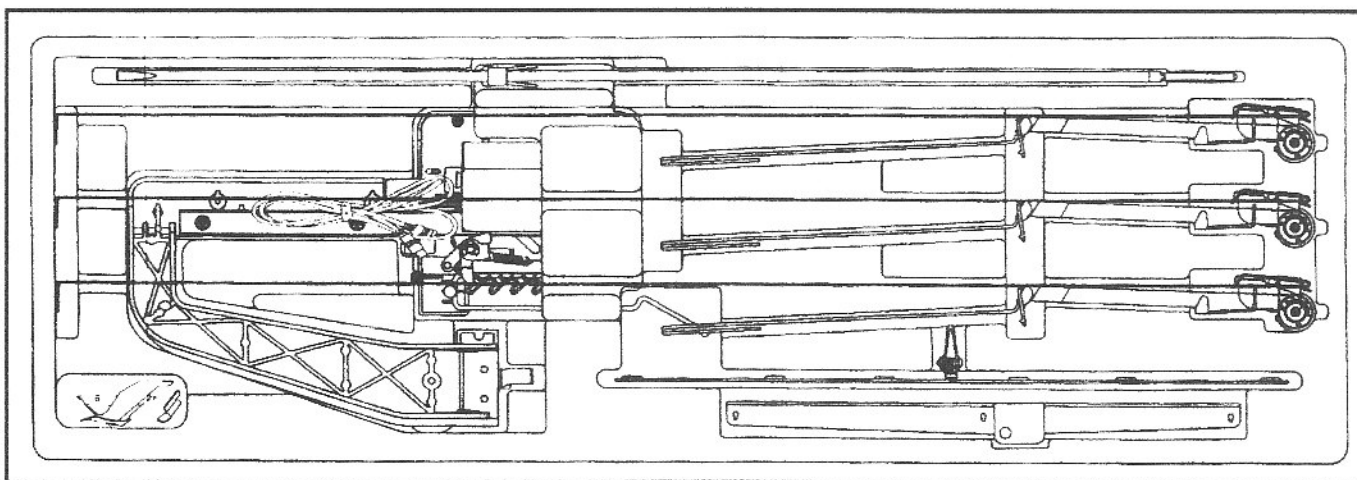
- (2) Press the Reset key, reset all Punch keys to holding position. Hold the Yarn Changer Arm, when the Bolt on the Yarn Changer is screwed to the loosest position, push up the Arm and detach the Yarn Changer.



- (3) After detach the Yarn Changer, push back the Needle Retainer on the Needle Bed right side to the original position.



- (4) Disassemble the Auto Tension, Holding Board, Yarn Rod.



- Put the Yarn Changer back to the packing box as the picture shows.

[Double jacquard knitting]

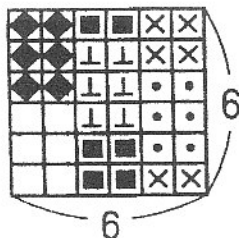
- This pattern is Rib double jacquard.

- * Use Sinker Post Lever
- * When use 3rd, 4th yarn to knit, the recommend knitting type is 1-1 needle selection double jacquard stitches.
- ※ When use 1-1 needle selection double jacquard knitting type, see the following content and Ribber manual 1-1 needle selection double jacquard part for operation.
- * The yarn selection and Stitch Knob number (set the same number for main knitter and Ribber)
- ※ When knit with 3rd, 4th yarn, set the Stitch Knob number for the Ribber one scale less than the main knitter.

