



**ВАОУ**

Інструкція з експлуатації  
до розпошивальних машин

**BML-787**

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## 安全上的注意事項：

使用本機前請詳細閱讀本說明書及所搭配之馬達說明書，配合正確使用，並須由受過正確訓練之人員來安裝或操作。

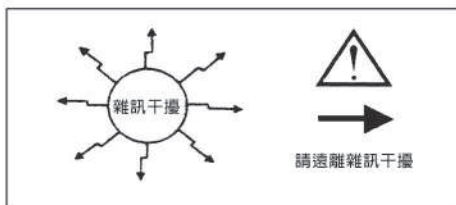
### 1-1 作業環境的安全

#### (1) 電源電壓：

電源電壓請遵照馬達與控制箱牌所標示之規格±10%範圍內操作。

#### (2) 電磁波干擾：

請遠離高週磁波器或電波發射器等，以免產生的電磁波干擾本驅裝置，因而發生錯誤作。



#### (3) 溫濕度

1. 請不要在室溫45度C以上或5度C以下的場所操作。
2. 請不要在日光直接照射的場所或室外運作。
3. 請不要在暖氣(電熱器)旁運作。

## SAFETY PRECAUTION :

Please read this manual carefully, also with related manual for the machine head before use. For perfect operation and safety, installing and operating this product by trained personal is required. When install and operate HVP-70 MINI SERVO MOTOR, precaution must betaken as the following. This product is designed for specify sewing machine and must not be used for other purposes.

### 1.1 Work Environment :

#### (1) Power voltage :

Only use Power Voltage indicated on the name plate of the HVP-70 + 10% ranges.

#### (2) Electromagnetic pulse interference :

To avoid the false operate, please keep the product away from the high electromagnetic machinery or electro generator.

#### (3) Temperature :

- a. Please don't operate in room temperature is above 45 C or under 5 C
- b. Avoid operating in direct sun light or outdoors area.
- c. Avoid operating near the heater.



4.請不要在相對濕度30%以下或95%以上或有露水的場所運作。

## 1-2 安裝的安全

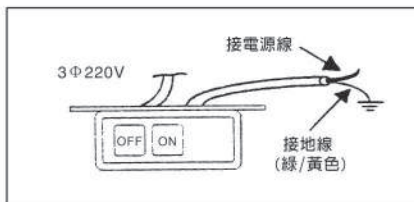
(1) 機器、馬達、控制箱：請遵照說明書正確裝好。

(2) 電源線：

- 1.請注意不要被外物壓住或過度扭曲電源線
- 2.裝釘電源線時請不要靠近會轉的手輪、皮帶輪及三角皮帶，最少要離開3~5公分以上。

(3) 接地：

- 1.為防止雜訊干擾或漏電事故，請做好接地工程。
- 2.電源線的接地線須以適當大小的導線和接頭連接到生產工廠的系統地線，此連接必須被永久固定。



接地線(綠/黃色)請務必做好接地工程。  
如果沒有接地，漏電流，將對人體造成不適或傷害。

d.Avoid operating in the area which humidity is 30% or less and 95% or more, also stay away from dew area.

(4) Atmosphere :

- a.Avoid operating in dusty area, and stay away from corrosive material.
- b.Avoid operating in evaporate or combustible gas area.

## 1.2 Safety In Installation :

(1) Motor and control box :

Follow the instruction in this manual for correct installation.

(2) Power cord :

- a.Avoid power cord being applied by heavy objects of excessive force, or over bend.
- b.Power cord must not set to be near the handwheel, keep 3mm spare or above.
- c.Check the outlets voltage before plugging the cord, make sure it match the voltage shown on the name plate of the HVP-70 in + 10% ranges.

(3) Grounding :

- a.To avoid the static interference and current leakage, all grounding must done.
- b.Use the correct connector and extension wire when connecting ground wire to Earth and secure it tightly.



### 1-3 操作中的安全

- (1) 在第一次開電後，請先以低速操作縫紉機，並檢查轉 方向是否正確。
- (2) 縫紉機運轉時請不要去觸摸手輪、皮帶輪、三角皮帶、天秤、針等會作的部位。
- (3) 請不要在拆下皮帶護蓋及其它安全裝置的情形下操作。
- (4) 操作縫紉機時，針棒前方之透明護目板，必須移到針鋸前方之正常位子。

### 1-4 保養維修的安全

在操作以下 作前，請先關閉電源：

- (1) 要拆卸馬達或控制箱時，或在控制箱上插或拔任何連接插頭時。
- (2) 控制箱裡面有危險高壓電，所以關閉電源後要等10分鐘以上，方可打開控制箱蓋。



- (3) 翻抬車頭時，與更換車針或穿線時 (上圖所示)。
- (4) 機械上的修理及調整時。
- (5) 機械休息不用時。

### 1.3 Safety In Operating :

- (1) When turn on the machine in the first time, use low speed to operate and check the correct rotation direction.
- (2) During machine operation, don't touch any moving parts.
- (3) Please don't operate the machine under to take out the Belt Cover and another safety advice
- (4) When you operate the sewing machine, the "Eye Guide" must be moved to the correctly position which in the front of needle holder.

### 1.4 Safety in Maintenance and Repairs :

Power must be turned off first, when:

- (1) Uninstall the motor to the control box., or plug and unplug any connector.
- (2) Turn off the power and wait 10 minutes before opening box cover.
- (3) Raising the machine arms or changing needle, or threading needle.(show as above)
- (4) Repairing or doing any mechanical adjustment.
- (5) Machines rest.

## 1-2 危險標示，請注意標示：

- (1)  這兩個標示符號表示機器安裝時，如有錯誤會傷害到人體或機器會受到損壞，所以機器方面有危險 的地方會有此標示。
- (2)  這個標示符號表示有高壓電等電氣方面有危險 的地方會有此標示。

## 1.5 Danger and Caution Signs :

- (1) Risks that may cause personal injury or risk to the machine are Marked with this symbol in the instruction manual.
- (2) This symbol indicate electrical risks and warnings

## 使用說明

## OPERATION GUIDE

### A 安裝：

1. 請依本機配件盒內電件圖所附之正確桌板尺寸裁製圖、裁製桌板。
2. 桌板厚度約 50mm。
3. 直驅微型小馬達之機頭與桌板之安裝固定方式，請參照(圖1)之安裝注意事項1、2點。
4. 直驅微型小馬達機器之桌板、腳架、電腦控制策及其他相關配件之安裝位置示意圖，請參考(圖2)。

### A. INSTALLATION :

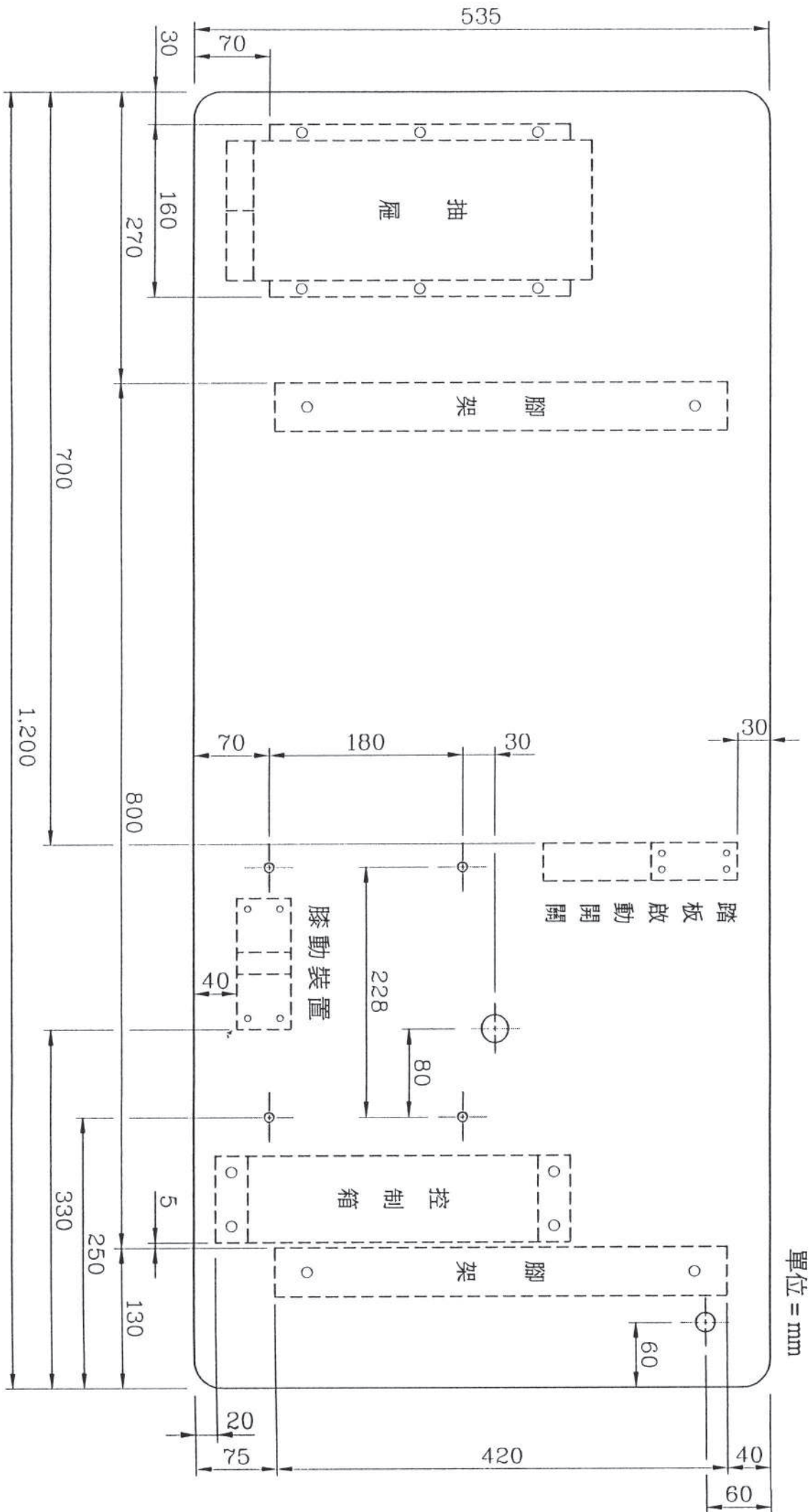
1. Before installing machine, please refer to Table Cut-Out Drawing. To cut the table out in correctly.
2. The table thickness is 50mm.
3. Please refer to (Fig. 1) and the Remark 1 & 2 for installing the "Directly Driving Type Mini-Servo Motor " machine head and table.
4. Please refer to the Installation Schematic Drawing (Fig.2) for installing the "Directly Driving Type Mini-Servo Motor" machine head, foot stand, control box and accessories.

#### Remark :

For security reason, We are warning all of users that please always install the grounding wire to avoid the Static Electricity.

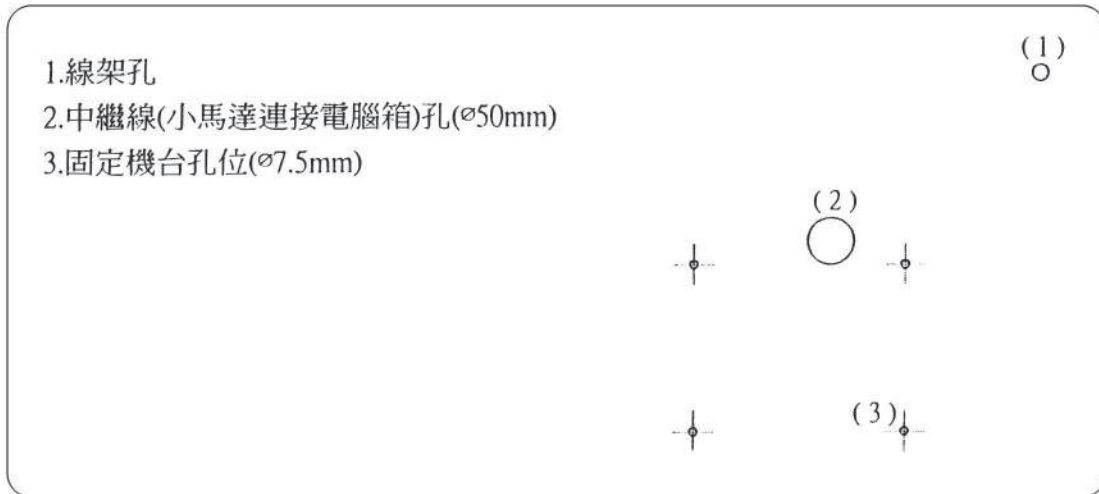


(圖2)

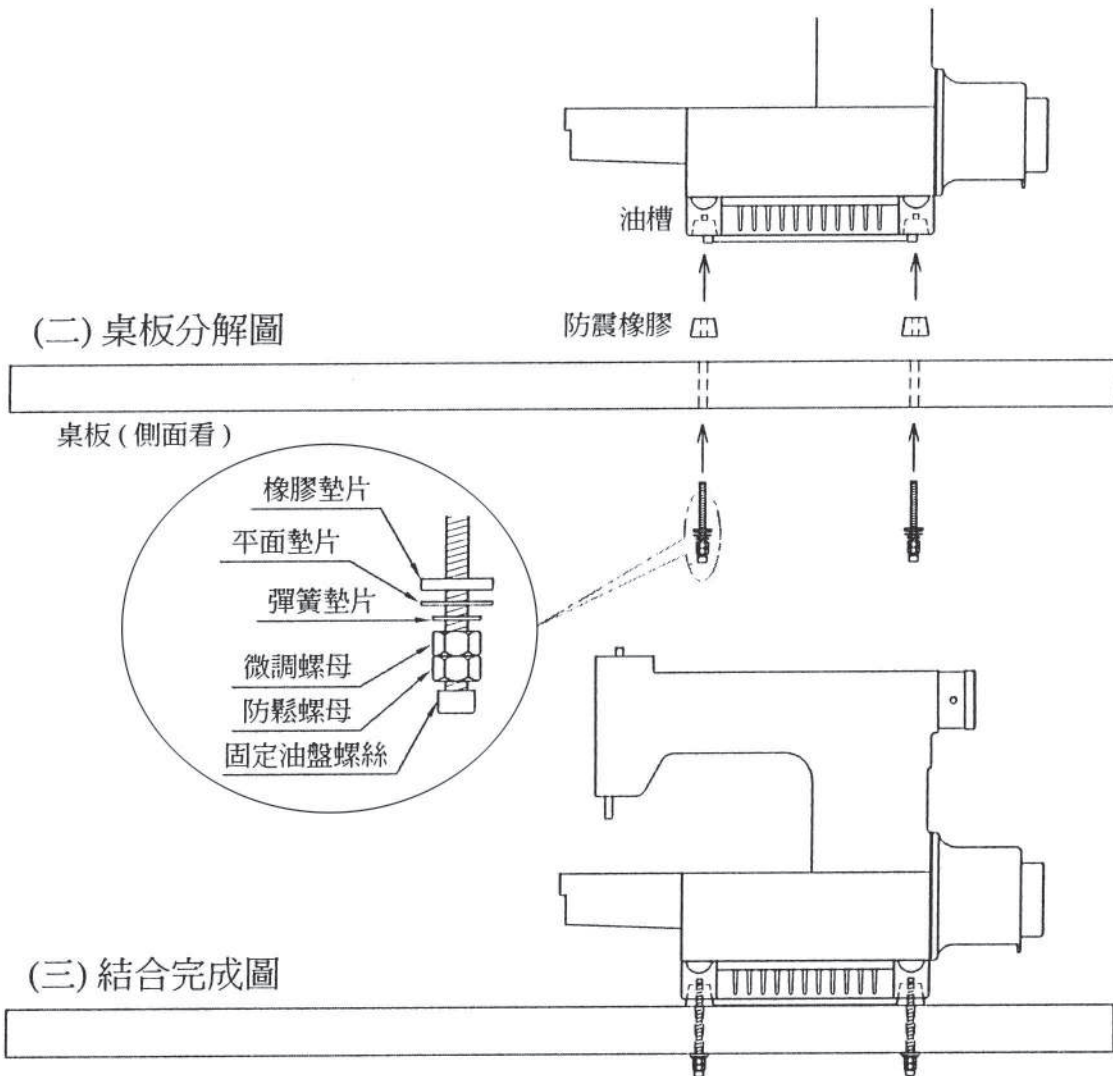


## 微型小馬達之機頭與桌板安裝方式

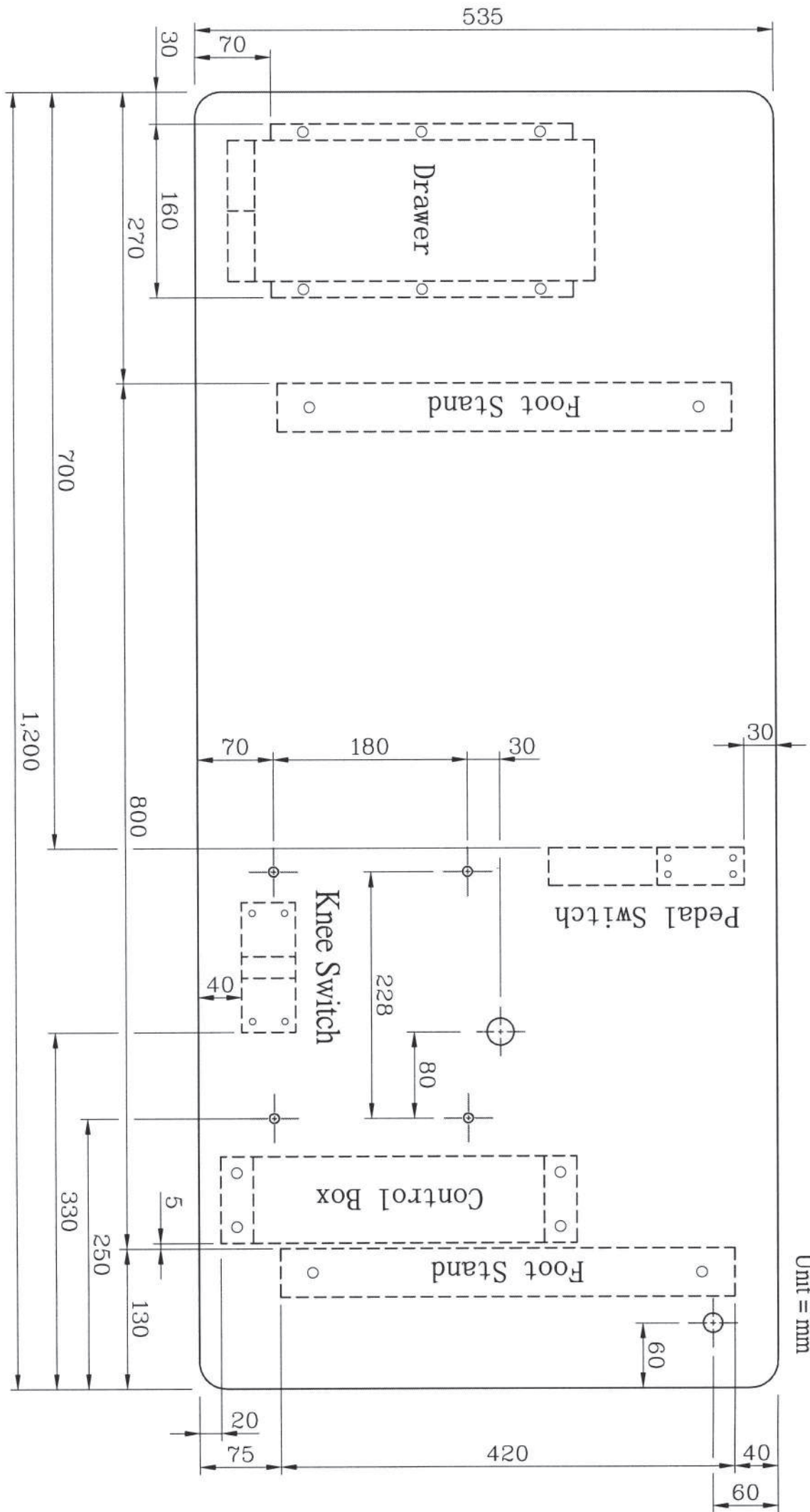
### (一) 桌板正面圖



### (二) 桌板分解圖



- 安裝注意事項: 1. 先將固定螺絲往上旋轉至頂點,再用微調螺母往上旋轉至平面墊片,接觸到橡膠墊片, (此時橡膠墊片處於被輕微夾住,平面墊片尚可旋轉狀態)防鬆螺母再鎖緊微調螺母即可。  
2. 請注意4顆固定螺絲 (或微調螺母),緊度須平均以防桌板共震產生異音。

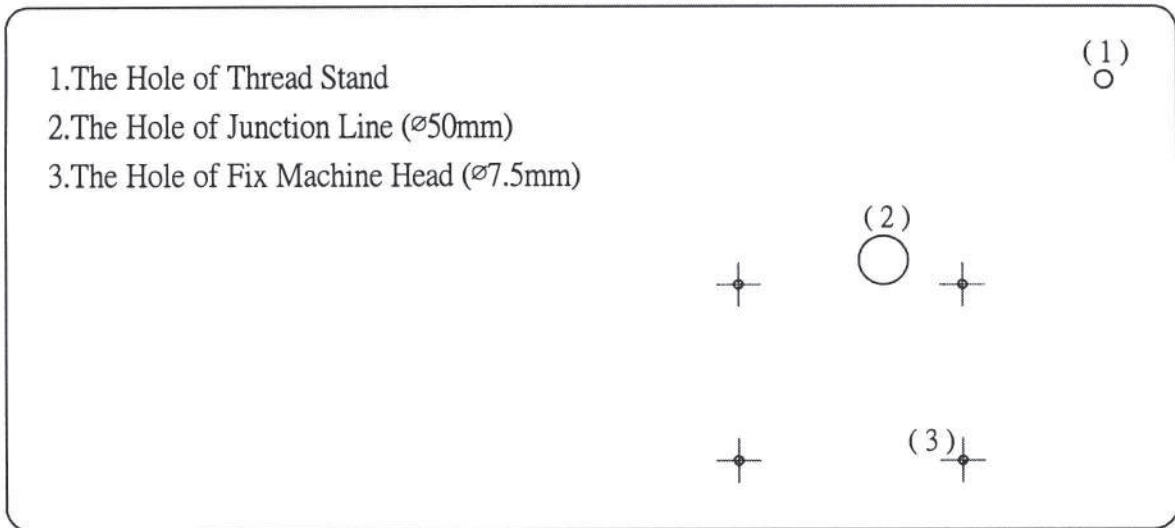


Unit = mm

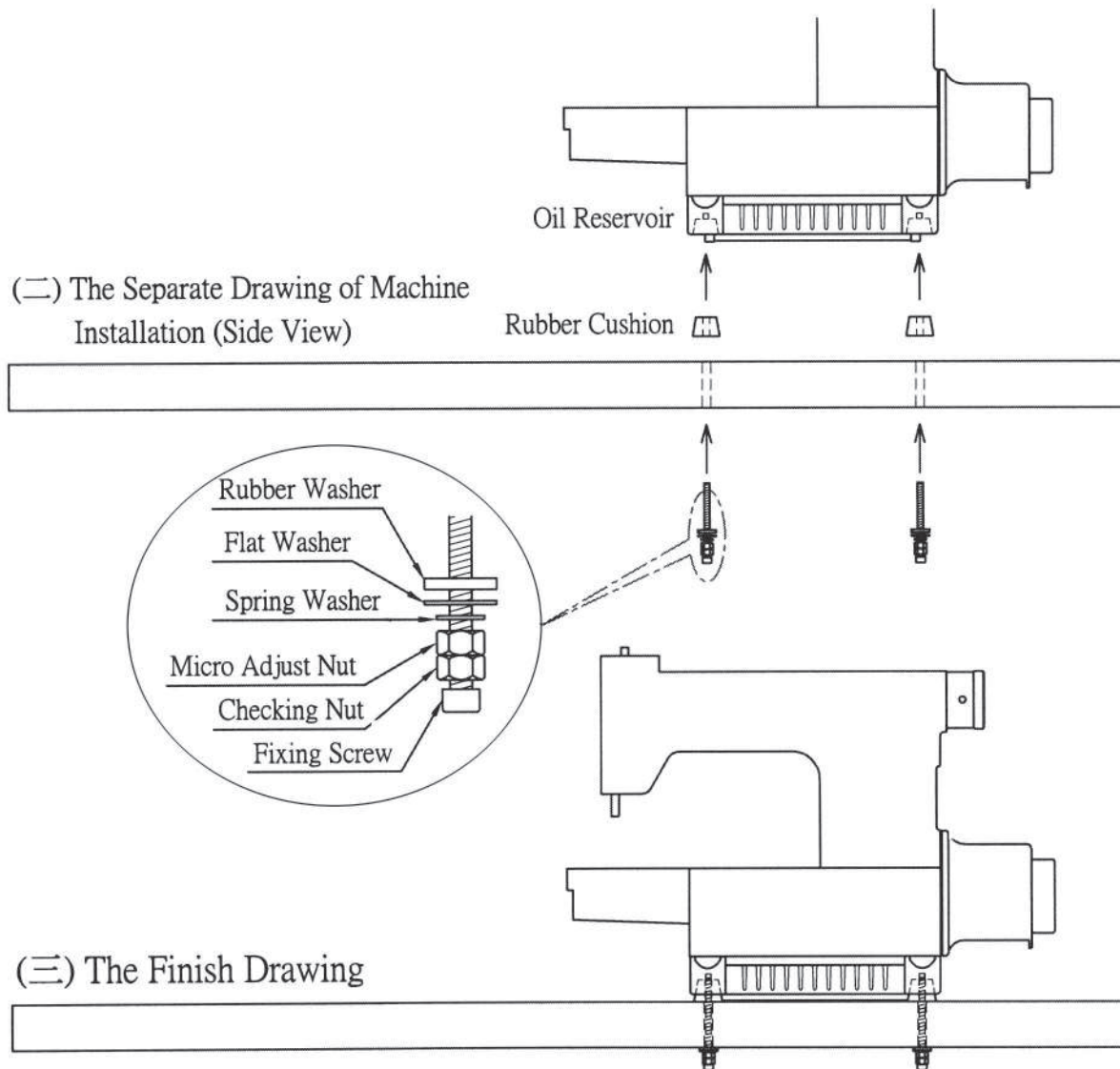


# The Installation of Mini-Servo Motor Machine Head and Table.

## (一) The Table Front View



## (二) The Separate Drawing of Machine Installation (Side View)



## (三) The Finish Drawing

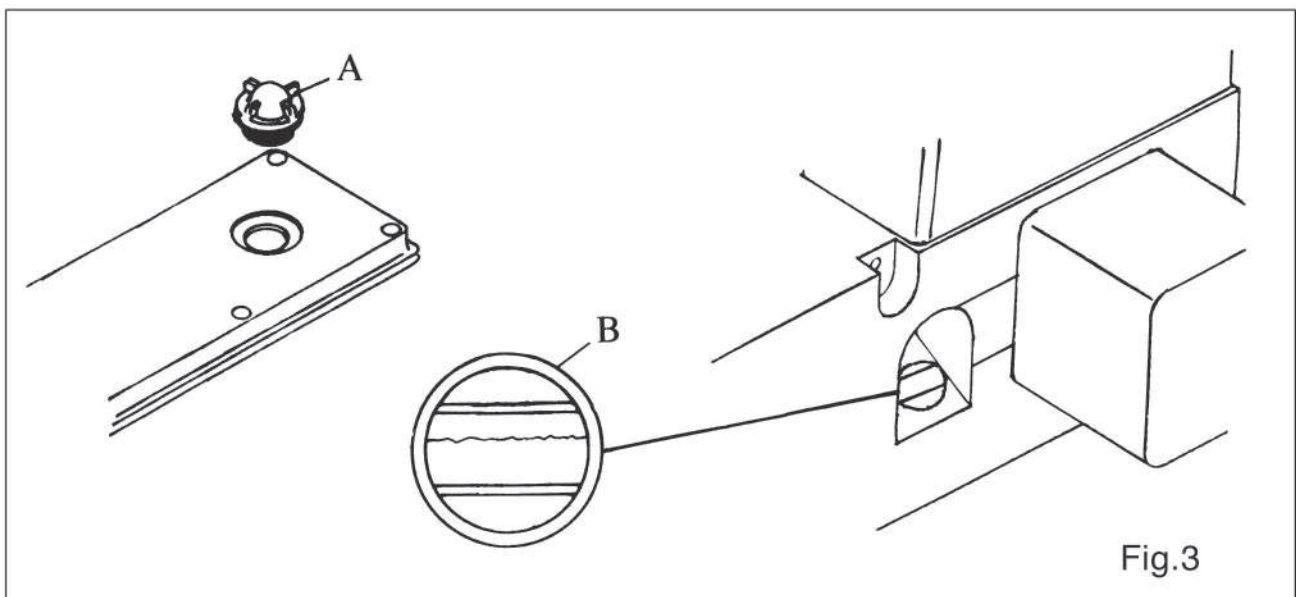
- Remark: 1. Please turn the Fixing Screw to the top. Then, the Micro Adjust Nut turn to the Flat Washer and touch the Rubber Washer. ( During the time, The Rubber Washer has been clipped in lightly. The Flat Washer still could move) Finally, The Checking Nut lock to The Micro Adjust Nut.
2. The 4 Fixing Screws (or, Micro Adjust Nut) must be fixed the machine head in even which to avoid the noise of Table Resonance.

## B 潤滑：

1. 請選用與PMOBIL#10同級之潤滑油。
2. 在新機使用前請先注入潤滑油。旋開頂蓋上的噴油檢視蓋(A)，將油緩緩注入機器中，待油量滿至油標指示窗(B)上下線之間即可(圖3)。
3. 於每天開機操作時，請先檢查噴油狀態是否正常，且注意油量是否低於指示窗之下限，若低於下限請隨時補充新油。

## B. LUBRICATION OIL :

1. Please use MOBIL #10 or it's equivalent.
2. Before operating the new machine, to remove Oil Sight Window (A) and fill the oil slowly until the oil level reaches between lines H and L of Oil Sight Gauge (B). (Fib.3)
3. When you begin operating the machine in everyday, please check whether all the lubricating systems at normal condition. If oil level is lower than L of Oil Sight Gauge, please refill oil.

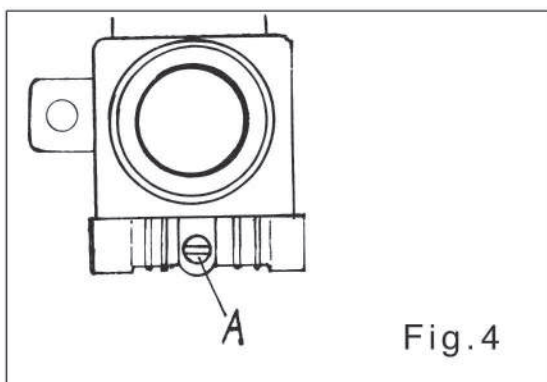


### C 潤滑油之更換：

1. 將放油螺絲(A)鬆開，使油槽內的舊油完全排出後，再將放油螺絲鎖緊(圖4)在依C-2的步驟注入新油。
2. 為延長本機的使用壽命，請於開始使用的一個月內更換第一次新油，往後約每6個月更換一次。

### D 濾油器之更換：

本機裝有濾油器，新機使用一個月後必1更換新品。此後僅需每6個月更換一次。(圖5)



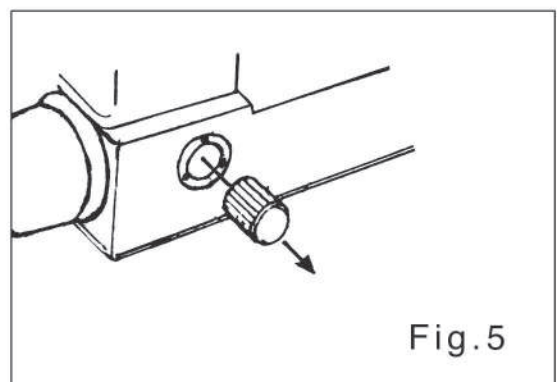
### C. OIL CHANGE :

1. Remove screw (A) and drain all the oil from the tank. After draining, tighten screw (a) without fail. Please refer to B-2 for replenishing new oil. (Fig.4)
2. For the long life of machine, please change lubrication oil completely after one month of initial operation. After first time, to change lubrication oil every six months per time.

### D. REPLACING OIL FILTER :

This machine is equipped with an Oil Filter, to change the Oil Filter after one month of initial operation. After that, please change Oil Filter every six months.

(Fig.5)



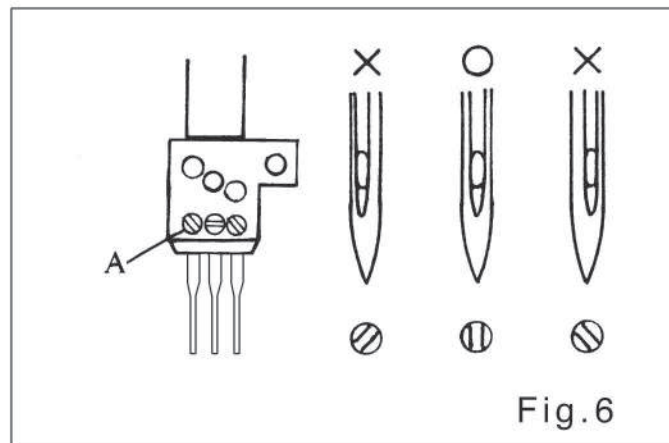


## E 針之更換：

1. 請選用UY128GAS,11番的針或其他相同規格之針。
2. 旋開鎖針螺絲(A)，並取下舊針，將新針插至針座之最頂端，且使長溝面向自己。(圖6)
3. 重新將鎖針螺絲鎖緊(A)。

## E. HOW TO REPLACE THE NEEDLES :

1. Please use UY128GAS #11 of Organ's needle or it's equivalent.
2. Loosen screw (A), then, pull out the used needles. Insert the new needles into the holder holes as far as they can go, and let the long groove of the needle face you. (Fig.6)
3. Fasten screw (A).

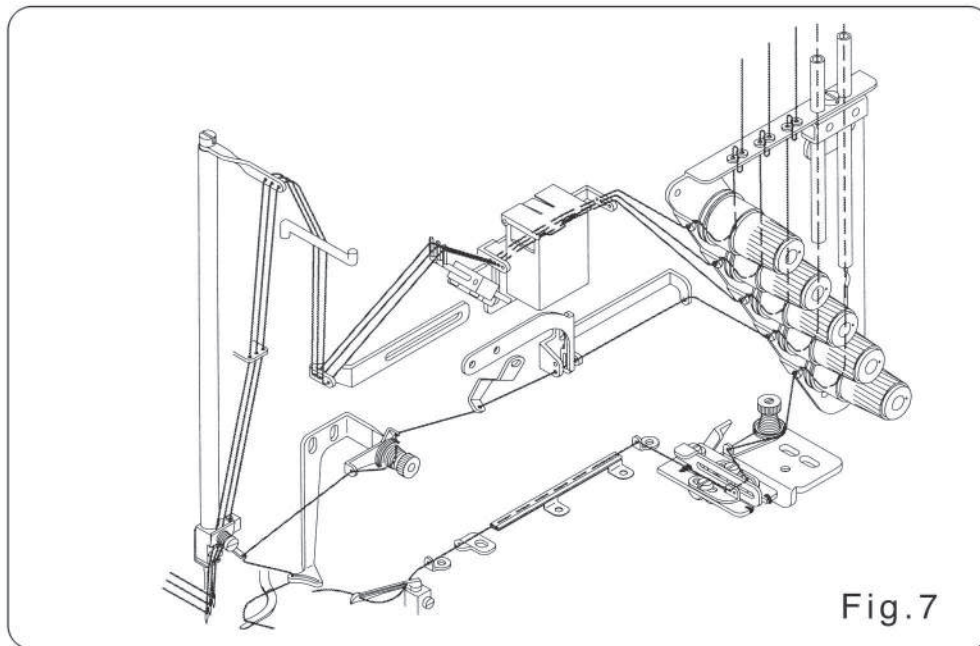


## F 穿線方式：

1. 請按照圖中所指示的穿線方式正確穿線，若穿線方式錯誤，將會引起斷線、跳針或車縫不平坦等現象。(圖7)

## F. THREADING :

1. Threading should be made correctly. Refer to the illustration. (Fig.7) The wrong threading may cause thread breaking, skipping stitch or puckering.

