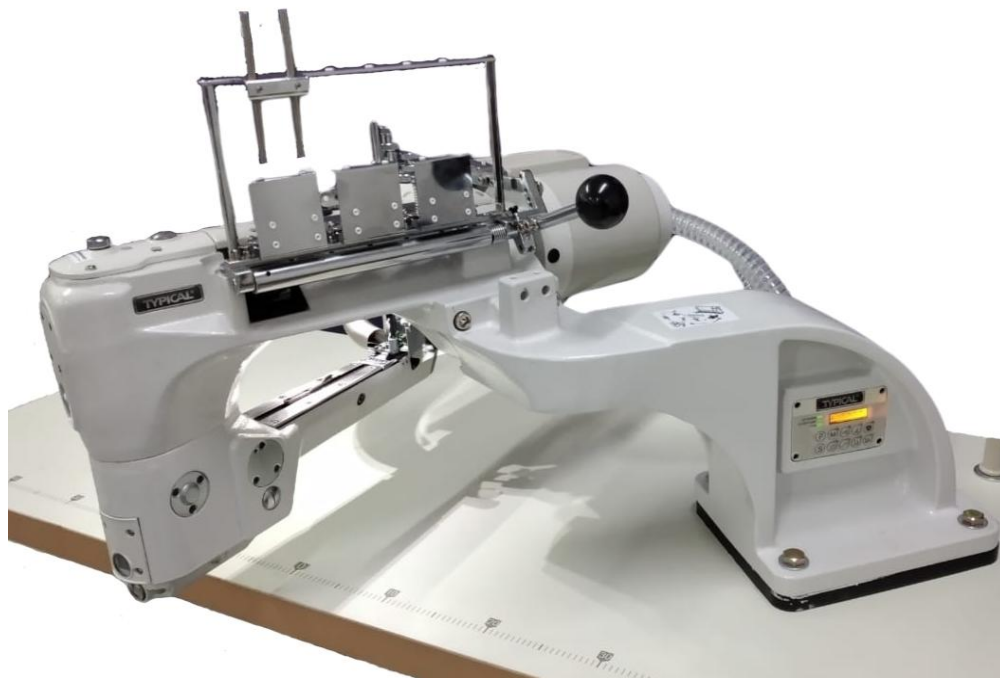


**TYPICAL** GK399D3-2-480-G2-PLE-ETK

# MANUAL



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# 1 · Installation 安裝

## 1.1 桌板尺寸

### 1.1 Table dimensions

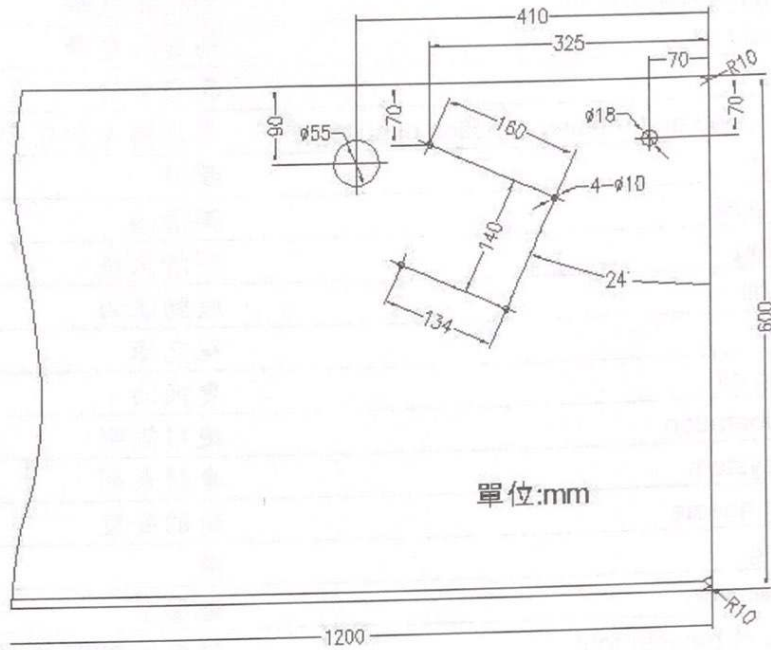


Fig.1

## 1.2 調整抬壓腳

### 1.2 Adjusting presser foot lift

#### 1.2.1 抬壓腳連接桿

#### 1.2.1 Presser foot connecting lever

設置壓腳連接軸①螺絲②。(Fig.2)

Set the presser foot connecting lever ① with the screw ②.(Fig.2)

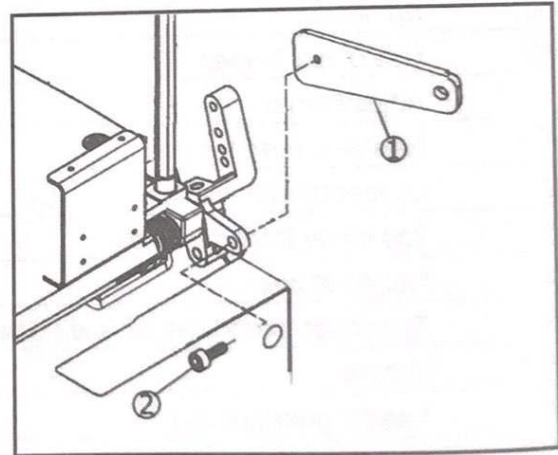


Fig.2

# 1 · Installation 安裝

## 1.2.2 抬壓腳

### 1.2.2 Presser foot lift

1. 當壓腳緊貼在針板上時，在抬壓腳連接軸①跟壓腳連接托架②留 1mm 的間隙。(Fig.3,4)

註：壓腳主體跟壓腳彈片之間要有 0.3mm 的間隙。

1. As standard, make the clearance between the presser bar lifter lever ① and the presser bar connecting bracket ② to 1 mm when the presser foot touches the stitch plate closely.(Fig. 3,4)

Note: The clearance between the body of the presser foot and presser foot spring plate has 0.3mm

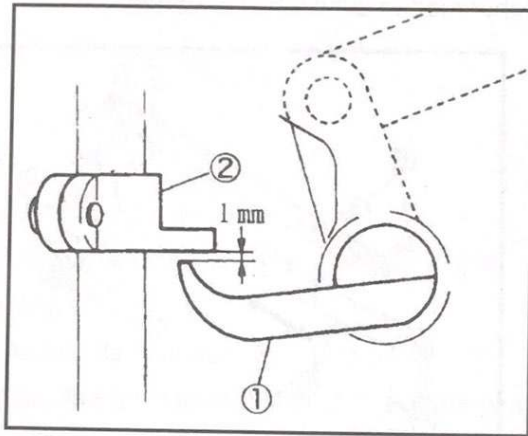


Fig.3

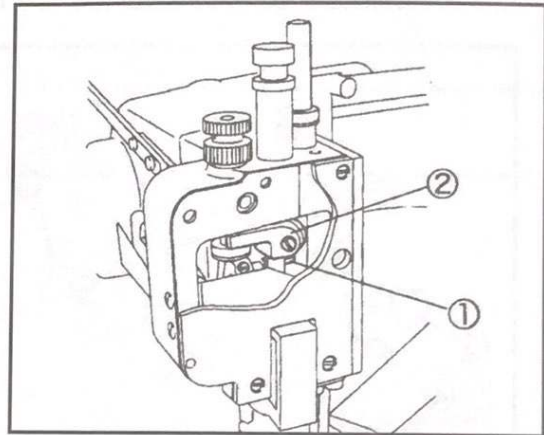


Fig.4

## 1 · Installation 安裝

調整：

- (1) 移除油塞③④才可以檢查間隙。(Fig.5)
- (2) 放鬆壓腳連接桿螺絲⑤。(Fig.6)
- (3) 移開壓腳連接桿(短)⑥右邊或左邊去調整間隙。

Adjusting :

- (1) Remove the seal plugs ③ ④ to check the clearance.(Fig. 5)
- (2) Loosen the screw ⑤ of the presser foot lifter lever link (long). (Fig. 6)
- (3) Move the presser foot lifter lever link (short) ⑥ right or left to adjust the clearance.

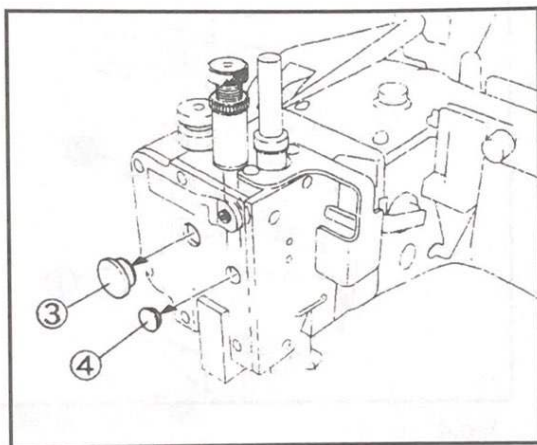


Fig.5

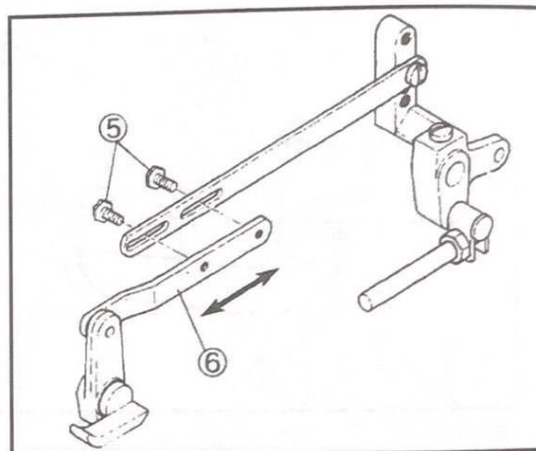


Fig.6

注意：

在調整抬壓條連接軸①之後，調整抬壓腳在壓腳的最低位置，如果沒有調整，會導致上網線勾損壞。

### WARNING

After adjusting the clearance of the presser bar lifter lever ① , adjust the presser foot lift at the lower point of the presser bar. If not adjusted, it can cause damage to the top cover thread hook.

## 1 · Installation 安裝

2. 當針柱在最低位置和壓腳完全抬舉時，針鉗①和上網線勾②需留間隙 0.3mm。(Fig.7)

2. As standard, make the clearance between the notch of the needle clamp ① and the top cover thread hook ② to 0.3mm when the needle bar is at the lowest point and the presser foot is raised by pressing the presser foot pedal fully. (Fig. 7)

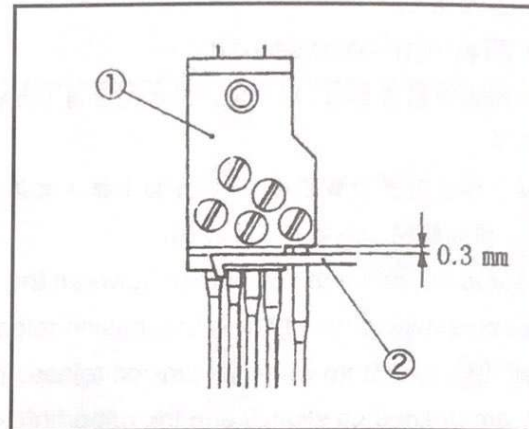


Fig.7

調整：

1. 放鬆螺母③。(Fig.8)
2. 移動抬壓腳停止插銷④或再調整外面間隙。

Adjusting :

1. Loosen the lock nut ③ . (Fig.8)
2. Move the presser foot lifter stop plunger ④ in or out to adjust the clearance.

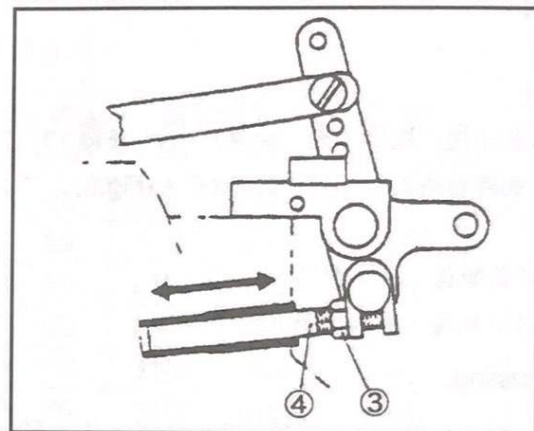


Fig.8

# 1 · Installation 安裝

## 1.2.3 過線組

### 1.2.3 Tension release unit

不踩踏板時鬆線器①和鬆線器座之間要有 0.5mm 的間隙。

當踩下踏板時，六個鬆線器①會向上推，之後上夾線片②開始離開下夾線片。(Fig.9)

As standard, make the clearance between the tension release pins ① and the tension release shaft ③ to 0.5mm when six tension release pins ① are pushed up slightly and the upper thread tension disc without pressing the presser foot pedal. (Fig.9)

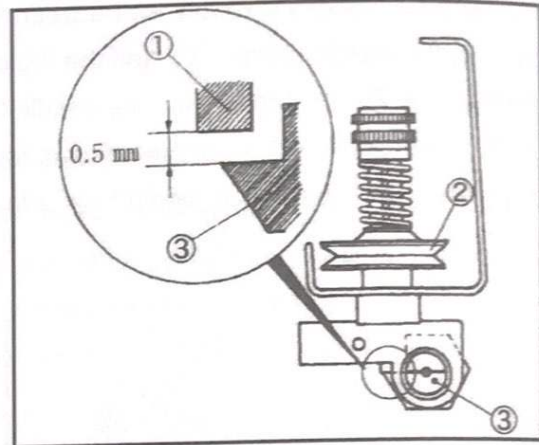


Fig.9

調整：

(1) 放開提昇擺臂（大）的螺絲④。(Fig.10)

(2) 翻轉鬆線器座③用螺絲起子。(Fig.9)

註：

順時針旋轉，減少間隙。

逆時針旋轉，增加間隙。

Adjusting:

(1) Loosen the screw ④ of the presser bar lifter lever (large).(Fig. 10)

(2) Turn the tension release shaft ③ with a screwdriver.(Fig. 9)

- To decrease the clearance, turn it clockwise.

