

INSTRUCTION

DLR-SPF SERIES

Industrial Sewing Machines

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KANSAI
SPECIAL[®]

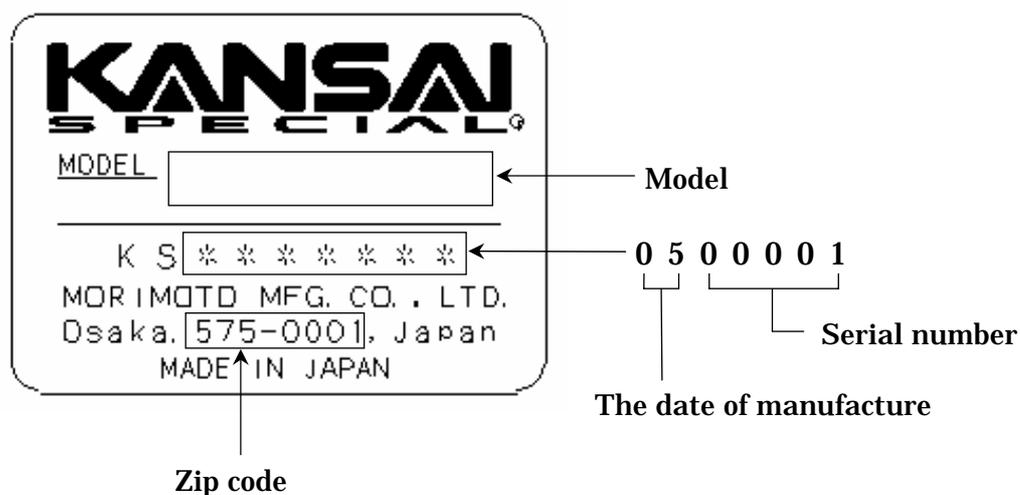
INTRODUCTION

Thank you for your purchasing Kansai Special's DLR Series.

Read and study this instruction manual carefully before beginning any of the procedures and save it for later use.

1. This instruction manual describes adjustments and maintenance procedures on this machine.
2. Before starting the machine, check to make sure the pulley cover, safety cover, etc. are secured.
3. Before adjusting, cleaning, threading the machine or replacing the needle, be sure to turn off the power.
4. Never start the machine with no oil in the reservoir.
5. Refer to the parts list as well as this instruction manual before performing preventive maintenance.
6. The contents described in this instruction manual are subject to change without notice.

Indication of serial number



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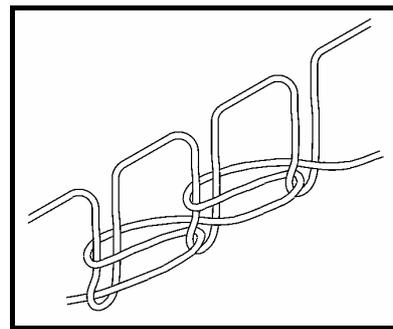
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【1】 SPECIFICATIONS

1-1 Stitch type

JIS401 double chainstitch machines



1-2 Model

Model	1501	1502 , 1507	1503	1504	1508
No. of needles	1	2	3	4	4
No. of threads	2	4	6	8	8
No. of loopers	1	2	3	4	4
Needle count	UY × 128GAS #14~#18		TV × 5 #21	UY × 128GAS #14~#18	TV × 5 #21
Needle space	3/16~1 1/2		1/4 , 9/32	1" , 1 1/8	1/4-1-1/4
Needle bar stroke	31mm	34mm			

【2】 NEEDLES & THREADING THE MACHINE

2-1 Needles

UY × 128GAS , TV × 5 of Schmetz or Organ

Select the proper needle for the fabric and thread.

< Needle count comparison table >

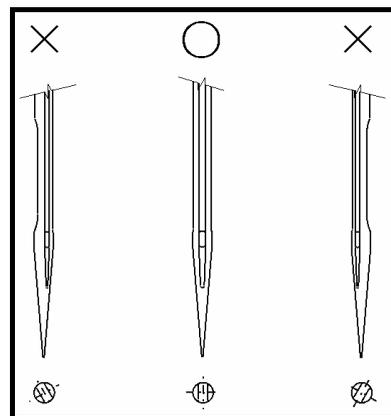
Schmetz	Nm90	Nm95	Nm100	Nm105	Nm110	Nm120	Nm125	Nm130
Organ	# 14	# 15	# 16	# 17	# 18	# 19	# 20	# 21

2-2 Replacing the needle

When replacing the needle, check the needle carefully to see that the scarf is turned to the rear of the machine (see the illustration).

< Note >

When replacing the needle, be sure to turn off the machine. A clutch motor continues running for a while after the machine is turned off. Therefore keep on pressing the pedal until the machine stops.



