

# SIRUBA

ORIGINAL

使用說明書與零件圖

INSTRUCTIONS BOOK & PARTS LIST

■ ASP-PTA101



## A WARM REMINDER

please register your Siruba machine online or through Siruba App at once, as to gain the full warranty protection. You may also acquire more useful information through Siruba APP.



## GENERAL SAFETY INSTRUCTION

For the sewing machine, automatic mechanic system, and auxiliary devices (hereinafter referred as “machine” ), it is inevitable to conduct work near moving parts of the machine. This means that there is always a potential risk from the moving parts. Operators actually operating the machine and service technicians performing maintenance and repair are strongly advised to read and understand fully the following instructions in advance.

The safety instructions include items which are not listed in the specifications of your product. It is the manager/supervisor’s responsibility to have their fellow workers fully understand before operation.

Fail to follow the instructions may cause damage to properties, severe injury or even death.

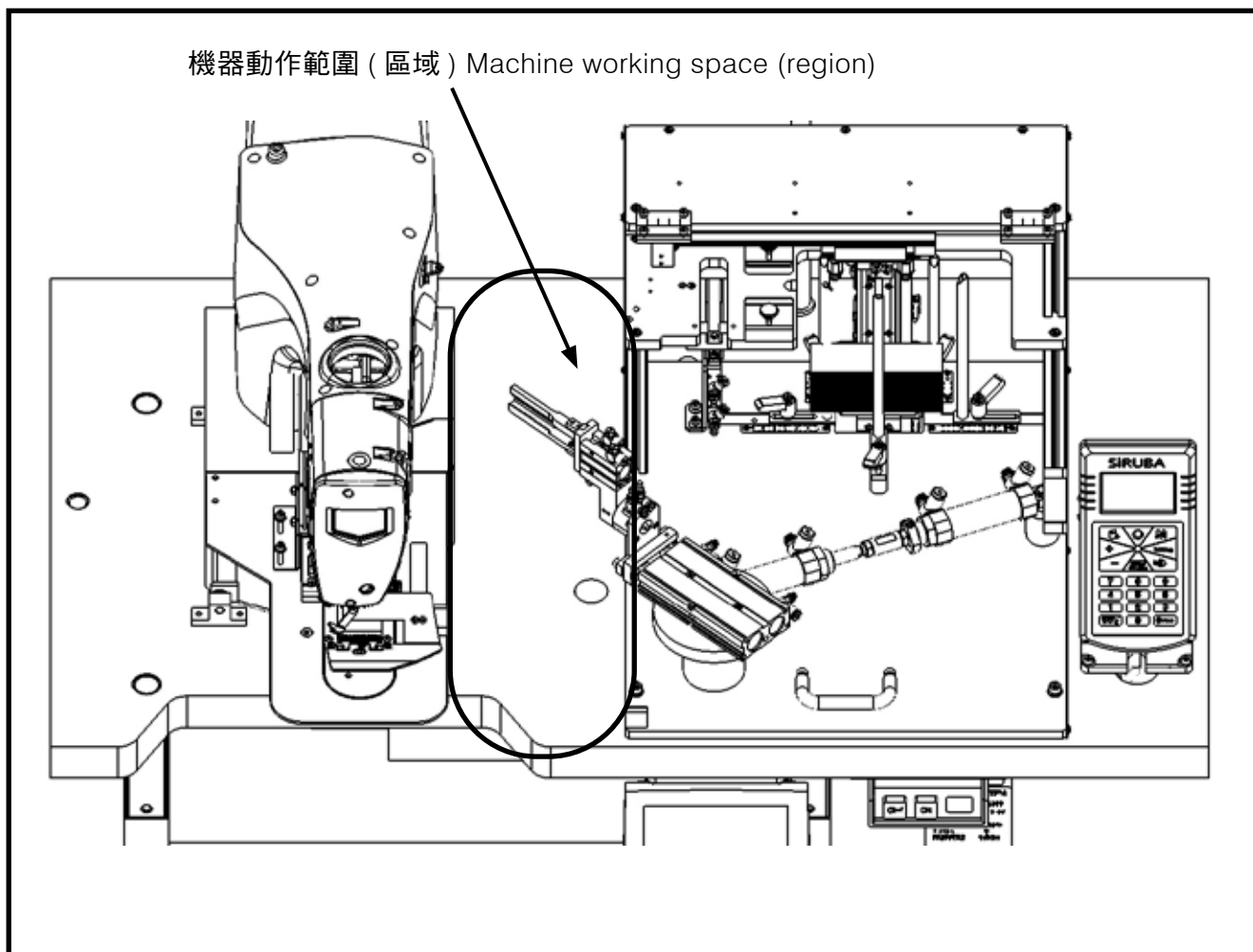
Explanation of warning indications and labels.

	<p>HIGH VOLTAGE DANGER</p> <p>Do not open the power cabinet within 10 minutes after the power off.</p>		<p>Machine moving area!</p> <p>Stay away and keep clear to avoid injury.</p>
	<p>High speed moving area!</p> <p>Stay away and keep clear to avoid injury.</p>		

WARNING LABELS	WARNING LABELS
<p>A risk of cut and injury from moving parts. Stay away and keep clear.</p>	<p>Be aware that holding the sewing machine during operation can hurt your hands.</p>
<p>A risk of electric shock. Stay away and keep clear.</p>	<p>There is a risk of entanglement in the belt resulting in injury.</p>
<p>A risk of burn from the high temperature area. Stay away and keep clear.</p>	<p>There is a risk of injury if you touch the button carrier.</p>
<p>Avoid direct eye contact with the laser beam or other light source.</p>	<p>GENERAL SAFETY INDICATIONS</p> <p>The correct direction is indicated.</p>
<p>A risk of injury to head from upper contact. Apply proper protection (helmet) and keep clear.</p>	<p>Grounding connection as indicated.</p>

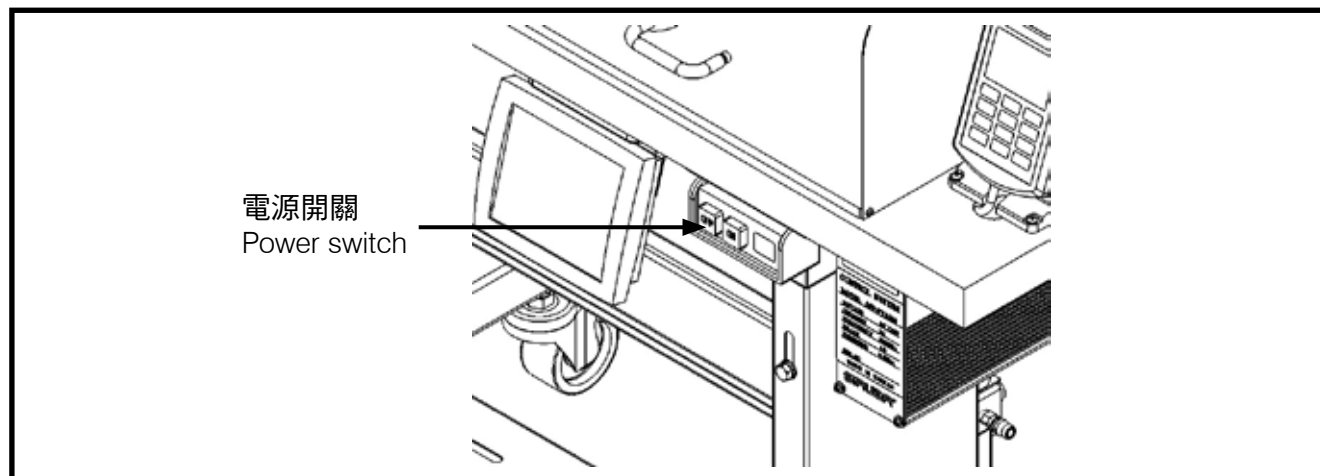
## 安全注意事項

## SAFETY PRECAUTION



1. 機器在運轉與開關機時，請勿進入該區域內。
2. 為了保修，檢修卸掉罩蓋時，必須將電源切到 OFF。

1. When machine is in process, do not enter working space.
2. When in maintenance, make sure turn off the power before inspecting and removing the cover.