- To increase the clearance, turn it counterclockwise.

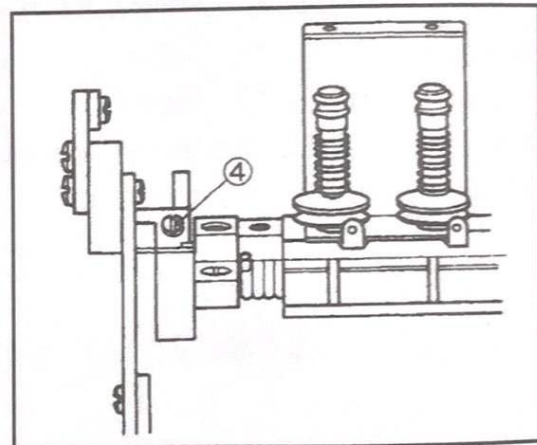


Fig.10

# 1 · Installation 安裝

## 1.3 馬達和皮帶

### 1.3 Motor and belt

使用 M 型之 V 皮帶。安裝馬達時，機器皮帶輪和馬達皮帶輪的中心線需成一直線。(Fig.11)

To install the clutch motor, align the center of the machine pulley with that of the motor pulley when the motor pulley shifts to the left with toeing down the pedal.(Fig. 11)

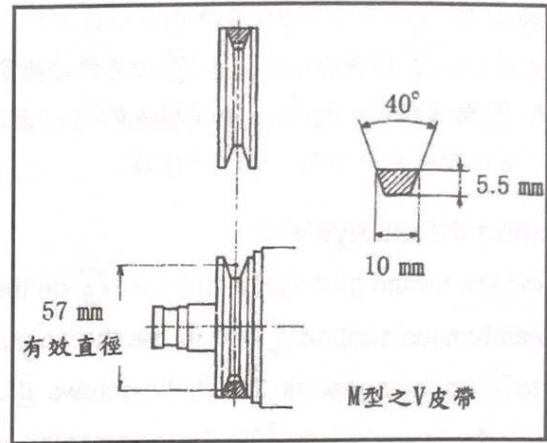


Fig.11

提醒：表格一為縫紉機轉數和馬達皮帶輪之外徑對照表，當使用第 3 個階段，2-皮帶輪的尺寸適合 400W 的離合器馬達(1/2HP)。

皮帶輪增大尺寸為每 5mm 一個單位。

Note: Table 1 shows the outside diameter of the motor pulley, rpm of the machine, and size of the belt when using the clutch motor of 3-phase, 2-pole, 400W(1/2HP).

The outside diameter on the table shows the nearest size to the calculated values based on the commercial pulleys at intervals of 5 mm.

皮帶輪 外徑	機器轉速		皮帶尺寸
	50Hz	60Hz	離合器馬達
45		2600	M21
50		2900	M21
55	2700	3200	M21
60	2900	3500	M21
65	3150	3800	M21
70	3400	4100	M21
75	3650		M22
80	3900		M22
85	7500		M22

表格一

注意：

只可使用適合之皮帶輪，如果使用速度超過最大上限機器會有損壞的可能性。

### CAUTION

Use only those motor pulleys applicable to the machine. If not, the sewing speed will be over maximum and it can cause the machine damage.

## 1 · Installation 安裝

### 1.4 其它部份

#### 1.4 Other parts

##### 機頭線架

將線架支柱③裝在線架固定座⑦，再將過線架④用螺絲⑤鎖在線架支柱③，調整過線桿⑥，使穿線平順，不致於線會糾結在一起。(Fig.12)

##### Setting thread eyelets:

Stand the thread guide plate supports③ on the thread tension support⑦ and fix the thread guide plate④ on the supports③ with the screws⑤.

Adjust the thread pipes⑥ to thread smoothly without entangling. (Fig. 12)

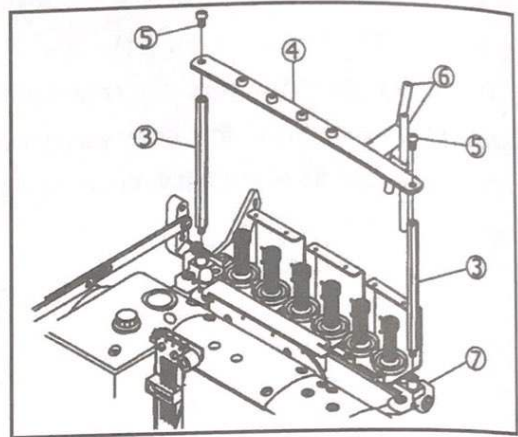


Fig.12

## 2 · Sewing speed and rotating direction of pulley 馬達轉速和皮帶輪轉動方向

機器轉速最高速為 4200R.P.M，平常使用 3800R.P.M。

在前 200 個小時（約一個月）使用 3000-3360R.P.M 左右的速度，這樣機器使用時間可以延長。

The sewing speed is 4200 rpm at the maximum and 3800rpm is usual.

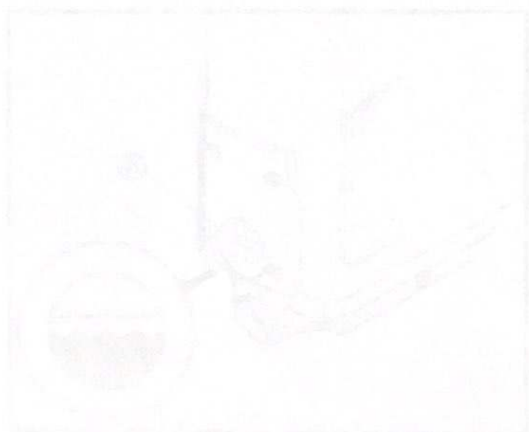
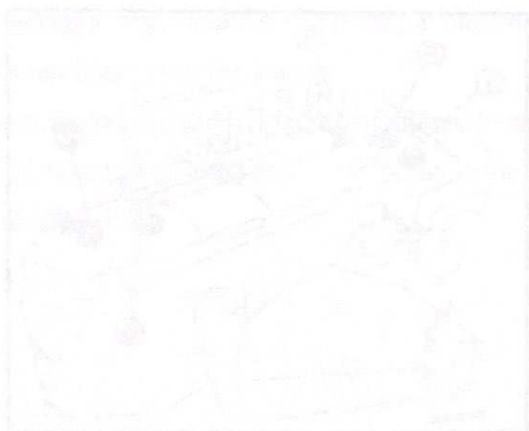
Run a new machine at a speed of 15-20% lower than maximum sewing speed during the first 200 hours (for about one month) so that the machine can offer a long service life in good condition.

注意：

如果運轉方向相反，油無法供應，會造成機器損壞。

### CAUTION

If rotating in reverse direction, oil can not be supplied properly. It can cause the machine damage.



## 3 · Lubrication 潤滑

### 3.1 潤滑油

#### 3.1 Lubricating oil

注意：

絕對不要在油內加入任何添加物（劑），否則將惡化油的品質，並損害機器。

#### CAUTION

Never add additives to the oil.

If added, it can cause the deterioration of the oil and the machine damage.

### 3.2 潤滑系統

#### 3.2 Lubricating

- (1) 旋開油塞螺絲 ① 和 ② 然後加油。(Fig.13)
- (2) 從油孔 ① 加油直到油量到 ③ 最上方的紅線，從油孔 ② 加油直到油量到 ④ 最上面的紅線。(Fig.14)
- (3) 使用機器前檢查油水平。如果沒到水平線要加油。
- (4) 當機器在使用中時，從油鏡 ⑤ 和 ⑥ 檢查油有無供應。

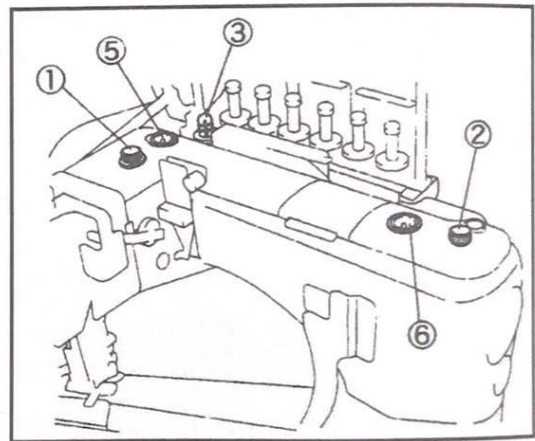


Fig.13

- (1) Remove the plug screws ① and ② indicated "OIL" and supply oil.
- (2) From the plug screw ①, supply oil until the oil level indicator top reaches the upper line in the oil sight gauge ③. From the plug screw ②, supply oil to the upper line in the oil sight gauge ④. (Fig.14)
- (3) Check the oil level between the lines in the oil sight gauge ③ and ④ before running a machine. If it is under the lines, supply oil.
- (4) Check the oil splashes from the nozzle inside the oil sight top windows ⑤ and ⑥ when starting to run a machine.

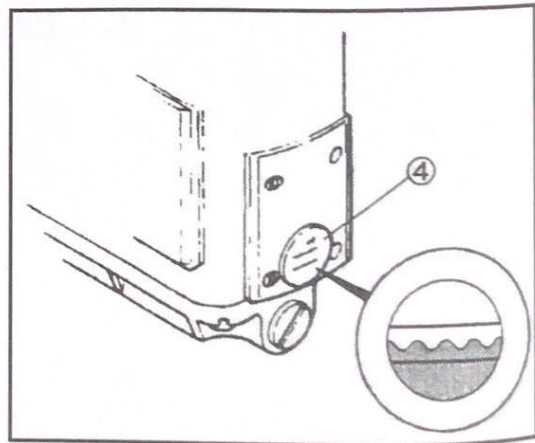


Fig.14

## 3 · Lubrication 潤滑

注意：

太多或太少的油會造成機器漏油和機器故障。維持油的水平在 2 條紅線之間。

### CAUTION

Too much oil or not enough oil can cause oil leakage and machine trouble. Be sure to keep the oil level between the lines.

### 3.3 啟動注油

#### 3.3 Priming oil

裝新機器或使用久未使用的機器，如果油沒有循環完整，需移除幫浦上的油塞螺絲①，注入油後裝回螺絲再使用機器。(Fig.15)

Prime oil if oil does not circulate completely when installing a new machine or running a machine which has not been used for a while.

Remove the plug screws① of the pump driven gear to prime oil. Run a machine after resetting them①. (Fig.15)

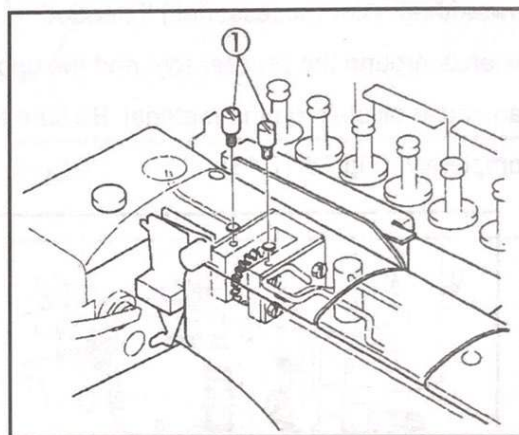


Fig.15

### 3 · Lubrication 潤滑

#### 3.4 補充油

#### 3.4 Replenishing oil

在箭頭處需滴一些油潤滑。如果油漏在壓腳和上刀周圍會導致沾汙布，要確實的把油擦乾淨。

(Fig.16,17,18)

Replenish a drop of oil from the points indicated arrows with an oiler (accessories) if needed.