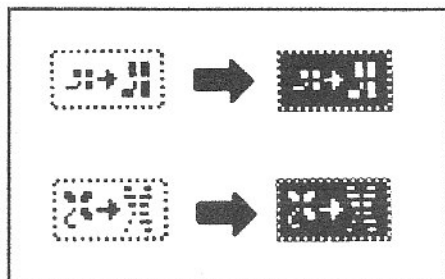
Stitch Knob number \ Yarn type	extremely thin	thin	mediocre thin	thick	fair thick
K R - 8 3 8, 8 5 0	2 ~ 3	3 ~ 4	—	—	—
K R - 2 6 0	—	—	1 ~ 2	2 ~ 3	3 ~ 4

- ※ Do not use cast on for five stitches (KR-260 is 3 stitches) knitting type, it may cause indent, or malfunction, [change yarn automatically (connect with KH-970)]
- ※ when connect with KH-970, it can change yarn automatically.
(connect with other model can not change yarn automatically)

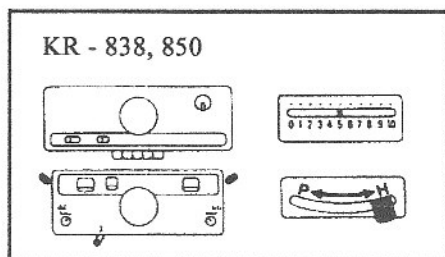
- ◆ Use 3rd, 4th yarn for self designed pattern and pattern number 479-483 in the pattern manual to knit



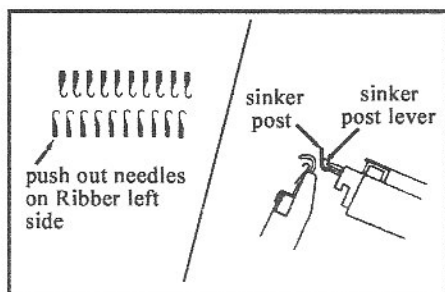
- First, use six color yarns to knit a self designed 3 color pattern. See the example 6 in KH-970 manual page 51, pattern shown on the left is displayed on the controller screen. In pattern design program, the number used to input the pattern is the color number which matches the yarn number in Yarn Changer.



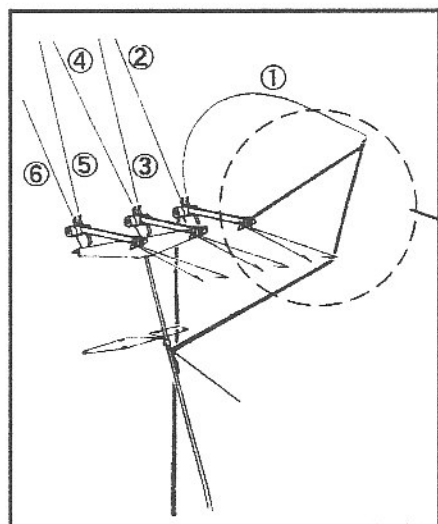
- Light double jacquard and width key for pattern variation. Prepare for six color extremely thin yarns. The whole pattern shown as the example 1 on KH-970 manual page 47. use pattern knitting program to knit.



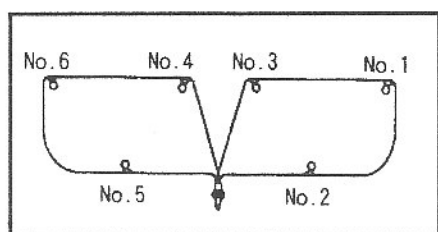
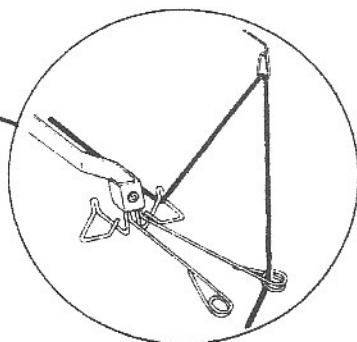
- (1) Adjust main Carriage and Ribber Carriage as picture shown. Power off controller, set the Yarn Changer Driving Lever to position ■.