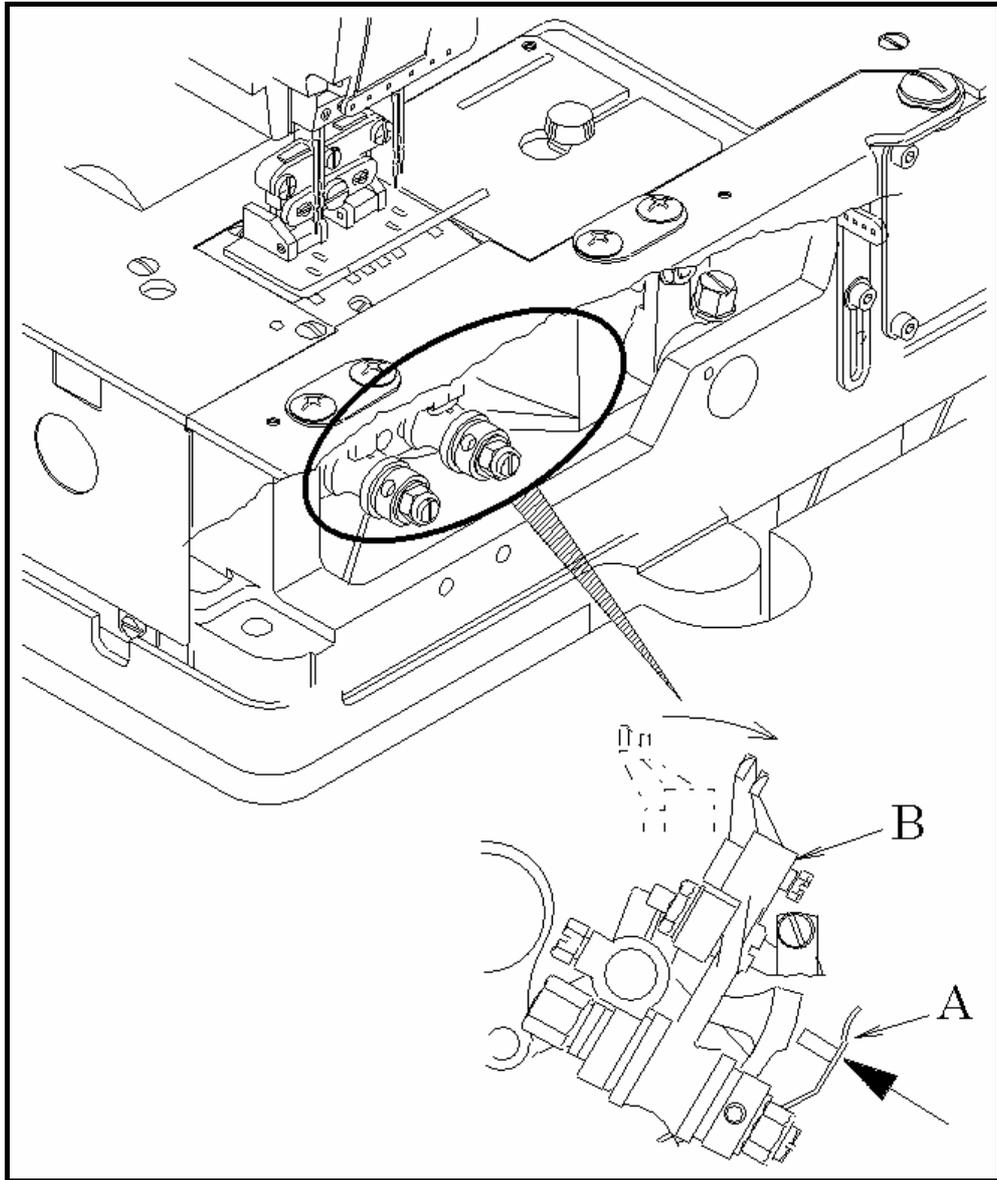
2-3 To thread the machine

Thread the machine correctly by referring to the next page.

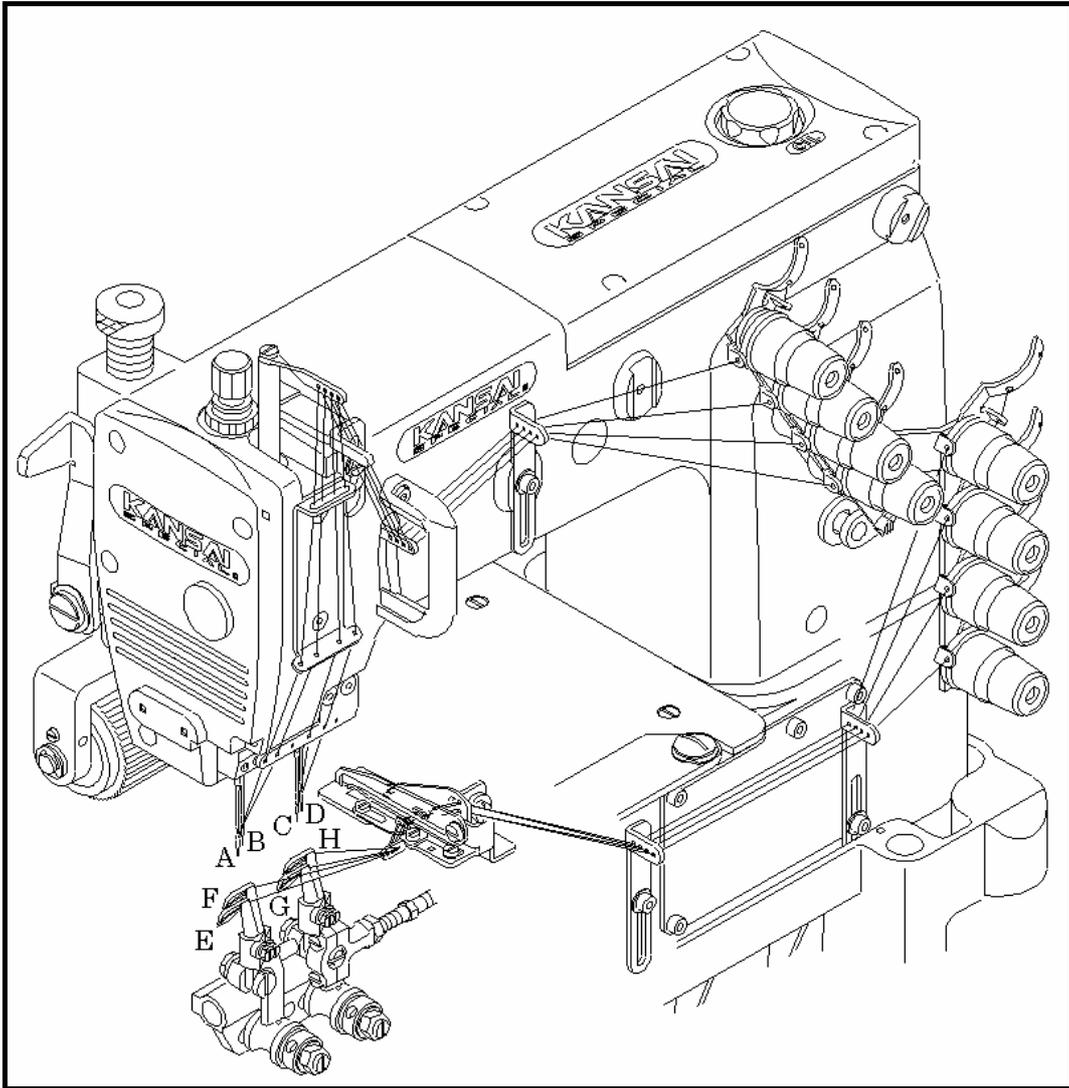
Incorrect threading may cause skip stitching, thread breakage and/or uneven stitch formation. When threading the looper, tilt the looper holder toward the front of the machine by means of the looper drawing bar.