If oil leaks around the presser foot and the upper knife, it can cause oil stain on the material. Be sure to wipe it completely. (Fig.16,17,18)

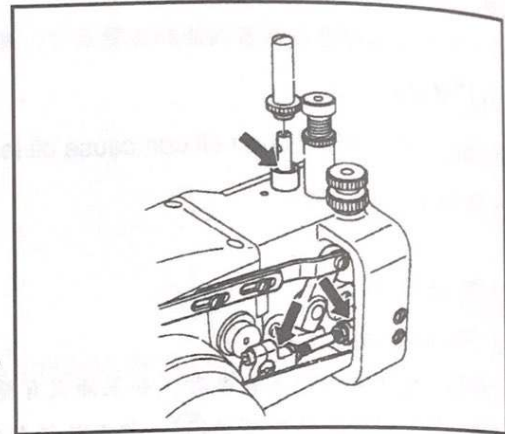


Fig.16

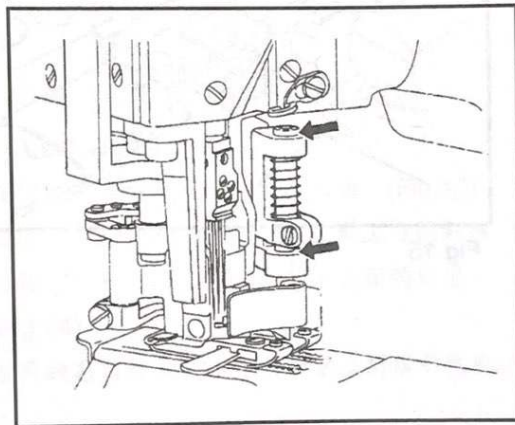


Fig.17

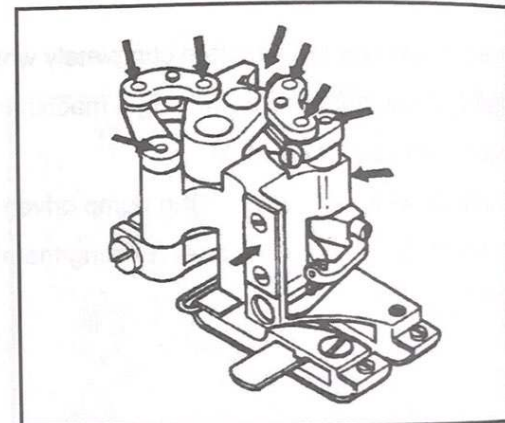


Fig.18

#### 3.5 更換油

#### 3.5 Changing oil

##### 3.5.1 換油時機

新機使用 200 小時（約使用一個月）後，要更換新油，之後每年換新油 1-2 次。

##### 3.5.1 Period of changing :

When using a new machine, change the lubricating oil after running for 200 hours (for about one month). After that, change the oil once or twice a year.

### 3 · Lubrication 潤滑

#### 3.5.2 換油程序

- (1) 分別在螺絲①和②下面放置接油容器。
- (2) 拆下螺絲①和②後油會自行流出。
- (3) 裝回螺絲①和②。
- (4) 注入新油。
- (5) 裝上皮帶蓋。

Procedrue for changing :

- (1) Set containers received the oil under the screws  
① and ② respectively.
- (2) After removing screws ① and ② ,the oil is drained.
- (3) Reset the screws ① and ② .
- (4) Fill the new oil.
- (5) Reset the belt cover.

注意：

勿使油弄髒皮帶以及機器轉輪。

#### NOTE

Be careful not to soil the V-belt and the machine pulley with the oil.

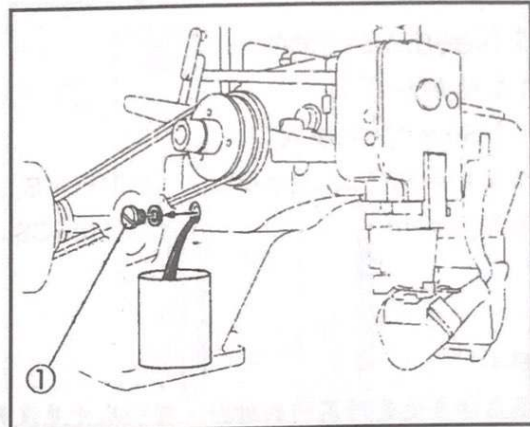


Fig.19

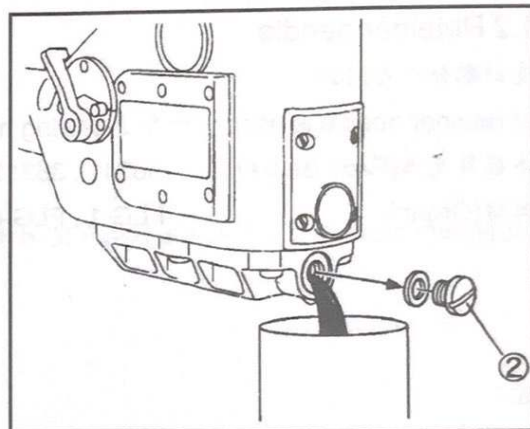


Fig.20

## 4 · Proper operation 使用說明

### 4.1 車針系列

#### 4.1 Needle system

##### 4.1.1 縫紉機用針

##### 4.1.1 Sewing needle :

格洛茲貝克牌(Groz-Beckert) UY118GKS  
風琴牌(Organ) FLX118GCS

Japanese standard 日本規格	8	9	10	11	12	14
Metric Standard 公制規格	60	65	70	75	80	90

表格二

提醒：

請選用適合的針給不同的材料。有些尺寸並沒有販售，請從目錄上確認尺寸。

##### 4.1.2 假針

##### 4.1.2 Retainer needle :

四支針配合一支假針。

One retainer needle is used with four sewing needles.

格洛茲貝克牌(Groz-Beckert) 36211, 36211A  
風琴牌(Organ) FLG-1, FLG-8

Japanese standard 日本規格	8	9	10	11	12
Metric Standard 公制規格	60	65	70	75	80

表格三

提醒：

請選用適合的假針去使用不同的材料。有些尺寸並沒有販售，請從目錄上確認尺寸。

Note:

Select the proper sewing needle in size depending on thickness and type of material.

## 4 · Proper operation 使用說明

### 4.2 針的安裝

#### 4.2 Installing needle

- (1) 旋轉轉輪將針抬到最高點。
  - (2) 放鬆螺絲①。(Fig.21)
  - (3) 平面擺在前方將新針放入針鑷內最頂端，然後鎖緊螺絲①。
- (1) Rotate the handwheel to raise the needles at the highest point.
  - (2) Loosen the screws ① and pull the needles down.
  - (3) Face the flat parts front, insert new needles into the needle clamps as far as they will go. Tighten them with the screws ① securely.

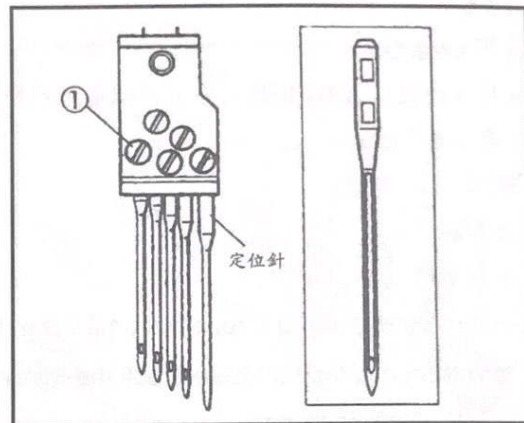


Fig.21

注意：

安裝針之前一定要先把馬達關掉，並確定馬達不會轉動。

### WARNING

Before installing the needles, always turn the motor switch OFF and check that the motor has already stopped.

## 4 · Proper operation 使用說明

### 4.3 線

#### 4.3 Threading

先用易穿的線從 ABCDEF 孔穿至針鑷前，然後結上要用的線拉到針前，把結剪掉。

線正確位置(Fig.28)。

A, B, C, D : 針線

E : 上飾線

F : 下勾針線

When threaded, pull the thread out until it is in front of the needles. Then cut off the knot before needle eye to rethread. When threaded, pull the thread out until the knot is out. Then cut off the knot.

A, B, C, D : Needle thread

E : Top cover thread

F : Lower looper thread

提醒：

當抬起壓腳時，線架組會平穩的放開，此時可輕鬆的將線拉過。

穿下鉤針線時不須把針板拆掉。

Note:

When raising presser foot, thread tension will be released to take up smoothly.

Improper threading can cause thread breakage, skip stitch, and uneven stitch.

注意：

穿線前一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before threading, always turn the motor switch OFF and check that the motor has already stopped.

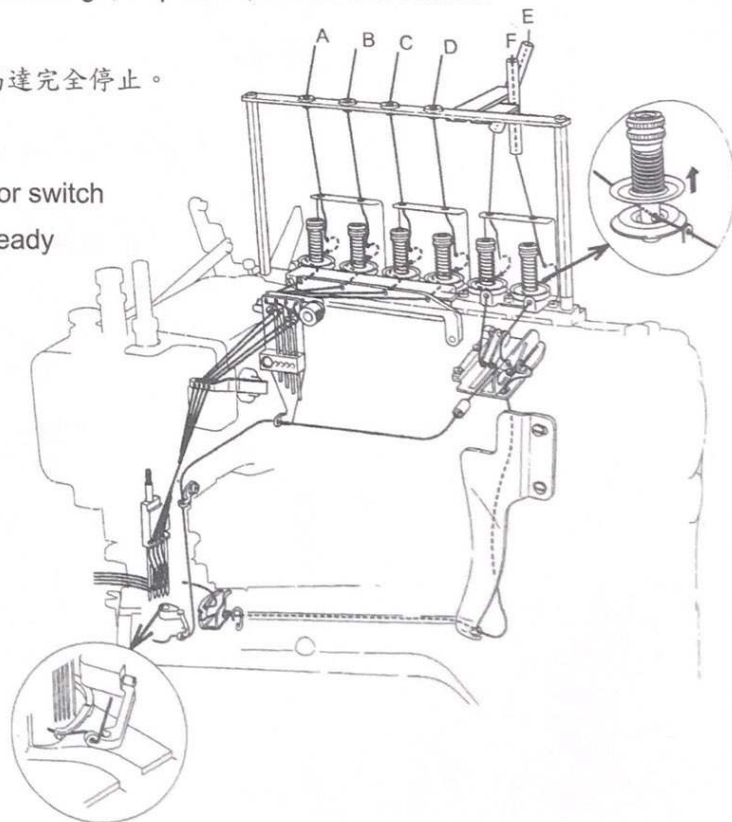


Fig.22

## 4 · Proper operation 使用說明

### 4.4 線鬆緊

#### 4.4 Thread tension

調整線架上的鬆緊度是靠螺母①-⑥取決於布線寬度和其它狀況。(Fig.29)

①-④：針的線（①：右針，④：左針）

⑤：上網線

⑥：下網線

- 如果調緊線時，以順時間方向調下①-⑥螺絲。
- 如果調鬆線時，以逆時間方向調上①-⑥螺絲。

Adjust the thread tension with the tension adjusting

nuts ①-⑥ depending on fabric type, thread type, seam width, stitch length, and other sewing conditions.

①-④：needle threads (①：right needle, ④：left needle)

⑤：top cover thread

⑥：looper thread

- To tighten the thread tension, turn the nuts clockwise.
- To loosen the thread tension, turn nuts counterclockwise.

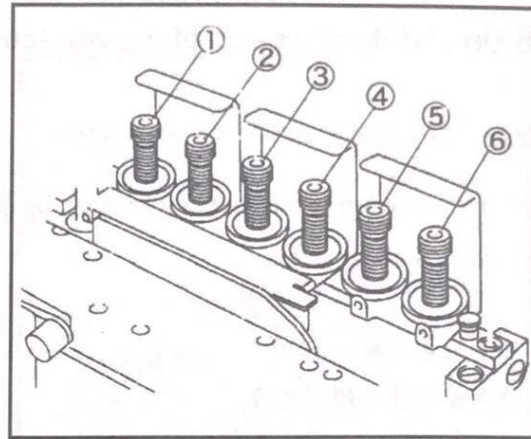


Fig.23

### 4.5 調整壓腳壓力

#### 4.5 Pressure of presser foot

放鬆螺母⑦然後用壓腳柱螺帽⑧來調壓力。(Fig.24)

- 增加壓腳壓力時，順時間調整螺帽⑧。
- 減少壓腳壓力時，逆時間調整螺帽⑧。

Loosen the lock nut ⑦ and turn the adjusting screw ⑧ to adjust the pressure.

- To increase the pressure, turn the adjusting screw ⑧ clockwise.
- To decrease the pressure, turn the adjusting screw ⑧ counterclockwise.

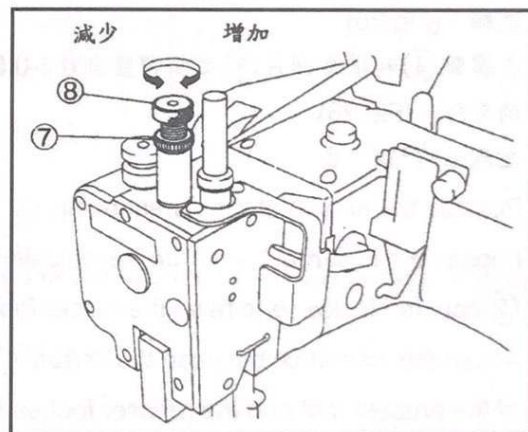


Fig.24

提醒：

儘可能保持壓腳壓力在最鬆的狀態，使布在針板上更加平穩。

Note:

Keep the pressure as low as possible for stable stitches.

## 4 · Proper operation 使用說明

### 4.6 調整壓腳高低

#### 4.6 Up-and-down position of presser foot

輕微的調高或降低壓腳都會有明顯的成效。

Following effective points will be obtained by slightly raising the presser foot.

- 預防勾齒抓痕。
- 改善壓腳彈片的耐久度。
- 增減壓腳彈片的壓力度。
- 減少噪音和振動。
- 可細微的調整針織的寬度。
- Prevention of fabric jam
- Prevention of feed scratch mark
- Improvement of durability of presser foot spring plate
- Reduction of vibration and noise
- Available for fine adjustment of lapped fabric width

(1) 針在最底點的位置。

(2) 鬆開螺絲①，然後逆時間旋轉調整螺母②抬起壓腳。(Fig.25)

(3) 在壓腳④和壓腳彈片③之間調整出 0.3-0.5mm 的間隙。(Fig.26)

(4) 把螺母①鎖回去。

(1) Position the needle at the lowest point.

(2) Loosen the lock nut① and run the adjusting nut② counterclockwise to raise the resser foot

(3) Adjust the clearance between the botton④ of the presser foot and the presser foot spring plate③ to 0.3-0.5 mm

(4) Tighten the lock nut① securely.