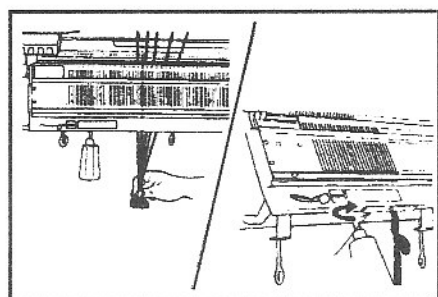
- (2) Push the Sinker Post Lever into the rear part of the main knitter Sinker Post. Push required needles on main knitter and Ribber to position B. (push needles on Ribber left side to the edge, make sure the needles are even number). Push the empty Carriage 2 or 3 times across the needle bed and stop it on the right side.



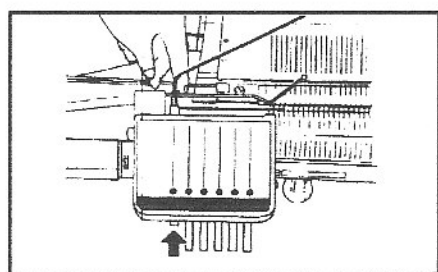
- (3) Thread 1st yarn to the Auto Tension right, hook the yarn end on the Clipper. Thread 2nd, 3rd, 4th, 5th, and 6th yarn the same way and hook on the Clippers.



- ※ Thread yarns as picture shown (planform).

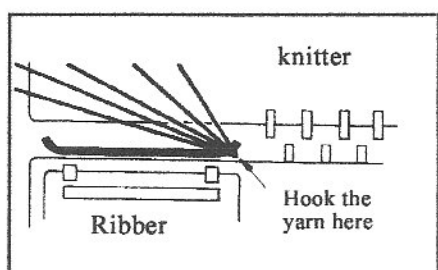


- (4) Unhook the other five yarn (except 1st) from clippers and bundle them together, pull through the Sinker Post, hook on the clipper at the bottom of the Ribber.

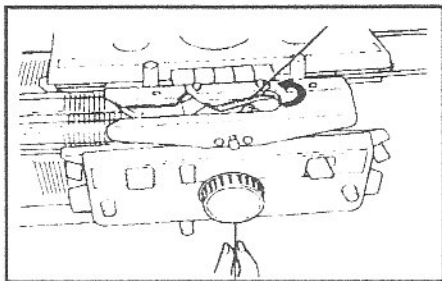


- (5) Press the Punch key 6 on Yarn Changer to Yarn Feeding position. Hook the left side yarn on Yarn Hook. Press the Punch key 5 to Yarn Feeding position. (punch key 6 automatically to holding position). Hook other yarns the same way to the hooks. After 2nd yarn hook on the yarn hook, press Reset key, all the hooks return to holding position.

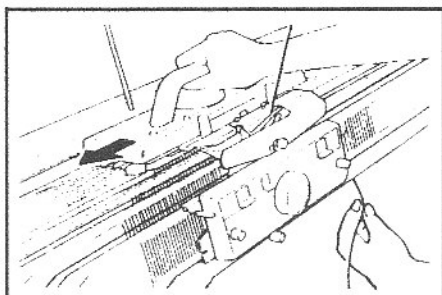
- ※ Thread yarn on the Auto Tension from left to right in the order 6, 5, 4, 3, 2 and hook on the yarn hooks.
 ※ Do not entangle the yarns during operation process.



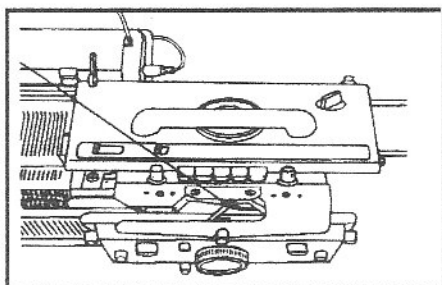
- (6) Do not thread 1st yarn to the Yarn Hook. Hook the other five yarns to the position as picture shown. Power on the controller, holding status picture is displayed on the screen.



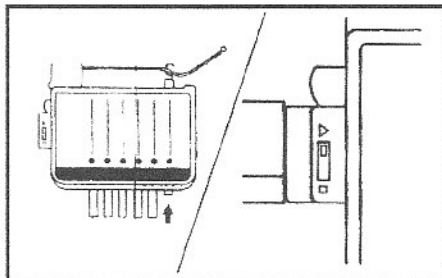
- (7) Take off the 1st yarn from the Auto Tension Clipper, put into the Carriage Yarn Feeder on the needle bed right side.
 ※ Make sure the yarn do not entangle by Sinker Post or other parts.



