INSTRUCTION

UK SERIES

Industrial Sewing Machines

UK10
UK11

First published: June 2003

No.KX03023

KANSAI SPECIAL®

INTRODUCTION

Thank you for purchasing Kansai Special's UK series machine.
Please study this instruction manual carefully before operating the machine.

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

CONTENTS

【1】INTRODUCTION

1-1 Needles

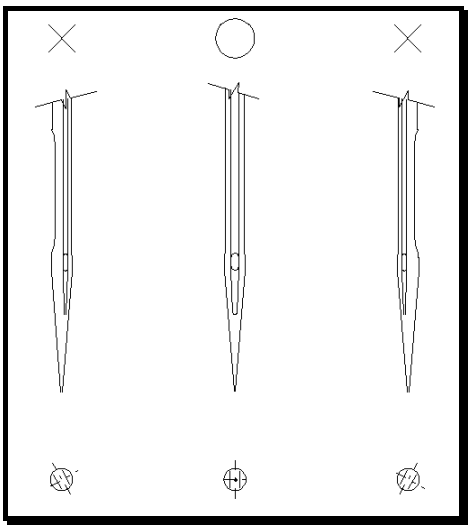
Standard needles are Schumetz B-27 and Organ DC×27.
Needle numbers vary in each model, so standard needles are highly recommended.

< Needle maker & needle number > M

	Schumetz B-27	Organ DC×27
UK1004S-01M	Nm75	#11
UK1005S-10M	Nm65	#9
UK1004S-20F	Nm65	#9
UK1014H-01M	Nm75	#11
UK1014H-40M	Nm75	#11
UK1116S-01M	Nm75	#11
UK116S-02M	Nm75	#11
UK1116S-01H	Nm75	#11
UK1116H-03X	Nm130	#21
UK1116S-30M	Nm75	#11
UK1143H-90M	Nm75	#11

1-2 Needle replacement

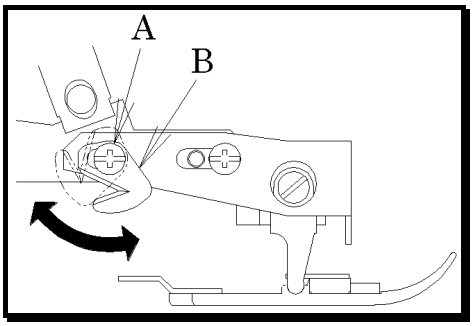
When replacing needles, make sure that needle scarf faces backward from the operator's view point.
Refer to the illustration on the right.



< Note >
When replacing needles, be sure to turn off the machine. Regarding clutch motors, keep stepping on the pedal until the machine comes to a halt completely.

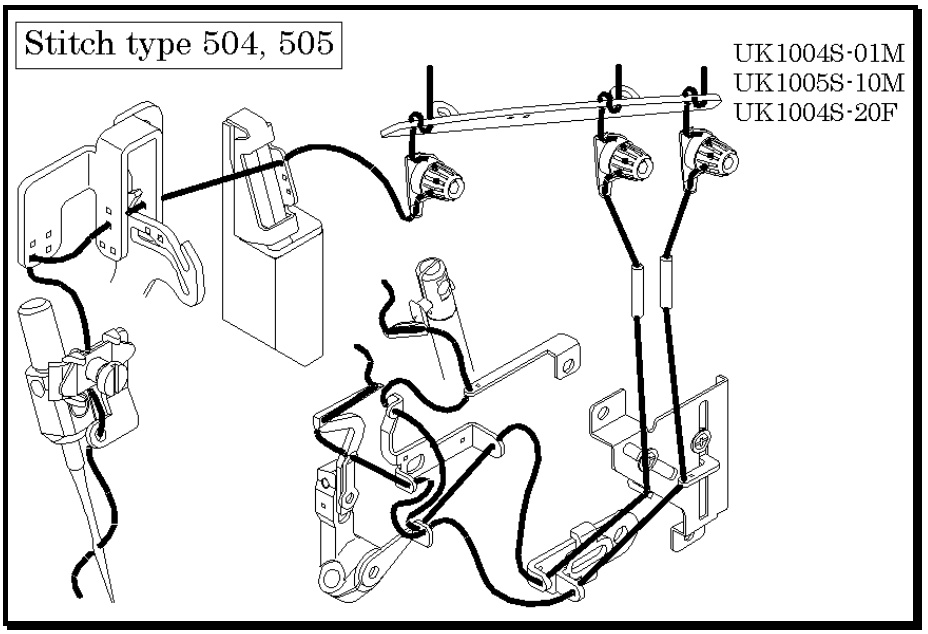
1-3 Thread trimmer

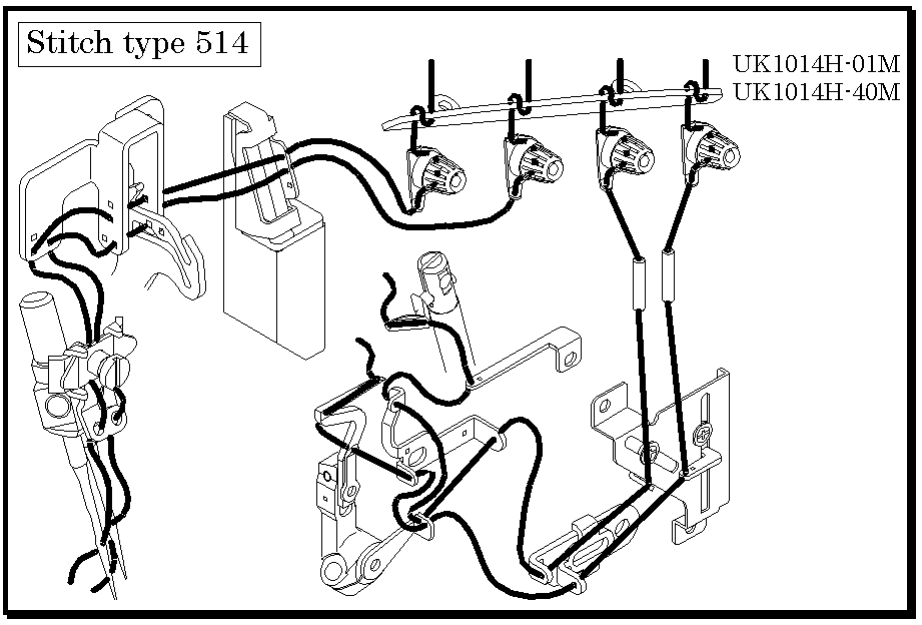
Move the thread trimmer B to the left and right by loosening the screw A.