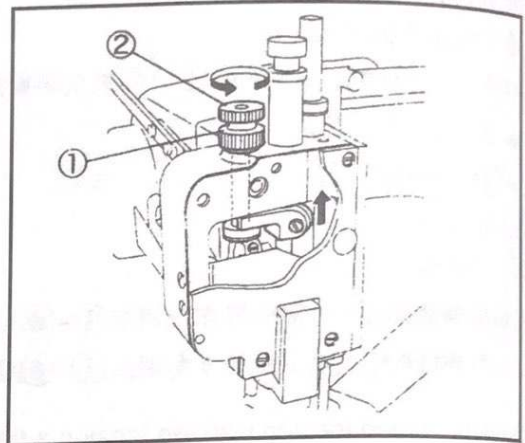


Fig.25

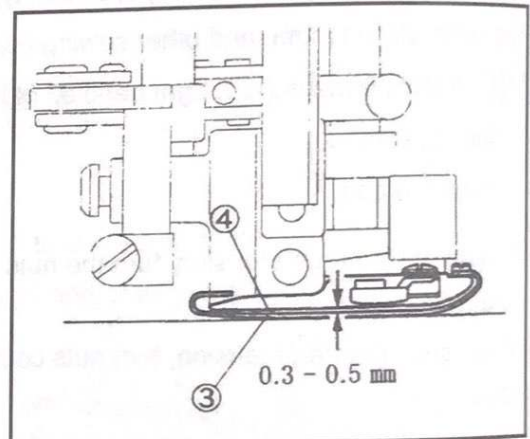


Fig.26

### 4.7 調整差動

#### 4.7 Adjusting differential feed dog

- (1) 移動調整桿向右或左去調整差動桿⑤在刻度“4”和刻度“5”之間是相同的動作和差動。即主牙和差動牙的運作相同。(Fig.27)
- (2) 螺絲⑥是用來固定調整桿⑤和保持差動的多或少。

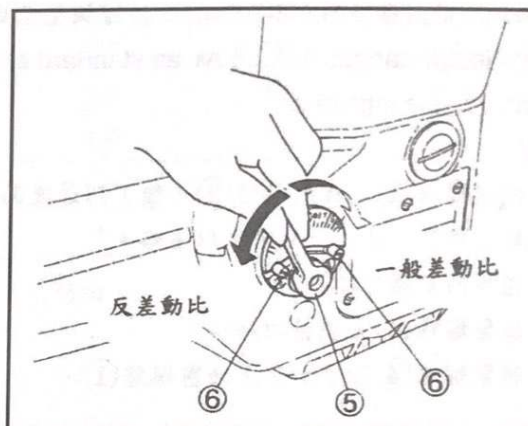


Fig.27

- (1) Move the differential feed operating lever⑤ right or left to adjust differential feed dog.

The lever⑤ between the graduations“4” and “5” makes the equal movement of the main and the differential feed dogs.

- (2) The screw⑥ is for fixing the lever⑤ and keeping the differential movement adjusted.

- 一般差動比：調整桿⑤調到刻度“9”的位置。
- 反差動比：調整桿⑤調到刻度“1”的位置。
- To make normal differential, move the lever⑤ to “9”.
- To make reverse differential, move the lever⑤ to “1”.

#### 注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

## 4 · Proper operation 使用說明

### 4.8 調整針距

#### 4.8 Adjusting stitch length

粗細針的範圍標準為 1.6-2.5mm，但可調整至更大。

Stitch length ranges 1.6-2.5 mm as standard and can be adjustable infinitely.

調整：

- (1) 放鬆螺絲①，移動針檔②（後）到最後面。然後輕微鎖緊。減少針寬時可以省略。
- (2) 退掉油塞螺絲③。
- (3) 放鬆螺絲④去調整粗細針。
- (4) 鎖緊螺絲④和重新裝上油塞螺絲①。

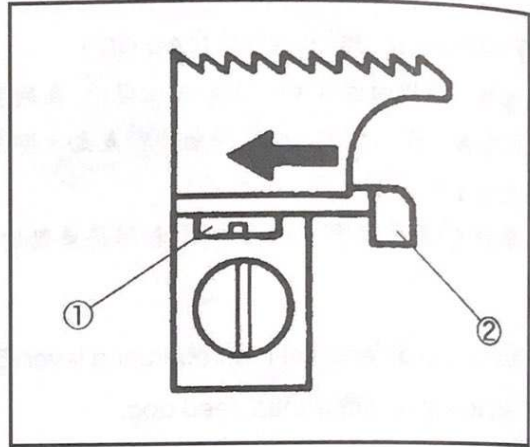


Fig.28

Adjusting :

- (1) Loosen the screw ① and move the needle guard (rear) ② most rearward. Then tighten it slightly.  
\* This is skipped when decreased the stitch length.
- (2) Remove the plug screw ③.
- (3) Loosen the screw ④ to adjust the stitch length.
- (4) Tighten the screw ④ securely and reset the plug screw ①.

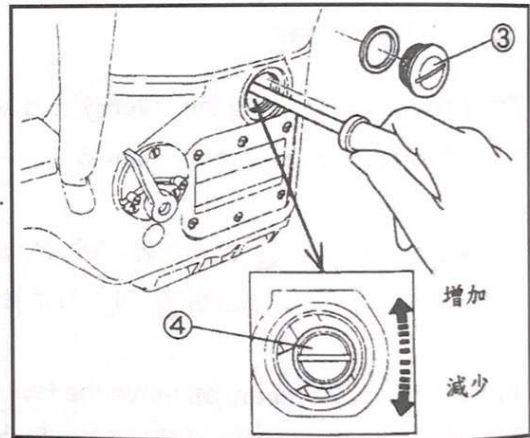


Fig.29

- 增加針距時，將螺絲④向上調整。
- 減少針距時，將螺絲④向下調整。
- To increase stitch length, move the screw ④ upward.
- To decrease stitch length, move the screw ④ downward.

注意：

油塞螺絲③要鎖緊防止漏油。

### CAUTION

Tighten the plug screw ③ securely to prevent oil leakage.

## 4 · Proper operation 使用說明

表格四為針距大小使每英寸或每 30mm 的距離有幾針。

Table 4 shows the number of stitches per inch (25.4 mm) and 30 mm converted stitch length.

注意：

調整針距必須注意後針檔的位置。

### CAUTION

Be sure to adjust needle guard(rear) after changing stitch length to prevent breakage of the parts.

提醒：

每次在更換不同的狗齒之後，都要調整粗細針。

### Advice adjustment

Always adjust stitch length after changing differential feed dog.

注意：

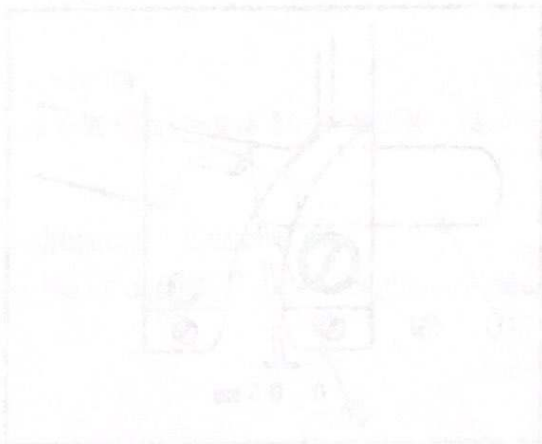
在調整機器前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

針距(mm)	1 英寸針數	30mm 針數
2.5	10	12
2.1	12	14
1.8	14	16.5
1.6	16	19
1.2	21	25
1	25	30

表格四



## 4 · Proper operation 使用說明

### 4.9 調整切布刀

#### 4.9 Adjusting lapped width of upper fabric

- (1) 底刀①的標準位置要留距離在底刀①尖端和鎖底刀座②之間 0-0.5mm。(Fig.30)
- (2) 當上刀③在最左邊時，上刀③和底刀①要有 0.5mm 的重疊。
- (3) 放鬆螺絲④和⑤去調整上刀和底刀。  
(Fig.31, 32)

- (1) For the standard position of the lower knife ①, make the distance between the lower knife ① tip and the lower knife clamp ② to 0-0.5 mm. (Fig. 30)
- (2) For the standard position of the upper knife ③, engage between the upper knife ③ and lower knife ① to 0.5 mm when the upper knife ③ is at the extreme left.
- (3) Loosen the screws ④ and ⑤ to adjust the lower and upper knives respectively. ( Fig.31 , 32)

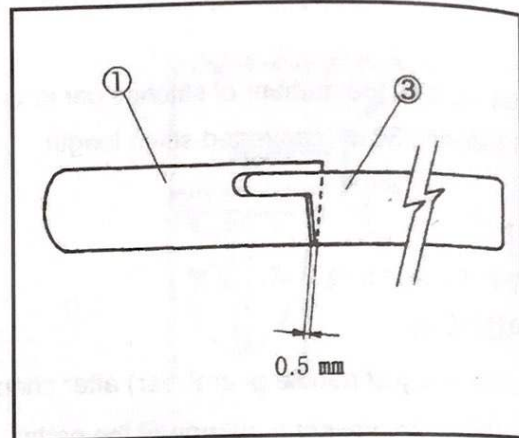


Fig.30

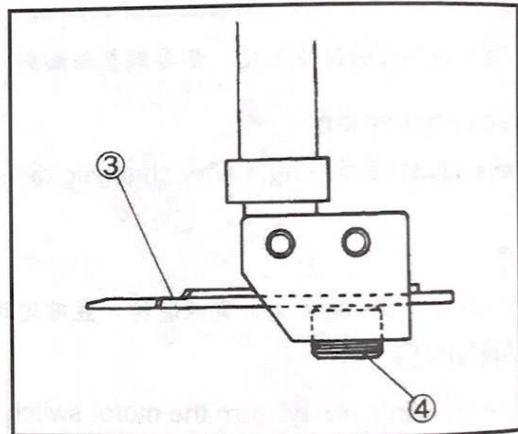


Fig.31

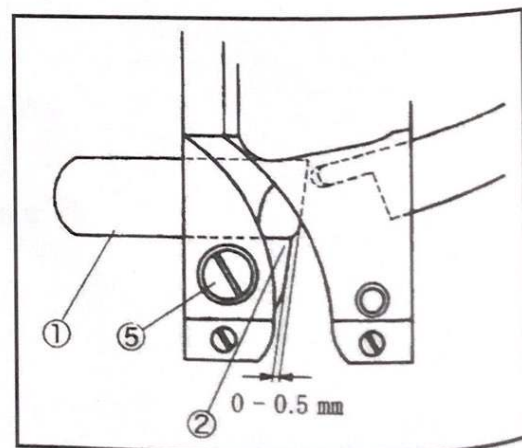


Fig.32

## 4 · Proper operation 使用說明

### 4.10 過線油組

#### 4.10 SP device

當機器在高速運轉或使用特殊線或特殊纖維時，矽油壺組是標準配備，以防止斷線跳針。

當使用機器時，將毛氈①放入矽油壺②內。

(Fig.33)

SP device (needle thread oiling) is equipped as standard to prevent thread breakage and skip stitch when running a machine at high speed or using synthetic thread and/or synthetic fabric.

Fix the felts① included accessories into the SP tank② when using.

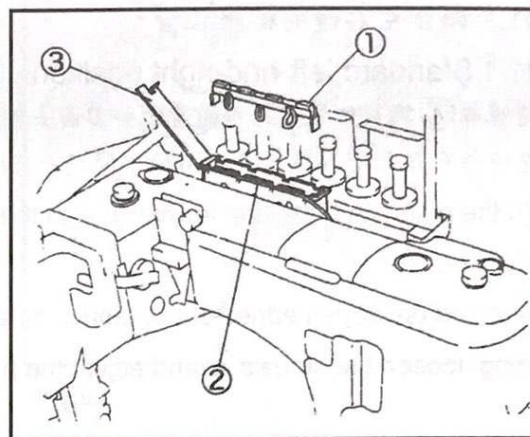


Fig.33

注意：

1. 當不使用矽油壺組時，要取出毛氈①。不然可能在車縫時發生不正常情況。
2. 當矽油沾到其他零件時，可能引起機器損傷，故要將油擦乾淨。

### CAUTION

1. When not using SP device, remove the felts①. If not, it may occur irregular condition during sewing.
2. If the silicone oil stucked to the parts other than SP device, it can cause the machine damage. Be sure to wipe it away.

使用乙烷樹脂

打開油壺蓋③，檢查油量。如果不夠，添加油於油壺②。

Use dimethy 1 silicone oil

Open the oil cup lid③ and check the oil amount. If not enough, supply oil into the SP tank②.

## 4 · Proper operation 使用說明

### 4.11 導布器

#### 4.11 Use of lap former

##### 4.11.1 調整左右邊的標準位置

##### 4.11.1 Standard left-and-right position

鬆開螺絲④調整位置，視刀的邊緣和刀齒去輕微的調整使導布器上的A點跟4支針的中間成一直線。

Align the point A of the lap former① with the center of four needles.

Depending on lapped edges of the fabrics or fabric feeding, loosen the screws④ and adjust the position.