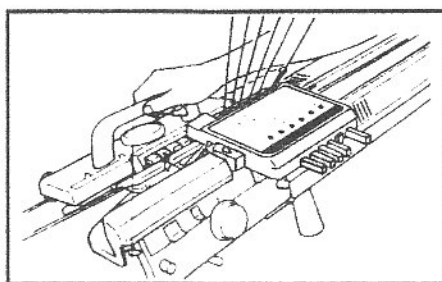
- (8) Hold the 1st yarn end, push the Carriage to the needle bed left side, hook the yarn on needles, hang up the Cast On Comb and Weights, push the Carriage, then use 1st yarn to knit the Rib stitches.



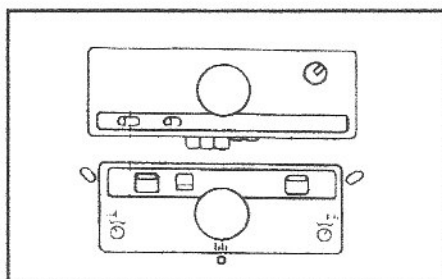
- (9) Knit Rib stitches for several rows, set the Carriage to the needle bed right side, out side of the position detective sensor. Set the Carriage Cam Lever to Punch Lace, motif knitting position.
 ※ If the yarn is not tight enough, pull it from the back side of the Yarn Guide and tight it.



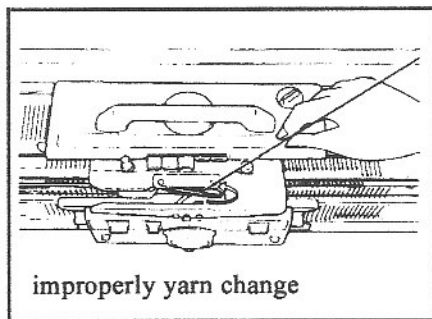
- (10) Press Punch key 1 to set the Yarn Hook to feeding position, set the Driving Lever to position ▲.



- (11) Push the Carriage from right to left until the Yarn Changer sounds clatter (required needles are selected for main knitter). In this case, the hook number on the feeding position must match the color number displayed on the controller screen.



- (12) Adjust the main knitter Carriage and Ribber Carriage as picture shown.



(13) Press Step key on the controller, now the screen set to knit program. Push the Carriage to the right, the yarn number matches the screen displayed number in the Yarn Feeder.

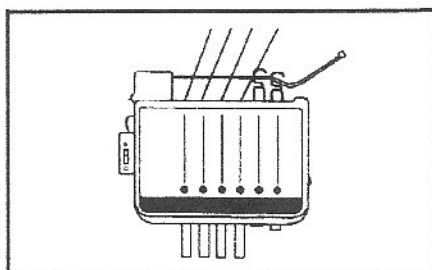
- ※ If the yarn is not tight, pull it from the back side of the Yarn Guide and tight it.
- ※ If yarn change improperly due to the quality of the yarn, use hand to feed the yarn to the yarn feeder.
- ※ Check the thin yarn within all the yarns is broken or not, and operate the Carriage as well.

(14) Every time the Carriage is pushed to the Yarn Changer side, it need to sound clatter for very two row knitted.

(15) Repeat the step (14), take off the yarn end from the clipper after knitting

- ※ Every time the Carriage is pushed to the Yarn Changer side, it need to sound clatter, then continue knitting.

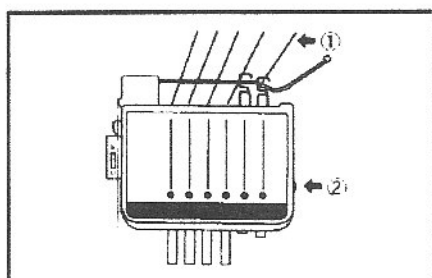
※ If change yarn improperly, two yarns may be feeded in the yarn feeder at the same time.