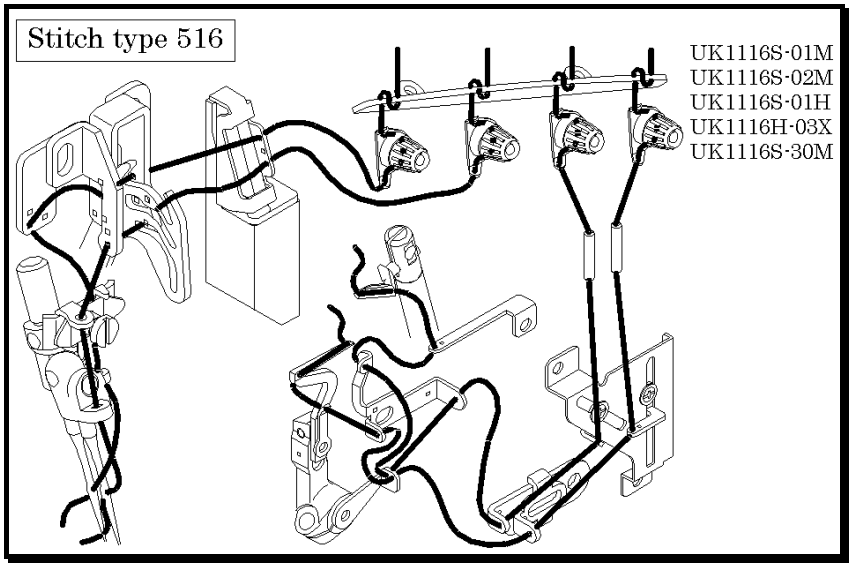
1-4 Correct threading the machine

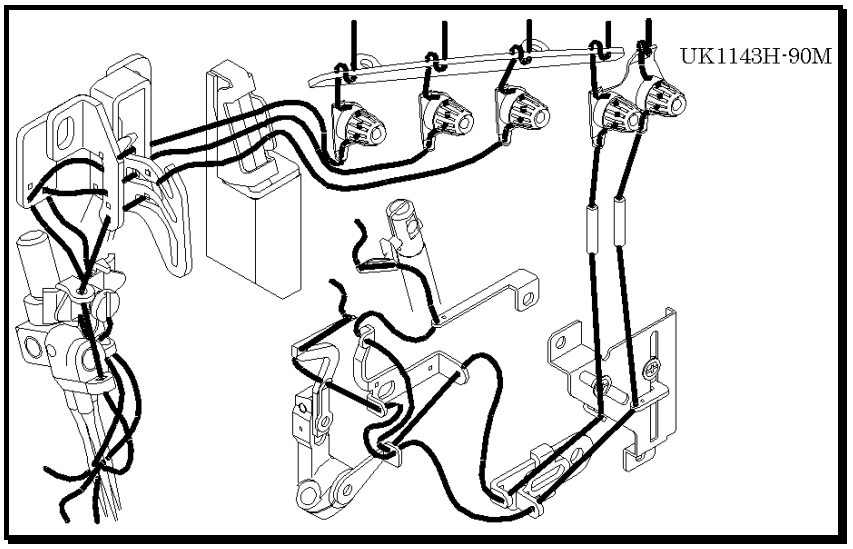
Thread the machine correctly by referring to the illustrations below.
Incorrect threading causes skipped stitch, thread breakage, and uneven stitch formation.
Correct threading is dependant upon the number of threads, thread material and so on.
Turn to the page 11 for further information.



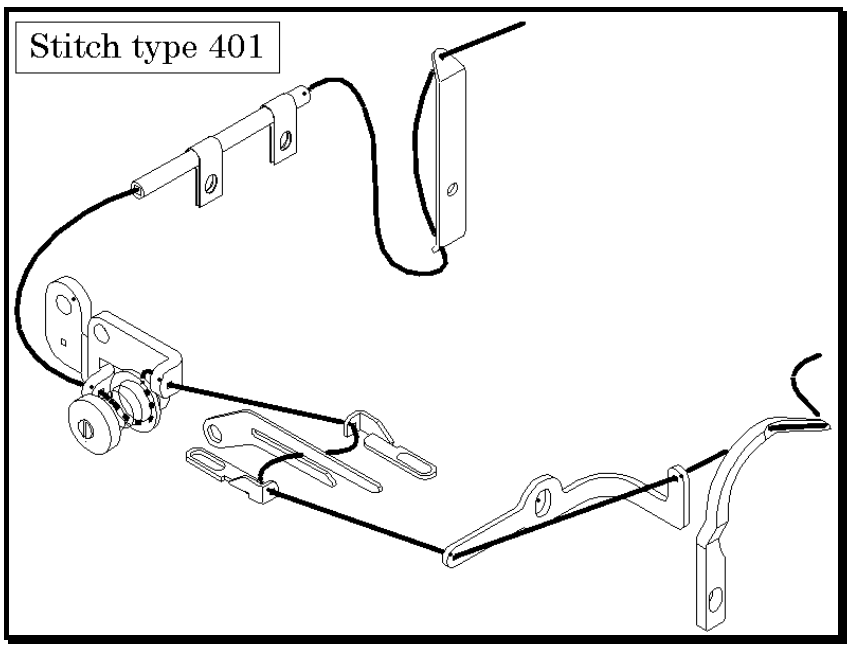


Stitch type 516





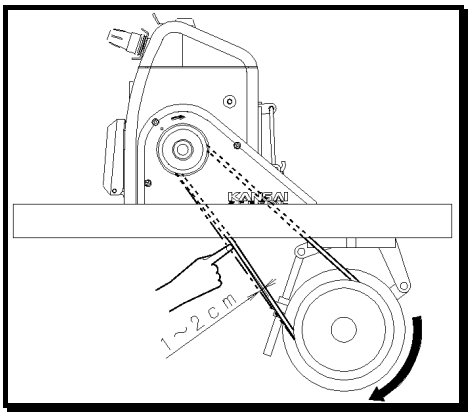
Stitch type 401



【2】MACHINE SPEED

2-1 Machine speed & operating direction

Refer to maximum and average speed of the machine at the table below. If your machine is new, you have to operate the machine at 15~20% lesser than maximum speed for the first 200 hours (about one month) so that you can break it in.
After this period, operating the machine at average speed will increase the endurance.



2-2 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 middle of the belt with the index finger until the belt can bent 1~2cm inward. (See the illustration above)

< Machine speed >

Model	Maximum speed	Average speed
UK1004S UK1005S UK1014S UK1116S	6500SPM	6000SPM
UK1116H-03X UK1116S-30M	5500SPM	5000SPM
UK1143H	6000SPM	5500SPM

< Motor pulley >

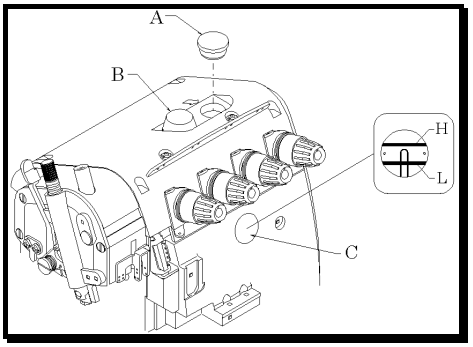
Motor pulley Outer diameter (mm)	Machine speed (SPM)	
	50Hz	60Hz
80	4200	5000
90	4700	5700
100	5200	6300
110	5800	6900
120	6300	7500

【3】 LUBRICATION

3-1 Oil specification

Kansai Special's genuine oil is highly recommended.
(Part No. 28-613 : 1000cc)

3-2 Oiling



■Lubrication

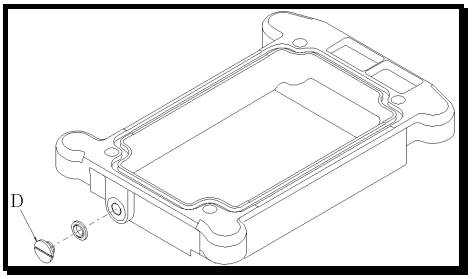
Unplug the rubber plug A and fill the machine with the genuine oil until the indicator reaches the line H in the oil gauge.