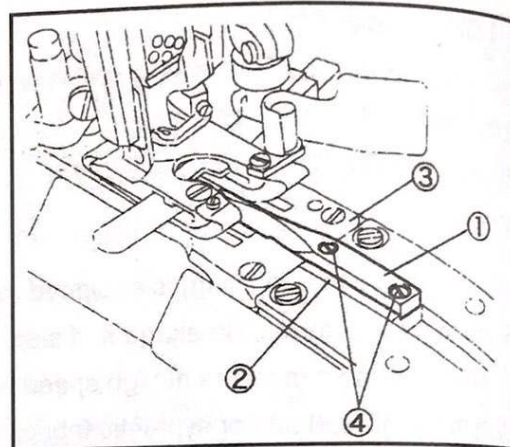


Fig.34

##### 4.11.2 調整前後的標準位置

##### 4.11.2 Standard front-and-rear position

設定滑塊②的停止位置在針板③前。視刀厚去輕微的調整位置

Set the position where the lap former slide block② touches and stops in the front of the stitch plate③.

Depending on fabric thickness, adjust the position slightly toward the operator.

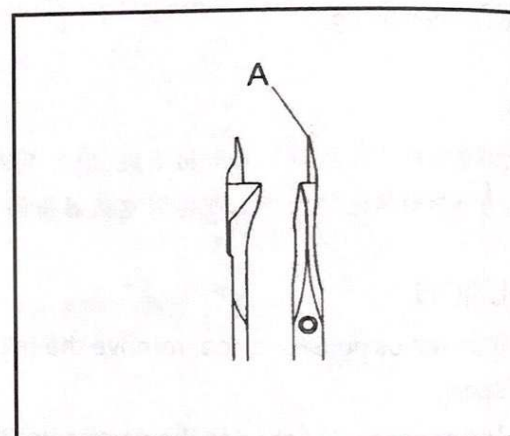


Fig.35

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

## 5 · Adjustments 調節裝置

### 5.1 針線鬆緊

#### 5.1 Needle thread tension

##### 5.1.1 針線線圈調整片

##### 5.1.1 Needle thread strike-off pin

4 支針各有自己的過線片可調整線圈的鬆緊。

- (1) 抬線架①轉到最低位置。(Fig.36)
- (2) 第一片②要跟右邊第四針的線平齊。(Fig.37)
- (3) 設定第四片③離第一片②的高度為 3.2mm。
- (4) 設定第三片④離第一片②的高度為 1.6mm。
- (5) 設定第二片⑤離第一片②的高度為 0.8mm。
- (6) 對準後鎖緊螺絲⑥。

註：檢查最上面那片的水平。

- 要把線圈變大就把過線片往上移“L”。
- 要把線圈變小就把過線片往下移“S”。

Each of four needles has the needle thread strike-off pin which adjusts the thread tension respectively.

- (1) Position the needle thread take-up ① at the lowest point. (Fig.36)
- (2) Set the top of pin ② even with the needle thread as the fourth right needle. (Fig.37)
- (3) Set the pin ③ 3.2 mm higher than the pin ②.
- (4) Set the pin ④ 1.6 mm higher than the pin ②.
- (5) Set the pin ⑤ even with or 0.8 mm higher than the pin ②.
- (6) Tighten the screws ⑥ securely.

Note: Check the tops of the pins are horizontally.

- To make the loop larger, move the pins in the direction“L”.
- To make the loop smaller, move the pins in the direction“S”.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

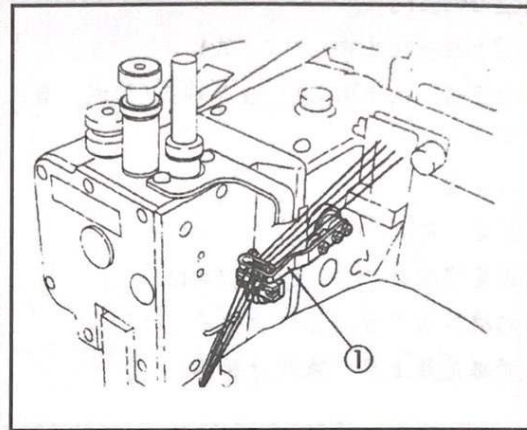


Fig.36

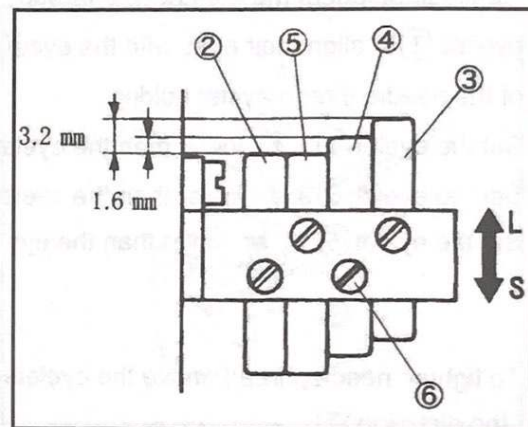


Fig.37

## 5 · Adjustments 調節裝置

### 5.1.2 針線孔

#### 5.1.2 Needle thread eyelet

(1) 右邊最高的過線孔①要跟線孔③成一直線。

(Fig.38)

(2) 設定過線孔④比①低 5mm。

(3) 設定過線孔⑤比①低 9mm。

(4) 設定過線孔⑥比①低 15mm。

- 過線片往下移，線就會變緊。
- 過線片往上移，線就會變鬆。

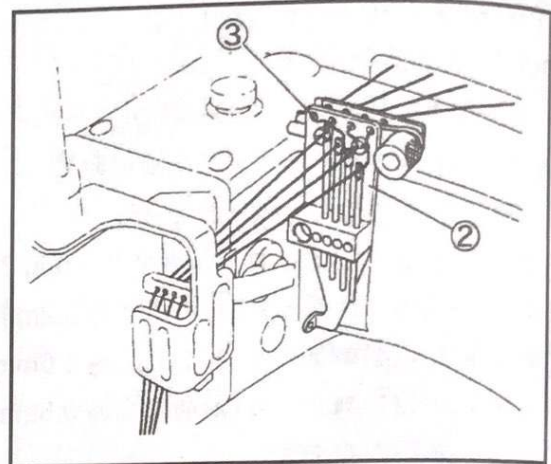


Fig.38

(1) Make the height of the right needle thread eyelets① to align their eyes with the eyes③ of the needle thread eyelet holder.

(2) Set the eyelet④ 5 mm lower than the eyelet①.

(3) Set the eyelet⑤ 9 mm lower than the eyelet①.

(4) Set the eyelet⑥ 15 mm lower than the eyelet①.

- To tighten needle thread, move the eyelets in the direction "T".
- To loosen needle thread, move the eyelets in the direction "L".

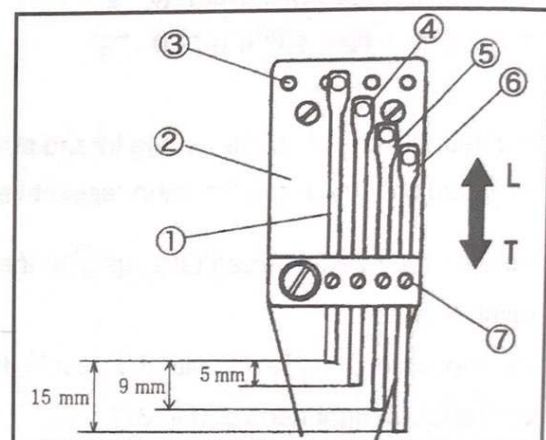


Fig.39

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

## 5 · Adjustments 調節裝置

### 5.2 下底線

#### 5.2 Loper thread tension

底線導板①和支撐②要成一直線。

Align the right of the looper thread take-up guide ① with that of the eyelet supporting plate ②.

#### 5.2.1 底線收緊時機

##### 5.2.1 Timing of looper thread take-up

正確的凸輪④位置是當針桿③最高的位置下移 2.8mm 時，線通過 A 點。放鬆⑤去調整。

Position the looper thread take-up ④ as standard so that looper thread passes at the point A when the needle bar ③ is lowered 2.8 mm from the highest point. Loosen the screws ⑤ to adjust it.

- 增加底線的鬆度，把線凸調快。
- 減少底線的鬆度，把線凸調慢。
- To increase the looper thread take-up amount, hasten the timing.
- To decrease the looper thread take-up amount, delay the timing.

註：當調整凸輪④時，面向凸輪④凸出的地方和上線抬起時不用調整前後位置。

Note : When adjusting take-up ④, face both bosses of the take-up ④ and the top cover thread take-up without shifting the front-and-rear position.

注意：

如果時間差調超過會造成跳針。

### CAUTION

If the timing of the looper thread take-up exceeds the adjustable range, it may occur skip stitch.

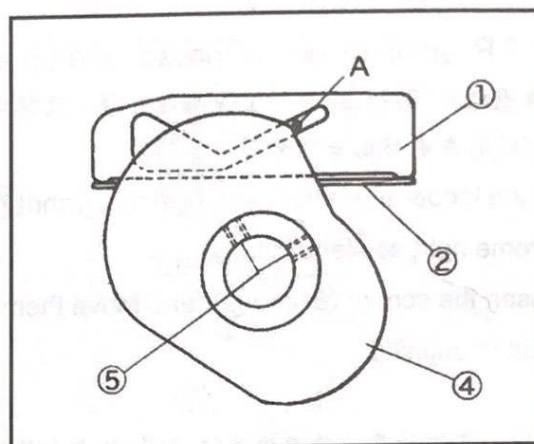


Fig.40

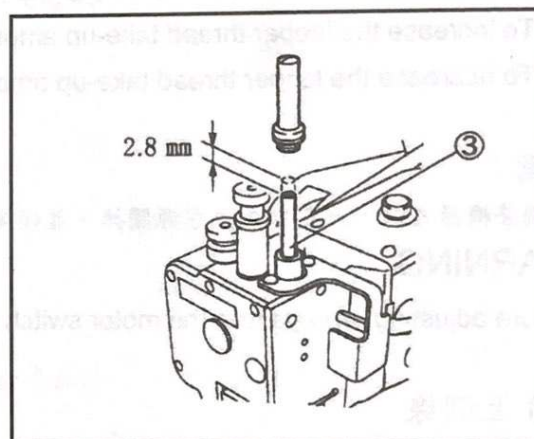


Fig.41

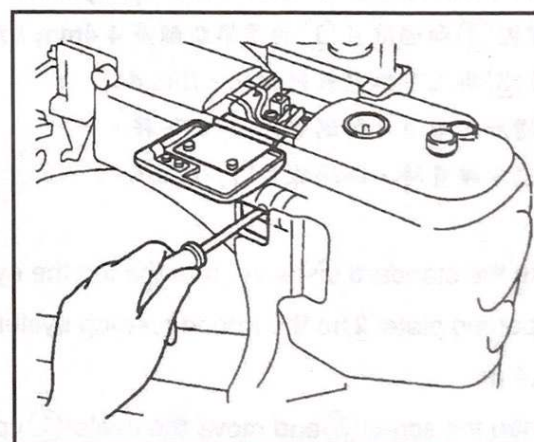


Fig.42

## 5 · Adjustments 調節裝置

### 5.2.2 下勾針凸輪的位置

#### 5.2.2 Position of looper thread take-up eyelet

底線過線片⑥和⑦標準位置為最右邊。放鬆螺絲⑧和⑨左右移動去調整。(Fig.43)

Set the looper thread take-up eyelets ⑥ and ⑦ at the extreme right as standard.

Loosen the screws ⑧ and ⑨, and move them right or left to adjust it.

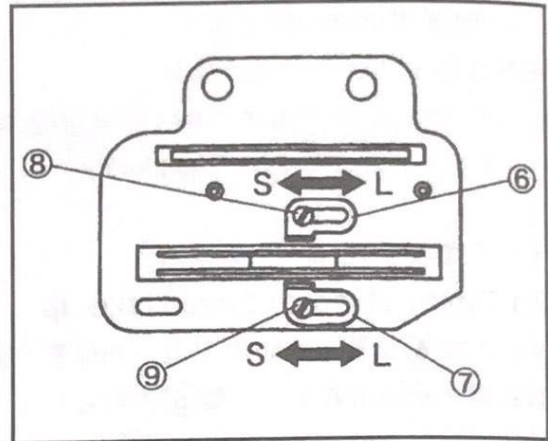


Fig.43

- 增加底線的量，將過線片往“L”的方向移動。
- 減少底線的量，將過線片往“S”的方向移動。
- To increase the looper thread take-up amount, move them in the direction “L”.
- To decrease the looper thread take-up amount, move them in the direction “S”.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

### 5.3 上網線

#### 5.3 Top cover thread tension

##### 5.3.1 線孔位置

##### 5.3.1 Position of thread take-up eyelet

支撐板②和過線片①的標準距離是4.4mm。放鬆螺絲③再上下調整移動線孔。(Fig.44)

- 增加線量時，將過線片①往下移。
- 減少線量時，將過線片①往上移。

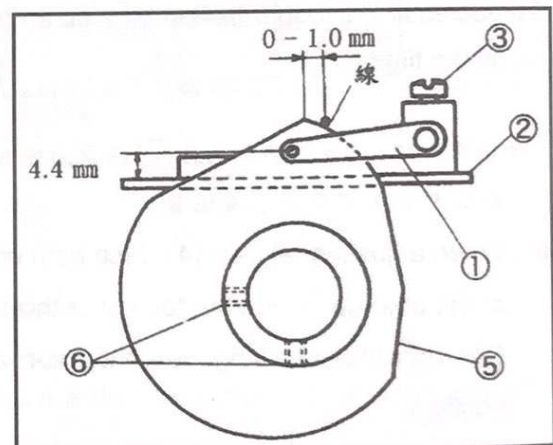


Fig.44

Make the standard distance from the top the eyelet supporting plate ② to the thread take-up eyelet ① eye to 4.4 mm.