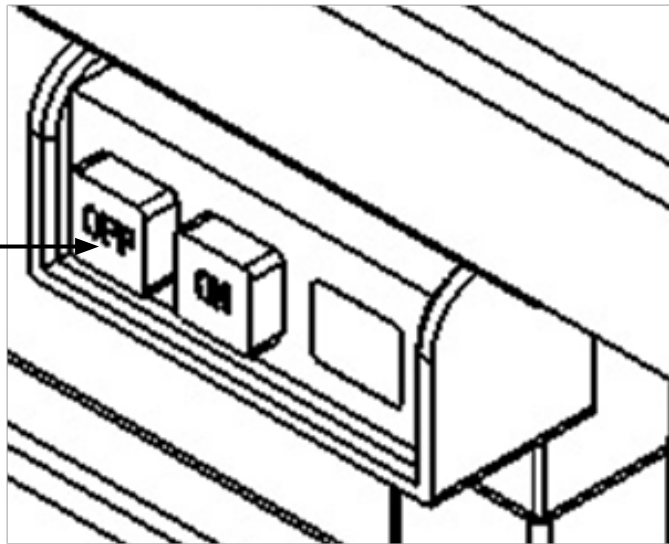
3. 在有危及人體的高壓電處，貼有觸電危險警告標記。在貼有本警告的電器控制部位而需要保修、檢修時，打開罩蓋僅能由專業的電氣技術人員進行。

3. In working place with high voltage power, there is warning sign. When maintaining machine control part with this warning, open the cover and only process by professional electrical engineer.

4. 機器運轉時，有必要馬上停止機器的時候，可以按下緊急停止開關。

4. When we need to stop machine in process, we can press emergent stop button.

緊急停止開關  
(電源 OFF)  
Emergent stop button  
(power OFF)



5. 電源線、氣壓管線需確實固定安置，不可散落在地面，以免人員絆倒而發生危險。
6. 為了生命安全，在任何情況下，不可將電源地線拔掉運轉機器。
7. 打雷時，為了安全要停止作業，切斷電源。
8. 離開機器工作地點時或工作結束後一定要將電源開關轉到 OFF。
9. 機器運轉下，不可卸下罩蓋類。

5. Settle down power line and air line certainly. Tools should not spread on the floor or stumble workers in danger.
6. For the safety of life, do not disconnect ground wire in any situation when processing machine.
7. When in thunder, cut off power to stop the process for safety.
8. Must turn OFF the power when leaving working place or finishing working.
9. When processing machine, do not remove the cover.

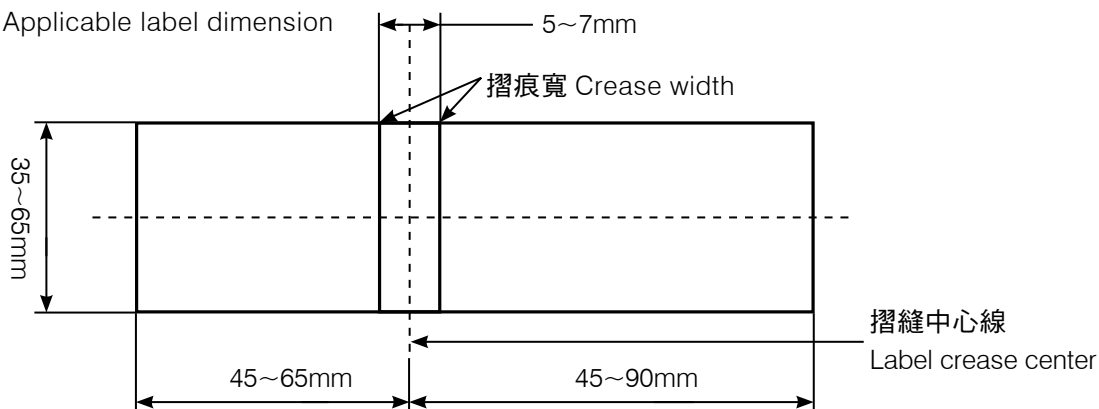
索引	INDEX	頁 /PAGE
規格	SPECIFICATIONS	1
安裝	INSTALLATION	2
運轉準備	OPERATION PREPARATION	3
操作面板與啟動開關	OPERATION SWITCH	4
車頭參數設定	MACHINE HEAD CONFIGURATION SETTING	5
紙卡安裝與對位	LABEL INSTALLATION AND ALIGNMENT	6
車縫花樣	SEWING PATTERN	11
規格切換調整	SPECIFICATION SWITCHING ADJUSTMENT	13
錯誤代碼	ERROR CODE	14
異常排除	TROUBLE SHOOTING	15
動作模式	MODE SELECT	23
按鍵說明	BUTTON INSTRUCTIONS	26
操作說明	OPERATION INSTRUCTION	27
參數說明	PARAMETER INSTRUCTION	30
故障排除	TROUBLE SHOOTING	34
控制板 (一)	CONTROL BOARD (I)	35
控制板 (二)	CONTROL BOARD (II)	36
I/O 板	I/O BOARD	37
出現錯誤代碼 E01 : 通訊故障	ERROR CODE E01: COMMUNICATION ERROR	39
簡易維修流程圖	SIMPLE MAINTENANCE	39
零件圖	PART LIST	41
氣壓流程圖	AIR PRESSURE DIAGRAM	55
氣壓裝配圖	AIR PRESSURE ASSEMBLY DIAGRAM	56
路線總圖	CIRCUIT DIAGRAM	57

## 規格

## SPECIFICATIONS

型號 Model	ASP-PTA101
搭配縫紉機機頭 Collocation Machine Head	平縫（高速電子套結機）lockstitch (high speed electrical bartacking machine)
車縫速度 Sewing speed	最高 Max 2000 SPM
使用針型 Needle Type	DP×17 #11
紙卡單邊長 Label Length	Lift 45~65mm, Right 45~90mm
紙卡寬度 Label Width	35~65mm
摺痕寬度 Crease Width	5~7mm
紙卡厚度 Label Thickness	0.4~0.6mm