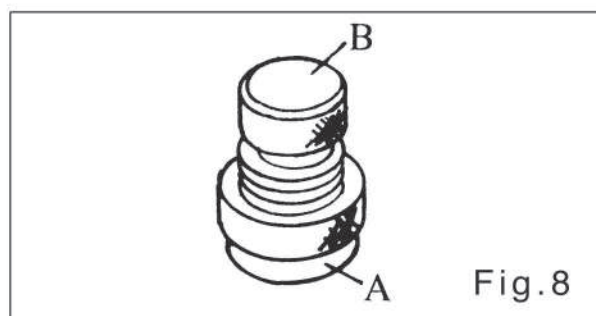


### G 押腳壓力強度之調整：

1. 若要求布料推送順暢且縫合完美，押腳壓力應儘量輕些。
2. 鬆開螺母(A)，轉動螺絲(B)，調整其適當壓力後再鎖緊螺母(A)。(圖8)

### G. ADJUSTING THE PRESSURE OF PRESSER FOOT :

1. Pressure of Presser Foot should be as weak as possible, so that cloth can be sewed and fed smoothly.
2. To increase the pressure of Presser Foot, to turn Adjusting Screw (B) clockwise after loosening Lock Nut (A) and to decrease the pressure turn Screw (B) counterclockwise. (Fig.8)



## 調整說明

## ADJUSTMENT GUIDE

### A 針棒高度之調整：

1. 先將針棒升到最高處，此時最長針的針尖與針板的距離為7.6~7.8mm。(圖9)
2. 若需要調整時，請先打開機頭前蓋之止油膠蓋(A)，放鬆針棒連桿上的螺絲(B)，上下調整針棒的高度後再固定之。(圖10)

### 注意：

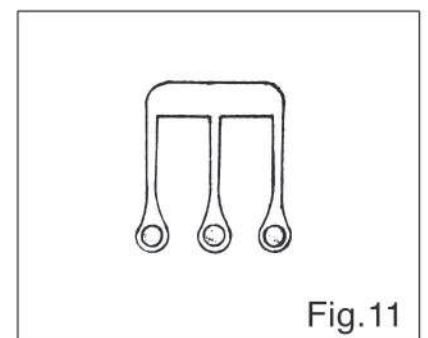
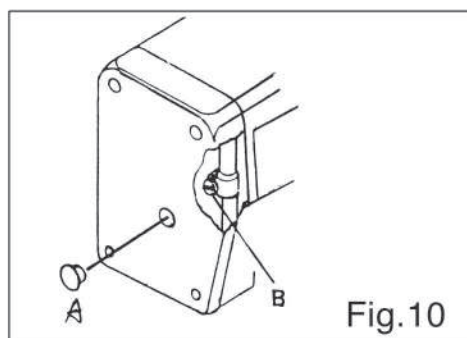
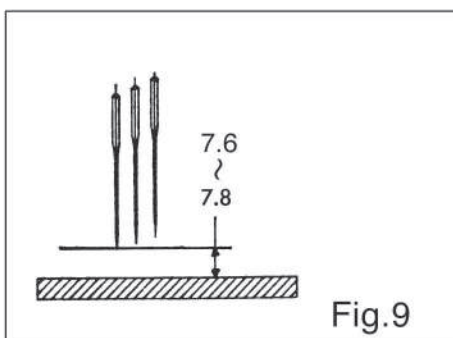
- (1) 針必須完全裝入針鑄孔最頂端。
- (2) 經過針棒高度調整後，必須確定每一根針皆通過針板的針孔正中央，不可以偏斜，且三根針需呈平行。(圖11)

### A. THE HEIGHT OF NEEDLE BAR :

1. Please lift the Needle Bar to the highest position. During this time, the standard height between the longest right needle point and Needle Plate are 7.6~7.8 mm. (Fig. 9)
2. If you would like to adjust the height of Needle Bar, please remove the rubber plug of front cover and loose the screw (B) on Needle Bar Rod (A). Adjust the Needle Bar up or down to require height and fix the screw. (Fig.10)

### Remarks :

- (1) Be sure insert the needle into the Needle Holder as far as it can go.
- (2) After the Needle Bar adjustment, please make sure that every needle are passed though the center of the needle hole on the Needle Plate. Beside, the three needles must be in parallel and the gap must be even. (Fig.11)





## B 針與勾針之時位關係：

當勾針由右死點往左移至左針左側，勾針尖與針孔之距離和勾針由左死點往右回移左針右側時，勾針尖與針孔之距離(a)均相等，此為最佳之時位。(圖12、13、14)

註：

左針之針孔至勾針尖的距離約為1~1.2mm

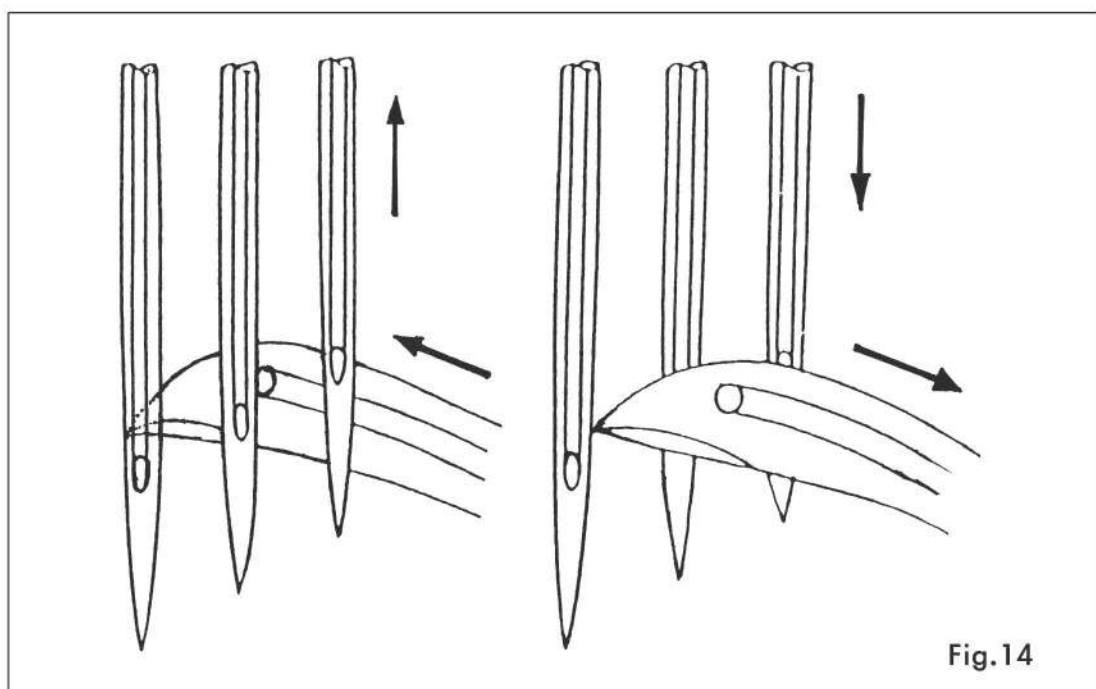
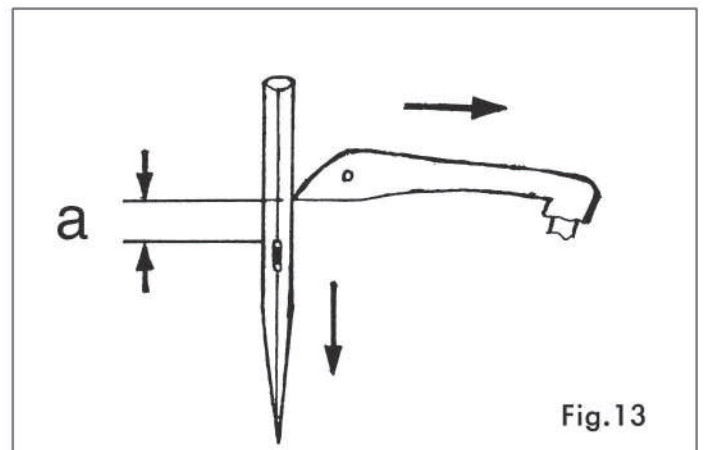
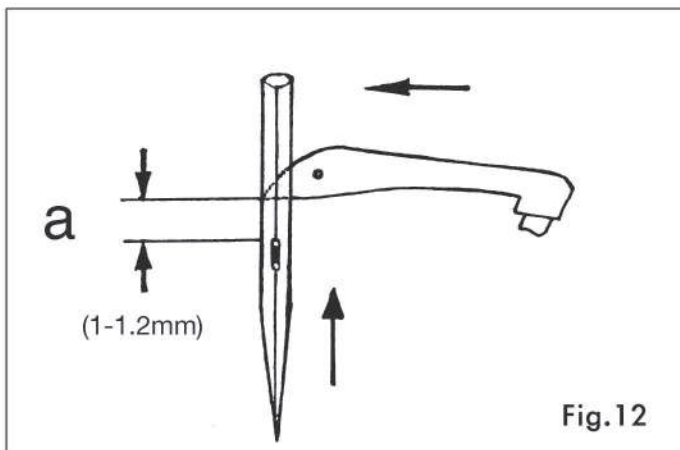
(a)。

## B. THE TIMING OF NEEDLE AND LOOPER :

When the Looper move to left from right dead point to the left side of left needle, the distance (a) between the tip of looper and needle hole is same as the Looper move to right from the left dead point to the right side of left needle. This timing is best one. (Fig. 12,13,14)

Remarks :

The clearance between the needle hole of left needle and the tip of looper is 1~1.2mm(a).





### C 下勾針與針之引量：

1. 當針棒示降至最低點及下勾針退至右定點時，右針之中心點與下勾針之距離為2.8~3.0mm。
2. 鬆開勾針座上的螺絲(F)，調整下勾針與右針的正確距離(圖15)。

### C. THE POSITION OF NEEDLE AND LOOPER :

1. When the Needle Bar lower to the lowest position and Loper reverse to right dead point, the distance between the center of right needle to the tip of Loper is 2.8~3.0mm.
2. Loosen the screw (F) on the Loper Holder to adjust the correctly distance of Loper and right needle. (Fig. 15)

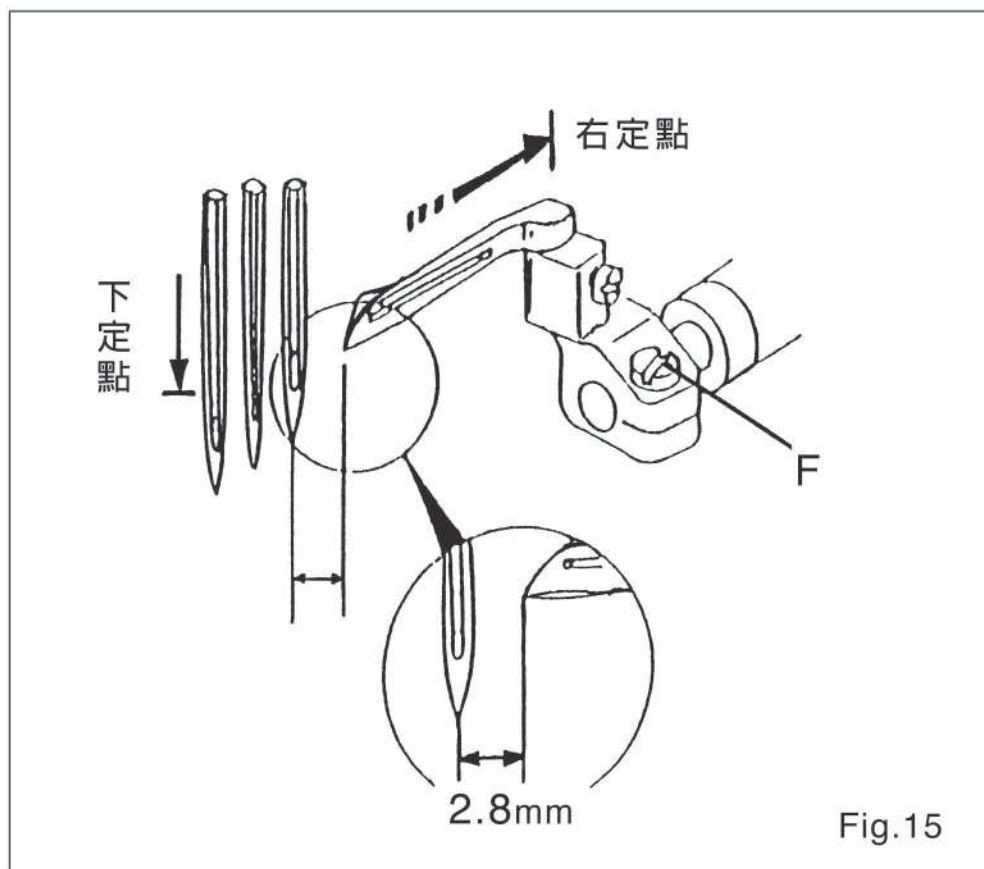


Fig.15

### D 勾針與針之間隙關係：

勾針由右往左移至右針時，其間隙為0mm，至中針時為0.1~0.2mm，再往左移至左針時，其間隙為0.2~0.3mm。

注意：

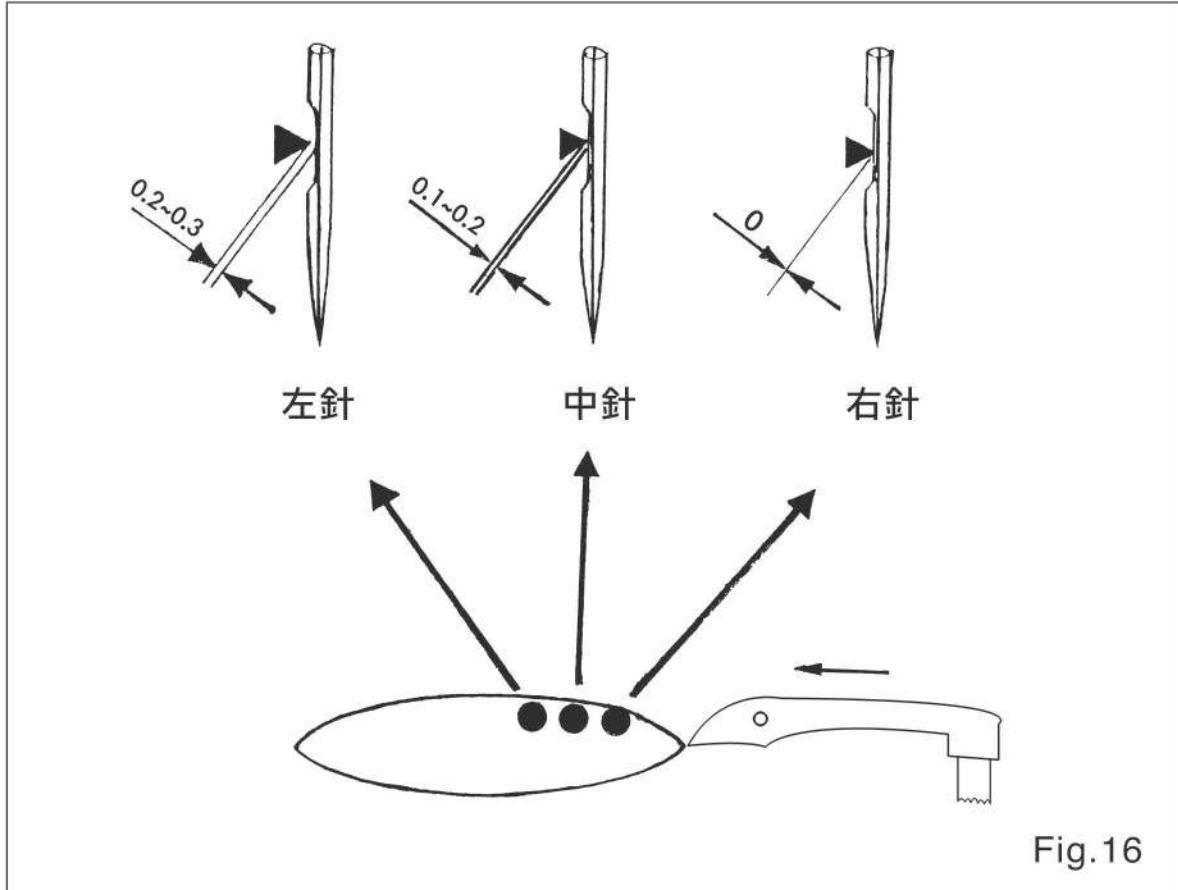
勾針前後運之軌跡為正橢圓。

### D. THE TIMING OF NEEDLE AND LOOPER :

When Looper moves to the left and meet the right needle, the clearance is 0mm. When the Looper pass the center needle, the clearance is 0.1~0.2mm. When the Looper move to left needle, the clearance is 0.2~0.3mm.

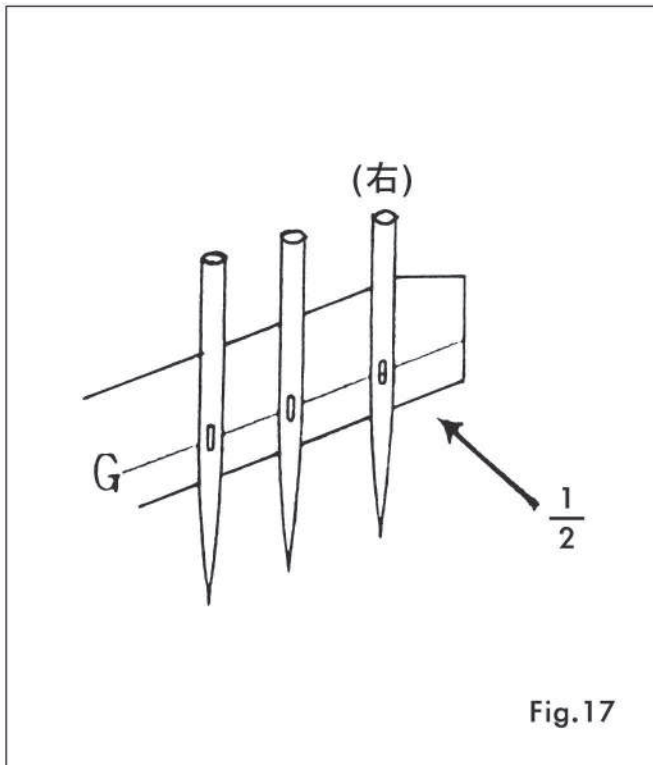
Remark :

The track of Looper pitching motion is a correct ellipse.



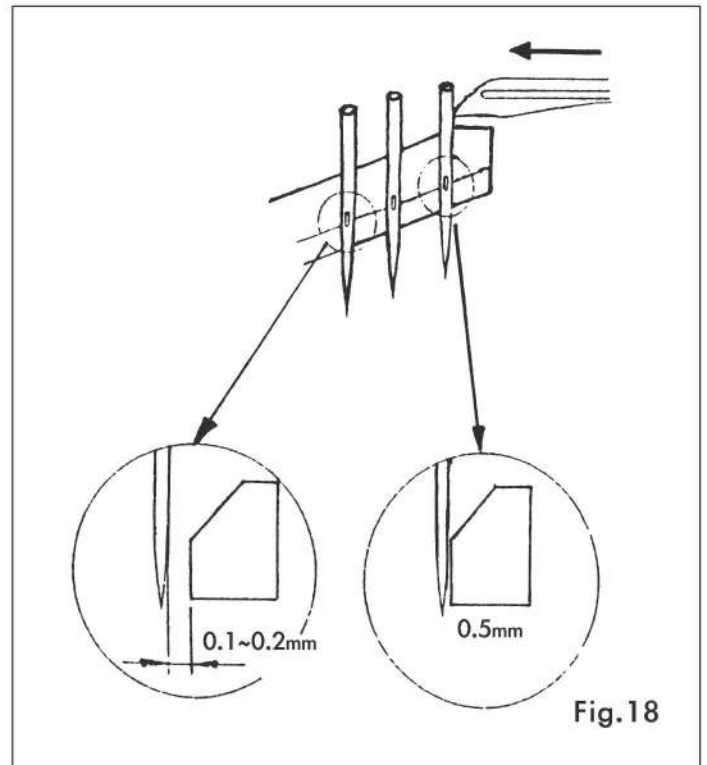
## E 針與後護針片調整：

1. 當後護針片往前移出至停止不動時，後護針片之(G)線約在右針之針眼中心位置。
2. 勾針尖端前移至右針中心時，後針片往前移，與右針間隙為0.05mm，與左針間隙為0.1~0.2mm。  
(圖17、18)



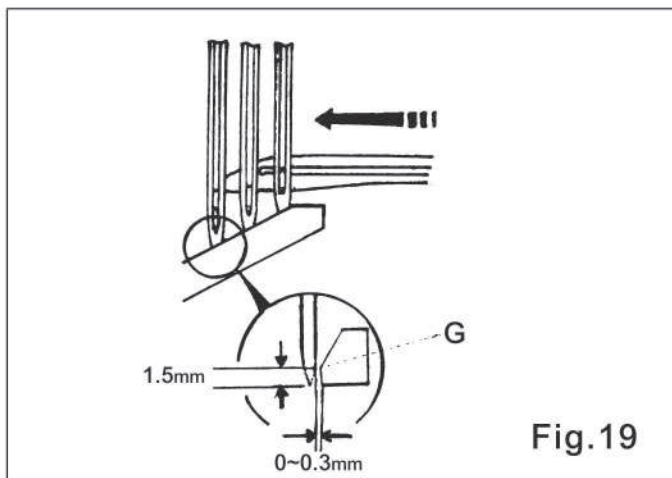
## E. ADJUSTING NEEDLE AND REAR NEEDLE GUARD :

1. When the Needle Guard moves to the front dead point, the line (G) of Rear Needle Guard should be at the center of right needle hole.
2. When the tip of Loper moves to the center of right needle and the Rear Needle Guard to the front side, The clearance between right needle is 0.05mm and between left needle is 0.1~0.2mm (Fig.17, 18)



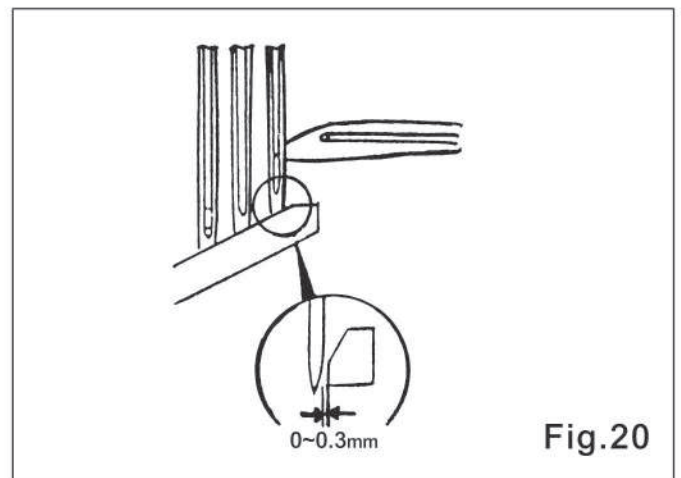
## F 針與前護針片調整：

1. 勾針之尖端移到左針中心線時，左針尖與前護針片之(G)線約1.5mm，此為前護針片之高度。且左針與前護針片間隙約為0.3mm。(圖19)
2. 當勾針退到右針中心的位置時，右針與前護針片之距離亦為0.3mm。(圖20)
3. 前護針片調整好時，為平行狀態。



## F. ADJUSTING NEEDLE AND FRONT NEEDLE GUARD :

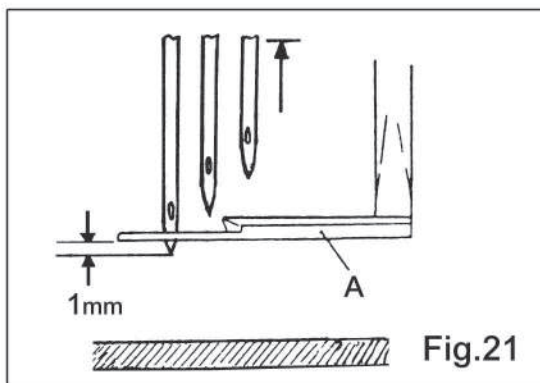
1. When the tip of Looer moves to the center of left needle, the distance of the tip of left needle pass the line (G) of Front Needle Guard is about 1.5mm. This is the height of Front Needle Guard. The clearance between the Front Needle Guard and right needle is about 0.3mm. (Fig.19)
2. When the Looer reverse to center of right needle, the clearance between right needle and Front Needle Guard is 0.3mm. (Fig. 20)
3. When the situation of Front Needle Guard set in parallel up which meaning position is correctly.





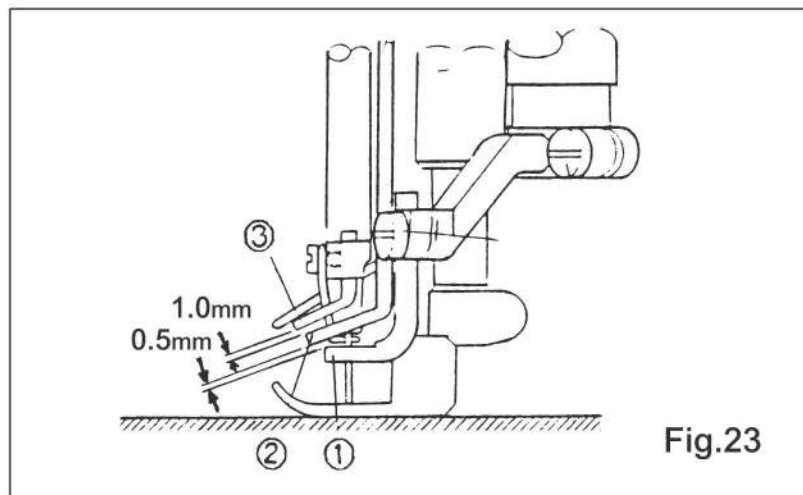
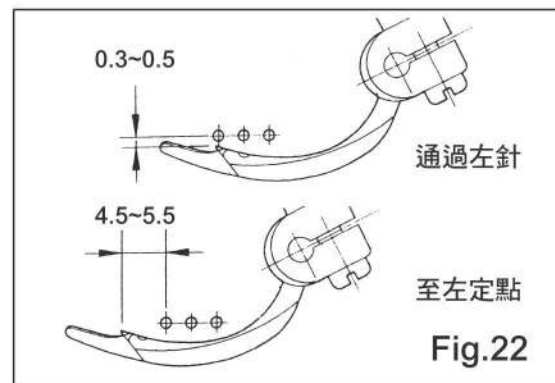
## G 針與上勾針及導線片之關係：

1. 當針棒於上定位時，上勾針(A)之底部高於左針之針尖約1mm，此為上勾針之高度(圖21)。
2. 當上勾針由右往左邊移時，上勾針之勾線尖端(a)與左針之間隙為0.3~0.5mm，當上勾針繼續移至最左時，上勾針之(a)點與左針中心距離為4.5~5.5mm。(圖22)
3. 當針棒移至最低點時，上叉導板(2)之線溝剛好在導片(3)孔之下方。且上叉導板(2)與上叉(1)之間隙為0.5mm。導線片(3)與上導板(2)之間隙為1.0mm，且線孔與線溝必須相對。(圖23)



## G. THE RELATIVE POSITION OF NEEDLE, SPREADER AND SPREADER THREAD GUIDE :

1. When the tip of Looeper moves to the center of left needle, the distance of the tip of left needle pass the line (G) of Front Needle Guard is about 1.5mm. This is the height of Front Needle Guard. The clearance between the Front Needle Guard and right needle is about 0.3mm. (Fig.19)
2. When the Looeper reverse to center of right needle, the clearance between right needle and Front Needle Guard is 0.3mm. (Fig. 20)
3. When the situation of Front Needle Guard set in parallel up which meaning position is correctly.



## H 送布齒高度調整：

送布齒在最高位置時，送布齒齒尖面與針板面平行，且此時主送布齒(A)與差動送布齒(B)，高度相同，且齒面高出針板面1.0~1.2mm。(圖24)

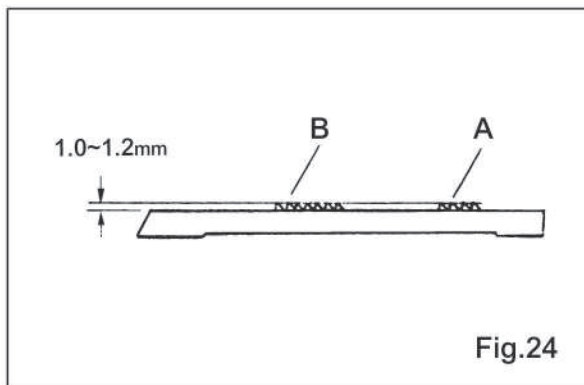


Fig.24

## I 勾針控線凸輪之調整：

1. 當針從最高點下降時，左針大約位於勾針後面之一半的位置時(圖25)，勾針線必須脫離凸輪(P)之最高位置。
2. 須調整凸輪時，放鬆22個螺絲(1)調整之。

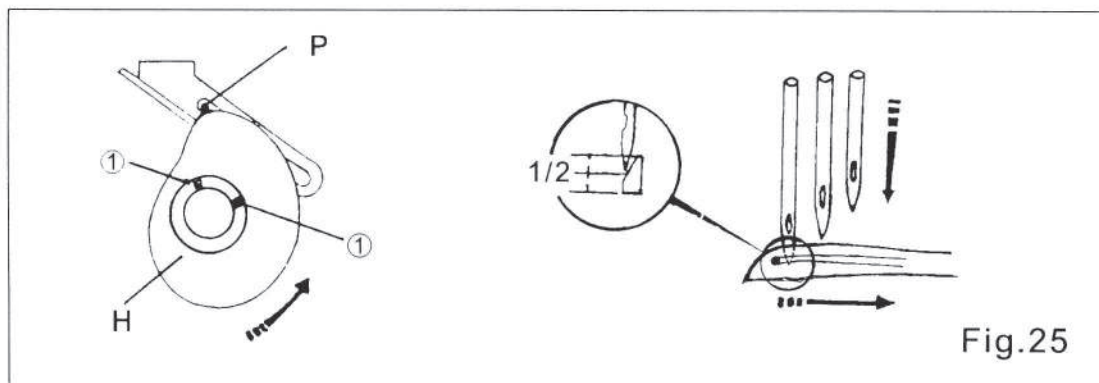


Fig.25

## H. ADJUST THE HEIGHT OF FEED DOG :

When the Feed Dog rise up to the highest position, the surface of Feed Dog and Needle Plate must be in parallel. Besides, the teeth of Main and Differential Feed Dog must be aligned. The standard height of Feed Dog is about 1.0~1.2mm from its top teeth to Needle Plate. (Fig. 24)

## I. THE ADJUSTMENT OF LOOPER THREAD TAKE-UP :

1. When Needle comes down from the highest position, and the left Needle reaches around 1/2 position of the Looper. (Fig. 25)  
The looper thread will come over the highest position of Thread Cam (P).
2. Loosen the two screws (1) for above adjustment.



## 自動切線調整說明

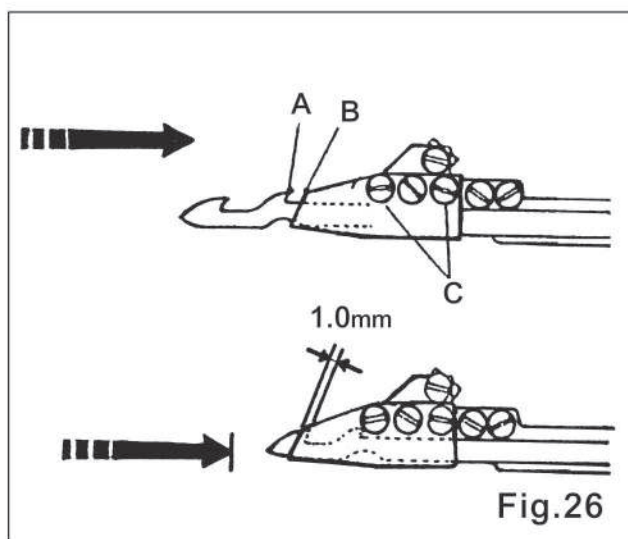
## AUTO THREAD TRIMMER ADJUSTMENT GUIDE :

### A 下切刀組相關位置調整：

注意：

下切刀組安裝於機器前須先檢查切刀組之相關位置和滑順度及切線效果。

1. 當活動刀片往右移時，右邊刀口之尖端(A)與固定刀之前端(B)須對齊。且活動刀移至最右點時，左邊刀口和固定刀前端的契合度為1.0mm。調整時可放鬆螺絲(C)移動固定片。(圖26)
2. 夾線片(D)之邊沿須與活動刀右邊刀口內沿切齊，如(E)。可由螺絲(C)調整。壓力片(F)前端與固定刀前端之距離約為1mm，調整時，可放鬆螺絲(G)移動壓力片(F)。(圖27)

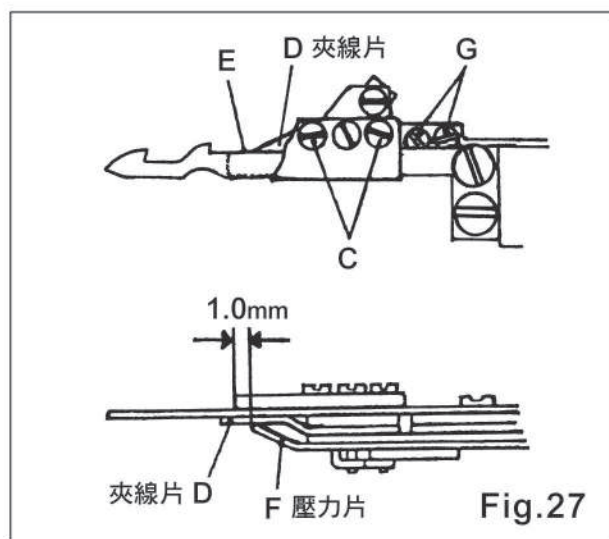


### A. THE RELATIVE POSITION ADJUSTMENT OF BOTTOM TRIMMER CUTTING PARTS.

Remark :

Before you install the new Trimmer set into machine, Please always to check the relative position, the situation of sliding and the trimming effect.

1. When Lower Moving Knife move to the right, the Moving Knife hook (A) of right hand side one align with the tip (B) of Fixing Knife. When the Lower Moving Knife move to the right dead point, The Moving Knife hook of left hand side one pass the tip of Fixing Knife in 1.0mm. Loosen the screw (C) for adjusting the position of Fixing Knife. (Fig.26)
2. The edge of Clamp Spring (D) align with the inside edge of Moving Knife of right hand side hook (E). Please loosen the screw (C) to adjust the position of Clamp Spring and Fixing Knife. The distance between the top of Clamp Spring Pressure and top of Fixing Knife is about 1mm. Please loosen the screw (G) to adjust the position of Clamp Spring Pressure. (Fig.27)



### 3. 夾線彈簧片的壓力調整：

當下勾針線被切斷後，下勾針這端之線頭須被夾線彈簧片與活動刀片穩定夾住。調節夾線彈簧之壓力，可由螺絲(H)旋轉調整。(順時鐘方向壓力愈強，反時鐘方向壓力變弱)。(圖28)

### 注意：

夾線彈簧片之壓力調整須適中，壓力太強會減短活刀片之壽命，壓力太弱則下勾針線頭易脫落。壓力之強度以能輕易切斷線即可。

3. When the looper thread has been cut off, the Clamp Spring and Moving Knife will clip the thread in stable. To increase the pressure of clipping thread turn the screw (H) clockwise and decrease the pressure turn the screw (H) counter-clockwise. (Fig. 28)

### Remark :

The pressure of Clamp Spring must be moderate. If the pressure has been adjusted into too strong, it will decrease the life of Moving Knife. If the pressure has been adjusted into too weak, the looper thread will easy to lose from the Clamp Spring. What is moderate pressure? It is meaning that the pressure to cut the thread easily.

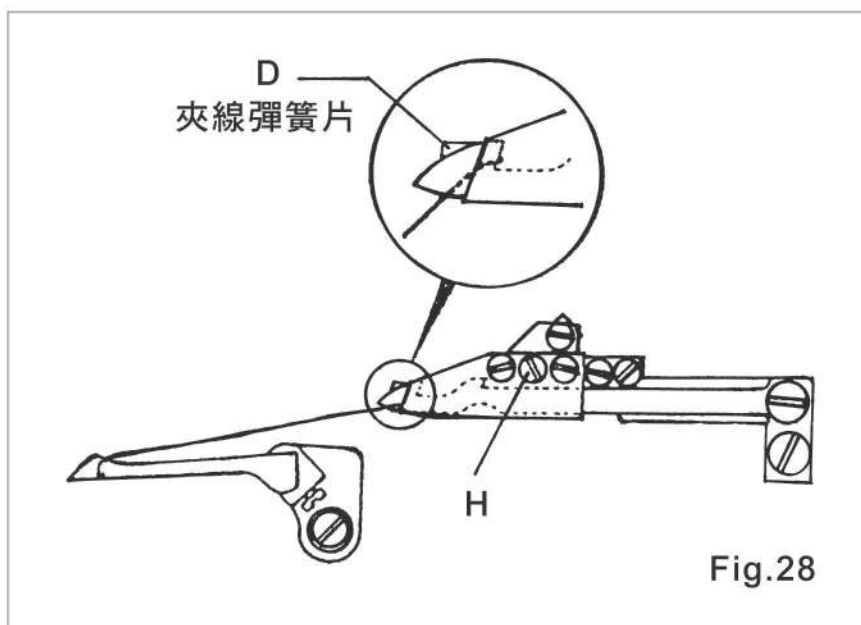


Fig.28



## B 下切刀組、切線之相關位置：

### 1. 下切刀組之前後位置—

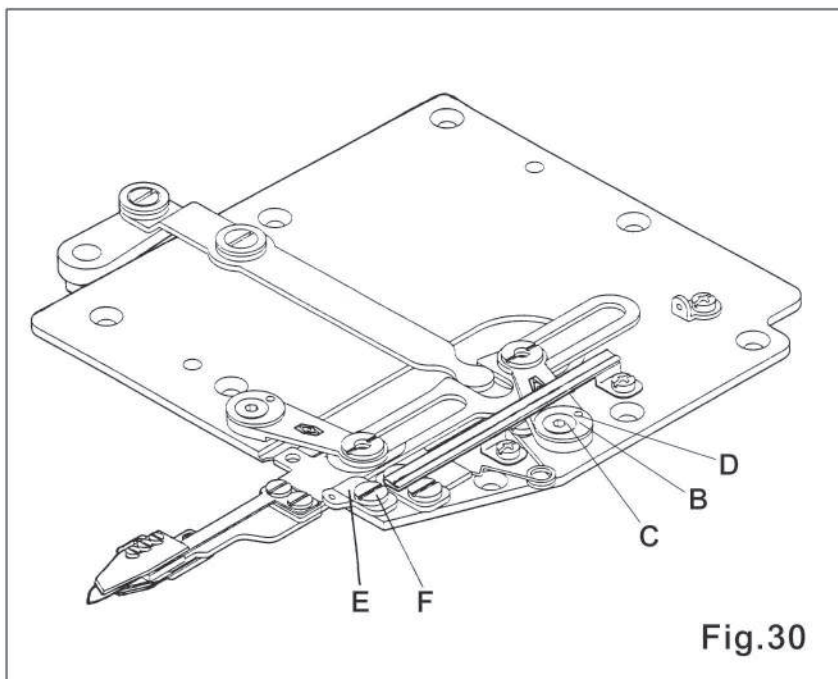
當下切刀組由右定點移出至下勾針右側時(第一段動作)活動片之刀尖(A)，約位於下勾針寬度中心，前、後1/2位置。(圖29)

調整時可放鬆搖臂之偏心輪(B)上之螺絲(C)，再轉動偏心輪，使活動刀片移到正確位置。

偏心輪上之記號(D)正常時，大約處於3點鐘方向位置。(圖30)

### 注：

當要調整偏心輪(B)改變切刀角度位置時，必須先放鬆下切刀托架導引片(E)上之螺絲(F)，等調整好切刀組角度後再將導引片(E)輕輕靠在下切刀托架，鎖緊螺(F)。(圖30)



## B. THE RELATIVE POSITION ADJUSTMENT OF BOTTOM TRIMMER.

### 1. The Front and Rear position of Bottom Trimmer—

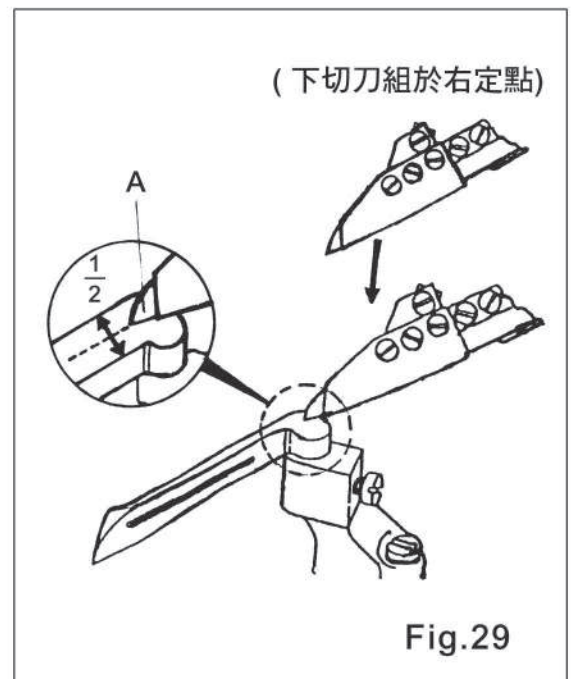
When the trimmer moves out from right dead point to the right hand side of looper, (1st action) the tip of Moving Knife (A) aim to the center of looper ridge. (Fig. 29)

Please loose the screw (C) of Knife Guide Lever Eccentric Ring (B) and turn the Eccentric Ring for regulating the Moving Knife into right position.

Please set up the mark (D) of Eccentric Ring to 3 o'clock position in ordinary. (Fig.30)

### Remark :

When you would like to adjust the Eccentric Ring for changing the angle of under trimmer, please loose the screw (F) of Lower Knife Carrier Guide. (E) Please let the Lower Knife Carrier Guide (E) touch Lower Knife Carrier in gently and lock the screw (F) down after the angle of trimmer have been adjusted. (Fig. 30)



## 2. 下切刀組之左右位置—

當下切刀組之活動刀片(A)往左移至左定點時，活動刀(A)之刀尖，須超出下勾針(B)之左邊穿線孔約1mm。(圖31)調整時，可放鬆連結滑塊(C)上的螺絲(D)，再用螺絲刀旋轉螺絲(E)，微調活動刀片左右位置至正確點後，再鎖緊螺絲(D)。(圖32)

### 注意：

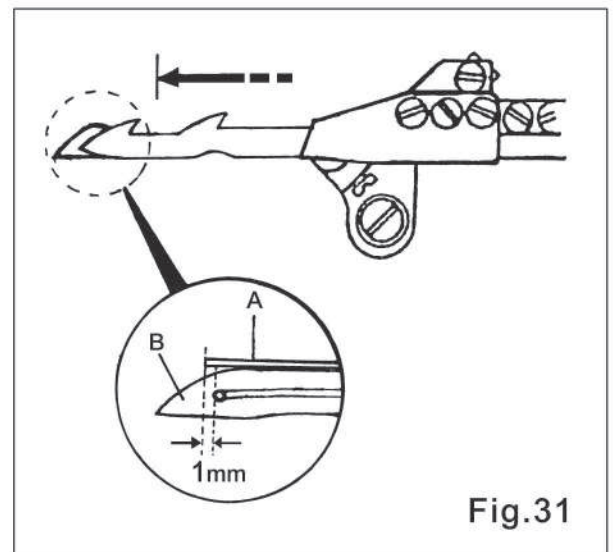
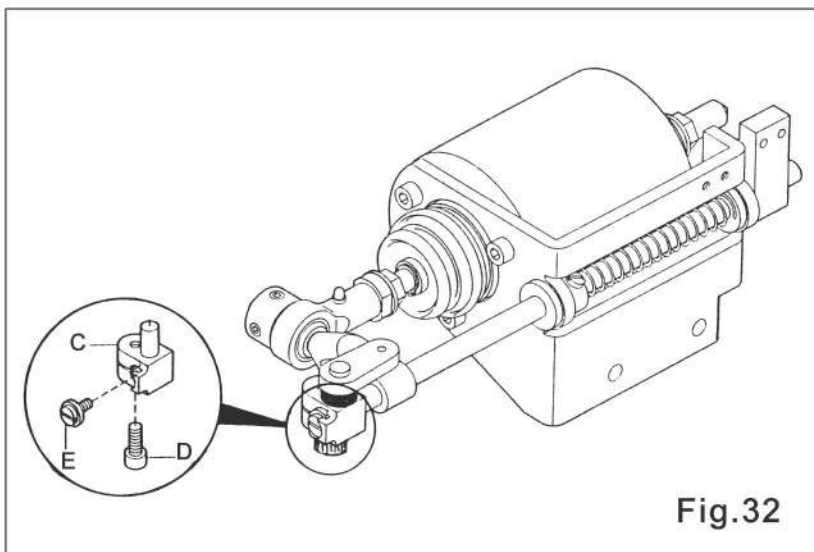
1. 下切刀組完成調整時，須再次用手動移出活動刀片，確認相關位置是否正確、順暢。
2. 當必須調整下切刀組相關位置時，須確認針棒是否處於上定點，下勾針位於左定點(此為切線點)。

## 2. The Right and left position of Bottom Trimmer—

When the Moving Knife move to the left dead point, the tip of Moving Knife has passed 1mm over than the threading hole of looper. (Fig. 31) When you would like to adjust the right & left position of Moving Knife. First, please loose the screw (D) of Connecting Block (C), to turn the screw (E) by screwdriver for micro adjusting the correct right & left position of Moving Knife., then to locked the screw (D) down. (Fig.32)

### Remark :

- (1)When you finish adjusted, please be moved the Bottom Trimmer by hand to confirm the relative position correctly & smoothly.
- (2)When you adjust the relative position of Bottom Trimmer, please always confirm the needle bar in the top dead point & the looper in the left dead point which are the timing of cutting thread.



