SERVICE MANUAL

FOR

ELECTRONIC KNITTING MACHINE

MODULAR SYSTEM

(Using Design Controller PE1 Self-check Functions)

CONTENTS

Nature of trouble	Places to be inspected	Causes	Remedy
Pattern is not knitted at the position as desired. .....(1)	Check that the horizontal line on the Pattern Card is parallel to the Card Slot.	If the Pattern Card is not inserted parallel to the Card Slot, the fabric is incorrectly knitted.	Reset the horizontal line on the Pattern Card parallel to the Card Slot.
	Check if any soil is on the Pattern Card.	If the Pattern Card is soiled, the Pattern may be read incorrectly.	Erase the soil with a eraser or exchange the Card with a new one.
	Does the DIN Signal of CR (Card Reader) show 16 dots?	If the Pattern Card is soiled, the display does not show the correct number.	Erase the soil with a eraser or exchange the Card with a new one.
		There may be any fluff or dust in CR.	Remove the fluff or dust from CR using Cleaning Card.
	Check with PE1, if the DIN of CR shows 16 dots on the left, center and right respectively.	The horizontal line of Pattern Card may be seen through the Reading Windows of Card Holder.	Remove the Sprocket Wheel and adjust the Pattern Card position. See page 19.
		The reading distance between CR Senser and Pattern Card may not be evenly.	Adjust the reading distance to be evenly.
	Check if the buzzer beeps when the DIN display reaches the maximum value (16 ± 2 dots).	If the buzzer beeps at the different timing, the Pattern may not be read correctly.	PCP Timing Adjustment is required. See page 22.

Nature of trouble	Places to be inspected	Causes	Remedy
	Patterns on the Design Card.	If the Pattern is drawn faintly, it will be read incorrectly.	Read a Pattern into the Design Controller. And if it is read incorrectly, draw it again more darkly. If there is a soil, erase it with a plastic eraser.
	Check the Pattern Width Indicator.	The two red pointers may not be set correctly in the desired position.	Set left and right Pointers at the correct positions respectively.
	Check where the Carriage has stopped.	If the Carriage stops between two Point Cams, Needle Selection Timer will be worked and after 30 seconds one stitch at the position that Carriage is stopped will be incorrectly knitted.	During Pattern Knitting, do not stop the Carriage between two Point Cams more than 30 seconds.
Pattern is not knitted at the position as desired. .....(2)	Check if the Carriage is returned when Pattern Card is in quick motion or if the Carriage operation is too fast. (The warning buzzer beeps in the above condition.)	If move the Carriage when the buzzer is beeping, the Pattern will be knitted incorrectly.	Take care not to operate the Carriage too fast.
	Check if the Carriage clears both Point Cams.	If return the Carriage when it encounters the second Point Cam, the Pattern will be knitted incorrectly.	Move the Carriage until clearing the Point Cams completely, so the Pattern will be read correctly.

Nature of trouble	Places to be inspected	Causes	Remedy
	Check if the Point Cams and N1 Cam are set properly.	If not, the Pattern will be knitted incorrectly.	Reset the Point Cams and N1 Cam properly.
	Change the Carriage.	If knitted correctly, the Carriage has some trouble.	Inspect the Carriage following the Service Manual. See page 15.
	Change the Curl Cord.	If knitted correctly, the Curl Cord has some trouble.	Exchange the Curl Cord for the new one.
	Check if the CR works normally.	If knitted still incorrectly, the CR Unit may be wrong.	Inspect the CR Unit following the Service Manual. See page 18.
	Check the Knitter, Power Supply and Connectors.	The electrical contact or the Connector may be wrong.	Inspect them following the Service Manual. See page 12.
	Check the KSL and ND1 Timing of the Carriage.	If the KSL and ND1 Timing are not correct, the Pattern will be knitted incorrectly.	Adjust the both (right & left) KSL and ND1 Timing. See page 29.
Needle Selection is not proper.	Change the Carriage and check it.	If knitted correctly, the Carriage has some trouble.	Adjust the Needle Selection Timing in both ultra-low and high speed. See page 27.
		If knitted still incorrectly, the Knitter may be wrong.	Adjust the Knitter following the Service Manual. See page 12.