Most of the time, fill up the oil until the indicator appears between the line H and L.

■Lubrication check

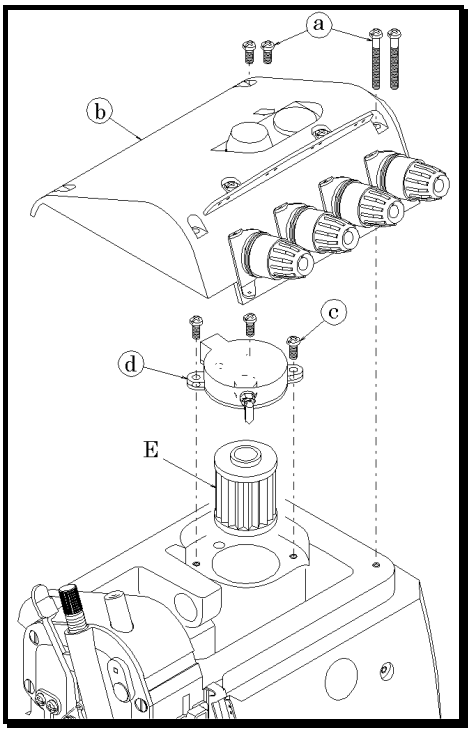
When the lubrication is over, run the machine to check for oil splashing in the window B.

3-3 Oil & filter replacement



To prolong machines' lifespan, replace the oil in 250 hour use. Follow the procedure below

1. Take the V belt off the motor pulley and then take the machine off the table.
2. Loosen the screw D and drain all the oil from the machine.
3. After the oil has been drained, tighten the screw D without fail.
4. Fill up the oil as instructed above.

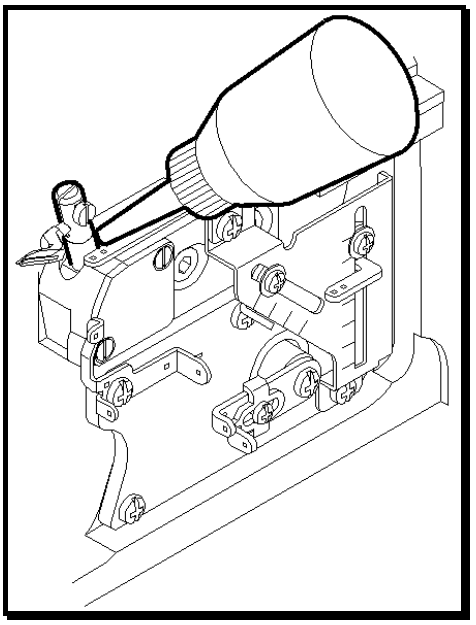


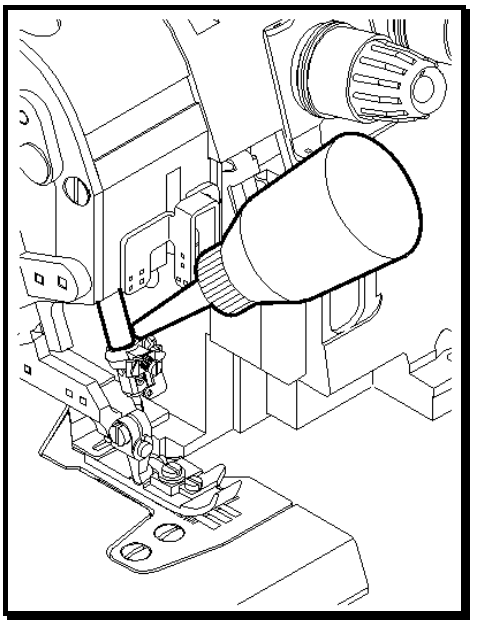
If filter E is dirty, the machine is not lubricated properly. Normally, it has to replace every 6 month. Check for proper function of the lubrication system and maintain the proper amount and type of oil periodically. In order to replace the filter E, loosen all the necessary screws (a ~ d).

In case the filter is clogged, replace it with a new one.

3-4 Oiling respective parts

Oiling respective parts is necessary when the machine runs either for the first time or for the first time in a long while.





3-5 Oiling HR device

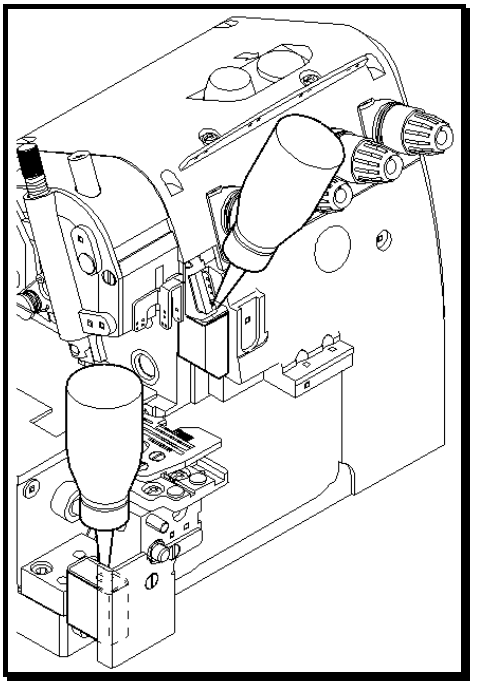
■Oil in use

■Kansai Special's genuine silicon oil is highly recommended
(part number 28-612：20cc)