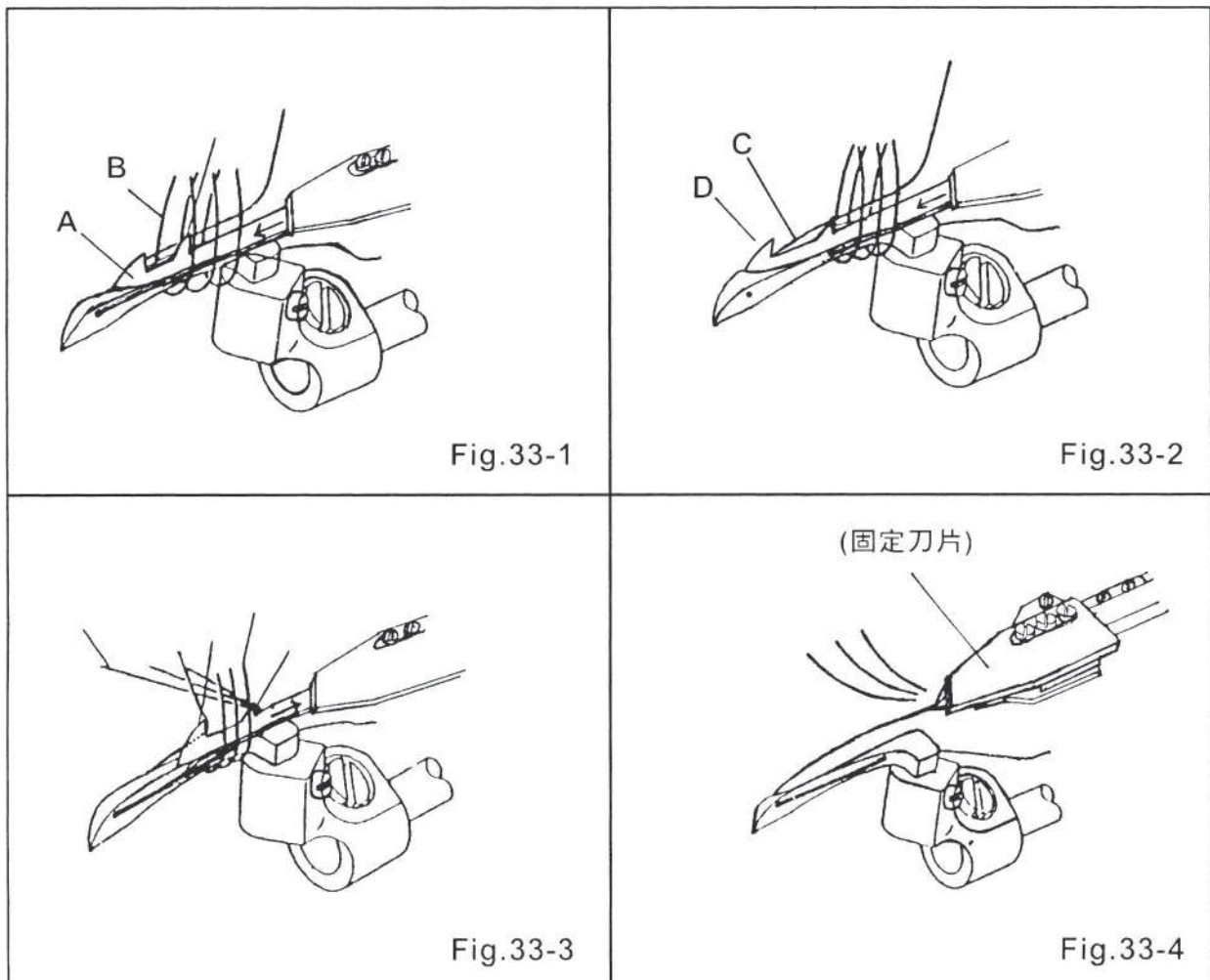


### C 下切刀組與針線及下勾針線之關係：

1. 當活動刀片(A)往左邊移時，必須通過針線之線環(B)。(圖33-1)
2. 當活動刀片往左移至左定點時，下勾針線(C)須滑入活動刀片(A)之左邊刀口(D)內。(圖33-2)
3. 活動刀片往右回移時，活動刀片右刀口須勾住針線，左刀口勾住下勾針線，一起往右拉回。(圖33-3)
4. 針線及下勾針線由活動刀片拉回與固定刀切斷，針線切斷後自然脫落，下勾針線靠下勾針一端線頭須穩穩夾住於切刀。(圖33-4)

### C. THE RELATIVE POSITION OF NEEDLE, LOOPER THREAD AND BOTTOM TRIMMER.

1. When the Moving Knife (A) move to the left which must be passed the loop (B) of needle thread. (Fig 33-1)
2. When the Moving Knife move to the left dead point which looper thread must be dropped into the left hook (D) of Moving Knife (A). (Fig.33-2)
3. When the Moving Knife move to the right, the right hook of Moving Knife must hooks the needle thread and left hook must hooks the looper thread to pull into right side in same time. (Fig.33-3)
4. The needle & looper thread are pulled back by Moving Knife and be cut by Fixing Knife. The needle thread must be cut in efficiently and looper thread has clipped by Bottom Trimmer in stably. (Fig.33-4)



## D 上切刀組與上飾線、針及勾針之關係：

注：

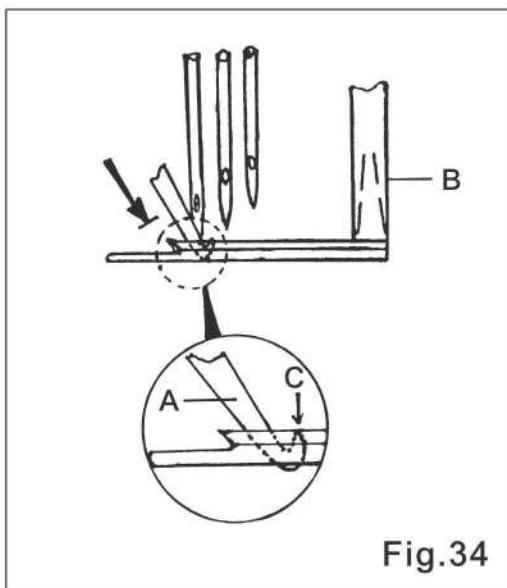
安裝調整上切刀組前，必須先確認針棒是否停於上定點，且上勾針之相關位置必須處於正常狀態下。

### 1. 下切刀組高度調整：

當活動刀片(A)移至最低點時活動刀之刀尖與上勾針(B)之上沿須切齊等高(C)。(圖34)調整時放鬆上切刀組(D)上之兩個螺絲(E)，再上下移動上切刀組之位置。(圖25)

### 2. 上切刀組之刀片壓力調整：

上切刀組之活動刀與固定刀壓力可由螺絲(F)旋轉微調至適當壓力。(圖35)



## D. THE RELATIVE POSITION OF SPREADER THREAD, NEEDLE, SPREADER AND TOP TRIMMER.

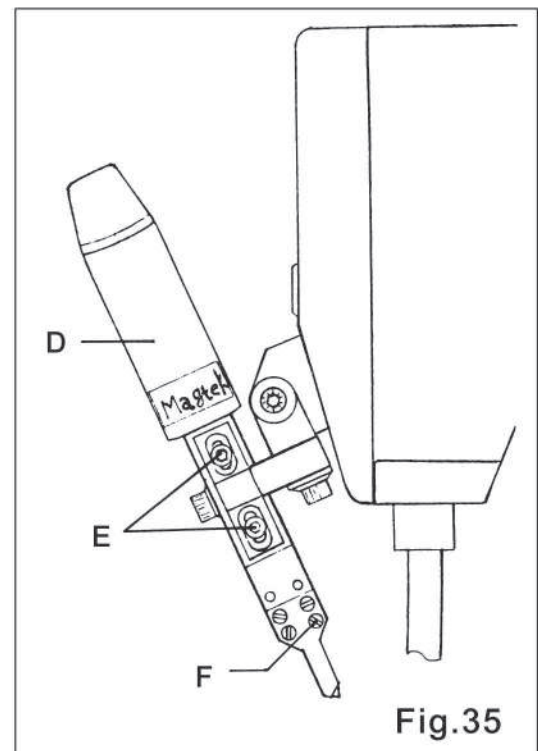
### 1. The height adjustment of Top Trimmer —

When the Top Trimmer Moving Knife move to the lowest point, the tip (C) of Moving Knife align with top of Spreader (B). (Fig.34)

To loose the two screws (E) of Top Trimmer (D) then, to adjust up and down for top trimmer position. (Fig.35)

### 2. The pressure adjustment of Top Trimmer —

The pressure of Top Trimmer Moving & Fixing Knife which be adjusted via micro turn the screw (F) to get the suitable pressure. (Fig.35)





### 3. 上切刀組角度之調整：

注：

調整上切刀組角度前，須先調好上切刀組之高度。

當活動刀片(A)往下移至下定點時，活動刀片(A)須位於針及上勾針(B)之間隙中央，特別注意不可和針磨擦碰撞(圖36)。且活動刀片(A)往下移時，刀片前端斜面須和上飾線有磨擦接觸情形(C)(圖37)，當活動刀片往上收刀時，上飾線才能順利滑入刀槽內。

調整上述關係位置時，可放鬆上切刀組(D)之固定座上螺絲(E)、(F)、(G)調整。(圖38)

三個螺絲放鬆順序為(E)→(F)→(G)；鎖緊時則反向順序為(G)→(F)→(E)。

### 3. The angle adjustment of Top Trimmer—

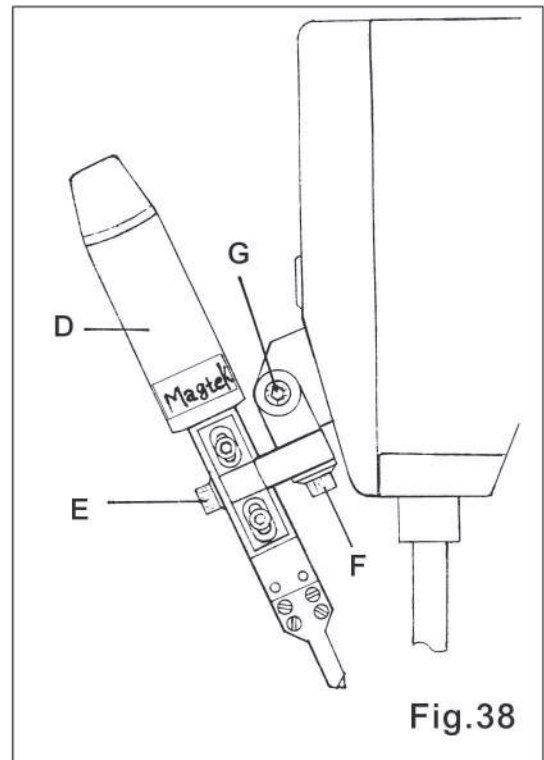
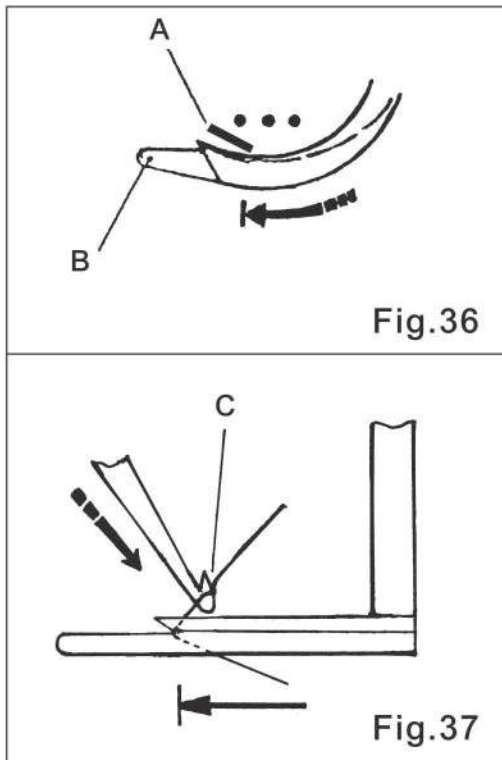
Remark :

Before to adjust the angle of Top Trimmer, please make sure the height of Top Trimmer is correctly.

When the Top Trimmer Moving Knife (A) move to the lowest point, the Moving Knife (A) must be located in the center of needle and spreader (B). We would like to special mention that the Moving Knife don't touch and collide the needle. (Fig.36) When the Moving Knife moves down, the top bevel of Moving Knife must be touch the spreader thread (C) (Fig.37) which will cause the spreader thread drop into the hook of Top Trimmer Moving Knife.

To adjust the above relative position, please loose three screws (E), (F), (G) of Top Trimmer Fixed Block for adjusting. (Fig.38)

To loose the three screws step is (E)-(F)-(G) and lock down step is (G)-(F)-(E).



## E 撥線器相關位置調整：

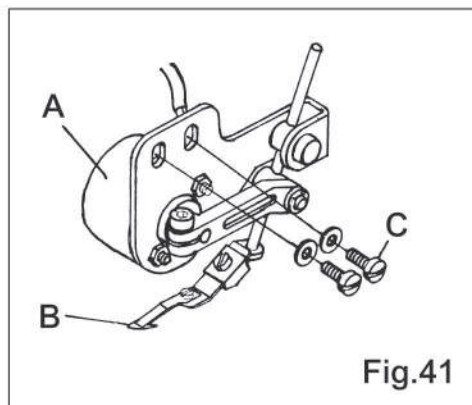
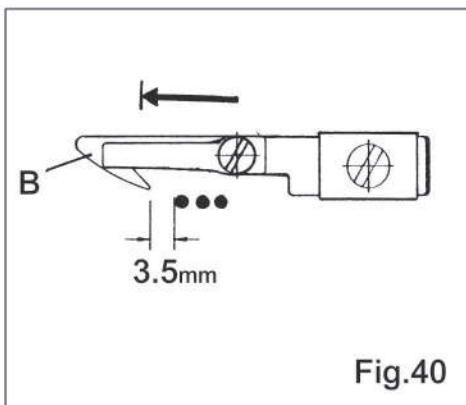
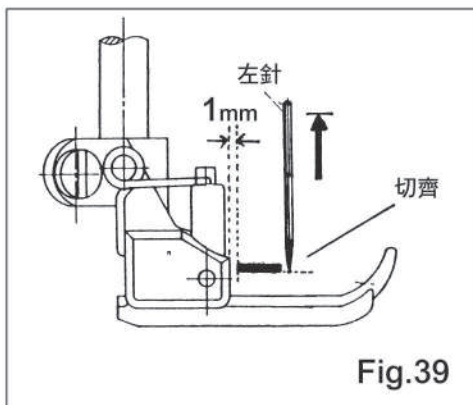
1. 撥線器(A)之高度—  
當撥線片(B)往下擺動至呈水平狀態時，撥線片底部與左針之針尖正好切齊，此為撥線器之高度。(圖39)
2. 撥線片(B)之前後位置—  
當撥線片(B)通過押腳時，撥線片與押腳前沿之間隙為1mm。(圖39)
3. 撥線片(B)之左右位置—  
當撥線片(B)移到左定點時，撥線片之勾線尖端與左針之距離約為3.5mm。(圖40)

注：  
調整時，可放鬆兩個螺絲(C)，調整撥線器(A)之相關位置。(圖41)

## E. THE RELATIVE POSITION OF TOP WIPER.

1. The height of Top Wiper (A)—  
When the Wiper (B) swings to the bottom in level, the bottom of Wiper align with the tip of left needle which is the height of Top Wiper. (Fig.39)
2. The front & rear position of Wiper (B)—  
When the Wiper (B) passed the Presser Foot, the clearance between the Wiper and Presser Foot is 1mm. (Fig.39)
3. The right & left position of Wiper (B)—  
When the Wiper (B) swings to the left dead point, the clearance between the hook tip of Wiper and left needle is 3.5mm. (Fig.40)

Remarks :  
To loose the two screws (C) for adjusting the relative position of Top Wiper (A). (Fig.41)



## 簡易故障排除

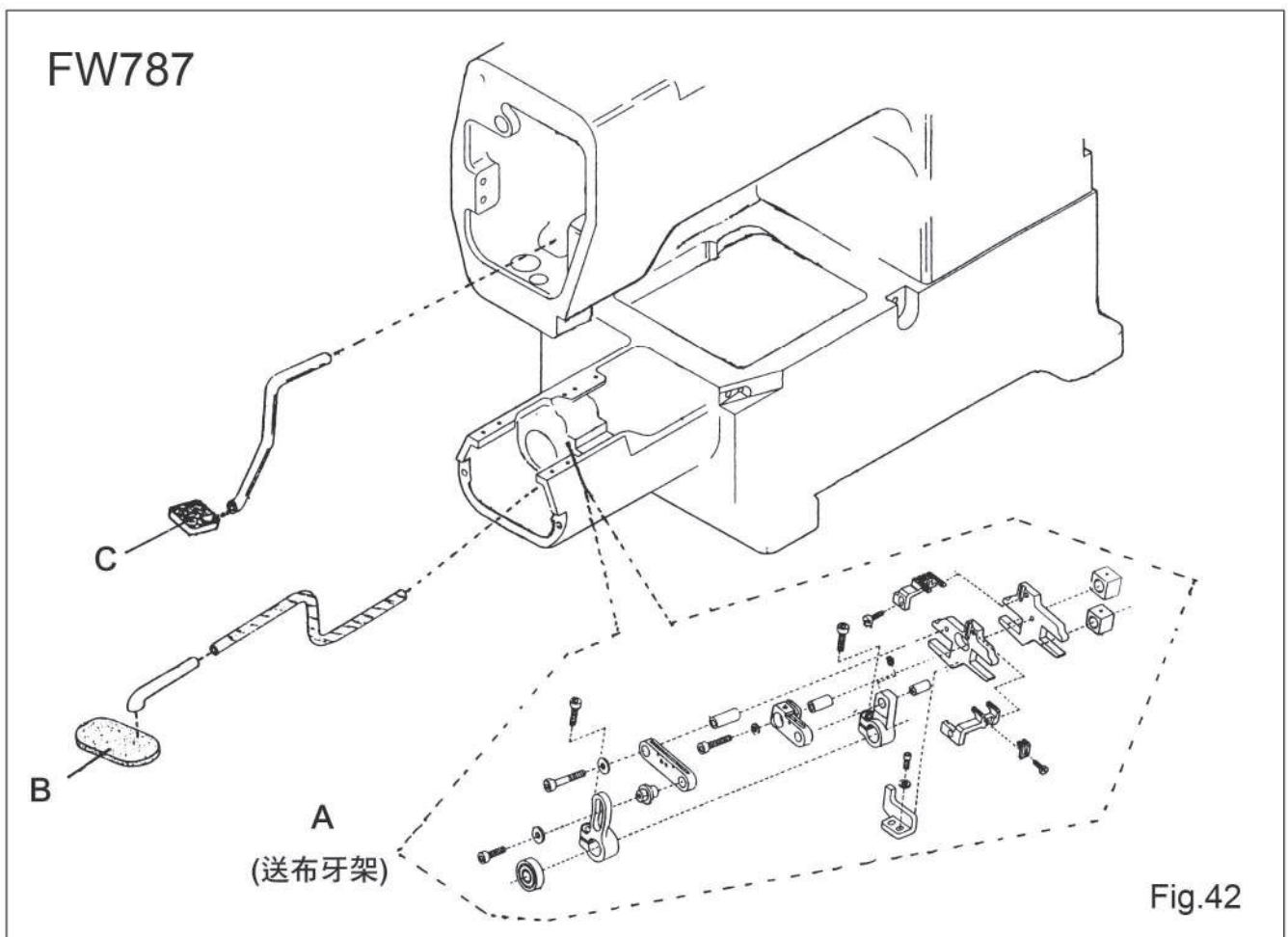
## REGULAR MAINTENANCE :

### A 清潔保養：

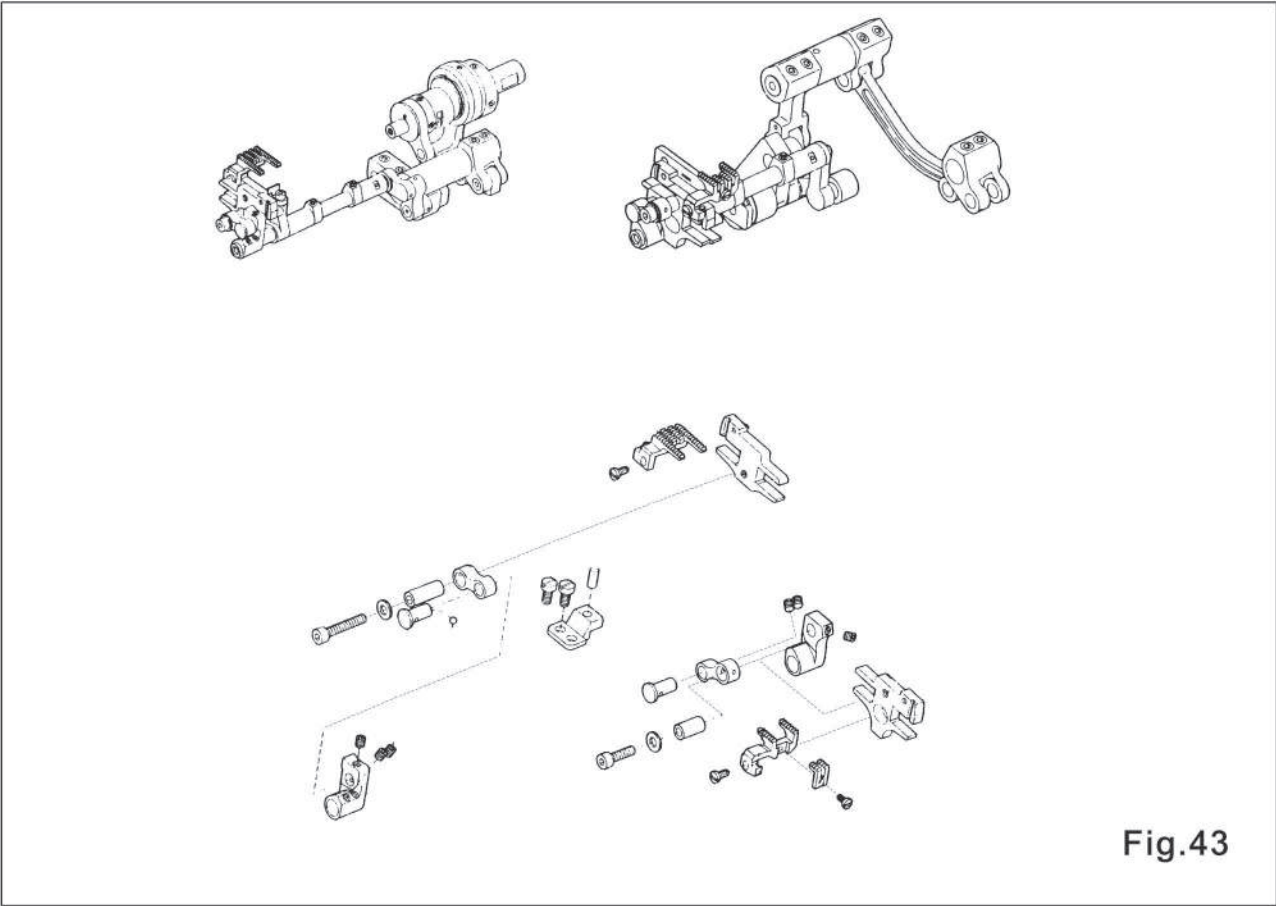
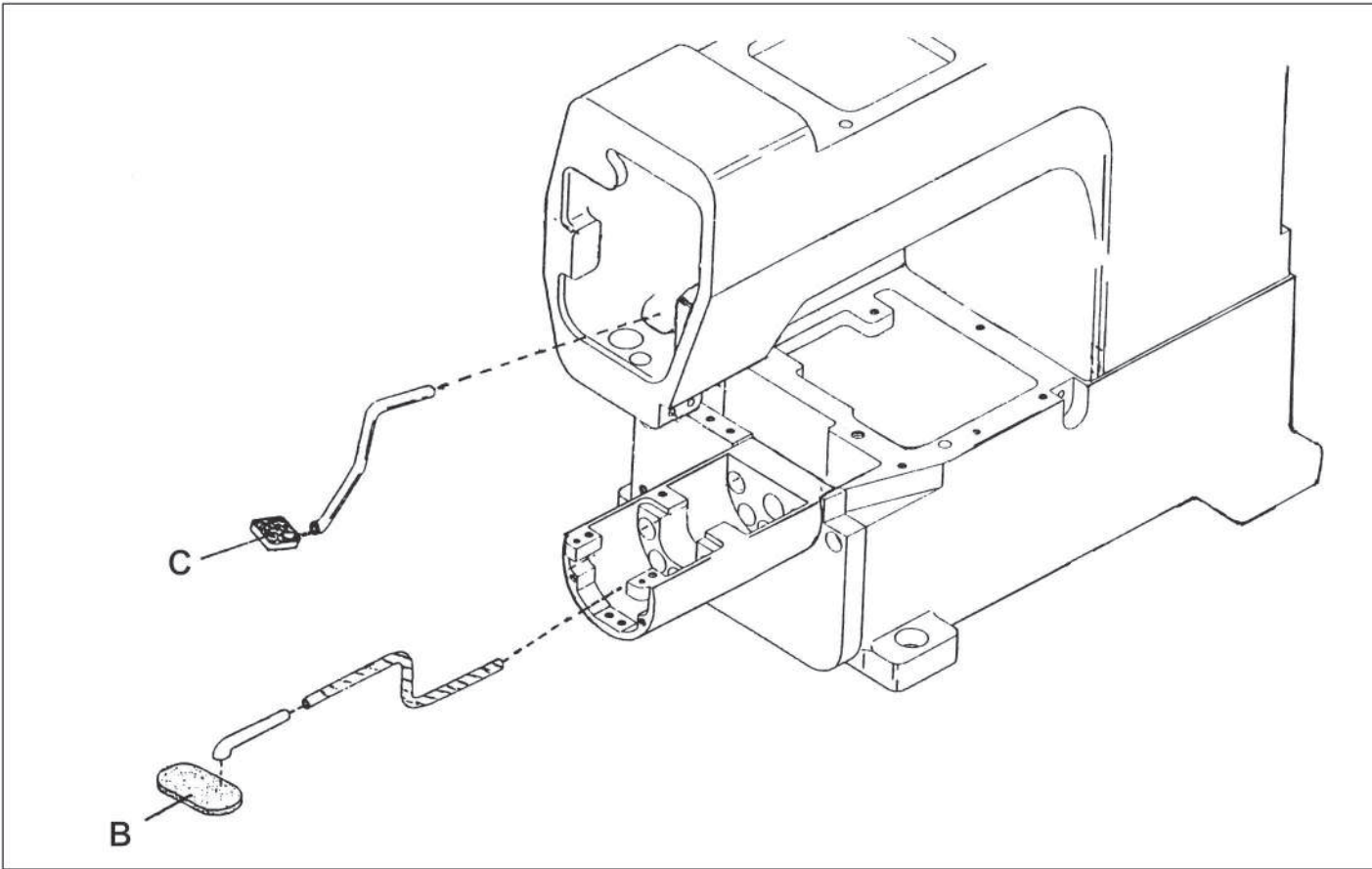
1. 機器外表須經常保持乾淨避免棉屑阻塞過線孔及夾線片，造成線跡不順。
2. 針板下方之送布牙架結構(A)縫隙之清潔最為重要，須經常清除乾淨。如有積油而造成滲油情況，就是棉屑累積太多或吸油管阻塞造成的。故須定期清除送布牙架(A)裡面及更換回油管之吸油海棉(B)、(C)。(圖42)

### A. THE CLEAR AND MAINTENANCE.

1. Please always clean the machine appearance to avoid the cotton waste obstructs the threading hole and thread clamp which to cause the stitch unstable.
2. It's very import to always clean the crack (A) of feed dog system which under the needle plate. If the cotton waste accumulate too many in cylinder or block the suck oil tube for which will cause the oil leaking. Please always clean the Feed-Dog System and change the felt of suck oil tube (B), (C) in regularly. (Fig.42)







(送布牙架結構圖)

Fig.43

## B 故障(用戶)自主檢查：

**狀況1**：跳針、斷線—

排除：

- A 是否使用錯誤型號之機針。
- B 使用機針是否已彎曲，毛邊或未裝至定位或未裝正。
- C 車縫線是否存放過久或線本身粗細不均，接頭太多或有漏穿線情形。
- D 注意針線及底線(下勾針線)之控線沙拉組是否太緊或太鬆。
- E 底線(下勾針線)之控線凸輪時位關係，檢查是否已走位。(此項須由技術人員檢查調整)
- F 檢查前後護針片之相關位置是否正確。(此項須由技術人員檢查調整)
- G 下勾針尖是否已毛邊磨損，或下勾針與針之時位關係已被調整走位。(此項須由技術人員檢查調整)

**狀況2**：車縫不順產生布料波浪或斜紋狀況—

排除：

- A 針對布料性質調整前牙差動比率：
  - 波浪情形—前牙差動調大；
  - 斜紋情形—前牙差動調小。
- B 注意押腳壓力須適中，且不能與針板面有間隙。

## B. ERROR MESSAGES (THE USER INSPECTS THE MACHINE BY THEMSELVES)

**Status 1**: Skipped Stitch, Broken Thread-Solution :

- (a) Do you use a wrong model needle?
- (b) Does the needle bent? Does the tip of needle cracked? Or, the needle doesn't be installed in correctly position.
- (c) Does the thread keep in stock too long? Does the thread's thickness uneven? Does the thread too many connectors? Or, there is lose threading some threading eyelet.
- (d) Please check the tension of needle & looper thread have been adjusted too loosen or too tight by Thread Tension Adjuster.
- (e) The looper thread take-up is out of timing. (Please ask the machinist to check and adjust it.)
- (f) Please check the relative position of Front & Rear Needle Guard are correctly. ( Please ask the machinist to check and adjust it.)
- (g) Please check the tip of looper have cracked or wore. The timing of looper and needle is out of order. ( Please ask the machinist to check and adjust it.)

**Status 2**: The Unstable Sewing engender Puckering and the folding parts didn't be seamed in even -

Solution :

- (a) To refer the nature of fabric for adjusting the differential feed-dog. Differential Rate :
  - Puckering — To adjust the differential feed-dog ratio in large.
  - The folding parts didn't be seamed in even-To adjust the differential feed-dog ratio in small.
- (b) The pressure of presser foot must be moderately. Please take care that the needle plate between presser foot didn't have any gap.



- C 送布牙須視車縫布料之厚薄、伸縮性質，調整適當高度。
- D 車縫人員控制衣物之手勢、力道，須視布料性質不同做配合。

**狀況3**：機器產生異音情形—

排除：

- A 檢查機頭與桌板之固定螺絲、墊片、防振塑膠等之安裝方式是否未依安裝說明安裝，而產生桌板共振之異音。(以直驅式小馬達機器為主)
- B 檢查機器前蓋、面蓋螺絲是否有鬆脫或有因拆裝後未密合即再鎖緊，而產生的異音。
- C 檢查油量是否太少，造成機器潤滑不夠、發燙產生之異音。

**狀況4**：不噴油或不吸油情形—

排除：

- A 檢查噴油管及吸油管是否有破裂或接頭未鎖緊而有漏氣情形。
- B 送布牙架下方之吸油管及針棒內側之吸油管、如有積油情形時須檢查是否因棉屑累積太多未清除造成吸油管阻塞。

- (c) The height of feed-dog must be refer to the nature of fabric for adjusting a reasonable height.
- (d) The operator is according to the nature of fabric for adjusting the holding way of sewing and the tension of fabric be seamed.

**Status 3** : The machine noise in operation-  
Solution :

- (a) Please always follow the installation to fix the machine head and table. The wrong installation will engender the noise which come from the machine head and table resonance.  
( Main item : D.D. Type Mini ServoMotor)
- (b) Please check the front cover and screws. If the noise come from the loosen screw or front cover, please screw and fix them again.
- (c) Please check the lubrication oil is enough or not? If the lubrication oil isn't enough which will to cause the machine noise and heat.

**Status 4** : The lubrication system don't spout out the oil or inhale the oil back-

Solution :

- (a) Please check the oil tube have broken or not? Does the connector be locked well? If the oil tube had broken, please change it. If the connector didn't lock well, please lock it well.
- (b) If there are a lot of oil in the bottom of cylinder-bed or the bottom of needle bar, please check these two places have accumulated a lot of cotton waste to block the Inhale Oil Tube or not?  
"Please always clear the cotton waste at least two times per week."



C 檢查吸油管與吸油海棉是否正常接觸。

**狀況5**：機器產生異音情形—

排除：

- A 切線點不對，機器停的時候針棒是否未停在上死點。
- B 下切刀之活動刀片，前進至左定點時，行程是否不夠。
- C 下切刀組向左前方移出時(第一段動作)刀尖之前後位置是否不正確。
- D 刀片彈簧壓力是否調得太弱。
- E 檢查活動刀，固定刀是否有磨損或相關位置有異位。
- F 電壓過低造成傳動之電磁閥力道變弱。
- G 針板下方棉屑是否積存太多而影響活動刀無法準確進入線圈。

**狀況6**：上飾線(網線)切大斷情形—

排除：

- A 依照上切刀之調整說明，檢查活動刀片剪線之相關位置是否正確。
- B 檢查上切刀上之彈簧壓力是否太弱。
- C 檢查上勾針之相關位置及行程是否正確。

(c) Please check the Inhale Oil Tube have connect with Inhale Felt in correctly place.

**Status 5** : The "Bottom Trimmer" can't cut the needle & looper thread out -

Solution :

- (a) The point of trimming is incorrect. The needle bar didn't stop at top dead point when the machine stop.
- (b) The moving knife of bottom trimmer move to the left dead point which the moving stroke isn't enough.
- (c) In 1st motion of Bottom Thread Trimmer, the tip of moving knife which position is correctly or not?
- (d) Is the pressure of clamp spring too weak?
- (e) Please check the moving & fixing knife have abraded or relative position is out of order.
- (f) As the voltage drop, to cause the power of solenoid for trimmer is going to weak.
- (g) There is too much cotton waste to accumulate under the needle plate which impede the moving knife didn't enter the thread hole imprecisely.

**Status 6** : The "Top Trimmer" can't cut the spreader thread out-

Solution :

- (a) Please follow the installation manual of top trimmer to check all of top trimmer relative position is correctly or not?
- (b) Please check the pressure of top trimmer clamp spring is too weak or not?
- (c) Please check the relative position & stroke of spreader is correctly or not?

**狀況7**：撥線器無法將針線頭撥起時—  
排除：

- A 先試縫確認每次切線時，針線是否每次都有被下切刀完全切斷；因針線未被下切刀切斷時，撥線器則無法順利將線頭撥離針板面。
- B 檢查撥線器，安裝之位置是否有依前述說明正確安裝。
- C 檢查撥線器，回歸時彈力是否異常太弱，有活動不良的情形。

註：

如是針線未被切斷導致撥線器無法將線頭拉出而卡在針下方時，必須先用剪刀剪斷針線，使撥線器之撥線勾針能回歸原點，否則會造成針與撥線勾針相互碰撞的情形。

**狀況8**：前踩踏板、機器不能運轉時—  
排除：

- A 檢查保護下切刀組回歸定位之安全開關小綠燈是否亮著(位於機頭後方，安全開關上)。如未亮則表示下切刀組未回歸定位，安全開關自動斷電以保護下切刀不被碰撞。
- B 檢查電腦控制箱顯示之代號，再對照馬達說明書之故障代號說明，排除問題。

**Status 7** : The thread wiper can't take the needle thread up -

Solution :

- (a) Please double confirm the bottom trimmer have always cut the needlethread. If the needle thread didn't be cut out, the wiper is impossible to take the needle thread up. (\*)
- (b) Please check the position of thread wiper have followed the installation manual to set up in correctly.
- (c) Please check the return elasticity of top wiper is too weak, or the wiper didn't move smoothly.

Remark :

If the needle thread didn't be cut by trimmer which will cause the "Top Wiper" can't take the needle thread up. Please use the thread clipper to cut the needle thread which didn't be cut by under trimmer. To let the "Top Wiper" return backto the initial place which to avoid the hook of wiper crash the needle.

**Status 8** : To step on the pedal in the front which the machine didn't operate -

Solution :

- (a) Please check the green light on the Under Trimmer Position Security Switch is be switched on or off. (The green light locate at back side of machine head) If the green light is be switch off which meaning is that under thread trimmer didn't return back the position, the Security Switch have broken the electric power in automatic which to avoid the Loooper crash the under thread trimmer.
- (b) Please check the error code which be showed on the screen of control box. then, to follow instruction manual for solving the problem.



C 檢查機頭馬達與電腦控制箱之中繼線、插頭是否有鬆脫或未插緊，而造成接觸不良的情形。

**狀況9**：後踩踏板時，切刀組及自動抬押腳全無動作之情形—

排除：

- A 檢查機頭後方之連接端子上電線是否脫落，造成各活動部位(下切刀、上切刀、抬押腳)未接收到訊號，而無法動作。
- B 用手動方式檢查切刀機構及鬆線機構是否順暢無卡死情形。
- C 檢查電腦控制箱上顯示之代號，對照說明書上顯示之代號，對照說明書上之異常狀況為何。

## C 敬愛的用戶們:

這本「操作說明書」希望能使您更了解星銳公司的產品，也能助您排除一些異常狀況；如有任何無法解決或維修上的問題，非常歡迎您與我們各地區之經銷、代理商連絡，他們都非常樂意為您服務，謝謝大家的愛護與支持。

(c) Please check the plug of junction line which between the servo motor and control box. Have the plug been plugged in well? Or, the plug has plugged too loose which to cause the bad connection.

**Status 9** : To step on the pedal in rear which the Thread Trimmer System and Pressure Foot Lifter didn't operate -

Solution :

- (a) Please check the terminal of Top, Bottom Thread Trimmer and Pressure Foot Lifter junction line for which locate at backside of machine head. If the terminal didn't connect well, the signal is going to bad transmission to cause these moving parts didn't operate.
- (b) Please use your hand to push the Under Thread Trimmer System and Thread Pull-Off Mechanism. Then, Please check these mechanisms move smoothly or not?
- (c) Please check the error code which be showed on the screen of control box. then, to follow instruction manual for solving the problem.

## C. CONCLUSION :

Dear Users,

We hope this "Instruction & Maintenance Book" could offer you more information about our "Shing Ray" products and help you to solve these unusual conditions of our machine.

If you have any further requested and some problems about the maintenance, we are warmly welcome you to contact with our distributor and sloe agency in your country. All of them are willing to service you. Finally, we are sincerely to thanks all of yours continuing supports.

