前言

CTD系列機型是一種高速圓床式的縫機，充份的表現出優越的效率，穩定的品質，和耐久的壽命。為了使愛用者能夠完全掌握本機器的特性，說明書裡特別列舉出安裝、保養、調整、使用的方法及注意事項，請多加參考。

安全注意事項

1.皮帶護蓋一定要裝上。
2.馬達電源接線一定要確認。
3.作業開始前的檢查，作業結束後的清掃，及作業中須要穿線換針等作業時，一定要切斷電源，等馬達完全停止後再做後續工作。
4.新機器在開始使用的第一個月，請以 4500RPM 以下的轉速使用。
5.添注潤滑油的時候請注意油面計的高度，切勿超過上限。
6.使用前請用油壺在針棒上稍微加一點油。
7.使用前請注意縫針有沒有彎曲，針尖有沒有折斷，針桿有沒有受損，針窩的方向是否正確。
8.穿線是否正確。
9.作業結束後，縫機一定要清掃，套上防塵套。

Preface :

CT series is high speed cylinder bed intelock machine and can achive excellent efficiency, stable quality and durable machine life. In order to let the users to know the characteristic and the best use of these machines, please refer to this instruction manual in order to conduct proper installation, maintenance adjustment, using and other impartant items.

Safety notice :

1. Belt cover muct be installed.
2. Make sure the motor wiring is installed properly.
3. Make sure to cut off the electricity and wait till motor stops completely before conduct pre-operation inspection, cleaning, threading and changing the needles..
4. For new machines, please do not run exceed 4,500 rpm during the first month usage.
5. Do not over adding the lubrication oil.
6. Please drip one drop of oil on the needle bar beofe operation.
7. Please make sure the needles are installed properly and no curve and no damaged.
8. Please make sure the threading is correctly.
9. Please make sure to clean the machine after sewing operation daily and covered with dustproof cover.

一般安全指示說明 General Safety Instructions

警告！當使用這台機器時，基本的安全預防措施應加以遵守，以避免火災、電擊和個人的受傷。
Warning！When using this machine, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury .

請在使用這台機器時，先閱讀下列安全性注意事項並妥善收藏本說明書。
Read all these instructions before operating this product and save these instructions.

1. 請保持工作環境之清潔 Keep work area clean
   雜亂的區域及板凳易引起意外之發生。
   Cluttered areas and benches invite injuries.

2. 考慮到工作區域之環境 Consider work area environment
   請勿將電力暴露於雨水之中，請勿使用潮溼之工具，或在潮溼之環境工作，請保持工作區域之明亮，請勿使用易遭火災或暴炸之工具。
   Do not expose power to rain. Do not use machine tools in damp or wet locations. Keep work area well lit. Dot not use power tools where there is risk to cause fire or explosion.

3. 請對電擊特別小心 Guard against electric shock
   請勿接觸地線或有接地線之物品表面（如管線、散熱器或電冰箱）。
   Avoid body contact with earthed or grounded surfaces (e.g. pipes , radiators , refrigerators)

4. 請勿讓兒童靠近 Keep children away
   請勿讓訪客觸摸工具或延長線。
   Do not let visitors touch the tool or extension cord.

5. 請穿著適當衣物 Dress properly
   請勿穿著寬鬆衣物或配戴珠寶，因這些物品有可能會捲入機器內，如留有長髮，則煩請戴上髮套。
   Do not wear loose clothing or jewelry, they can be caught in moving parts. Wear protecting hair covering to contain long hair.

6. 請勿濫用電線 Do not abuse the cord
   請勿以電線提著機器或從插頭上用力拔起，請勿讓電線靠近熱油或物品之尖銳邊緣。
   Never carry the machine by cord or yank it to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.

7. 請小心維護機器 Maintain machine with care
   請依照使用說明按時潤滑機器以及更換零件，定期檢查工具電線，如有損傷，請儘早授權服務機構修理。
   Follow instructions for lubrication and changing accessories. Inspect tool cord periodically and if damaged , have it repaired by an authorized serviced facility.

8. 關閉機器電源 Disconnect machine power
   當不使用機器時，或在維修、更換零件附件時，請先關閉電源。
   When not in use, before servicing and changing accessories , please disconnect electricity.

一般安全指示說明 General Safety Instructions

9. 請避免無意中開機 Avoid unintentional starting

在搬運有插入電源之工具時，請勿將手放置在開關之位置，當插入電源線時請先確認開關是在關閉的位置。

Do not carry plugged - in tool with finger on the switch. Ensure switch is off when plugging in.

10. 檢查受損零件 Check damaged parts

在進一步的使用機器前，在更換受損零件之後，都應確實檢查來決定機器是否能適當操作，並達到想要之功能。

Before further use of the machine, after replaced the damaged parts, the machine should be carefully checked to determine that it will operate properly and perform its intended function.

11. 警告 Warning

如使用在此本使用說明中，任何未經推薦之零件，將會有可能帶來人身之危險。

The use of any accessory or attachment, other than those recommended in this instruction manual, may present a risk of personal injury.

12. 請使用合格之維修人員修理您的機器 Have your machine repaired by a qualified person

任何修理需經過合格之維修人員處理，並使用原廠零件。

Repairs should only be carried out by qualified persons and using original spare parts.

對於電力聯結之特別警告 Special Warning For Electric Connection！

1. 請在此台機器中使用合於歐州規範之開關。
Incorporate this machine only with "CE" certificate switch.

2. 請依照使用說明來安裝控制盒。
Follow the instruction manual to install control device.

3. 永遠在使用機器上安裝地線。
Always earth machine appropriately during operation.

4. 在做任何調整、零件更換或維修之前，請確認所有電源線已從插頭上拔除，以避免機器無意中突然啟動時之危險。

Before adjustment, parts change or servicing must be sure to pull out the plug from socket to prevent the hazard of unintentionally start of machine.

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CTD9000SERIES 高速直驅方筒型繃縫機Direct Drive High Speed Cylinder Bed Interlock machin

● 機型編號說明 MODEL NUMBERING

CTD 9 0 1 3 - 0 - [ ] 3 5 6 M / R P 003 / U C P - B1

① ② ③ ④ ⑤ ⑥ ⑦

①.機型 Model：

CTD90 : 標準直驅方筒型繃縫機
Direct Drive Standard Cylinder Bed Coverstitch Interlock Machines

CTD92 : 特厚類直驅方筒型繃縫機
Direct Drive Cylinder Bed Coverstitch Interlock Machine For Extra Heavy Materials.

CTD93 : 具有左切刀直驅方筒型繃縫機
Direct Drive Cylinder Bed Coverstitch Interlock Machine With Left Hand Knife Mechanism.

CTD97 : 細筒型直驅繃縫機
Direct Drive Small Cylinder Bed Coverstitch Interlock Machine.

②.用途代號 Application Code：

00-0 : 一般平縫(基本型)
General Plain Seaming (Basic Type) .

13-0 : 包縫骨壓縫(倒骨式、包縫骨寬度3.0mm以內)
Overlock Seam Covering
(Folding Over, Overlock Seam Width Under 3.0mm).

85-0 : 車縫環狀平版寬幅鬆緊帶
Attaching Pre-Closed Flat Knit Elastic Band Onto Waists Of Tubular Goods (With Right Knife, Rear Puller & Chips Suction Pipe) .

③.裝飾縫區分碼 Top Coverstitch Code：

[0]：無上飾縫 Without Top Coverstitch

[ ]：有上飾縫 With Top Coverstitch

④.針數 No. Of Needles：

2 → 2 針 2-Needle
3 → 3 針 3-Needle
4 → 4 針 4-Needle

⑤.針距 Needle Distance：

40 : 4.0 mm
48 : 4.8 mm
52 : 5.2 mm
56 : 5.6 mm
60 : 6.0 mm
64 : 6.4 mm

⑥.針板舌之形狀 Shape Of Needle Plate Tongue：

L : 適合較薄之布料
For Light Weight Materials.

M : 適合中等厚度之布料
For Medium Weight Materials

H : 適合較厚布料
For Heavy Weight Materials.

S : 適合於特殊縫製需要
For Special Sewing Requirement.

W : 適合較薄之平織布料
For Woven Fabrics

⑦.可選擇加裝的裝置 Optional Device：

RP003：後拉引式拖輪裝置
Rear Puller (For Cylinder Bed Interlock).

UCP-B1：氣動式自動切線裝置
Pneumatic Type Under Bed Thread Trimming System For Cylinder Bed Interlock Machines.

UCE-B1：電動式自動切線裝置
Electric Type Under Bed Thread Trimming System For Cylinder Bed Interlock Machines.

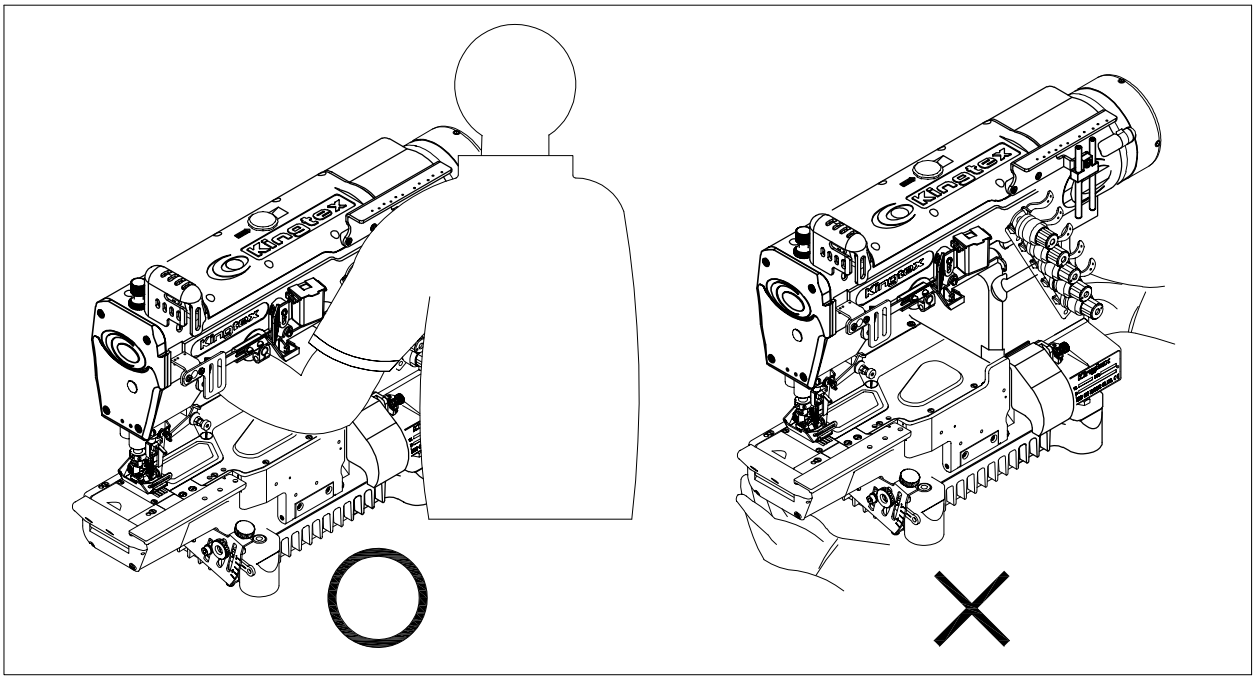
※機型、用途及可選擇加裝的裝置等其他資訊內容，可至本公司網站查詢或以電話方式諮詢

If you have any questions about our machine models, applications, optional device's or any other informations needed to know, please visit our company's website or contact us via e-mail, fax, telephone directly.

1. 規格 Specifications

型式 Model	CTD 9000
種類 Description	**直驅高速方筒型繃縫機 Direct drive high speed cylinder bed interlock machine**
外型尺寸 Dimensions	540mm (L) * 250mm (W) * 430mm (H)
圓筒座周長 Circumference of cylinder bed	280mm
重量 Weight	46 kg
線跡型式 Stitch type	ISO 406, 407, 602, 605
適用範圍 Application	薄類,中厚類 General seaming of knitted material
最大縫製速度 Sewing speed	4500針 / 每分鐘 , Max. 4500 stitches / min (4500 stitches / min for the machine with puller)
進給可調範圍 Stitch length	1.4~3.6mm 相當於7~18針 / 每英吋 Stitch number : 7~18 stitch / inch
縫針型號 Needle to be used	Schmetz or Organ UY128GAS No.65~No.90 (標準 Standard : No.70)
針距 Needle distance	3針 : 4.8mm, 5.6mm, 6.4mm (2針 : 3.2mm, 4.0mm) 3 Needles : 4.8mm, 5.6mm, 6.4mm (2 Needles : 3.2mm, 4.0mm)
針棒行程 Needle stroke	33mm
壓腳提升量 Presser foot lift	針距為5.6mm時，有上飾縫勾針：5.0mm，無飾縫勾針：7.0mm For needles distance 5.6mm ; with spreader : 5.0mm with no spreader : 7.0mm
進給調整方式 Feed regulation	壓扣式 By push-button
差動可調範圍 Differential ratio	最大縮縫比 1 : 2.9，最小伸縫比 1 : 0.3 Max. normal differential ratio 1 : 2.9, max. Reverse differential ratio 1 : 0.3
差動調整方式 Differential feed regulation	外部調整，附粗調扳手，微調旋鈕 By adjusting screw or by control lever (Adjusting during operation from outside is possible by moving control lever up and down)
潤滑方式 Lubrication	強制潤滑 Automatic lubrication by oil pump
潤滑油 Lubrication oil	Mobil#10或同等級的產品 Mobil#10 or equivalent

2. 搬運 Moving



⚠ 當搬運機器時，請勿從下座布板蓋部位搬動。

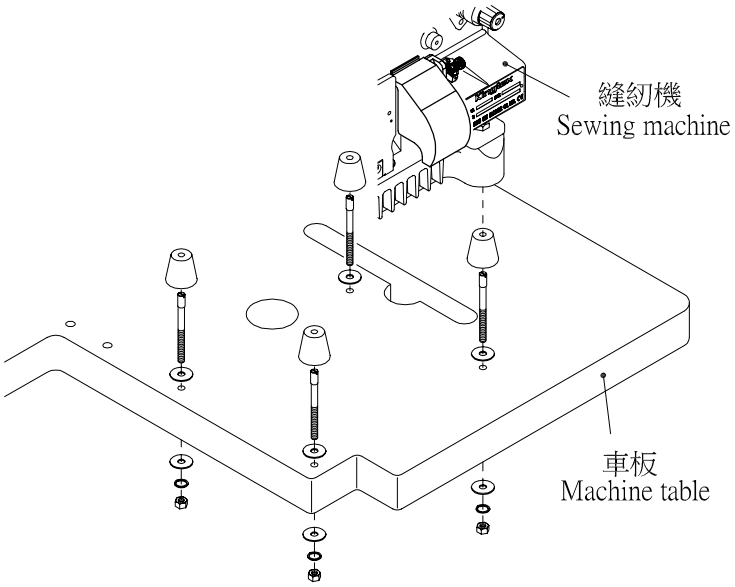
Do not hold the cloth plate cover when carrying the machine.

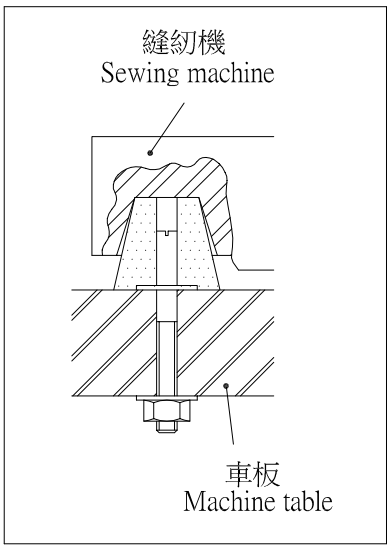
3. 安裝說明 Installation

3-1. 上載式安裝 Table top installation

請參閱圖示正確安裝機器。將螺絲及螺帽鎖定在車板，然後將橡膠墊放在螺椿上，最後將機器確實放置在橡膠墊上。

Install the machine correctly referring to the illustration. Set bolts and nuts to machine table and put rubber cushions on bolts and rest the machine on them securely.

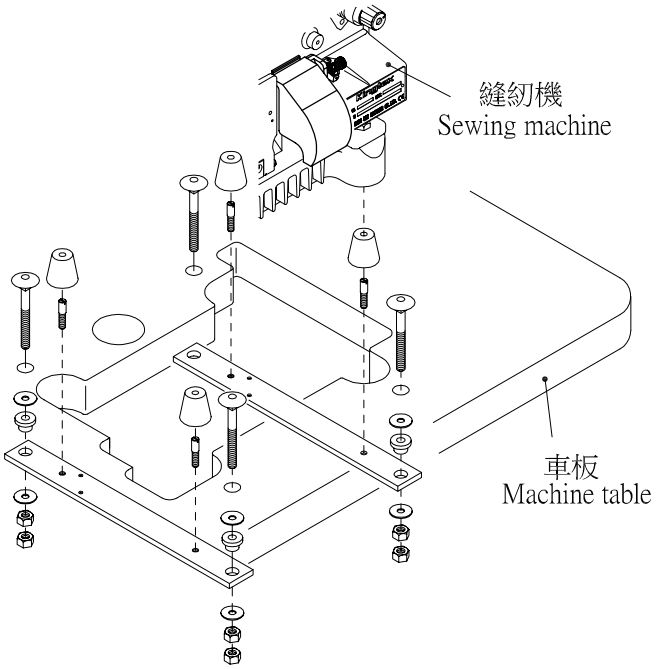


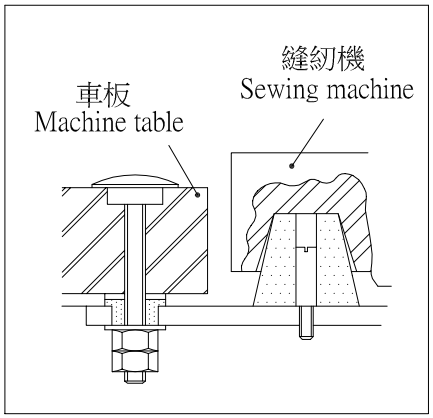


3-2. 半沉式安裝 Semi submerged installation

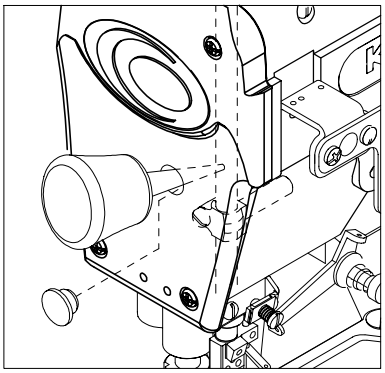
請參閱圖示正確安裝機器。將螺絲鎖在承載板上，然後將承載板安裝在車板上，再來將橡膠墊放置螺絲上，最後將機器確實安置在此4個橡膠墊上。

Install the machine correctly referring to the illustration. Set screws on supporting board and set supporting board on machine table. Then put rubber cushions on screws on which rest the machine securely.



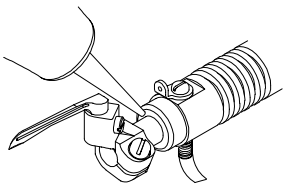


4. 使用前說明 Before operation



如果使用是新機器或機器放置有一段長時間未使用，請滴2到3滴的潤滑油在針棒及結線鉤驅動軸上。

If yor use a new machine or a machine which has not been running for a while, oil the needle bar and the looper bar 2 or 3 drops.



5. 潤滑油及冷卻油 Lubrication oil and cooling oil

5-1. 選用潤滑油及冷卻油 Lubrication oil and cooling oil

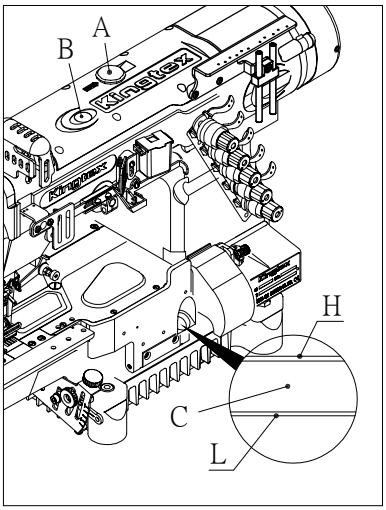
潤滑油在機器的使用壽命上佔很重要的地位，而冷卻油對縫製的效果有很大的影響，千萬不可疏忽潤滑油，請使用Mobil#10或同等級的產品，冷卻油請使用矽油(Silicon oil)

Please use mobil #10 or equivalent oil for lubrication oil and use silicone oil for cooling oil.

5-2. 添加潤滑油 Feeding oil

本機器在出廠時已把潤滑油全部排除，在新機器使用前或長期使用後油量不足時，請打開注油孔塞(A)加入新潤滑油，添加潤滑油的同時注意油面視窗(C)上的油面高度應為上下線內，切不可超過上限，開始運轉時請注意循環視窗(B)，確認潤滑油是否噴向視窗。

The lubrication oil has been drained off completely before delivery, adding oil till between upper line and lower line of the oil Window C by removing seal plug A. Also, please make sure the oil flows out of nozzle B at the start of operation.

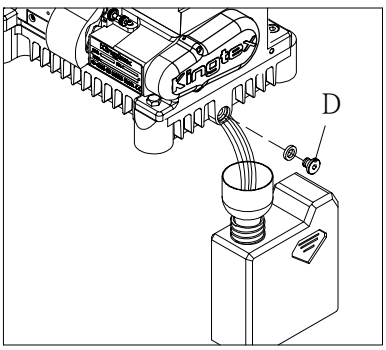


5-3. 換油 Changing oil

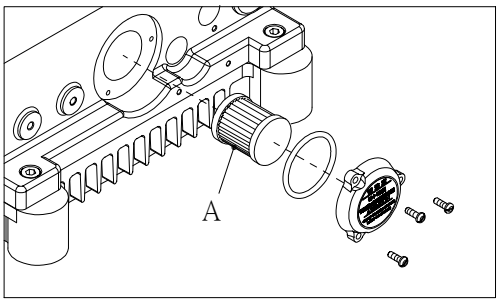
新機器在250個使用小時或是長時間使用後，潤滑油必須更新，排放舊油時，放鬆排油螺絲(D)，完成後依反向順序裝回零件，確實鎖緊排油螺絲(D)，添加新油時參照上節說明。

For the longer life of machines, change lubrication oil completely after 250 hours (or 4 weeks) of initial operation.

A. Remove machine head from machine table.
B. Loosen screw D and drain off all the oil from inside of the machine.
C. After drained, tighten screw D back.
D. When replenishing oil , please refer to paragraph 5-2. "Feeding oil" above.



5-4. 潤滑油過濾器 Oil filter



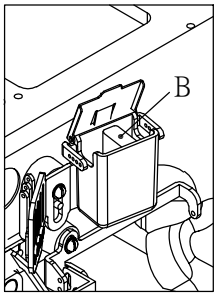
本機器採用強制過濾潤滑系統，長期使用後，雖然油面計指標正常，而循環視窗發現油量減少或是不出油，請立即檢視過濾器(A)，清掃乾淨或更新。

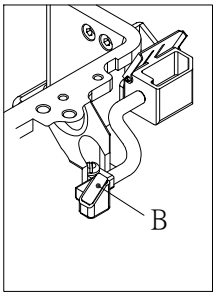
Although the machine is using oil pump lubrication and Splashing lubrication systems, please check and clean oil Filter every month. And when there is no oil or very little oil comes out of nozzle even indicator shows normal, please check oil filter A and replace it if necessary.

5-5. 添加冷卻油 Adding cooling oil

高速縫製時，磨擦發熱使得作業上產生許多困擾，例如斷針，跳線，熔解等問題，因此本機器上裝設有針尖冷卻裝置及針線冷卻裝置。冷卻油以矽油的效果最好，在某些情況下不必使用冷卻油或不能使用冷卻油時，可將羊毛氈(B)取出。

Avoid needle breaking, stitch jumping or thread melting problems etc. Please fill cooling oil tank and felt B with silicone oil under some special circumstances. You can take felt B off from reservoir. When you can not use or do not need to use silicone oil.





6.針 Needle

6-1. 針號選擇 Needle selection

本機型全系列使用針號為 UY128GAS 依照裁片的厚度，縫線的粗細等選用適當的針號。

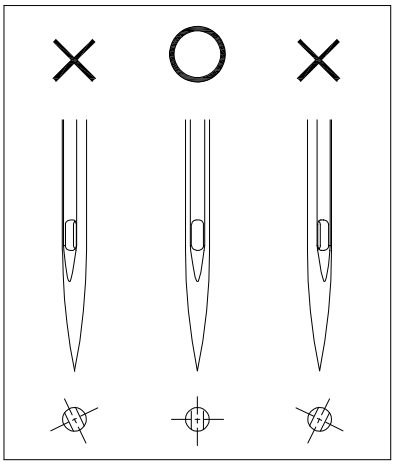
Needle UY128GAS of schmetz or organ is to be used there are many sizes of needle, and the most suited needle to the thickness and the kind of material should be selected.

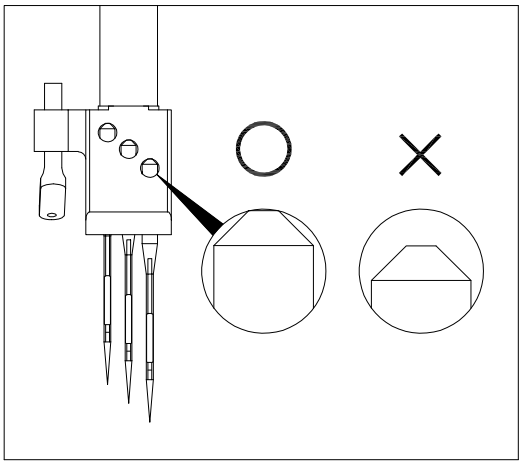
日本編號 Japanese size	9	10	11	12	13	14
西德編號 Metric size	65	70	75	80	85	90

6-2. 正確的安裝針 How to replace the needles

針在安裝的時候必須朝向正確的方向，也就是針窩必須朝向正後方，並且向上定位。

When replacing needle should be made correctly with the scarf facing rightly backward as shown in the illustration, and at its uppest dead point.