Loosen the screw ③ and move the eyelet ① up or down to adjust it.

- To increase the top cover thread take-up amount, move the eyelet ① downward.
- To decrease the top cover thread take-up amount, move the eyelet ① upward.

### 5.3.2 調整上網線的時機

#### 5.3.2 Timing of top cover thread take-up

當大的上勾針④勾到小勾針上的線時(Fig.45)，網線  
和凸輪的尖端距離為 0-1.0mm 之間，調整凸輪⑤時  
鬆開螺絲⑥。(Fig.44)

The moment the top cover thread is hooked with  
the top cover thread hook④ (Fig. 45), the thread  
is held at the point 0-1.0 mm apart from the top  
of the take-up⑤. Loosen the screws⑥ to adjust it.  
(Fig.44)

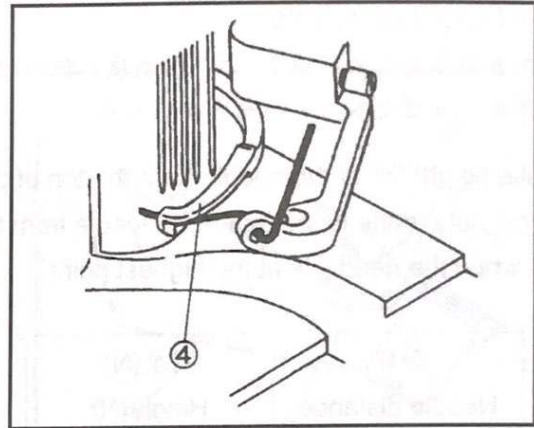


Fig.45

註：調整好凸輪⑤時，勾線時間和凸輪⑤時間正確  
後，不必再前後調整。

Note : When adjusting take-up⑤, face both bosses  
of the take-up⑤ and the looper thread take-up  
without shifting the front-and-rear position.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

## 5 · Adjustments 調節裝置

### 5.4 針位高度

#### 5.4 Height of needle

第四支針跟針板的距離為“N”的高度，但針距大小不同，高度就不同，如表格五所示。

Make height “N” of the needle from the top of the stitch plate to the tip of the fourth needle from the left when the needle is at the highest point.

針距 Needle distance	高度(N) Height(N)
R : 5.2mm	13.5mm
S : 6.0mm	12.7mm

表格五

調整高度：

- (1) 移開油塞 ①。
- (2) 鬆開螺絲 ②。
- (3) 上下移動針柱 ③ 去調整，針與針孔須保持平行。  
(Fig.48)
- (4) 鎖緊螺絲 ②。
- (5) 裝回油塞 ①。

Adjusting height :

- (1) Remove the seal plug ①.(Fig.47)
- (2) Loosen the screw ②.
- (3) Move the needle bar ③ up or down to adjust the height. Check the alignment in Fig. 48.
- (4) Tighten the screw ② ssecruely.
- (5) Reset the seal plug ①.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

#### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

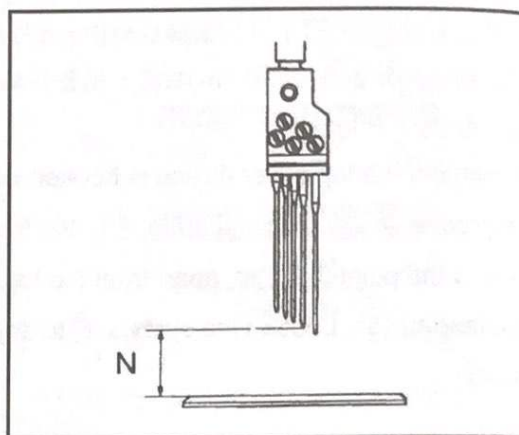


Fig.46

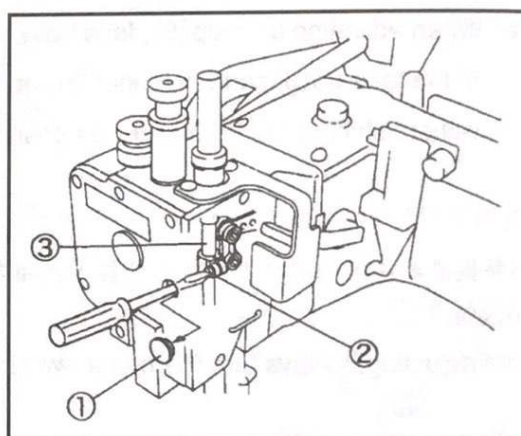


Fig.47

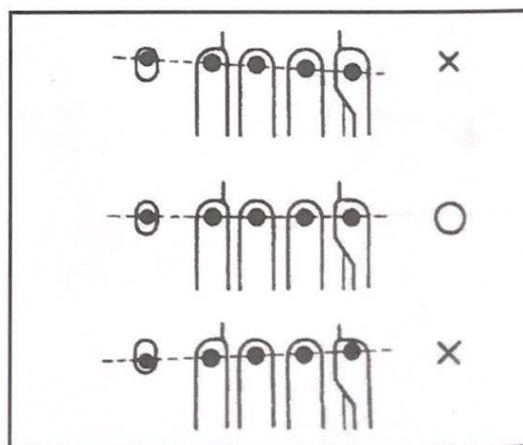


Fig.48

## 5 · Adjustments 調節裝置

### 5.5 上勾針

#### 5.5 Top cover thread carrier and hook

上網線的時間點：

調整上勾針的位置形成線圈，使第一針和第二針插入線圈內，放鬆螺絲⑤調整上勾針①。(Fig.49)

Top cover thread carrier :

Position the top cover thread carrier ① so that top cover thread loop formed with the hook behind the first and the second needles from the left when the carrier ① comes most nearly to the needle.

Loosen the screw ⑤ to adjust it.

上勾針：

當大上勾針②和小上勾針①最接近時的間隙為 0.4-0.7mm。(Fig.50)

當大上勾針②停在最右邊時，和假針③要有 0.5mm 的間隙。(Fig.52)

放鬆螺絲⑥去調整。(Fig.51)

Top cover thread hook :

When the top cover thread hook ② comes most nearly to the top cover thread carrier ③, make the clearance between them to 0.4-0.7 mm during one rotation. (Fig.50)

When the hook ② moves at the extreme right, make the clearance between the hook ② and the retainer ③ to 0.5 mm. (Fig.52)

Loosen the screw ⑥ to adjust them. (Fig.51)

註：要調整時不要抬壓腳的上下。

Note : Be sure adjust them without play up and down.

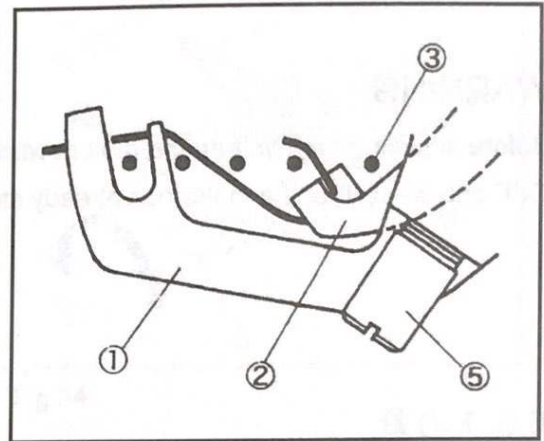


Fig.49

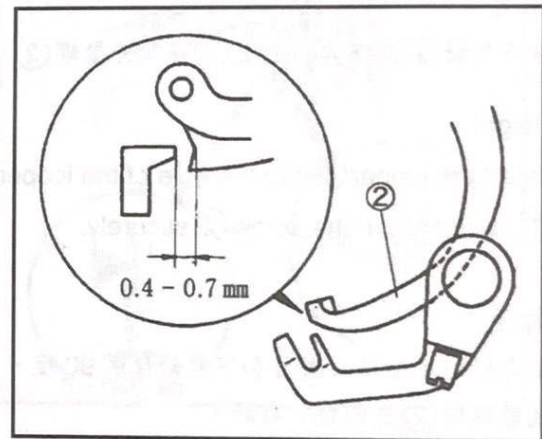


Fig.50

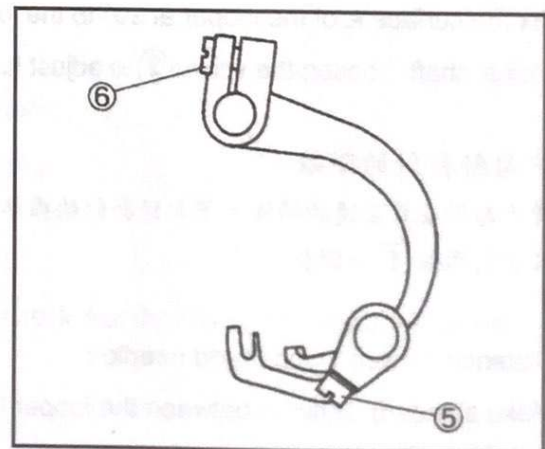


Fig.51

## 5 · Adjustments 調節裝置

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

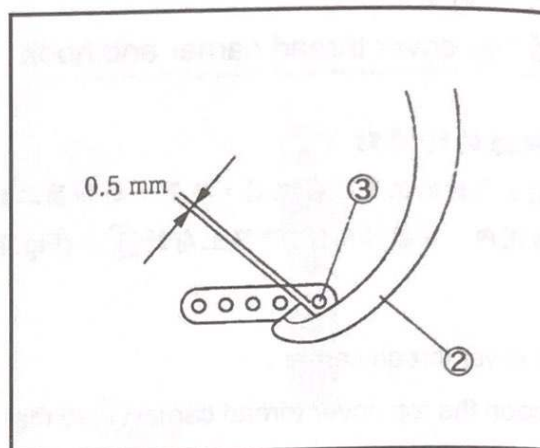


Fig.52

### 5.6 下勾針

#### 5.6 Looper

高度：

裝下勾針①到下勾針座上⑥然後鎖緊螺②。

Height :

Insert the looper ① into the hole of the looper holder ⑥ and tighten the screw ② securely.

角度：

下勾針固定座平面 A 要和下勾針柱成 90 度。  
放鬆螺絲②去調整下勾針。

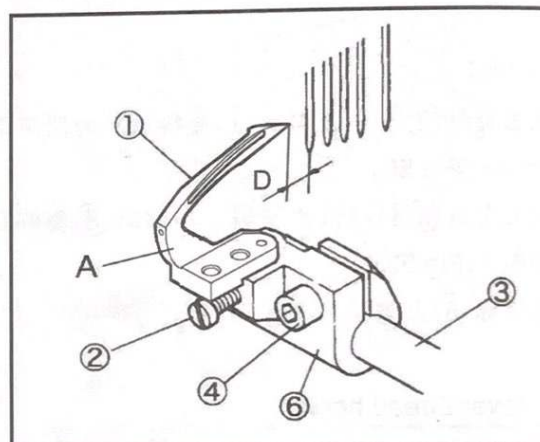


Fig.53

Angle :

Fix the surface A of the looper at 90° to the looper rocker shaft. Loosen the screw ② to adjust it.

下勾針和針的距離：

當下勾針在最左邊的時候，下勾針和針的標準距離為 4.2-4.8mm。  
可放鬆螺絲④去調整。

Distance between looper and needle :

Make standard distance between the looper tip and the center of the left needle to 4.2-4.8 mm when the looper ① is at the extreme left.

Loosen the screw ④ to adjust it.

## 5 · Adjustments 調節裝置

下勾針的前後位置：

當下勾針①移動從左到右，會在針的後面。調整其位置使下勾針更接近針，其間隙 0-0.05mm，但不能碰到針，當下勾針的尖端在左針的中間時，放鬆螺絲④轉動螺絲⑤調整前後位置。調整之後檢查間隙和鎖緊螺絲④。(Fig.54, 55)

- 順時間旋轉螺絲⑤會往前。
- 逆時間旋轉螺絲⑤會後後。

Front-and-rear position of looper and needle:

When the looper① moves from the left to the right, it passes behind the needle. Adjust the position so that the looper comes closely to the needle with the clearance of 0-0.05 mm but without touching them when the looper tip comes at the center of the left needle. Loosen the screw④ and turn the adjusting screw⑤ to adjust it. After adjusting, check the distance and tighten the screw④ securely. (Fig.54,55)

- To move forward, turn the screw⑤ clockwise.
- To move backward, turn the screw⑤ counterclockwise.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

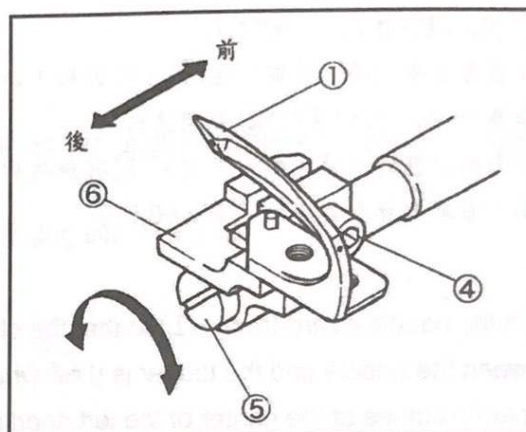


Fig.54

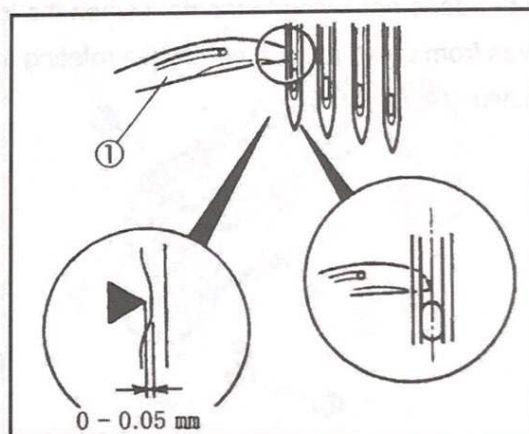


Fig.55

## 5 · Adjustments 調節裝置

### 5.7 前針檔

#### 5.7 Needle guard (front)

當針在左針中間時，推前針檔①，使針和下勾針的間隙為0mm。放鬆螺絲②去調整它。

當下勾針左移到右時，檢查下勾針③有無碰到針的後面，看針有無左右移動。(Fig.56,57)

Push the needle guard(front) ① so that the clearance between the needle and the looper is 0 mm when the looper tip comes at the center of the left needle.