Nature of trouble	Places to be inspected	Causes	Remedy
	Check if the CCP Timing is correct.	If the right or left CCP Needle Selection Timing is not correct, the Needle Selection will not be proper.	Adjust the CCP Timing at the right or left side which had not been properly adjusted. See page 27.
	Check the movement of Slider Magnet with its constant clicking sound.	If the Slider Magnet is not moved to the proper position, the HOK Signal does not change. So that Pattern Knitting will not be done.	Remove any fluff from the Slider.
	Check the CCP Sensor Unit.	If there is any fluff in the CCP Sensor Unit, the CCP signal level becomes down.	Remove fluff with the Sensor Cleaner.

5. MECHANICAL CHECK AND ADJUSTMENT FOR LACE CARRIAGE (LC580 & FLC3.6)

***ELECTRONIC CHECK AND ADJUSTMENT ARE THE SAME AS MAIN CARRIAGE.**

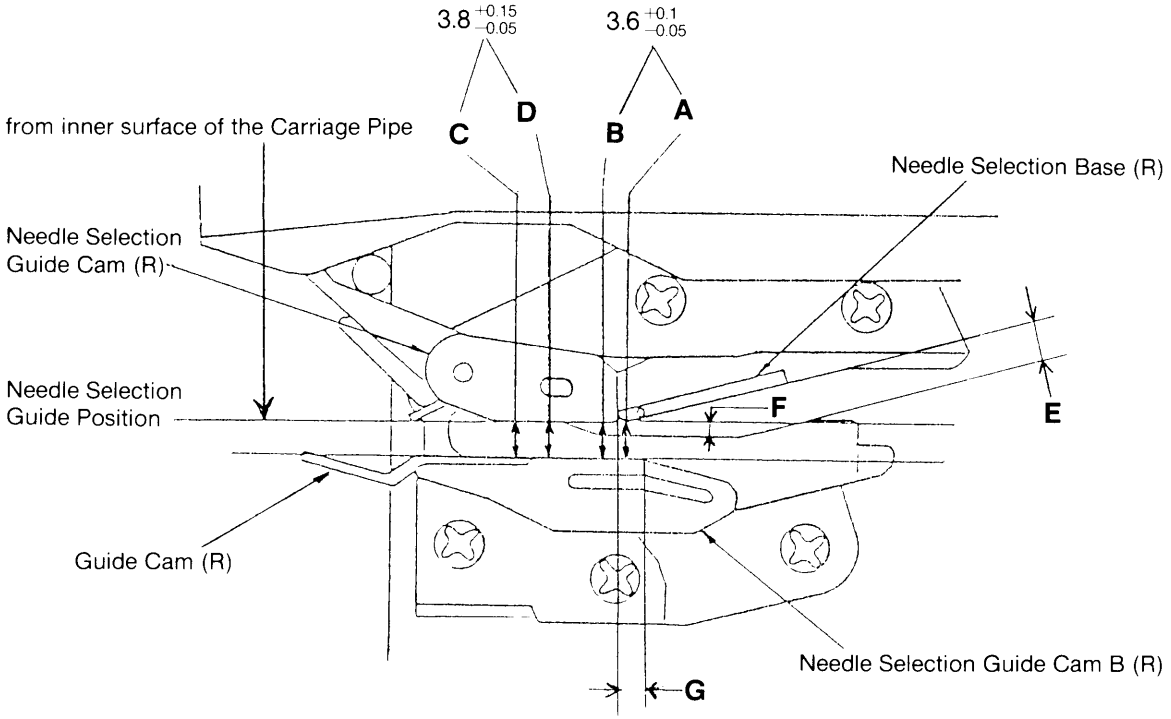
***LACE CARRIAGE FOR SK830K/L (FLC3.6)**

The adjustment of this Carriage varies depending on the Knitter, and it has already been done strictly in our factory. Therefore, do not use this Carriage on the other Knitter.