■Oiling process

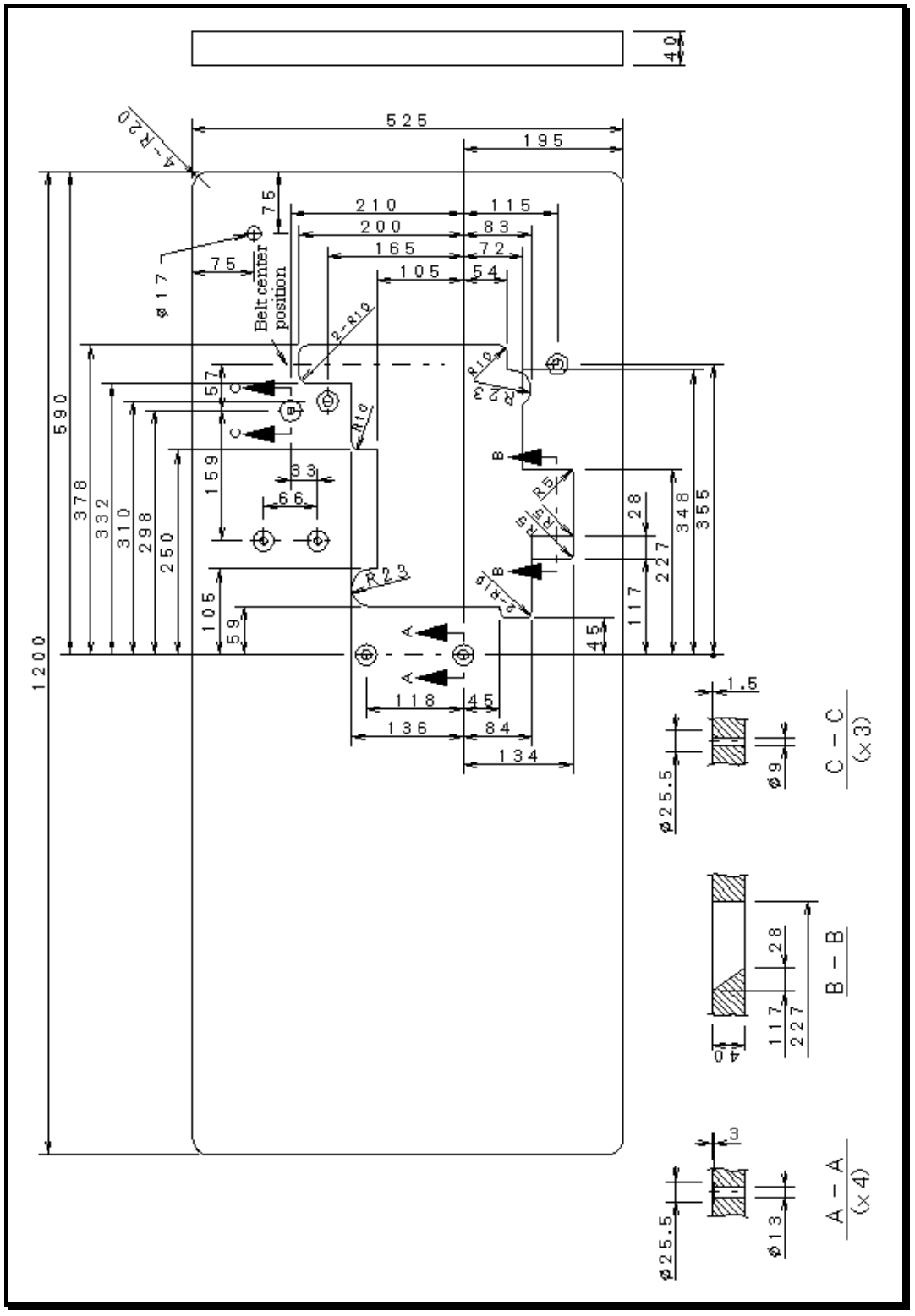
Fill the silicon oil reservoir with Kansai Special's genuine oil.

Periodical oil reservoir check is essential to prevent needle thread breakage and fabric damage.



【4】INSTALLATION

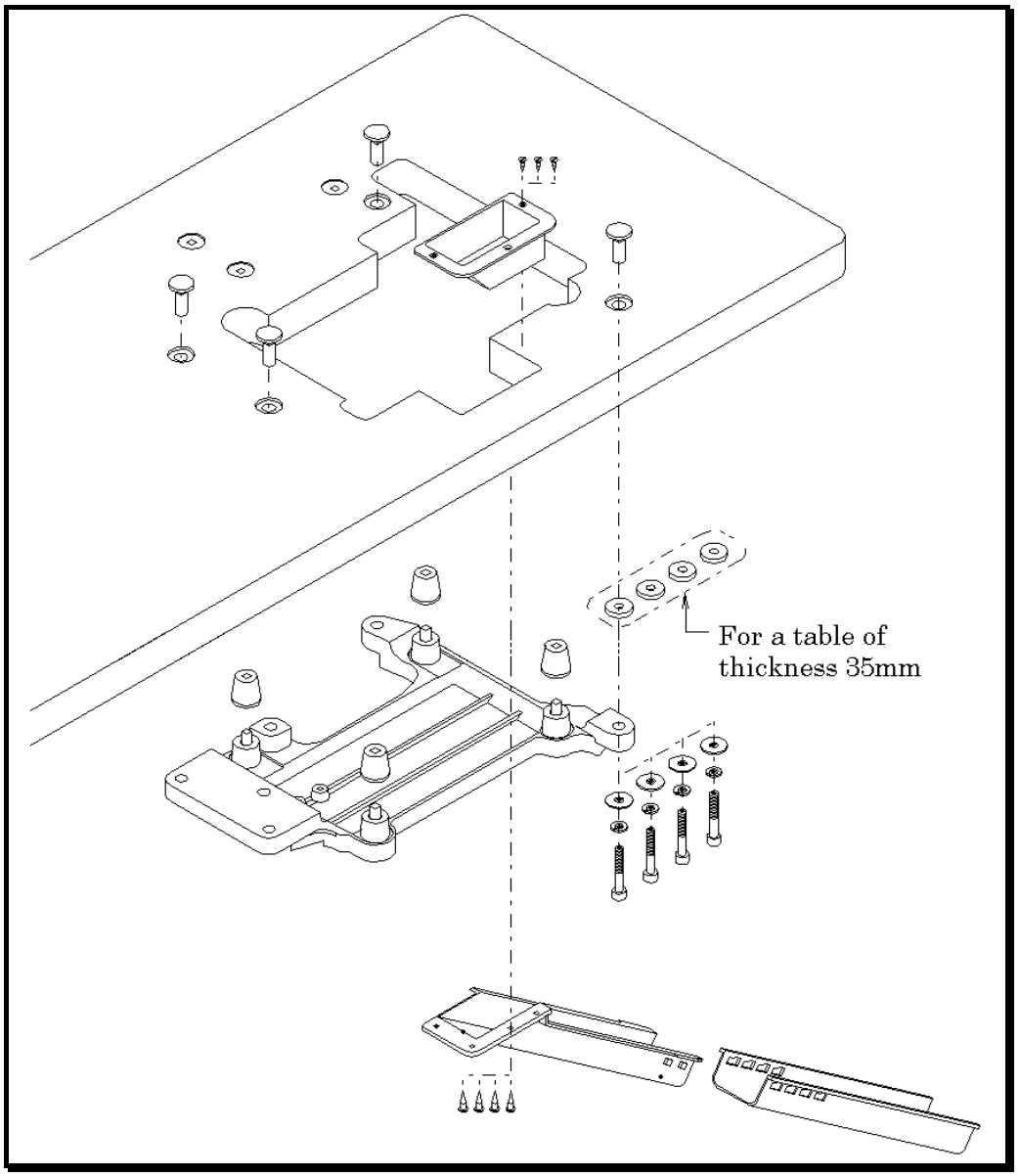
4-1 Table diagram



4-2 Installation process

Refer to the illustration below.