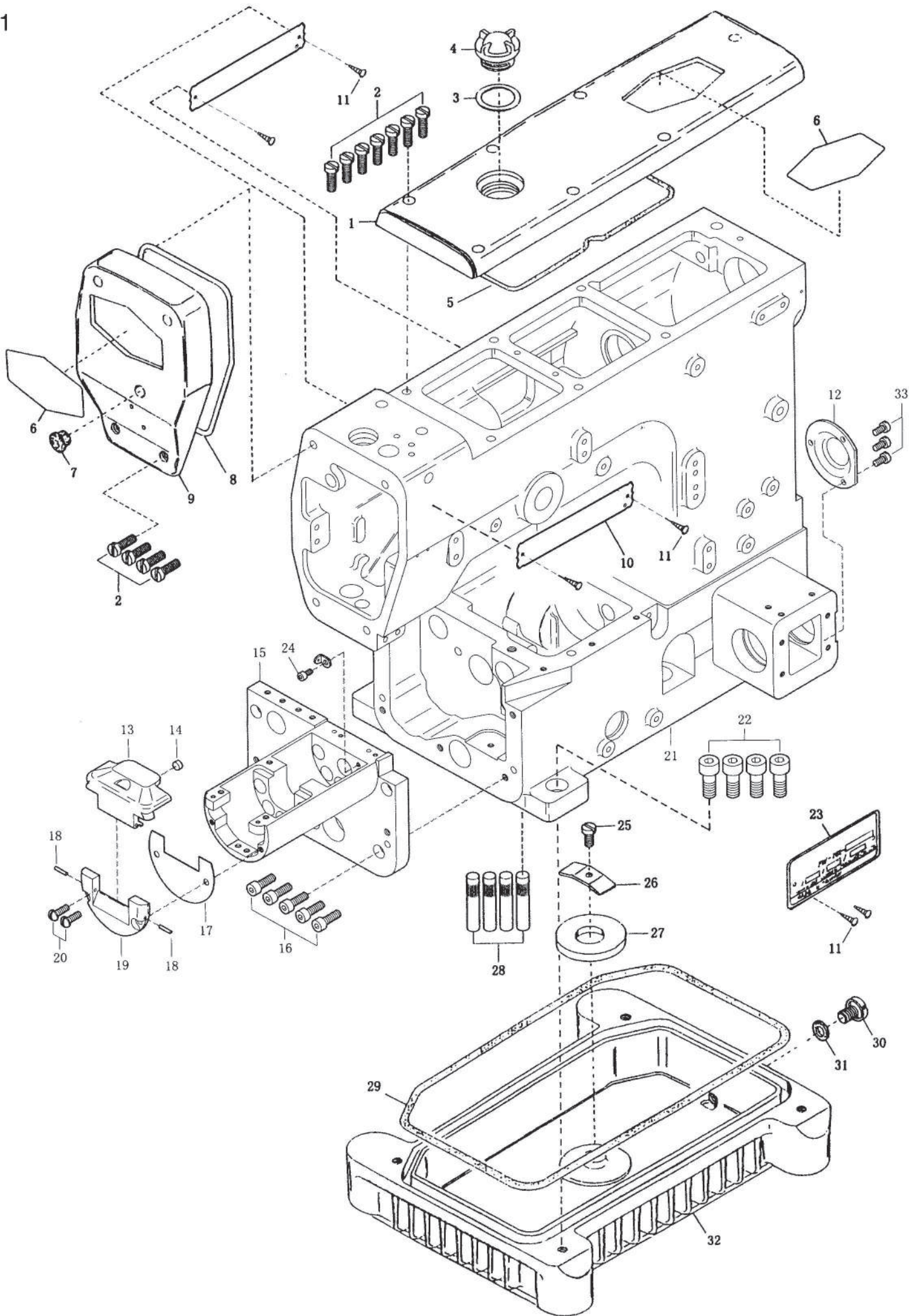


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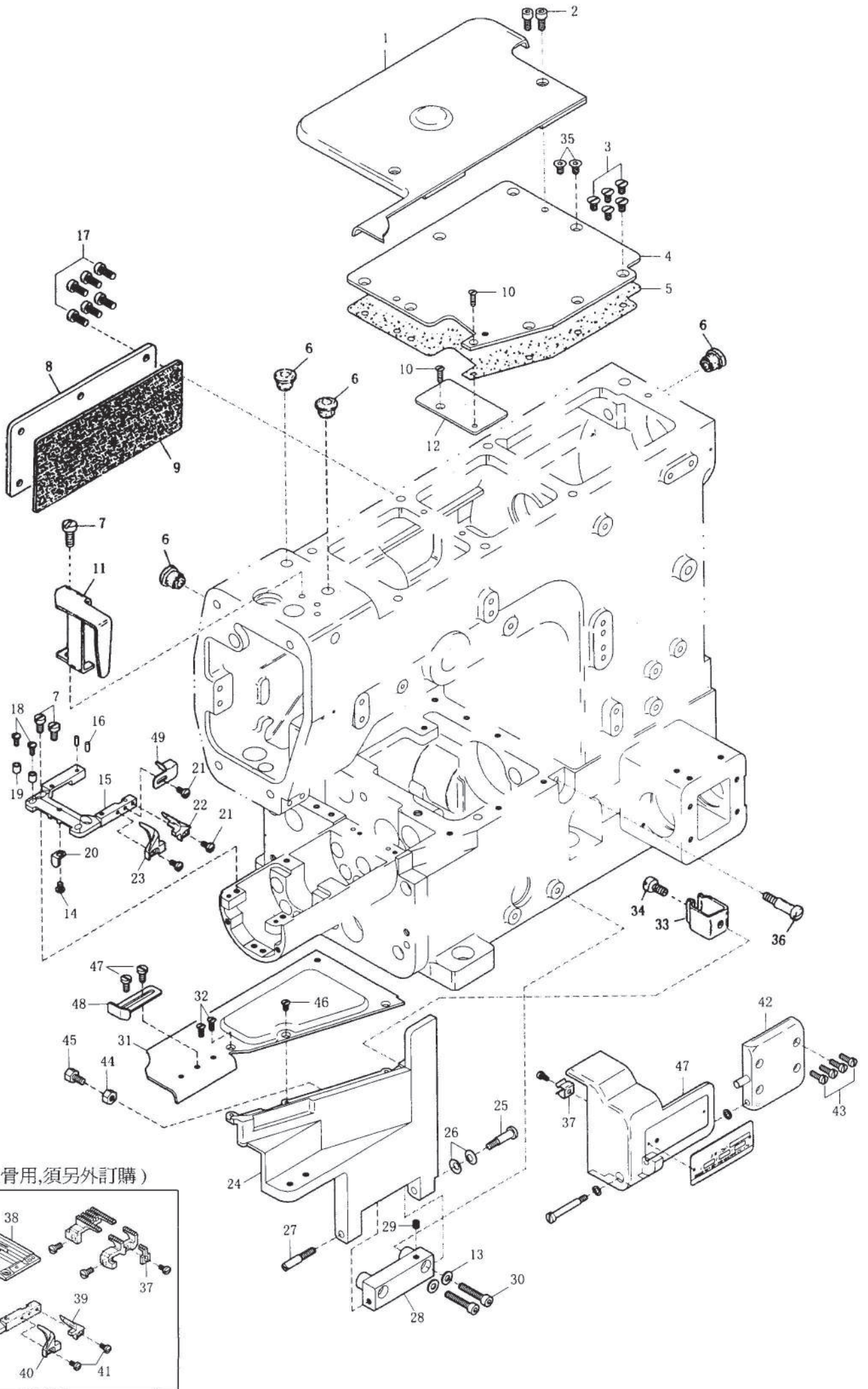
**MISCELLANEOUS COVERS(1)**

**機殼機構(1)**

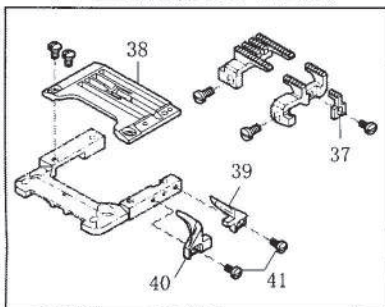
**1**

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W1-1	Top Cover	上蓋	1
2	W1-2	Screw(M4-0.7×12)	螺絲	11
3	W1-3	Oil Sight Seal	上油鏡油封	1
4	W1-4	Oil Sight Window	上油鏡	1
5	W1-5	Top Cover Gasket	上蓋墊片	1
6	W1-6	Emblem	銘牌	2
7	W1-7	Head Cover Seal Plug	上側蓋膠塞	1
8	W1-8	Head Cover Gasket	上側蓋墊片	1
9	W1-9	Head Cover	上側蓋	1
10	W1-10	Brand Name Plate (106)	公司名牌	2
11	W1-11	Rivet	鉚釘	6
12	W1-12	Loopier Thread Take-up Shaft Cover	底線分線盤傳動軸護蓋	1
13	W1-13	Cylinder Side Cover (Upper)	圓筒上側蓋	1
14	W1-14	Cover Latch Magnet	側蓋鎖門磁鐵	1
15	W1-15	Cylinder Frame	圓筒部機殼	1
16	W1-16	Screw (M5-0.8×16)	螺絲	5
17	W1-17	Gasket	止油墊	1
18	W1-18	Side Cover Hinge Pin	側蓋樞鈕插銷	2
19	W1-19	Cylinder Side Cover Hinge	圓筒側蓋樞紐	1
20	W1-20	Screw	螺絲	2
21	W1-21	Machine Frame Unit	機殼本體	1
22	W1-22	Screw (M8-1.25×20)	螺絲	4
23	W1-23	Model Plate (See the below)	型號銘牌	2
24	W1-24	Screw (M3-0.5×6)	螺絲	1
25	W1-25	Screw (M4-0.7×8)	螺絲	1
26	W1-26	Magnet Holder	磁鐵固定壓板	1
27	W1-27	Magnet	磁鐵	1
28	W1-28	Machine Frame Supporting Bar	機體支柱	4
29	W1-29	Oil Reservoir Gasket	油槽止油膠墊	1
30	W1-30	Screw (3/8-24×11.5)	螺絲	1
31	W1-31	Drain Hole Seal	排油螺絲油封	1
32	W1-32	Oil Reservoir	油槽	1
33	W1-33	Screw (M4-0.7×8)	螺絲	3
34	W1-34	Felt	羊毛氈	1





(車立骨用,須另外訂購)



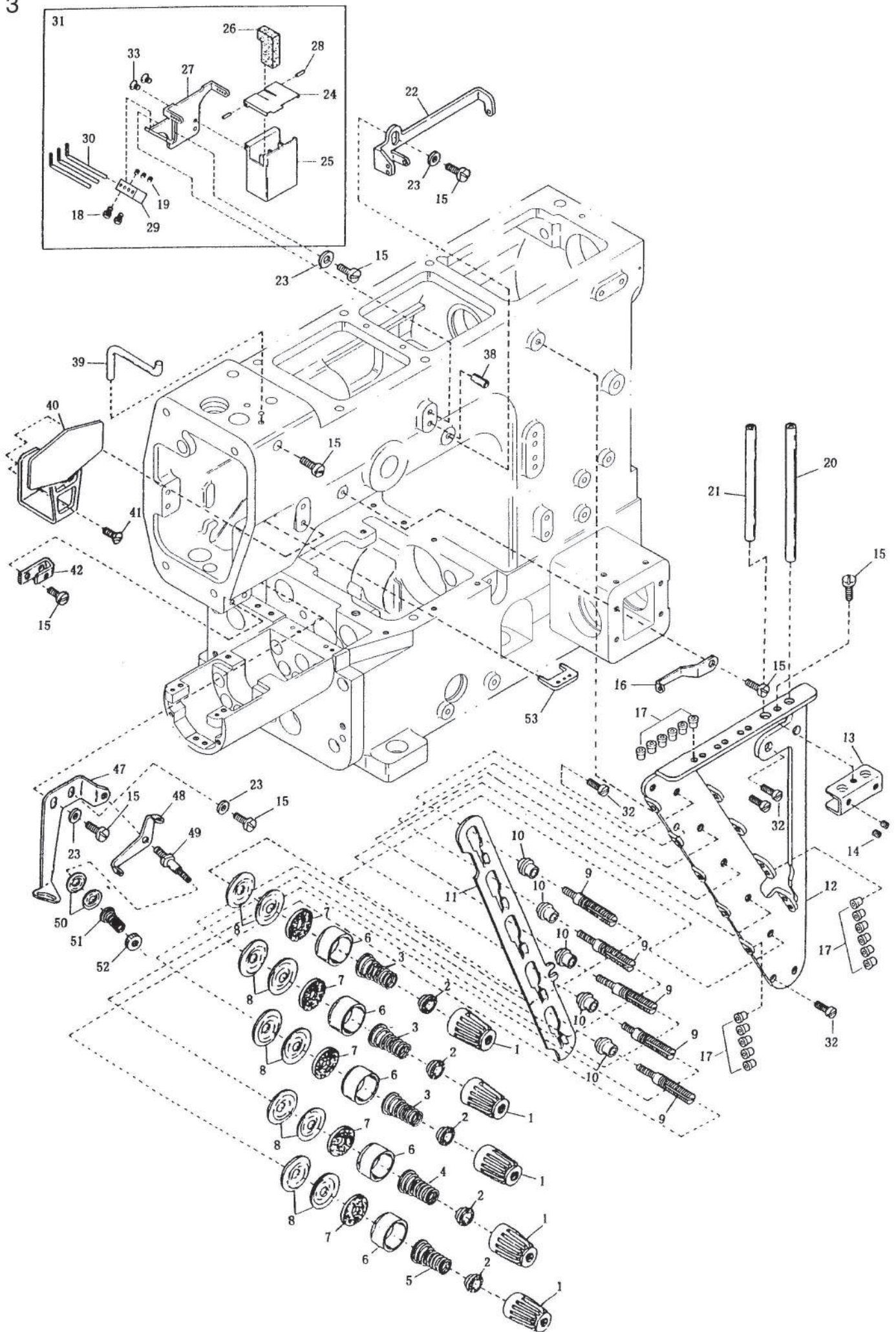
**MISCELLANEOUS COVERS(2)**

**機殼機構(2)**

**2**

Ref. No.	Parts No.	Description	品 名	Amt. Req.
1	W2-1	Cloth Plate (Large) .....	縫製平台 .....	1
2	W2-2	Screw (M4-0.7 × 10) .....	螺絲 .....	2
3	W2-3	Screw (M4-0.7 × 7) .....	螺絲 .....	5
4	W2-4	Crank Chamber Cover .....	曲軸室上蓋 .....	1
5	W2-5	Crank Chamber Cover Gasket .....	曲軸室墊片 .....	1
6	W2-6	Seal Plug .....	止油膠塞 .....	4
7	W2-7	Screw (M4-0.7 × 8) .....	螺絲 .....	3
8	W2-8	Rear Cover .....	後蓋 .....	1
9	W2-9	Rear Cover Gasket .....	後蓋墊片 .....	1
10	W2-10	Screw (M3-0.5 × 10) .....	螺絲 .....	1
11	W2-11	Needle Bar Guard .....	針柱護架 .....	1
12	W2-12	Crank Chamber Front Cover (Small) .....	曲軸室前蓋 (小) .....	1
13	W2-13	Washer .....	墊片 .....	2
14	W2-14	Screw (M3-0.5 × 4) .....	螺絲 .....	1
15	W2-15	Needle Plate Bracket .....	針板座 .....	1
16	W2-16	Knock Pin .....	頂出銷 .....	2
17	W2-17	Screw (M4-0.7 × 10) .....	螺絲 .....	6
18	W2-18	Screw (M3-0.5 × 6.5) .....	螺絲 .....	2
19	W2-19	Positioning Bushing .....	定位襯套 .....	2
20	W2-20	Cover Latch Magnet Plate .....	側蓋鎖門磁鐵吸片 .....	1
21	W2-21	Screw (M2.6-0.45 × 5) .....	螺絲 .....	3
22	W2-22	Fabric Guide (Right) .....	倒骨導布器 (右) .....	1
23	W2-23	Fabric Guide (Left) .....	倒骨導布器 (左) .....	1
24	W2-24	Front Cover (Lower) .....	前蓋底座 .....	1
25	W2-25	Screw (M4-0.7 × 8) .....	螺絲 .....	1
26	W2-26	Conical Spring Washer .....	錐形彈簧墊圈 .....	2
27	W2-27	Screw (M4-0.7 × 13) .....	螺絲 .....	1
28	W2-28	Front Cover Hinge .....	前蓋鉸鏈 .....	1
29	W2-29	Screw (M4-0.7 × 5) .....	螺絲 .....	1
30	W2-30	Screw (M4-0.7 × 22) .....	螺絲 .....	2
31	W2-31	Front Cover (Upper) .....	前蓋頂座 .....	1
32	W2-32	Screw (M3-0.5 × 6) .....	螺絲 .....	3
33	W2-33	Cover Latch Spring .....	鎖門彈簧 .....	1
34	W2-34	Screw (M4-0.7 × 8) .....	螺絲 .....	1
35	W2-35	Screw (M4-0.7 × 7) .....	螺絲 .....	2
36	W2-36	Screw (M4-0.7 × 5) .....	螺絲 .....	1
37	W2-37	Differential Feed Dog (Middle) .....	小齒 .....	1
38	W2-38	Needle Plate For Covering Seam .....	立骨用針板 .....	1
39	W2-39	Fabric Guide (Right) .....	立骨布導器(右) .....	1
40	W2-40	Fabric Guide (Left) .....	立骨布導器(左) .....	1
41	W2-41	Screw (M2.6-0.45 × 5) .....	螺絲 .....	2
42	W2-42	Looper Thread Take-Up Driving Chamber Cover .....	底線分線盤驅動室蓋 .....	1
43	W2-43	Screw .....	螺絲 .....	4
44	W2-44	Nut .....	螺帽 .....	1
45	W2-45	Screw (M4-0.7 × 8) .....	螺絲 .....	1
46	W2-46	Screw (M3-0.5 × 4) .....	螺絲 .....	1
47	W2-47	Screw (9/64-40 × 8) .....	螺絲 .....	2
48	W2-48	Fabric Guide (Right) .....	右擋邊 .....	1
49	W2-49	Fabric Guide (Left) .....	左擋邊 .....	1
50	W2-50	Looper Thread Take-Up Cover .....	底線分線盤凸輪蓋 .....	1
51	W2-51	Screw (M3-0.5 × 10) .....	螺絲 .....	1





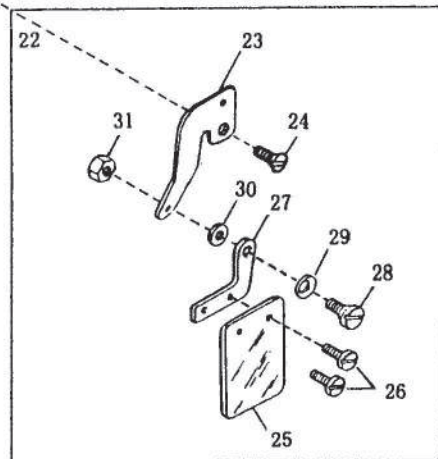
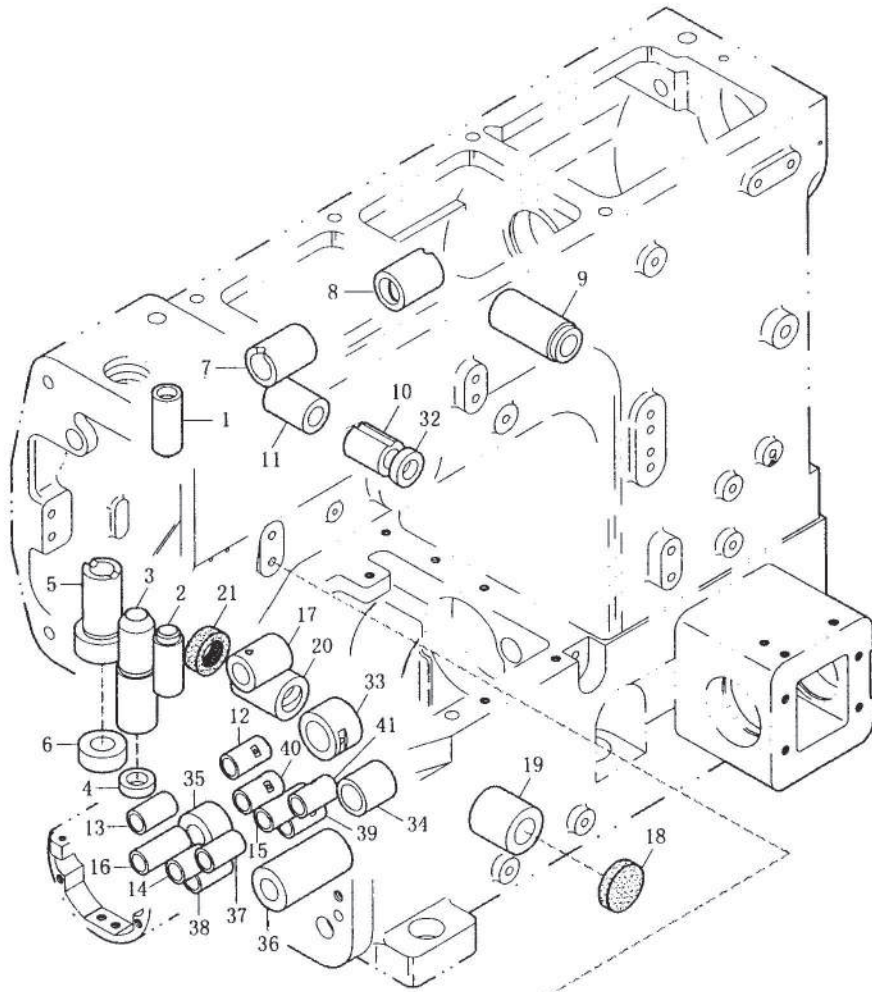


**MISCELLANEOUS THREAD EYELETS**

**過線機構**

**3**

Ref. No.	Parts No.	Description	品名	Amt. Req.
1	W3-1	Thread Tension Spring Cap	上線張力彈簧調整鈕	5
2	W3-2	Tension Spring Disc Support	張力彈簧調整圓盤	5
3	W3-3	Needle Thread Tension Spring	針線張力彈簧	3
4	W3-4	Top Cover Thread Tension Spring	上飾線張力彈簧	1
5	W3-5	Looper Thread Tension Spring	下勾針張力彈簧	1
6	W3-6	Thread Tension Spring Retainer	上線張力彈簧固定座	5
7	W3-7	Felt	氈墊	5
8	W3-8	Tension Disc	張力調整盤	10
9	W3-9	Tension Post	上線張力彈簧支柱	5
10	W3-10	Tension Post Ferrule	上線張力彈簧支柱套圈	5
11	W3-11	Tension Disc Separator	上線張力圓盤分離器	1
12	W3-12	Tension Post Support	上線張力組支柱座	1
13	W3-13	Thread Eyelet Pipe Stay	過線導管固定座	1
14	W3-14	Screw (M4-0.7 × 4)	螺絲	2
15	W3-15	Screw (M4-0.7 × 8)	螺絲	8
16	W3-16	Top Cover Thread Eyelet (Left)	上飾線過線桿 (左)	1
17	W3-17	Thread Eyelet	陶瓷過線孔	17
18	W3-18	Screw (1/8-44 × 5)	螺絲	2
19	W3-19	Screw (1/8-44 × 3)	螺絲	3
20	W3-20	Thread Eyelet Pipe (Long)	過線導管 (長)	1
21	W3-21	Thread Eyelet Pipe (Short)	過線導管 (短)	1
22	W3-22	Top Cover Thread Eyelet (Right)	上飾線過線桿 (右)	1
23	W3-23	Washer	墊片	4
24	W3-24	SP Container Cover	矽油槽蓋	1
25	W3-25	SP Container	矽油儲存槽	1
26	W3-26	Felt	吸油氈	1
27	W3-27	Needle Thread Eyelet	針線過線架	1
28	W3-28	SP Container Cover Pin	矽油槽蓋固定插銷	2
29	W3-29	Thread Eyelet Support	過線桿固定座	1
30	W3-30	Thread Eyelet (Front)	過線桿	3
31	W3-31	SP Device, Complete Set	針線矽油組	1
32	W3-32	Screw (M4-0.7 × 12)	螺絲	4
33	W3-33	Screw (9/64-40 × 7)	螺絲	2
34				
35				
36				
37				
38	W3-38	Guide Pin	固定插銷	1
39	W3-39	Needle Thread Guide	針線導架	1
40	W3-40	Needle Thread Take-up Guard	針線提線桿護架	1
41	W3-41	Screw (M6-1 × 9.5)	螺絲	1
42	W3-42	Needle Thread Retainer Support	針線張力調整組固定座(小)	1
43				
44				
45				
46				
47	W3-47	Top Cover Thread Guide	上飾線導板	1
48	W3-48	Supplementary Thread Guide	上飾線輔助導板	1
49	W3-49	Tension Post	上飾線張力調整組支柱	1
50	W3-50	Supplementary Tension Disc	上飾線張力調整盤	2
51	W3-51	Supplementary Tension Spring	上飾線張力調整彈簧	1
52	W3-52	Nut	螺帽	1
53	W3-53	Needle Thread Eyelet	過線導片	1





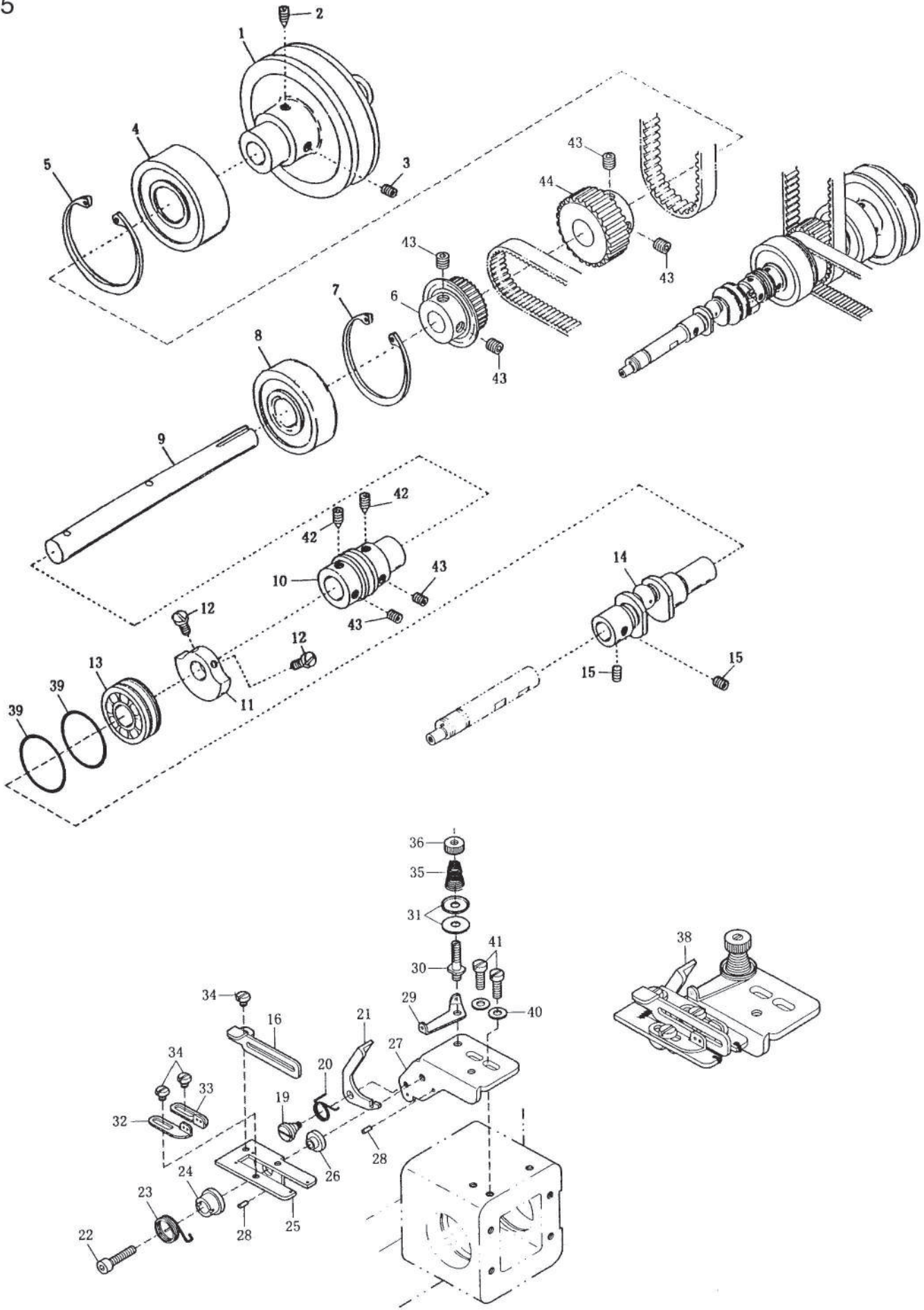
**MISCELLANEOUS BUSHINGS**

**套管機構**

**4**

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W4-1	Needle Bar Bushing (Upper).....	針柱套管(上).....	1
2	W4-2	Needle Bar Bushing (Lower).....	針柱套管(下).....	1
3	W4-3	Presser Bar Bushing .....	壓腳套管.....	1
4	W4-4	Oil Seal.....	油封.....	2
5	W4-5	Spreader Driving Bar Bushing .....	上飾線打線器套管.....	1
6	W4-6	Oil Seal.....	油封.....	1
7	W4-7	Spreader Driving Shaft Bushing (Left).....	上飾線打線器傳動軸套管(左) .....	1
8	W4-8	Spreader Driving Shaft Bushing (Right)...	上飾線打線器傳動軸套管(右) .....	1
9	W4-9	Foot Lifter Lever Bushing .....	抬壓腳連桿套管.....	1
10	W4-10	Needle Thread Take-up Bushing (Front)...	針線提線桿套管(前) .....	1
11	W4-11	Needle Thread Take-up Bushing (Rear).....	針線提線桿套管(後) .....	1
12	W4-12	Feed Bar Lift Bushing (Rear/Right) .....	送料具提升襯套 (後/右).....	1
13	W4-13	Feed Bar Lift Bushing (Rear/Left) ...	送料具提升襯套 (後/左).....	1
14	W4-14	Differential Feed Bar Bushing (Left) ...	差動送料具軸襯套 (左).....	1
15	W4-15	Differential Feed Bar Bushing (Right) .....	差動送料具軸襯套 (右).....	1
16	W4-16	Main Feed Rocker Bushing (Left) ...	主送料具搖臂襯套 (左) .....	1
17	W4-17	Main Feed Driving Shaft Bushing ...	主送料具驅動軸心襯套.....	1
18	W4-18	Oil Seal.....	油封.....	1
19	W4-19	Looper Driving Shaft Bushing (Front).....	下勾針傳動軸套管(前).....	1
20	W4-20	Looper Driving Shaft Bushing (Rear)...	下勾針傳動軸套管(後).....	1
21	W4-21	Seal Plug.....	止油封塞.....	1
22	W4-22	Eye Guard, Complete Set.....	護目鏡組.....	1
23	W4-23	Safety Plate Support.....	護目鏡固定座.....	1
24	W4-24	Screw (M6-1×10).....	螺絲.....	1
25	W4-25	Safety Plate.....	護目鏡片.....	1
26	W4-26	Screw (3/32-56×4).....	螺絲.....	2
27	W4-27	Safety Plate Holder.....	護目鏡支架.....	1
28	W4-28	Screw (11/64-40×9.7) .....	螺絲.....	1
29	W4-29	Conical Spring Washer.....	錐形彈簧墊圈.....	1
30	W4-30	Washer.....	墊片.....	1
31	W4-31	Nut.....	螺帽.....	1
32	W4-32	Oil Seal.....	油封.....	1
33	W4-33	Low Shaft Bushing.....	下傳動軸襯套.....	1
34	W4-34	Differential Feed Driving Shaft Bushing...	差動送料具驅動軸心襯套.....	1
35	W4-35	Differential Feeding Control Lever Bushing.....	差動量控制主軸襯套.....	1
36	W4-36	Main Feeding Control Lever Bushing.....	針距控制主軸襯套.....	1
37	W4-37	Feed Bar Lift Bushing (Front/Left) ...	送料具提升襯套 (前/左) .....	1
38	W4-38	Needle Guard Crankshaft Bushing (Left).....	頂針片曲軸襯套 (左) .....	1
39	W4-39	Needle Guard Crankshaft Bushing (Right).....	頂針片曲軸襯套 (右) .....	1
40	W4-40	Main Feed Rocker Bushing (Right) ...	主送料具搖臂襯套 (右) .....	1
41	W4-41	Feed Bar Lift Bushing (Front/Right) .....	送料具提升襯套 (前/右).....	1



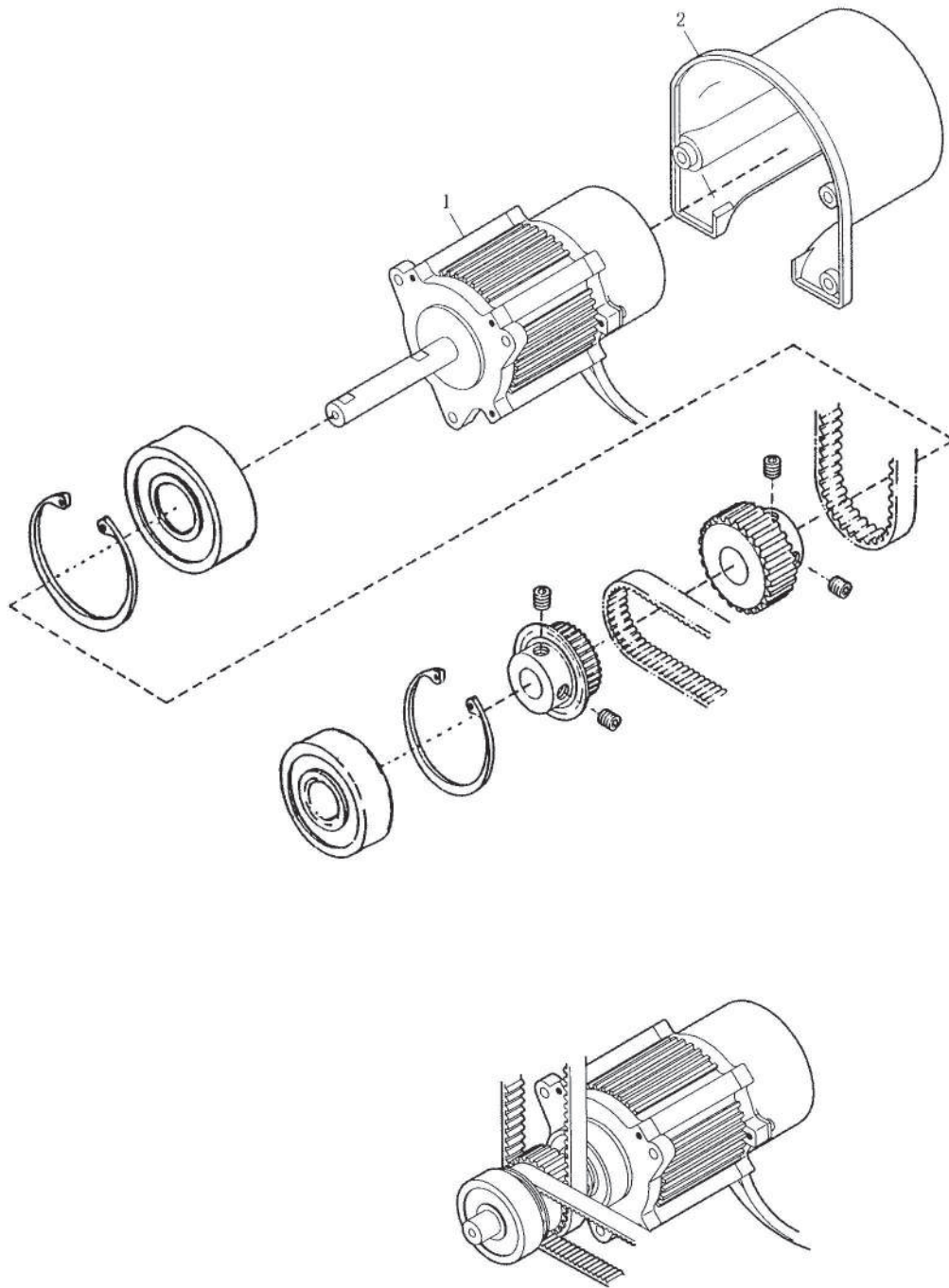


**MAIN SHAFT DRIVING MECHANISM**

**下主軸傳動機構**

Ref.	Parts		Amt.
No.	No.	Description	品 名 Req.
1	W5-1	Pulley .....	皮帶輪..... 1
2	W5-2	Screw (M6-1×8).....	螺絲(尖底)..... 1
3	W5-3	Screw (M6-1×8).....	螺絲..... 1
4	W5-4	Ball Bearing (Right).....	滾珠培林(右)..... 1
5	W5-5	Retaining Ring.....	扣環..... 1
6	W5-6	Looper Thread Take-Up Driving Sprocket.....	底線分線盤驅動鏈輪..... 1
7	W5-7	Retaining Ring.....	扣環..... 1
8	W5-8	Ball Bearing (Middle).....	滾珠培林(中)..... 1
9	W5-9	Lower Shaft (Right).....	下傳動軸(右)..... 1
10	W5-10	Oil Pump Driving Worm.....	油泵傳動螺桿..... 1
11	W5-11	Counterweight (Small).....	平衡配重凸輪..... 1
12	W5-12	Screw (M4-0.7×8).....	螺絲..... 2
13	W5-13	Ball Bearing (Left).....	滾珠培林(左)..... 1
14	W5-14	Lower Crankshaft.....	下曲軸..... 1
15	W5-15	Screw (M6-1×4.5).....	螺絲..... 2
16	W5-16	Looper Thread Guide.....	底線導板..... 1
17		.....	
18		.....	
19	W5-19	Screw.....	螺絲..... 1
20	W5-20	Latch Spring .....	鎖彈簧..... 1
21	W5-21	Looper Thread Guide Latch Lever .....	底線導板鎖壓板..... 1
22	W5-22	Screw (M4-0.7×20).....	螺絲..... 1
23	W5-23	Spring .....	彈簧..... 1
24	W5-24	Spring Bushing.....	彈簧襯套..... 1
25	W5-25	Thread Take-up Eyelet Holder.....	底線過線台..... 1
26	W5-26	Bush.....	襯套..... 1
27	W5-27	Thread Take-up Eyelet Bracket .....	底線過線組支架..... 1
28	W5-28	Pin.....	插銷..... 2
29	W5-29	Looper Thread Eyelet.....	底線輔助導板..... 1
30	W5-30	Looper Thread Tension Post.....	底線張力調整組支柱..... 1
31	W5-31	Looper Thread Supplementary Tension Disc.....	底線張力調整盤..... 2
32	W5-32	Thread Take-up Eyelet (Left) .....	底線過線片(左)..... 1
33	W5-33	Thread Take-up Eyelet (Right).....	底線過線片(右)..... 1
34	W5-34	Screw (9/64-40×4) .....	螺絲..... 3
35	W5-35	Looper Thread Supplementary Tension Spring.....	底線張力調整彈簧..... 1
36	W5-36	Nut .....	螺帽..... 1
37		.....	
38	W5-38	Thread Take-Up Eyelet C. Set.....	底線過線台總成..... 1
39	W5-39	O-Ring.....	O型橡膠環..... 2
40	W5-40	Washer.....	墊片..... 2
41	W5-41	Screw (M4-0.7×12) .....	螺絲..... 2
42	W5-42	Screw (M6-1×6) .....	螺絲(尖底)..... 2
43	W5-43	Screw (M6-1×6) .....	螺絲..... 6
44	W5-44	Main Shaft Sprocket (Lower) .....	下主軸鏈輪..... 1