Loosen the screw ② to adjust it.

Check the looper tip touches the back of the needle and the does not swing to the right when the looper ③ moves from the left to the right while rotating the handwheel. (Fig.56,57)

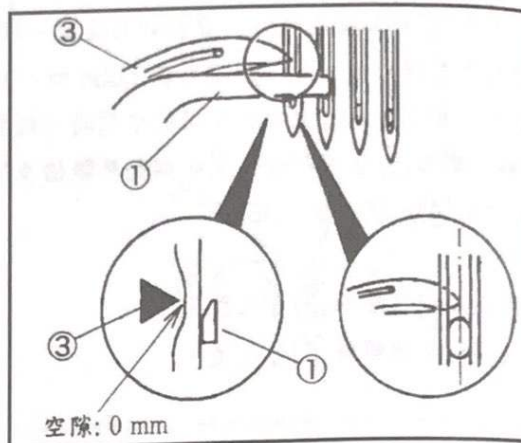


Fig.56

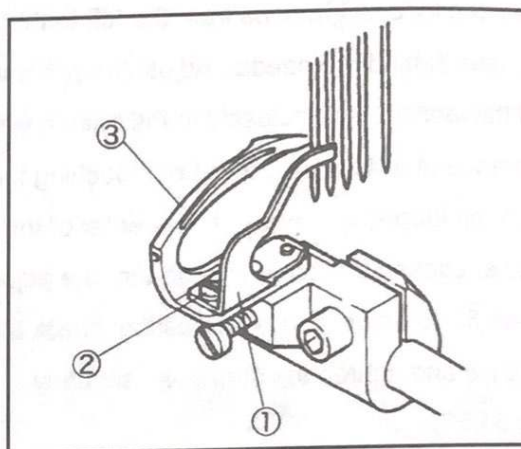


Fig.57

### 5.8 後針檔

#### 5.8 Needle guard(rear)

當後針檔④和針最靠近的時候，要有0.05-0.1mm的間隙。由螺絲⑤去調整。(Fig.58)

當下勾針從左移到右時，後針檔不能碰到針。

Make the standard clearance between the needle guard (rear) ④ and the left needle to 0.05-0.1 mm when they meet most closely. Open the looper cover and loosen the screw ⑤ to adjust it. (Fig.58)

Check the needle does not swing to the right while rotating the handwheel.

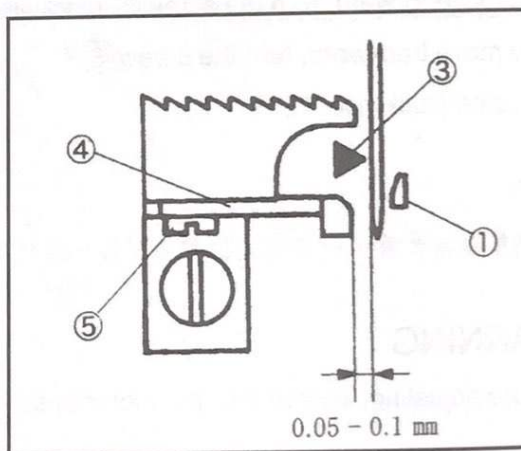


Fig.58

## 5 · Adjustments 調節裝置

注意：

當有調整針距時，注意後針檔要重新整調。

### CAUTION

After changing stitch length, the clearance changes between the needle guard(rear) set on the main feed dog and the needle.

Readjust the position of the needle guard(rear) after changing stitch length.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

### 5.9 狗齒高度

#### 5.9 Height of feed dog

安裝：

固定差動的狗齒和主要狗齒③用螺絲②和④固定後，針檔⑤在主要勾齒上調整時，鬆開螺絲⑥。

(Fig.59)

Fixing :

Fix the differential feed dog① and main feed dog③ with the screw② and④ respectively.

Fix the needle guard(rear) ⑤ on the main feed dog and tighten it at the most rear position with the screw⑥ slightly. (Fig.59)

高度：

當狗齒在最高點時，主狗齒③和針板的高度為 1.2-1.5mm，前後狗齒必須保持一樣的高度。(Fig.60)

Height :

Adjust the height from the top of the stitch plate to the part A of the main feed dog③ to 1.2-1.5 mm when the feed dog is at the highest point.

Align the differential feed dog even with the main feed dog. (Fig.60)

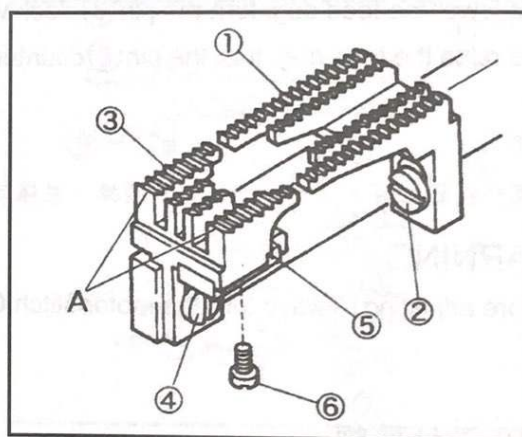


Fig.59

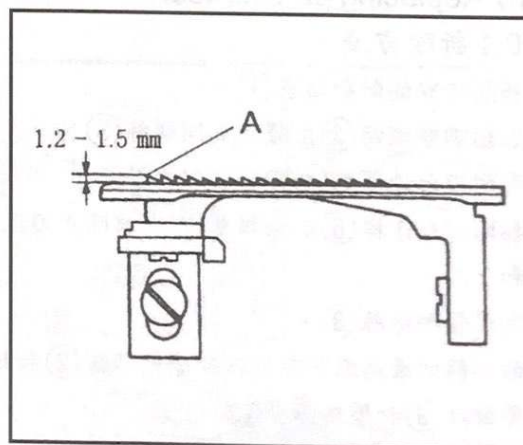


Fig.60

## 5 · Adjustments 調節裝置

高度微調：

狗齒的高度後調要旋轉偏心銷⑧來控制。(Fig.65)  
放鬆螺絲⑦然後調整偏心銷⑧的高低。

- 順時針旋轉偏心銷⑧降低狗齒。
- 逆時針旋轉偏心銷⑧調高狗齒。

Fine adjustment of height :

Make fine adjustment of height of the main and differential feed dogs with the feed bar eccentric pin⑧near the center of the cylinder.

Loosen the screw⑦ and move the pin⑧ to adjust it.

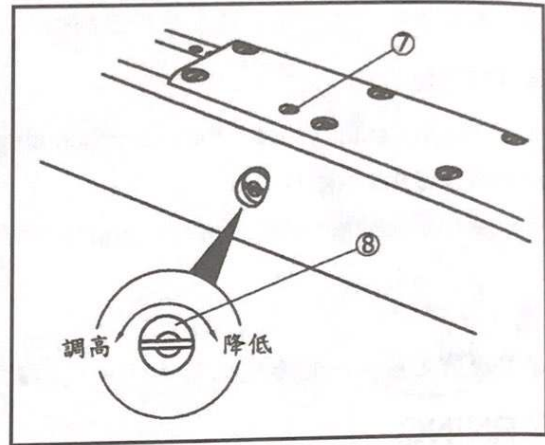


Fig.61

- To lower the feed dog, turn the pin⑧ clockwise.
- To raise the feed dog, turn the pin⑧ counterclockwise.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

### 5.10 置換壓腳

#### 5.10 Replacing presser foot

##### 5.10.1 拆除方法

- (1) 移開所有的針和油塞①。
- (2) 放鬆調整螺帽②然後才鬆開螺絲③。
- (3) 鬆開刀台的螺絲④讓整組刀架鬆開。
- (4) 鬆開刀座連桿⑥的兩螺絲⑦，移除上刀座⑤和上刀。
- (5) 放鬆壓腳螺絲⑧。
- (6) 將針轉到最高點，然後移除調整螺帽②和抽出壓腳柱⑨和壓腳彈簧⑩。
- (7) 推開上勾針驅動片⑪從帶動桿⑫脫離。
- (8) 向左轉，拆下整組壓腳穿過左邊壓腳檔。

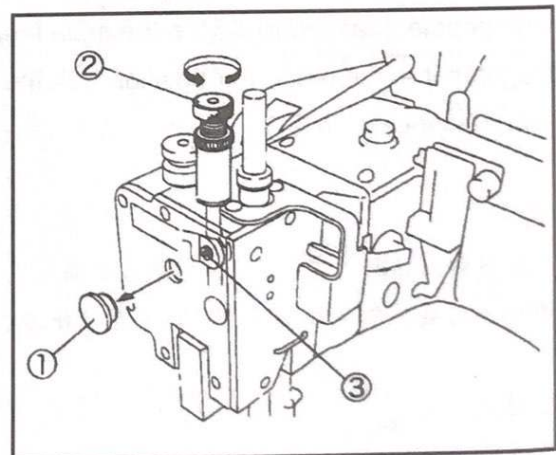


Fig.62

## 5 · Adjustments 調節裝置

### 5.10.1 Removing :

- (1) Remove all needles and the seal plug ①.
- (2) Loosen the adjusting screw ② and then the screw ③ of the presser bar connecting bracket.
- (3) Loosen the screws ④ of the knife holder guide collar to be free the complete set including the upper knife, the knife holder, and the knife holder shank.
- (4) Loosen two screws ⑦ of the knife holder bracket ⑥ to remove the knife holder guide collar, c.set ⑤ and the upper knife.
- (5) Loosen the screw ⑧ on the back of the presser Food.
- (6) Rotate the handwheel to raise the needle at the highest point. Remove the adjusting screw ② and keep the presser bar ⑨ and the presser spring ⑩ upward as they come off from the presser foot.
- (7) Remove the carrier/hook driving segment ⑪ from the lever ⑫ on the carrier/hook driving sleeve.
- (8) Turn the presser foot, c.set to the left and remove it through the presser foot guides(left)and(right).

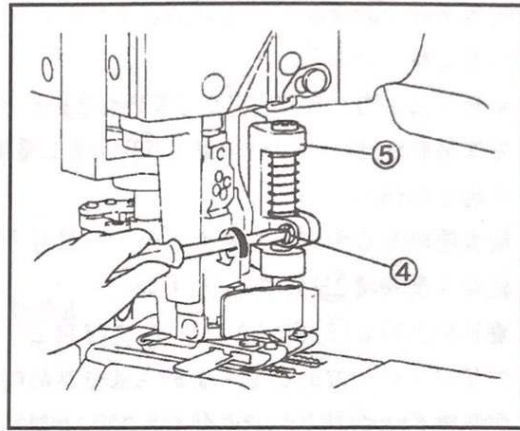


Fig.63

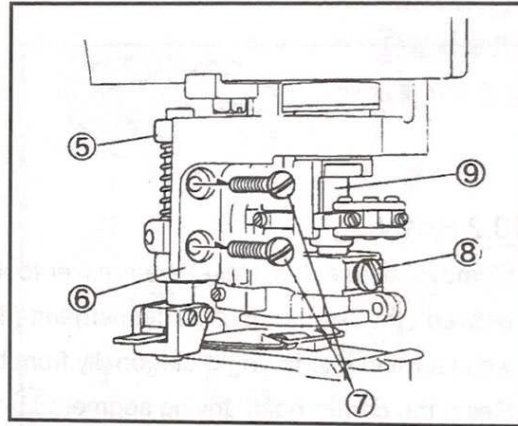


Fig.64

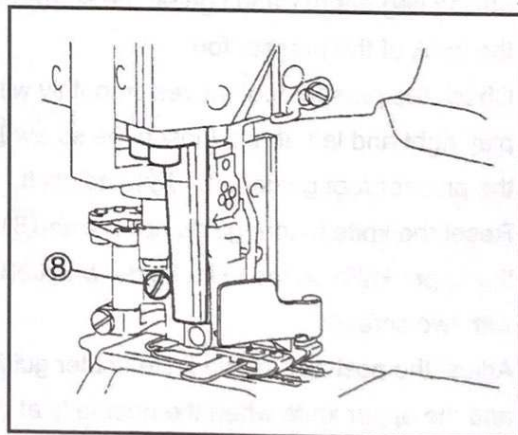


Fig.65

### 注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor stitch OFF and check that the motor has already stopped.

## 5 · Adjustments 調節裝置

### 5.10.2 組裝方法

- (1) 拆掉全部的針重新裝上壓腳在左右壓腳檔之間，向右旋轉，放正壓腳。
- (2) 重新裝上上勾針驅動片⑪到帶動桿⑫裡面。
- (3) 安裝壓腳柱插入上勾針驅動片⑪後鎖上壓腳後面的螺絲⑧。
- (4) 檢查壓腳是否順暢沒有左右晃動，如果有卡住，
- (5) 鬆開左壓腳檔⑬的螺絲⑭去調整。
- (6) 重新裝上刀台⑤固定在刀座⑥支撐架上。
- (7) 調整刀台和上刀的位置，當針在最低點的時候。
- (8) 當壓腳緊貼在針上和針在最低點時，重新裝上壓腳彈簧⑩及調整螺帽②，然後輕後的壓下螺絲③並鎖上。
- (9) 裝回油塞①。
- (10) 裝回所有的針。

### 5.10.2 Resetting :

- (1) Remove all needles, Reset the presser foot, c.set between the presser foot guides(left)and (right) while turning ti to the right diagonally from the back.
- (2) Reset the carrier/hook driving segment ⑪ on the lever ⑫ on the carrier/hook driving sleeve.
- (3) Insert the presser bar into the carrier/hook driving segment ⑪ and tighten the screw on the back of the presser foot.
- (4) Check the presser foot moves smoothly without play right and left. If not, loosen the screw ⑭ of the presser foot guide(left) ⑬ to adjust it.
- (5) Reset the knife holder guide collar, c.set ⑤ and the upper knife on the knife holder bracket ⑥ with two screws.
- (6) Adjust the positions of the knife holder guide collar and the upper knife when the needle is at the lowest point.