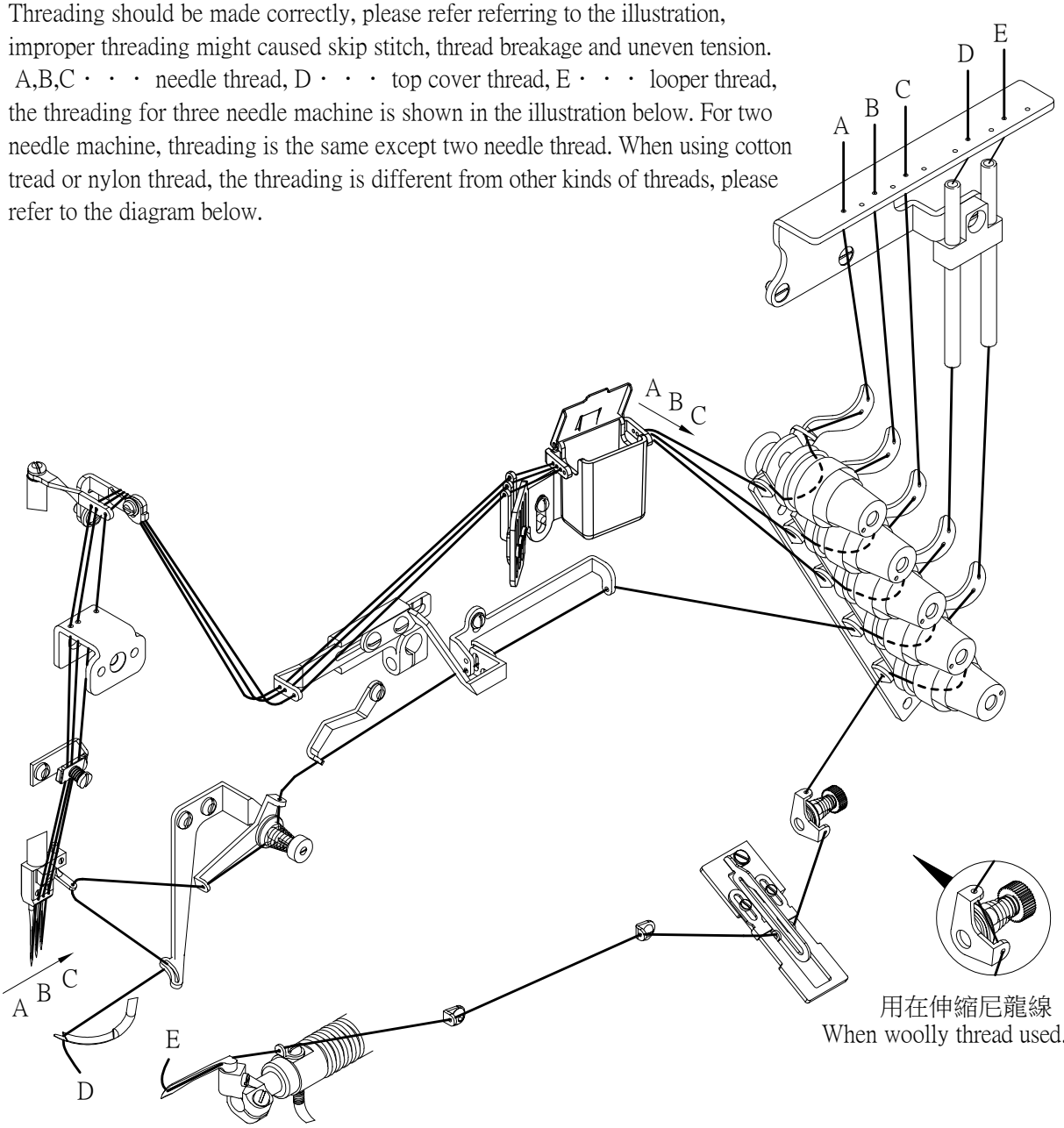




6-3. 穿線 Threading

要得到最佳的縫製效果，縫線的收放量是一個重要的環節，縫製過程裡斷線、跳針、線跡不穩定等不良現象，錯誤的穿線是其中一個原因，請依照穿線圖正確的穿線。ABC為擊針線，D為上裝飾線，E為下勾線，當下勾針線使用棉線或伸縮尼龍線時，其穿線方法有所不同，如圖所示。

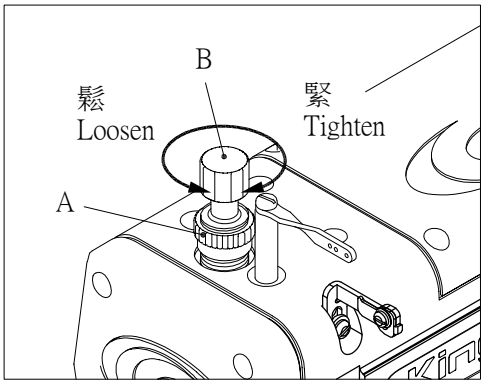
Threading should be made correctly, please refer referring to the illustration, improper threading might caused skip stitch, thread breakage and uneven tension. A,B,C・・・ needle thread, D・・・ top cover thread, E・・・ looper thread, the threading for three needle machine is shown in the illustration below. For two needle machine, threading is the same except two needle thread. When using cotton tread or nylon thread, the threading is different from other kinds of threads, please refer to the diagram below.



7. 與縫製有關的各項調整 Proper operation adjustment

由於某一些因素，導致對縫製效果產生影響，如裁片的厚度及質料、縫線種類及粗細、線跡寬窄的要求、進給率大小的變化.....等等，故必須經過試車調整後才能找出最佳的縫製效果。

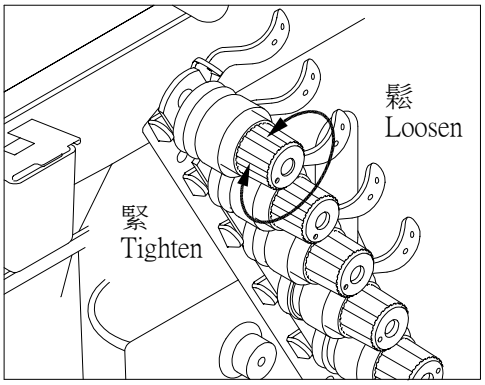
Due to some reasons will affect the sewing effects. such as thickness of sewing fabrics, different kinds of sewing threads and its thickness requirements for narrow on wider stitches, the changes of feed ratio etc. Thus, machines must be adjusted and test running first in order to obtain the best sewing effects.



7-1. 壓腳壓力 Pressure of presser foot

壓腳對裁片的壓力影響到裁片的進給率正確與否，放鬆固定螺帽(A)，旋轉調整螺椿(B)，向右轉加大壓力，向左轉減小壓力，在不影響縫製效果下盡可能減小壓腳壓力，調整後確實鎖緊固定螺帽(A)。

To increase the pressure of presser foot, turn adjusting screw B clockwise after loosening lock nut A, to decrease the pressure, turn it counter clockwise. Pressure of presser foot should be as weak as possible so long as presser foot can operate properly.



7-2. 縫線張力 Thread tension

不同的縫線有不同的張力，而相同的縫線穿在不同的位置也對張力有不同的需求，每條縫線都可透過張力調整組分別調整，向右轉張力加大，向左轉張力減小，在不影響縫製效果下盡可能減小縫線的張力。

Different threads have different tensions and even same threads will have different tensions when go through different threading holes. Each thread tension can be adjusted by individual tension nut. Turn tension nut clockwise to increase thread tension, turn tension nut counter clockwise to decrease thread tension. Please use least thread tension as long as it will not affect the sewing effects.

7-3. 進給率調整 Adjusting stitch length

本縫機進給率可調範圍從1.4mm每針到3.6mm每針採用無段式變速，進給率參考值如以下列表所示。

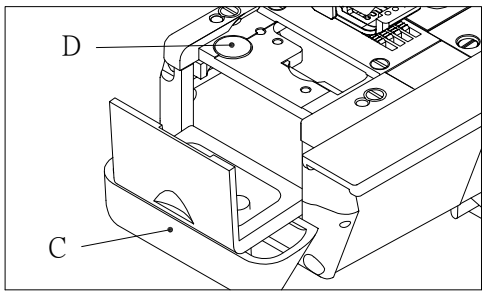
打開側護蓋(C)左手輕輕壓下壓扣按鈕(D)，一面用右手慢慢的旋轉手輪(E)在某一個位置上可以感覺到壓扣按鈕(D)落入鍵槽內時，左手用力壓著按鈕同時看著手輪上的刻線(F)，旋轉手輪(E)使所須要的刻線(F)對正定位線(G)，再放鬆左手，最後蓋回護蓋(C)。

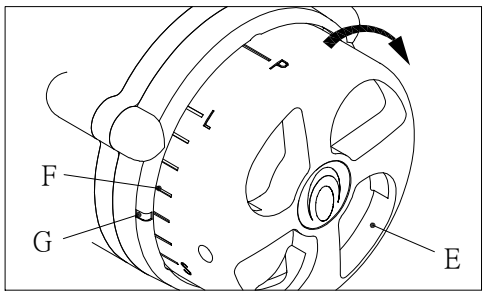
注意：當調整縫目長短時，而使用之機器附帶有下切線自動切線裝置，並且使用自動針定位系統之馬達時，電源開關一定要先行關閉。

Adjustment of stitch length can be made steplessly from 1.4mm/per stitch to 3.6mm/per stitch, please refer to stitch length chart as listed below.

Please open up side cover C press, then push button D with left hand lightly till the tip of which contact with the parts with groovy inside, keep pressing, turn hand wheel E with right hand till push button D gets into the groovy, at this line, press in push button D strongly and turn hand wheel E, a graduation F on the circumference of hand wheel E indicates the stitch length (mm), which should be aligned with the set mark G, then, release hand, and close back the side cover C.

Note :
In case of machine with UT device (Lower thread trimmer) which is equipped with the motor with automatic needle positioning system, power switch must be turned off when changing stitch length.





縫目長度 Stitch length (mm)	單位縫針數 Number of stitch per	
	inch	30 mm
1.4	18	21
2.0	13	15
3.0	8.5	10
3.6	7	8

7-4. 差動比例調整 Adjusting differential feed

為了克服各種裁片及縫線不同的伸縮性，本縫機裡裝設有差動比例調整機構。

差動分為正差動及逆差動，只要鬆開螺帽(B)、調整差動板手(D)、旋轉差動旋鈕(E)就可以變換差動比，差動比調整為無段式，調整完成並將螺帽(B)旋緊，而螺絲(A)用來選擇固定差動比上限。調整差動比可以用來產生部份皺摺，在縫製過程中須要皺摺時，可依上述方式調整。

主送布齒(F)與副送布齒(G)分別由各個驅動機構來帶動，當主送布齒(F)改變了進給率時，副送布齒(G)相對的差動比也受到影響，必須配合調整。

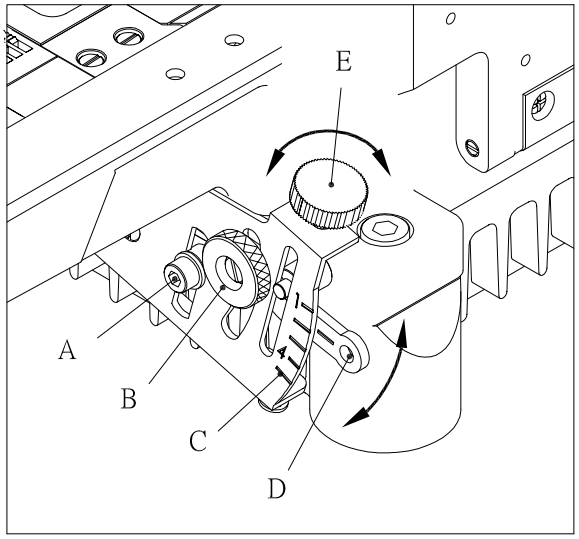
例如手輪上的刻線L(進給率3.6mm)指向定位線，這時候旋轉差動旋鈕(E)，使差動板手(D)刻線對正差動刻線(C)3.6，主送布齒(F)與副送布齒(G)的差動比為1比1，繼續向左旋轉差動旋鈕則為正差動，反之為逆差動。進給率與差動比的相互關係，如以下列表所示。(進給率調整請參閱上節7-3)

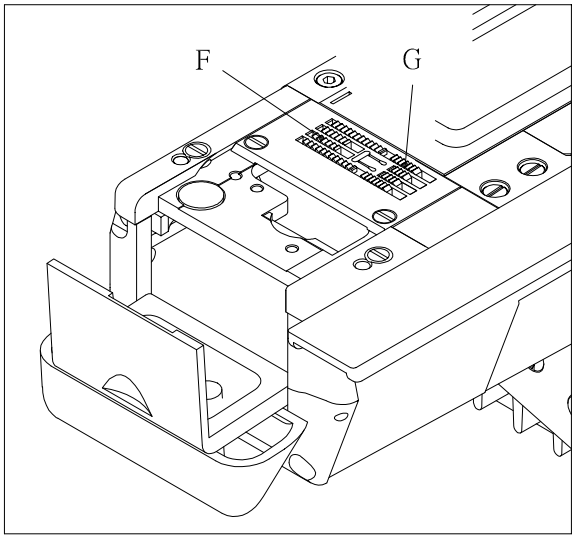
In order to overcome the difference among all kinds of fabrics and threads, our sewing machine has equipped with differential ratio adjustment mechanism.

Differential ratio divides into stretch and shrinkage differential, loosen nut B adjust level D and turn knob E in order to adjust differential ratio, tighten nut B after the adjustment. Adjust screw A in order to obtain the upper limit of differential ratio. By adjusting differential ratio in order to create puckering effects during the sewing process.

Normal differential feed or reverse differential feed can be adjusted freely by turning knob E. As differential feed and main feed are driven individually, when main feed amount (stitch length) is changed, the differential ratio should change accordingly. In this case, readjustment is necessary. The graduation shows the amount of differential feed. For instance, in case of the desired feed amount (stitch length) is "3.6" and the graduation is set at "3.6" by turning knob E, the differential ratio becomes 1:1. When setting the graduation over "3.6", it will become normal differential and if setting is under "3.6", then, it becomes reverse differential. For the main feed amount the upper limit is "4". Please refer to following chart for the correlationship between stitch length and differential feed ratio (please refer to section 7-3 for stitch length adjustment).

進給率 Stitch length	最大伸縫比 Max. normal diff	最大縮縫比 Max. reverse diff
3.6 mm	1 : 1.1	1 : 0.3
2.5 mm	1 : 1.6	1 : 0.4
2.0 mm	1 : 2	1 : 0.5
1.4 mm	1 : 2.9	1 : 0.7





7-5. 針線收放量調整 Adjusting the needle thread take-up

因縫線種類不同，各有不一樣的伸縮性，故容易造成跳針、斷線、線跡不穩定等問題。本縫機有針線揚線臂，前導線桿，後導線桿，輔助張力控制板等，用來控制縫線的收放量以及穩定縫線的伸縮性。

針線揚線臂(A)、後導線桿(D)兩者在出廠時，均安裝於標準位置。針線揚線臂(A)上共有6條刻線，由右至左第3條刻線對齊承座(B)邊緣，以螺絲(C)調整，後導線桿(D)位置如附圖，以螺絲(E)調整 ，兩者於需要時可依箭頭方向調整。（圖1、2）

某些種類的線在針裔上不容易造出線環，結線鉤在挑線時容易造成失誤，這時候可以把針線通過輔助張力控制板(F)來穩定縫線。（圖 3）

對於大伸縮性的縫線、線環不穩定、容易跳針等問題，可調整前導線桿(G)的高度來克服。特別是當結線鉤從右向左移動時，如果用合纖線時左針會跳針，使用混紡線右針容易勾到線，可將針棒降至下死點，以螺絲(I)來調整前導線桿(G)的上緣對正導線孔(H)，使前導線桿(G)盡可能放鬆針線的張力。（圖 4）

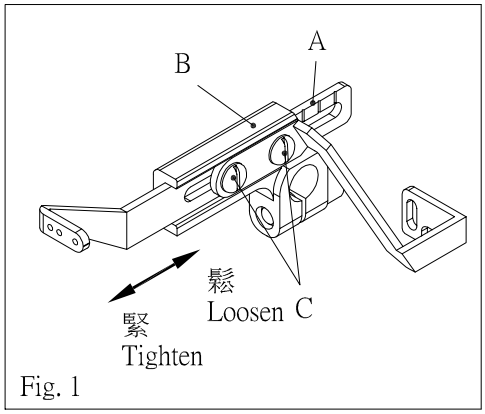


Fig. 1

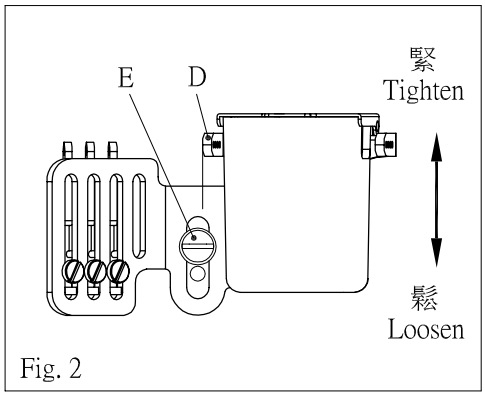


Fig. 2

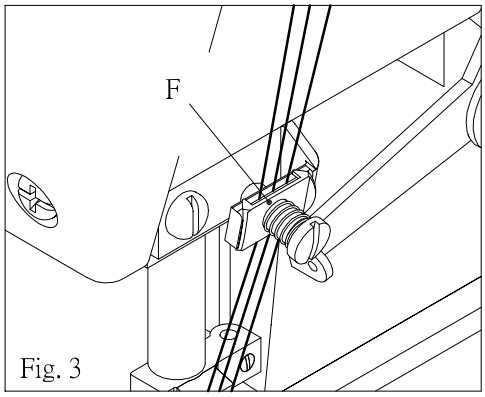


Fig. 3

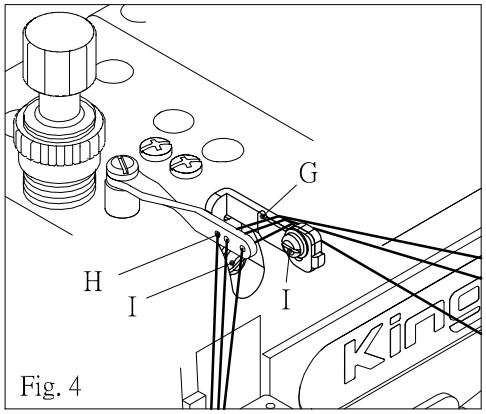


Fig. 4

Different threads have different strectch tension and cause skip stitching thread breaking and unstable stitching easily. This machine equipped with thread take-up, front needle thread guide, rear thread guide and auxiliary thread tension control guide in order to give letter control of the looper thread take-up and stabilize the strectching of looper thread.

Thread take-up A, rear thread guide D were set-up at standard position when machines were out of factory.

There are 6 marks on thread take-up A and the third mark line from right to left, should even with the edge of bracket B and can be adjusted by screw C and rear thread guide's D portion as shown on illustration, can be adjusted by screw E. And bath can be adjusted according the arrow direction in order to obtain tighten or loosen effects. (Fig. 1、2)

Some times, it is not so easy to make loop for some kinds of thread and also make it difficult for looper to catch the needle thread, causing skip stitch. In such case, can use auxiliary thread tension control guide F to stabilize the threads. (Fig. 3)

In case of the formation of needle thread loop is unstable or skip stitching happened when using strectchable thread, you can solve this problem by adjusting the height of front needle thread guide G, especially, when looper moves from right to the left. If the left needle skip the stitch when using sysnthetic thread, or right needle interfere with the formation of thread loop when using blended thread, You can adjust front needle thread guide G, by adjusting the needle bar to its lowest position and by loosening screw I to adjust the top of front needle guard G to even with the centers of eyelets of thread guide H in order to loosen the needle thread tension. (Fig. 4)

7-6. 下結線鉤縫線收放量調整 Adjusting the looper thread take-up

針由上死點向下運動，當左針尖到結線鉤寬度的一半位置時，縫線(A)正好由揚線凸輪(C)的最高點脫離。調整凸輪的時序，可放鬆螺絲(B)，旋轉凸輪至適當的角度再鎖緊螺絲(B)，設定好揚線凸輪(C)的時序後再做試縫。（圖 1、2）

希望縫線拉緊一點時，將左右導線板(D)向定位刻線(E)方向移動。希望縫線放鬆一點時，將左右導線板(D)向定位刻線(E)反方向移動。（圖 3）

使用大伸縮性的縫線時除了將左右導線板移向定位刻線外並且將縫線拿出穩線壓板(F)。（圖 4）

When left needle comes down to the half point the thread A must get off from the highest position of looper thread take-up C. The adjustment is made by loosening screw B, turn the looper thread take-up C to the proper position and tighten the screw B. (Fig. 1、2)

To decrease the amount of looper thread in the seam, move thread guide D eyelet to aligning mark E. To increase move it backward. (Fig. 3)

For stretchable threads, move right and left thread guides to aligning mark and also do not pass the thread between thread guide F. (Fig. 4)

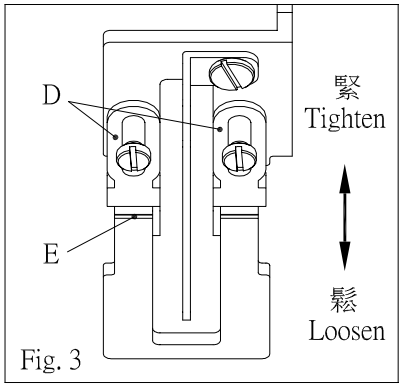


Fig. 3

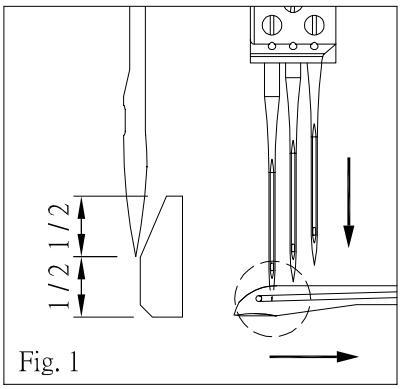


Fig. 1

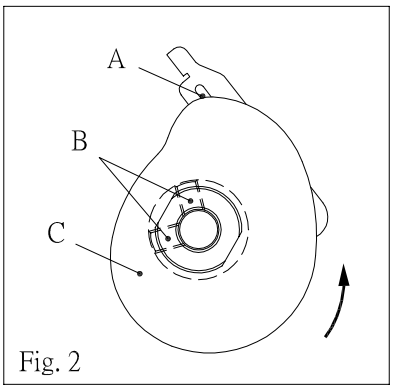


Fig. 2

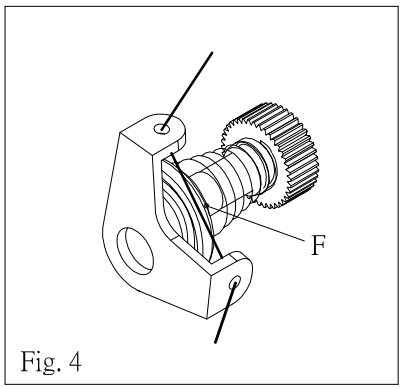
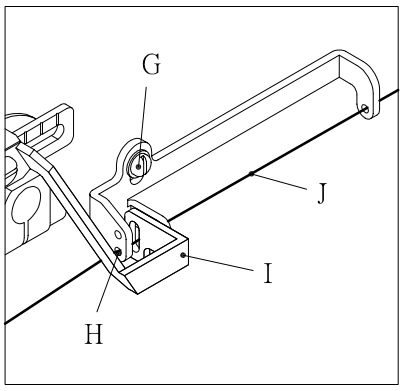


Fig. 4

7-7. 上裝飾線收放量調整 Adjusting spreader thread take-up

上裝飾線收放量由裝飾線揚線臂(I)來調整，其標準設定位置為揚線臂升到最高點時，縫線(J)與揚線臂(I)輕輕接觸。在需要拉緊裝飾線時，可放鬆螺絲(G)，將導線孔(H)向上移動，相反的需要放鬆裝飾線時，可將導線孔(H)向下移動，最後鎖緊螺絲(G)。

The thread amount of top cover thread can be adjusted by spreader thread take-up I. For standard position, move the spreader thread take up I all the way up to the highest point, and sewing thread J should lightly touch with spreader thread take-up I. Loosen the set screw G and move the spreader thread guide eyelet H upward in order to tighten the top cover thread, then tighten the screw G. Vice versa for loosen the top cover thread.



8. 與內部機構及時序有關的各項調整 Adjustment of machine

本機器在出廠前各個機構都設定在標準位置上，通常不需要再調整。在某些狀況下，例如更換不同的針號、更換結線鉤或是特殊質料的裁片 、縫線等，有需要做內部調整時，請依照下述要領來進行。

This machine was sent to the standard position before delivery and it's unnecessary to re-adjust unless under some situation as changing the needle, looper, different kind of fabric or different sewing threads. Please adjust according to following items.

8-1. 更換壓腳及設定提昇高度 Adjusting presser foot and setting the height of presser foot

某些調整的工作，取下壓腳會比較容易進行，取出壓腳的方法如下，以螺絲(B) 放鬆止動鉤(C)，放鬆壓腳螺絲(D)、定位環螺絲(E)，壓下扳手(A)，昇高壓腳棒後即可拿出壓腳。（圖 1、2）

完成後依反向順序裝回，並且使壓腳針孔(G)對正縫針(F)。（圖 3）

It will be easier to conduct some adjustments by taking off the presser foot as follows : Loosening screw B in order to loosen stopper B, loosening screw D and collar screw E pressing down level A, lifting needle bar in order to take off presser foot. (Please refer to Fig. 1 and Fig. 2)

After finished the adjustment, please tighten the screw in reverse sequence and please make sure needle F point right into the center of the needle hole G of presser foot. (Please refer to Fig. 3)

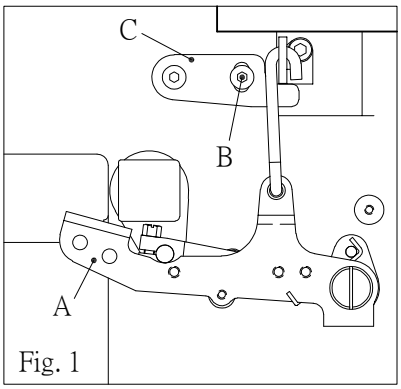


Fig. 1

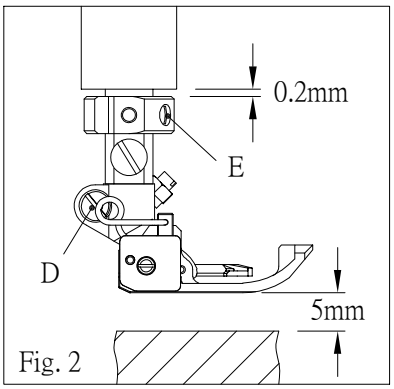


Fig. 2

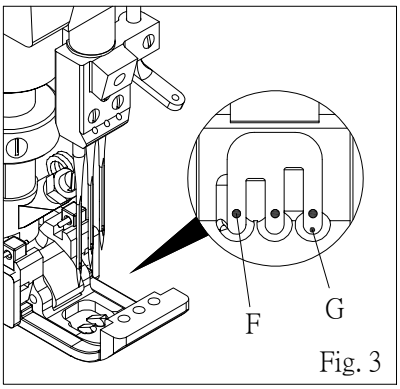


Fig. 3

8-2. 針棒高度及針落點 Adjusting the height of needle bar and needle drop point

當結線鉤(I)與左針(H)交會時，鉤尖在針孔上方約0.5~1.0mm，為針棒高度設定標準位置。（圖 4）

調整時取下針棒護蓋上的孔塞(J)，放鬆螺絲(K)，上下移動針棒到適當位置，在鎖緊螺絲(K)前必須確認縫針對正針板孔(L)的中心。（圖 5、6）

When the tip of looper I comes to the center of left needle H, the looper should position above the upper end of needle eye by 0.5~1.0 mm as this is the standard position for needle bar. (Fig. 4)

Loosen the screw K of needle bar clamp and adjust the needle bar to get proper height. After adjustments, tighten the screw K of needle bar clamp and make sure the needles are in the center of needle drop hole L of needle plate. (Fig. 5、6)

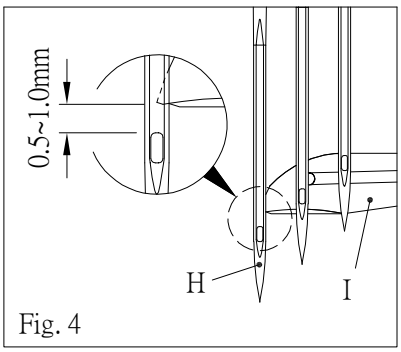


Fig. 4

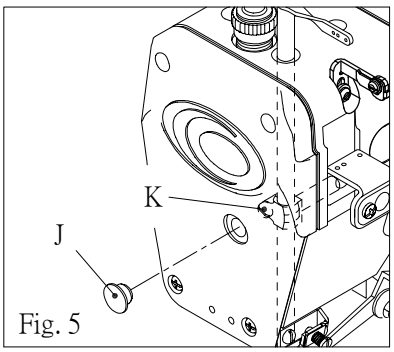


Fig. 5

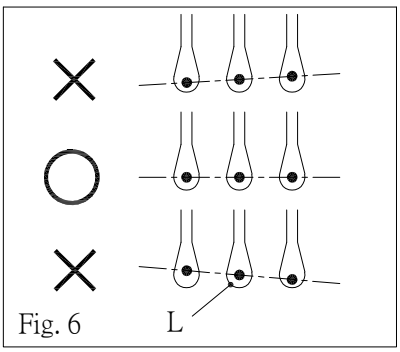
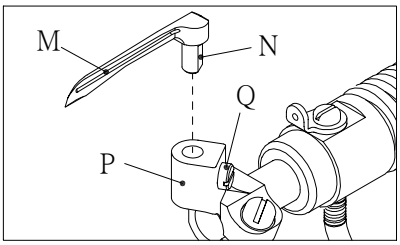


Fig. 6

8-3. 安裝下結線鉤 How to install looper

將結線鉤(M)插入承座(P)的孔內，柄部平面部份(N)對正螺絲(Q)，確實將結線鉤(M)貼緊承座(P)後再鎖緊螺絲(Q)。

Insert looper M into looper holder P, make sure flat surface N. of looper crank point to the set screw Q, then, tighten set screw Q.