# 【直驅式微型伺服馬達組】



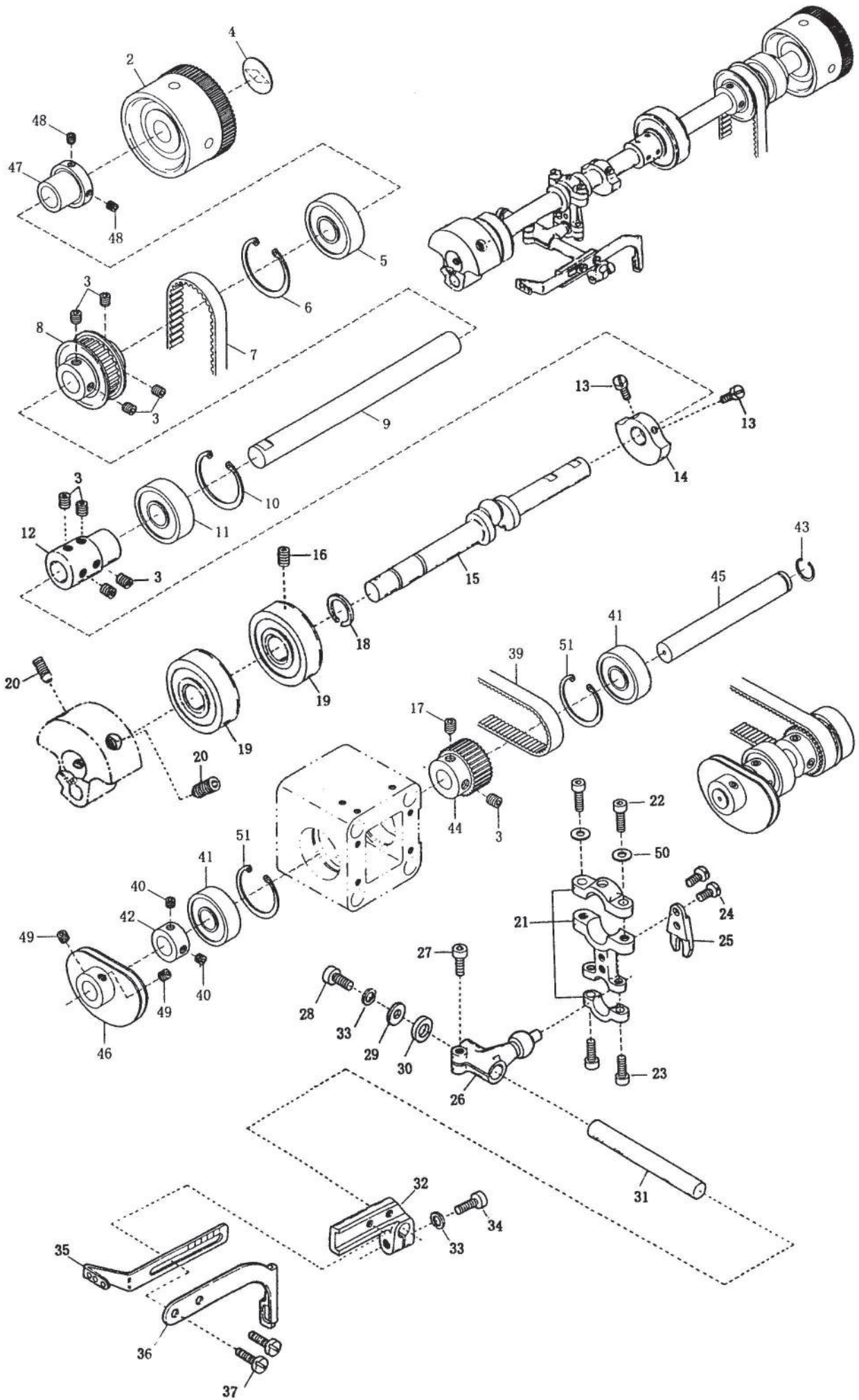


DIRECTLY DRIVING TYPE MINI-SERVO MOTOR C.SET

直驅式微型伺服馬達組

5-1

<u>Ref.</u>	<u>Parts</u>	<u>Description</u>	<u>品 名</u>	<u>Amt.</u>
<u>No.</u>	<u>No.</u>			<u>Req.</u>
1	W5-1-1	Directly Driving Type Mini-Servo Motor···	直驅式微型伺服馬達·····	1
2	W5-1-2	Mini-Servo Motor Cover·····	微型伺服馬達蓋·····	1



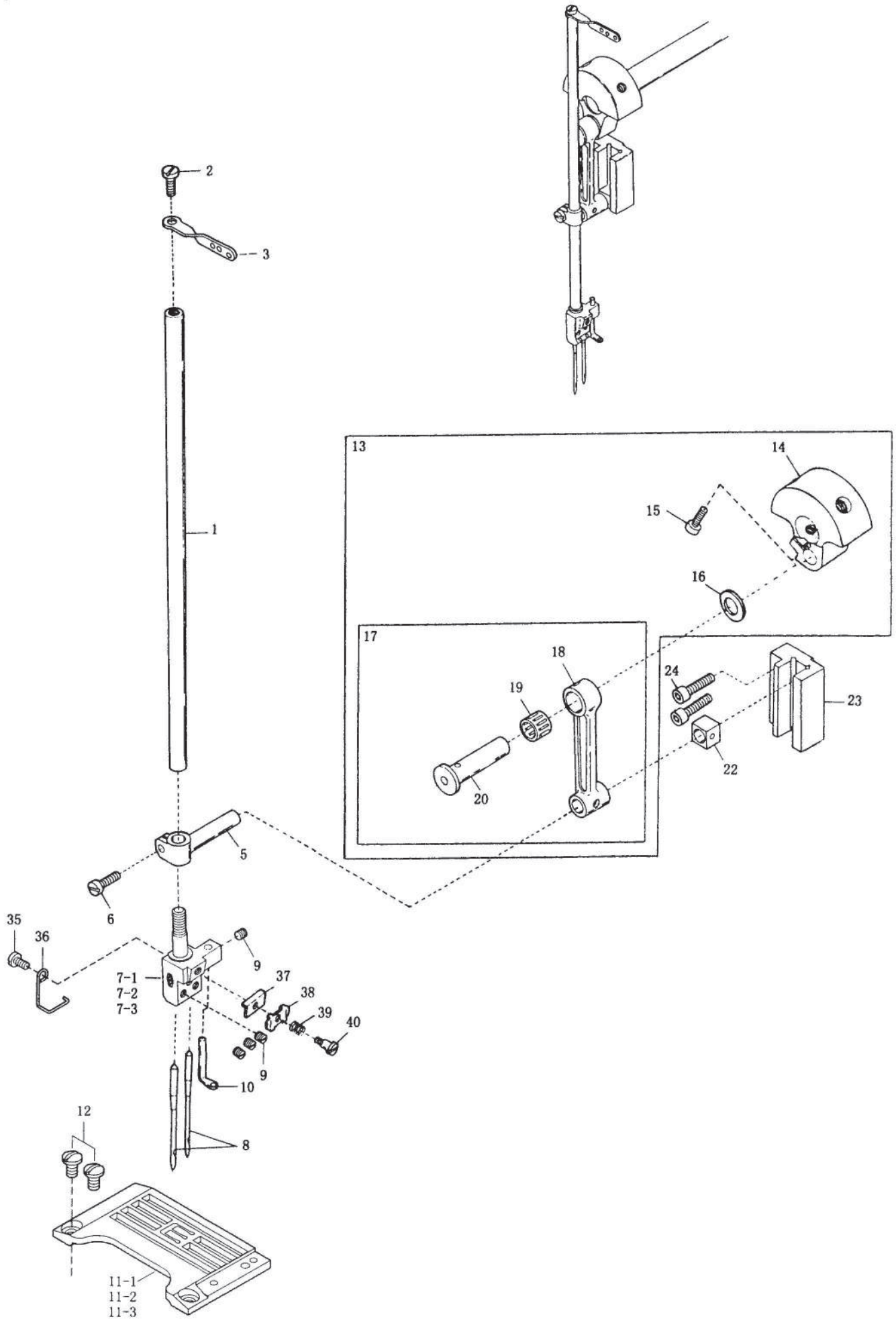
## UPPER SHAFT &amp; NEEDLE THREAD TAKE-UP MECHANISM

## 上主軸及針線提線諸元

6

Ref. No.	Parts No.	Description	品 名	Amt. Req.
1				
2	W6-2	Handwheel	手推輪	1
3	W6-3	Screw (M6-1×6)	螺絲	9
4	W6-4	Handwheel Mark	手推輪商標銘牌	1
5	W6-5	Ball Bearing	滾珠培林	1
6	W6-6	Retaining Ring	扣環	1
7	W6-7	Timing Belt	同步傳動皮帶	1
8	W6-8	Upper Shaft Sprocket	上主軸鏈輪	1
9	W6-9	Upper Shaft (Right)	上主傳動軸(右)	1
10	W6-10	Retaining Ring	扣環	1
11	W6-11	Ball Bearing	滾珠培林	1
12	W6-12	Upper Shaft Joint	上主軸接頭	1
13	W6-13	Screw (M4-0.7×8)	螺絲	2
14	W6-14	Counterweight (Small)	平衡配重凸輪	1
15	W6-15	Upper Crankshaft	上曲軸	1
16	W6-16	Screw (M6-1×10)	螺絲	1
17	W6-17	Screw (M6-1×6)	螺絲(尖底)	1
18	W6-18	Retaining Ring	扣環	1
19	W6-19	Ball Bearing	滾珠培林	2
20	W6-20	Screw (M8-1.25×16)	螺絲	2
21	W6-21	Connecting Rod	連桿	1
22	W6-22	Screw (M4-0.7×14)	螺絲	2
23	W6-23	Screw (M4-0.7×12)	螺絲	2
24	W6-24	Screw (11/64-40×8)	螺絲	2
25	W6-25	Guide Fork	叉形導片	1
26	W6-26	Driving Lever	傳動桿	1
27	W6-27	Screw (M6-1×15)	螺絲	1
28	W6-28	Screw (M5-0.8×10)	螺絲	1
29	W6-29	Washer	墊片	1
30	W6-30	Spacer	襯套	1
31	W6-31	Driving Shaft	傳動軸	1
32	W6-32	Bracket	托架	1
33	W6-33	Spring Washer	彈性墊片	2
34	W6-34	Screw (M5-0.8×14)	螺絲	1
35	W6-35	Needle Thread Take-up	針線提線過線桿	1
36	W6-36	Top Cover Thread Take-up	上飾線提線過線桿	1
37	W6-37	Screw (M3.5-0.6×8)	螺絲	2
38				
39	W6-39	Timing Belt	時規皮帶	1
40	W6-40	Screw (M5-0.8×4)	螺絲	2
41	W6-41	Ball Bearing	滾珠軸承	2
42	W6-42	Adapter	接頭	1
43	W6-43	Retaining Ring	扣環	1
44	W6-44	Looper Thread Take-up Shaft Sprocket	分線盤主傳動軸鏈輪	1
45	W6-45	Looper Thread Take-up Shaft	分線盤傳動軸	1
46	W6-46	Looper Thread Take-up	底線挑線凸輪	1
47	W6-47	Handwheel Adapter	手推輪轉接頭	1
48	W6-48	Screw (M5-0.8×5)	螺絲	2
49	W6-49	Screw (7/32-32×4.5)	螺絲	2
50	W6-50	Washer	墊片	2
51	W6-51	Retaining Ring	扣環	2



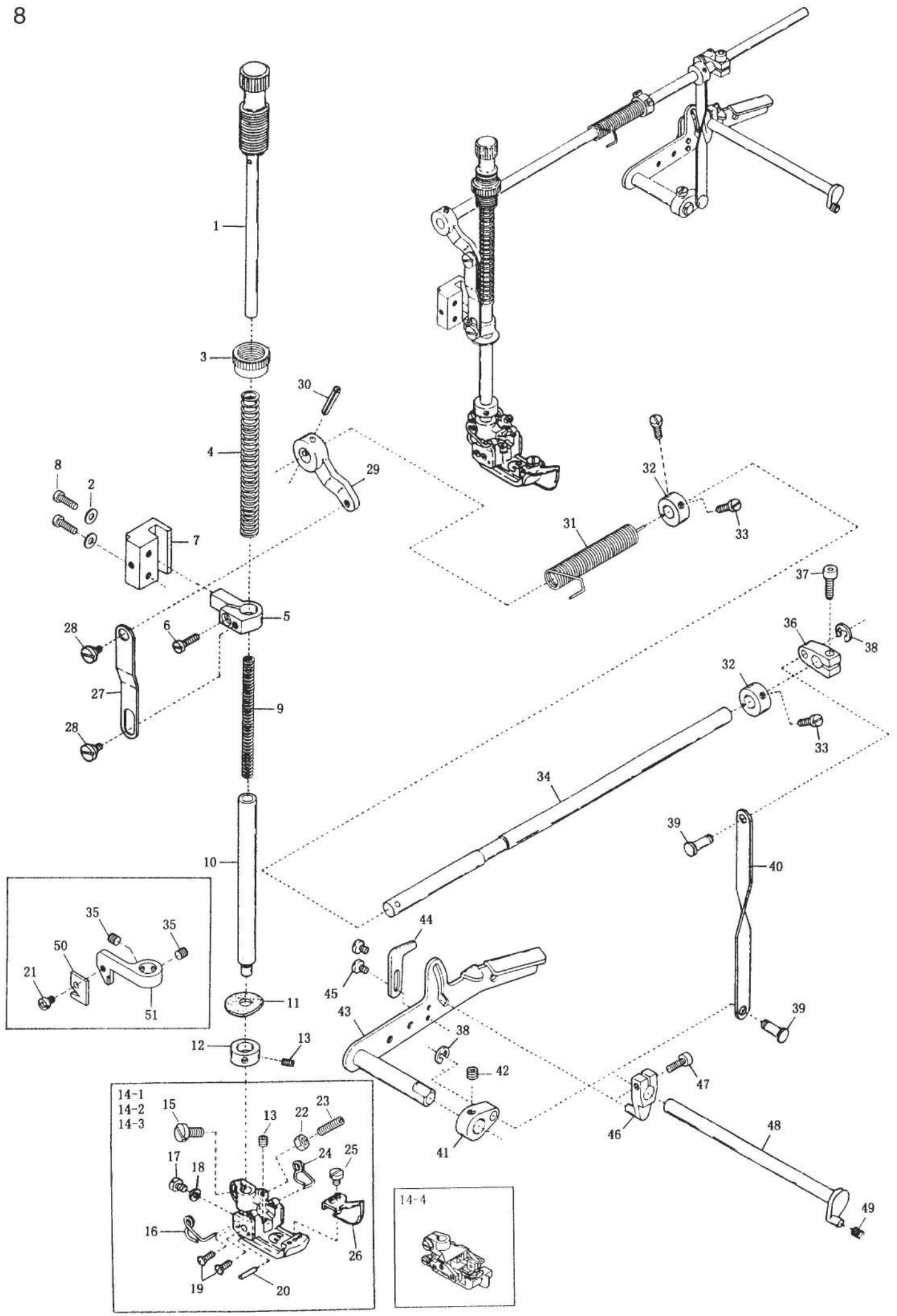


**NEEDLE BAR MECHANISM**

**針柱機構**

**7**

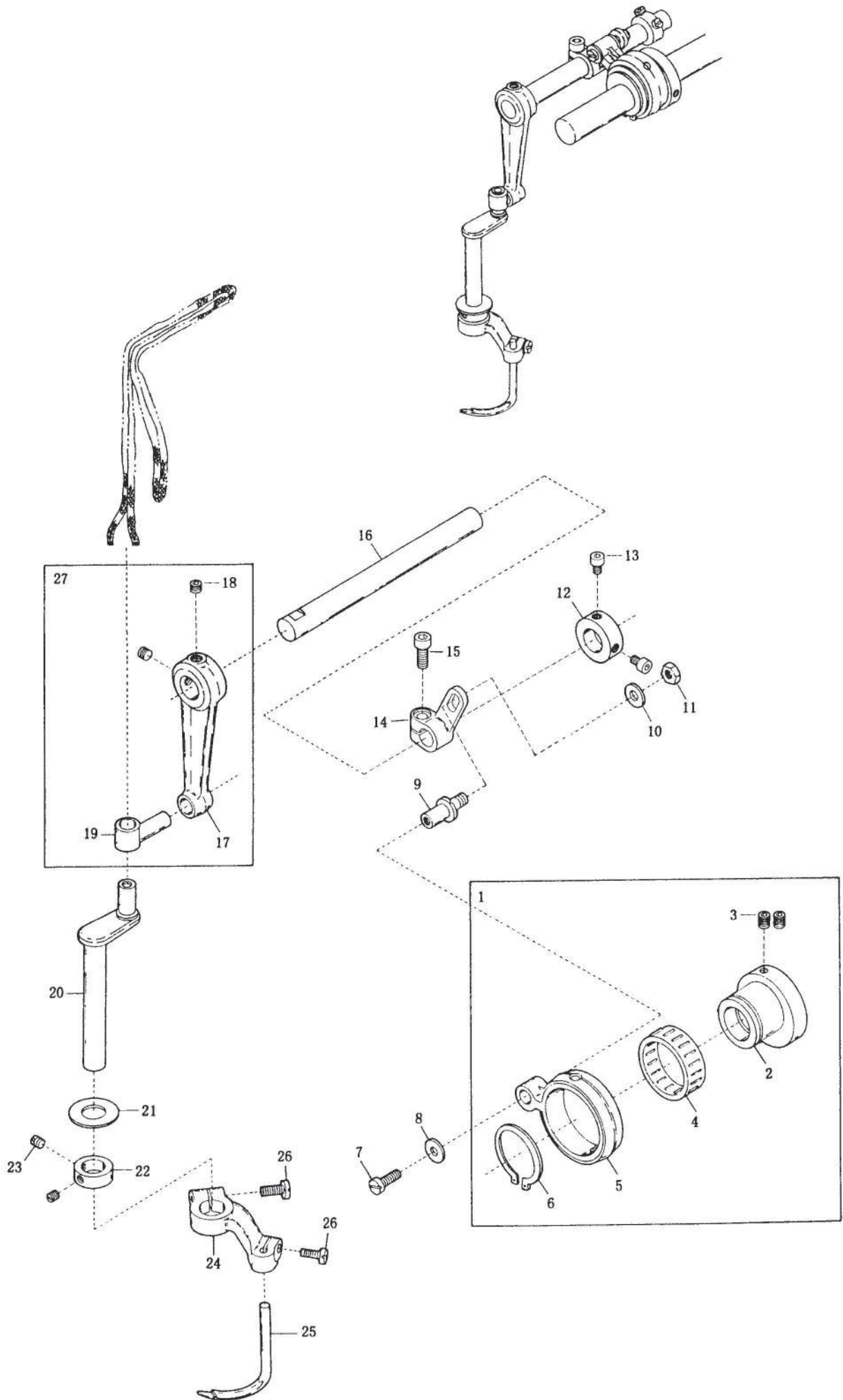
Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W7-1	Needle Bar	針柱	1
2	W7-2	Screw (9/64-40×8)	螺絲	1
3	W7-3	Needle Bar Thread Eyelet	針柱頂過線桿	1
4				
5	W7-5	Needle Bar Bracket	針柱托架	1
6	W7-6	Screw (M4-0.7×10)	螺絲	1
7-1	W7-7(4.0)	Needle Clamp (4.0mm)	針鐮	1
7-2	W7-7(4.8)	Needle Clamp (4.8mm)	針鐮	1
7-3	W7-7(5.6)	Needle Clamp (5.6mm)	針鐮	1
8	W7-8	Needle (UY128 GAS)	擊針	3
9	W7-9	Screw (1/8-44×3)	鎖針螺絲	4
10	W7-10	Top Cover Thread Eyelet	上飾線過線片	1
11-1	W7-11(4.0)	Stitch Plate (4.0mm)	針板	1
11-2	W7-11(4.8)	Stitch Plate (4.8mm)	針板	1
11-3	W7-11(5.6)	Stitch Plate (5.6mm)	針板	1
12	W7-12	Screw (M3-0.5×5)	針板螺絲	2
13	W7-13	Counterweight, Complete Set	平衡配重凸輪組	1
14	W7-14	Counterweight	平衡配重凸輪	1
15	W7-15	Screw (M5-0.8×10)	螺絲	1
16	W7-16	Connecting Rod Ring	連桿套環	1
17	W7-17	Connecting Rod, Complete Set	連桿組	1
18	W7-18	Connecting Rod	連桿	1
19	W7-19	Roller Bearing	培林	1
20	W7-20	Connecting Rod Pin	連桿插銷	1
21				
22	W7-22	Slide Block	針柱定位滑塊	1
23	W7-23	Needle Bar Guide	針柱定位滑槽	1
24	W7-24	Screw (M4-0.7×18)	螺絲	2
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35	W7-35	Screw (1/8-44×4)	螺絲	1
36	W7-36	Needle Thread Guiding Wire	針線過線鐵線	1
37	W7-37	Thread Retainer Disc Support	針線張力調整壓板固定座(小)	1
38	W7-38	Needle Thread Retainer Dice	針線張力調整壓板(小)	1
39	W7-39	Needle Thread Retainer Spring	針線張力調整彈簧	1
40	W7-40	Screw (1/8-44×2.2)	螺絲	1





**PRESSER FOOT MECHANISM****壓腳機構****8**

Ref. No.	Parts No.	Description	品 名	Amt. Req.
1	W8-1	Presser Spring Regulator	壓腳彈簧調節器	1
2	W8-2	Washer	墊片	1
3	W8-3	Lock Nut	併緊螺帽	1
4	W8-4	Presser Bar Spring (Outer)	壓腳棒狀彈簧 (外)	1
5	W8-5	Presser Bar Connecting Bracket	壓腳推桿連結架	1
6	W8-6	Screw (11/64-40×10)	螺絲	1
7	W8-7	Presser Bar Guide	壓腳推桿導架	1
8	W8-8	Screw (M4-0.7×14)	螺絲	2
9	W8-9	Presser Bar Spring (Inner)	壓腳棒狀彈簧 (內)	1
10	W8-10	Presser Bar	壓腳推桿	1
11	W8-11	Oil Protector Ring	止油環	1
12	W8-12	Collar	軸環	1
13	W8-13	Screw (1/8-44×3)	螺絲	2
14-1	W8-14.1	Presser Foot, Complete Set (4.0mm)	壓腳組	1
14-2	W8-14.2	Presser Foot, Complete Set (4.8mm)	壓腳組	1
14-3	W8-14.3	Presser Foot, Complete Set (5.6mm)	壓腳組	1
14-4	W8-14.4	2-Section Type Mobile Presser Foot (Tank Type Presser Foot)	2段式活動壓腳 (戰車壓腳)	1
15	W8-15	Screw (9/64-40×7.8)	螺絲	1
16	W8-16	Presser Foot Spring (Left)	壓腳彈簧(左)	1
17	W8-17	Screw (M3-0.5×3.5)	螺絲	1
18	W8-18	Washer	墊片	1
19	W8-19	Screw (3/32-56×5)	螺絲	4
20	W8-20	Presser Foot Hinge Pin	壓腳鎖門插銷	1
21	W8-21	Screw (1/8-44×4)	螺絲	1
22	W8-22	Lock Nut	保險螺帽	1
23	W8-23	Adjusting Screw (1/8-44×11)	可調螺絲	1
24	W8-24	Presser Foot Spring (Right)	壓腳彈簧(右)	1
25	W8-25	Screw (M2.5-0.45×3.5)	螺絲	1
26	W8-26	Fabric Guide (Long)	壓腳舌 (長)	1
27	W8-27	Lifter Link	提升連桿	1
28	W8-28	Screw (3/16-32×2.2)	螺絲	2
29	W8-29	Lifter Link Lever	提升連結拉柄	1
30	W8-30	Fastener Pin	固定銷	1
31	W8-31	Lifter Spring	提升彈簧	1
32	W8-32	Collar (8×16×8mm)	軸環	2
33	W8-33	Screw (M4.5-0.75×5.5)	螺絲	2
34	W8-34	Lifter Shaft	壓腳提升主軸	1
35	W8-35	Screw (M4-0.7×4)	螺絲	2
36	W8-36	Intermediate Lever	中間拉柄	1
37	W8-37	Screw (M5-0.8×14)	螺絲	1
38	W8-38	Retaining Ring	扣環	2
39	W8-39	Connecting Pin	連結銷	2
40	W8-40	Connecting Plate	連結拉板	1
41	W8-41	Lifter Lever (Small)	提升拉柄(小)	1
42	W8-42	Screw (M6-1×6)	螺絲	1
43	W8-43	Lifter Lever	提升拉柄	1
44	W8-44	Lifter Lever Stop	提升拉柄止塊	1
45	W8-45	Screw (9/64-40×5.6)	螺絲	2
46	W8-46	Tension Release Lever	拉力釋放槓桿	1
47	W8-47	Screw (11/64-40×14)	螺絲	1
48	W8-48	Tension Release Shaft	拉力釋放軸	1
49	W8-49	Swing-proof Spring	防震彈簧	1
50	W8-50	Cutter	割線刀	1
51	W8-51	Cutter Holder	割線刀座	1

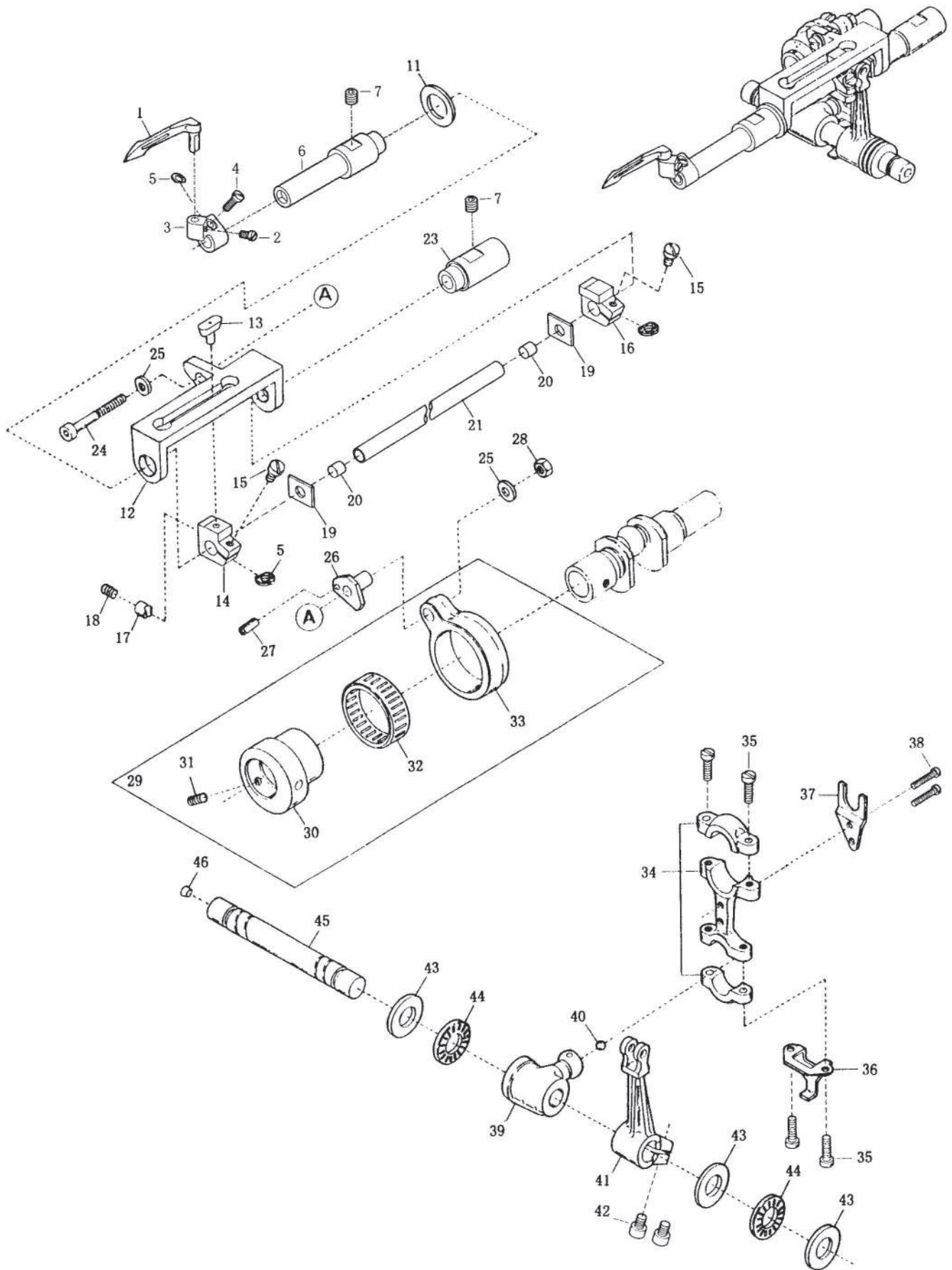




**SPREADER MECHANISM****上飾線驅動機構****9**

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W9-1	Connecting Rod, Complete Set.....	連桿組.....	1
2	W9-2	Eccentric.....	偏心輪.....	1
3	W9-3	Screw (M6-1×8).....	螺絲.....	2
4	W9-4	Roller Bearing.....	滾珠培林.....	1
5	W9-5	Connecting Rod.....	連桿.....	1
6	W9-6	Retaining Ring.....	扣環.....	1
7	W9-7	Screw (M4-0.7×10).....	螺絲.....	1
8	W9-8	Washer.....	墊片.....	1
9	W9-9	Adjusting Lever Pin.....	拉柄可調式插銷.....	1
10	W9-10	Washer.....	墊片.....	1
11	W9-11	Nut (M6-1.0).....	螺帽.....	1
12	W9-12	Collar (12×20×8mm).....	軸環.....	1
13	W9-13	Screw (M4-0.7×6).....	螺絲.....	2
14	W9-14	Adjusting Lever.....	可調式拉柄.....	1
15	W9-15	Screw (M6-1×16).....	螺絲.....	1
16	W9-16	Driving Shaft.....	主動軸.....	1
17	W9-17	Rocking Arm.....	搖臂.....	1
18	W9-18	Screw (M6-1×6).....	螺絲.....	2
19	W9-19	Rocking Pin.....	支點銷.....	1
20	W9-20	Spreader Bar.....	延展臂.....	1
21	W9-21	Bushing Ring.....	襯環.....	1
22	W9-22	Collar (10×18×7mm).....	軸環.....	1
23	W9-23	Screw (M4-0.7×4).....	螺絲.....	2
24	W9-24	Spreader Holder.....	上叉固定座.....	1
25	W9-25	Spreader.....	上叉.....	1
26	W9-26	Screw (M4-0.7×12).....	螺絲.....	2
27	W9-27	Needle Bar Rocking Arm, Complete Set...	針棒搖臂組.....	1



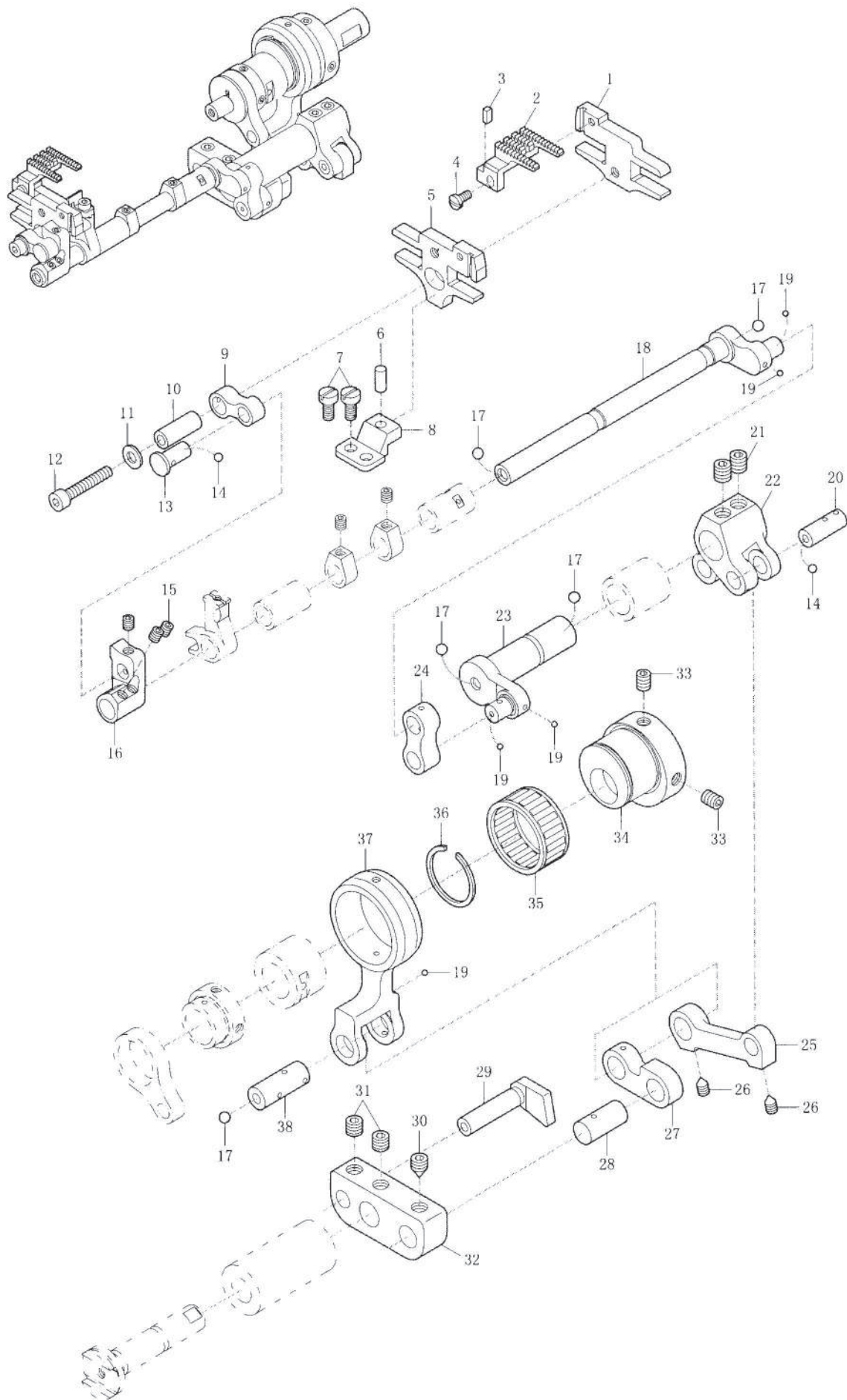


**LOOPER DRIVING MECHANISM**

**下勾針驅動機構**

**10**

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W10-1	Looper.....	下勾針.....	1
2	W10-2	Screw (M3.5-0.6×6).....	螺絲.....	1
3	W10-3	Looper Holder.....	下勾針固定座.....	1
4	W10-4	Screw (M3.5-0.6×10).....	螺絲.....	1
5	W10-5	Spacer (Fiber).....	墊片.....	3
6	W10-6	Looper Bar Bushing.....	下勾針驅動軸襯套.....	1
7	W10-7	Screw (M6-1×8).....	螺絲.....	2
8		.....		
9		.....		
10		.....		
11	W10-11	Bushing Spacer.....	襯套墊片.....	1
12	W10-12	Looper Bar Guide.....	下勾針驅動軸導槽.....	1
13	W10-13	Slider.....	滑塊.....	1
14	W10-14	Slider Holder.....	滑塊固定座.....	1
15	W10-15	Screw (M4-0.7×12).....	螺絲.....	2
16	W10-16	Rocker Arm, Holder.....	搖臂夾座.....	1
17	W10-17	Slider Presser.....	滑塊定位壓塊.....	1
18	W10-18	Screw (M4-0.7×4).....	螺絲.....	1
19	W10-19	Thrust Washer.....	止推墊圈.....	2
20	W10-20	Sealing Plug.....	封閉塞.....	2
21	W10-21	Looper Bar.....	下勾針棒.....	
22		.....		
23	W10-23	Looper Bar Guide Shaft.....	下勾針棒導軸.....	1
24	W10-24	Screw (M5-0.8×30).....	螺絲.....	1
25	W10-25	Washer.....	墊片.....	2
26	W10-26	Looper Rocker Adjusting Pin.....	下勾針搖臂調整銷.....	1
27	W10-27	Roll Pin.....	輓子銷.....	1
28	W10-28	Nut.....	螺帽.....	1
29	W10-29	Looper Rocker Connecting Rod. C. Set.....	勾針搖臂連桿組.....	1
30	W10-30	Looper Rocker Regulating Eccentric.....	下勾針搖臂可調偏心輪.....	1
31	W10-31	Screw (M5-0.8×5).....	螺絲.....	1
32	W10-32	Roller Bearing.....	滾針軸承.....	1
33	W10-33	Looper Rocker Connecting Rod.....	下勾針搖臂連桿.....	1
34	W10-34	Looper Connecting Rod.....	下勾針連桿.....	1
35	W10-35	Screw (M4-0.7×14).....	螺絲.....	4
36	W10-36	Oil Splasher.....	撥油片.....	1
37	W10-37	Guide Fork.....	定位叉.....	1
38	W10-38	Screw (11/64-40×8.3).....	螺絲.....	2
39	W10-39	Looper Driving Lever.....	下勾針驅動桿.....	1
40	W10-40	Seal Plug.....	封塞.....	1
41	W10-41	Looper Rocker Arm.....	下勾針搖臂.....	1
42	W10-42	Screw (M6-0.75×8).....	螺絲.....	2
43	W10-43	Thrust Plate.....	推力板.....	3
44	W10-44	Thrust Roller Bearing.....	推力滾珠培林.....	2
45	W10-45	Looper Shaft.....	下勾針主軸.....	1
46	W10-46	Seal Plug.....	封塞.....	2



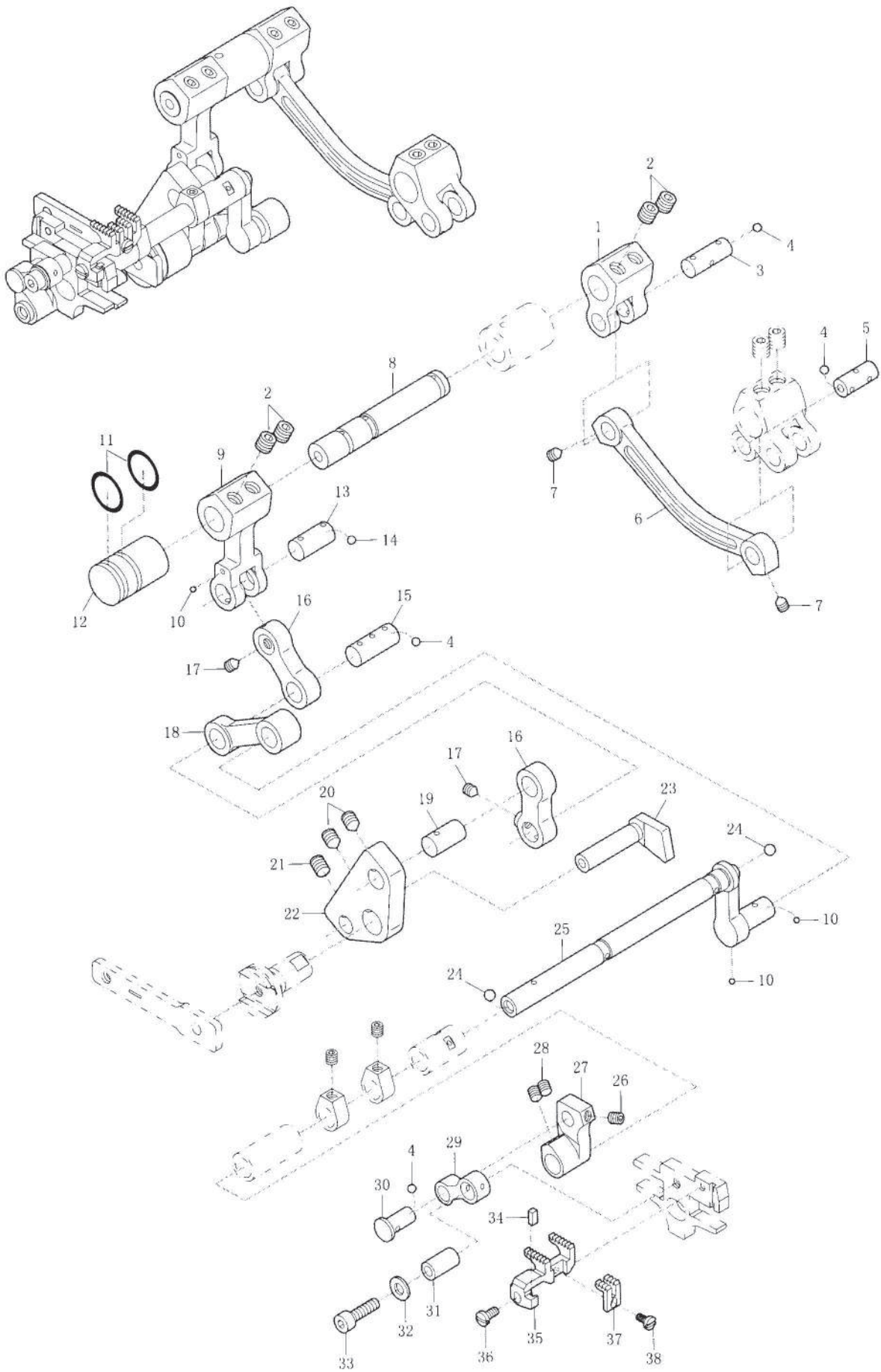


## MAIN FEED DOG DRIVING CONTROL MECHANISM

## 主齒驅動控制機構

11

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W11-1	Main Feed Bar	主送料具固定座	1
2	W11-2	Main Feed Dog	主齒	1
3	W11-3	Main Feed Dog Key	主齒鍵	1
4	W11-4	Screw	螺絲	1
5	W11-5	Differential Feed Bar	差動送料具固定座	1
6	W11-6	Feed Bar Guide Pin	送料具導塊插銷	1
7	W11-7	Screw	螺絲	2
8	W11-8	Feed Bar Guide	送料具導塊	1
9	W11-9	Main Feed Bar Driving Connection	主送料具軸驅動連桿	1
10	W11-10	Driving Connection Bushing	驅動連桿襯套	1
11	W11-11	Washer	墊片	1
12	W11-12	Screw	螺絲	1
13	W11-13	Driving Connection Pin	驅動連桿插銷	1
14	W11-14	Sealing Plug	封閉塞	2
15	W11-15	Screw	螺絲	3
16	W11-16	Main Feed Rocker Lever	主送料具搖臂	1
17	W11-17	Sealing Plug	封閉塞	5
18	W11-18	Main Feed Rocker Shaft	主送料具搖臂主軸	1
19	W11-19	Sealing Plug	封閉塞	5
20	W11-20	Connecting Rod Pin	連桿銷	1
21	W11-21	Screw	螺絲	2
22	W11-22	Main Feed Lift Lever	主送料具提升桿	1
23	W11-23	Main Feed Lift Shaft	主送料具提升主軸	1
24	W11-24	Main Feed Lift Link	主送料具提升連桿	1
25	W11-25	Lever Link (Long)	提環桿 (長)	1
26	W11-26	Screw	螺絲	2
27	W11-27	Lever Link (Short)	提環桿 (短)	1
28	W11-28	Connecting Rod Link Pin	連桿銷	1
29	W11-29	Connecting Rod Guide	連桿導軸	1
30	W11-30	Screw	螺絲 (尖底)	1
31	W11-31	Screw	螺絲 (平底)	2
32	W11-32	Main Feed Control Bracket	主齒控制架	1
33	W11-33	Screw	螺絲	2
34	W11-34	Feed Eccentric	送料具偏心輪	1
35	W11-35	Needle Bearing	滾針培林	1
36	W11-36	Retaining Ring	扣環	1
37	W11-37	Feed Connecting Rod	送料具連桿	1
38	W11-38	Connecting Rod Pin	連桿銷	1