If change yarn improperly, it may cause two Yarn Hooks at the feeding position as picture shown, and cause two yarns feed in the Yarn Feeder together.

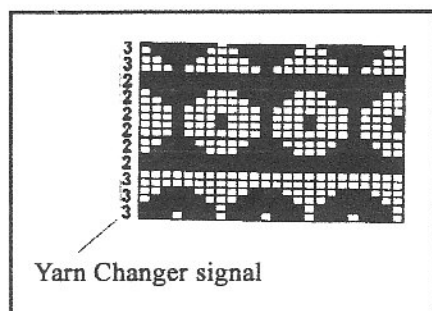
If two Yarn Hooks at the feeding position, use the following way to reset.

- ※ Make sure the yarn feed properly.



Send back the yarn which number does not match the color number, use reset key to reset the hook.

◆ Use pattern number 1-107, 509-518 on pattern manual and two color self designed pattern to knit.



- Try to knit pattern number 82.

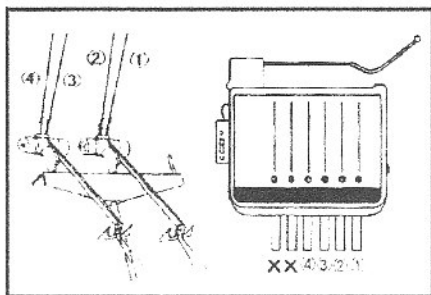
Take pattern on pattern manual page 68 as an example, number displayed on graph left side is color number, which match the yarn number.

(if there is no number on the graph left side, use main yarn as number 1, inlay yarn as number 2).

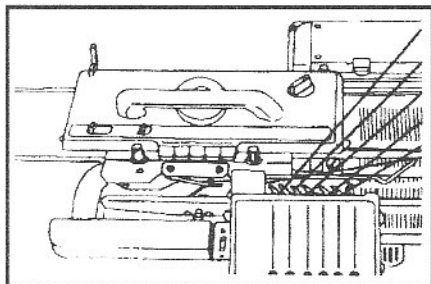
- Light on the double jacquard key for pattern variation

Take KH-970 manual page 47 example 1, set pattern 82 garment width. (when knit motif, use KH-970 page 48 example 2, 3 to set width)

Prepare 4 thin yarns.



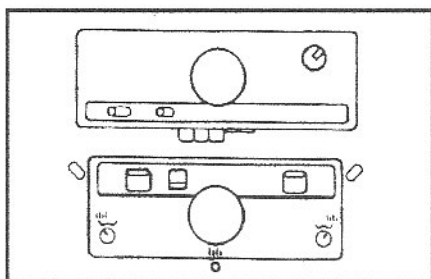
- (1) If use less then 4 color yarns, use Auto Tension show on the left, and Yarn Changer hooks number 1,2,3,4. Knit Rib stitches follow the steps 1-8 shown on page 7-9.



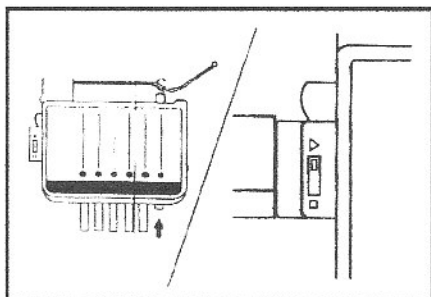
- (2) Knit Rib stitches several rows, set the Carriage to the needle bed left side, out of the Position Detective Sensor. Set the Carriage Needle Selection Switch at Punch Lace, motif knitting position.

※ If the yarn is not tight, pull it from the back side of the Yarn Guide and tight it.

- (3) Push the Carriage to the right side of Position Detective Sensor, select needles.(required needles on the main bed are selected)



- (4) Adjust the main knitter Carriage and Ribber Carriage as graph shown. Press Step key on the controller, screen display knit ready program.