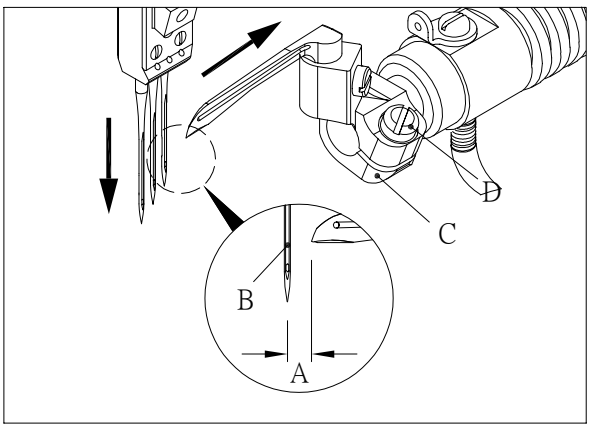


8-4. 下結線鉤定位 How to set looper position

針棒運行至下死點時，結線鉤位於運動路徑最右端，此時結線鉤尖與右針(B)中心，有一標準的距離(A)，如以下附表。其調整法為放鬆螺絲(D)，左右移動承座(C)到適當位置，再鎖緊螺絲(D)。調整時應避免承座(C)的前後擺動，否則將影響下結線鉤與縫針前後之間隙。

When needle bar reached its lowest dead point, looper moved to its most right position. There should have a standard distance A, as chart listed, between the tip of looper and the center of right needle B.

Adjusting : Loosen screw D, moves looper holder C right or left till required position, then, tighten screw D. When adjusting please do not move looper holder C front or back, otherwise will affect the clearance between looper and needles.



針距 Needle gauge	標準距離 Standard distance (A)
4.0	4.0 mm
4.8	3.6 mm
5.6	3.2 mm
6.4	2.8 mm

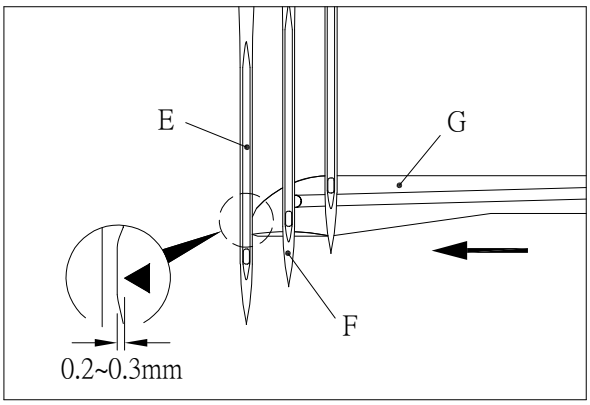
8-5. 下結線鉤與針的間隙 The clearance between looper and needle

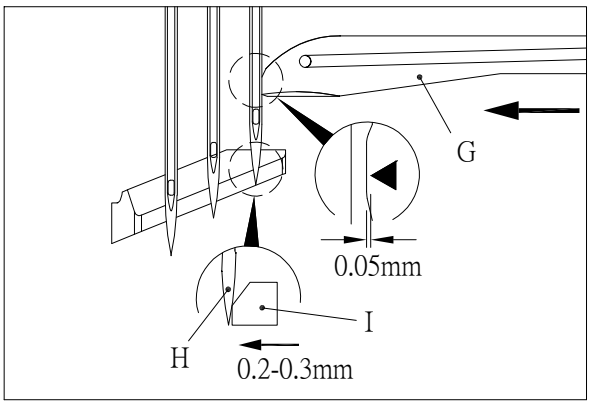
結線鉤尖(G)與左針(E)中心交會時，其間隙為0.2~0.3mm，與中針(F)中心交會時其間隙盡可能的小，與右針(H)中心交會時，後導針器(I)必須將右針(H)朝前推約0.2~0.3mm，而下結線鉤(G)與右針(H)的間隙為0~0.05mm。當針數為2針時，作法與上述左右針亦同，如下圖所示。其調整方法為放鬆螺絲(D)，前後擺動承座(C)到適當位置，再鎖緊螺絲(D)，圖形請參考上節，後導針器部份請參閱下節說明。

When looper G moves to the center of left needle E, the clearance should be 0.2~0.3 mm, and when looper G moves to middle needle F, the clearance between looper G and middle needle F should be as close as possible. When looper G moves to right needle H, the rear needle guide I should push right needle H forward approx 0.2~0.3 mm, by then, the clearance between looper G and right needle H should be 0~0.05 mm.

For two needle machine, the adjusting methods are the same as left needle and right needle. Please refer to the illustration as underneath.

How to adjust :
Loosen screw D, move looper holder C front and back till reached its desired position, then, tighten screw D. Please refer to the illustration as section 8-4 above. Please refer to next section for how to adjust the rear needle guide.





8-6. 針與後導針器 Needle and rear needle guide

設定後導針器高度
針棒在行進路徑的下死點，後導針器(A)的陵線(C)，須對正右針的針孔(B)中心。（圖 1）

設定後導針器角度及時序
當下結線鉤尖(F)與右針(E)中心交會時，後導針器(A)朝向右針(E)推約0.2~0.3mm，與左針(D)間隙為0~0.05mm。而下結線鉤(F)與右針(E)，此時的間隙為0~0.05mm，與中針輕輕接觸，與左針(D)間隙為0.2~0.3mm。（圖 2）

其調整方法為放鬆螺絲(G)，可上下前後調整後導針器的高度及角度，放鬆螺絲(H)旋轉導針座(I)，可調整後導針器與針前後的間隙。（圖 3）

How to set the height of rear needle guide :
When needle bar reached to its lowest dead point, the ridge line C of rear needle guide (A) should be positioned at the center of right needle eye B. (Fig. 1)

How to set the angle and timing of rear needle guide : When the tip of looper F moves to the center of right needle E, the rear needle guide A should push the right needle E forward approx. 0.2~0.3 mm and the clearance between rear needle guide and leftest needle D should be 0~0.05 mm by then, the clearance between looper F and rightest needle E should be 0~0.05 mm and looper should touch middle needle lightly and the clearance between rear needle guide and leftest needle D should be 0.2~0.3 mm. (Fig. 2)

Adjustment :
Loosen the set screw G from rear needle guide and can adjust the positions, up and down, front or back, of rear needle guide's height and angle. Loosen the screw H from rear needle guide, can adjust the front and back clearance between rear needle guide and needles. (Fig. 3)

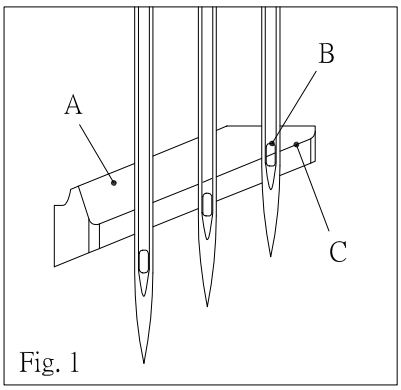


Fig. 1

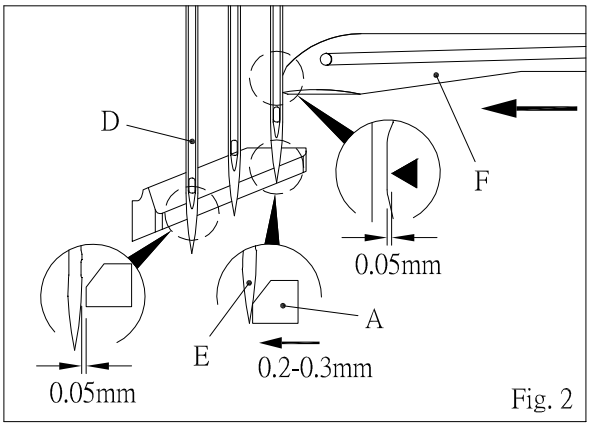


Fig. 2

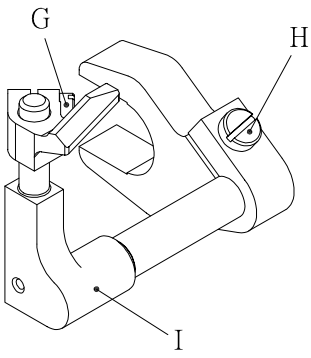


Fig. 3

8-7. 針與前導針器 Needle and front needle guide

設定前導針器角度及時序

當結線鉤(B)與左針(A)中心交會時，前導針器(C)的陵線(D)，在針尖上方1.5~2.0mm，而其間的間隙為0~0.3mm。結線鉤(B)退回到右針(E)中心時，針與前導針器(C)間隙為0~0.3mm。（圖 1、2）

放鬆螺絲(G)可上下前後調整導針器的高度及角度，放鬆螺絲(F)旋轉導針座(H)，可調整前導針器與針前後的間隙，調整時旋轉手輪，使針、下結線鉤、前導針器之間的相互位置，至適當位置後，再鎖緊相關螺絲。（圖 3）

How to set the angle and timing of front needle guide : When looper B reach the center of left needle A, the ridge line D of frons needle guide C should positioned at 1.5~2.0 mm above from the tip of needle and the clearance between left needle A and front needle guide C should be 0~0.3 mm and when looper B retreated to right needle E, the clearance between needle and front needle guide C should be 0~0.3 mm. (Fig. 1、2)

Adjustment : Loosen screw G can adjust the height and angle of front needle guide, loosen screw F and turning the front needle guide holder H can adjust the clearance between front needle guide and needle. When adjusting, turning hand wheel and make sure needle, looper and front needle guide at its corelation position, then tighten related screws. (Fig. 3)

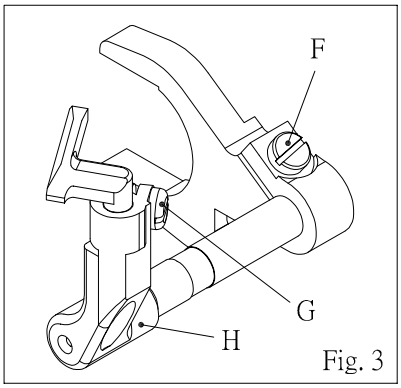


Fig. 3

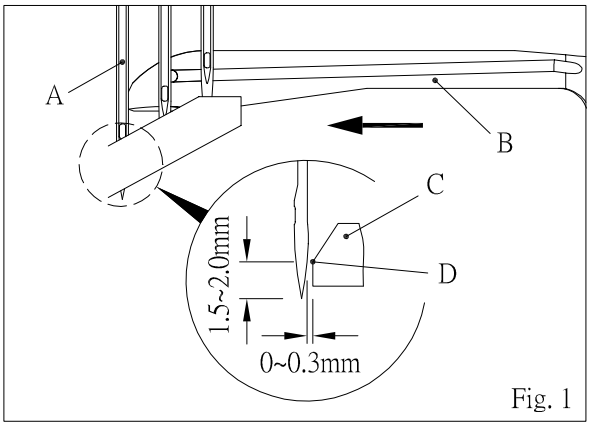


Fig. 1

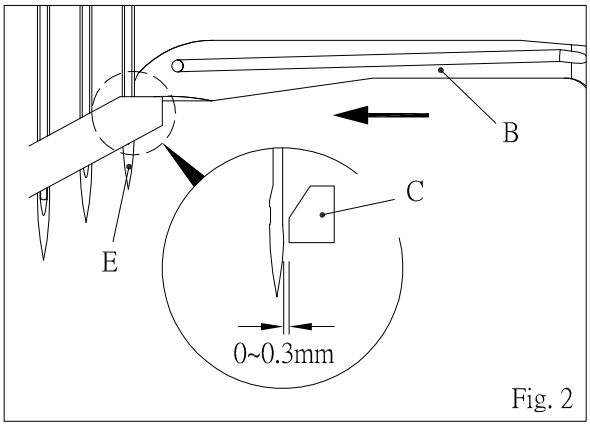


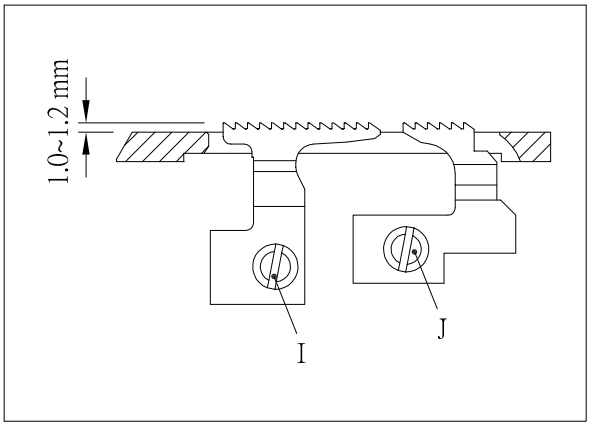
Fig. 2

8-8. 設定送布齒高度 Setting the height of feed dogs

送布齒在行進路徑的最高點時，主副兩送布齒必須同一高度，並且平行針板，同時浮出針板面1.0~1.2mm。主副兩送布齒分別以螺絲(I)、(J)做調整。

When feed dogs reach its highest position during its movement, main feed dog and differential feed dog should be at same height and parallel with needle plate and also above the needle plate 1.0~1.2 mm.

Adjustment :
Adjusting screw I and J in order to adjust the height of main feed dog and differential feed dog.



9. 裝飾縫 Coverstitich

9-1. 上裝飾縫結線鉤安裝及定位 Installing and setting the spreader looper

結線鉤(A)安裝高度為距針板面(B)8.5~9.5mm。（圖 1）

結線鉤安裝的角度，當結線鉤向左擺動，掛線鉤(C)與左針交會時，與左針間隙為0.5~0.8 mm，再繼續向左擺動到行程的最左端時，掛線鉤(C)距左針中心為4.5~5.5mm。調整時可放鬆擺動臂螺絲(D)及結線鉤螺絲(E)，來調整結線鉤的上下及擺動位置。（圖 2、3）

The distance between spreader A and the surface B of needle plate should be 8.5~9.5 mm. (Fig. 1)

How to set the angle of spreader looper :
When spreader looper moves to its left, the hook blade C meets left needle, the clearance between hook blade C and left needle should be 0.5~0.8 mm, when spreader looper moves to its leftest dead point, the distance between its hook blade C and the center of left needle should be 4.5~5.5 mm. When adjusting, loosen screw D and E from spreader arm in order to adjust its position of spreader looper. (Fig. 2、3)

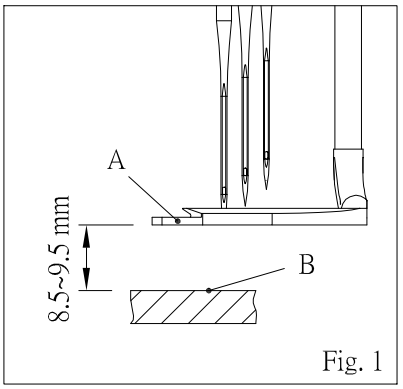


Fig. 1

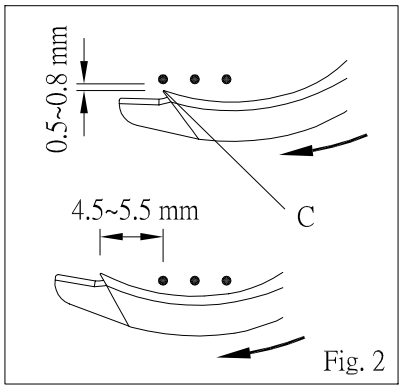


Fig. 2

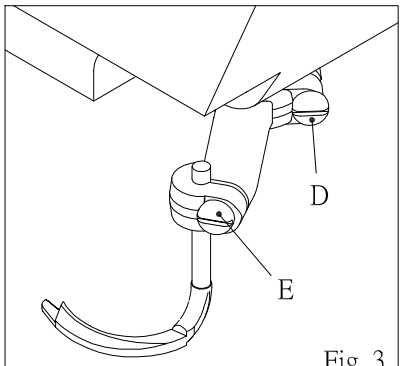


Fig. 3

9-2. 安裝裝飾線導線板 Installation of thread guide of spreader looper

裝飾線導線板(G)的下端位於結線鉤(F)上方0.5mm，結線鉤(F)擺動到最右端時，裝飾線必須輕輕掛在導線板(G)上。調整完成後，鎖緊螺絲(I)。（圖 4）

針棒行進到下死點時，導線板(G)與導線桿(H)之間的間隙約為1.0mm，導線板(G)與導線桿(H)線孔中心約略重合，調整完成後，鎖緊螺絲(J)。（圖 4、5）

The distance should be 0.5 mm between the bottom of thread guide G and the top surface of spreader looper F. When spreader looper F moves to its most righ position, the coverstitch thread should hanging in the thread guide G loosely, please tighten screw I after the adjustments. (Fig. 4)

When needle bar moves to its lowest dead point, the clearance should be 1.0 mm between thread guide H and thread guide G and the thread holes should be lined up with each other. (Fig. 4 , 5). After adjustments, please tighten screw J.

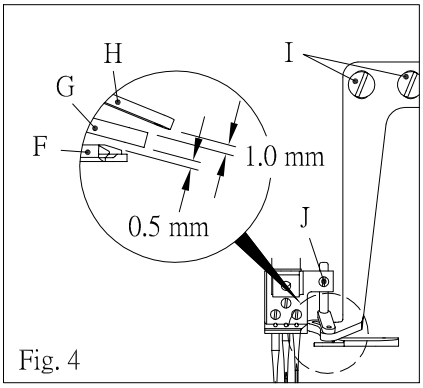


Fig. 4

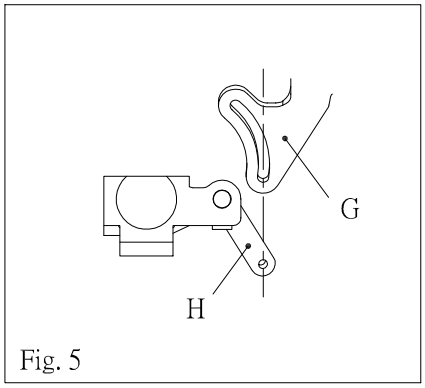
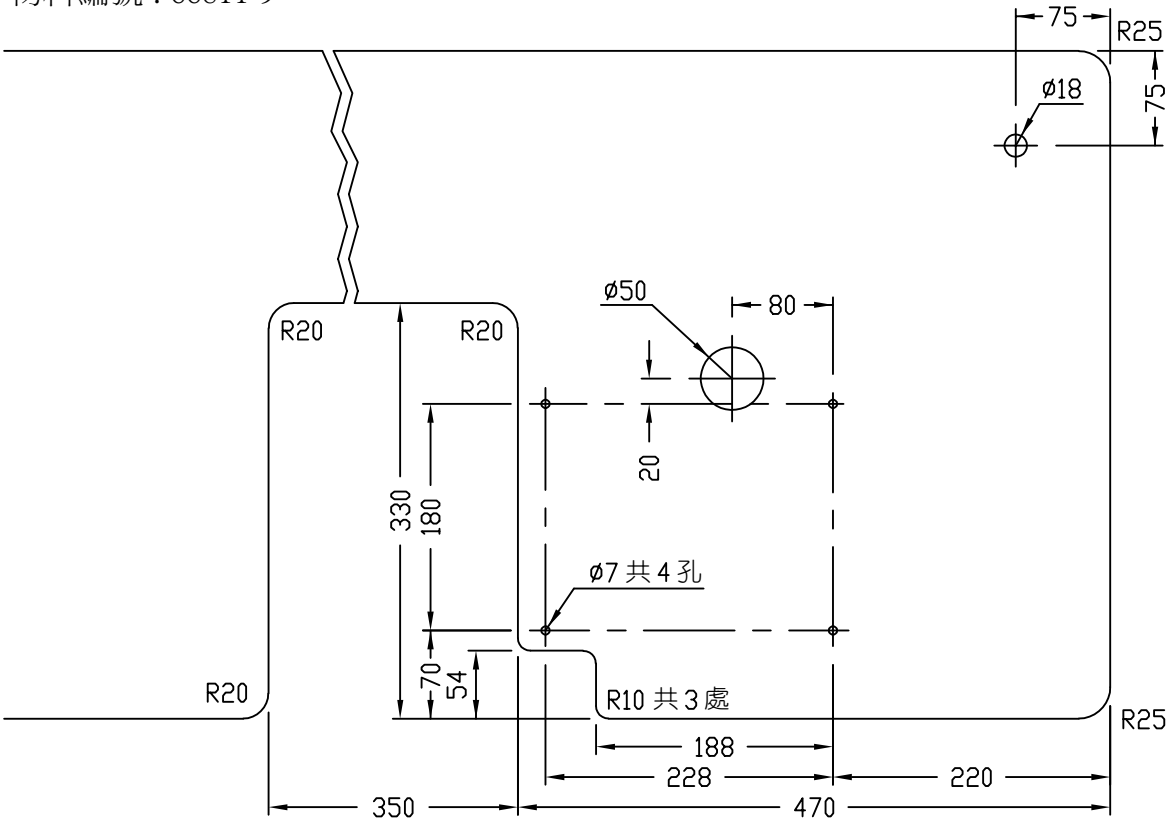


Fig. 5

10. CTD9000 車板圖 Table top cut-out

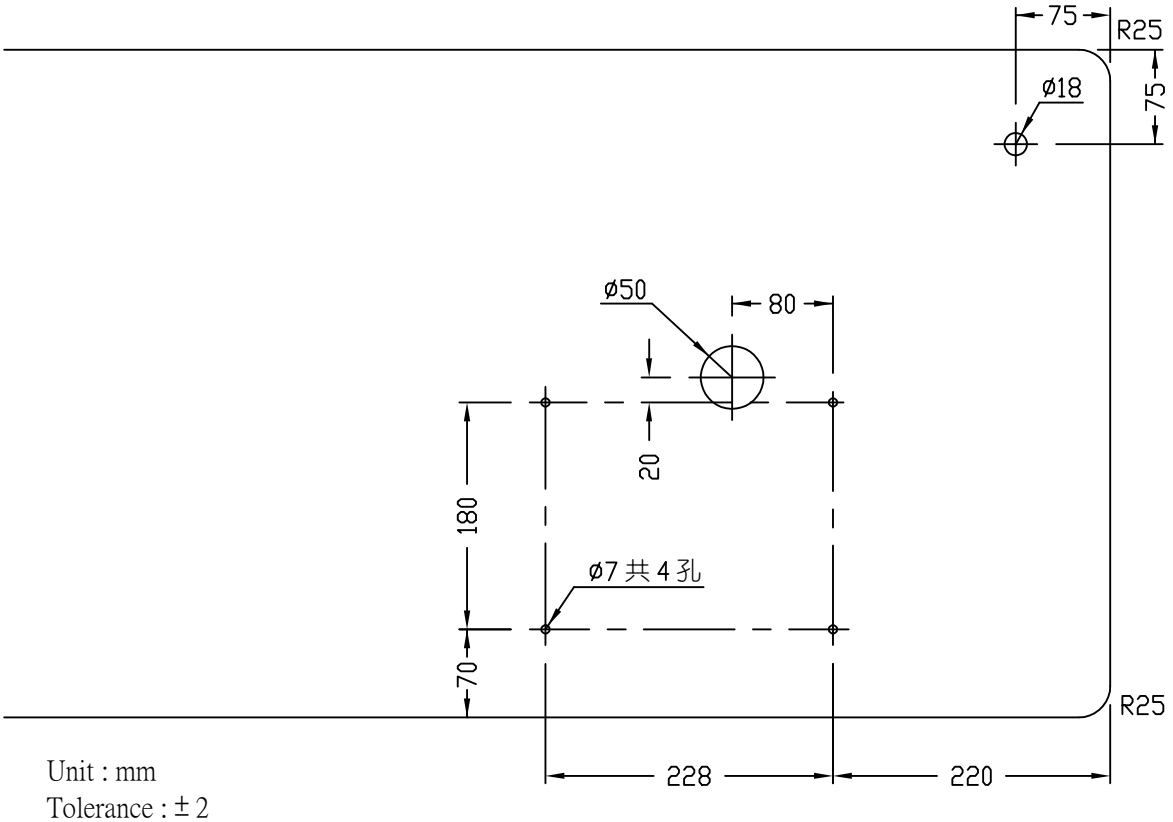
10-1. CTD9000 / CTD9085 / CTD9311 / CTD9711 / CTD9811 / CTU9811 / CXD2311 / CXU2311 上載式開口型車板 Open-cut table top type