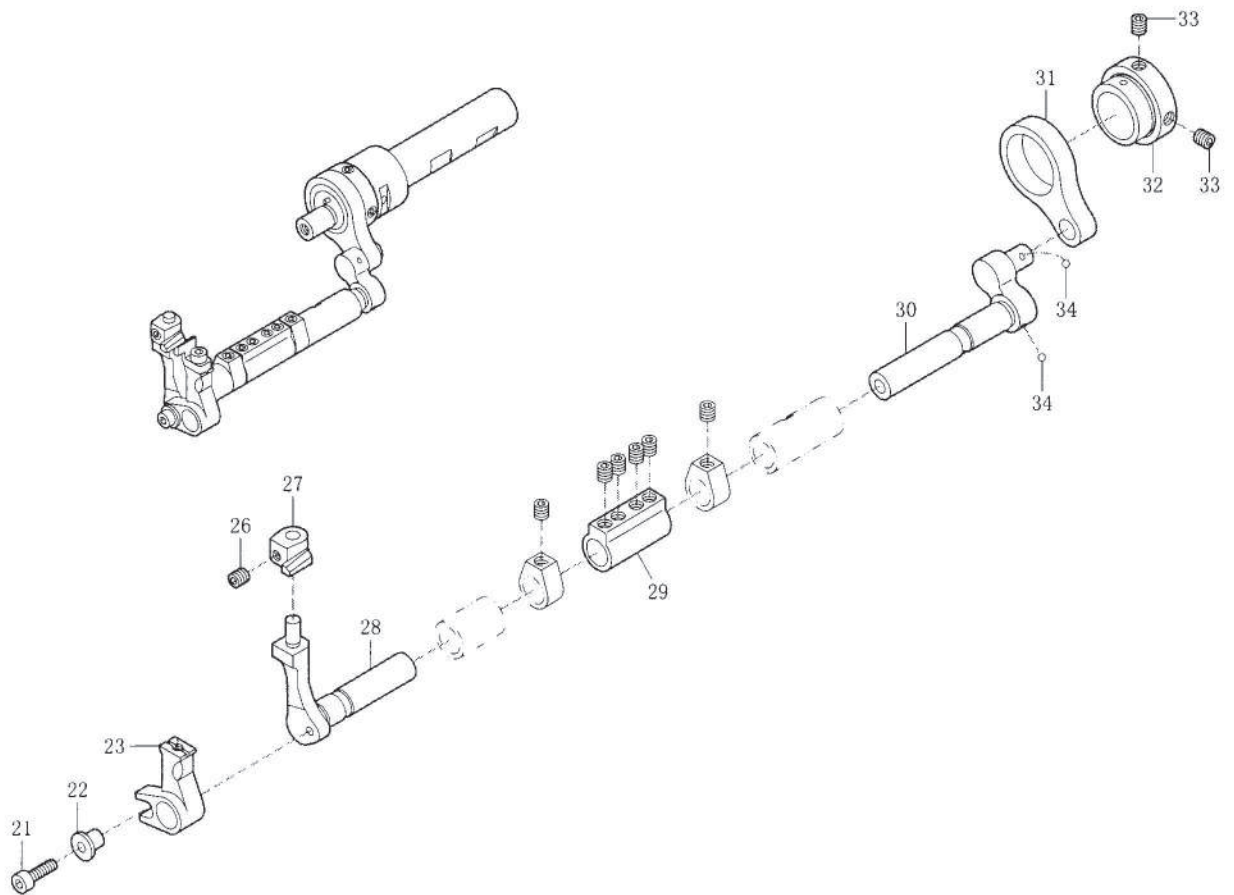
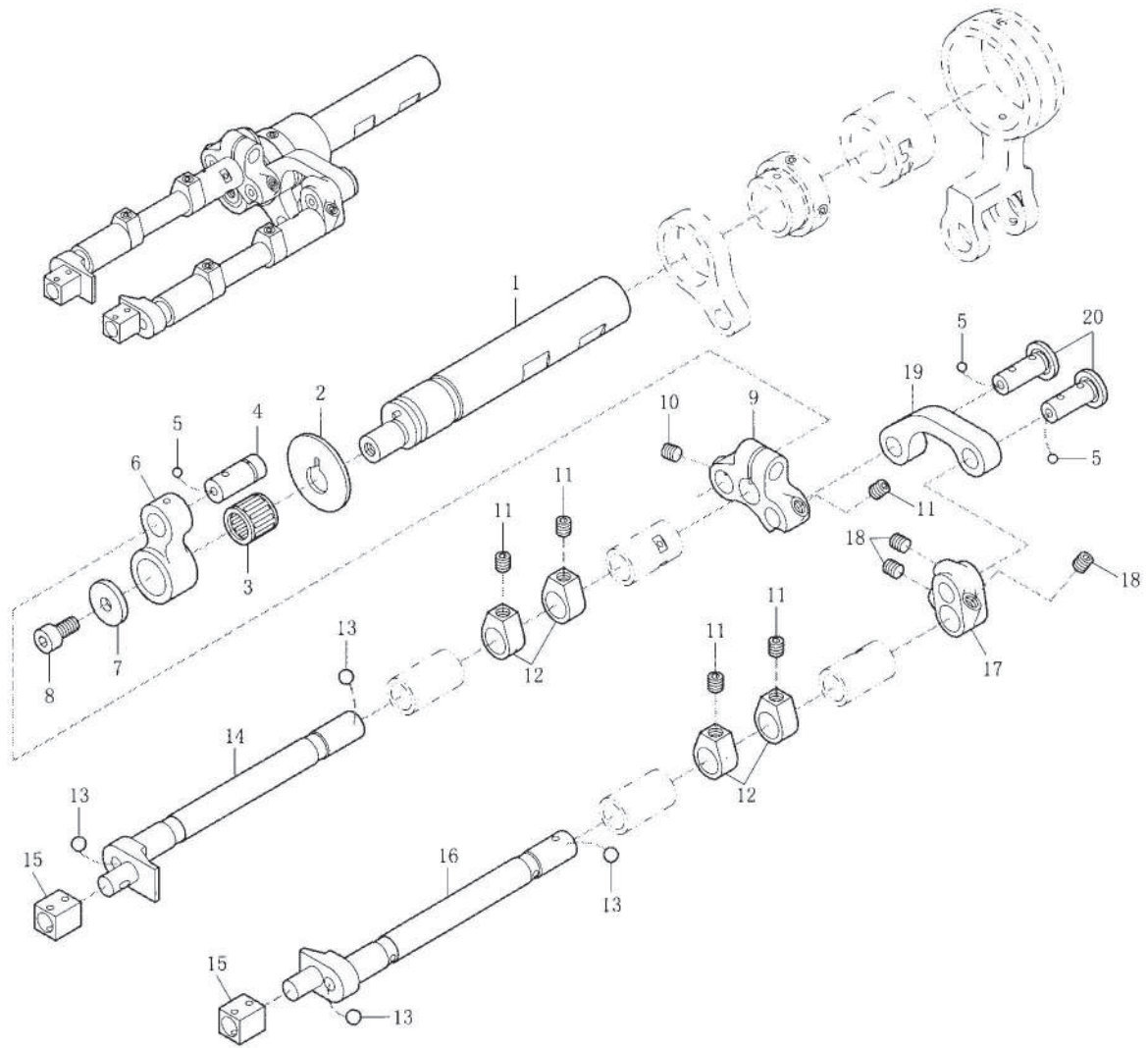
## DIFFERENTIAL FEED DOG DRIVING CONTROL MECHANISM

## 差動齒驅動控制機構

12

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W12-1	Differential Feed Driving Lever	差動送料具驅動桿	1
2	W12-2	Screw	螺絲	4
3	W12-3	Connecting Rod Link Pin	連桿銷	1
4	W12-4	Sealing Plug	封閉塞	4
5	W12-5	Connecting Rod Pin	連桿銷	1
6	W12-6	Differential Feed Driving Link	差動送料具驅動連桿	1
7	W12-7	Screw	螺絲	2
8	W12-8	Differential Feed Driving Shaft	差動送料具驅動軸	1
9	W12-9	Differential Feed Connecting Rod	差動送料具連桿	1
10	W12-10	Sealing Plug	封閉塞	1
11	W12-11	Oil Seal	油封	2
12	W12-12	Collar Stopper	停止軸環	1
13	W12-13	Connecting Rod Pin	連桿銷	1
14	W12-14	Sealing Plug	封閉塞	1
15	W12-15	Link Pin	連桿插銷	1
16	W12-16	Link	連桿	2
17	W12-17	Screw	螺絲	2
18	W12-18	Link	連桿	1
19	W12-19	Link Pin	連桿插銷	1
20	W12-20	Screw	螺絲 (尖底)	2
21	W12-21	Screw	螺絲 (平底)	1
22	W12-22	Control Bracket	控制架	1
23	W12-23	Connecting Rod Guide	連桿導軸	1
24	W12-24	Sealing Plug	封閉塞	2
25	W12-25	Differential Feed Driving Crankshaft	差動送料具驅動曲軸	1
26	W12-26	Screw	螺絲	1
27	W12-27	Differential Feed Rocker Lever	差動送料具搖臂	1
28	W12-28	Screw	螺絲	2
29	W12-29	Differential Feed Lift Link	差動送料具提升連桿	1
30	W12-30	Link Pin	連桿銷	1
31	W12-31	Link Bushing	連桿襯套	1
32	W12-32	Washer	墊片	1
33	W12-33	Screw	螺絲	1
34	W12-34	Feed Dog Key	送料具鍵	1
35	W12-35	Differential Feed Dog	差動齒	1
36	W12-36	Screw	螺絲	1
37	W12-37	Differential Feed Dog (Middle)	差動齒(中間小齒)	1
38	W12-38	Screw	螺絲	1

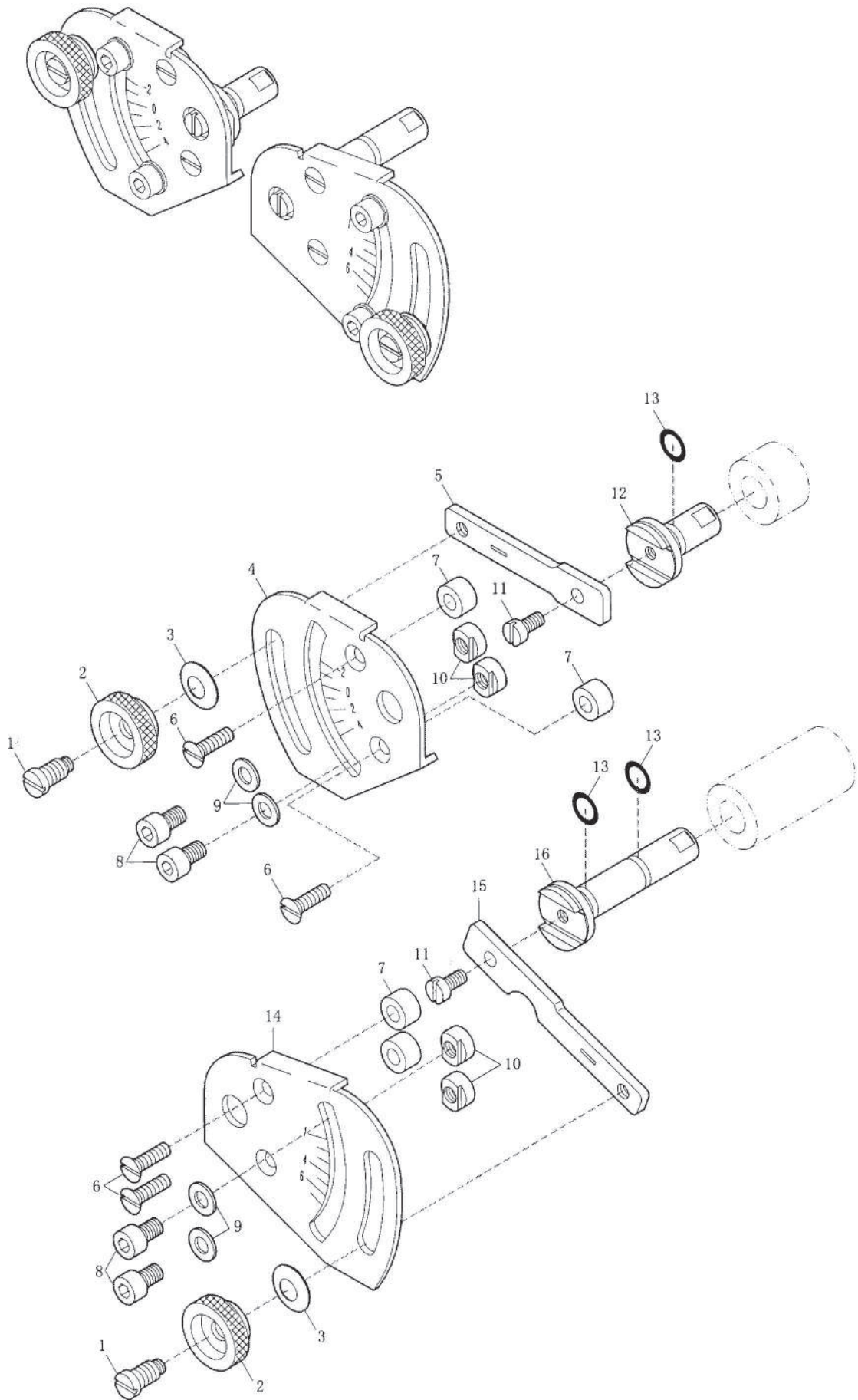




## NEEDLE GUARD &amp; FEED DOG DRIVING MECHANISM

## 頂針片及送料具驅動機構 13

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W13-1	Feed Dog Driving Main Shaft	送料具驅動主軸	1
2	W13-2	Washer	墊片	1
3	W13-3	Needle Bearing	滾針培林	1
4	W13-4	Connecting Rod Pin	連桿銷	1
5	W13-5	Sealing Plug	封閉塞	3
6	W13-6	Feed Dog Connecting Rod	送料具連桿	1
7	W13-7	Washer	墊片	1
8	W13-8	Screw	螺絲	1
9	W13-9	Feed Dog Driving Shaft Adapter Bracket	送料具驅動軸轉接架	1
10	W13-10	Screw	螺絲	1
11	W13-11	Screw	螺絲	15
12	W13-12	Collar	軸環	10
13	W13-13	Sealing Plug	封閉塞	4
14	W13-14	Main Feed Driving Dog Crankshaft	主齒驅動曲軸	1
15	W13-15	Feed Lift Block (Rear)	送料具提升滑塊	2
16	W13-16	Differential Feed Dog Driving Crankshaft	差動齒驅動曲軸	1
17	W13-17	Differential Feed Lift Lever	差動齒提升拉桿	1
18	W13-18	Screw	螺絲	3
19	W13-19	Feed Lift Connecting Link	送料具提升連桿	1
20	W13-20	Feed Lift Connecting Link Pin	送料具提升連桿插銷	2
21	W13-21	Screw	螺絲	1
22	W13-22	Spacer Bushing	間隔襯套	1
23	W13-23	Needle Guard (Front) Holder	頂針片 (前) 固定座	1
26	W13-26	Screw	螺絲	1
27	W13-27	Needle Guard (Rear)	頂針片 (後)	1
28	W13-28	Needle Guard (Rear) Holder	頂針片 (後) 固定座	1
29	W13-29	Adapter Sleeve	接頭套筒	1
30	W13-30	Needle Guard Driving Crankshaft	頂針片驅動曲軸	1
31	W13-31	Connecting Rod	連桿	1
32	W13-32	Needle Guard Eccentric	頂針片偏心輪	1
33	W13-33	Screw	螺絲	2
34	W13-34	Sealing Plug	封閉塞	2



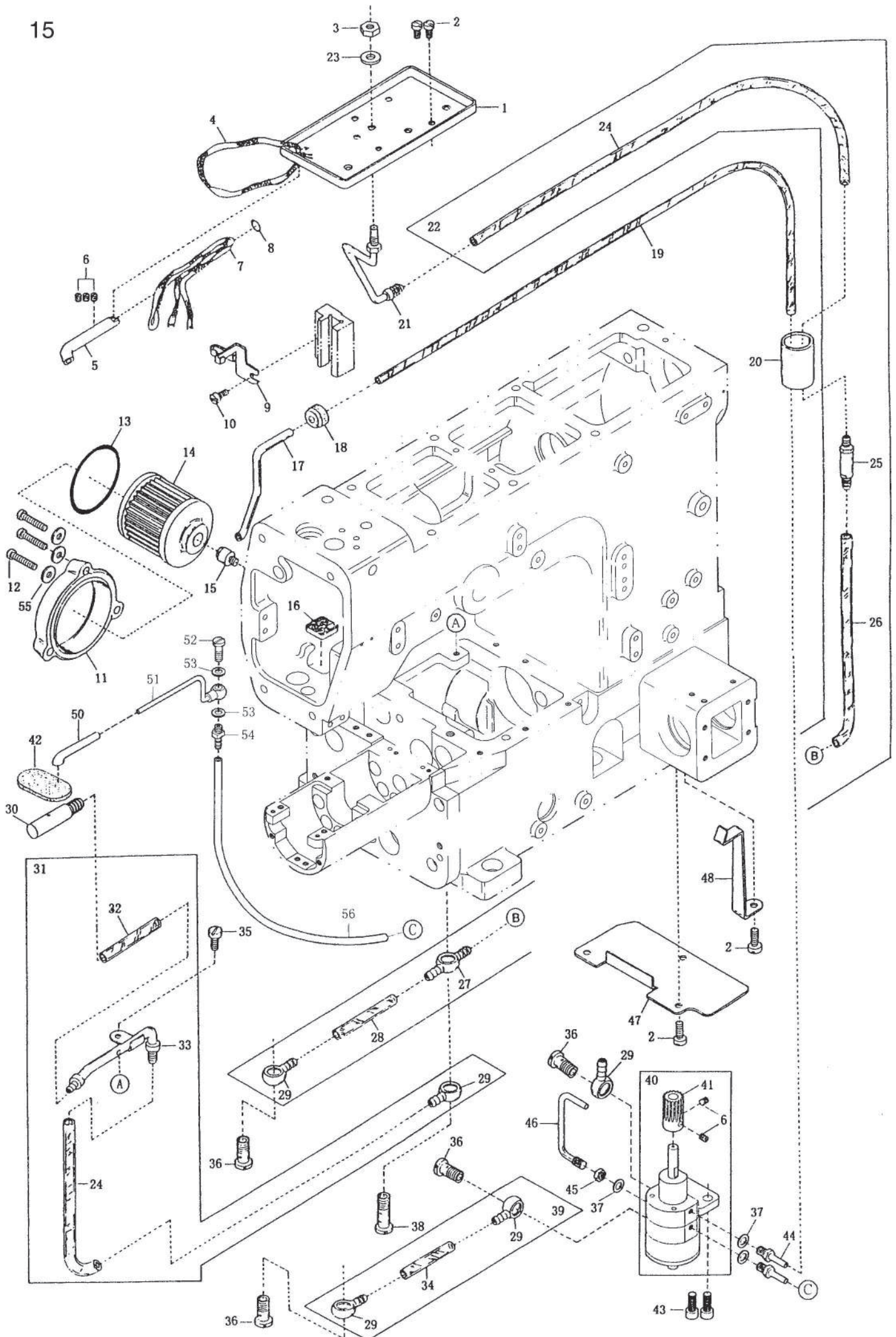


MAIN & DIFFERENTIAL FEED DOG ADJUSTING DISC MECHANISM

主齒及差動齒調整盤機構

14

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W14-1	Screw.....	螺絲.....	2
2	W14-2	Nut .....	螺帽.....	2
3	W14-3	Conical Spring Washer.....	錐形彈簧墊片.....	2
4	W14-4	Differential Feeding Graduations.....	差動尺寸刻度板.....	1
5	W14-5	Differential Feeding Control Lever.....	差動量控制桿.....	1
6	W14-6	Screw.....	螺絲.....	4
7	W14-7	Spacer.....	墊塊.....	4
8	W14-8	Screw.....	螺絲.....	4
9	W14-9	Washer.....	墊片.....	4
10	W14-10	Control Lever Stop.....	控制槓桿止塊.....	4
11	W14-11	Screw.....	螺絲.....	2
12	W14-12	Differential Feeding Control Lever Shaft...	差動量控制橫桿主軸.....	1
13	W14-13	O-ring .....	O環 .....	3
14	W14-14	Stitch Length Graduations.....	針距尺寸刻度板.....	1
15	W14-15	Stitch Length Control Lever.....	針距大小控制桿.....	1
16	W14-16	Main Feeding Control Lever Shaft ...	針距控制橫桿主軸.....	1





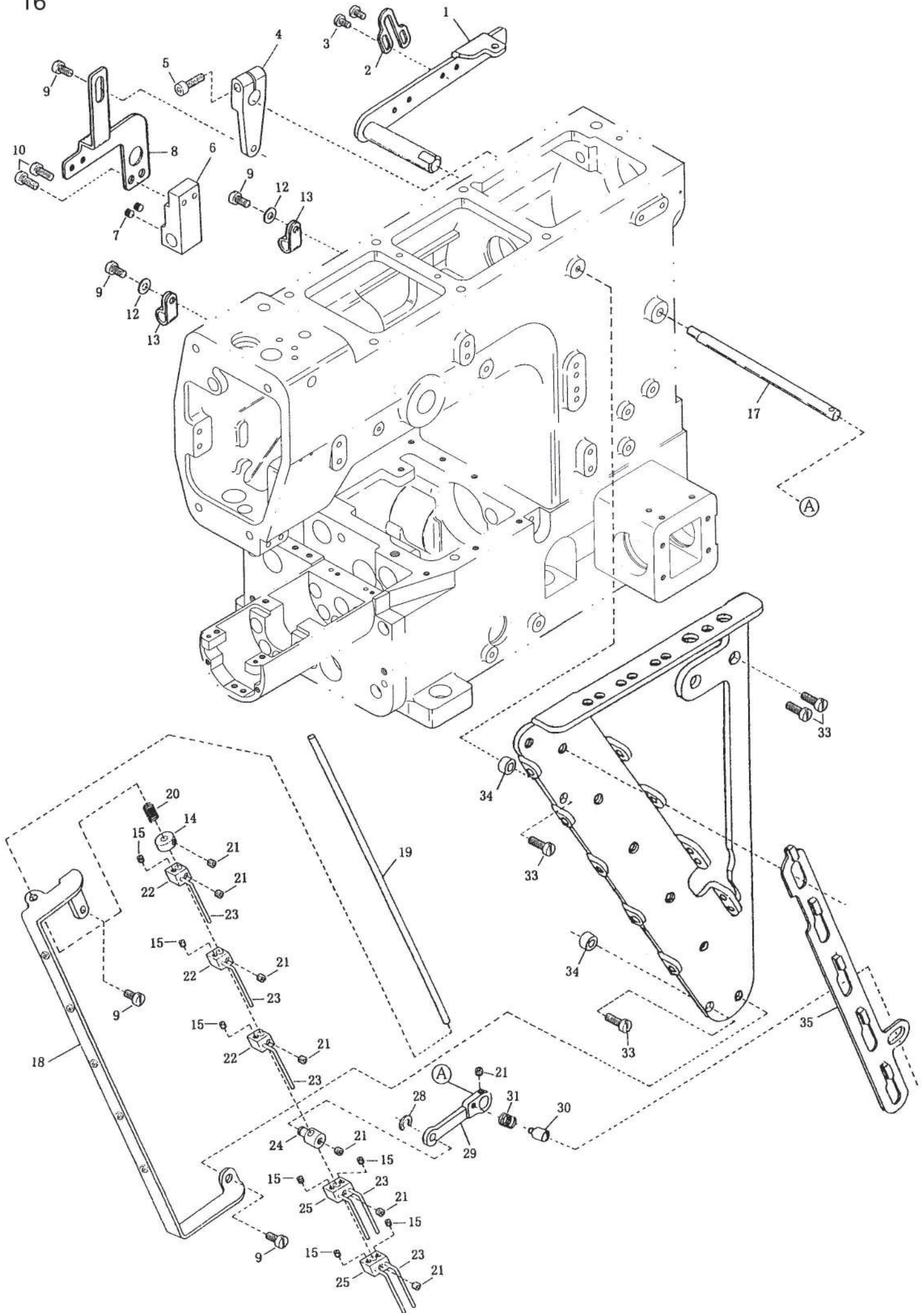
**LUBRICATING MECHANISM**

**潤滑機構**

**15**

Ref. No.	Parts No.	Description	品名	Amt. Req.
1	W15-1	Oil Receiver	潤滑油接收盤	1
2	W15-2	Screw (M4-0.7×8)	螺絲	6
3	W15-3	Nut	螺帽	1
4	W15-4	Oil Wick	油蕊	1
5	W15-5	Needle Bar Connecting Rod Oil Pip	針棒連桿軸承給油管	1
6	W15-6	Screw (M4-0.7×4)	螺絲	3
7	W15-7	Oil Wick	油蕊	1
8	W15-8	O-ring (P5)	O環	1
9	W15-9	Oil Wick Holder	油蕊固定座	1
10	W15-10	Screw (9/64-40×7)	螺絲	1
11	W15-11	Oil Filter Cap	濾油器蓋	1
12	W15-12	Screw (11/64-40×16)	螺絲	3
13	W15-13	O-ring (P42)	O環	1
14	W15-14	Oil Filter	濾油器	1
15	W15-15	Oil Filter Connector	濾油器連接管	1
16	W15-16	Felt	吸油棉	1
17	W15-17	Suction Pipe	迴油管	1
18	W15-18	Suction Pipe Bushing	迴油管襯套	1
19	W15-19	Oil Tube (3×5×440mm)	油管	1
20	W15-20	Draining Pipe	油路套管	1
21	W15-21	Oil Sight Top Nozzle	外視油量上噴嘴	1
22	W15-22	Oil Tube (Long), Complete Set	油管組(長)	1
23	W15-23	Washer	墊片	1
24	W15-24	Oil Tube (4×6×100mm)	油管 (4×6×100mm)	2
25	W15-25	Non-Return Valve Unit	止回閥	1
26	W15-26	Oil Tube (4×6×280mm)	油管 (4×6×280mm)	1
27	W15-27	Oil Tube Joint, Two Way	油管接頭(雙向)	1
28	W15-28	Oil Tube (4×6×35mm)	油管 (4×6×35mm)	1
29	W15-29	Oil Tube Joint, One Way	油管接頭(單向)	5
30	W15-30	Lower Shaft Oiling Outlet	筒臂轉軸部噴油頭	1
31	W15-31	"Oil Tube (Middle), Complete Set	油管(中段)總成	1
32	W15-32	Oil Tube (4×6×50mm)	油管 (4×6×50mm)	1
33	W15-33	Lower Shaft Oiling Shower	筒臂勾針軸部噴油孔	1
34	W15-34	Oil Tube (4×6×30mm)	油管 (4×6×30mm)	1
35	W15-35	Screw (M4-0.7×8)	螺絲	1
36	W15-36	Fitting Stud (Short)	放油螺絲 (短)	4
37	W15-37	Gasket	密合墊片	10
38	W15-38	Fitting Stud (Long)	放油螺絲 (長)	1
39	W15-39	Oil Tube (Short), Complete Set	油管組(短)	1
40	W15-40	Oil Pump, Complete Set	油泵組	1
41	W15-41	Oil Pump Driving Worm Gear	油泵驅動蝸齒組	1
42	W15-42	Felt	吸油棉	1
43	W15-43	Screw (M6-1×16)	螺絲	2
44	W15-44	Suction Pipe	吸油管	2
45	W15-45	Nut	螺帽	1
46	W15-46	Oil Nozzle for Worm Gear	驅動蝸齒組噴油嘴	1
47	W15-47	Dust Proof Plate	防塵蓋	1
48	W15-48	Oil Tube Stay	油管固定架	1
49				
50	W15-50	Suction Pipe	迴油管	1
51	W15-51	Oil Tube Joint, Ont Way	油管接頭(單向)	1
52	W15-52	Fitting Stud	放油螺絲	1
53	W15-53	Washer	墊片	2
54	W15-54	Oil Tube Adapter	油管轉接頭	1
55	W15-55	Washer	墊片	2
56	W15-56	Oil Tube (3×5×365mm)	油管 (3×5×365mm)	1





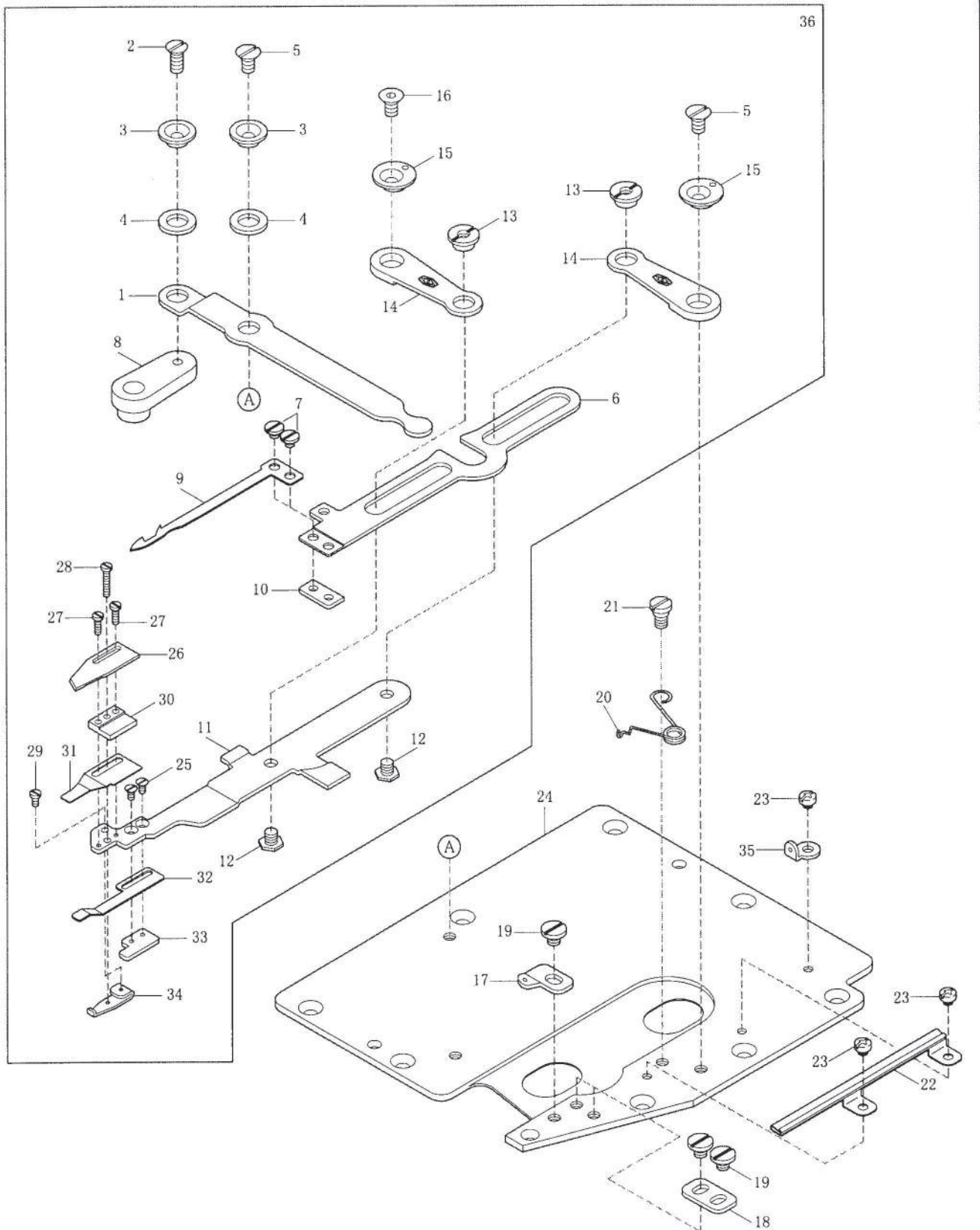
**AUTO TRIMMER THREAD PULL-OFF MECHANISM**

**自動切線鬆線機構**

**16**

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W16-1	Lifter Lever	壓腳拉桿	1
2	W16-2	Lifter Lever Stop	拉桿止架	1
3	W16-3	Screw (9/64-40×6)	螺絲	2
4	W16-4	Tension Release Lever	張力釋放槓桿	1
5	W16-5	Screw (M4-0.7×14)	螺絲	1
6	W16-6	Tension Release Block	張力釋放滑塊	1
7	W16-7	Screw (M6-1×4.5)	螺絲	2
8	W16-8	Tension Release Connecting Plate	張力釋放連接壓板	1
9	W16-9	Screw (M4-0.7×8)	螺絲	5
10	W16-10	Screw (M4-0.7×10)	螺絲	
11				
12	W16-12	Washer	墊片	2
13	W16-13	Cord Clamp	線夾板	2
14	W16-14	Collar	軸環	1
15	W16-15	Screw (1/8-44×3)	螺絲	7
16				
17	W16-17	Tension Release Shaft	張力釋放轉軸	1
18	W16-18	Thread Pull-off Eyelet	過線鬆線架	1
19	W16-19	Thread Pull-off Bar	過線鬆線桿	1
20	W16-20	Swing-Proof Spring	防震彈簧	1
21	W16-21	Screw (M4-0.7×3)	螺絲	7
22	W16-22	Thread Pull-off Hook Unit (One Hook)	鬆線鉤組 (單腳)	3
23	W16-23	Hook	鬆線鉤	7
24	W16-24	Thread Pull-off Bar Holder	過線鬆線桿固定座	1
25	W16-25	Thread Pull-off Hook Unit (Double Hook)	鬆線鉤組 (雙腳)	2
26				
27				
28	W16-28	Retaining Ring	扣環	1
29	W16-29	Thread Pull-off Lever	線鬆線拉柄	1
30	W16-30	Tension Release Adjusting Eccentric	張力釋放調整偏心輪	1
31	W16-31	Spring	彈簧	1
32				
33	W16-33	Screw (M4-0.7×12)	螺絲	4
34	W16-34	Spacer	隔片	2
35	W16-35	Tension Disc Separator	過線張力盤分離架	1

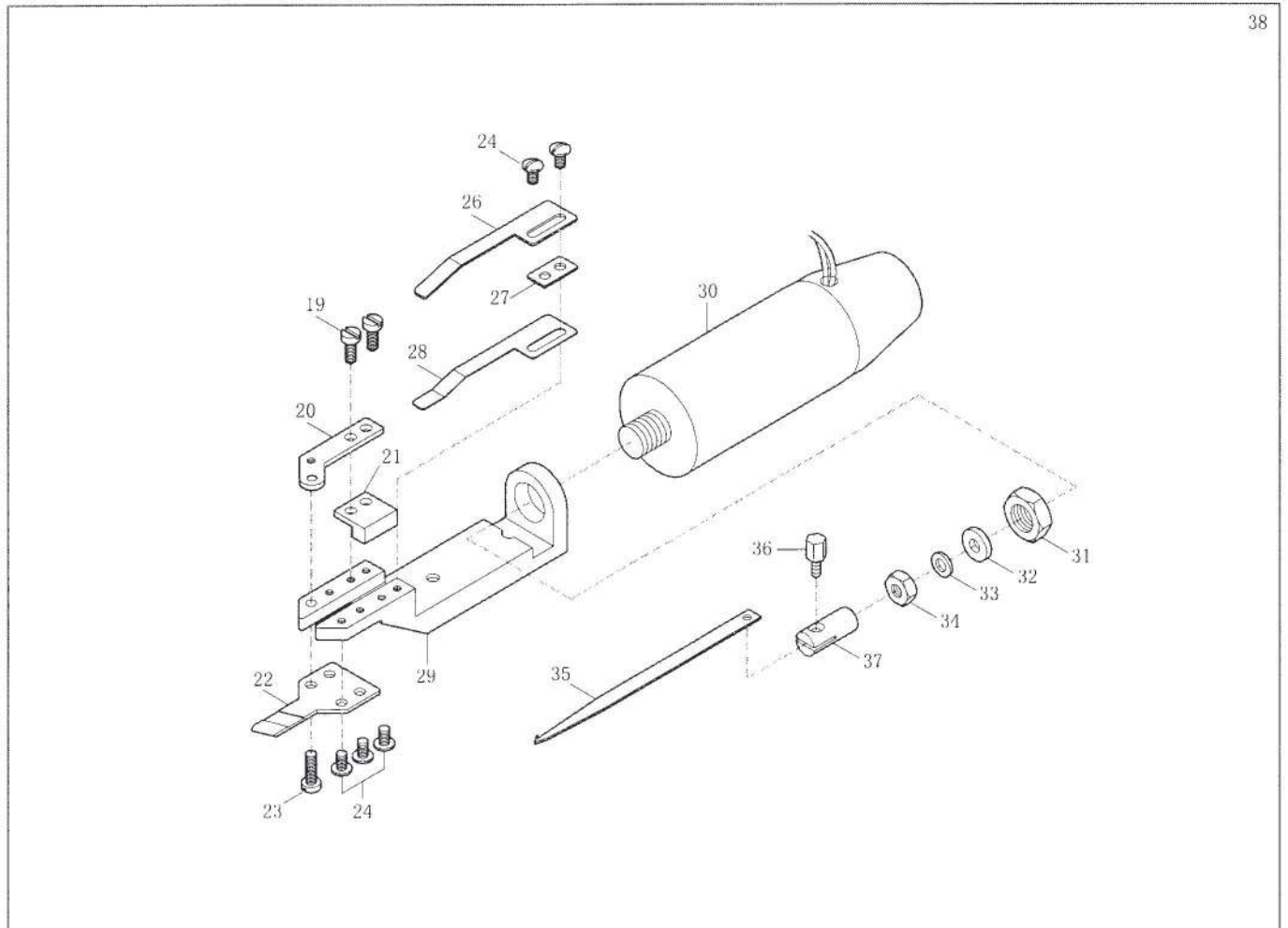
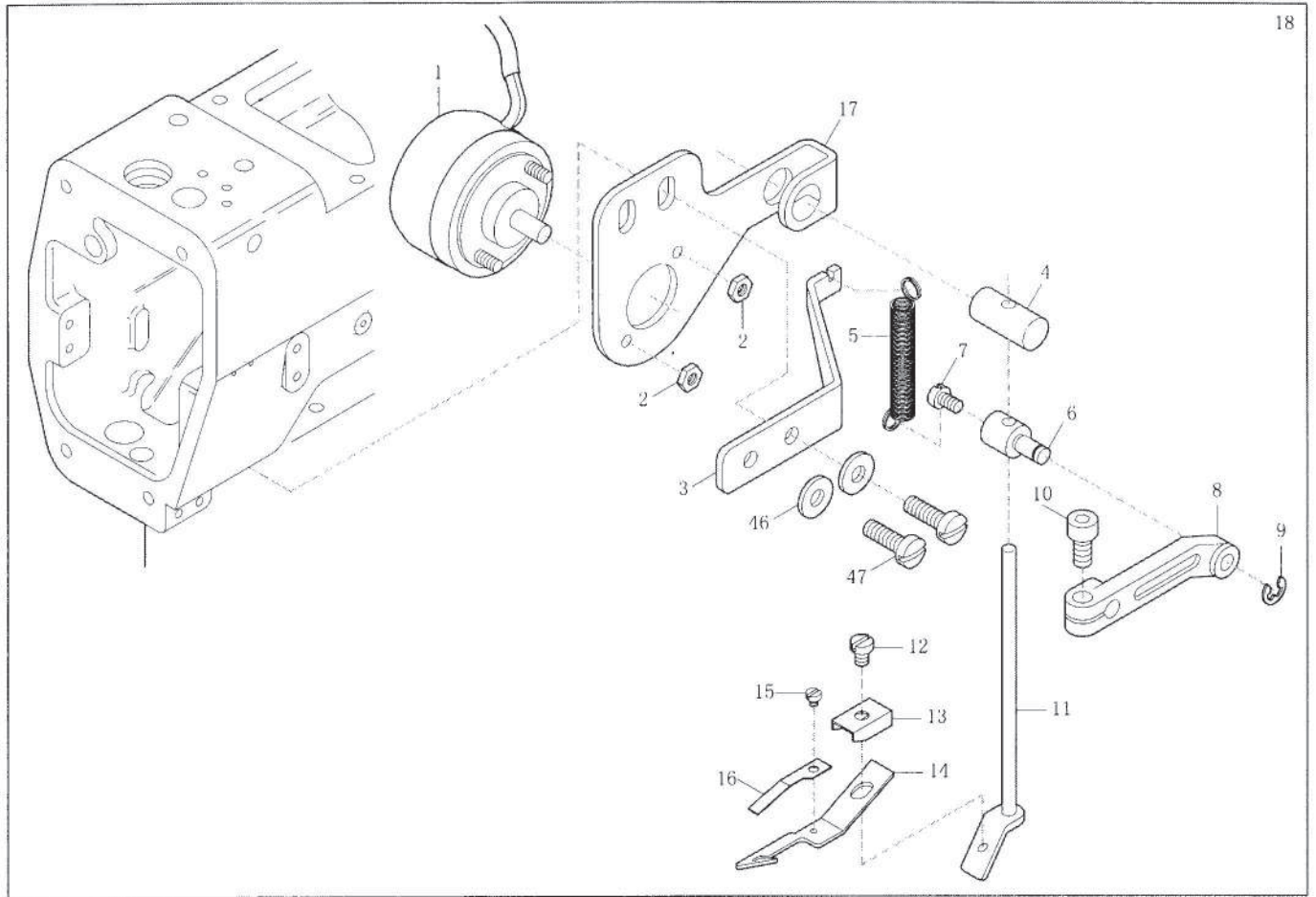