適用紙卡規格 Applicable label dimension



氣體消耗量 Air consumption

40L/min

氣壓 Air Pressure

0.5 Mpa

電源電壓 Voltage

單相 AC200~240V 50/60Hz  
Single Phase AC200~240V 50/60Hz

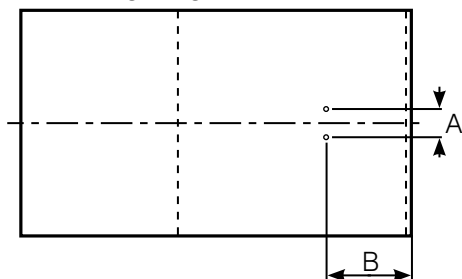
消費電力 Voltage consumption

660W (最大 Max)

機器尺寸 Dimensions

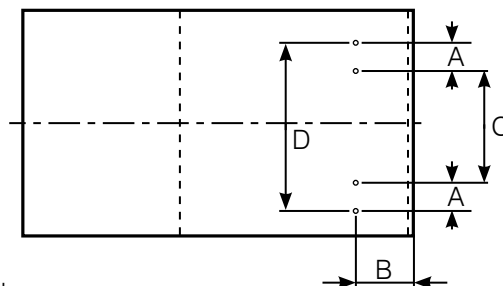
寬 1050× 深 750× 高 1530mm (含桌板、線架)  
(W)1050×(D)750×(H)1530mm (With table and thread stand)

車縫範圍 Sewing range



Singal seam

Range A	3~6mm
Range B	15~30mm
—	



Double seam

Range A	3~6mm×2
Range B	15~30mm
Range C	20~30mm
Range D	≤ 40mm (考慮縮放比例 Consider scale size)

## 安裝

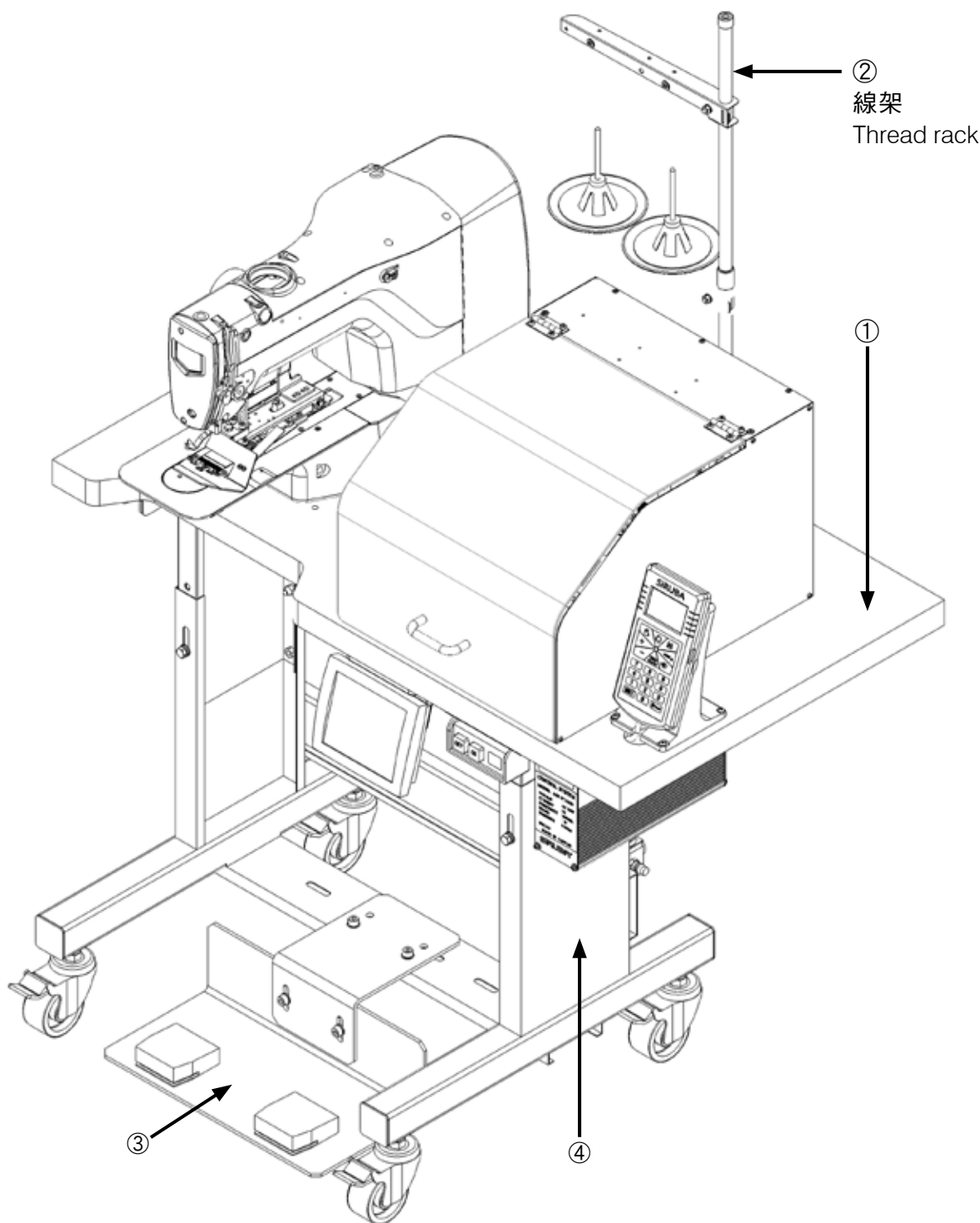
## INSTALLATION

桌板①上，鎖付線架②，機架④上，鎖上腳踏開關③。

(線架組裝組請參照 LKS-1903AN 使用說明書。)

Install thread rack ② on the table ① and pedal switch ③ on the frame ④.

(Ref LKS-1903AN user manual.)