物料編號 : 66811-9



10-2. CTD9000 / CTD9711 上載式車板 Standard table top type

物料編號 : 66811-13

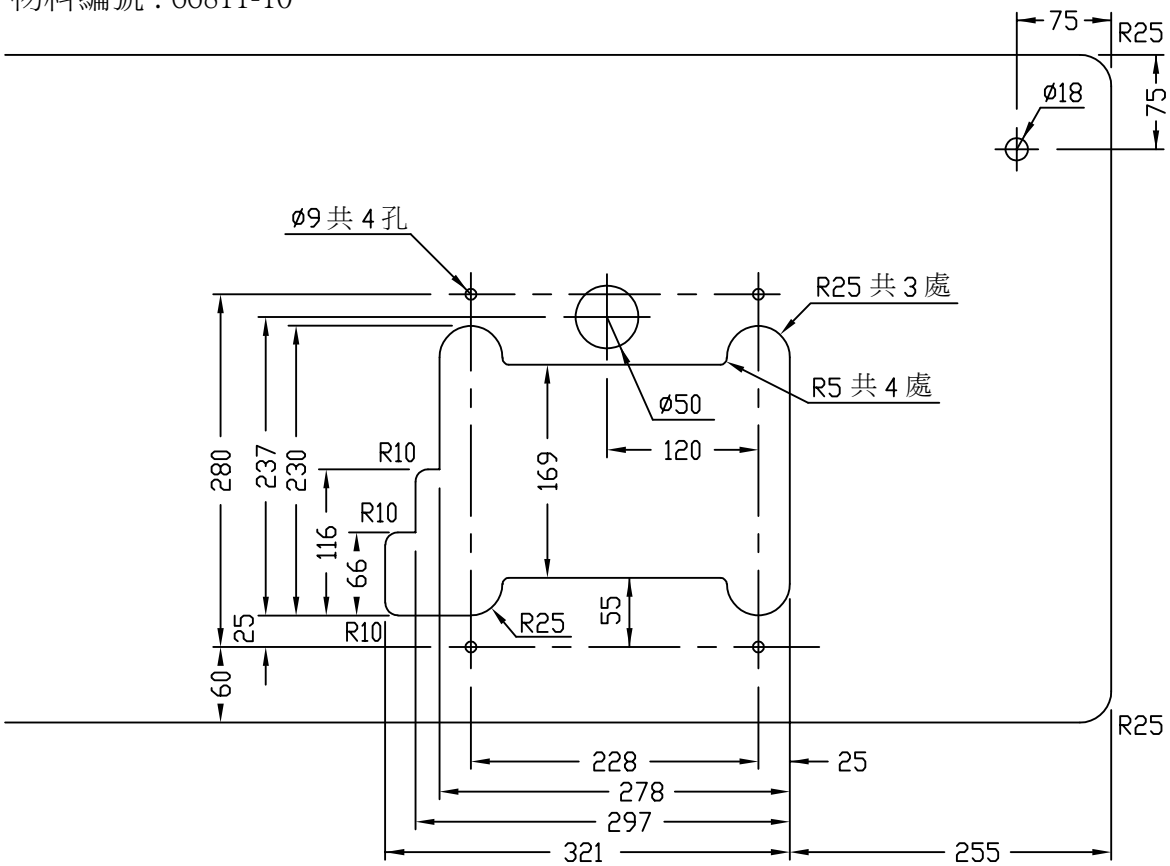


Unit : mm
Tolerance : ± 2

10. CTD9000 車板圖 Table top cut-out

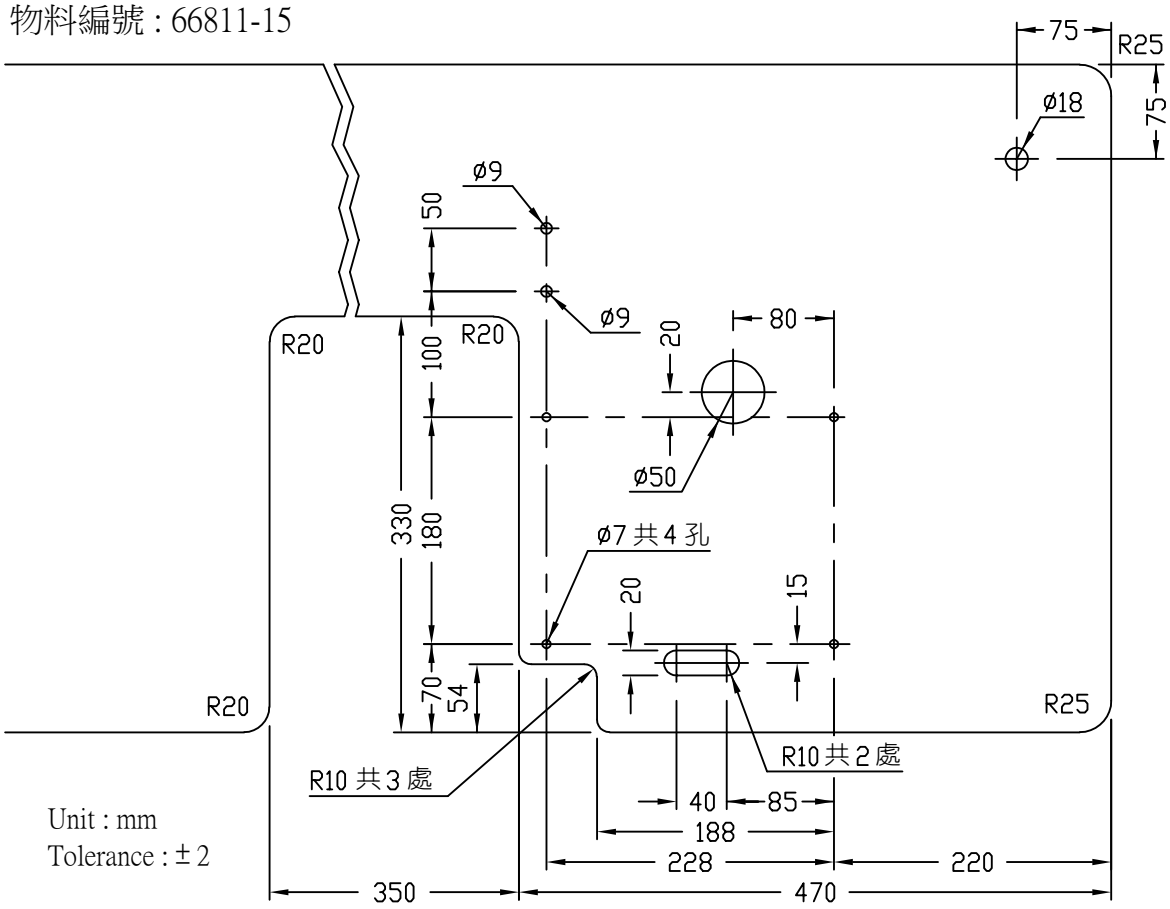
10-3. CTD9000 半沉式車板 Semi-submerged type

物料編號 : 66811-10



10-4. CTD9042 上載式開口型車板 Open-cut table top type

物料編號 : 66811-15



CTD9000 Series 高速方筒型繃縫機 High Speed Cylinder Bed Interlock machine

● 裝置編號說明 Model numbering

CTD9000-0-356M / RP03A / UCP-B1

U C P - B1

① ② ③ ④

① . 自動切線裝置代號
Under bed thread trimmer device

② . 機型 - C : 方筒型繃縫機　F : 平台型繃縫機
Model - C : Cylinder bed interlock　F : Flat bed interlock

③ . 動力 - P : 氣動式　E : 電動式
Power - P : Pneumatic　E : Electric

④ . 裝置組合代號
Combination of devices

電動式自動切線裝置 Electric under bed thread trimming system

Model	(UTC03) 切底線裝置 Under bed thread trimmer	(STC03) 切上飾線裝置 Top cover thread trimmer	(WPG01) 撥線裝置 Wiper	(PFE02) 壓腳提昇裝置 Presser foot lifter
UCE-B1	●	●		●
UCE-B2	●		●	●
UCE-B3	●	●	●*	●
UCE-B4	●			●

* 包裝於附件箱中 Packed in the accessories box

氣動式自動切線裝置 Pneumatic under bed thread trimming system

Model	(UTB03) 切底線裝置 Under bed thread trimmer	(UTG03) 切底線裝置 Under bed thread trimmer	(UTH03) 切底線裝置 Under bed thread trimmer	(UTB05) 切底線裝置 Under bed thread trimmer	(STB03) 切上飾線裝置 Top cover thread trimmer	(WPC02) 撥線裝置 Wiper	壓腳提昇裝置 Presser foot lifter	備註 comment
UCP-B1	●				●		●	
UCP-B2	●					●	●	
UCP-B3	●				●	●*	●	
UCP-B4	●						●	
UCP-B5		●			●		●	CTD9311、CTD9085 用 For CTD9311、CTD9085
UCP-B6		●				●	●	
UCP-B7			●		●		●	上飾線切線、底線切線及撥線裝置個別控制 Top cover thread trimmer, under bed thread trimmer and wiper are controlled separately
UCP-B8			●			●	●	
UCP-B9			●		●	●*	●	
UCP-BA				●	●		●	CTD9060用 For CTD9060

* 包裝於附件箱中 Packed in the accessories box

1. 調整驅動裝置 Adjustment of driving devices

1-1. 電磁鐵 Solenoid

(1) 調整行程 Adjusting driving distance

電磁鐵的行程是 15mm ，調整行程需將防塵蓋(G)移稼，以兩螺帽(F)做調整。

The standard solenoid driving distance is 15mm and if necessary, please remove dust cover G and adjust nuts F.

(2) 調整驅動臂位置 Adjusting the position of driving lener

驅動臂(E)在動作時的左右定點位置，可由螺絲(B)、(I)、(J)進行調整，調整時依序放鬆上述螺絲，左右移動承座(D)，使驅動臂(E)定於所需之位置，隨後固鎖螺絲(J)，並將定位環(C)與聯結塊(A)調整至適當位置，在調整驅動臂(E)過程中，需按壓電磁鐵驅動軸(H)至右死點，以確保調整後的準確度。(聯結塊調整請參閱第5節，而定位環如以下步驟說明)

The right or left moving set position of driving lever can be adjusted by adjusting screws of B、I and J, when adjusting please loosening screws in sequence move plunger D left or right in order to set the driving lever in desirous position , then tighten screw J, next adjusting collar C and plunger A into it's proper position, when adjusting driving lever, please push solenoid shaft to it's rightest position, during the adjustment process, in order to obtain it's precise movement. (Please refer to section 5 for the adjustment of connecting rod.) (Please refer to following illustration for adjusting collar.)

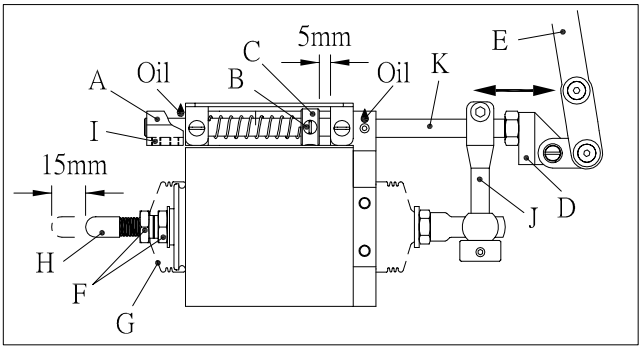
(3) 調整回復彈簧 Adjusting spring

電磁鐵在右死點時，定位環(C)與基座標準間隙為 5mm，亦可依實際狀況需求，以螺絲(B)做調整。

When solenoid shaft reached it's rightest position, the standard clearance between collar and plunger is 5mm, and also can be adjusted according to the demand by adjusting screw B.

(4) 電磁鐵在作動時，軸(K)必須可順暢的左右移動，如每一星期在軸(K)與基座接觸部位添加潤滑油，可增加移動時的順暢與基座壽命。

When the solenoid shaft is moving, shaft K must be moved swiftly, please add some lubricating oil between solenoid shaft Kand plunger which can increasing it's mobility adn the life of plunger.



1-2. 氣壓缸 Cylinder

(1) 調整驅動臂位置 Adjusting driving lever

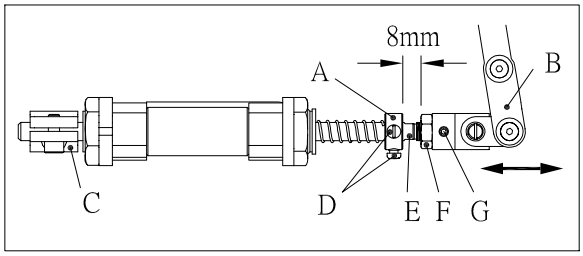
驅動臂(B)在動作時的左右定點位置，可由以下方式進行調整，首先放鬆螺絲(G)再以螺帽(F)與氣缸驅動軸(E)的平面做調整。另外定位環(A)與連結塊(C)必須配合調整，以便於以上步驟的進行。(連結塊調整請參閱第5節，而定位環如以下步驟說明)

Driving level B right and left set position druing the trimming movement could be adjusted by loosen screw G and adjust the level between nut F and cylinper shaft E. In addition, collar A and connecting block C will also have to be adjusted at the same time in order to make proper adjustment. (Please refer to section 5 for connecting block adjustment and please see following procedures for collar adjustment.)

(2) 調整回復彈簧 Adjusting spring

氣壓缸於右死點時，定位環(A)與螺帽(F)標準間隙為 8mm，也可依實際狀況需求，以螺絲(D)做調整。

When cylinder shaft reached its most right position, the standard tolerance should be 8mm between collar A and nut F, it also can be adjusted by screw D according to the actual sewing situation needed.



2. 與下切線機構有關的各項調整
The adjustment for under bed thread trimmer mechanism

2-1. 調整前說明 Illustration before conducting adjustment

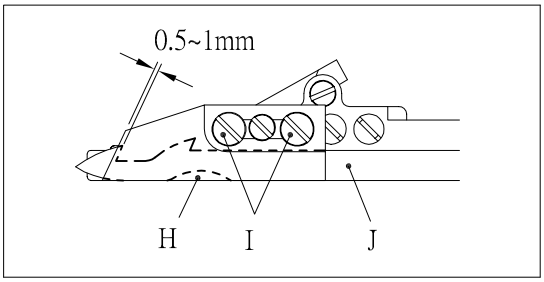
在調整或測試切刀組左右的相關位置時，應先轉動手輪使刻線P對正車頭上的定位刻記後(圖形請參閱第2節)，才可以手引動切刀驅動之氣壓缸及電磁鐵的活塞，使切刀組左右擺動。當調整或測試完成後，請務必確認切刀組是置於最右側的，以便後續步驟的進行。(圖形請參閱第4-8節)

When adjusting or testing the right / left movement of trimming knife, the P set mark of hand wheel must be set even with the set mark on machine head. (Please refer to the diagram on section 2 prior.) Then, swing trimming knife back and forth by moving the cylinder shaft or solenoid shaft after adjustment or testing, please make sure trimming knife set is at its most right position in order to make further adjustments. (Please refer to the diagram on section 4-8 prior.)

2-2. 活動刀與固定刀片位置 Adjusting the position between movable knife and fixed knife

切刀組退到定位時，固定刀片(H)與活動刀(J)兩刀口需有 0.5~1mm 的間距咬合 ，而間距可由螺絲(I)做調整。

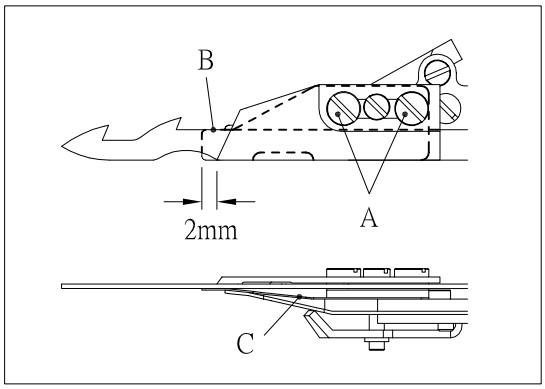
When trimming knife moves to its set position, there should have 0.5~1mm overlap between fixed knife H and hook blade of movable knife J, and this overlap can be adjusted by screw I.



2-3. 夾線簧片調整 Adjustment of clamp spring

簧片(C)位置一般為凸出刀口前緣 2 mm，以螺絲(A)做調整，如凸出量太多則線頭太長，少則反之。此外簧片必須與活動刀邊緣(B)方向對齊，以防針線夾線。

Clamp spring C should be positioned 2mm in front of the front edge of fixed knife and can be adjusted by screw A. If positioned too much ahead then the thread end will be too long and vice versa, will be too short. In addition, clamp spring must be even with the side edge B of movable knife to prevent from holding the needle threads.



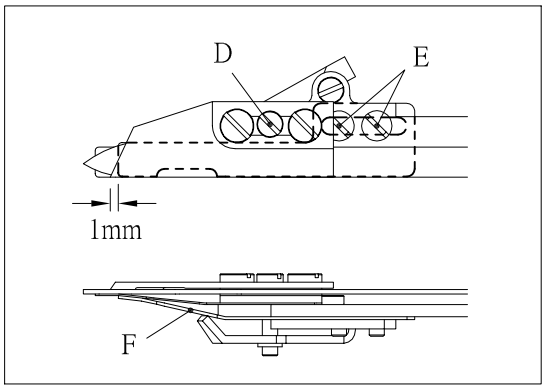
2-4. 活動刀片簧壓調整 Adjusting knife pressure spring

活動刀片簧壓(F)的前端，設定在固定刀片後方 1mm 處，而間距可由螺絲(E)做調整。

針線底線是否乾淨俐落的被切斷？底線能否被來持？可調整簧壓，以螺絲(D)來改變，依順時針轉，則簧壓線切會更加俐落，但刀片的磨耗相對增力，且底線不易脫落，造成線頭太長。反時針轉則反之。

The knife pressure spring F should be positioned 1mm behind the front edge of fixed knife and it can be adjusted by screw E.

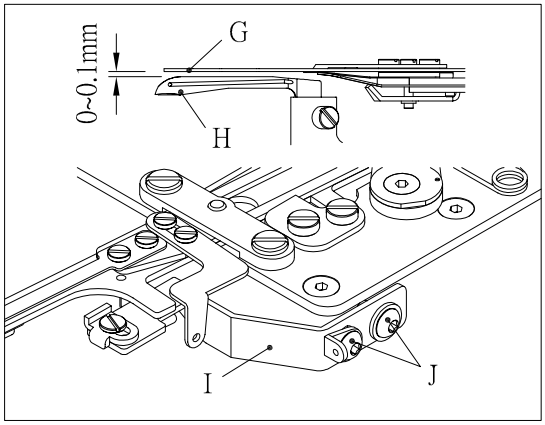
Can needle thread and looper thread be clean cut ? and can looper thread can be held ? All can be done by adjusting the screw D, clock-wise turning the thread can be cut cleanly but the fixed knife will be worn out faster and the thread end will be langer since looper thread was been holding too tight, vice versa for counter-clockwise turning.



2-5. 下刀托架調整 Adjusting of lower knife carrier guide

活動刀(G)伸出時與下結線鉤(H)的間隙為 0~0.1mm 之間，可放鬆螺絲(J)。調整下刀托架(I)，上下調整至適當位置，鎖緊固定螺絲(J)前，必須確認下刀是否能很順暢前後運動。

When movable knife G moving forward, there should have 0~0.1mm tolerance between movable knife and looper H. Adjustment can be made by loosen screw J and adjust lower knife carrier guide I upward or downward to its proper position, then tighten screw J. After such adjustment, please make sure movable knife can be moved forward backward smoothly.



2-6. 活動刀片行徑位置調整 Adjusting moving route position of movable knife

當活動刀片(B)行進到右排送布齒的左側緣 1.5 mm ，其刀尖必須位於結線鉤(A)背脊的中心線上，當活動刀片(B)繼續向左前進到左排送布齒的右側緣 1.5mm 時，其刀尖還必須在結線(A)背脊的範圍裡。（圖 1、2）

調整時放鬆固定螺絲(E)，旋轉偏心樞梢(F)，或以螺絲(C)調整固定座(D)位置，來改變活動刀片的行徑路線。（圖 3）

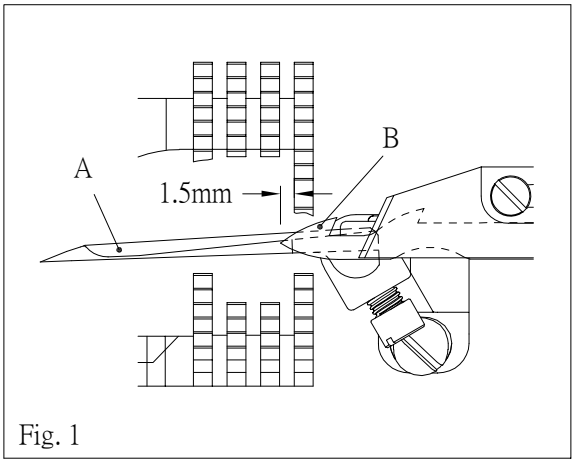


Fig. 1

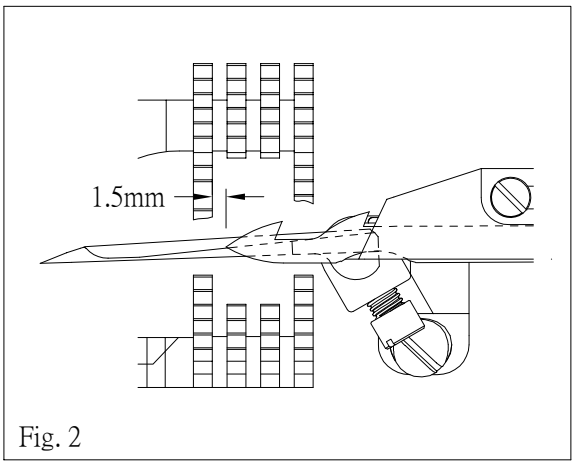
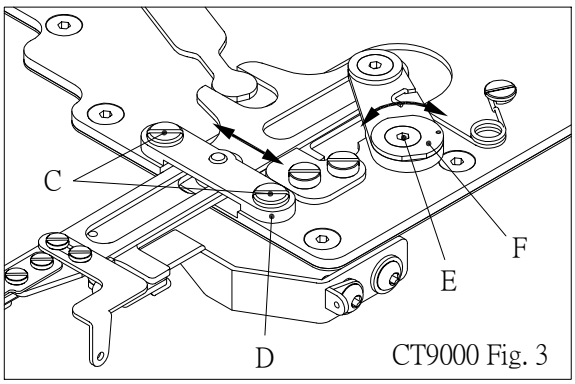


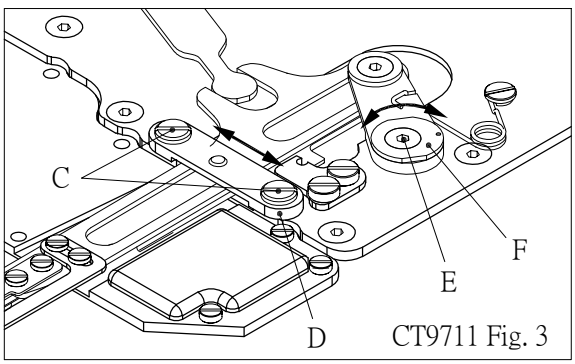
Fig. 2

When movable knife B moves over 1.5mm from the left edge of most right row of feed dogs, its knife tip should be positioned on the center top of looper ridge A. When movable knife B keep moving to 1.5mm away from the right edge of lestest row of feed dog, its knife tip should be still within on the top of looper ridge A. (Please refer to diagram 1 and 2.)

While the adjustment loosen screw E, turn adjusting ring F or loosen screw C, then adjust the position of bracket holder D in order to change the moving route of movable knife (See diagram 3)



CT9000 Fig. 3



CT9711 Fig. 3

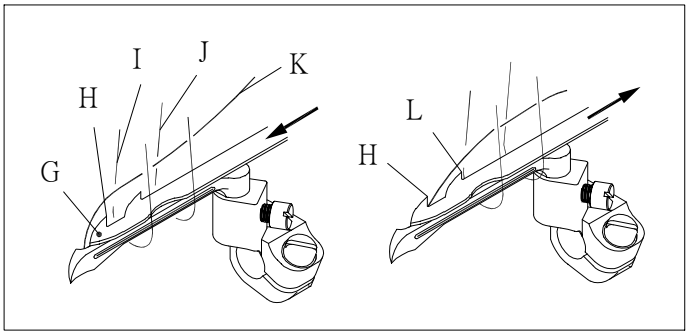
2-7. 針線、結線鉤及活動刀之間的關係 Co-relationship among needle thread looper and movable knife

活動刀片(G)由右方左前進時必須從針線的線環(I)、(J)穿過，同時活動刀片前段的鉤刀(H)必須在結線鉤線(K)的前面。

活動刀片由左死點向右退回時，鉤刀(H) 、(L)鉤住針線及結線鉤線拉向固定刀片，隨後依次被切斷。

When movable knife G moves from left to the right, it must go thru the needle thread loops I、J, at the same time, the front hook blade H of movable knife must be in front of looper thread K.

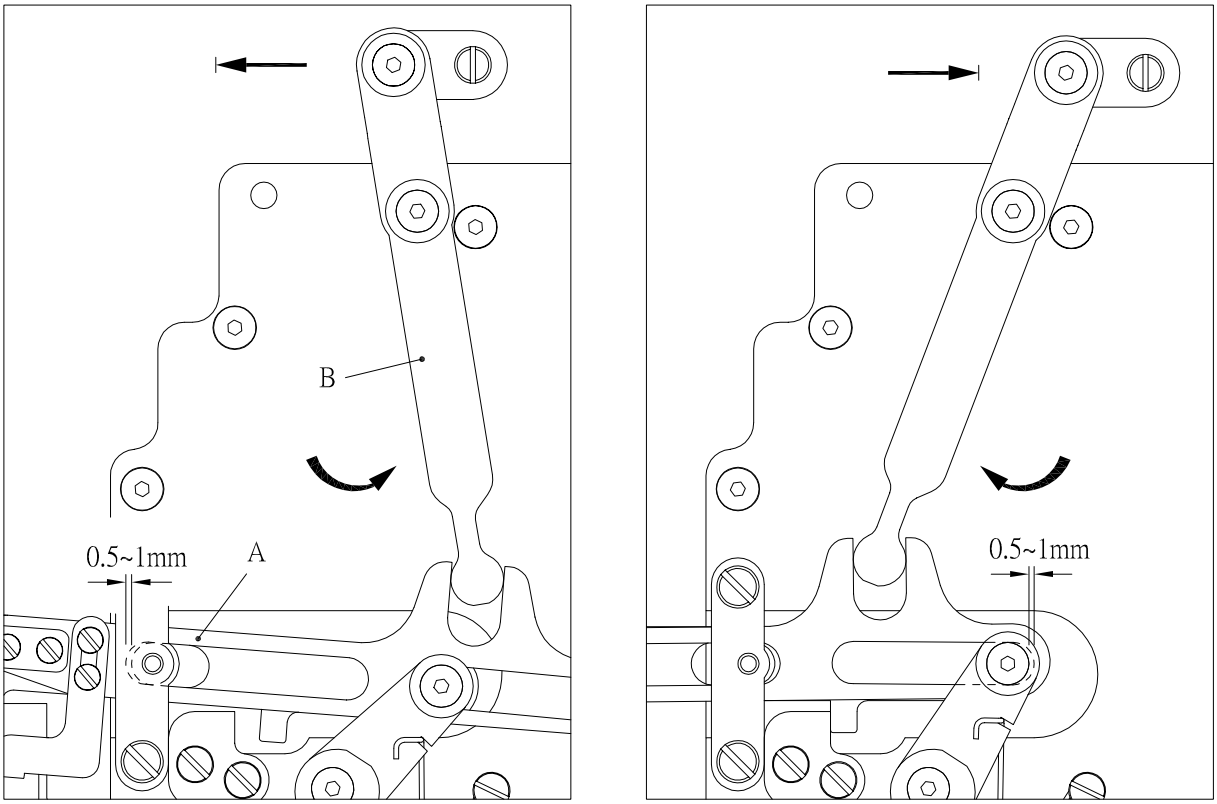
When movable knife moves from its leftest position to its right, hook blade H、L should hold needle threads and looper thread and pull it to the fixed knife then cut it sequentially.