**BOTTOM TRIMMER MECHANISM****底線切線刀機構****17**

Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W17-1	Lower Knife Driving Lever	下切刀驅動連桿	1
2	W17-2	Screw (M4-0.7×9)	螺絲	1
3	W17-3	Lower Knife Driving Lever Ring	驅動連桿護環	2
4	W17-4	Washer	墊片	2
5	W17-5	Screw (M4-0.7×7)	螺絲	2
6	W17-6	Lower Knife Carrier	下切刀托架	1
7	W17-7	Screw (M3-0.5×2.5)	螺絲	2
8	W17-8	Connecting Plug	下切刀插接頭	1
9	W17-9	Lower Moving Knife	下活動刀	1
10	W17-10	Lower Knife Holder	下切刀固定座	1
11	W17-11	Upper Fixing Knife Carrier	上固定刀托架	1
12	W17-12	Screw (M4-0.7×4)	螺絲	2
13	W17-13	Nut	螺帽	2
14	W17-14	Knife Guide Lever	切刀導引搖臂	2
15	W17-15	Knife Guide Lever Eccentric Ring	切刀導引搖臂偏心輪	2
16	W17-16	Screw (M4-0.7×7)	螺絲	1
17	W17-17	Lower Knife Carrier Guide	下切刀托架導引片	1
18	W17-18	Upper Knife Carrier Stop	上固定刀托架止板	1
19	W17-19	Screw (M4-0.7×4)	螺絲	3
20	W17-20	Upper Knife Carrier Spring	上固定刀托架復進簧	1
21	W17-21	Screw (M4-0.7×4)	螺絲	1
22	W17-22	Looper Thread Guide	底線過線護槽	1
23	W17-23	Screw (M3-0.5×3)	螺絲	3
24	W17-24	Crank Chamber Cover	曲柄軸室蓋	1
25	W17-25	Screw (M2-0.4×4)	螺絲	2
26	W17-26	Upper Fixing Knife	上固定刀	1
27	W17-27	Screw (M2-0.4×6)	螺絲	2
28	W17-28	Screw (M2-0.4×10)	螺絲	1
29	W17-29	Screw (M2-0.4×3.6)	螺絲	2
30	W17-30	Upper Fixing Guide	上固定刀導引架	1
31	W17-31	Clamp Spring	夾緊彈簧片	1
32	W17-32	Clamp Spring Pressure	夾緊壓力彈簧刀片	1
33	W17-33	Clamp Spring Pressure Holder	夾緊壓力彈簧固定座	1
34	W17-34	Clamp Spring Pressure Adjusting Piece	壓力彈簧調整片	1
35	W17-35	Looper Thread Eyelet	底線穿線孔	1
36	W17-36	Lower Knife C. Set	下切刀組	1
37	W17-37	Lower Knife Assembly	下切刀總成	1





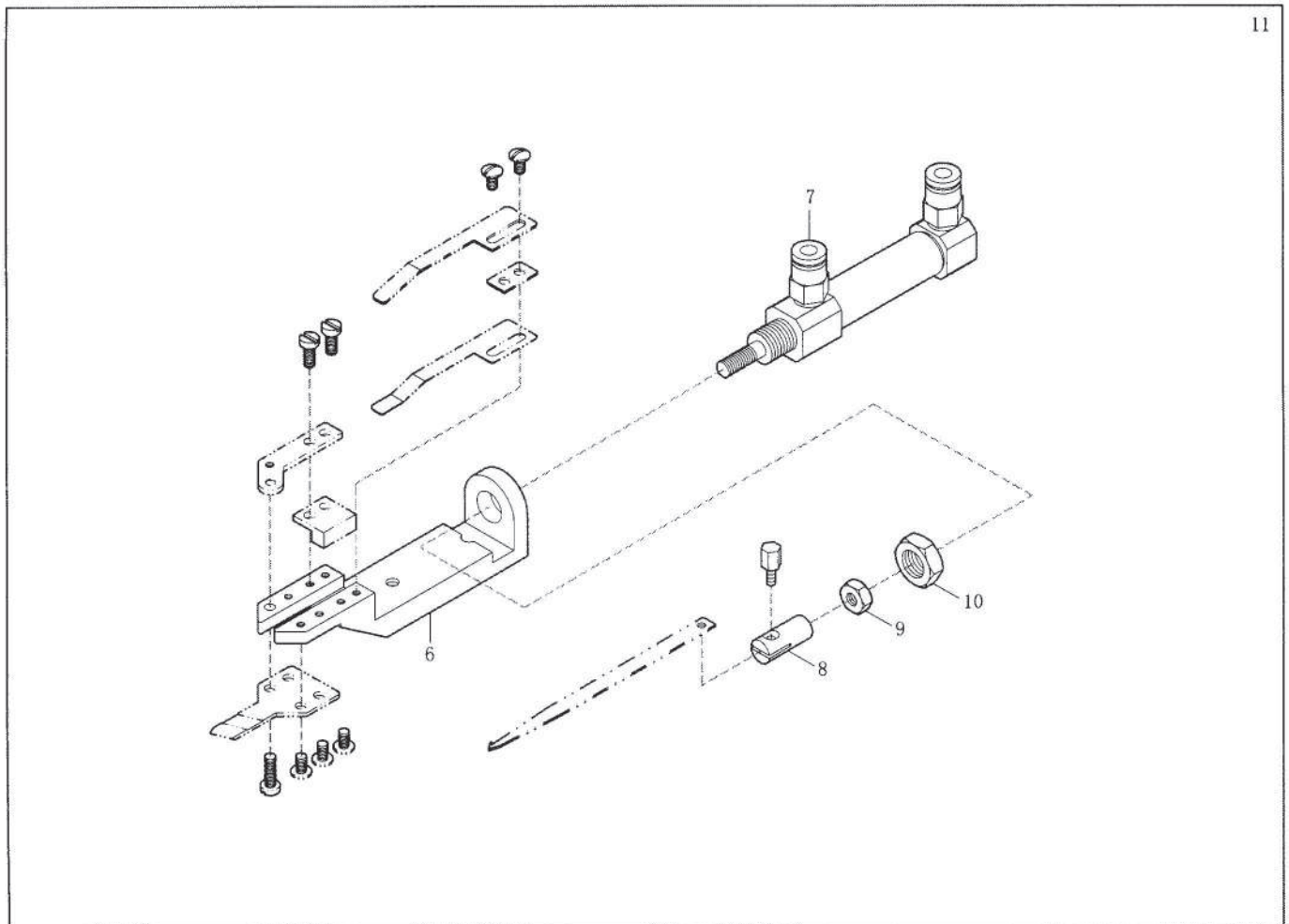
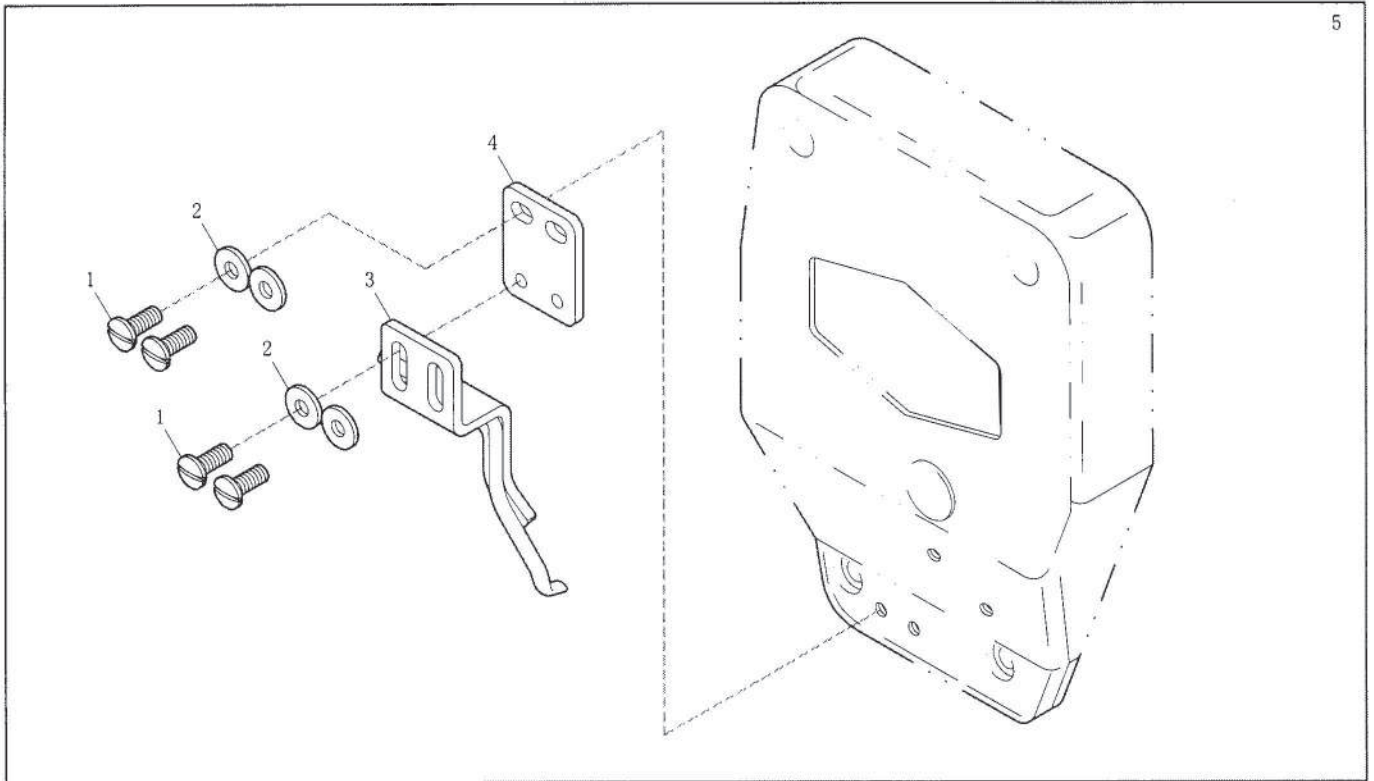
## ELECTRICAL TYPE TOP THREAD WIPER &amp; TRIMMER MECHANISM

## 電磁式上撥線及切線機構

18

Ref. No.	Parts No.	Description	品 名	Amt. Req.
1	W18-1	Wiper Solenoid	撥線電磁閥	1
2	W18-2	Nut	螺帽	2
3	W18-3	Buffer Spring Bracket	緩衝彈簧吊架	1
4	W18-4	Wiper Bar Guide	撥線搖臂導塊	1
5	W18-5	Buffer Spring	緩衝彈簧	1
6	W18-6	Solenoid Lever Pin	電磁閥搖臂插銷	1
7	W18-7	Screw (M3-0.5×5)	螺絲	1
8	W18-8	Solenoid Lever	電磁閥搖臂	1
9	W18-9	Retaining Ring	扣環	1
10	W18-10	Screw (M4-0.7×8)	螺絲	1
11	W18-11	Wiper Bar	撥線搖臂	1
12	W18-12	Screw (M3-0.5×4)	螺絲	1
13	W18-13	Wiper Holder	撥線鉤固定座	1
14	W18-14	Wiper	撥線鉤	1
15	W18-15	Screw (M2-0.4×2)	螺絲	1
16	W18-16	Clamp Spring	夾線彈簧片	1
17	W18-17	Solenoid Bracket	撥線電磁閥托架	1
18	W18-18	Electrical Type Thread Wiper C. Set	電磁式撥線組	1
19	W18-19	Screw (3/32-56×6)	螺絲	2
20	W18-20	Clamp Spring Pressure Adjusting Piece	上切刀壓力調整片	1
21	W18-21	Pressure Adjusting Piece Spacer	壓力調整隔片	1
22	W18-22	Fixed Trimming Knife	上切刀固定刀	1
23	W18-23	Screw (3/32-56×10)	螺絲	1
24	W18-24	Screw (3/32-56×4)	螺絲	5
25				
26	W18-26	Clamp Spring Pressure	夾線壓力片	1
27	W18-27	Clamp Spring Pressure Spacer	夾線壓力隔片	1
28	W18-28	Thread Clamp	夾線片	1
29	W18-29	Knife Guide Bracket	上切刀導槽托架	1
30	W18-30	Solenoid	電磁閥	1
31	W18-31	Nut	螺帽	1
32	W18-32	Washer	墊片	1
33	W18-33	Spring Washer	彈簧墊片	1
34	W18-34	Nut	螺帽	1
35	W18-35	Movable Trimming Knife	上活動刀片	1
36	W18-36	Screw (M2-0.4×6)	螺絲	1
37	W18-37	Movable Knife Holder	上切刀台	1
38	W18-38	Electrical Type Top Trimmer C. Set	電磁式上切線組	1
39				
40				
41				
42				
43				
44				
45				
46	W18-46	Washer	墊片	2
47	W18-47	Screw	螺絲	2



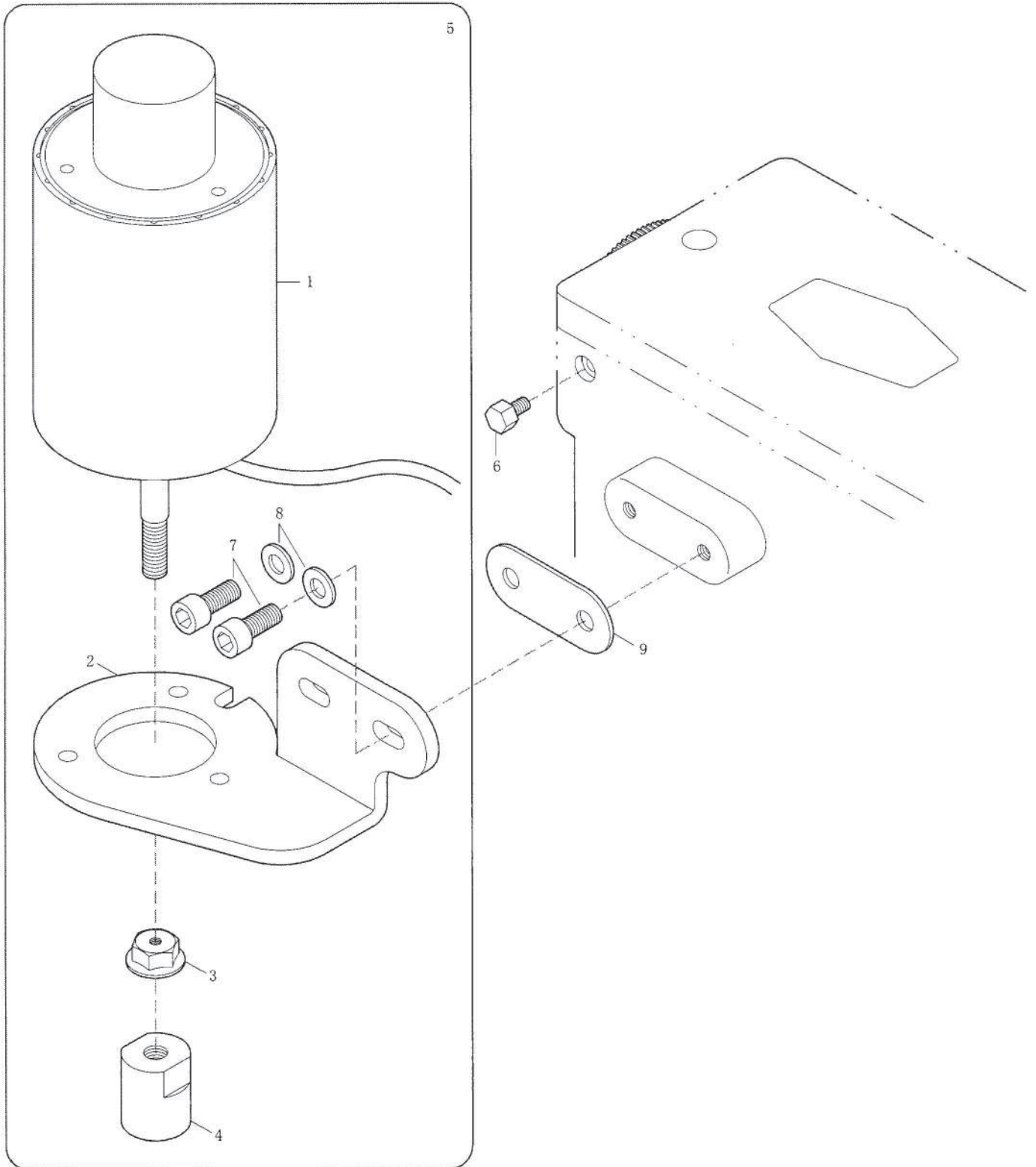


**PNEUMATIC TYPE TOP AIR WIPER & TRIMMER MECHANISM**

**氣壓式上吹風撥線及切線機構**

**19**

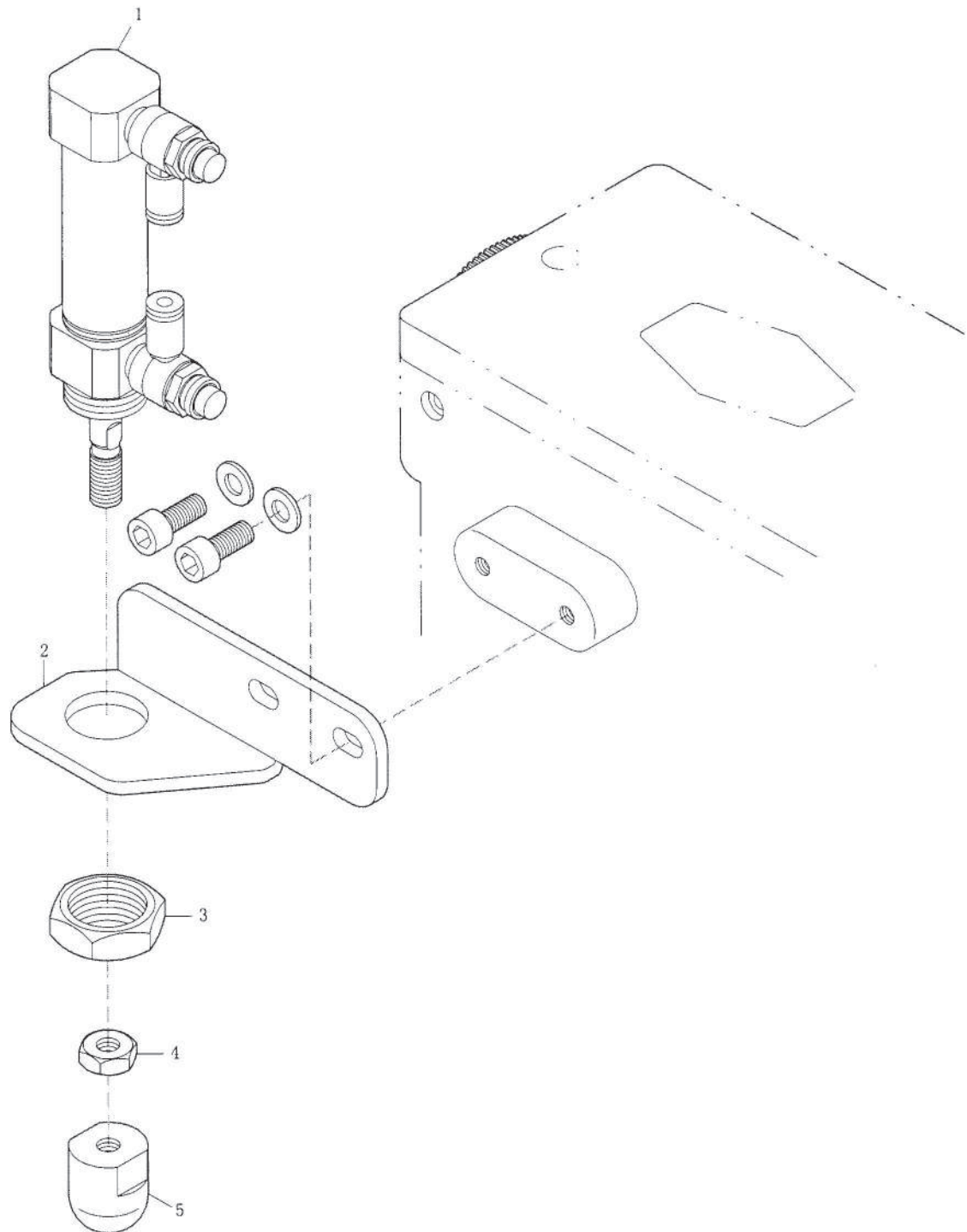
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<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W19-1	Screw (M4-0.7 × 10) .....	螺絲 .....	4
2	W19-2	Washer .....	墊片 .....	4
3	W19-3	Air Wiper .....	吹風撥線管 .....	1
4	W19-4	Air Wiper Holder .....	撥線管固定座 .....	1
5	W19-5	Pneumatic Type Air Wiper C. Set .....	氣壓式吹風撥線組 .....	1
6	W19-6	Pneumatic Type Knife Guide Bracket .....	氣壓式上切刀導槽托架 .....	1
7	W19-7	Air Cylinder .....	氣缸 .....	1
8	W19-8	Pneumatic Type Movable Knife Holder .....	氣壓式上切刀台 .....	1
9	W19-9	Nut .....	螺帽 .....	1
10	W19-10	Nut .....	螺帽 .....	1
11	W19-11	Pneumatic Type Top Trimmer C. Set .....	氣壓式上切刀組 .....	1





ELECTRICAL TYPE DIRECT DRIVING PRESSER FOOT LEFTER電磁式直接驅動抬押腳組 20

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W20-1	Presser Foot Lefter Solenoid .....	抬壓腳電磁閥.....	1
2	W20-2	Solenoid Bracket.....	電磁閥吊架.....	1
3	W20-3	Nut.....	螺帽.....	1
4	W20-4	Plastic Pushing Block.....	塑膠推塊.....	1
5	W20-5	Presser Foot Lefter C. Set .....	電磁直接式抬壓腳組.....	1
6	W20-6	Screw (M4-0.7×8).....	螺絲.....	1
7	W20-7	Screw (M6-1.0×16) .....	螺絲.....	2
8	W20-8	Washer.....	墊片.....	2
9	W20-9	Shock Absorbing Gasket .....	避震墊片.....	1



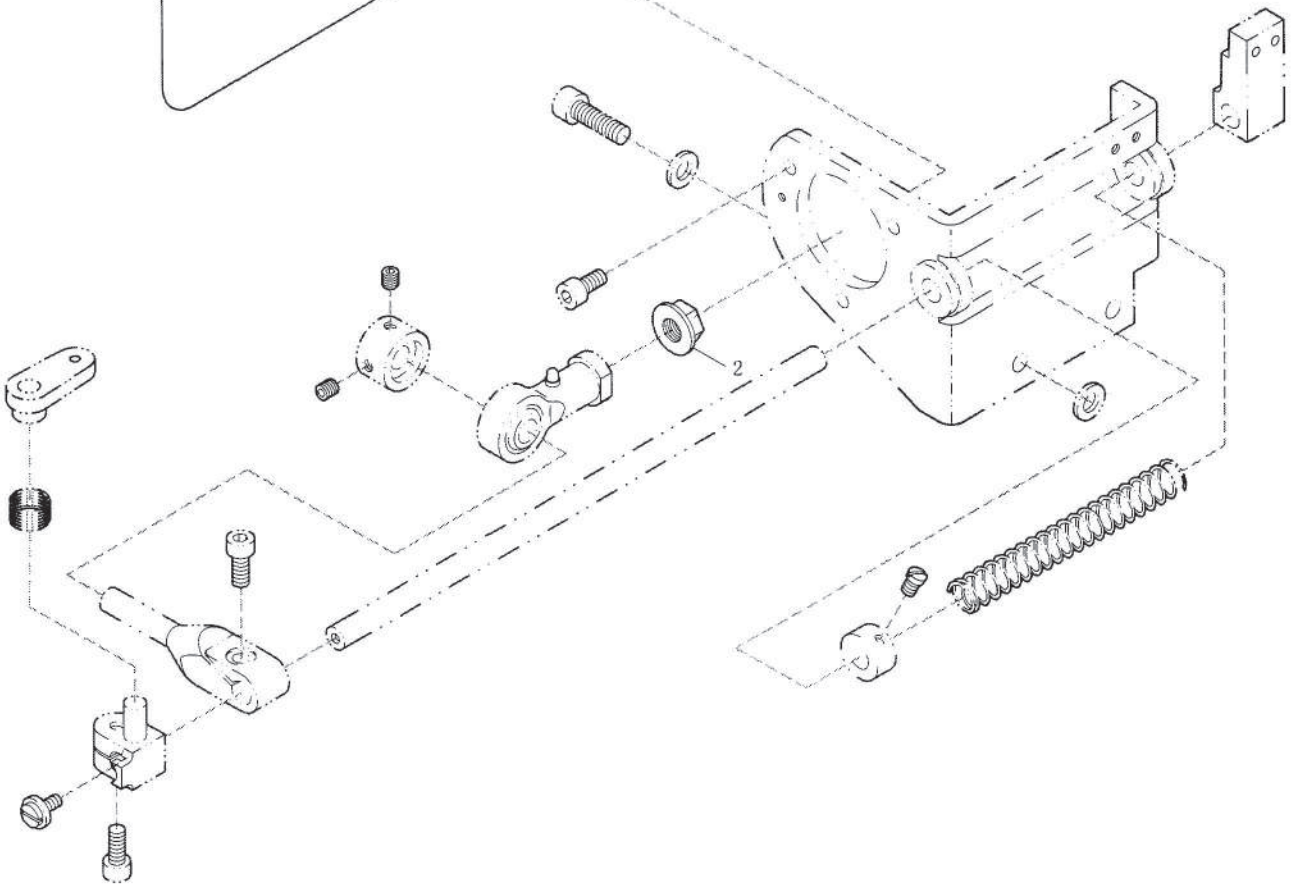
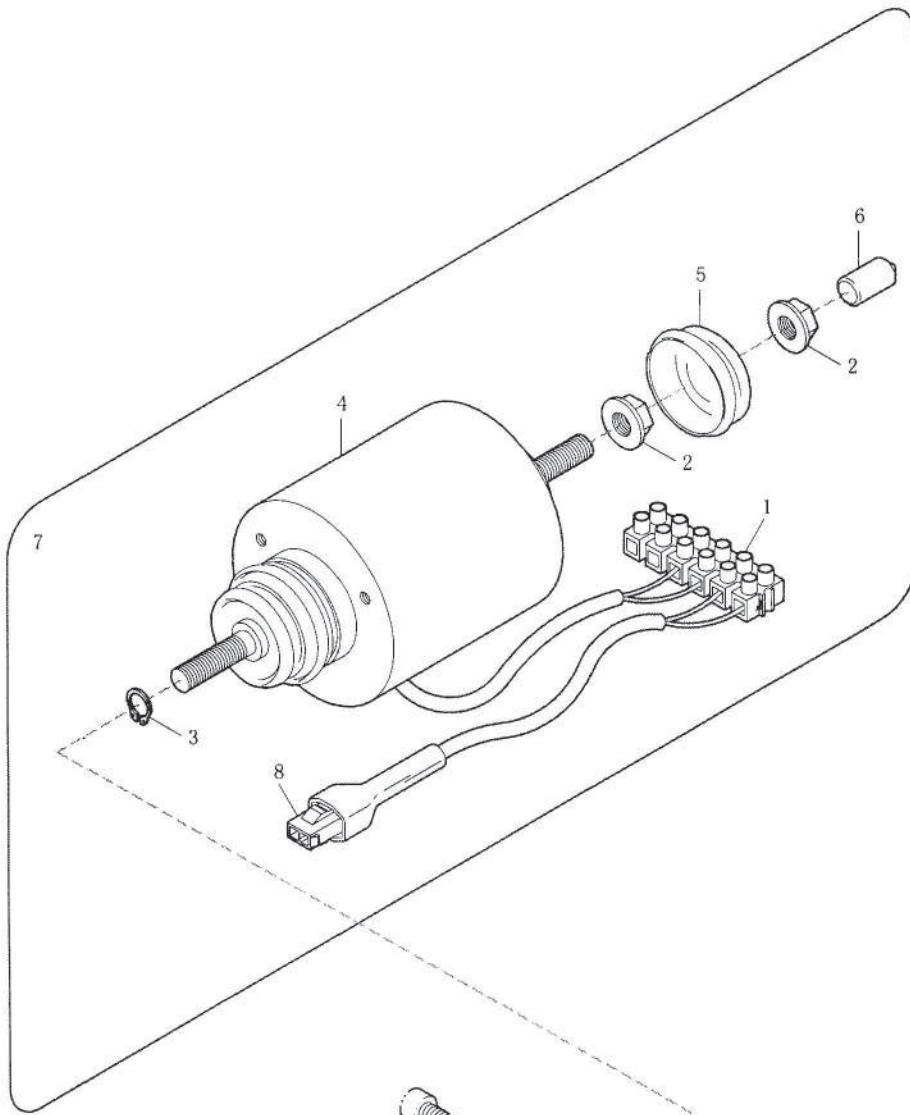
PNEUMATIC TYPE PRESSER FOOT LEFTER

氣壓式抬押腳組

21

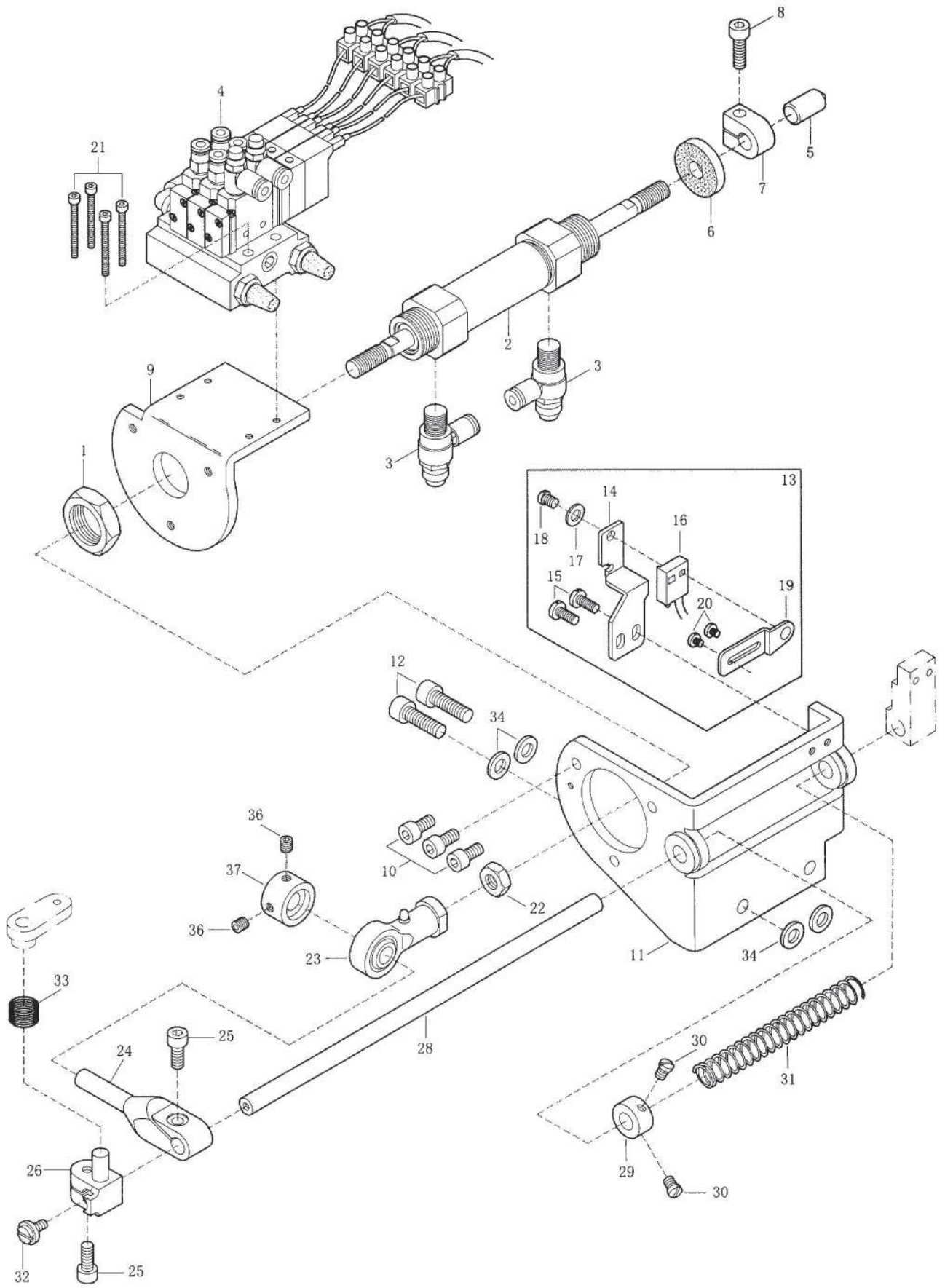
<u>Ref.</u>	<u>Parts</u>			<u>Amt.</u>
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W21-1	Air Cylinder.....	空壓管.....	1
2	W21-2	Air Cylinder Bracket.....	空壓管托架.....	1
3	W21-3	Nut.....	螺帽.....	1
4	W21-4	Nut.....	螺帽.....	1
5	W21-5	Plastic Pushing Block .....	塑膠推塊.....	1





ELECTRICAL TYPE BOTTOM TRIMMER DRIVING MECHANISM電磁式下切刀驅動機構22

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W22-1	Terminal Holder.....	端子台.....	1
2	W22-2	Nut.....	螺帽.....	3
3	W22-3	Retaining Ring.....	扣環.....	1
4	W22-4	Trimming Solenoid.....	下切刀電磁閥.....	1
5	W22-5	Solenoid Dust-Proof Cover .....	電磁閥防塵套.....	2
6	W22-6	Rubber Cover.....	膠蓋.....	1
7	W22-7	Bottom Trimming Solenoid C. Set.....	下切刀電磁閥組.....	1
8	W22-8	Connector.....	連接端子.....	1