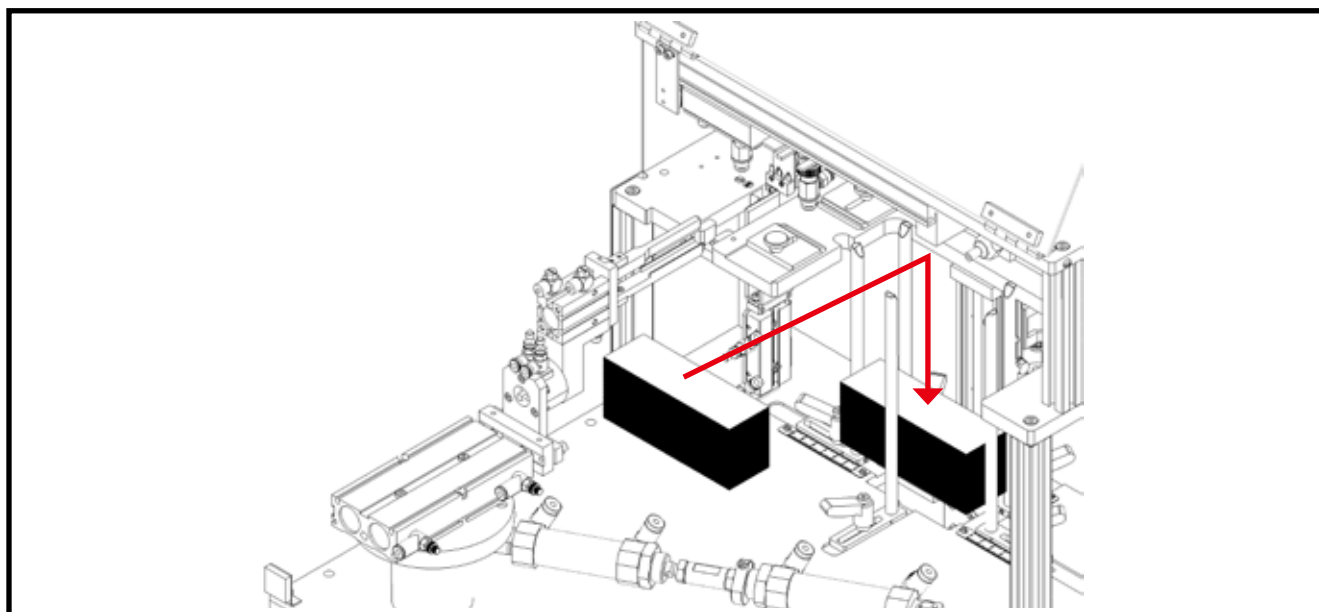
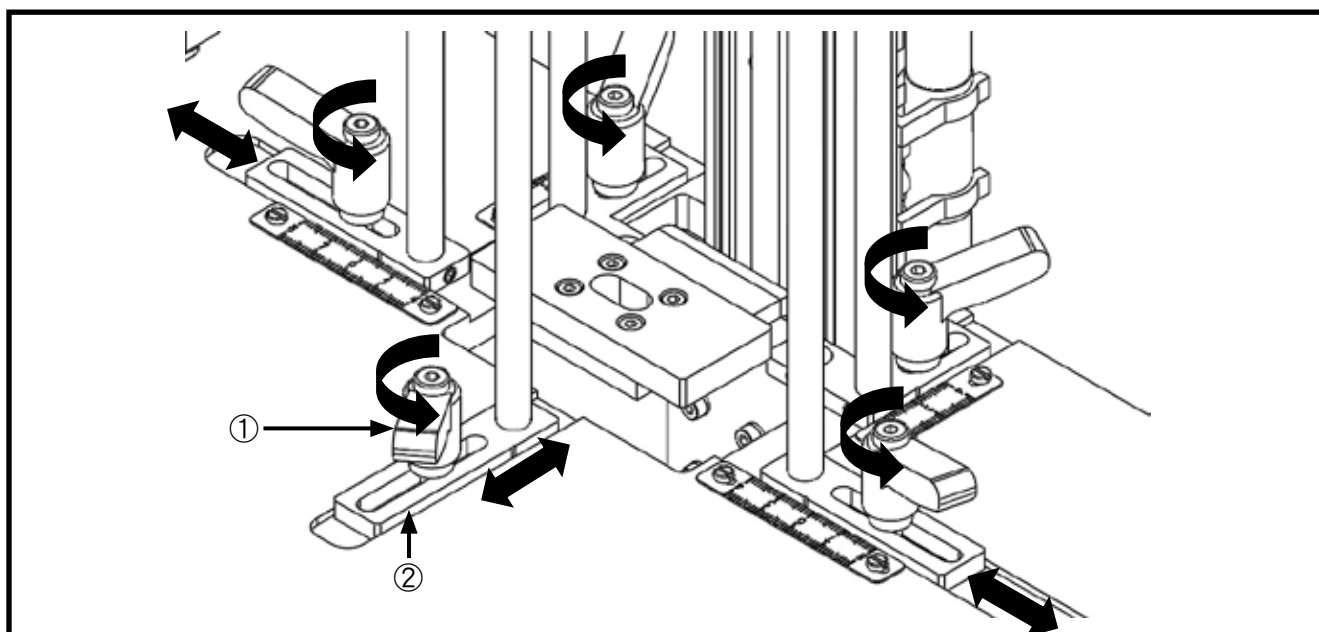


## 運轉準備

1. 電源電壓
  - A. 單相 AC200~240V 50/60Hz  $\pm 10\%$ 。
  - B. 接地線一定要接地。
2. 氣壓
  - A. 使用 0.5 Mpa ( 5kg/cm<sup>2</sup> ) 。
3. 供油
  - A. 縫紉機頭部  
請參照 LKS-1903AN 使用說明書。
4. 設定紙卡尺寸及補料  
鬆開快速把手①後調整滑塊②至紙卡規格對應尺寸，再將料卡放置於載料平台。

## OPERATION PREPARATION

- 1.Voltage
  - A. Single Phase AC200~240V 50/60Hz  $\pm 10\%$
  - B. Ground wire must connect.
- 2.Air pressure
  - A. Use 0.5 Mpa ( 5kg/cm<sup>2</sup> ) 。
- 3.Feed oil
  - A. Machine head  
Ref LKS-1903AN user manual.
- 4.Set label dimension and fill the material  
After loosening quick spancer ① , adjust sliding block ② to satisfy label dimension and then put label material on material platform.