2-8. 下切刀前後位置調整 Adjusting the front and rear position of underbed thread trimmer

當刀組退至右死點時，活動刀座(A)與隔環之間需有0.5~1.0 mm 的間隙。而活動刀座(A)動作至左死點時，活動刀座(A)與隔環也需有0.5~1.0 mm的間隙，兩者可由改變驅動臂(B)位置來調整間隙。(有關調整驅動臂位置的詳細說明，請參閱第3節 ）。

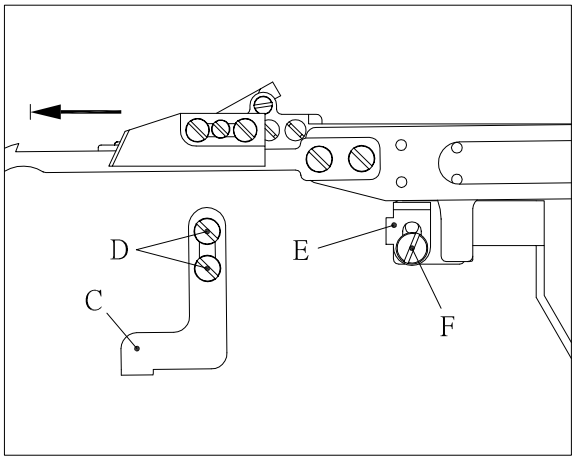
When under bed thread trimmer set went back to its most right set position, there should have 0.5~1.0mm tolerance between lower knife carrier A and spacer, when lower knife carrier A moves to its leftest set position, there also should have 0.5~1.0mm tolerance between lower knife carrier and spacer. Then tolerance between lower knife carrier and spacer can be adjusted by changing the position of driving lever B. (Pleaes refer to section 3 for the adjustment of driving lever.)



2-9. CT9000 輔助定位塊調整 Adjusting auxiliary knock block for CT9000

為了方便作業，首先以螺絲(D)將導線(C)]卸下，而活動刀座在最左死點時，與下刀輔助定位塊(E)之間的間隙為0~0.2 mm ，其間隙可以螺絲(F)做調整。完成後需檢視第4-6節步驟，運作必須順暢，最後再將導線(C)裝回。

For easy adjustment, please take off thread guide eyelet C by loosening screw D, when the movable knife reached its leftest set position, there should have the tolerance of 0~0.2mm between movable knife and knock block E. Adjustment can be made by adjusting screw F. After the adjustment, please repeat the adjustment of moving route of movable knife as shown on section 4-6 and make sure movable knife moves smoothly, then, mounting thread guide eyelet C back.



3. 調整縫線張力之相關裝置 Adjusting thread tension components

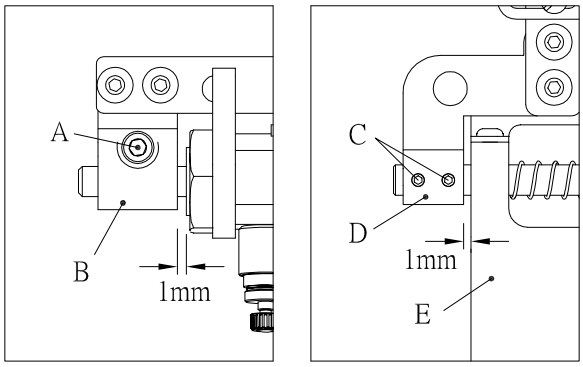
(1) 切線連結塊調整 Adjustment of bracket holder

當下刀退回右死點時，切線連結塊(B)與氣壓缸須有 1mm 的預留間隙。如使用的是電磁鐵，切線連結塊(D)與承座(E)也須有 1mm 的預留間隙，兩者分別以螺絲(A)、(C)做調整。

當切線連結塊有所變動時，請務必再次確認以下步驟及安全開關之相關位置。(有關安全開關的詳細說明，請參閱第6節)

When underbed thread trimmer reach its most right position, there should have 1mm tolerance between bracket holder B and cylinder when using pneumatic type thread trimming knife. If using electric type thread trimming knife, there also should have 1mm tolerance between plunger D and bracket E, and can be adjusted by screw A or C respectively.

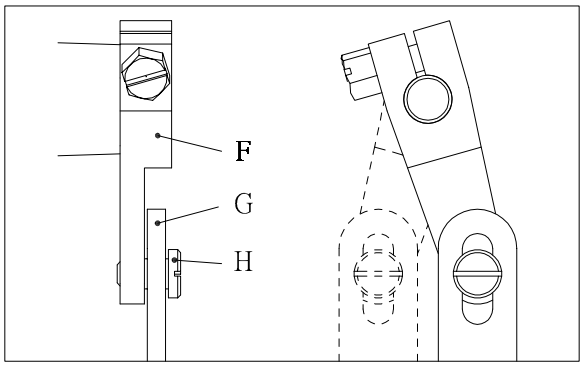
When any changes in bracket holder or plunger, please make sure to repest following steps and safety switch's related position. (Please refer section 6 on page 10 for the adjustment of safety switch.)



(2) 連結板調整 Adjusting of connecting plate

當調整上述之連結塊時，需注意連結板(G)與曲柄(F)、螺樁(H)間的間隙要相等。這樣曲柄與連桿的運動才能順暢。

When adjust connecting plate, please pay attention to the even tolerance among connecting plate G, tension release lever F and stud H, in order to make smooth movement between connecting plate and tension release lever.



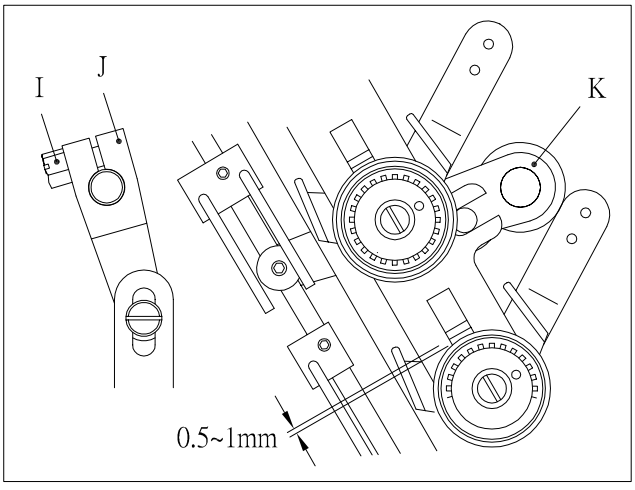
(3) 鬆線滑板與張力控制盤的間隙調整 Adjusting of the tolerance between release wedge and tension disc

鬆線滑板與張力控制盤在未動作時，其相對位置有 0.5~1mm 間隙。調整時，首先放鬆曲柄(J)上的螺絲(I)，再擺動曲軸(K)調整至適當的間隙。

在調整曲柄(J)或曲軸(K)時，應注意兩者與車頭之接觸面不可有任何間隙，且能夠很順利旋轉，否則會影響下切刀的運動。

There should have the tolerance of 0.5~1mm between release wedge and tension disc before any movement when adjusting, loosen screw I on tension release lever J, then adjust tension release shaft K to its proper position in order to obtain tolerance 0.5~1mm.

When adjusting tension release lever J or tension release shaft K, please make sure both of them should touch machine head closely, without any tolerance and moving smoothly. Otherwise it will affect the movement of under bed thread trimmer.



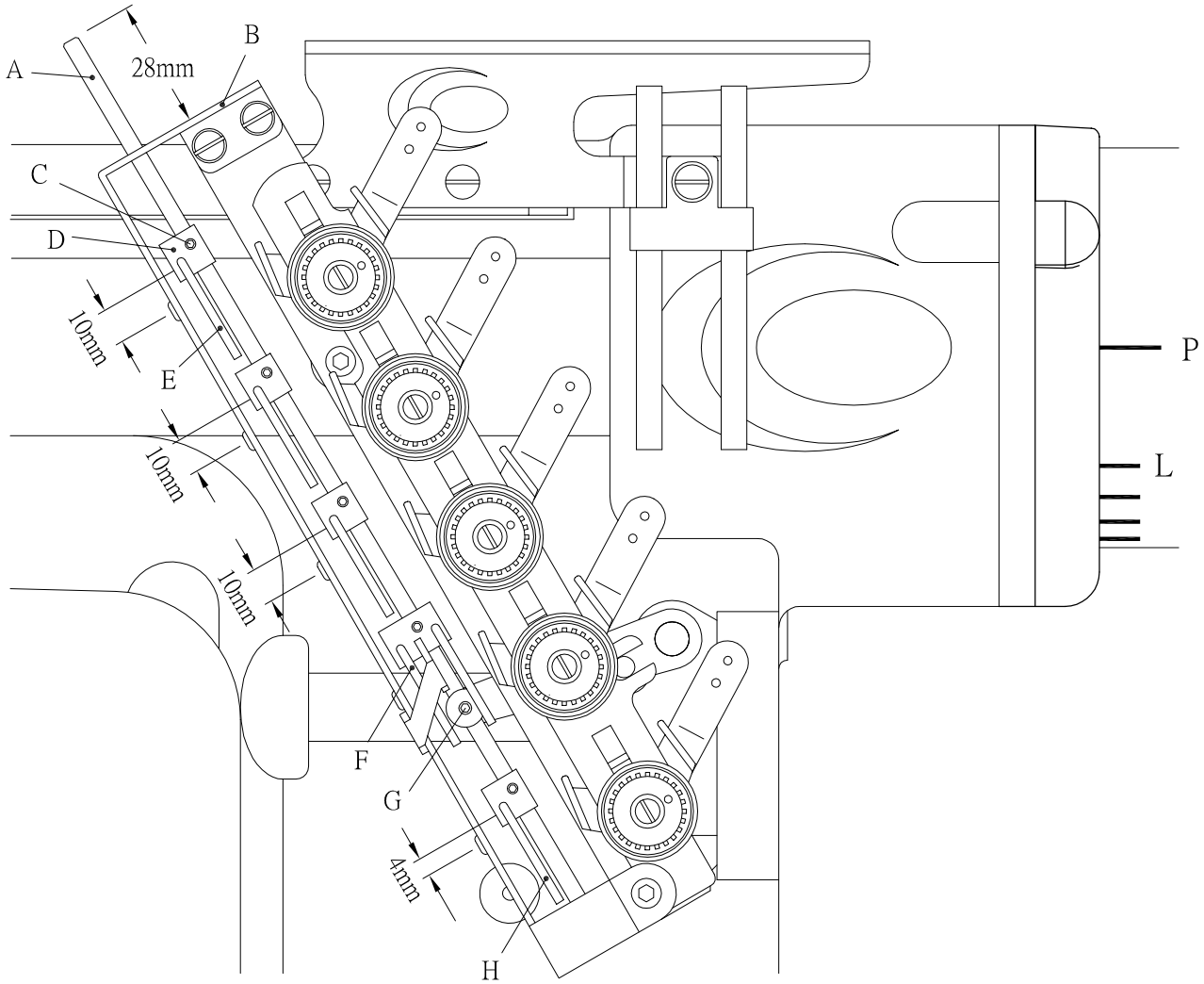
(4) 鬆線裝置調整 Adjusting of thread tension release components

調整鬆線導桿(A)的位置，在未動作時，導桿(A)凸出導線(B)約28mm。調整時，放鬆固定螺絲(G)調整。

鬆線鉤位置與調整
針線鬆線鉤(E)與線孔距離為 10mm ，底線鬆線鉤(H)與線孔距離為 4mm，裝飾縫鬆線鉤(F)則是以不改變針線及底線的線跡來做調整。調整時，放鬆螺絲(C)移動鬆線座(D)。

When adjust the position of guide bar A, prior to any actions, the tip of guide bar should be 28mm ahead of thread guide eyelet B, when adjusting, loosen set screw G in order to adjust.

The position and adjusting of needle thread release bar :
There should have 10mm distance between needle thread bar E and needle thread guide hole, and should have 4mm distance between looper thread bar H and thread guide hole and under the circumstance or without changing the stitches of needle thread any looper thread, adjusting spreader thread bar F by loosen screw C and moving upward or downward of thread pull-off block D.



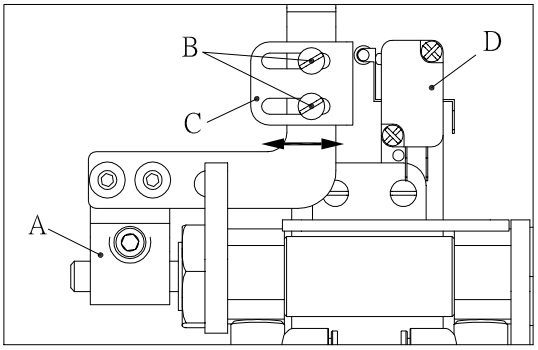
4. 調整安全開關位置 Adjusting the position of safety switch

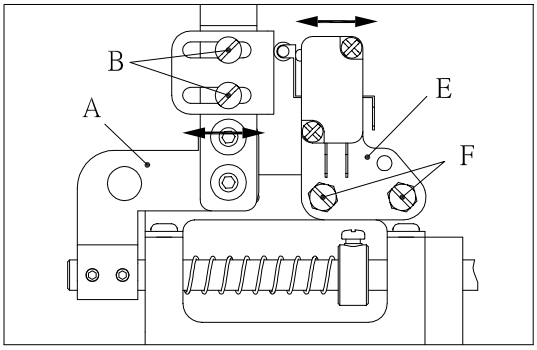
調整過切刀或移動切線連結塊(A)時，則安全開關(D)就必須調整。

調整時放鬆螺絲(B)，左右移動支架(C)。當下切刀回到右死點停頓時，安全開關(D)上的按鈕剛好按下。如驅動切刀的裝置是電磁鐵，則是有另一支架(E)相互配合，分別以螺絲(B)、(F)做調整。

Whenever adjusting thread trimmer or bracket holder A must adjust safety switch D at the same time.

When adjusting, loosen screw B, moving knife holder bracket C to its proper position when underbed thread trimmer moves to its most right position and stop then the push button on safety switch D should touch knife holderbracket. If is using electrical type thread trimmer, (using solenoid), there will have another knife holder bracket E in addition to knife holder bracket C and both knife holder bracket C and E and can be adjusted by screw B and F respectively.





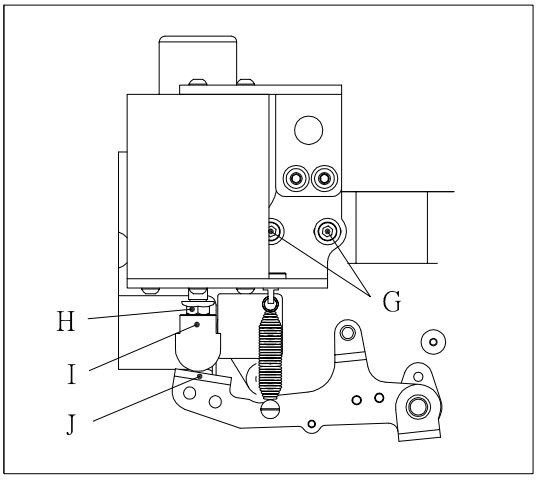
5. 壓腳提昇裝置 Presser foot lifting device

5-1. 電動/氣動式壓腳提升裝置
Electrical / Pneumatic type presser foot lifting device

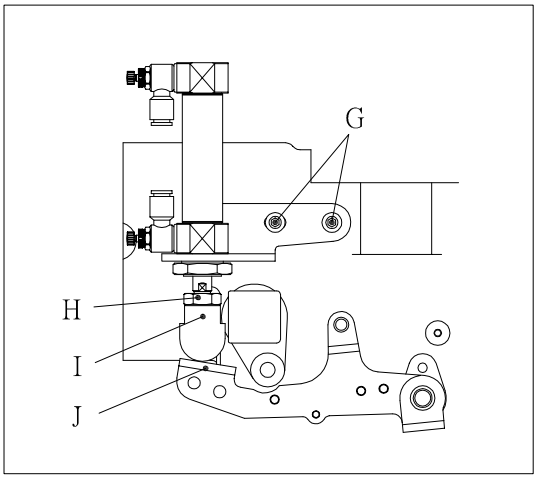
壓腳提昇量可調整至 7mm，調整時以套管(I)平面固定，放鬆螺帽(H)，接著旋轉套管(I)上下做調整，此外套管(I)必須與揚昇臂(J)平面接觸，而左右的位置與提昇量也有直接的關係，其中可以螺絲(G)配合做調整。

Presser foot lifting height is 7mm, when adjusting, holding clutch sleeve I and loosen screw H, turning clutch sleeve I clock-wise or counter-clock wise in order to adjust the stroke distance, besides, clutch sleeve I should touch parallel with lifter arm J. In addition, the left or right position of bracket also will affect the lifting height and bracket can be adjusted by screw G.

電動式壓腳提升裝置
Electrical type presser foot lifting device



氣動式壓腳提升裝置
Pneumatic type presser foot lifting device

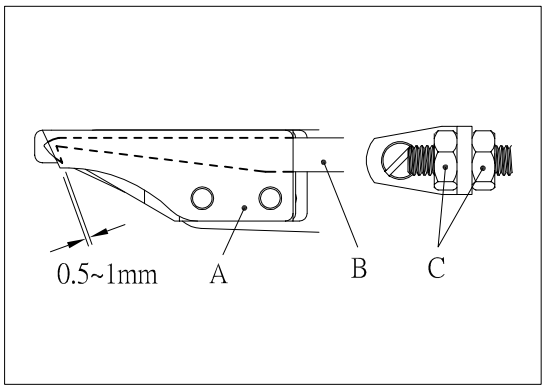


6. 調整上飾線切線裝置 Adjusting of spreader thread trimmer device

6-1. 活動刀與固定刀片位置 The position of movable knife any fixed knife

活動刀片(B)至上死點時，與固定刀片(A)之間需有 0.5~1 mm 的間距咬合 ，而間距可由螺絲(C)做調整。

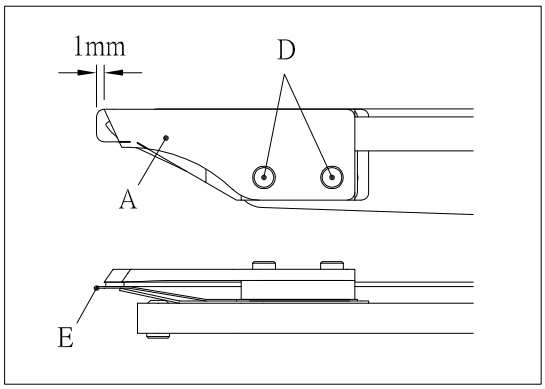
When movable knife B moves to its most upper position, there should have overlapping of 0.5~1mm between movable knife B and fixed knife A and overlapping can be adjusted by screw C.



6-2. 夾線簧片調整 Adjusting of thread clamp spring

簧片(E)位置一般為凸出刀口前緣 1 mm，以螺絲(D)做調整，並且與固定刀(A)邊緣方向對齊。

The position of thread clamp spring E should be 1mm ahead the front edge or fixed knife A, and can be adjusted by screw D and also should be even with the right edge of fixed knife A.



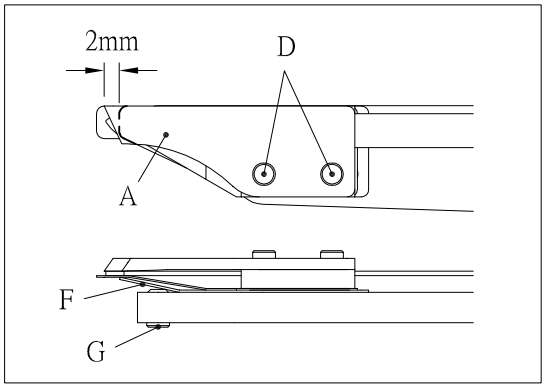
6-3. 活動刀片簧壓調整 Adjusting of knife pressure spring

活動刀片簧壓(F)的前端，設定在固定刀片(A)後方 2mm 處，而間距可由螺絲(D)做調整。

裝飾線是否乾淨俐落的被切斷？裝飾線能否被夾持？可調整簧壓，以螺絲(G)來改變，依順時針轉，則簧壓線切會更加俐落，但刀片的磨耗相對增力，且裝飾線不易脫落。反時針轉則反之。

The front edge of knife pressure spring F should located 2mm behind the front edge of fixed knife A and can be adjusted by screw D.

Can top coverstitches be cut clean? spreader thread can be held ? All can be done by adjusting screw G in order to change spring pressure, trrning clock-wise, will increase spring pressure and thread can be cut clean and spreader thread can be held tight, however, it will wering out the fixed knife and movable knife faster, vice versa for turning counter-clock wise.



6-4. 活動刀片行徑位置調整 Adjusting the position of moving route for movable knife

(1) 旋轉手輪使P刻線至車頭定位刻線，以保調整時的正確性。（手輪圖形見第2頁）

Turning hand wheel and make sure the P set mark on hand wheel even with the set mark on machine head in order to make the correct adjustment later on. (Please refer to figure on the first page 2.)

(2) 以手驅動使活動刀片向下行進，當與上結線鉤(H)交會時，其活動刀鉤刃尖(F)與結線鉤上的掛線鉤(G)須對正，並且兩者之間需有 0.5mm 的間隙。而相關位置可由螺絲(A)、(E)做調整，當0.5mm的間距確定後，可由螺絲(B)調整，移動定位片(C)至螺椿定位，以便往後做調整的依據。（圖 1、2）

Using hand to move movable knife downward, by the time when movable knife meets spreader H, the tip of movable knife F should be even with the hook blade of spreader G and there should have a tolerance of 0.5mm between them, and it can be adjusted by adjusting screw A and E. When 0.5mm tolerance been set, please move knock block C to stud A by adjusting screw B in order to set the foundation for the future adjustments. (Please refer to figure 1 and 2.)

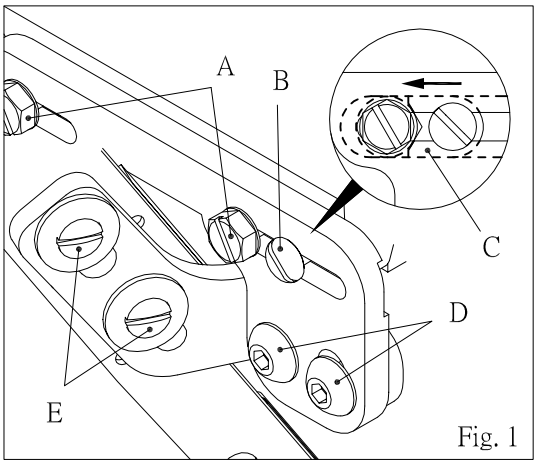


Fig. 1

(3) 活動刀行經結線鉤後，接著將與上飾線(J)碰觸，而上飾線(J)必需在刀片前端斜面(I)範圍內，以便後續滑入刀槽。而活動刀的左右角度可由螺絲(E)做調整，另外活動刀前後的角度，會因裁片的厚薄，而需跟著改變，車越厚則切刀需越傾斜，角度可由螺絲(D)依需求做調整，一般於長孔置中鎖上即可。調整後必須檢視上述各步驟。（圖 1、3）

After movable knife passed thru spreader, it will touch spreader thread J (Top covering thread) and spreader thread should be located within the slant angle range I of the front of movable knife, so it will falling into the hook blade of movable knife. The right or left angle of the movable knife can be adjusted by screw E, in addition, the front and rear position of movable knife will be varied, depends on the thickness of sewing fabrics, the thicker sewing fabrics, the more slant of movable knife and can be adjusted by screw D, normally, movable knife will be tighten in the middle of long screw hole and must go over all the above mentioned steps after adjustment. (Please refer to figure 1 and 3.)

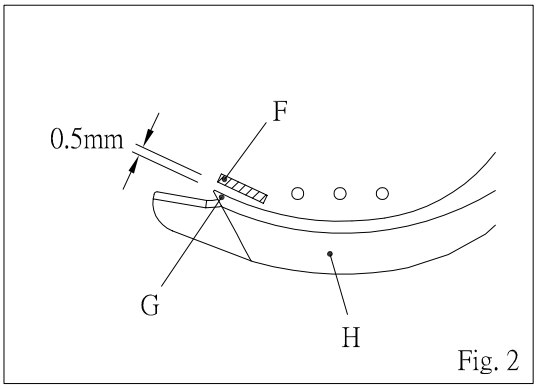


Fig. 2

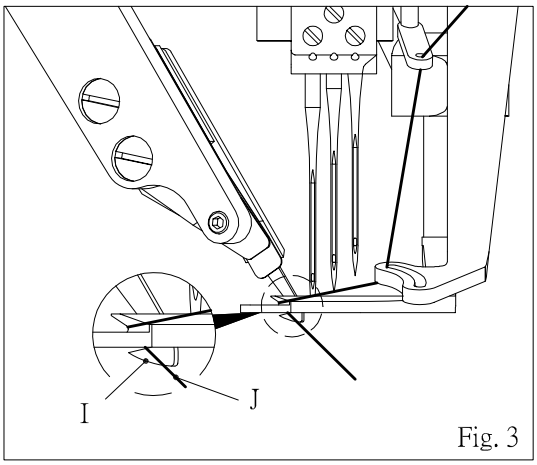


Fig. 3

(4) 活動刀行進至下死點時，裝飾線也已滑入刀槽範圍，活動刀尖(L)與針板面(K)之間，一般約有 5.5~6.5mm 的間距，而此間距可由螺絲(E)做調整。調整後必須檢視上述各步驟。（圖 1、4）

When movable knife moves to its lowest point, spreader thread fallen into the hook blade of movable knife, there should have the tolerance of 5.5~6.5mm between the tip L and needle plate surface K, and this tolerance can be adjusted by screw E and must go over all previous adjusting steps after such adjustment. (Please refer to figure 1 and 4.)