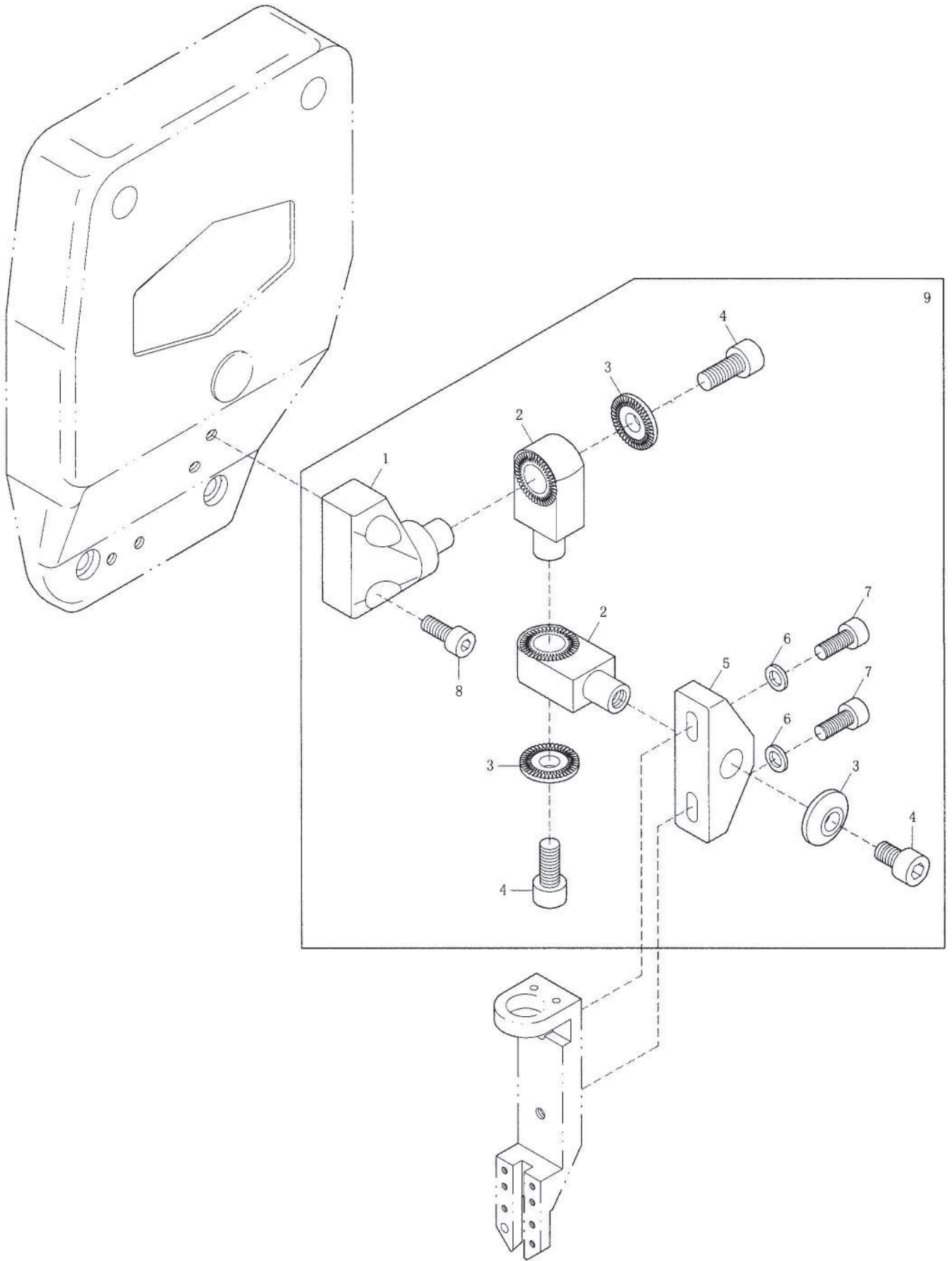


**PNEUMATIC TYPE BOTTOM TRIMMER DRIVING MECHANISM**

**氣壓式下切刀驅動機構**

**23**

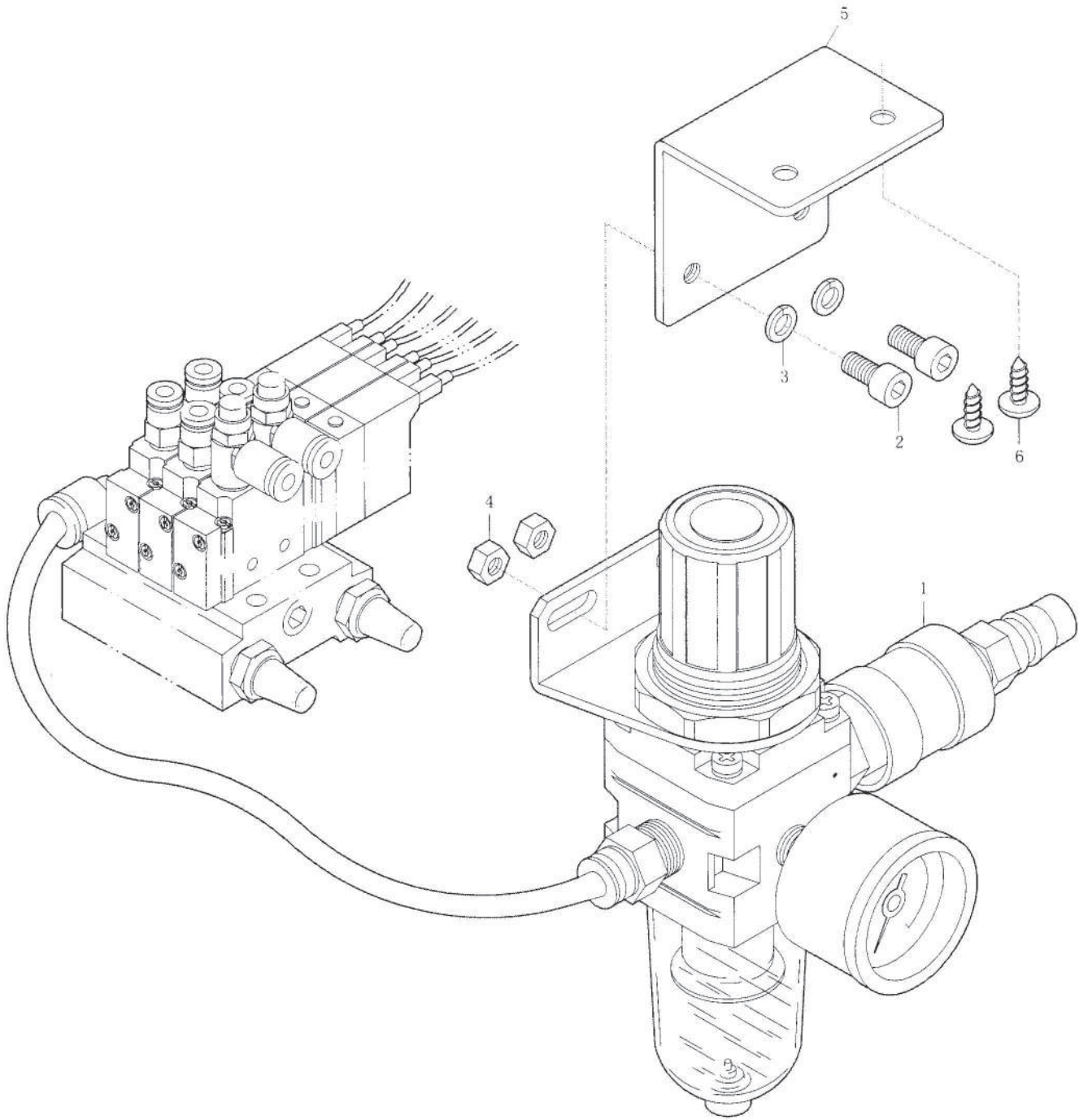
Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W23-1	Nut.....	螺帽.....	1
2	W23-2	Air Cylinder.....	空壓管.....	1
3	W23-3	Elbow Connector.....	肘形接頭.....	2
4	W23-4	"Electromagnetic Valve, C. Set .....	"氣壓電磁閥組.....	1
5	W23-5	Rubber Cover.....	膠套.....	1
6	W23-6	Rubber Cushion.....	避震膠墊.....	1
7	W23-7	Adjusting Collar .....	調整環.....	1
8	W23-8	Screw (M5-0.8×16).....	螺絲.....	1
9	W23-9	Cylinder Bracket.....	空壓管吊架.....	1
10	W23-10	Screw (M5-0.8×10).....	螺絲.....	3
11	W23-11	Trimming Cylinder Support .....	下切刀空壓管座.....	1
12	W23-12	Screw (M6-1×20).....	螺絲.....	2
13	W23-13	"Switch , Complete Set.....	"安全開關組.....	1
14	W23-14	Switch Support.....	安全開關座.....	1
15	W23-15	Screw (M4-0.7×8).....	螺絲.....	2
16	W23-16	Switch.....	安全開關.....	1
17	W23-17	Washer.....	墊片.....	1
18	W23-18	Screw (11/64-40×5.5).....	螺絲.....	2
19	W23-19	Switch Guide.....	安全開關導片.....	1
20	W23-20	Screw (M3-0.5×3.3).....	螺絲.....	2
21	W23-21	Screw (M4-0.7×25).....	螺絲.....	4
22	W23-22	Nut.....	螺帽.....	1
23	W23-23	Plunger Connecting Rod .....	柱塞式連桿.....	1
24	W23-24	Plunger.....	柱塞接頭.....	1
25	W23-25	Screw (M5-0.8×12) .....	螺絲.....	2
26	W23-26	Connecting Block .....	連結滑塊.....	1
27	.....	.....	.....	.....
28	W23-28	Cylinder Return Shaft .....	空壓管復進軸.....	1
29	W23-29	Collar.....	軸環.....	1
30	W23-30	Screw (M4.5-0.75×5.5).....	螺絲.....	2
31	W23-31	Cylinder Return Spring .....	空壓管復進簧.....	1
32	W23-32	Screw (M4-0.7×8).....	螺絲.....	1
33	W23-33	Spring .....	彈簧.....	1
34	W23-34	Washer.....	墊片.....	4
35	.....	.....	.....	.....
36	W23-36	Screw (M5-0.8×5).....	螺絲.....	2
37	W23-37	Plunger Stop.....	柱塞止環.....	1



**TOP TRIMMER UNIVERSAL ADAPTER MECHANISM****上切刀萬向接頭機構****24**

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W24-1	Top Trimmer Fixed Block.....	上切刀固定座.....	1
2	W24-2	Universal Joint .....	萬向接頭.....	2
3	W24-3	Position Washer.....	定位墊圈.....	3
4	W24-4	Screw (M5-0.8×12).....	螺絲.....	3
5	W24-5	Up & Down Position Block .....	上下定位塊.....	1
6	W24-6	Washer.....	墊片.....	2
7	W24-7	Screw (M4-0.7×8).....	螺絲.....	2
8	W24-8	Screw (M4-0.7×10).....	螺絲.....	2
9	W24-9	Top Trimmer Universal Adapter C. Set ...	上切刀萬向接頭組.....	1



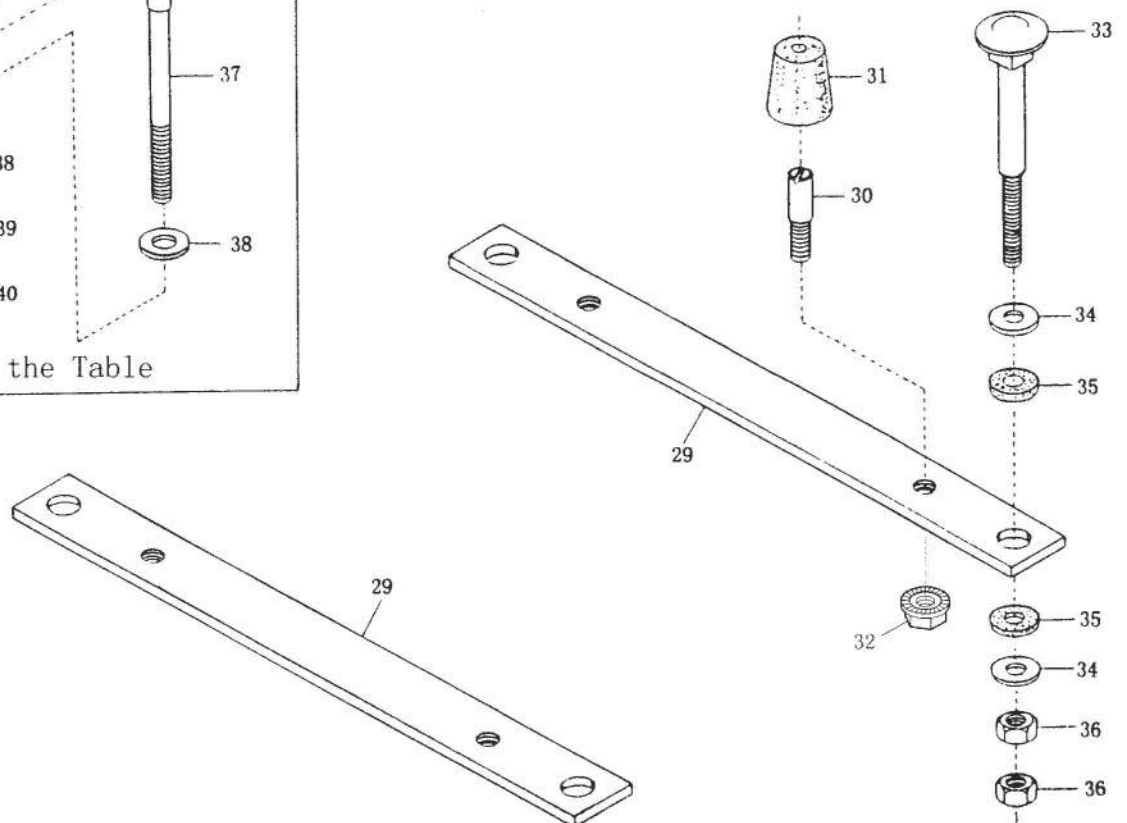
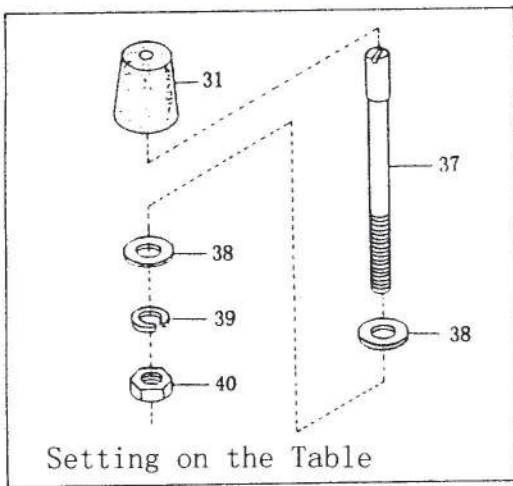
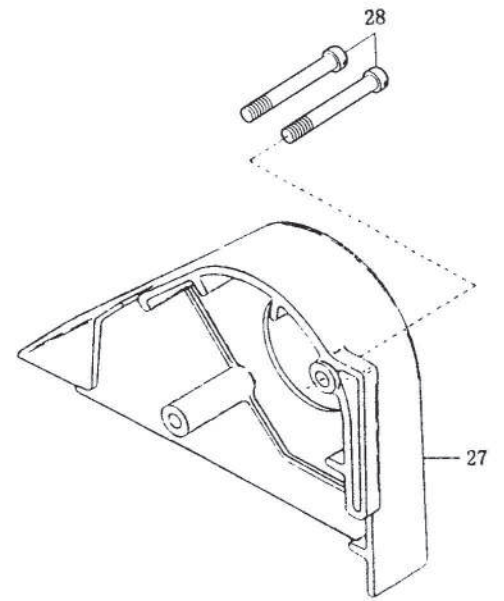
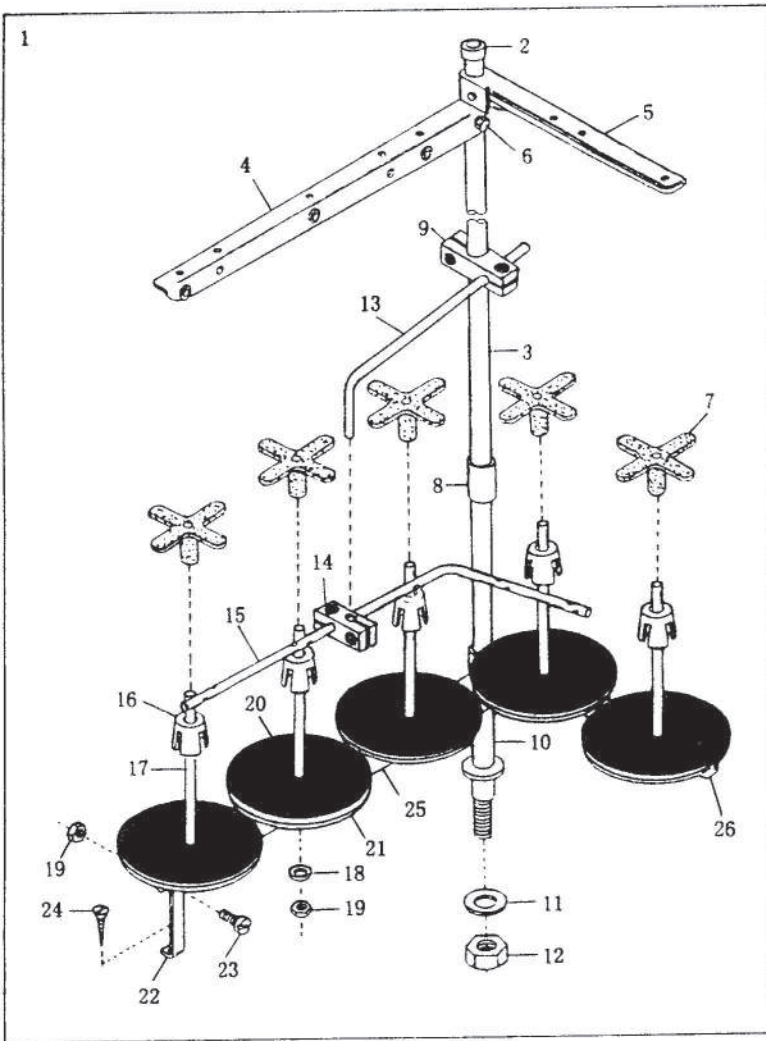


**PNEUMATIC REGULATOR MECHANISM**

**氣壓調節器機構**

**25**

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W25-1	Pneumatic Regulator.....	氣壓調節器.....	1
2	W25-2	Screw (M5-0.8×10).....	螺絲.....	2
3	W25-3	Spring Washer.....	彈簧墊片.....	2
4	W25-4	Nut.....	螺帽.....	2
5	W25-5	Regulator Support.....	調節器支架.....	1
6	W25-6	Wood Screw.....	木螺絲.....	2



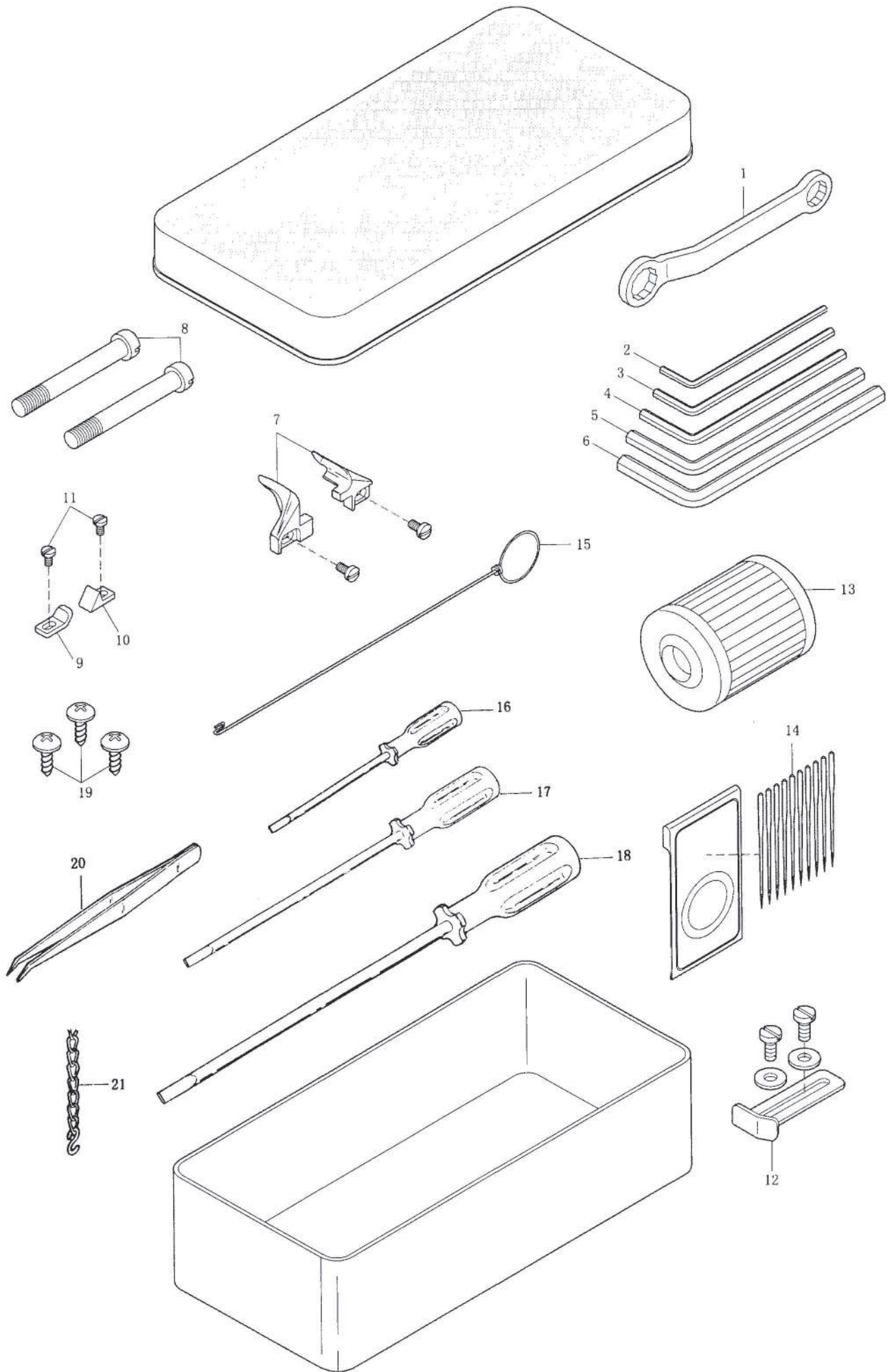


**THREAD STAND & SUPPORTING BOARD**

**線架及機頭托架組**

**26**

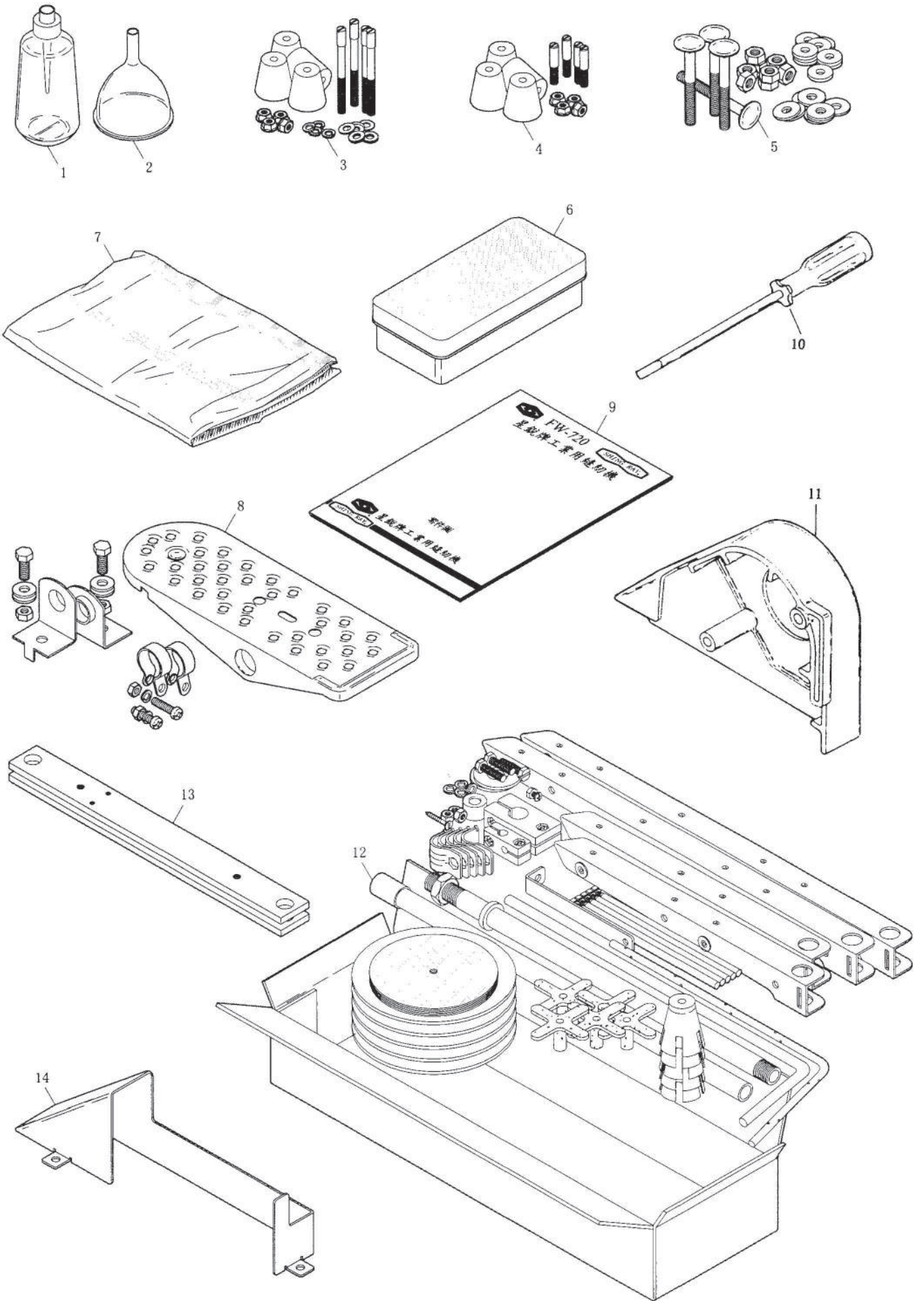
Ref.	Parts			Amt.
No.	No.	Description	品 名	Req.
1	W26-1	Thread Stand	線架	1
2	W26-2	Column Cap	柱頭蓋	1
3	W26-3	Column Pipe (Upper)	上線柱	1
4	W26-4	Thread Hanger (3 Spools Type)	3孔過線吊臂	1
5	W26-5	Thread Hanger (2 Spools Type)	2孔過線吊臂	1
6	W26-6	Screw (M6-1×25)	螺絲 (不單賣)	4
7	W26-7	Rubber Spool Cushion	橡膠線軸避震墊	5
8	W26-8	Column Pipe Connector	線柱接頭	1
9	W26-9	Thread Guide Holder (Large)	大過線桿固定座	1
10	W26-10	Column Pipe (Lower)	下線柱	1
11	W26-11	Washer	墊片	2
12	W26-12	Nut	螺帽	1
13	W26-13	Thread Guide Arm	過線桿連接臂	1
14	W26-14	Thread Guide Holder (Small)	小過線桿固定座	1
15	W26-15	Thread Guide (6 Spools Type)	6孔過線桿	1
16	W26-16	Spool Cushion	線軸避震座	5
17	W26-17	Spool Pin	線軸柱	5
18	W26-18	Spring Washer	彈簧墊片	5
19	W26-19	Nut	螺帽	6
20	W26-20	Spool Mat	線軸墊	5
21	W26-21	Spool Seat Disc	線軸底盤	5
22	W26-22	Spool Stand Support	線軸架支架	1
23	W26-23	Screw (M4-0.7×9)	螺絲	1
24	W26-24	Screw (φ 4.2×25)	螺絲	1
25	W26-25	Spool Stand (3 Spools Type)	3孔線軸架	1
26	W26-26	Spool Stand (2 Spool Type)	2孔線軸架	1
27	W26-27	Belt Cover (Top)	皮帶蓋(上)	1
28	W26-28	Screw (M6-1×44.5)	螺絲 (不單賣)	2
29	W26-29	Supporting Board (Semi-Submerged)	半沉式底座托架	2
30	W26-30	Setting Screw (Short)	短底座固定螺絲	4
31	W26-31	Oil Reservoir Rubber Cushion	底座避震膠墊	4
32	W26-32	Nut	螺帽	4
33	W26-33	Hanging Bolt	吊架螺栓	4
34	W26-34	Washer	墊片	8
35	W26-35	Supporting Board Rubber Cushion	底座支架橡膠避震墊片	8
36	W26-36	Nut	螺帽	8
37	W26-37	Setting Screw (Long)	長底座固定螺絲	4
38	W26-38	Washer	墊片	8
39	W26-39	Spring Washer	彈簧墊片	4
40	W26-40	Nut	螺帽	4



**ATTACHMENT BOX****附件盒****27**

Ref.	Parts			Amt.
<u>No.</u>	<u>No.</u>	<u>Description</u>	<u>品 名</u>	<u>Req.</u>
1	W27-1	Ring Spanner.....	梅花板手.....	1
2	W27-2	Hexagonal Wrench (2.0mm).....	內六角板手.....	1
3	W27-3	Hexagonal Wrench (2.5mm).....	內六角板手.....	1
4	W27-4	Hexagonal Wrench (3.0mm).....	內六角板手.....	1
5	W27-5	Hexagonal Wrench (4.0mm).....	內六角板手.....	1
6	W27-6	Hexagonal Wrench (5.0mm).....	內六角板手.....	1
7	W27-7	Horn Type Fabric Guide.....	牛角式布導器.....	1
8	W27-8	Screw .....	螺絲.....	2
9	W27-9	Straight Type Fabric Guide (Left).....	直式布導器 (左).....	1
10	W27-10	Straight Type Fabric Guide (Right) .....	直式布導器 (右).....	1
11	W27-11	Screw (M2.3-0.45×4).....	螺絲.....	2
12	W27-12	Fabric Guide (Right) .....	右擋邊.....	1
13	W27-13	Oil Filter.....	濾油器.....	1
14	W27-14	Needle ( System : UYX128GAS ).....	擊針.....	10
15	W27-15	Threading Wire.....	穿線鐵絲.....	1
16	W27-16	Screwdriver.....	螺絲起子.....	1
17	W27-17	Screwdriver.....	螺絲起子.....	1
18	W27-18	Screwdriver.....	螺絲起子.....	1
19	W27-19	Screw .....	螺絲.....	3
20	W27-20	Thread Tweezers.....	穿線夾.....	1
21	W27-21	Chain (Attach With Basic Model Only) ...	鏈條 (僅配在普通機型).....	1





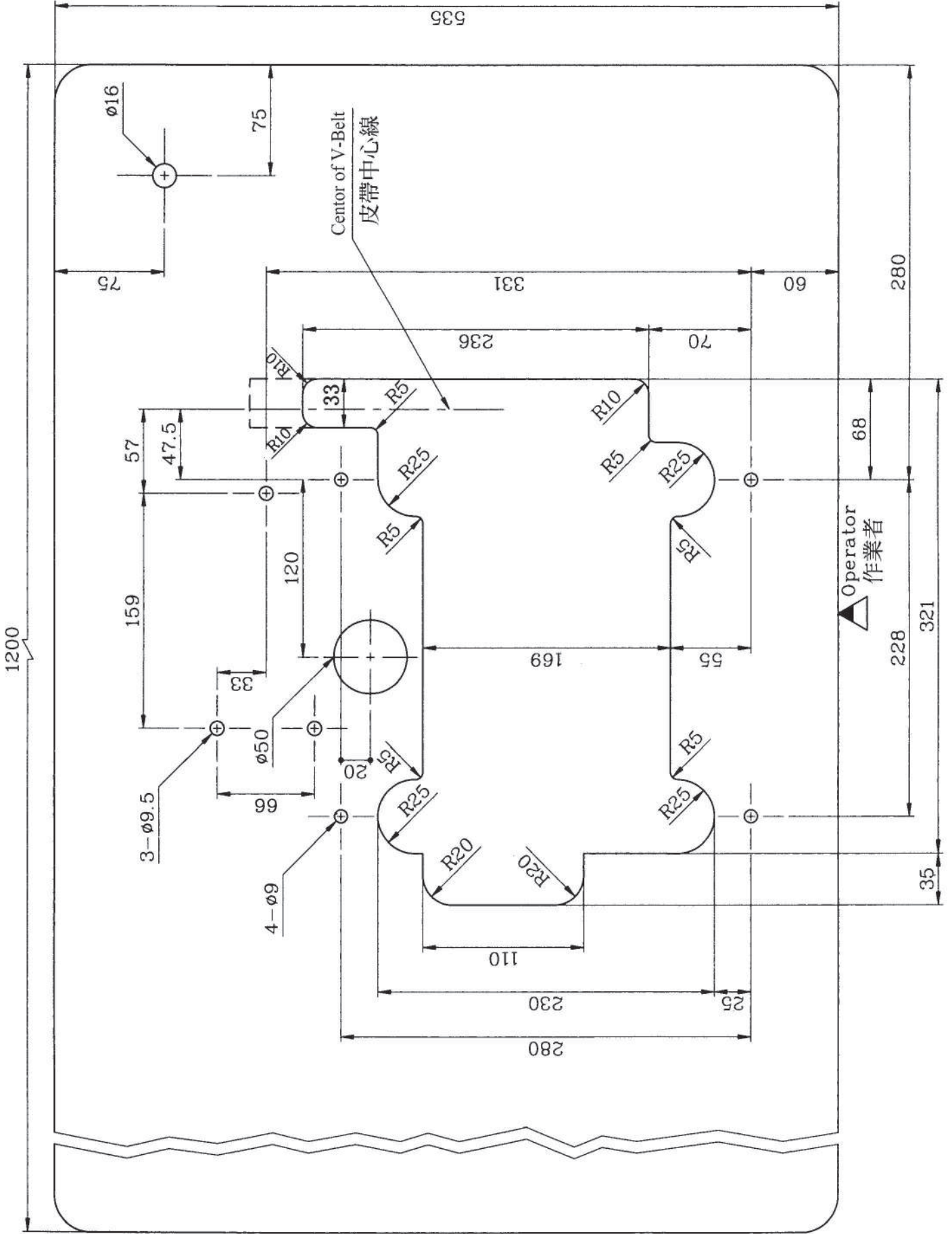
**ACCESSORIES****附配件****28**

Ref. No.	Parts No.	Description	品名	Amt. Req.
		ged Hanging Bolt C. Set.		
1	W28-1	Oiler.....	油壺.....	1
2	W28-2	Funnel.....	漏斗.....	1
3	W28-3	Oil Reservoir Rubber Cushion C. Set.....	底座避震膠墊螺絲組.....	1
4	W28-4	Oil Reservoir Rubber Cushion C. Set. .... ( Semi -Submerged Table)	底座避震膠墊螺絲組(半沉式).....	1
5	W28-5	Semi-Submerged Hanging Bolt C. Set. ...	半沉式吊架螺絲組.....	1
6	W28-6	Attachment Box.....	附件盒.....	1
7	W28-7	Machine Cover.....	防塵罩.....	1
8	W28-8	Pedal C. Set.....	腳踏板組.....	1
9	W28-9	Spare Parts Book.....	零件圖.....	1
10	W28-10	Screwdriver.....	螺絲起子.....	1
11	W28-11	Belt Cover (Top).....	皮帶蓋(上).....	1
12	W28-12	Thread Stand.....	線架.....	1
13	W28-13	Supporting Board (Semi-Submerged Table)...	半沉式底座托架.....	2
14	W28-14	Belt Cover (Bottom).....	皮帶蓋(下).....	1



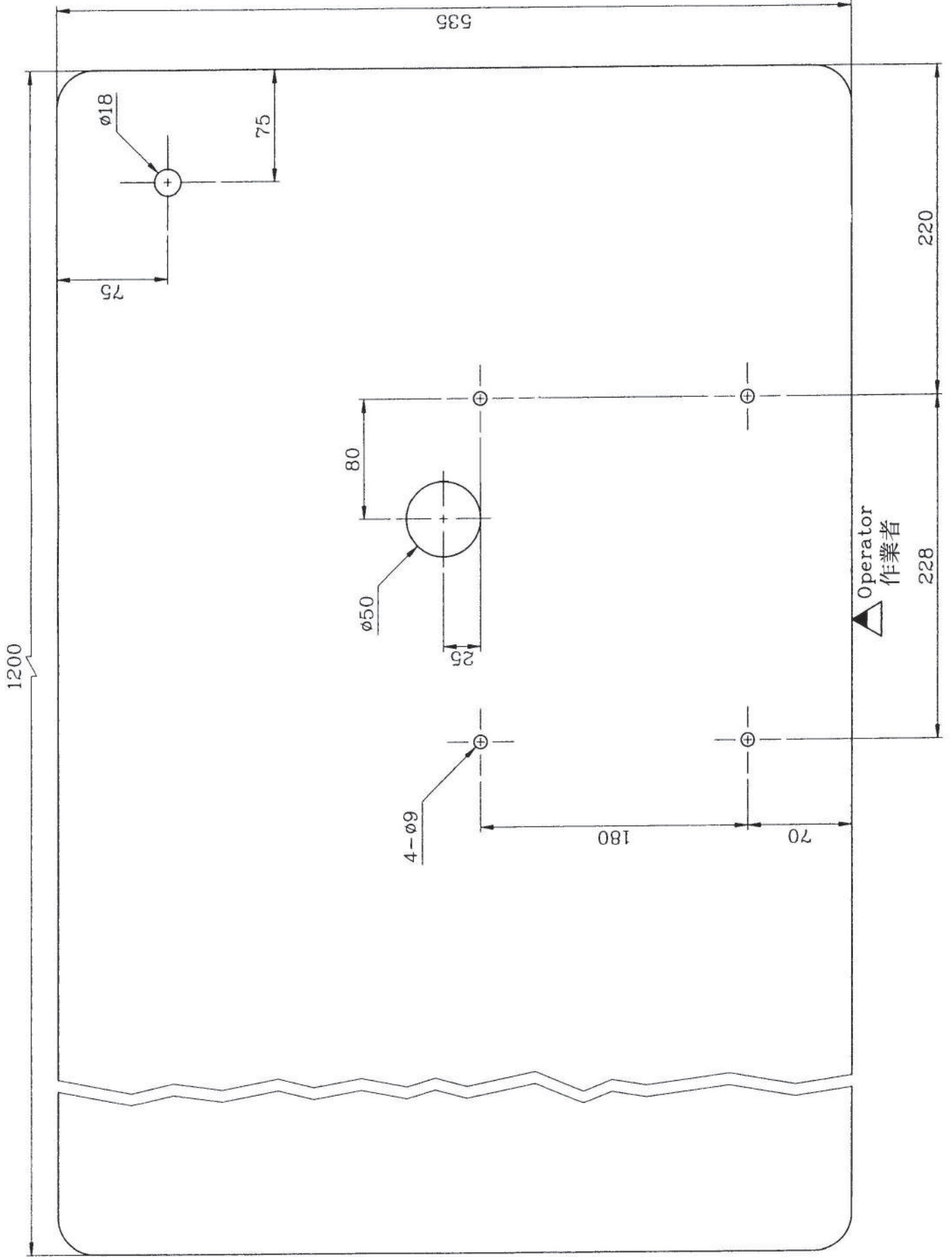


# 半沉式桌板



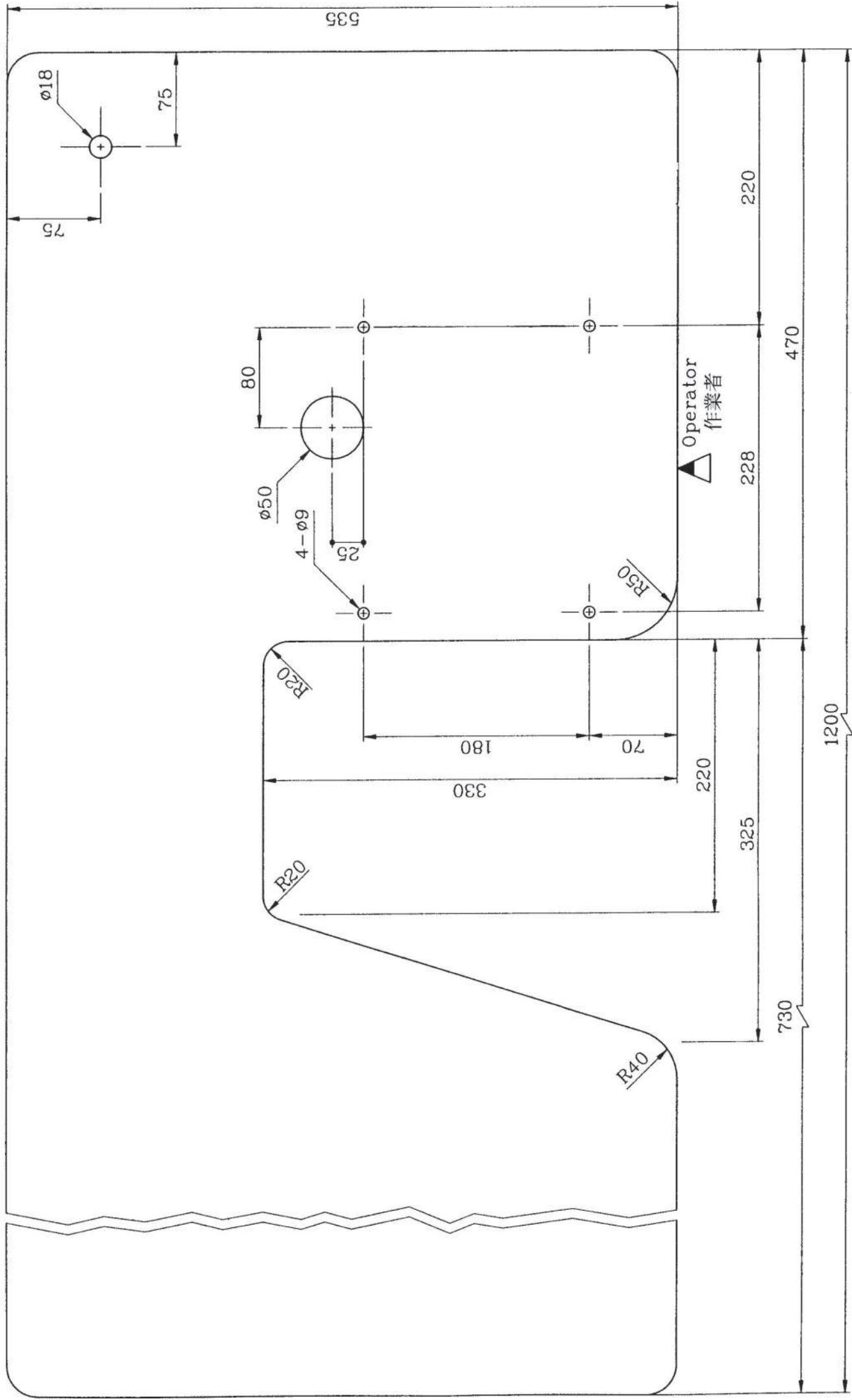


(小馬達専用)上載式桌板 (平板)





# (小馬達専用)上載式桌板 (開口板)





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