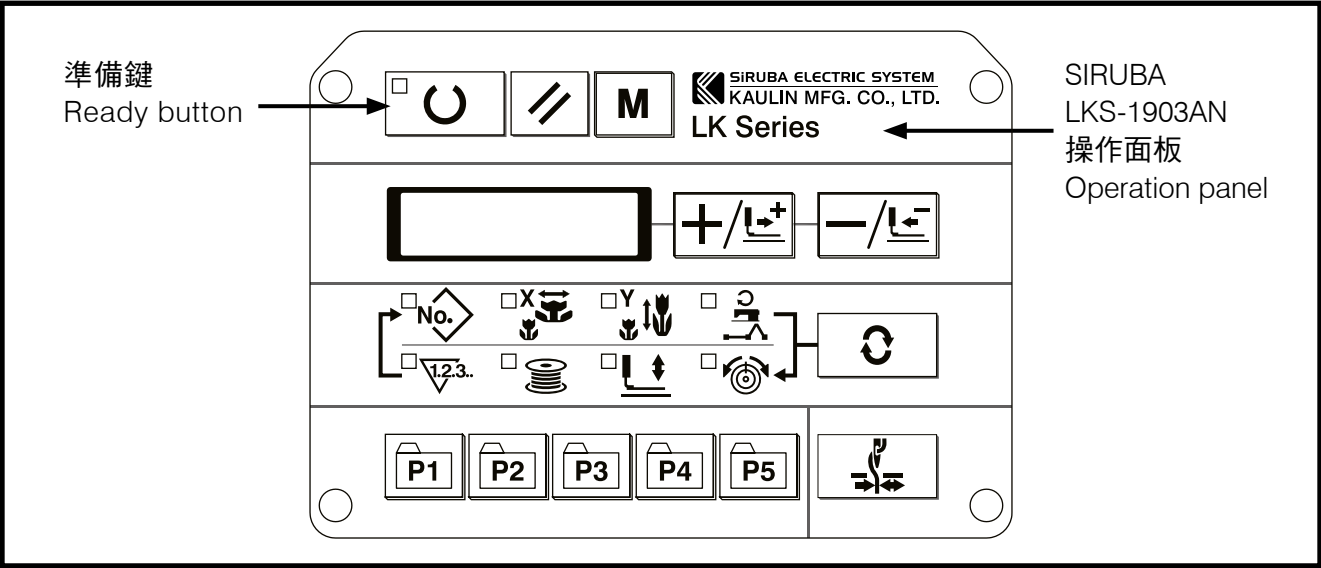


操作面板與啟動開關

OPERATION SWITCH

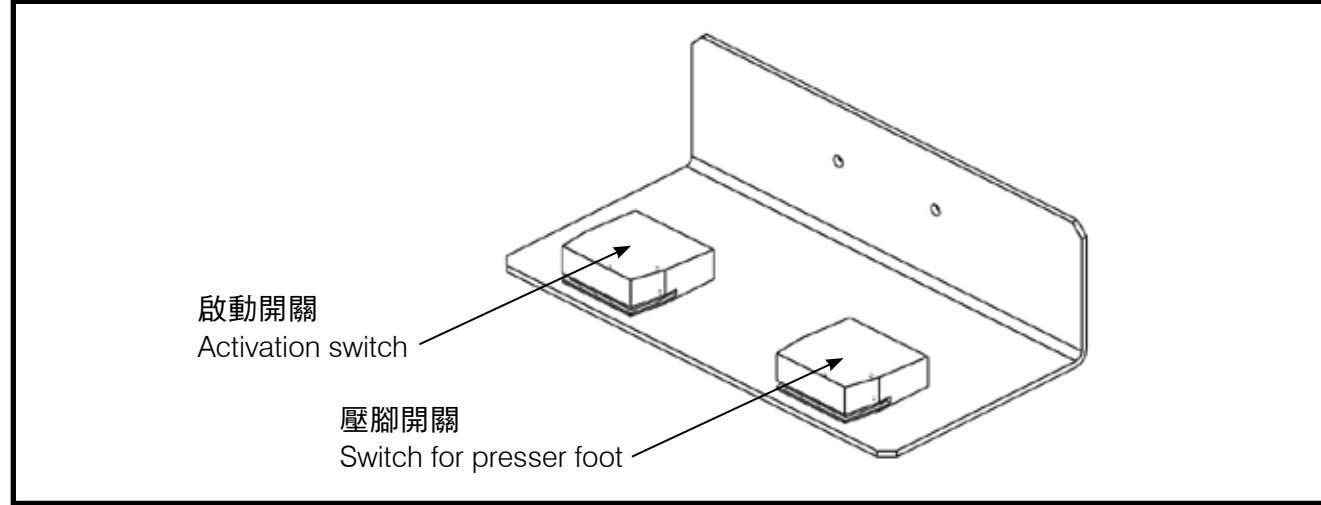
1. 操作面板

1. Operation panel



2. 腳踏開關

2. Knee pedal switches



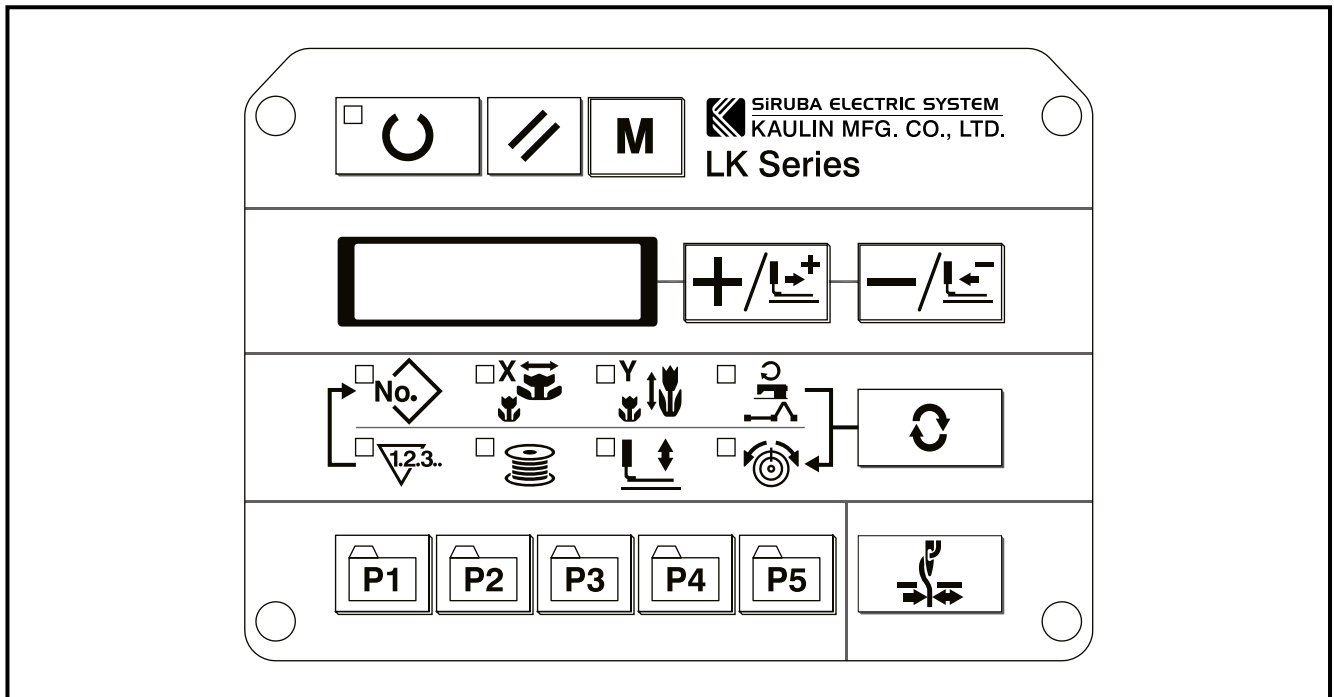
啟動車縫有兩種模式：		Two modes to enable sewing:
1	直接啟動車縫模式 Directly sewing mode	踩踏啟動開關時，壓腳自動下壓就直接車縫 When activation switch, lowering presser foot automatically, then directly start sewing
2	兩段式車縫模式 2-step sewing mode	單踩壓腳開關時，可使壓腳下壓或抬升用於車縫對位，壓腳必須處於下壓狀態，踩踏啟動開關才有作用，壓腳未下壓則無法啟動車縫動作 We could merely tread switch for presser foot to lower or to raise presser foot to align sewing position. Users should lower presser foot and then activation switch will work. If not, users could not start sewing.









※ 模式選擇請參閱人機介面使用說明









※Please refer to instruction book of human machine interface for mode selection

## 車頭參數設定

## MACHINE HEAD CONFIGURATION SETTING



1. 按下電源 ON 開關，按住  鍵約 6 秒進入設定模式。
2. 按 、 鍵選擇參數。
3. 找到要變更的參數，按  鍵，進入修改模式，按 、 鍵來變更內容，更改完後，再按一次  鍵跳出修改模式。
4. 所有參數都修改完後按  鍵跳出設定模式。
5. 修改的參數內容如下

1. Press power on switch hold  about 6 seconds to enter setting mode.
2. Press  、  button to select figures.
3. Select the figures. Press  button enter adjusting mode. Press  、  to change content. After adjustment, press  to exit adjusting mode setting value.
4. Press  button to exit setting mode.
5. Refer below for configuration figures.