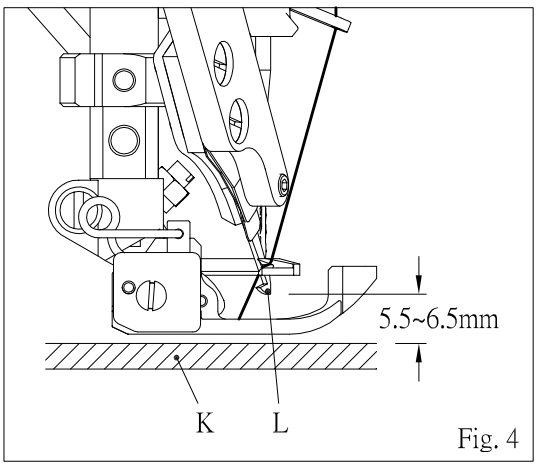


Fig. 4

7. 調整吹線裝置 Adjusting of air wiper

(1) 放鬆調整螺絲(B)，移動支架使吹氣管(F)在針後約 1mm 位置。

Loosen screw B, moves bracket in order to make blow tube F located 1mm behind the needles.

(2) 放鬆調整螺絲(E)，旋轉吹氣管(F)，調整吹氣角度與三針孔為同一斜度。

Loosen screw E, turn blow tube F and make sure the blowing angle is at the same angle as three needle holes.

(3) 放鬆調整螺絲(D)，調整吹氣管(F)與針留須有1.5mm 的間隙。

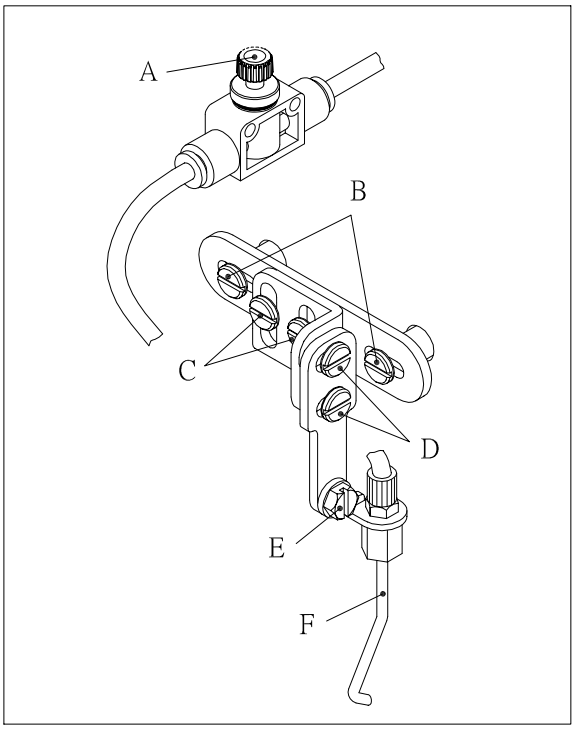
Loosen screw D, adjust blow tube F and make sure there have the tolerance of 1.5mm between blow tube and needle clamp.

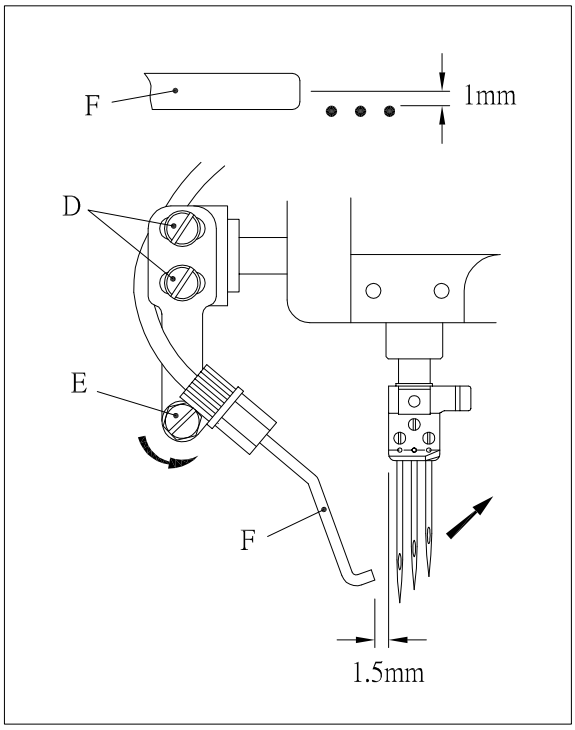
(4) 放鬆調整螺絲(C)，調整吹氣管(F)高低，使吹氣管的位置與三針孔為同一線上。

Loosen screw C, and adjust the height of blow tube F and make sure the blow tube should be positioned at the same slant line of 3 needle holes.

(5) 由調節旋鈕(A)調整吹氣量，要減少吹氣流量時，向順時針旋轉，要增加則向逆時針旋轉。

Air volume can be adjusted by turning knot A on speed controller, tuning clock-wise in order to reduce the air volume, turning counter-clock wise in order to increase the air volume.





8. 調整撥線裝置 Adjusting electrical wiper device

(1) 旋轉手輪使P刻線至車頭定位刻線，使針定位於上死點，以保調整時的正確性。（手輪圖形見第2頁）

Turn hand wheel and make sure the (P) set mark even with the set mark on the machine head in order to make sure the correct position for future adjustments. (Please refer to figure on the first page 2.)

(2) 調整抓線鉤(H)上死點位置，首先放鬆螺絲(A)，以手擺動驅動臂(B)，使連桿(G)與支架(F)成水平，或依實際需求調整，過程中限動塊(C)須配合定位，最後鎖緊螺絲(A)，調整後連桿(G)與支架邊緣(E)需留有間隙，針留(D)與抓線鉤(H)之間亦是，以避免產生碰撞。（圖 1）

Adjusting hook blade (H) to its uppest position, by loosening screw (A), set arm (G) parallel with solenoid support (F) by adjusting driving lever (B) and stop block (C), then, tighten screw (A), after such adjustments, please make sure there should have a tolerance between arm (G) and the edge (E) of solenoid support (F), also there should have a tolerance between needle clamp (D) and hook blade (H) in order to avoid any collision among the parts. (Please refer to figure 1.)

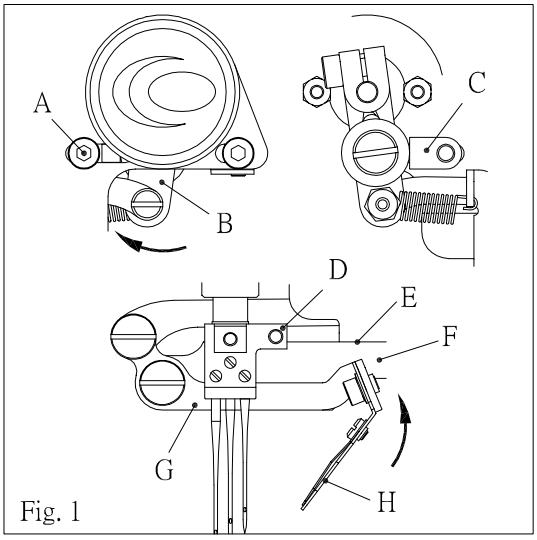


Fig. 1

(3) 調整抓線鉤(H)下死點位置，放鬆螺絲(K)、(I)，擺動驅動臂(B)使抓線鉤(H)與左針中心，左右需有3~5mm的間距，而限動塊(J)須配合定位，接著先後鎖緊螺絲(I)、(K)即可。（圖 2）

Adjusting hook blade (H) lowest position, by loosening screw (K) and (I), setting hook blade (H) passed over 3~5mm from the center of leftest needle, by moving driving lever (B) and stop block (J), then, tighten screw (I) and (K). (Please refer to figure 2.)

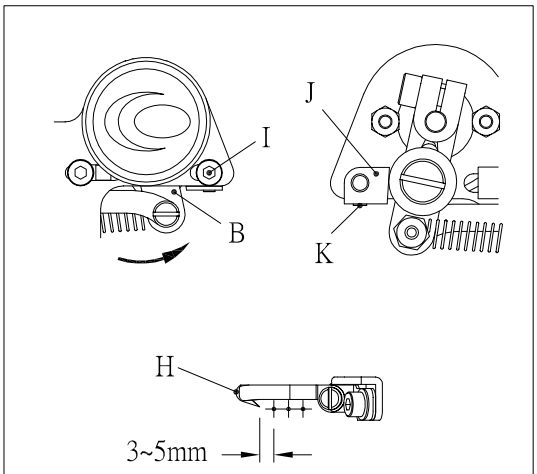


Fig. 2

(4) 當抓線鉤(H)至下死點，鉤尖行經左針(N)中心時，兩者上下間距，需有0.5mm，而間距可由螺絲(L)做調整，此外亦可以螺絲(M)作微調，完成後需再檢視第三和第五步驟。（圖 3）

There should have 0.5mm tolerance when hook blade (H) passing thru the center of leftest needle (N) to its lowest position, this tolerance can be obtained by adjusting screw (L) and also can be micro-adjusted by screw (M) and after finished the adjustments, need to double check step (3) and step (5). (Please refer to figure 3.)

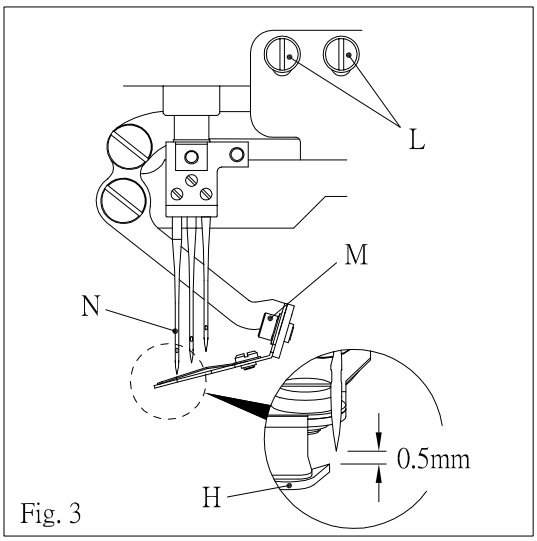


Fig. 3

(5) 當抓線鉤(H)至下死點，鉤尖行經左針(N)中心時，兩者前後需有0.5mm間距，而間距可由螺絲(M)做調整，完成後需再檢視第三和第四步驟。（圖 4）

There should have a tolerance of 0.5mm between hook blade (H) tip and center of leftest needle (N) by the time when hook blade (H) moving thru needles and reaching to its lowest position and the adjustment of such tolerance can be obtained by adjusting screw (M), after such adjustments, will need to double check step (3) and step (4) again.
(Please refer to figure 4.)

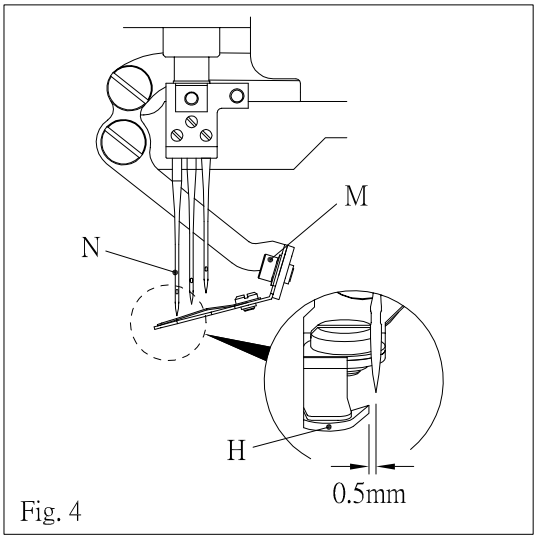


Fig. 4

(6) 調整回復彈簧(O)，使抓線鉤(H)能順利退至上死點，可依現況以螺絲(P)做調整，移動支架(Q)，朝向長孔左側移動拉回力量較大，朝向右側移動則反之，一般置於最右側即可。（圖 5）

Adjust spring (O) in order to let hook blade (H) can be retreated to its uppest position, please loosen screw (P), move bracket (Q) to the left or right if moves to the left side of long hole, then it will increase the pulling force vice versa, if move to the right side of long hole, usually, bracket (Q) will be set at right side of the long hole.
(Please refer to figure 5.)

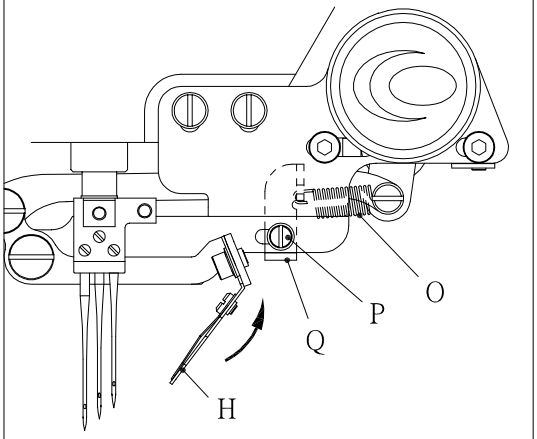
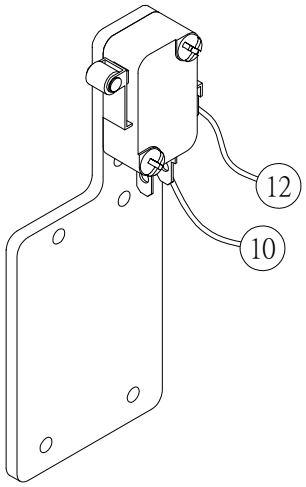
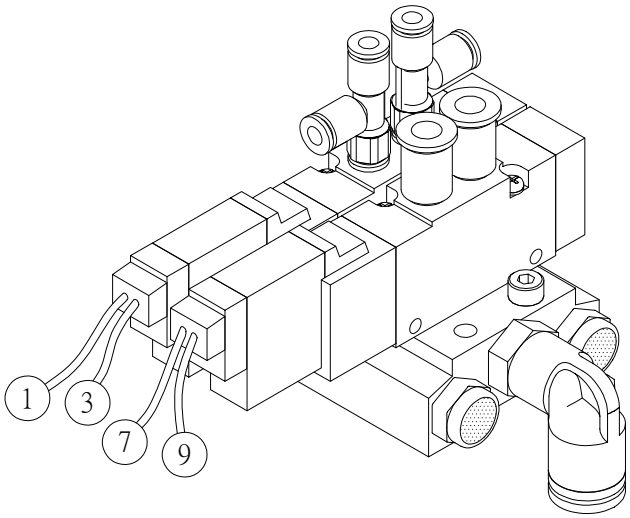


Fig. 5

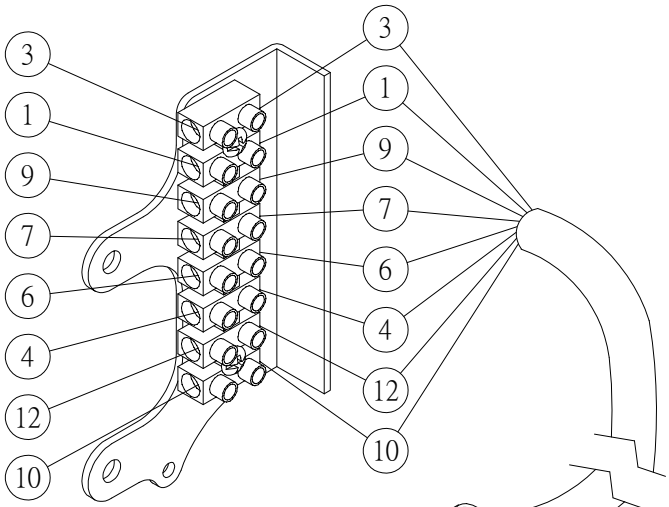
9. 換向閥配線圖 Wiring of electromagnetic valve

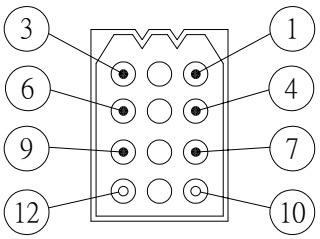
9-1. UTB02 / UTB04 / UTB03 / UTB05 氣動式 Pneumatic Type

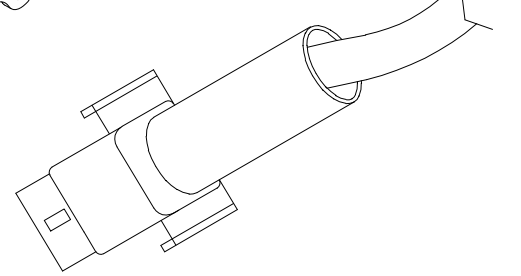




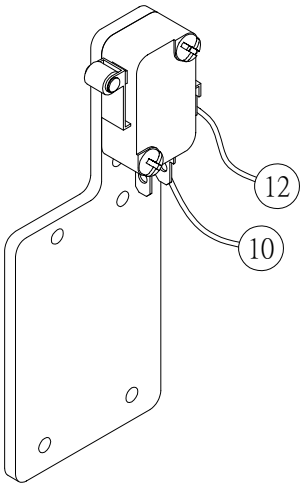
SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.

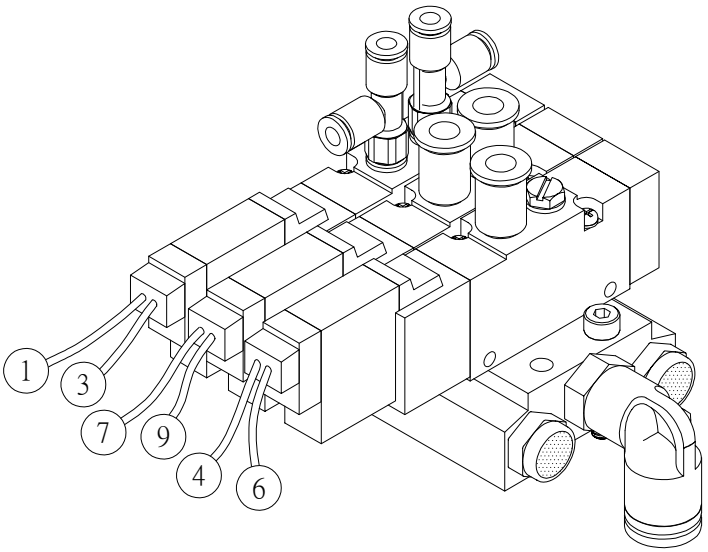




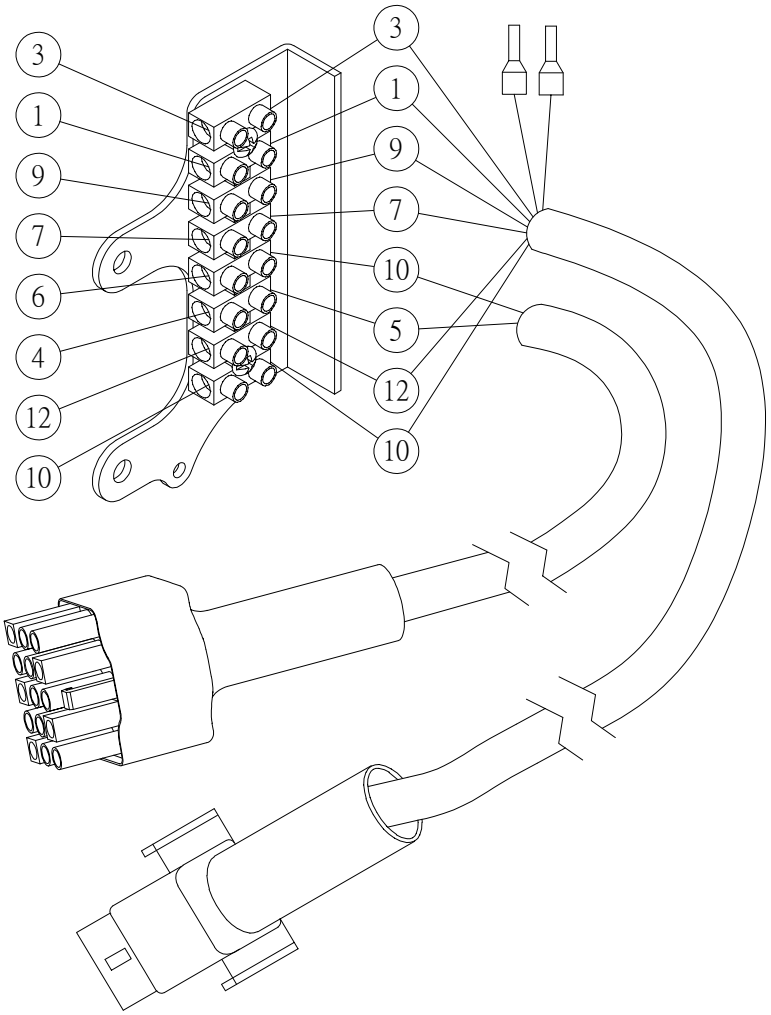


9-2. UTG02 / UTG03 氣動式 Pneumatic Type For UTG02 / UTG03

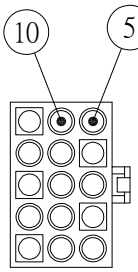


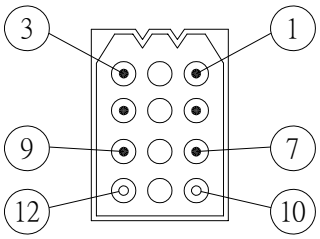


SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.

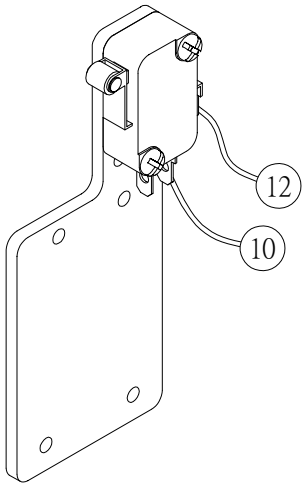


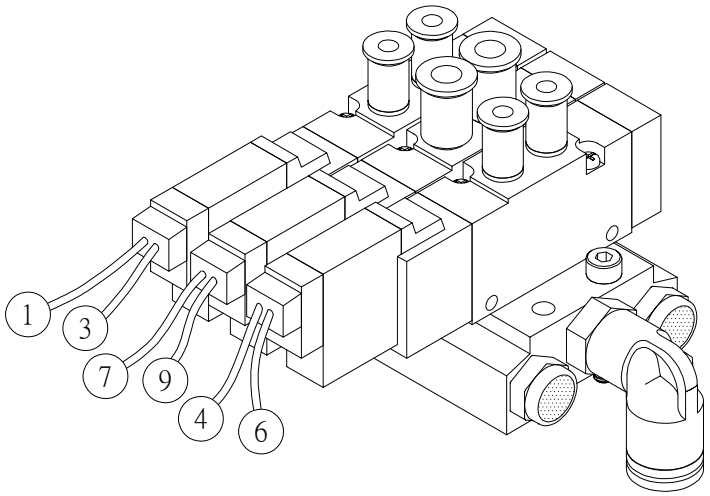
OPTION 15P	
5	NCL SOL.
10	+24V



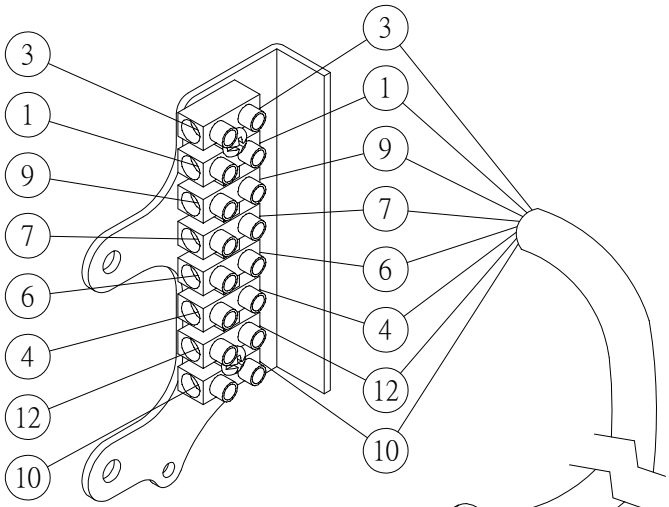


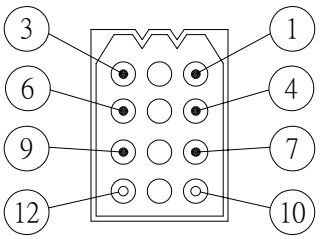
9-3. UTH02 / UTH03 氣動式 Pneumatic Type For UTH02 / UTH03

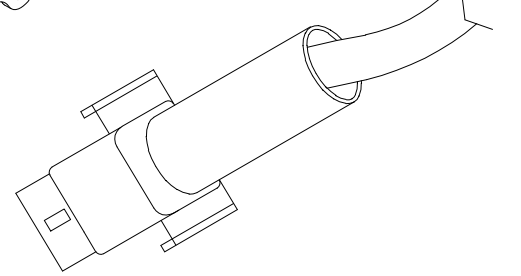




SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.