To tilt the looper toward the front

1. Bring the needle bar to the top of its stroke.
2. Tilt looper holder B toward the front of the machine by pressing pushbutton flat spring A (see below).
3. After the machine is threaded, replace the looper holder.



A , B , C , D ... Needle threads E , F , G , H ... Loper threads

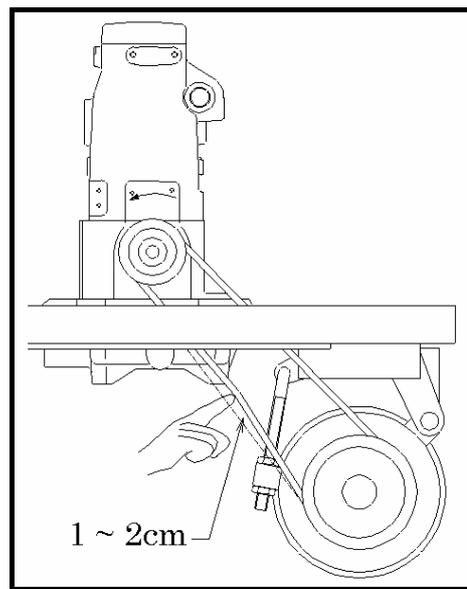


【3】 MACHINE SPEED

3-1 Machine speed & direction in which the machine pulley runs

Maximum speed : 4,500 rpm
Standard speed : 4,000 rpm

To extend machine life, run the machine approximately 15-20% below the maximum speed for the first 200 hours of operation (approx. 1 month). Then run the machine at the standard speed. The machine pulley turns counterclockwise as seen from the end of the machine pulley (see the illustration).



3-2 Motor & belt

Motor : 3-phase , 2-pole , 400W clutch motor
Belt : M type V belt

Select the proper motor pulley according to the machine speed (refer to the motor pulley outer diameter on the table below). Adjust the position of the motor by pressing the finger onto the middle of the belt so that 1~2cm deflection can be achieved (see the illustration).

< Motor pulley selection table >

Motor pulley outer diameter (mm)	Machine speed (SPM)	
	50Hz	60Hz
70	2900	3450
80	3300	3900
90	3700	4400
100	4100	(4900)
110	4500	(5400)

【4】 LUBRICATION

4-1 Oil

Use Kansai Special's genuine oil.
(Part No. 28-611)

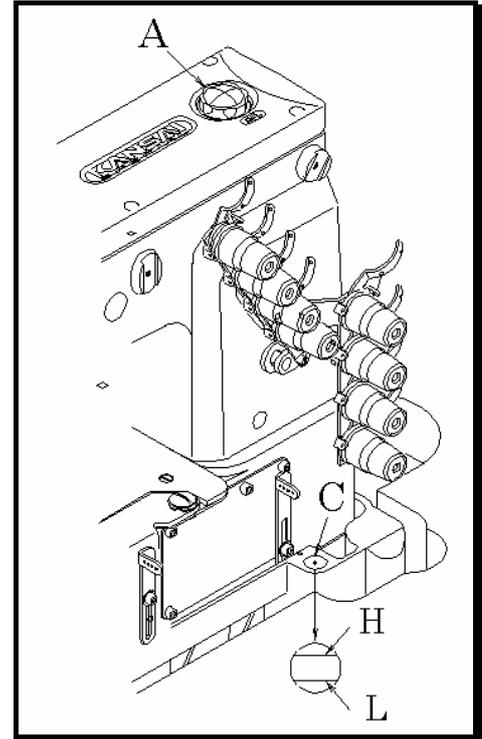
4-2 To fill the machine with oil

Remove oil plug A.

Fill the machine with oil until the oil level is at the top line (see H in the illustration) on oil gauge C.

After the first lubrication, add oil so that the oil level will be between H and L.

After filling the machine with oil, tighten plug A and run the machine to check the oil is splashing onto oil pot A.



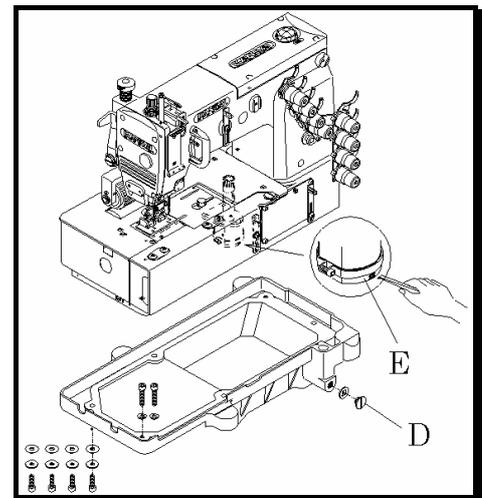
4-3 Replacing the oil and the filter element

To extend machine life, be sure to replace the oil after the first 250 hours of operation.

To replace the oil, follow the procedures below.

1. Remove the V belt from the motor pulley and then remove the machine from the table.
2. Remove screw D and then drain the oil. Be careful not to stain V belt with the oil.
3. After draining the oil, be sure to tighten screw D.
4. Fill the machine with oil by referring to 4-2 shown above.

If filter element E is contaminated, proper oiling may not be performed. Clean the filter element every six months. If just a little or no oil flows out from the nozzle with the proper amount of oil in the machine, check the filter element. To clean the filter element, remove oil reservoir.