順序 Sequence	參數編號 Configuration No.	設定值 Setting value
1	241	9
2	19	2
3	20	1
4	24	1
5	37	1
6	51	1
7	62	1

## 紙卡安裝與對位

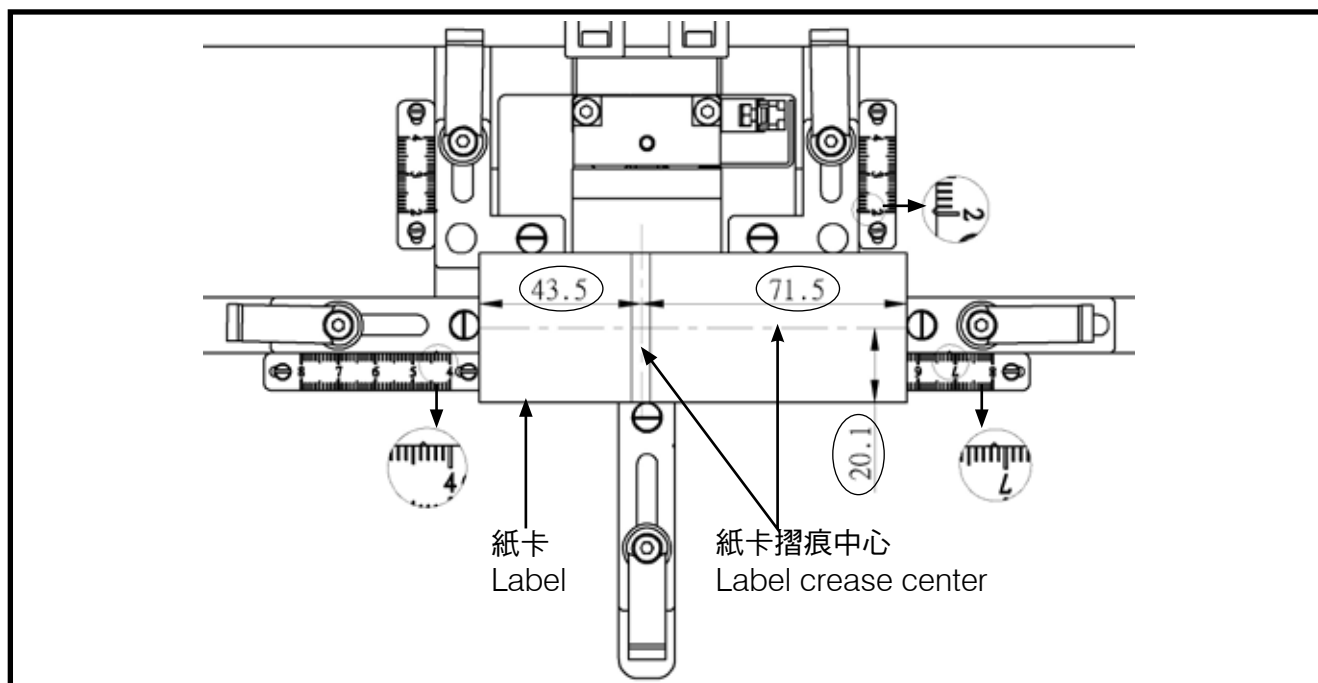
## LABEL INSTALLATION AND ALIGNMENT

### 1. 紙卡尺寸變更時

依紙卡摺痕中心至左及右邊的長度來調整滑塊對應的刻度，寬度亦是如此。

### 1. When label dimension changes

According to label crease center, adjust length between left border and right border and then adjust width by the same way.