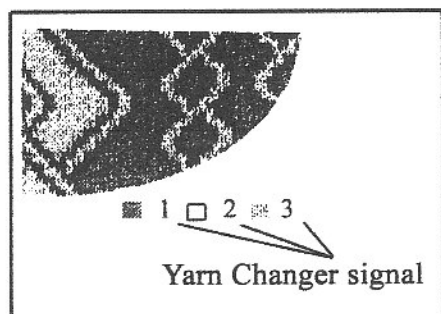
- (5) Press Punch key 1 to set Yarn Hook to feeding position, set Driving Lever to position ▲. Push the Carriage from right to left until it sounds clatter. The Yarn Hook matches the number displayed jump to the feeding position.

- (6) Push the Carriage to the right, yarn number match the number displayed get into Yarn feeder.

- ※ If the yarn is not tight, pull it from the back side of the Yarn Guide and tight it.
- ※ If yarn change improperly due to the quality of the yarn, use hand to feed the yarn to the Yarn Feeder.
- ※ Check the thin yarn within all the yarns is broken or not, and operate the Carriage as well.

- (7) Repeat the steps (14), (15) on page 10,

- ◆ Use pattern number 484-498 on pattern manual to knit.



- Try to knit pattern number 498. Color number is displayed at the bottom of the pattern graph.

- Light off the variation keys. Set the width of pattern 498 according to KH-970 manual page 47 example 1. Prepare 3 color extremely thin yarns. Use the method on page 11 steps 1-7 to knit.

◆ Details on auto yarn change

- * According to different pattern, yarn not for used may broken, especially extremely thin yarn. Pay attention to this detail.
- * If change the color number during knitting, it may cause lower garment quality.
 - ※ If use controller to change color number, repeat input color number larger than 6. Even though the color is not displayed, it may also cause yarn improperly get into Yarn Feeder, consequently cause lower garment quality. If you auto yarn change, for every row must input color number 1-6 after pattern change.
- * When use auto yarn change, do not press the Punch key, or it may cause yarn get to an improper position.
- * According to different pattern, if main yarn is not in position 1, select different yarn to knit.
- * The Yarn Hook matches the color number displayed can be threaded, otherwise can not be threaded.
- * Set Cam Lever to stockinet position, the yarn not match the color number is selected. Set Driving Lever to position ■, if in stockinet knitting, or use same yarn knitting continually.
- * If change the pattern during the knitting, change should be start at the out side of the Position Detective Sensor, after the Carriage sounds clatter, then change the pattern.

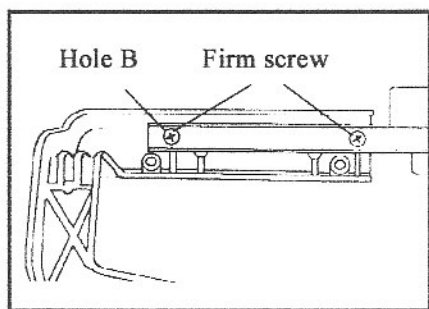
« Change yarn manually »

※ Details on change yarn manually:

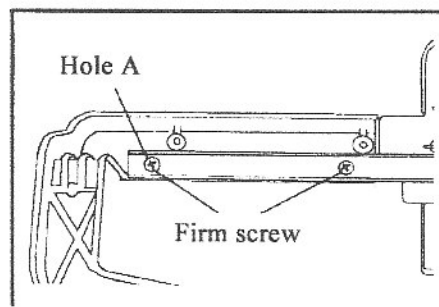
- * Do not plug in the signal cord when change yarn manually.
- * Always set Driving Lever to position ■.
- Yarn Changer installation position as following when use Yarn Changer with KR-260

(1) Reverse the Yarn Changer, use screw driver to loose the firm screw.