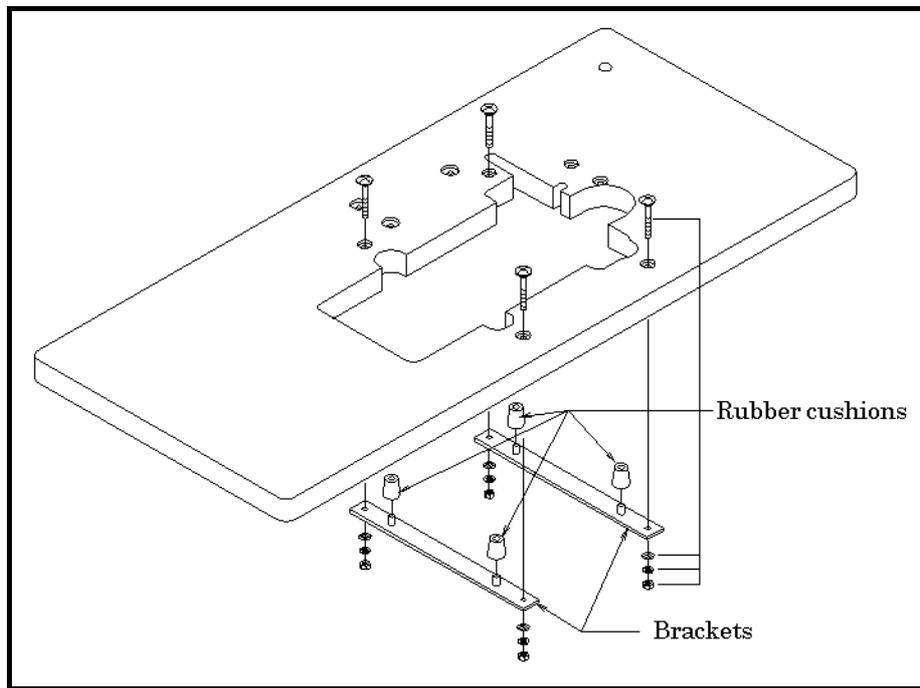


5-2 To install the machine

Install the brackets on the underside of the table board (see the illustration below).

Fit the rubber cushions onto the brackets.

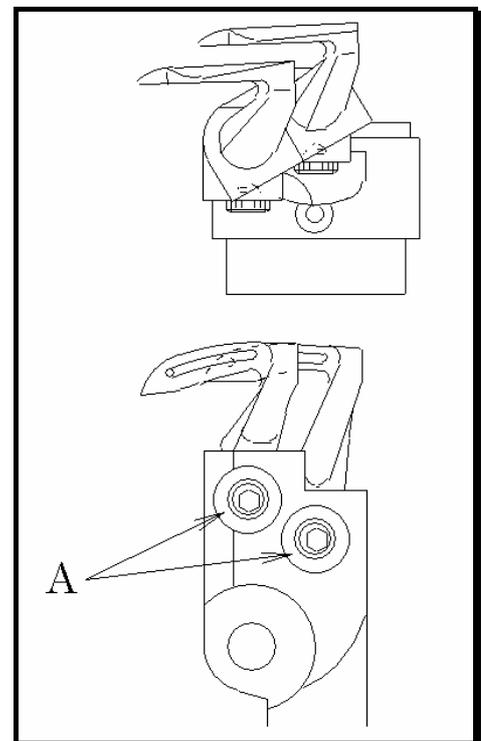
Mount the machine head on the rubber cushions.



【6】 TIMING OF THE LOOPER TO THE NEEDLE

6-1 To install the looper

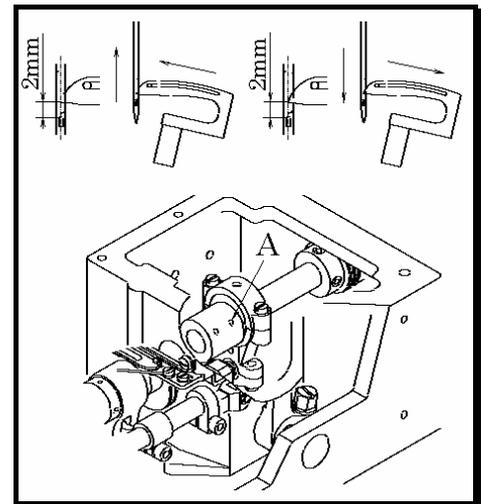
Insert the looper to the proper depth and tighten screw A.



6-2 Looper left-to-right movement

When the point of the looper, moving to the left or right, has reached the center of the needle, the point of the looper should be 2mm above the top of the needle's eye. Adjustment is made by removing the cover and loosening three screws A.

After this adjustment, tighten three screws A with the same torque.

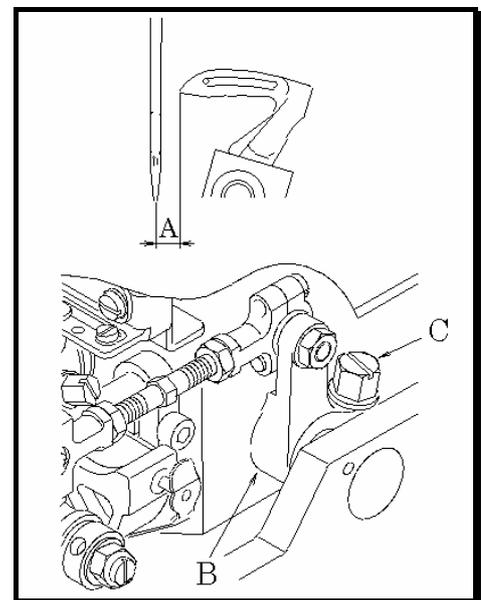


6-3 Looper setting distance

When the needle is at the bottom of its stroke and the looper is at the extreme right end of its travel, adjust distance A from the point of the looper to the center of the needle (see the table below).

Model	Looper setting Distance A
1508	3mm

Adjustment is made by loosening screw C on lever B.



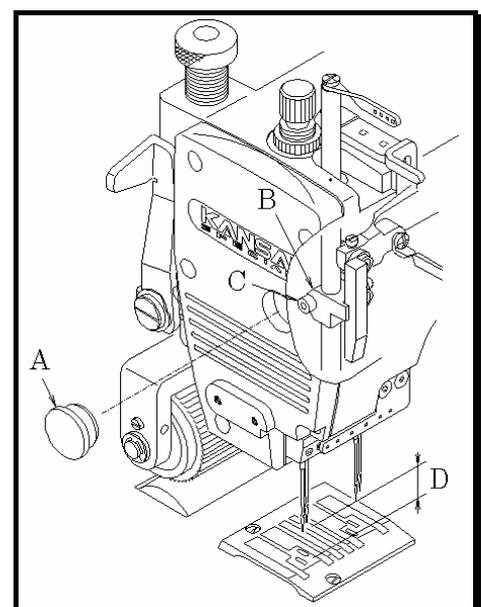
6-4 Needle height

When the point of the looper has reached the center of the back side of the needle with the machine pulley turning in the operating direction, the point of the looper should be 2mm above the top of the needle's eye (see 6-2).