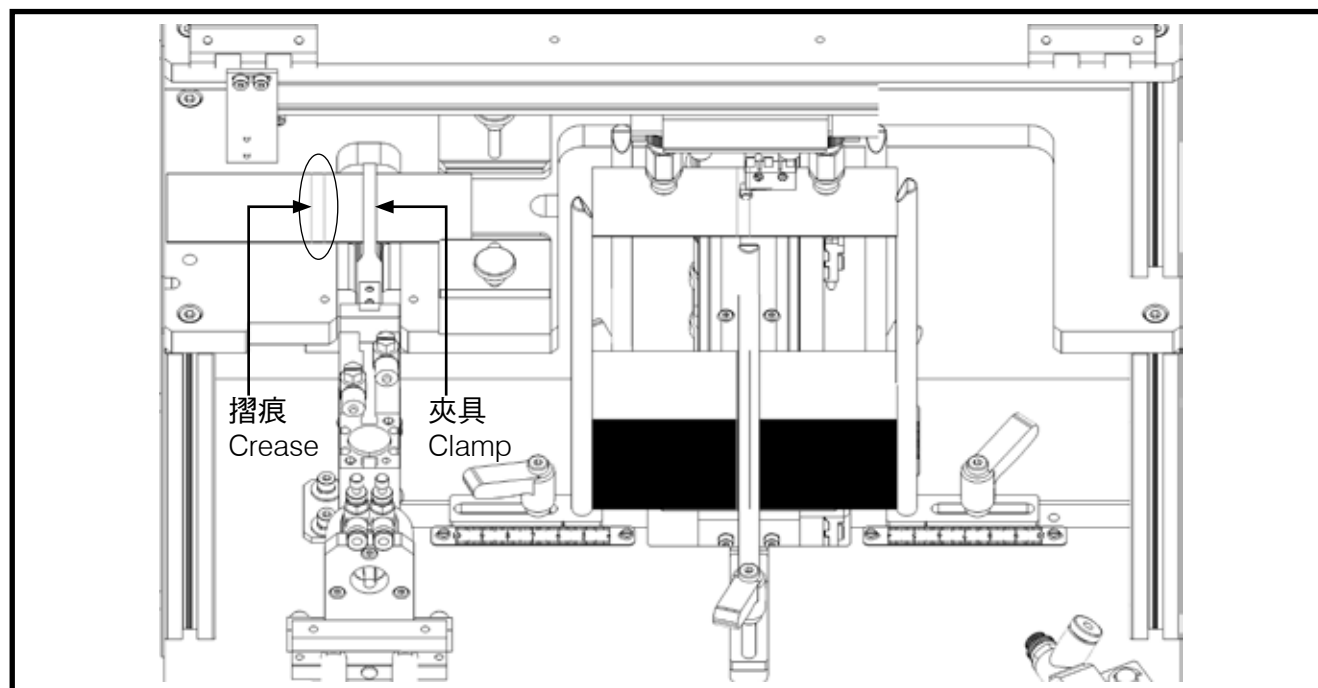


### 2. 紙卡摺痕偏移調整

若紙卡摺痕偏離夾具位置時，需微量調整紙卡安裝位置以符合夾持位置。

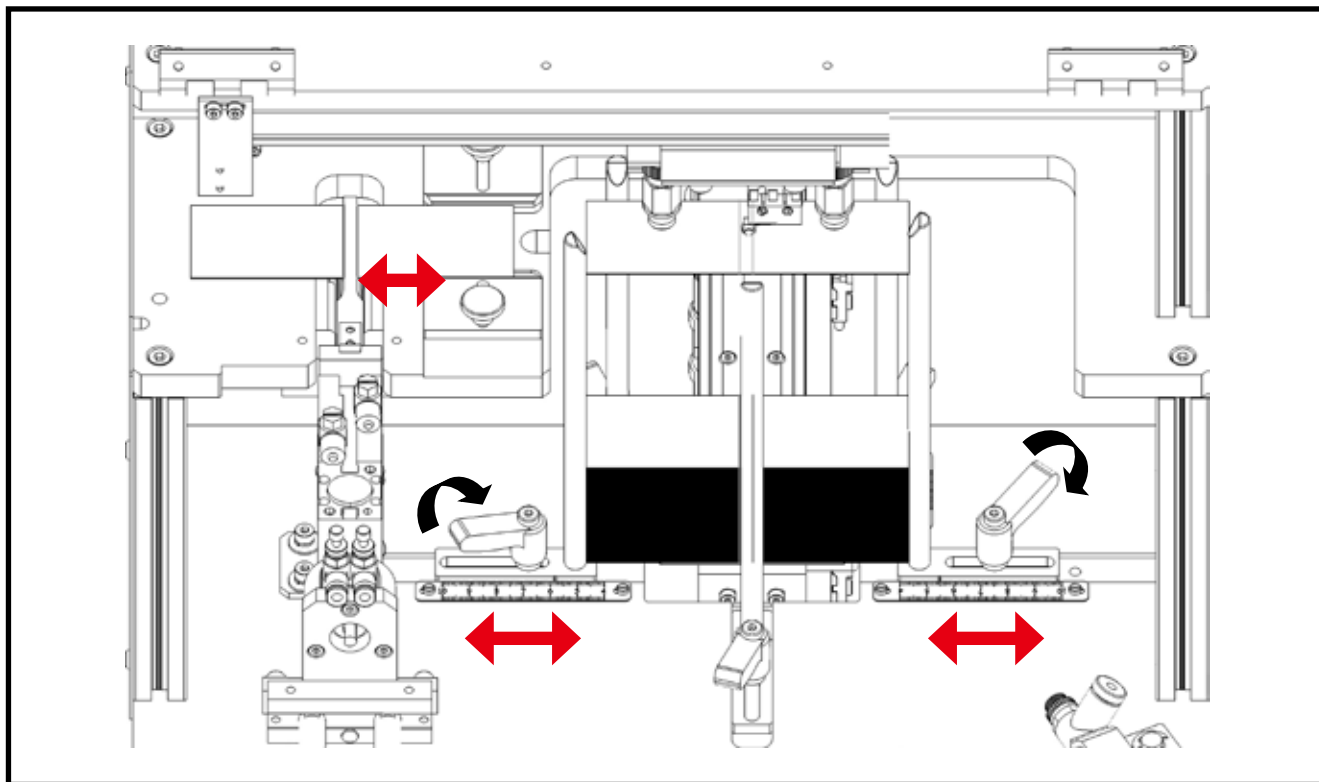
### 2. Adjust the deviation of label crease

If label crease deviates from the clamp position, fine tune the installation position of label to fit clamp position.



微調紙卡長度位置即可將摺痕偏移至夾具位置。

Fine-tune label length position to move the crease deviation to the clamp position