5-1 NEEDLE SELECTION BASE UNIT ADJUSTMENT

As for all the types of Carriages, both Main Carriages and Lace Carriages of SK840 (SK580) & SK830, their structures and measurements of Needle Selection Base Units are the same, except the distance G illustrated below.

Correct position of the Needle Selection Base Unit.



(1) Needle Selection Guide Position from inner surface of the Carriage Pipe ..... 45.8 ± 0.2mm

(2) Clearance A & B ..... 3.6 { + 0.1mm / − 0.05mm

(3) Clearance C & D ..... 3.8 { + 0.15mm / − 0.05mm

(4) Clearance E ..... 3.75 ± 0.15mm

(5) Clearance F ..... 0.9 { + 0.3mm / − 0.1mm

(6) Distance G ..... { 0.8 { + 0.4mm (for LC580) / − 0.3mm / 0.15 ± 0.15mm (for FLC3.6)

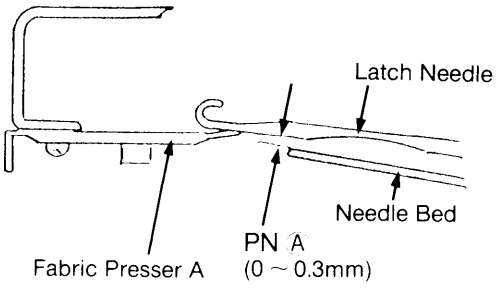
5-2 ARM ADJUSTMENT

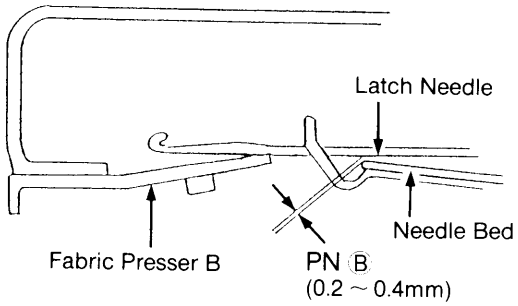
***PN and PS Adjustment are the same as the Standard Carriage.**

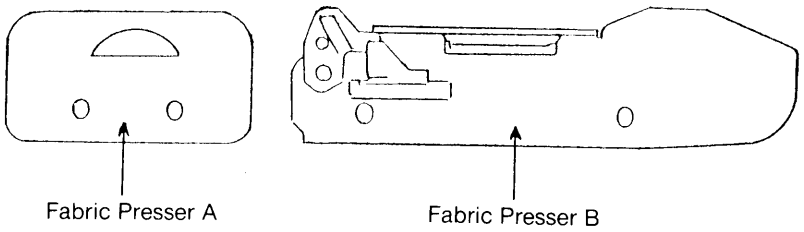
(1) PN Adjustment:

PN Ⓐ: The clearance between the front edge of Needle Bed and the bottom of Latch Needle lifted up by the edge of Fabric Presser A. (Fabric Presser A must contact the bottom of the needles or lift them up slightly.)
The clearance should be 0 ~ 0.3mm for LC580 & FLC3.6.

PN Ⓑ: The clearance between the front edge of Needle Bed and the bottom of Latch Needle lifted up by the edge of Fabric Presser B. (Fabric Presser B must contact the bottom of the needles or lift them up slightly.)
The clearance should be 0.2 ~ 0.4mm for LC580 & FLC3.6.