When the needle bar is at the top of its stroke, remove plug A on the side cover plate, loosen screw C on needle bar clamp B with a 3mm hexagonal wrench and then move the needle bar up or down as required.

< Note >

After the above adjustment is made, check to make sure each needle drops correctly into the center of each needle drop hole.



6-5 Needle/looper front-to-back relationship

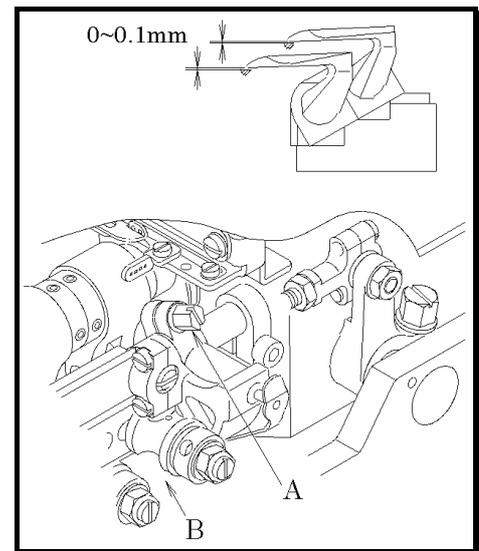
When the point of the looper has reached the center of the needle, the point of the looper should be 2mm above the top of the needle's eye.

With the looper and the needle in this position, there should be a clearance of 0~0.1mm between the needle and the point of the looper.

Adjustment is made by loosening screw A on the looper avoid lever and moving looper holder B front or back.

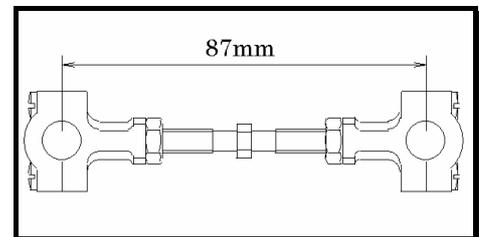
< Note >

When moving the looper holder front or back, check to make sure the looper setting distance is not changed.



6-6 Length of the looper connecting bar

The distance between the centers of both connecting rods should be 87mm.



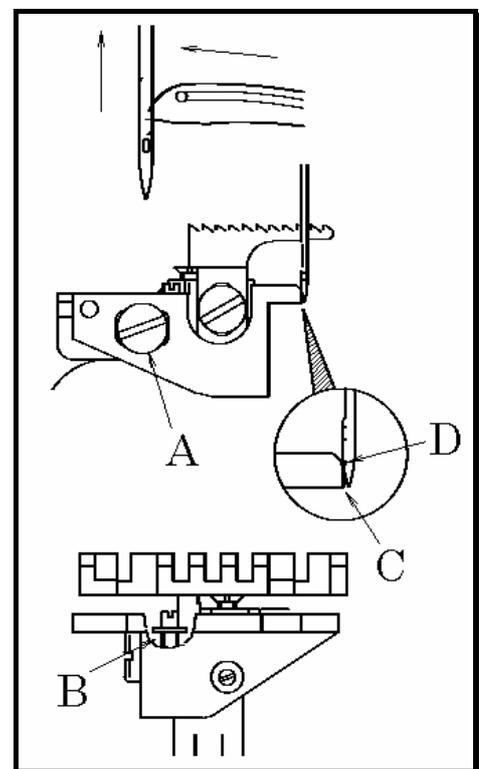
【7】 ADJUSTING THE NEEDLE GUARD

7-1 Position of the needle guard (rear)

When the point of the looper has reached the center of the back side of the needle from the extreme right end of its travel, align the point of the needle with bottom surface C of the needle guard (rear).

With the needle and the needle guard (rear) in this position, set clearance D between the needle and the needle guard (rear) at 0.

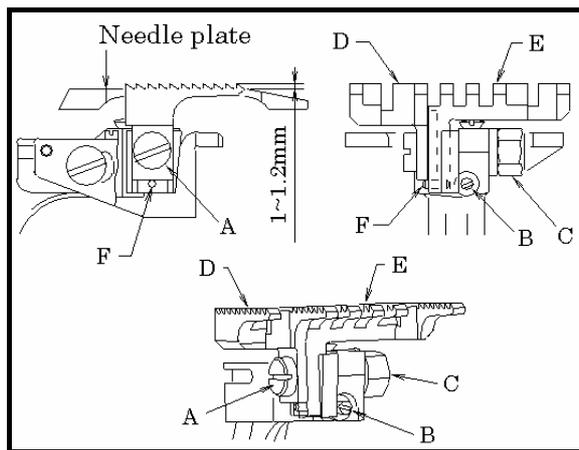
Adjust the needle guard (rear) front to back by loosening screw A. Adjust the needle guard (rear) up and down by loosening screw B.



【8】 ADJUSTING THE FEED DOG & STITCH LENGTH

8-1 Feed dog height & tilt

When the feed dog is at the top of its stroke, the feed dog teeth should be 1.0~1.2mm above the top surface of the needle plate. Adjustment is made with screw A. The fine tilt adjustment is made by loosening nut C and turning screw B.



8-2 Left and right feed dog height

Feed dog divides between left and right side. (See the illustration), left side feed dog D and right side feed dog E can be adjusted independently.

When the bottom of left feed dog D bring down to the pin F, both left and right feed dog height would be same. In case of the adjustment, loosen screw A and make the left feed dog higher than the right side how much the angle of the curved waist band is.

Original both feed dog position at the beginning are set to the same height.