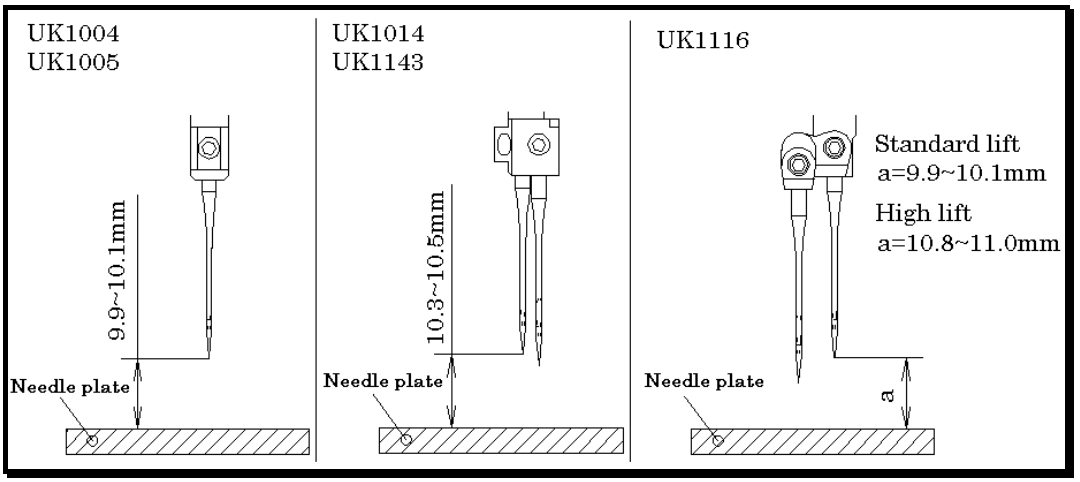
Install the frame support plate underneath the table. Fit the rubber cushions onto the frame support plate. Mount the machine head on the rubber cushions correctly.



【5】NEEDLE BAR HEIGHT ADJUSTMENT

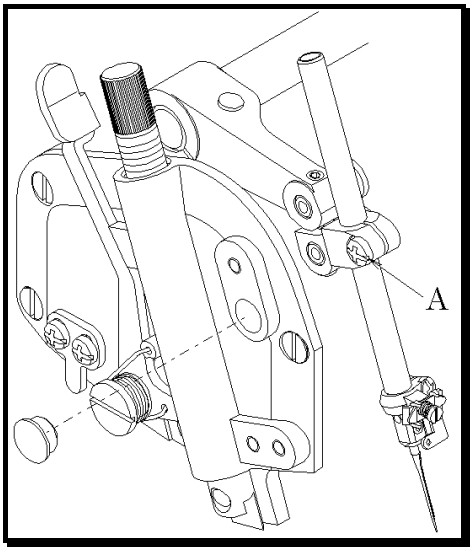
5-1 Initial needle bar height

Initial needle bar height is set by the height between the needle plate and the tip of the center needle when the needle bar is at its highest position of travel.
Refer to the illustration below.



5-2 Needle bar height adjustment

When the needle bar is at its highest position of travel, a height setting should be made.
Adjustment is made by taking the peg off and loosening the screw A.

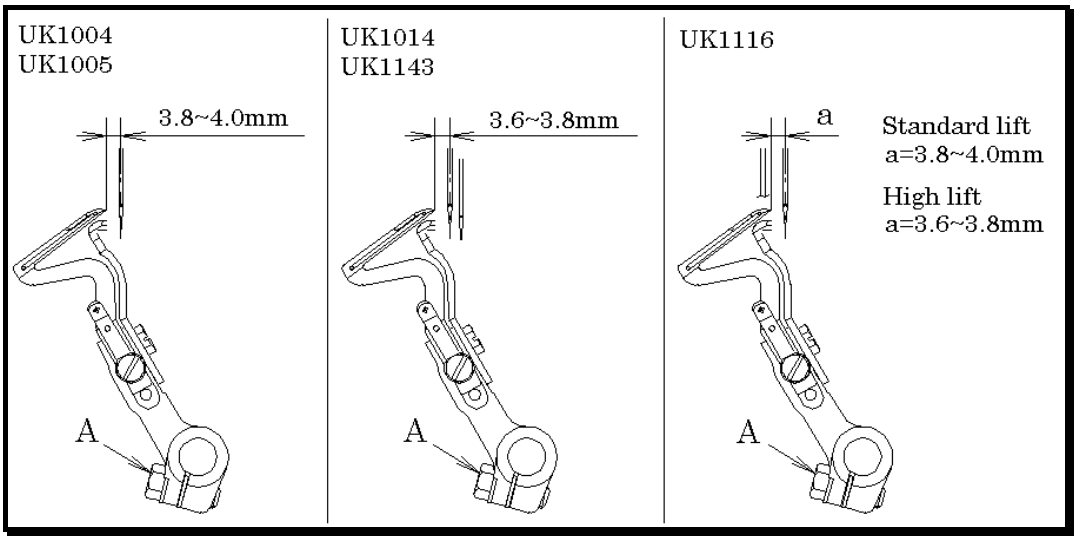


< Note >
Care should be taken not to disturb the position of the needle that has to drop to the center of the needle hole when moving.

【6】 LOOPER AND NEEDLE TIMING

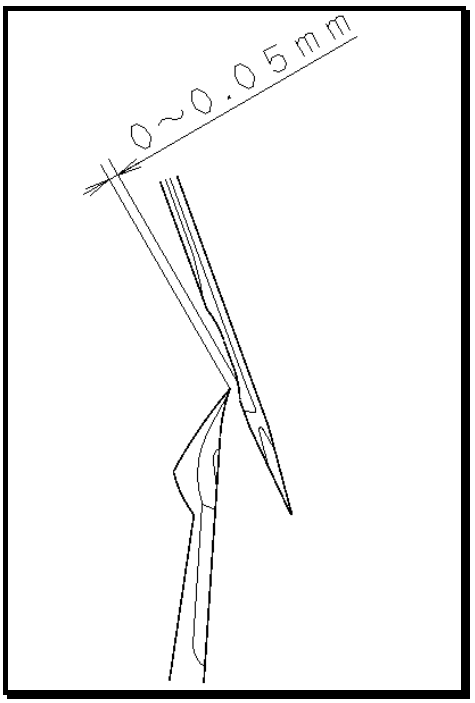
6-1 Distance between lower looper and needle

The distance is relation between the looper and the needle when the lower looper is at the extreme left of its travel. Distance varies according to models.
Refer to the illustrations below. Before adjustment, loosen the screw A



6-2 Clearance between the point of the lower looper and the center of the needle

Bring the point of the lower looper to the center of the needle to have them allow clearance of 0~0.05mm.