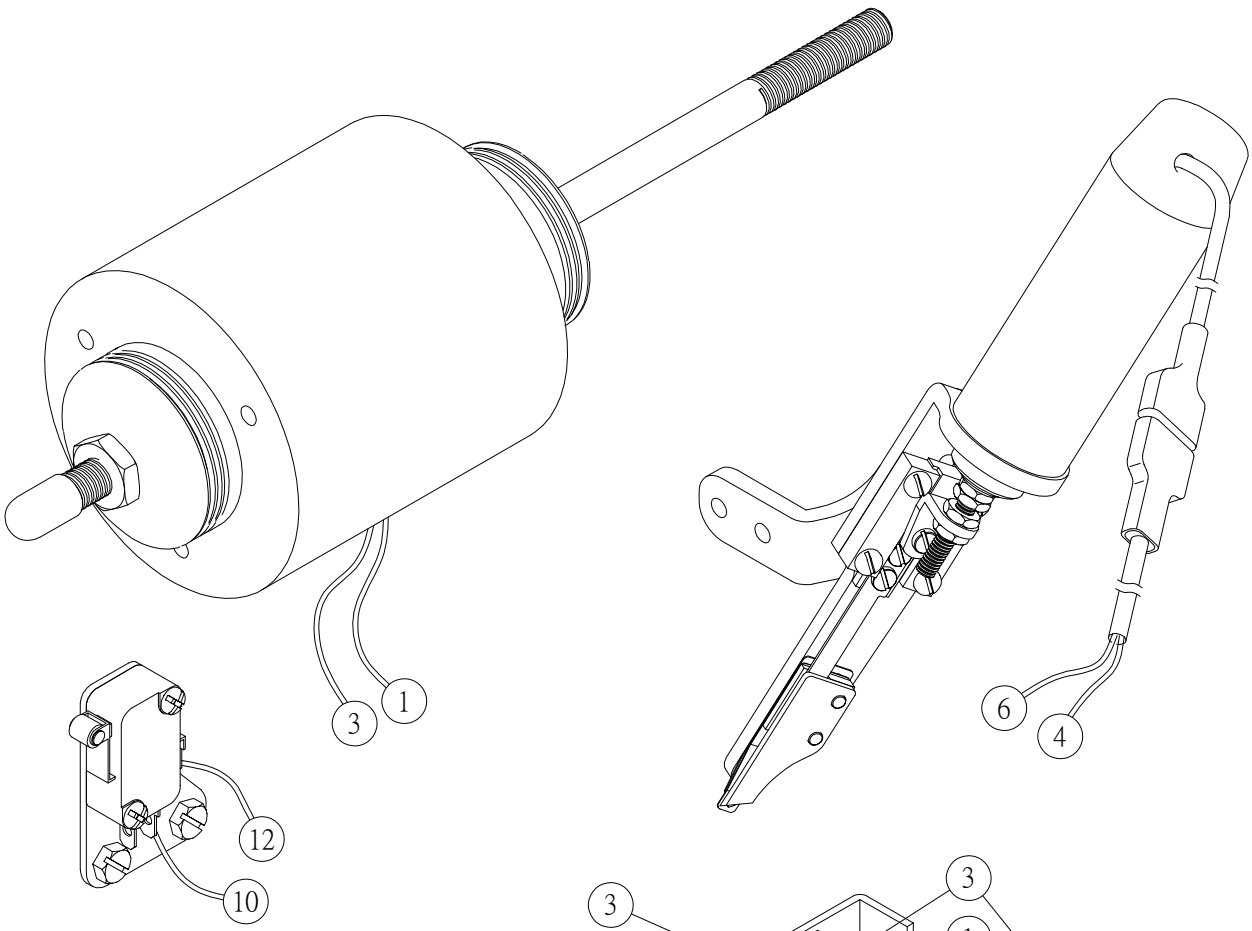


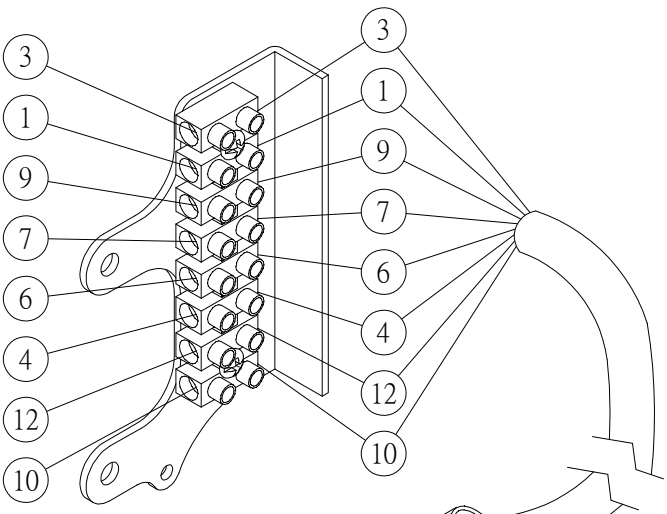




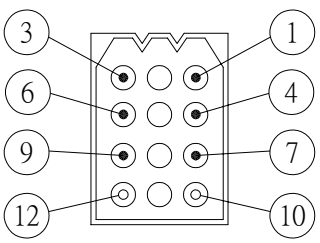
10. 磁力線圈配線圖 Wiring of solenoids

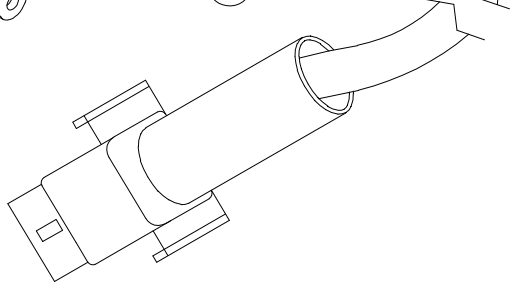
10-1. UCE-B1 (UTC03 / STC03 電動式 UTC03 / STC03 For electrical type)



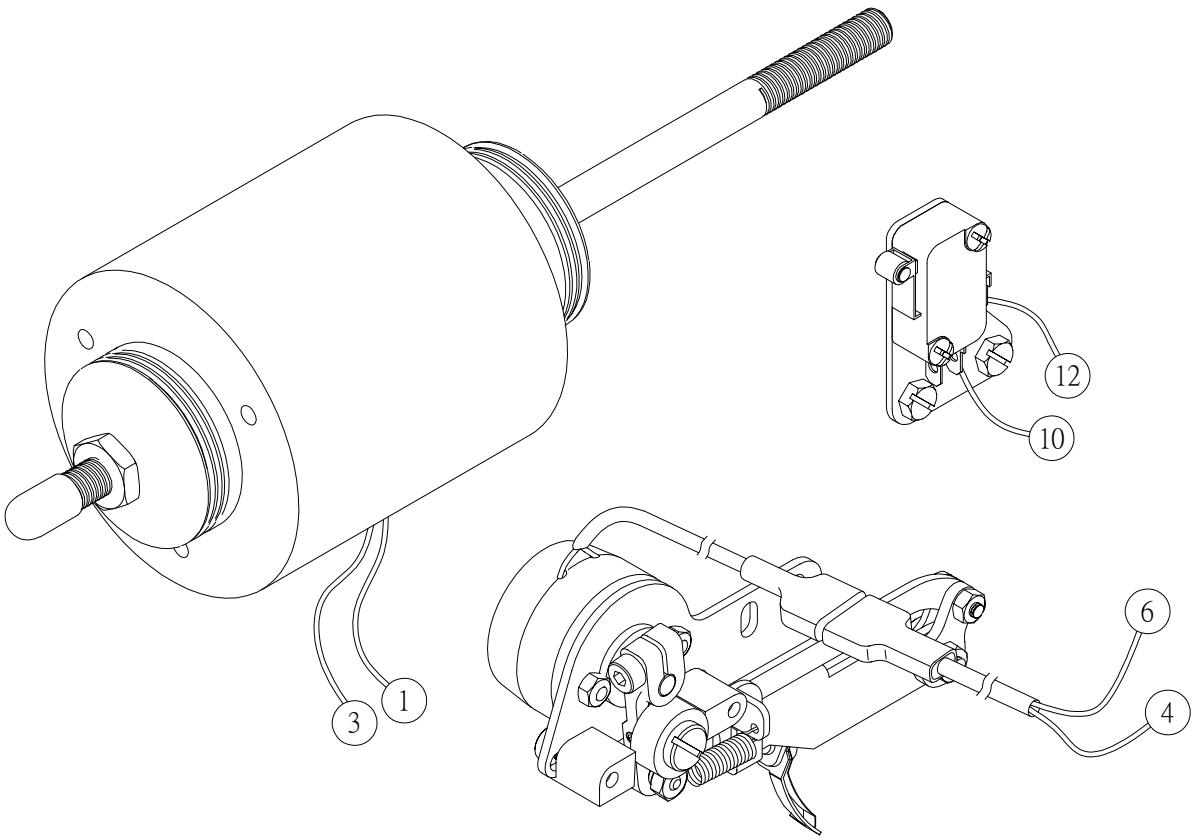


SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.

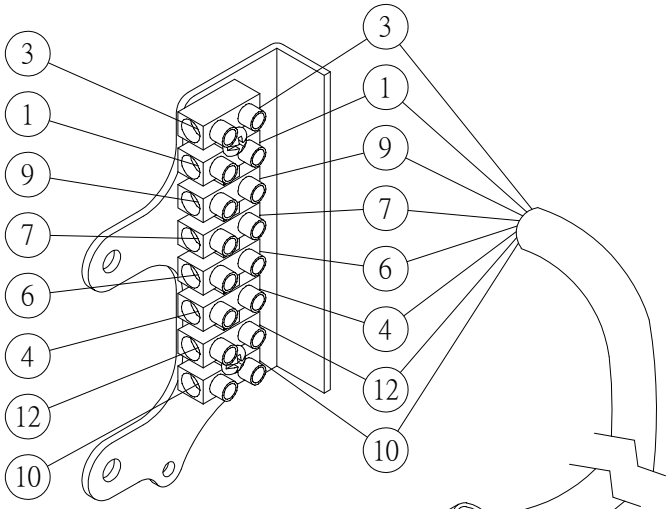


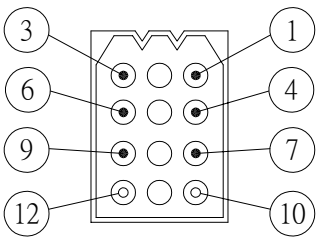


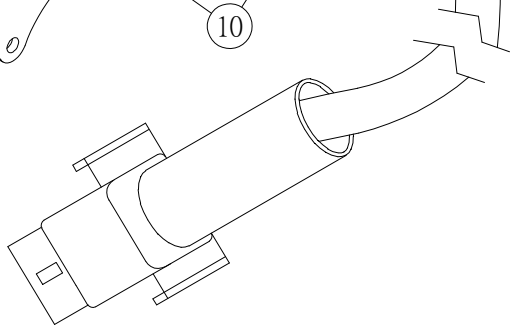
10-2. UCE-B2 (UTC03 / WPG01 電動式 UTC03 / WPG01 For electrical type)



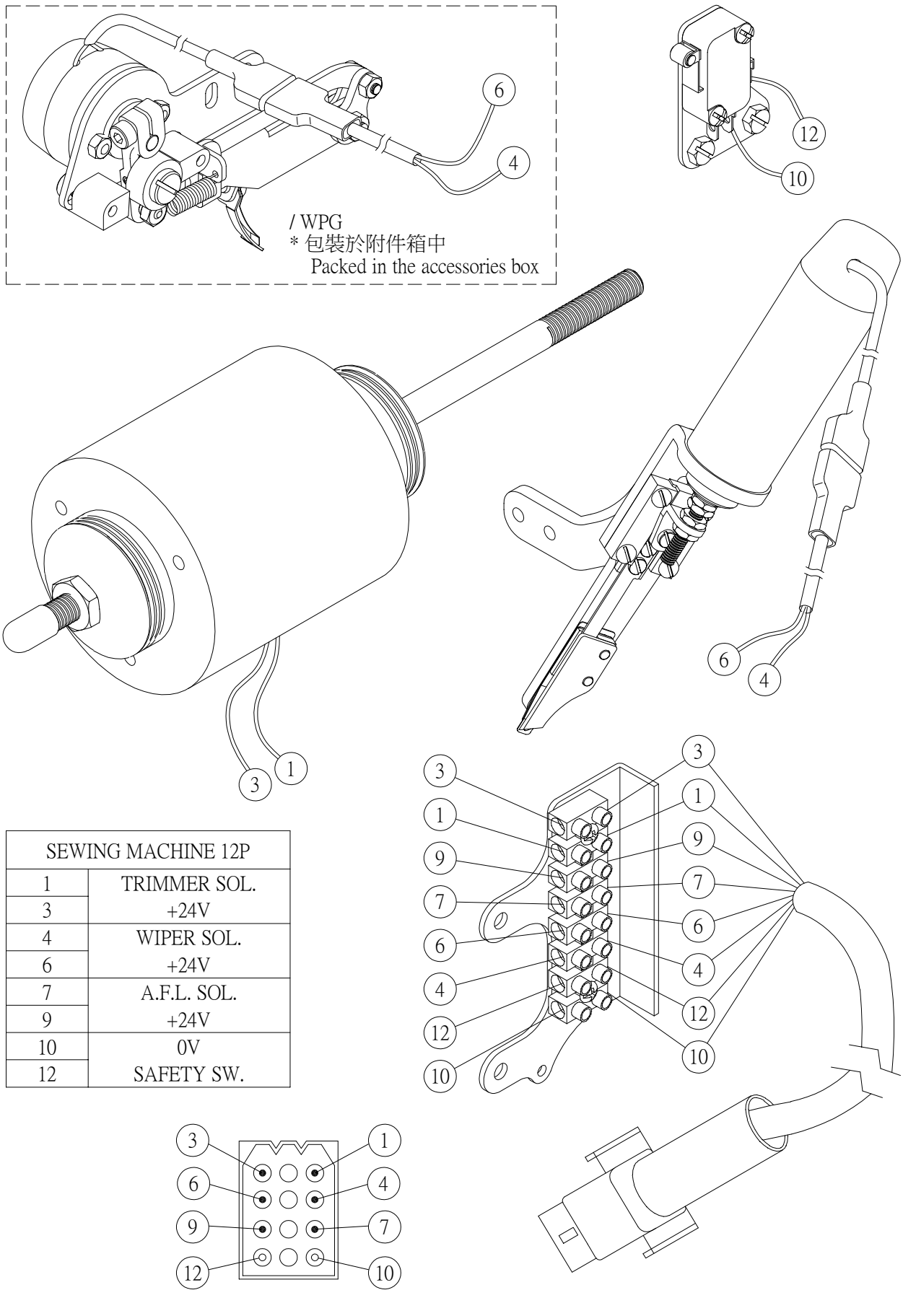
SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.





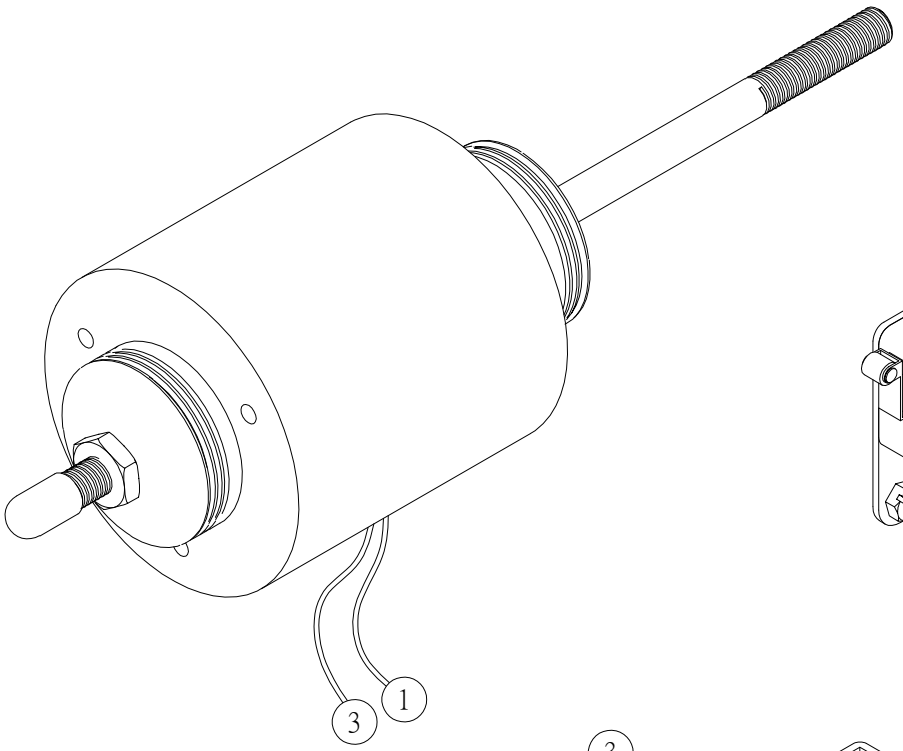


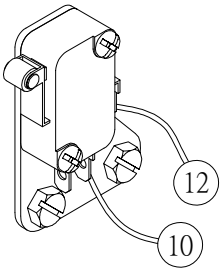
10-3. UCE-B3 (UTC03 / STC03 / WPG01 電動式 UTC03 / STC03 / WPG01 For electrical type)



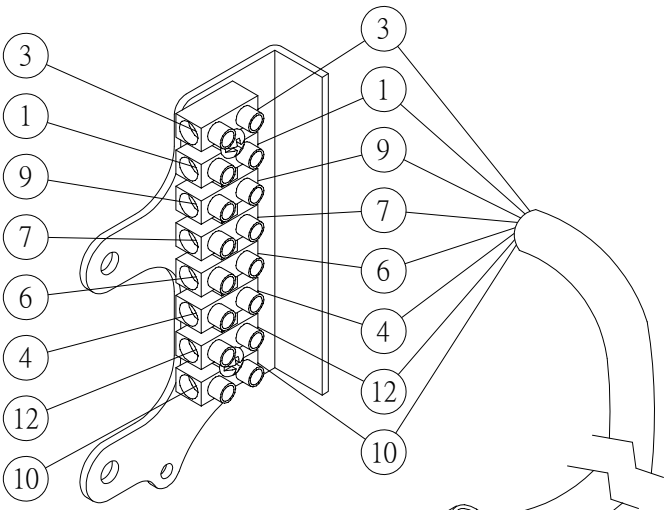
SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.

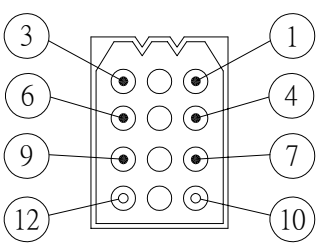
10-4. UCE-B4 (UTC03 電動式 UTC03 For electrical type)

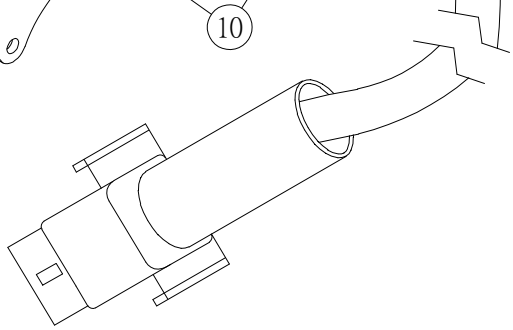




SEWING MACHINE 12P	
1	TRIMMER SOL.
3	+24V
4	WIPER SOL.
6	+24V
7	A.F.L. SOL.
9	+24V
10	0V
12	SAFETY SW.

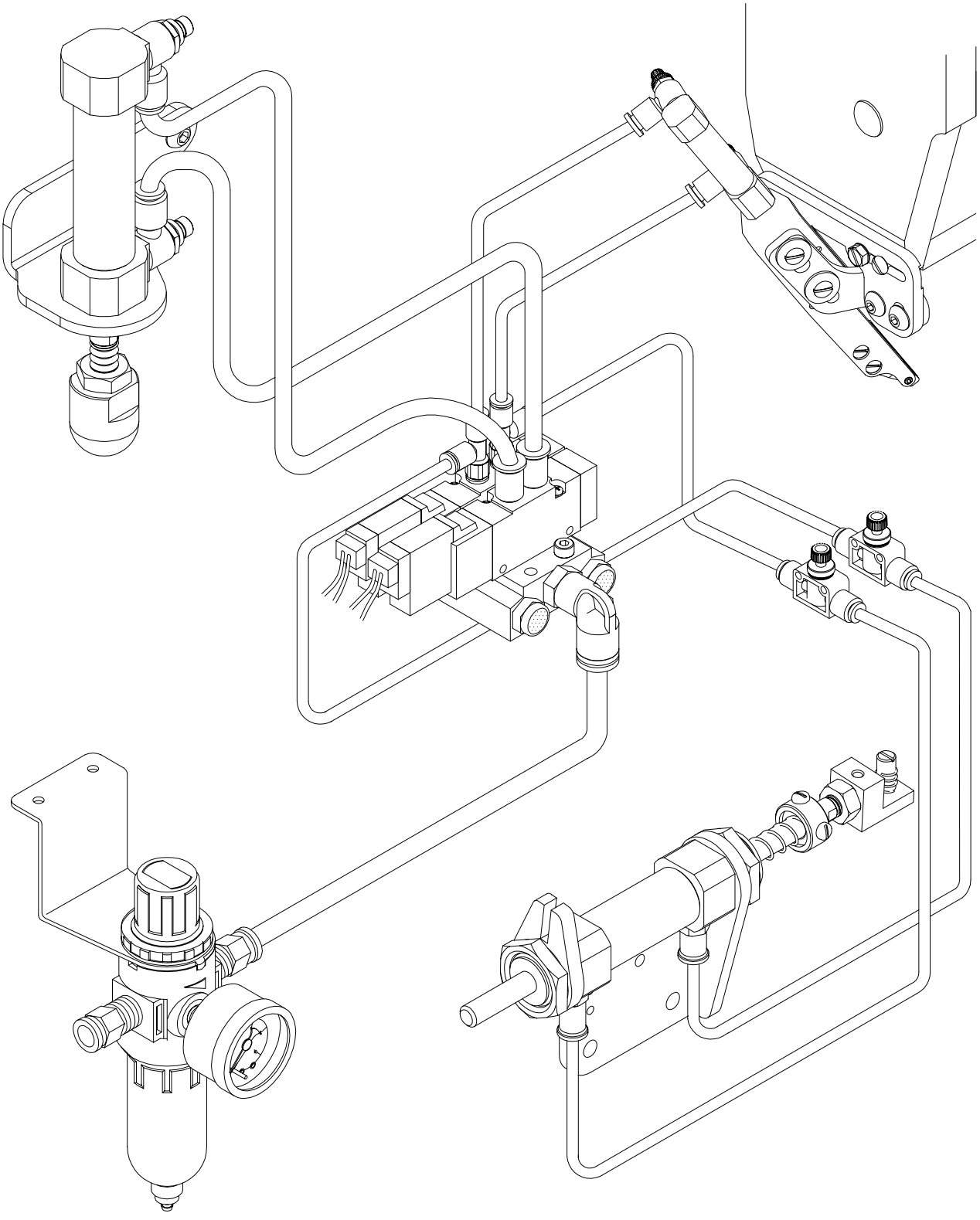




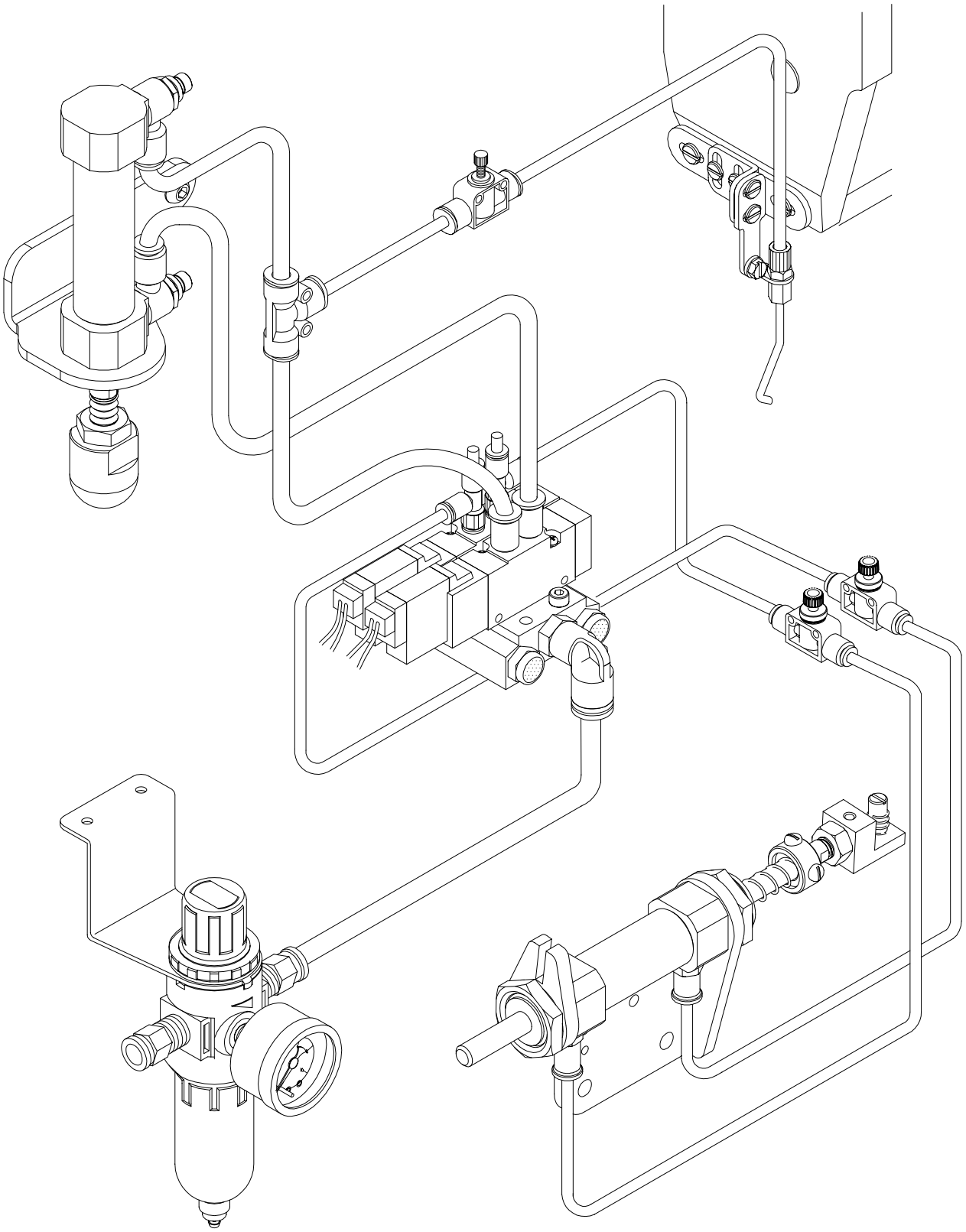


11. 空壓管配線圖 Pneumatic type compressed air pipe installation diagram

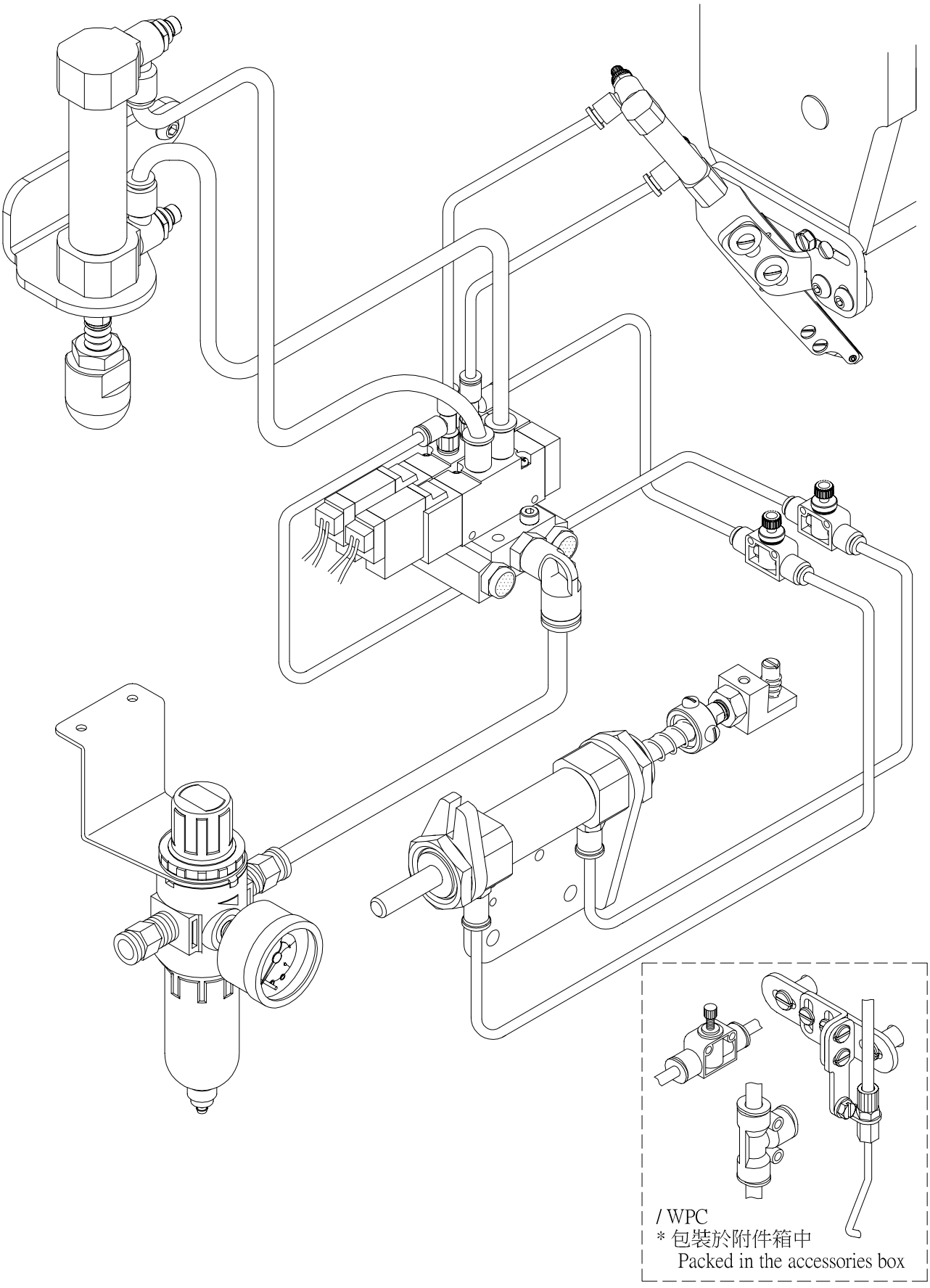
11-1. UCP-B1 (UTB03 / STB03 裝置 Device) / UCP-BA(UTB05 / STB03 裝置 Device)