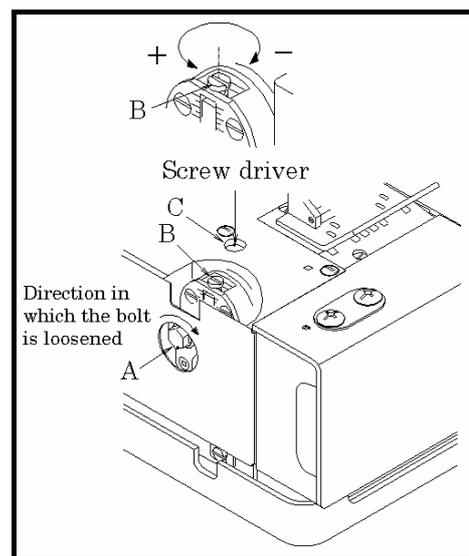
8-3 Stitch length

The stitch length can be adjusted from 2 to 5mm with no step. The following table shows the stitch length with the number of stitches within 1 inch (25.4mm) and 30mm.

Stitch length(mm)	No. of stitches	
	within 1"	within 30mm
2	13	15
3	8.5	10
5	5	6

< To change the stitch length >

1. Loosen bolt A while checking the direction in which the bolt is loosened.
2. Insert a screwdriver from hole C.
To decrease the stitch length, turn screw B clockwise. To increase the stitch length, turn screw B counterclockwise.
3. After this adjustment is made by turning screw B, be sure to tighten screw A.



< Note >

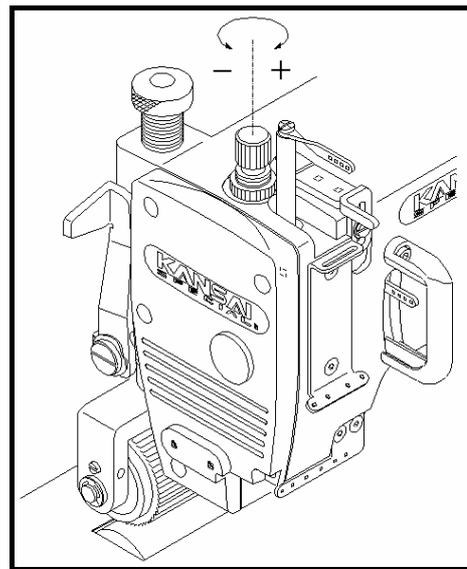
Be sure turn off the motor when changing the stitch length.

【9】 ADJUSTING THE PRESSER FOOT

9-1 Presser foot pressure

The presser foot pressure should be as light as possible, yet be sufficient to feed the fabric and produce uniform stitches.

To increase the presser foot pressure, turn the adjusting knob clockwise (see the illustration).



9-2 Position of the presser foot and foot lift

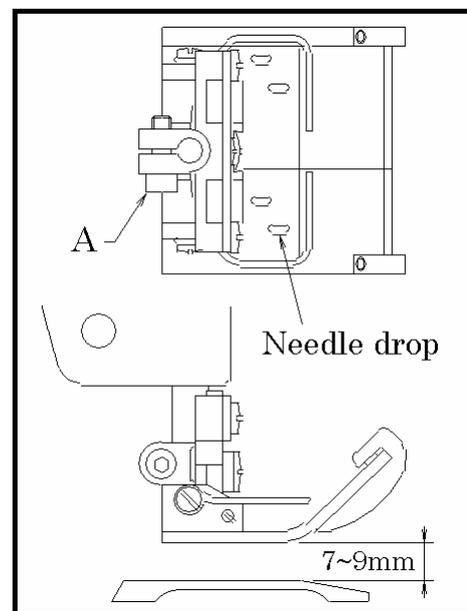
Fit the presser foot properly onto the presser bar.

Make sure the needle drops correctly to the center of the needle drop hole on the presser foot.

Adjustment is made by loosening screw A.

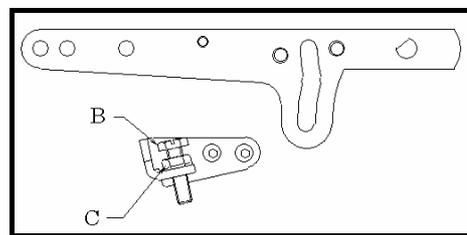
Foot lift

The presser foot should be 7~9mm above the top surface of the needle plate.



Set stopper B at the required position.

Fasten the presser foot lift lever with nut C so that the lever cannot be lowered.



【10】 ADJUSTING THE REAR PULLER DEVICE

10-1 Upper puller angle adjustment

Loosen both screw E of the upper puller bracket G and screw F of the bracket R, and change the angle of the upper puller bracket.

And adjust scale plate H to scale mark D on the cloth cover how much the angle of the curved waist band is. After the angle adjustment, tighten screw E & F. At this moment, check the bracket J (See the illustration above), is located to straight position and tighten screw E & F.

10-2 Lower puller angle adjustment

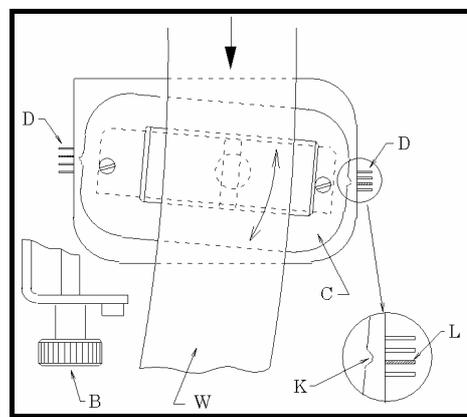
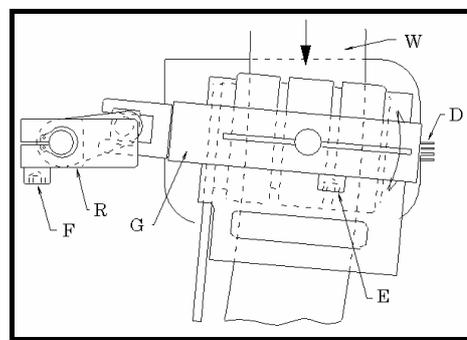
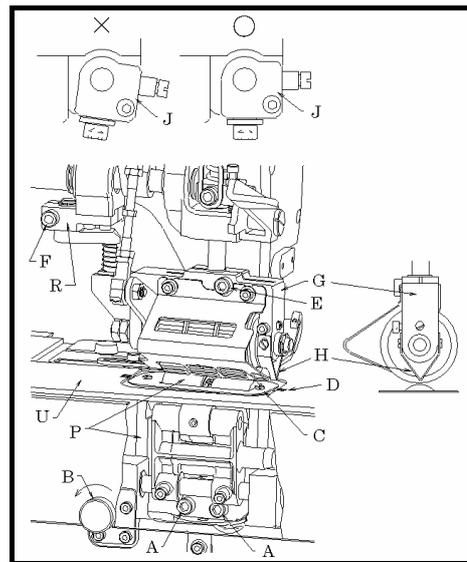
Loosen two screws A of the lower puller bracket P, and turn adjusting screw B counter-clockwise as the drawing shows. Therefore, the angle of the lower puller bracket can be adjusted horizontally.