(Use KR-260)



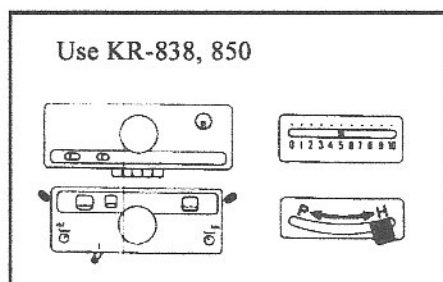
(Use KR-838, 850)



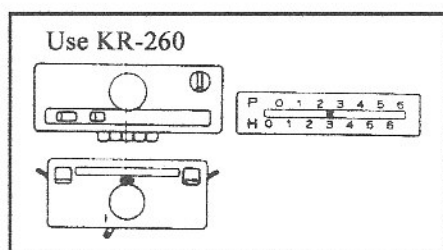
(2) When use KR-260, align the hole B to Yarn Changer installation hole,
use 2 firm screws unloosed on step 1 to secure.

(3) When use KR-838, 850, firm it at hole A position.

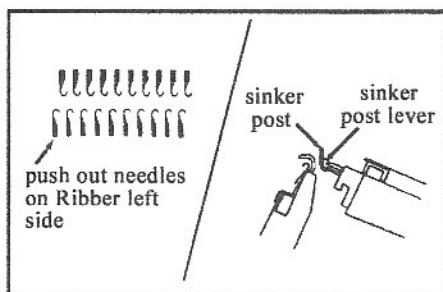
● Knit strip pattern, prepare 6 color thin yarns.



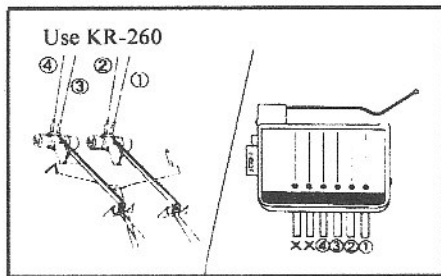
(1) Adjust the main knitter Carriage and Ribber Carriage as shown.
(Use KR-838, 850)



(Use KR-260)

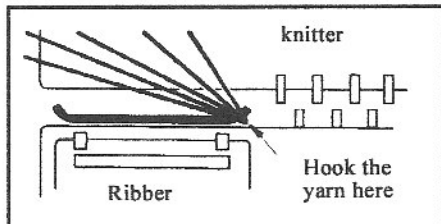


(2) Push the Sinker Post Lever into the rear part of the main knitter Sinker Post. Push required needles on main knitter and Ribber to position B. push out needles on Ribber left side .
Push the empty Carriage across the needle bed 2 to 3 times and stop it on the right.



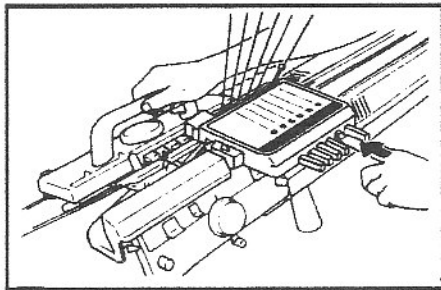
(3) Locate the yarn according to steps (3)-(5) on page 8

- ※ When use KR-260, only use 4 eyelets on left side, do not insert the right side Auto Tension.
- ※ Set the Yarn Changer Hook the same as with the KR-838, 850, from right to left in an order as 1, 2, 3, 4.



(4) Do not thread on hook 1. When use KR-838, 850, hook the yarn hooked at the place as described.

(5) Follow the steps (7), (8) on page 9 to cast on..



(6) In yarn change process, make sure the Yarn Hook need to be sent to yarn feeder should be on yarn feeding position, and the Carriage is at the left side as well. Press the Punch key for that yarn number, push the hook to the right position.

- ※ If the yarn is not tight, pull it from the back side of the Yarn Guide and tight it.

(7) In the condition as the picture shown, push the Carriage to the right and the yarn change should be finished properly.

- ※ If yarn change improperly due to the quality of the yarn, use hand to feed the yarn to the Yarn Feeder. Especially in the use of KR-260, tight the yarn for every row knitted.