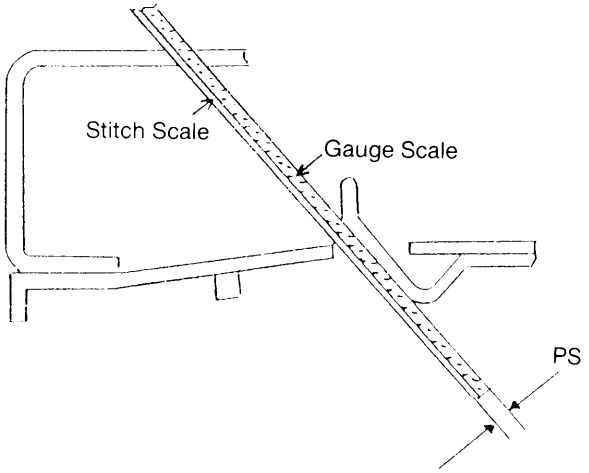


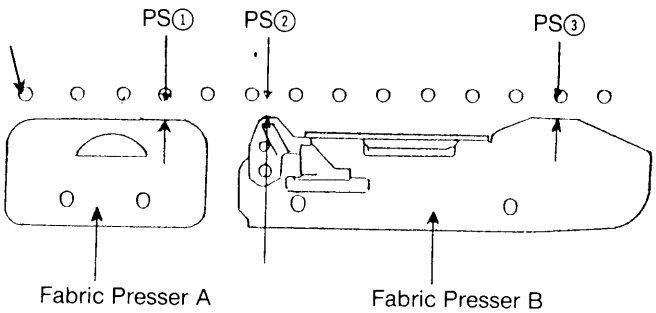




(2) PS Adjustment

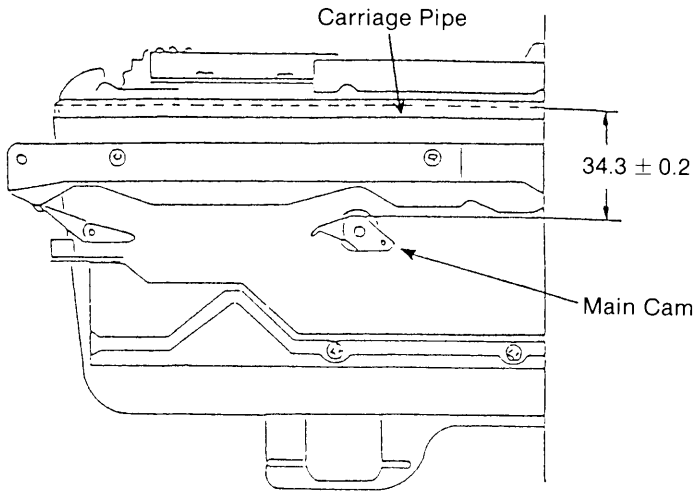
1. Remove two Fabric Gears and Center Round Brush from the Arm to adjust PS clearance.
2. Measure with a Gauge Scale (thickness = 0.9mm) and Stitch Scale (thickness = 0.4mm) together (total thickness = 1.3mm).
   PS①.....1.0 ± 0.2mm
   PS②.....0.8 ± 0.2mm
   PS③.....1.0 ± 0.2mm





5-3 MAIN CAM POSITIONING

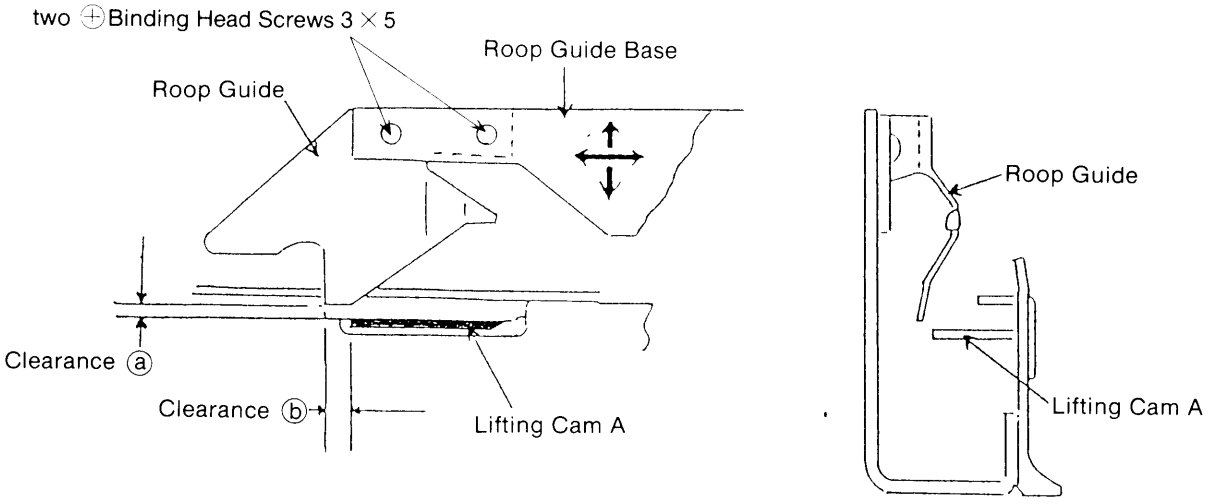
The distance from inner surface of the Carriage Pipe to the Main Cam is 34.3 ± 0.2mm, when the Stitch Dial is set at ③ for LC580 and ④.② for FLC3.6.