And, match the scale plate H of the puller bracket on the point K of the lower puller guide plate.

Then, the both angle of the upper and lower puller would be same.

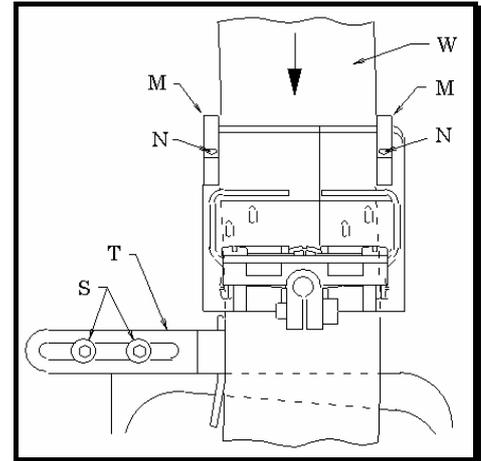
< Note >

The point K of the lower puller guide plate is matched with the third mark L of the cloth plate on the factory adjustment. This adjustment is set for the curved waistband radius of approximately 600 to 700mm.



10-3 Guide plate adjustment

Adjust guide plate M & T according to the width of waist band. Loosen screw N & S for the adjustment.

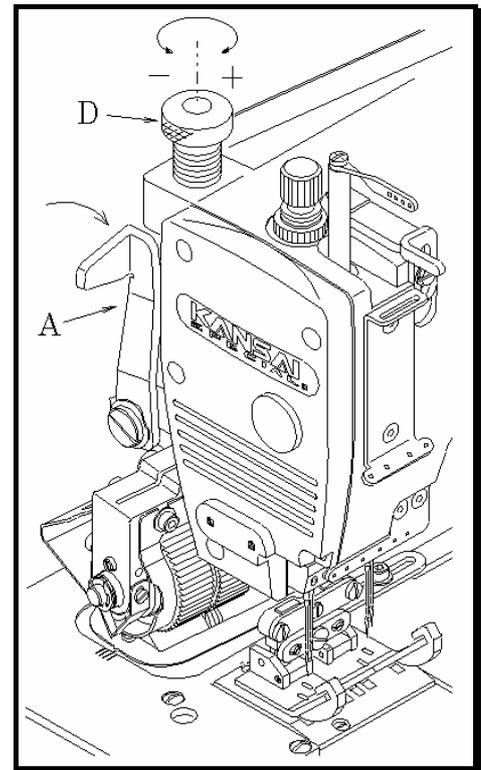


10-4 Manual lever

To position or remove the fabric, raise manual lever A.

10-5 To adjust the puller pressure

The puller pressure should be as light as possible, yet be sufficient to feed the fabric smoothly. To increase the pressure, turn adjusting knob D clockwise. To decrease the pressure, turn adjusting knob D counterclockwise.

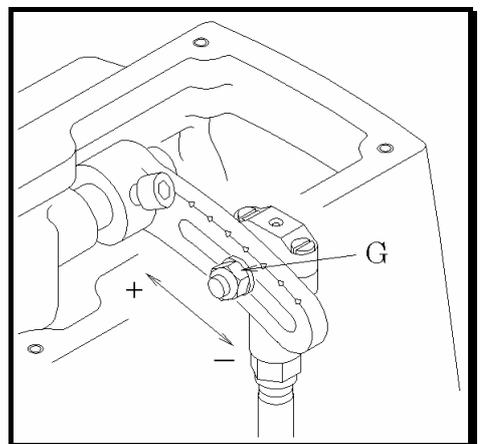


10-6 Adjusting the feeding amount of the rear puller

Adjust the feeding amount of the rear puller according to that of the feed dog. To increase the amount, loosen nut G and move it to the left. To decrease the amount, move it to the right.

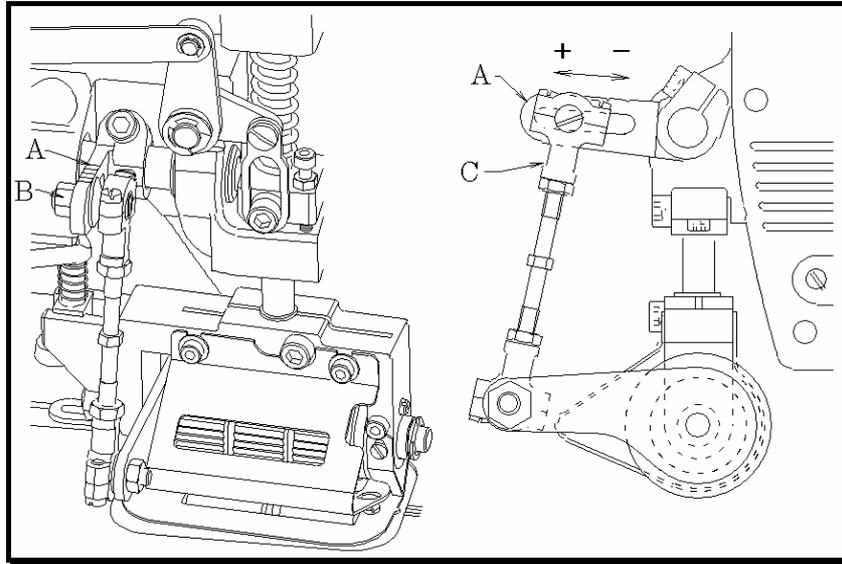
< Note >

The adjustment of the factory set is as the drawing shows.



10-7 The minor adjustment of the rear puller feeding amount

The feeding amount will be bigger by loosening nut B of lever A, and moving the connecting rod C to the left. And the feeding amount will be smaller by loosening nut B of lever A, and moving the connecting rod C to the right.