(8) After all the yarn knitted, take off the yarn end from the clippers.

(9) Repeat step (6), (7) to finish knitting.

- ※ If use computerized controller, together with manual yarn change to knit double jacquard, please see the method on computerized controller operation manual KRC part.

◆ Disable K Carriage end needle selection part of Punch Card knitter machine.

- * When use Punch Card knitter machine to knit double jacquard, see the main knitter operation manual K Carriage end needle selection part for detail, disable the needle selection part.

◆ When use Punch Card knitter model 9 or computerized knitter model 9, use 3 or more color yarns to knit one row in double jacquard knitting is unavailable.

- * When use Punch Card knitter or computerized knitter model 9, or gauge 9mm knitter, use 3 or more color yarns to knit one row in double jacquard knitting is unavailable, otherwise it may cause needle selection error.

[Details to be concerned]

[Double jacquard knitting error correction method]

※ For the main knitter operation, see knitter manual helpful hints part.

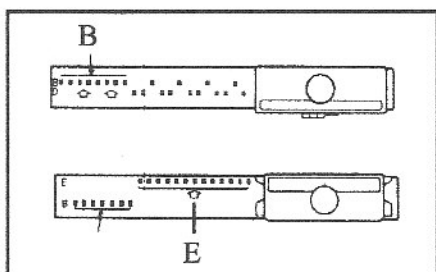
- (1) See the knitter manual helpful hints part, complete the process needed to release the Carriage.
- (2) Release the main Carriage and Ribber Carriage, put main Carriage at garment right side, Ribber Carriage at left side. (see the Ribber manual to release, attach the Carriage)
- (3) Unravel several rows knitting, pull the yarn end to the left, thread the yarn on using to the matching Yarn Hooks on the Yarn Changer.
- (4) Push required needles on main knitter and Ribber to position B.
- (5) See knitter manual helpful hints part, set the pattern number to the row number where the error begin .
- (6) Set the Driving Lever to position ▲ when use automatic yarn change, otherwise set it to position ■.
- (7) Remain the main Carriage setting (Cam Lever at Slip position, Needle Selection Switch at Punch Lace, motif knitting position, no yarn in Yarn Feeder), push the main Carriage from right to left, needles required are selected.
- (8) Attach the main Carriage and Ribber Carriage.
- (9) Push the Carriage to the left side edge, press the Punch key for the corresponding yarn.
(in auto yarn change, yarn is selected automatically)
- (10) See the knitter manual helpful hints part for continue knitting.

[Motif knitting for double jacquard knitting]

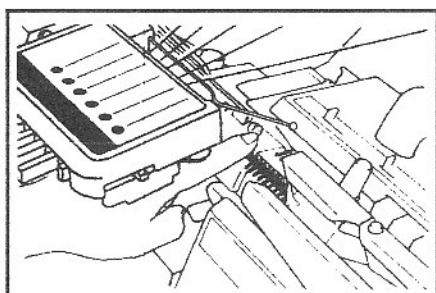
※ See Ribber manual for motif knitting on 1-1 needle selection double jacquard knitting.

● Use pattern shown on left side as an example for motif knitting.

- (1) Set the Carriage to the right side.
- (2) Set Needle Selection Switch on Ribber Carriage to pocket knitting position.
(Pick Knob on pocket knitting position, Front Lever on Rib knitting position)



- (3) Push back unused needles on main bed to position B. Push required needles on Ribber bed to position E.
- (4) Push the Carriage to left, change the yarn.
- (5) Push back unused needles on main bed to position B.
Push required needles on Ribber bed to position E.



- (6) Use finger to press the unused yarns inside the Sinker Post (repeat this process when the Carriage is moving back forth).
Push the Carriage to the right to finish one motif knitting.
In the following steps, add or reduce the unused needles and repeat steps (3)-(6).

● The motif knitting on the right side is the same as the left side, except yarn in the Yarn Changer do not cross the motif, so the step 6 is not necessary.