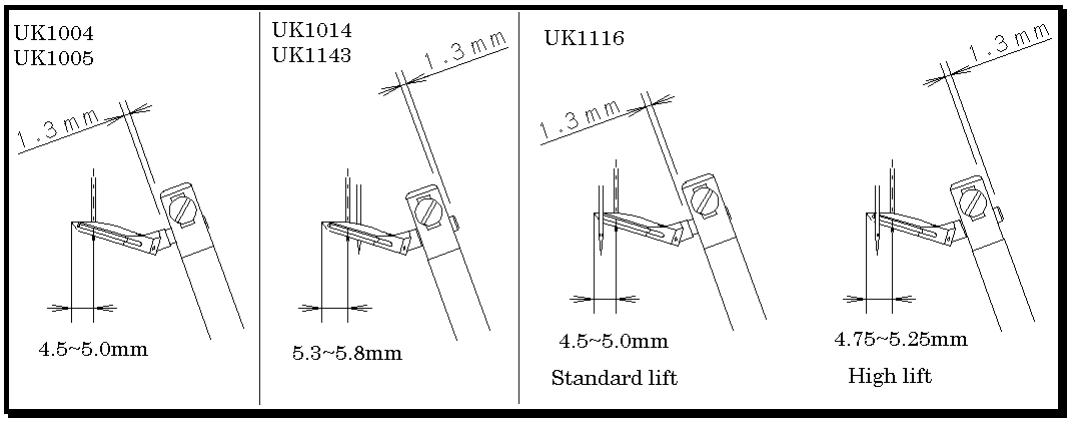


< Note >
Care should be taken not to disturb the distance between the lower looper and the needle when the lower looper holder is moving.

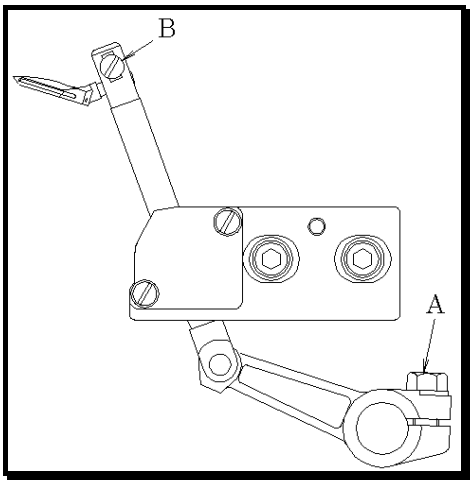
【7】 UPPER LOOPER ADJUSTMENT

7-1 Gauge of upper looper and needle

The gauge of the upper looper and the needle is the distance between the point of the looper and the center needle when the upper looper is at the extreme left of its travel.
Gauge varies according to models. Refer to the illustrations below.

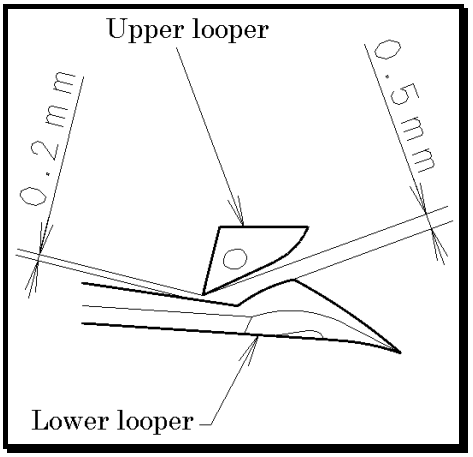


The gauge adjustment is made by loosening the clamp screw A and looper setting is made by loosening the clamp screw B.



7-2 looper relation (upper to lower)

When upper looper crosses lower looper, certain amount of clearance is needed.
Refer to the illustration on the right.

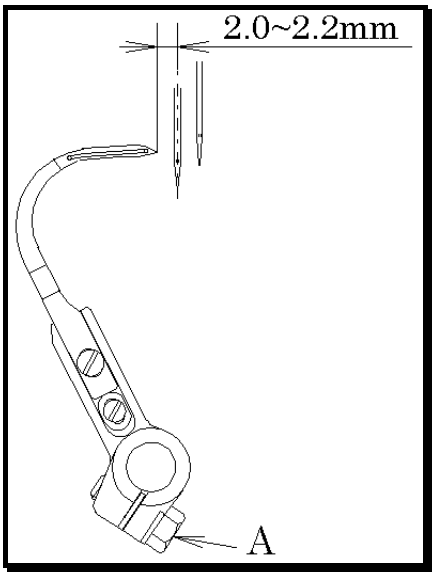


< Note >
Careshouldbetakennottodisturbtheupperloopersettingwhen rotating upper looper.

【8】DOUBLE CHAIN LOOPER ADJUSTMENT

8-1 Double chain looper gauge

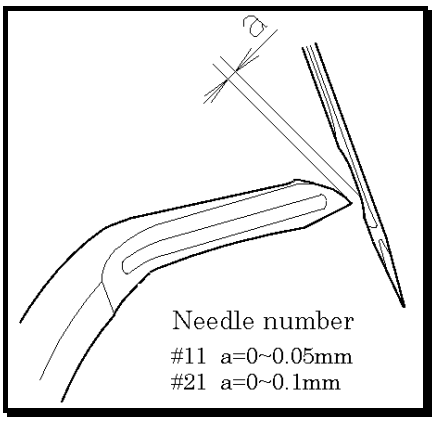
Double chain looper gauge is the distance between the point of the double chain looper and the center needle of double chain stitch when the looper is at its farthest position to the left. Looper gauge is 2.0~2.2mm.
Adjustment is made by the clamp screw A.



8-2 Clearance between upper looper and lower looper

Bring the point of the double chain looper to the center of the double chain needle to have them allow certain amount of clearance. Different needle number requires different clearance so give clearance accordingly.

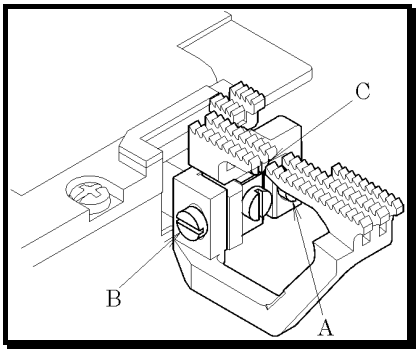
< Note >
Care should be taken not to disturb the double chain looper gauge when adjusting double chain looper.

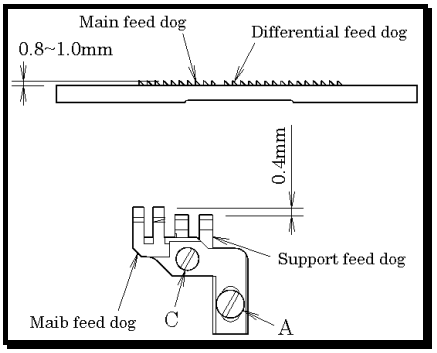


【9】FEED DOG & STITCH LENGTH ADJUSTMENT

9-1 Feed dog height adjustment

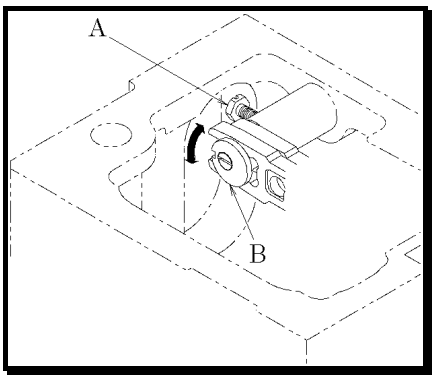
When the feed dogs are at the highest point of travel, 2 or 3 teeth from the back of the main feed dog have to rise 0.8~1.0mm above the needle plate.
The height of the differential feed dog is as same as that of the main feed dog.
The support feed dog should be set to rise 0.4mm lower than the main feed dog should.
Adjustment is made by loosening clamp screws A, B, C.