【11】 ADJUSTING THE STITCH FORMATION

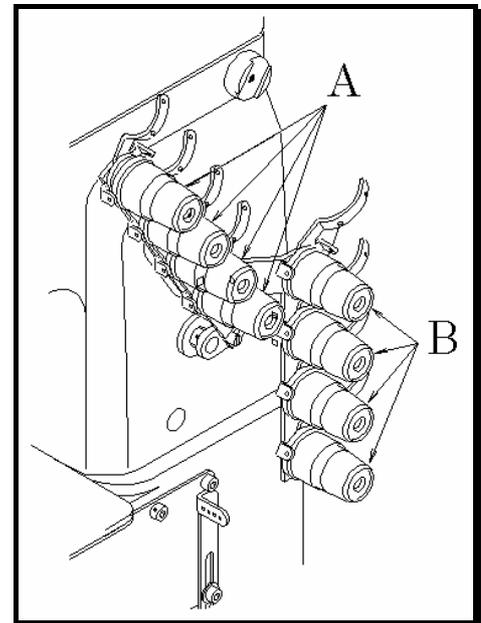
11-1 Thread tension adjustment

Thread tension varies according to sewing conditions such as the fabric, thread and stitch length to be used. Tension on the needle thread can be adjusted with nuts A.

Tension on the looper thread can be adjusted with nuts B. To increase the tension, turn the nuts clockwise.

< Note >

The tension should be as light as possible, yet be sufficient to produce uniform stitches.

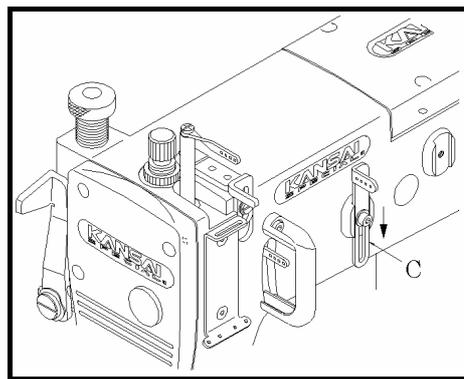


11-2 Position of the needle thread eyelet

Secure needle thread eyelet C at the bottom end of the slot.

< Note >

Adjust the needle thread eyelet according to the thread to be used. To tighten the needle thread, raise the needle thread eyelet.

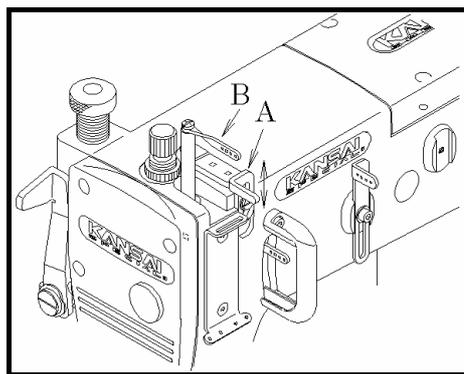


11-3 Adjusting the needle thread guard

With the needle bar at the bottom of its stroke, the top surface of needle thread guard A should be level and parallel with the centers of the eyes on needle bar eyelet B.

< Note >

Raising needle thread guard A increases the size of the needle thread loop. Lowering needle thread guard A decreases the size of the needle thread loop.



11-4 Adjusting the looper thread eyelets

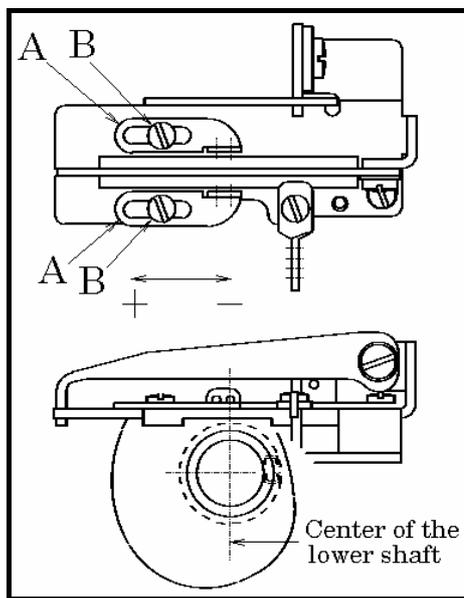
Align the eyes on looper thread eyelets A with the center of the lower shaft.

To increase the amount of the looper thread to be supplied, loosen screws B and move looper thread eyelets A to the rear of the machine.

To decrease the amount of the looper thread to be supplied, loosen screws B and move looper thread eyelets A to the front of the machine.

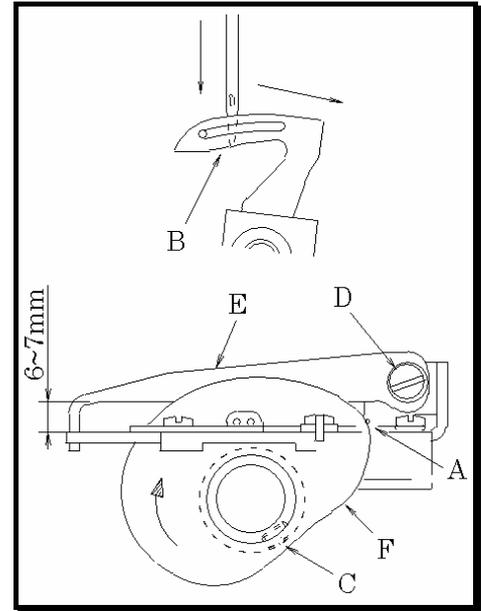
In case of model 1508SPF, move looper thread eyelets A fully toward the front of the machine and secure them with screws B.

Adjust the looper thread eyelets according to the thread and stitch length to be used.



11-5 Position of the looper thread take-up

Adjust thread guide E so that the clearance between thread guide E and the top surface of the guide plate is 6~7mm. Adjustment is made by loosening screw D. When the point of the needle has reached bottom surface B of the looper blade while the looper is moving to the right from the extreme left end of its travel, the looper thread should be removed from point A on the looper thread take-up. Adjustment is made by loosening screw C.



【12】CLEANING THE MACHINE

At the end of each day, remove the presser foot and the needle plate and then clean the slots of the needle plate and the area around the feed dogs.