5-4 ROOP GUIDE ADJUSTMENT

Clearance between Roop Guide and Lifting Cam A.

	LC580	(FLC3.6)
Clearance ⓐ	1.5 ± 0.25mm	(1.9 ± 0.25mm)
Clearance ⓑ	1.5 ± 0.25mm	(1.9 ± 0.25mm)

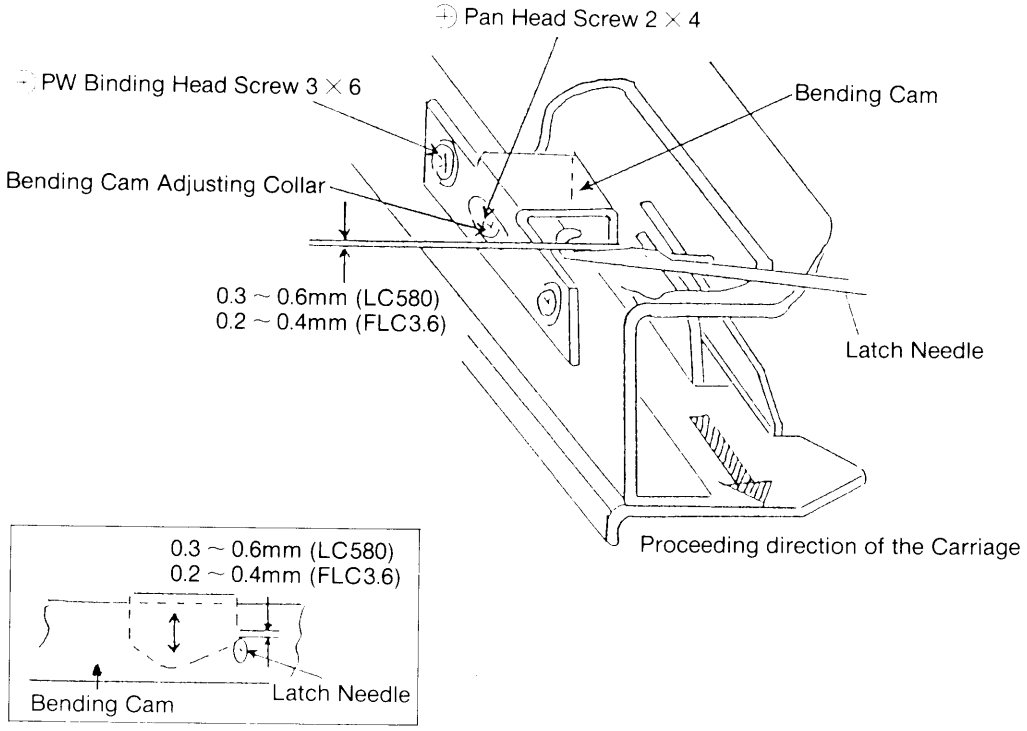


Loosen two ⊕Binding Head Screws 3 × 5 fixing Roop Guide Base and adjust the Clearance ⓐ & ⓑ by shifting Roop Guide Base back and forth or right and left slightly.