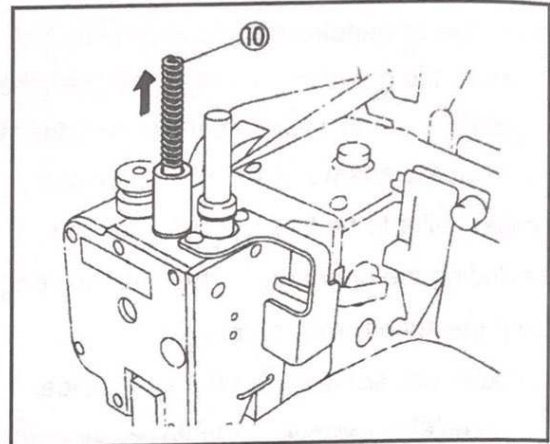


Fig.66

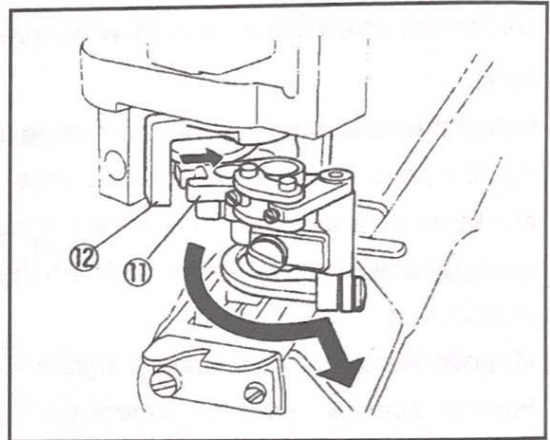


Fig.67

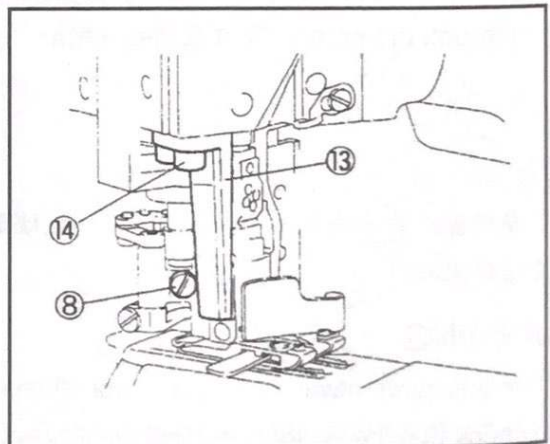


Fig.68

## 5 · Adjustments 調節裝置

- (7) Reset the adjusting screw ② when the needle is at the lowest point and the presser foot touches closely on the stitch plate. Then tighten the screw ③ of the presser bar connecting bracket while pushing slightly down.
- (8) Reset the seal plug ①.
- (9) Reset all needles.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor switch OFF and check that the motor has already stopped.

#### 5.11 置換壓腳彈簧片

#### 5.11 Replacing presser foot spring plate

##### 5.11.1 拆除方法

- (1) 拆掉螺絲 ①。
- (2) 拆掉壓腳彈簧片 ②。
- (3) 移開彈簧片勾 ③ 才能拿掉彈簧片 ②。

##### 5.11.1 Removing:

- (1) Remove the screw ①.
- (2) Remove the presser foot spring plates ② from the presser foot.
- (3) Remove each plate ② from the spring plate holder ③.

##### 5.11.2 組裝方法

- (1) 重新裝上壓腳彈簧片 ② 和壓腳彈簧片勾 ③。
- (2) 每片彈簧片 ② 要對齊壓腳座。
- (3) 鎖上螺絲 ①。

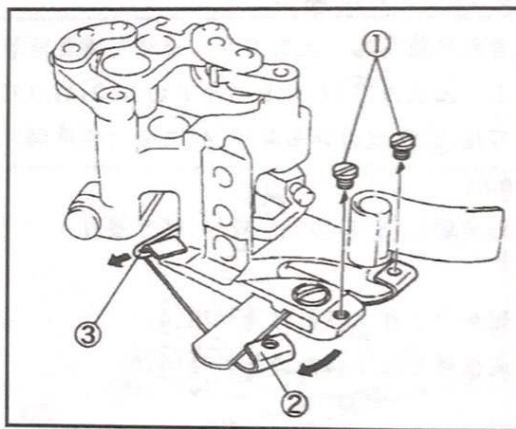


Fig.69

## 5 · Adjustments 調節裝置

### 5.11.2 Reseting :

- (1) Reset each presser foot spring plate ② with the spring plate holder ③.
- (2) Reset the plates ② parallel each other on the presser foot ②.
- (3) Tighten the screws ① securely.

注意：

在調整機器之前，一定要先把電源關掉，並確定馬達完全停止。

### WARNING

Before adjusting, always turn the motor stitch OFF and check that the motor has already stopped.

## 5.12 置換和調整位置

### 5.12 Replacing and adjusting knives

#### 5.12.1 上切刀的壓力

- (1) 當針在最高點，上切刀在左邊時壓腳要貼著針板上，上切刀 ① 刀刃要貼合下切刀 ② 的刀刃。
- (2) 刀座 ③ 和壓力彈簧軸環 ④ 之間的標準間隙為 1.0 mm。
- (3) 鬆開螺絲 ⑤ 和移動軸環 ④ 調整壓力。

- 增加壓力往上移動彈簧軸環 ④。
- 減少壓力往下移動彈簧軸環 ④。

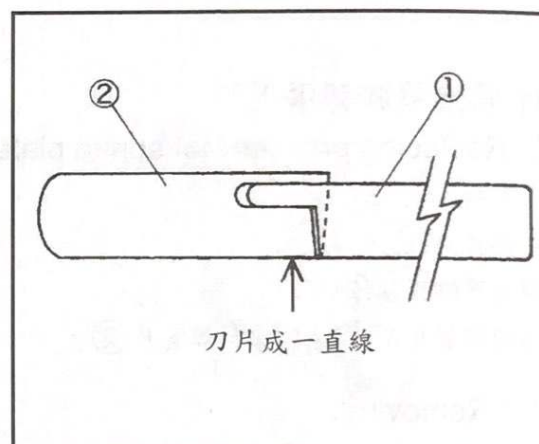


Fig.70

#### 5.12.1 Pressure of upper knife:

- (1) When the needle is at the highest point and the upper knife ① is at the extreme left, the presser foot touches the stitch plate, and the upper knife ① touches the lower knife ② closely.
- (2) The standard clearance between the bearing of the knife holder shank support ③ and the knife holder guide collar ④ is 1.0 mm.
- (3) Loosen the screw ⑤ and move the knife holder guide collar ④ to adjust the pressure.

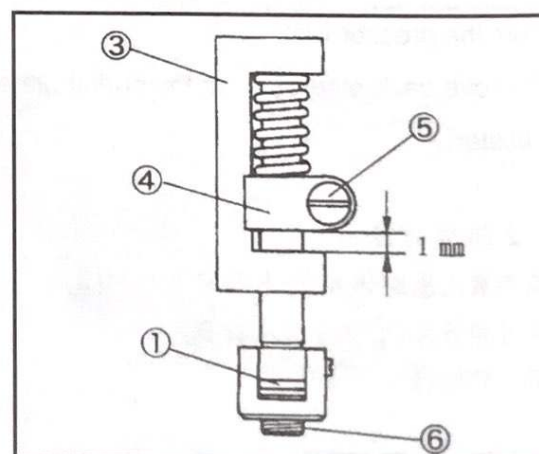


Fig.71

- To increase the pressure, move the collar ④ upward.
- To decrease the pressure, move the collar ④ downward.

## 5 · Adjustments 調節裝置

註：上刀①和下刀②成一直線時，上刀不能碰到壓腳壁，正確後固定彈簧軸環。

Note: Align the front sides of the upper ① and lower ② knives without touching the upper knife to the presser foot. After check them, fix the knife holder guide collar ④ with the screw.

### 5.12.2 拆除方法

- (1) 放鬆螺絲⑤和⑥才能拆掉上切刀①。
- (2) 放鬆螺絲⑦才能拆掉下切刀②。

### 5.12.2 Removing :

- (1) Loosen the screws ⑤ and ⑥ to remove the upper knife ①.
- (2) Loosen the screw ⑦ to remove the lower knife ②.

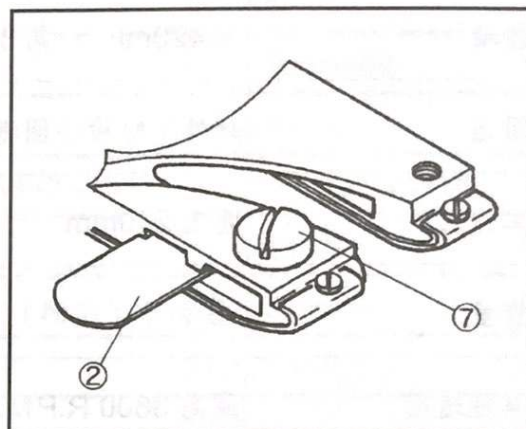


Fig.72

### 5.12.3 組裝方法

- (1) 重新安裝下切刀②要鎖緊螺絲⑦。
- (2) 重新安裝上切刀①要鎖緊螺絲⑥。

### 5.12.3 Resetting :

- (1) Reset the lower knife ② with the screw ⑦.
- (2) Reset the upper knife ① with the screw ⑥.

See "5.9 Adjusting lapped width of upper fabric" for engagement of the knives.

### 5.12.4 上切刀角度之調整

- (1) 拆掉①-⑤的部份，以螺絲⑥去調整刀的角度。
- (2) 重新安裝時要注意插銷⑦有無對準刀座⑧上的孔。

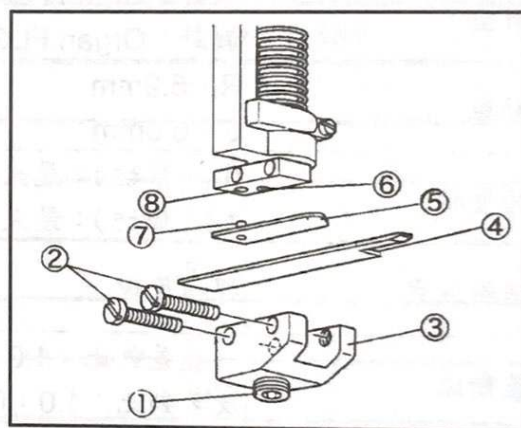


Fig.73

### 5.12.4 Engaging angle of upper knife to lower knife

- (1) Remove the parts ① - ⑤ in the order and turn the screw ⑥ to adjust it.
- (2) When resetting, check the screw ⑦ is not out from the bottom of the knife support ⑤. Then insert it into the bracket hole ⑧ to tighten.

## 6 · Specifications 規格

機型	LC62D
說明	曲臂型四針六線拼縫機
體積	長 420mm x 寬 300mm x 高 410mm
圓週	針棒下線最小圓週 148mm
工作空間	圓週 210mm
重量	23 公斤 (頭部)
車縫速度	最高 3800 R.P.M. ; 普通 2800 R.P.M.
縫距	1.6-2.5mm 每英寸 10-16 針 ; 每 30mm 12-19 針
針型	車針 : Organ FLX118GCS ; Groz-Beckert UY118GKS 假針 : Organ FLG-1 , FLF-8 ; Groz-Beckert 36211 , 36211A
針距	R : 5.2mm S : 6.0mm
抬壓腳	01 (單切) : 最大 8mm 12 (雙切) : 最大 6mm
送料方式	桿槓原理
差動比	一般差動比 : 1.0 : 1.5 反差動比 : 1.0 : 0.7
差動送料規則	轉盤
切布刀	特殊鋼材製造
潤滑	自動齒輪幫浦
潤滑油	TELLUS 46
油槽容量	框 : 約 100cc 筒 : 約 100cc