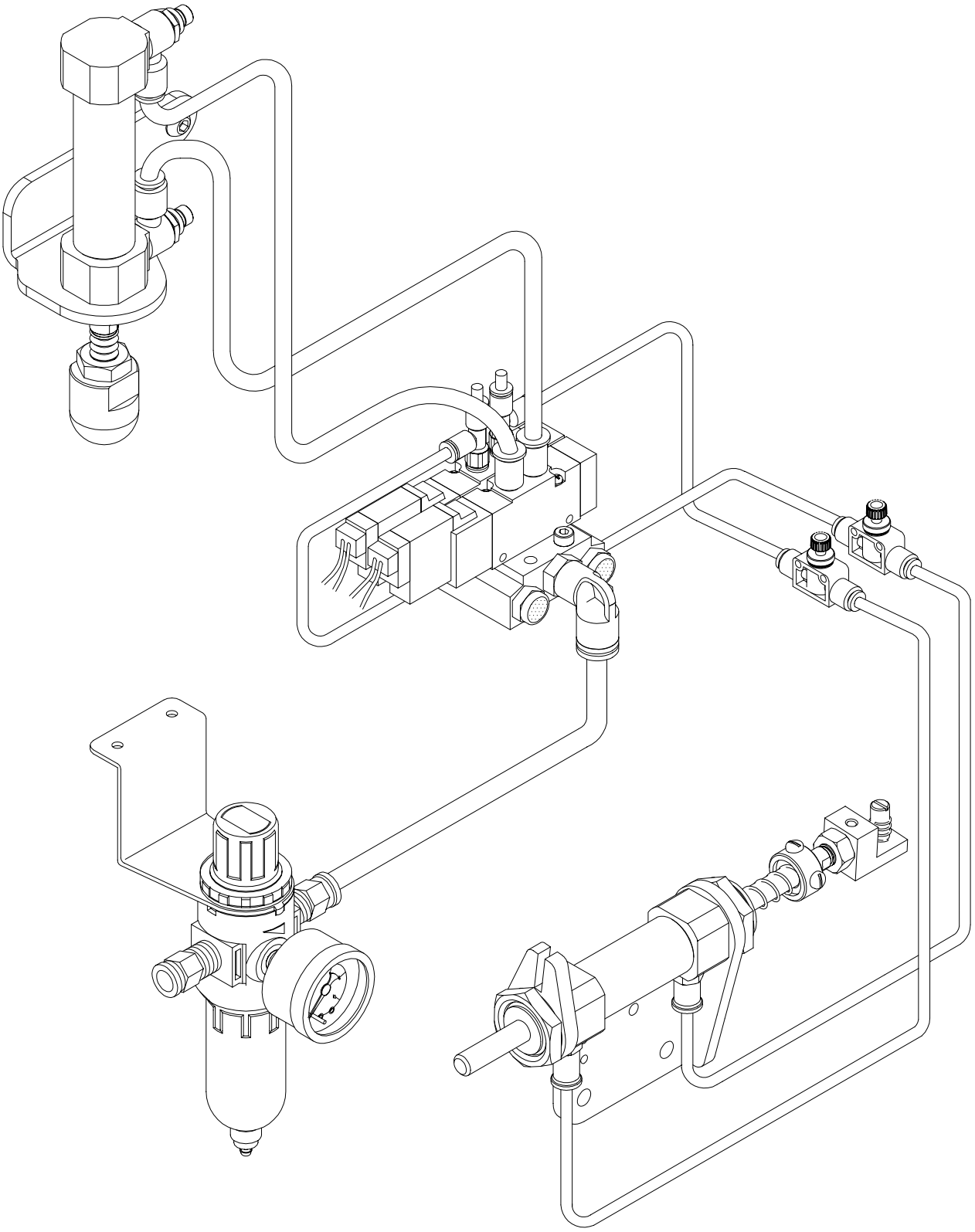
11-2. UCP-B2 (UTB03 / WPC02 裝置 UTB03 / WPC02 Device)



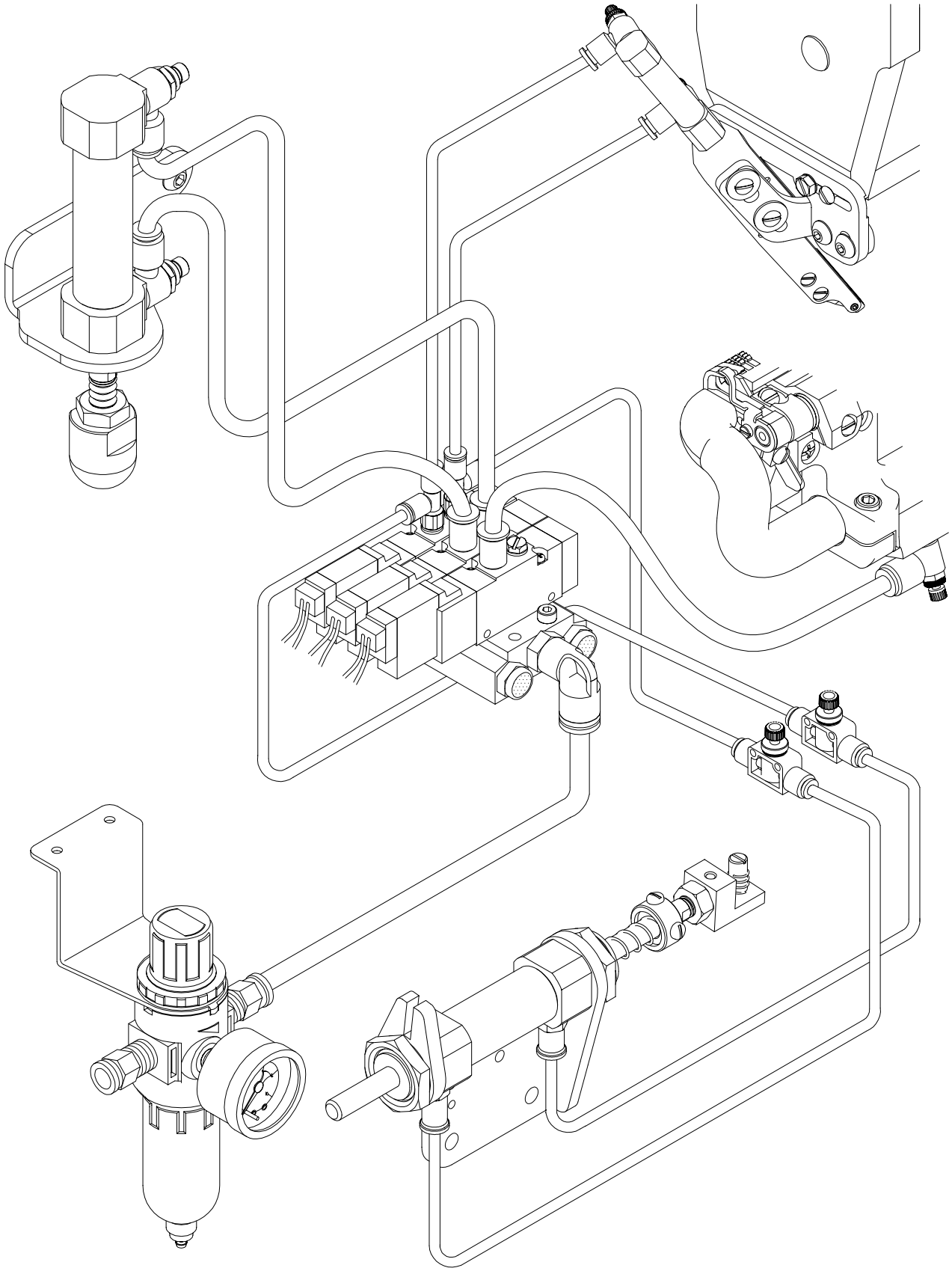
11-3. UCP-B3 (UTB03 / STB03 / WPC02 裝置 UTB03 / STB03 / WPC02 Device)



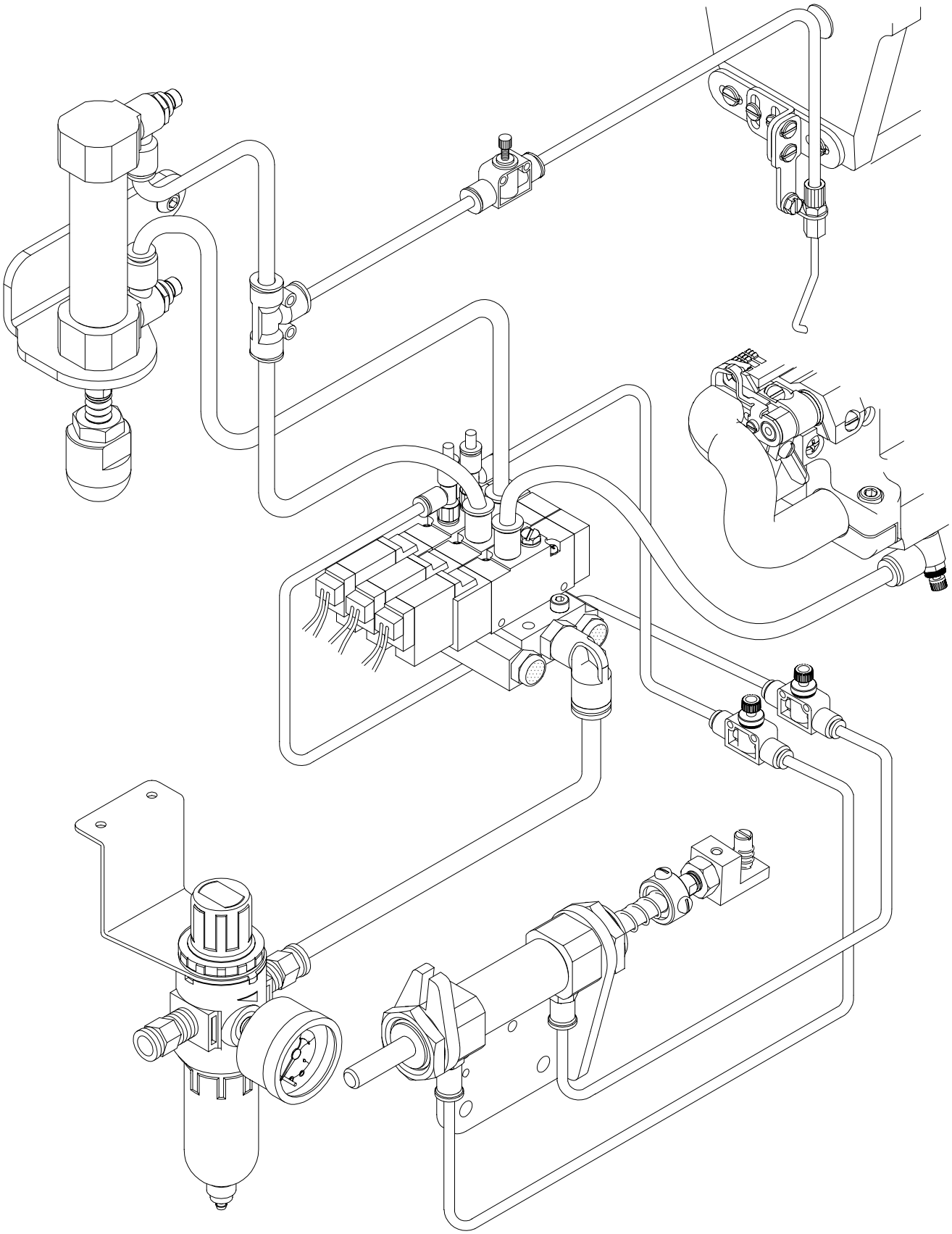
11-4. UCP-B4 (UTB03 裝置 UTB03 Device)



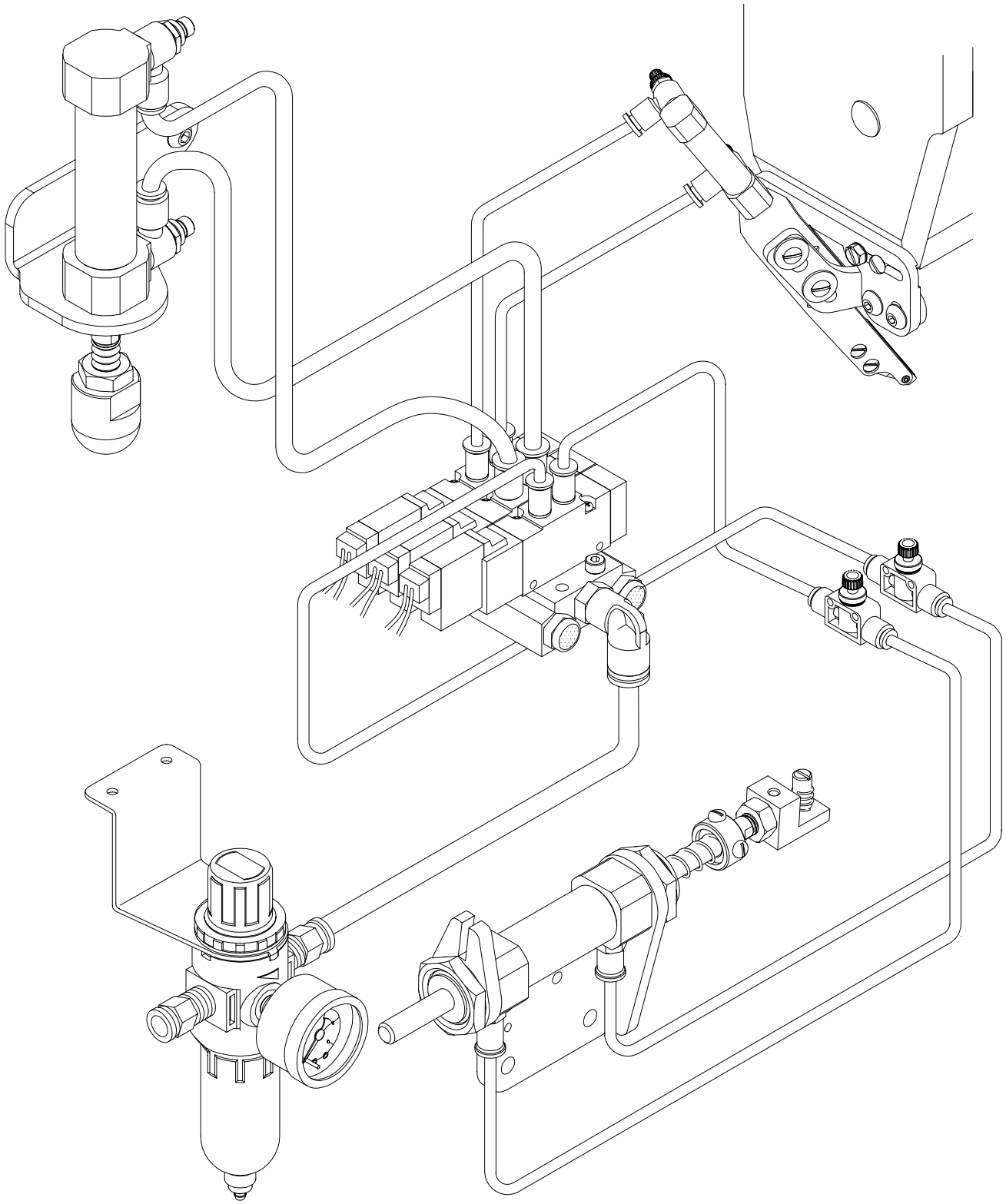
11-5. UCP-B5 (UTG03 / STB03 裝置 UTG03 / STB03 Device)



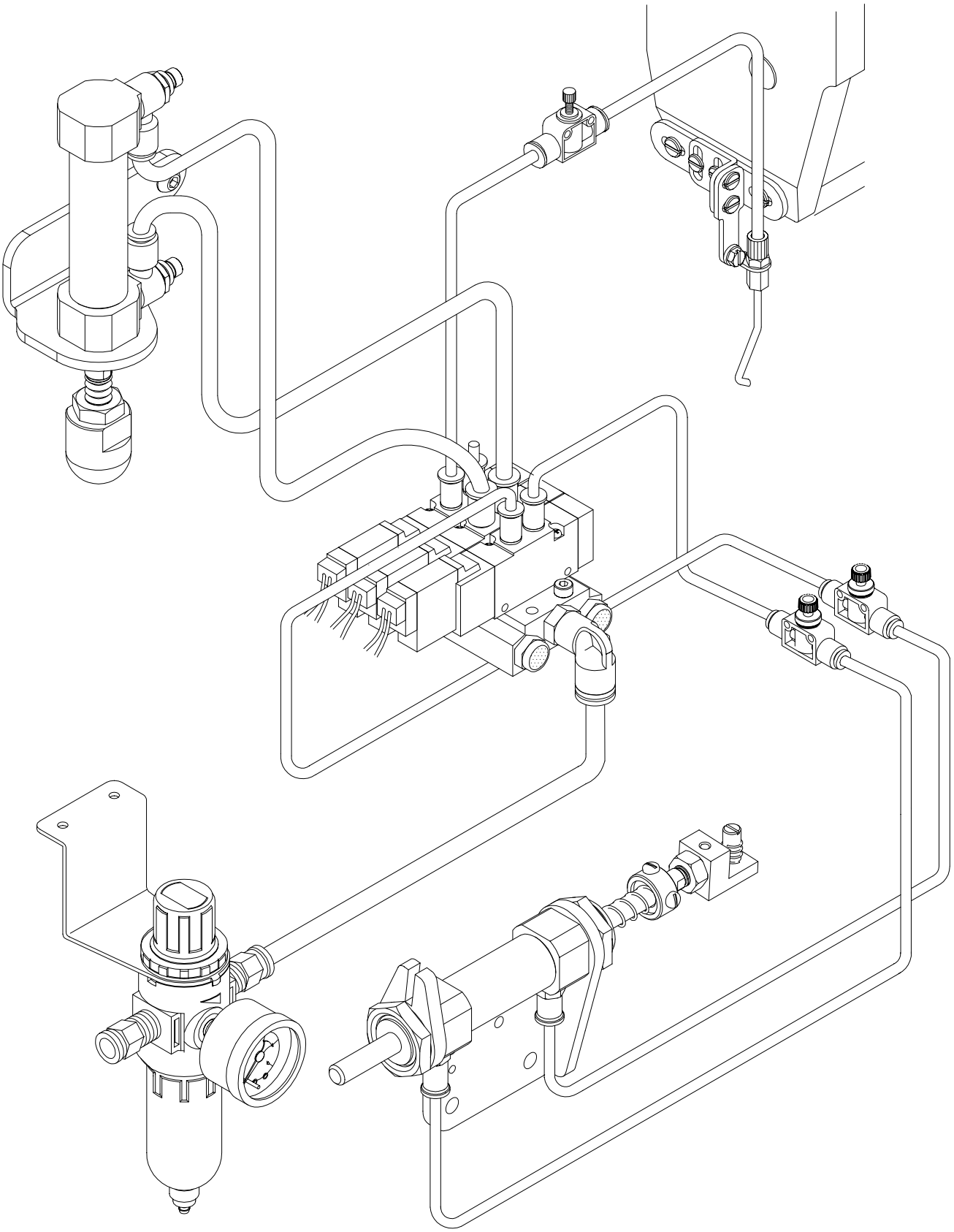
11-6. UCP-B6 (UTG03 / WPC02 裝置 UTG03 / WPC02 Device)



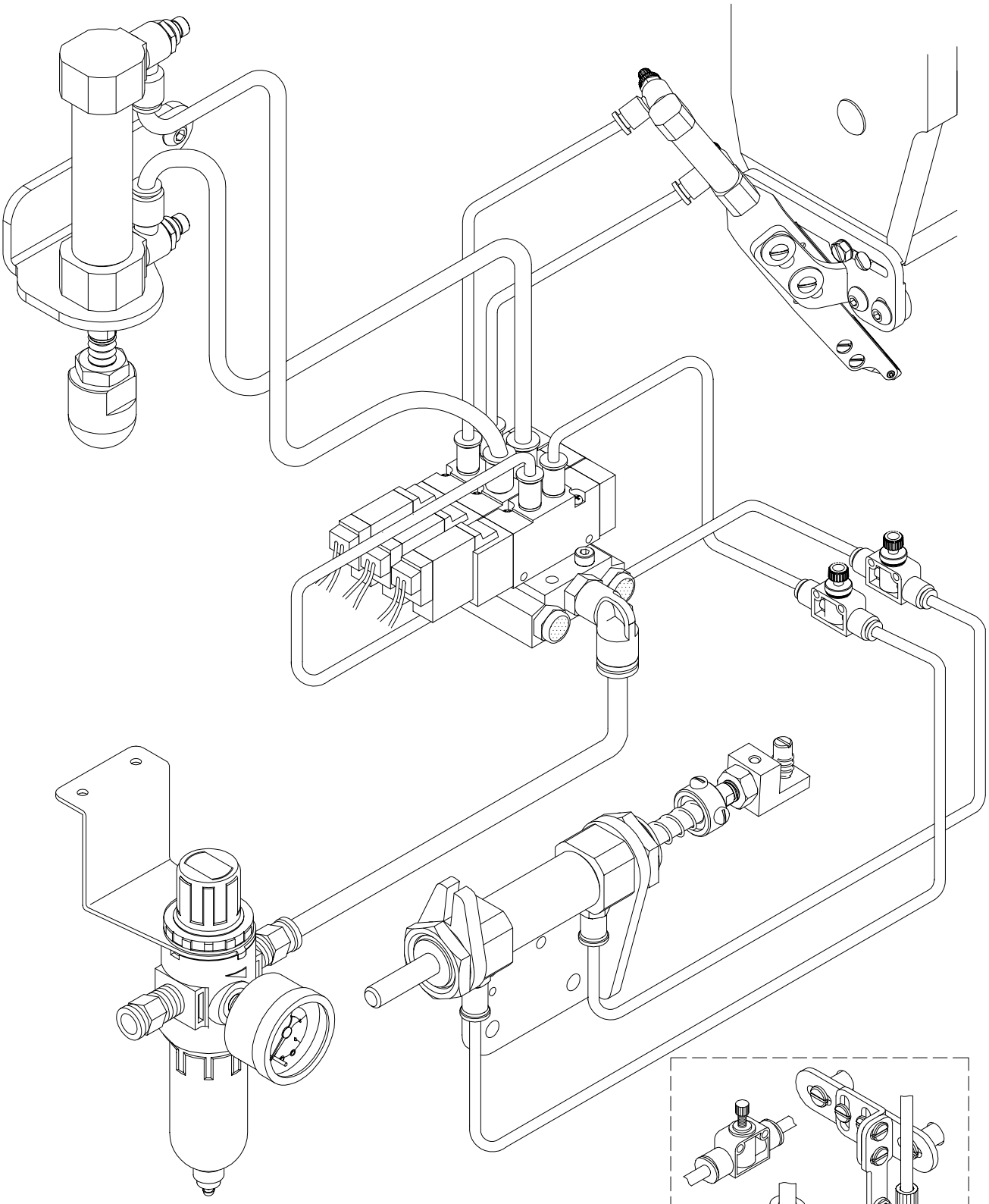
11-7. UCP-B7 (UTH03 / STB03 裝置 UTH03 / STB03 Device)



11-8. UCP-B8 (UTH03 / WPC02 裝置 UTH03 / WPC02 Device)



11-9. UCP-B9 (UTH03 / STB03 / WPC02 裝置 UTH03 / STB03 WPC02 Device)



/ WPC02
* 包裝於附件箱中
Packed in the accessories box

重要的安全性指示 Important safety instruction

1. 運輸 Transportation

(1) 機器出廠時，是以上下兩塊保麗龍包裝。
The machine packed with two pieces of cover that made of expanded polystyrene.

(2) 將機器及其保護之保麗龍放入外銷紙箱內。
Put the machine into a export carton.

(3) 請使用推車或兩個人搬運此台機器。
Use a cart or by two men's hands to move it.

2. 儲存 Storage

(1) 當機器沒有在使用時，請用防塵套罩住。
The machine must use dustcover to cover it when it does not work.

(2) 請勿將機器儲存在室溫超過45℃的房間。
Avoid to storage the machine in the room temperature more than 45℃.

3. 工作時 Working

當室溫超過40℃時，機器有可能無法正常運作。
The machine doesn't work properly when temperature over 40℃.

4. 警語 Warning

煩請特別注意下列警告 Pay attention to these warning advices as follow：

A. 工作區域是有危險性的。
Working area is dangerous.

B. 當機器在運轉操作時，絕對不可碰觸針。
Never touch the needle when the machine is still running.

C. 當你在操作機器送布時，請特別小心。
Be careful when you feed the fabric.

D. 當機器在運轉操作時，請勿將手放置針和拖輪之間。
Do not insert your finger between needle and puller during sewing operation.

5. 請特別注意警告標籤 Pay attention to the warning sticker

A. 當你在操作使用這機器時，任何活動件均需遮蓋擋住。
Movable parts must be covered with guard when you operate.

B. 當在調整、穿線、更換梭子以及清潔機器時，請務必先關閉電源，並拔掉插頭。
Pull out the plug from socket first when you adjusting , threading , changing bobbin or cleaning.