5-5 BENDING CAM ADJUSTMENT

(1) VERTICAL ADJUSTMENT

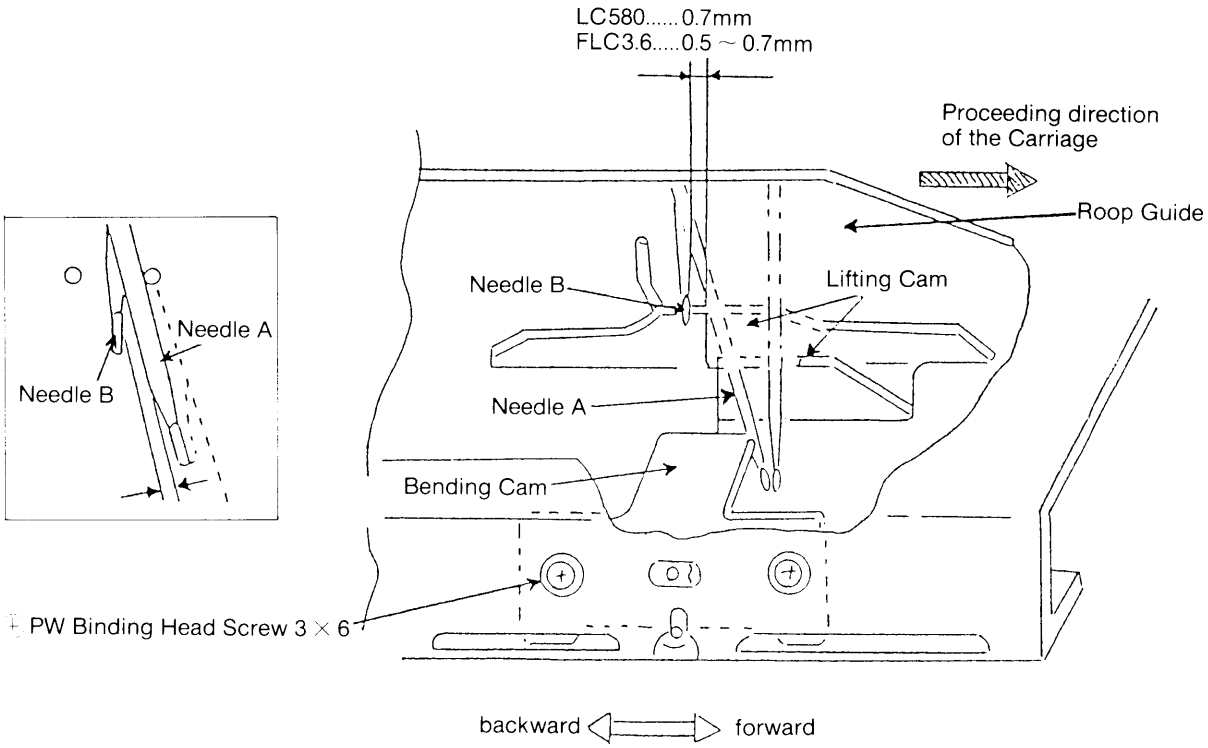
The vertical clearance between Bending Cam and Latch Needle is 0.3 ~ 0.6mm for LC580 and 0.2 ~ 0.4mm for FLC3.6.



Loosen two ⊕PW Binding Head Screws 3 × 6 and one ⊕ Pan Head Screw 2 × 4 fixing the Bending Cam, and adjust the clearance by turning the Bending Cam Adjusting Collar slightly.

(2) HORIZONTAL ADJUSTMENT

The following illustration shows the positions of Needle **A** and **B** pushed up respectively by the front and rear Lifting Cam just before the Needle **A** removes from Bending Cam.
The Clearance between Needle **A** and **B** must be 0.7mm (LC580) or 0.5 ~ 0.7mm (FLC3.6).



*Be careful not to move the Bending Cam upward or downward.

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