9-2 Feed dog inclination adjustment

Uncover the back cover and loosen the screw A and then put a screw driver into the washer B and push it either upward or downward. Rotating the washer B upward brings the front of the feed dog down and vice versa.



< Note >
After adjustment is made, care should be taken while retightening the screw A not to let the feed dog holder shift away.

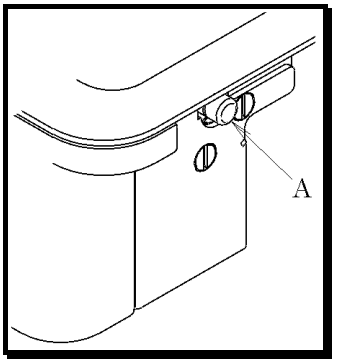
9-3 Stitch length adjustment

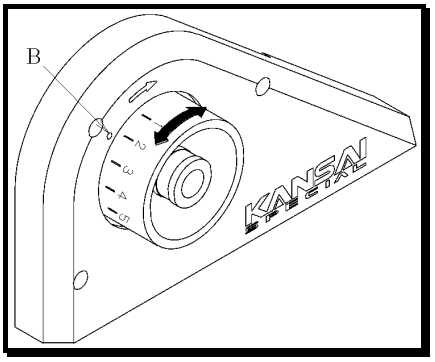
1. Press the push-button A softly with your left hand on the front of the machine.
2. Rotate the pulley with your right hand while pressing the button A softly, the push-button A will stop at the notch inside making a click sound.
3. At that time, press the push-button A hard once again with rotating the pulley and set the stitch length referring to the starting mark B.

■For longer stitch, rotate the pulley clockwise and the other way around.

< Note >

Check if the motor stops completely before you change the stitch length.





9-4 Differential feed dog adjustment

■Stretching ratio (for gathering)

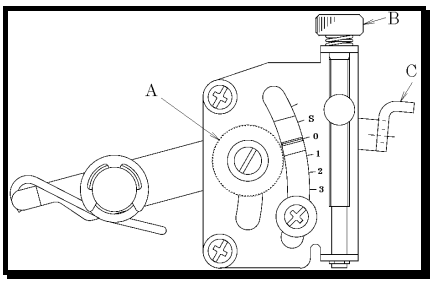
Loosen the clamp nut A and rotate the screw B then tighten the clamp nut A at desired spot.

Bring the lever C at gauge 0 makes the ratio of the main feed dog and the differential feed dog 1 to 1.

Bring it at lower than gauge 0 makes a stretching ratio.

■Gathering ratio (for stretching)

Bring the lever C at gauge 0 higher makes a gathering ratio.



■When requested to adjust the differential feed mechanism on and off while the machine is running, connect the foot pedal chain with the lever C.

< Note >

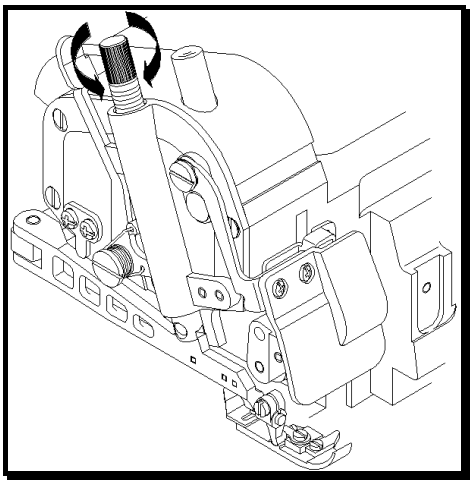
When applying a stretching ratio, be sure that the differential feed dog is in the right position.

【10】PRESSER FOOT ADJUSTMENT

10-1 Presser foot pressure adjustment

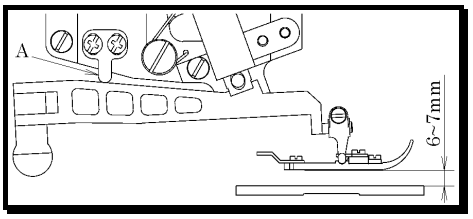
Maintain the presser foot pressure as light as possible on the condition that the machine feeds the fabric well and produces stable stitch.

Turn the knob clockwise to increase pressure of the presser foot. (Refer to the illustration on the right.)



10-2 Position and maximum lift height

Set the presser foot onto the presser bar properly so that the needle can drop to the center of the needle hole.

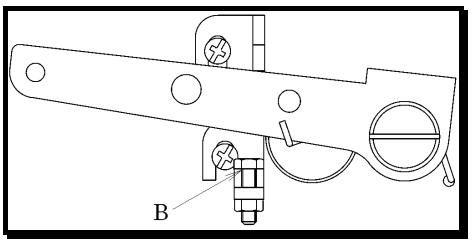


■Foot lift

The initial height of the foot lift is about 6mm from the surface of the needle plate.

In case of tractor foot, it is about 7mm.

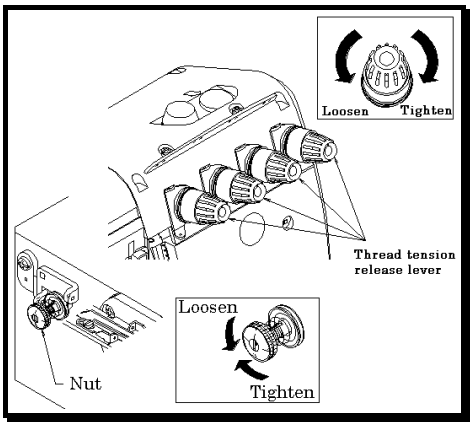
Set the proper height of the foot lift stopper B and the screw C and tighten them to hold the presser foot.



【11】STICH FORMATION ADJUSTMENT

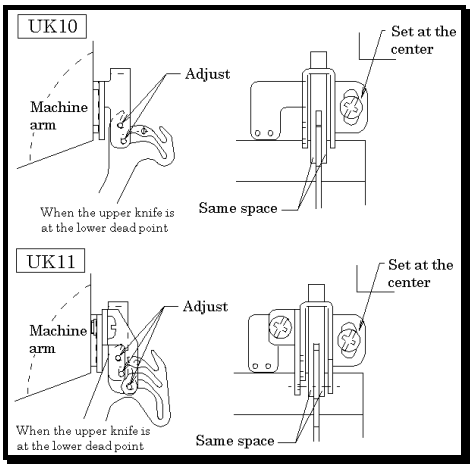
11-1 Thread tension adjustment

Thread tension varies according to sewing conditions such as kinds of fabrics, threads, sewing width, and stitch length. Adjust thread tension by the thread tension release lever on the top cover and the double chain under thread tension release lever at the left cover. Rotate them clockwise to tighten the threads and vice versa.



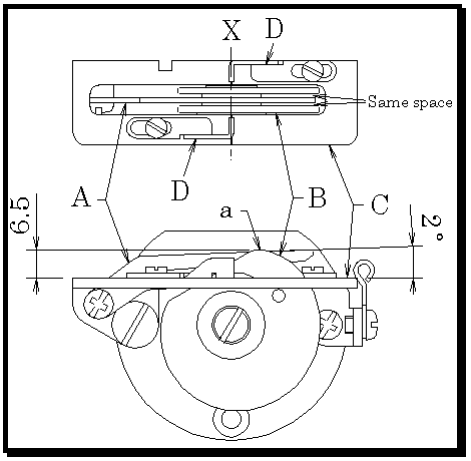
11-2 The needle thread take-up & thread eyelet adjustment

The needle thread frame eyelet has to be fixed at the center by the screw. (Refer to the illustration on the right) The hook-shape needle thread take-up has to be set in the middle of the needle thread frame eyelet. When the upper knife is at the bottom of its travel align the upper thread frame eyelet with the needle thread frame eyelet.



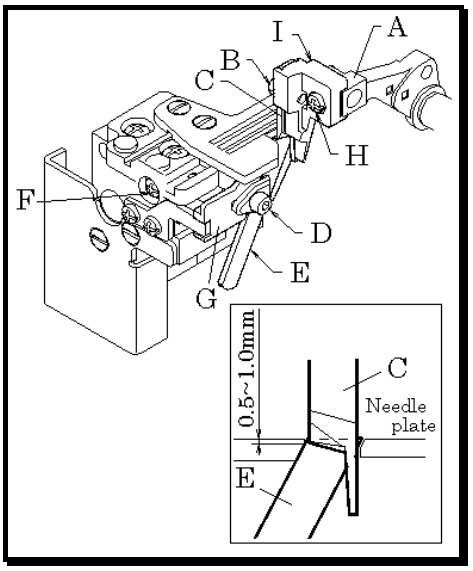
11-3 Double chain looper thread take-up

Incline the looper thread take-up guide A at about 2°. Obtain 6.5mm of clearance between the surface of the cast off support plate C and the point “a” of the Double chain looper thread take-up cams B when the needle bar is at the top of its stroke. Put the double chain looper thread take-up cams B into the slot of the cast off support plate C and make sure that the looper thread take-up guide gives equal clearance of the cams. Under thread frame eyelet D have to be aligned with the line X on the cast off support plate C.



【12】UPPER&LOWER KNIFE ADJUSTMENT

12-1 Upper and lower knife



■Upper knife height

There should be 0.5~1.0mm of clearance between the surface of the needle plate and the edge of the upper knife C by loosening the screw B when the upper knife folder is all the way down.

■Lower knife height

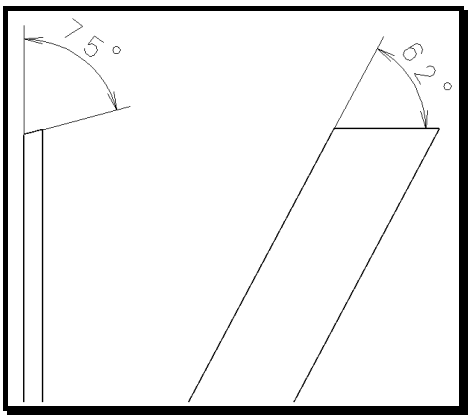
There should be 0mm of clearance between the surface of the needle plate and the edge of the lower knife E by loosening the screw D

■Sewing width adjustment

1. Loose the screw F while pressing the lower knife folder G to keep its position.
2. After loosening the screw H, adjust the sewing width by moving the upper knife folder to the desired position. Do not forget to re-tighten the screw H securely after adjustment is made.
3. Bring the lower knife E to the bottom of its stroke and loosen the screw F while pressing the lower knife holder G allowing it to move to the right slowly. Keep the lower knife E sliding to the right until it touches the upper knife C with no deflection. Tighten the screw F securely.

12-2 Lower knife sharpening

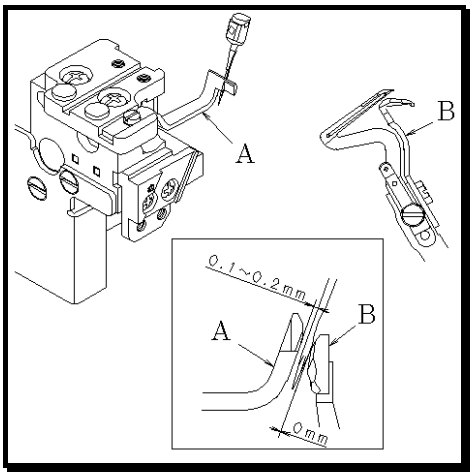
The upper knife is made of super hard compound metals. When the knife gets blunt and cannot cut clean, it needs to be sharpened like the illustration on the right. When sharpening doesn't work anymore, replace the knife with a genuine Kansai Special's upper knife.



【13】 NEEDLE GUARD ADJUSTMENT

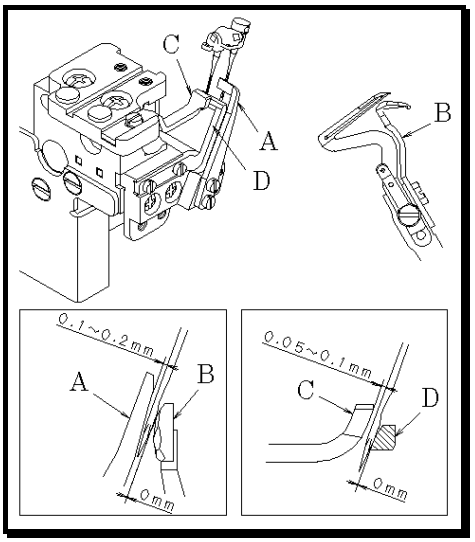
■ Overlock

Obtain 0.1~0.2mm of clearance between the needle and the needle guard A when the needle is at the bottom of its stroke. At the same time, obtain 0mm of clearance between the needle and the needle guard B when the lower looper reaches the center of the needle.



■ Interlock

Obtain 0.1~0.2mm of clearance between the needle and the needle guard A when the needle is at the bottom of its stroke. At the same time, obtain 0mm of clearance between the needle and the needle guard B when the lower looper reaches the center of the needle. With respect to the double chainstitch needle, maintain 0.05~0.1mm of clearance between the needle and the front needle guard C when the needle is at the bottom of its stroke, and allow 0mm of clearance between the needle and the rear needle guard D.



【14】SPECIFICATION

< UK10 >

型 式 MODEL					
UK1004S-01M-4	9.9~10.1	3.8~4.0	4.5~5.0	0.8~1.0	6
UK1005S-10M-3					
UK1005S-10M-4					
UK1004S-20F-1					
UK1014H-01M-2×4	10.3~10.5	3.6~3.8	5.3~5.8		
UK1014H-01M-2×5					
UK1014H-40M-2×4					

< UK11 >

型 式 MODEL						
UK1116S-01M-3×4	9.9~10.1	3.8~4.0	4.5~5.0	0.8~1.0	6	2.0~2.2
UK1116S-02M-3×4						
UK1116S-01H-5×5						
UK1116H-03X-5×5	10.8~11.0	3.6~3.8	4.75~5.25		7	
UK1116H-03X-5×6						
UK1116S-30M-3×4	9.9~10.1	3.8~4.0	4.5~5.0		6	
UK1116S-30M-5×5						
UK1143H-90M-3×2×4	10.3~10.5	3.6~3.8	5.3~5.8			