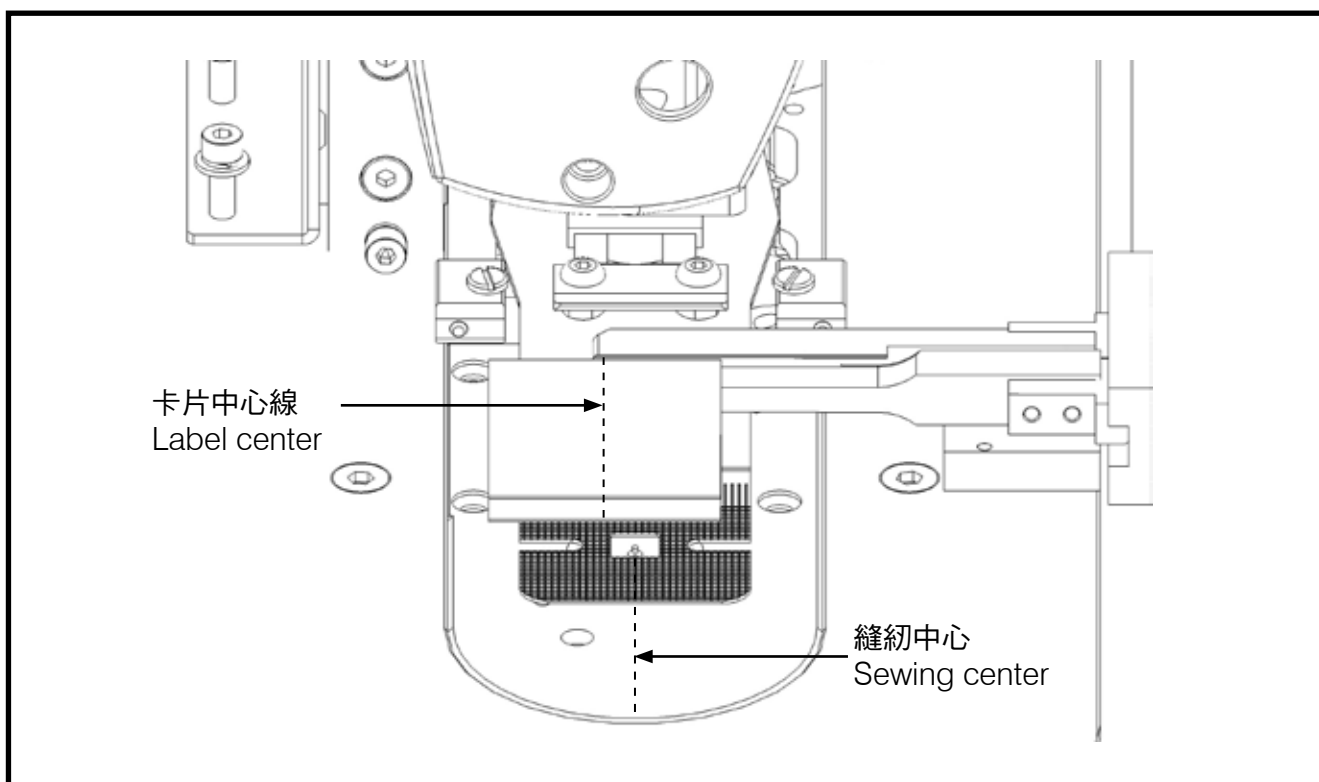


### 3. 縫線位置調整

紙卡中心偏左或偏右時，將造成縫線不在卡片正中心位置上。

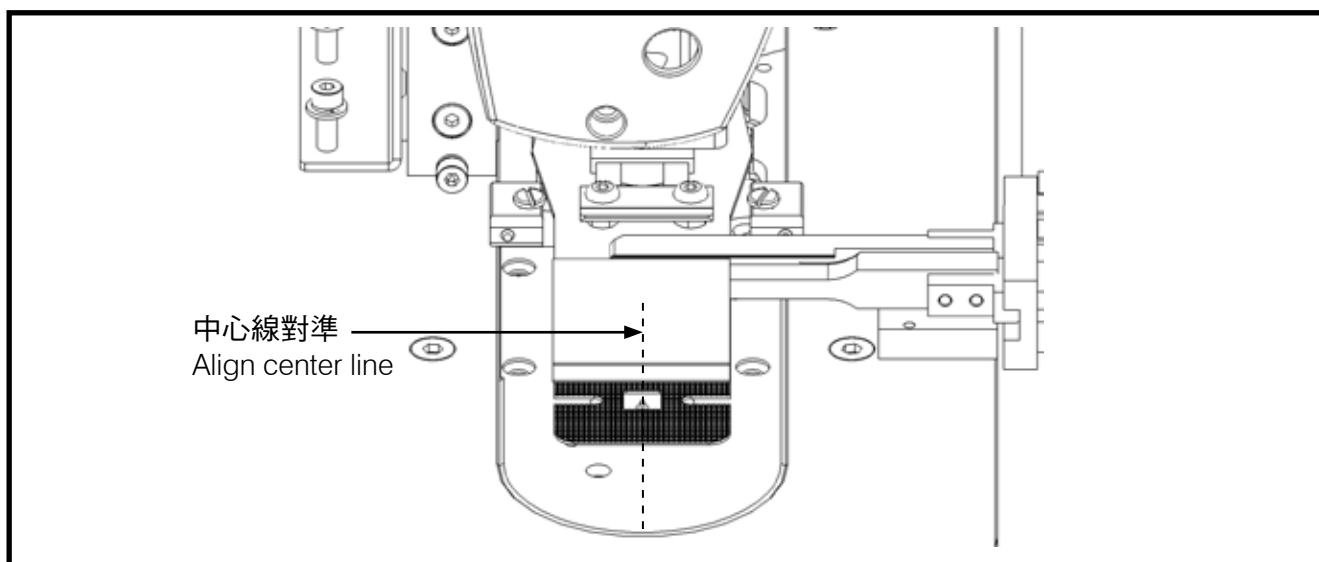
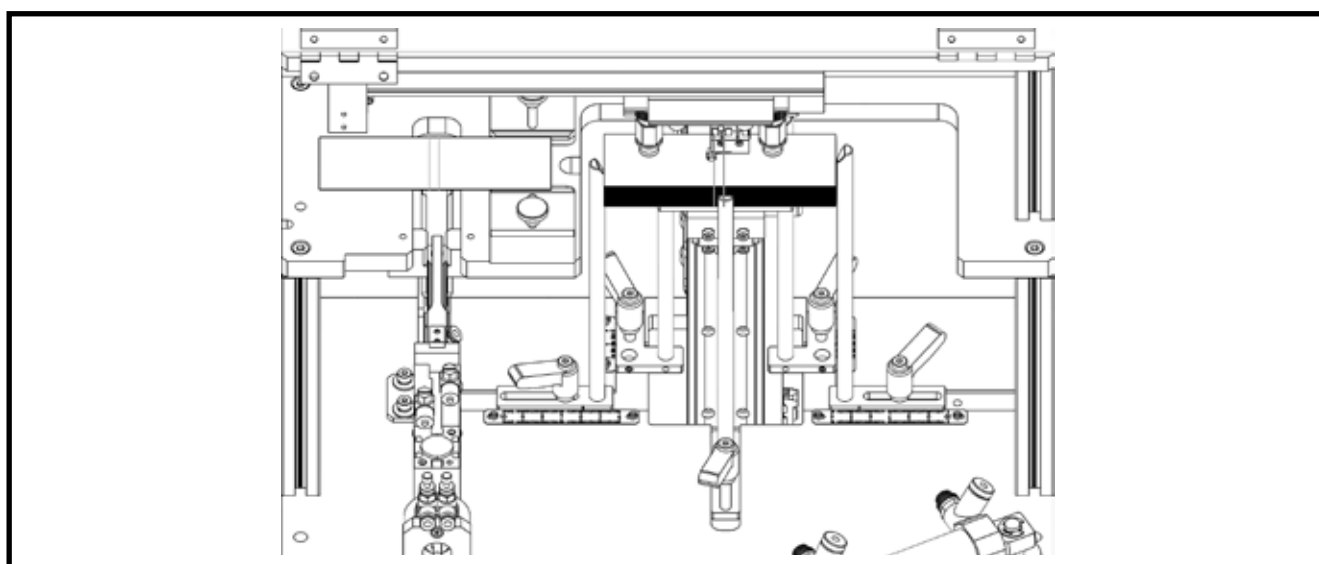
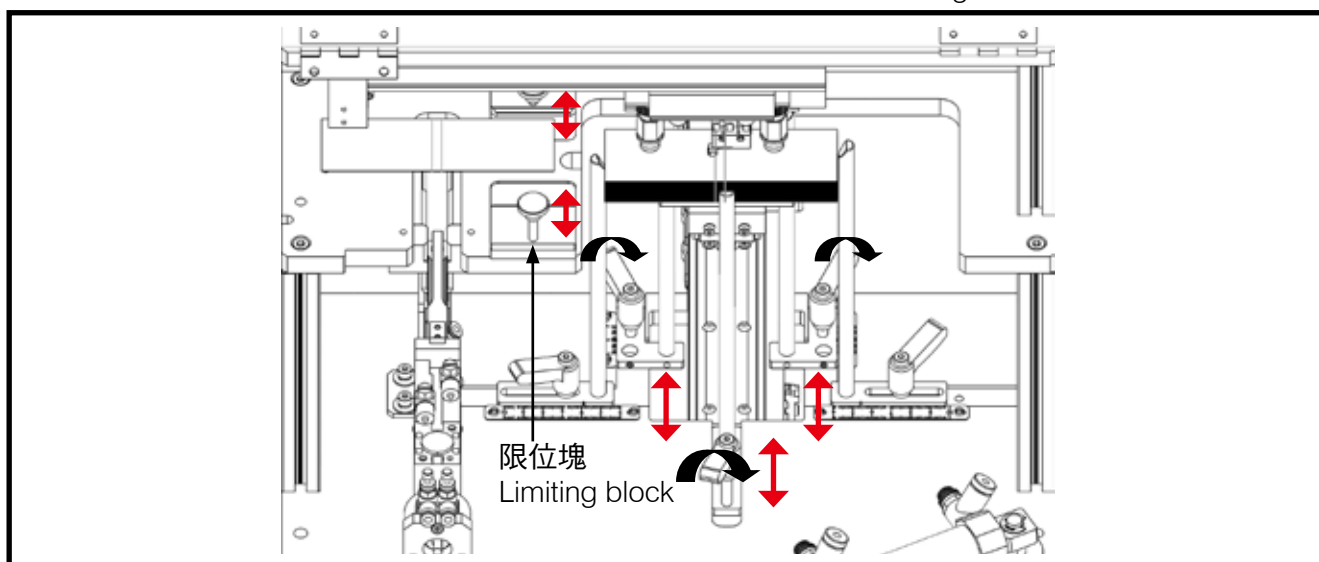
### 3. Adjust sewing position

When label deviate left or right from center, sewing line will not be in the middle of label.



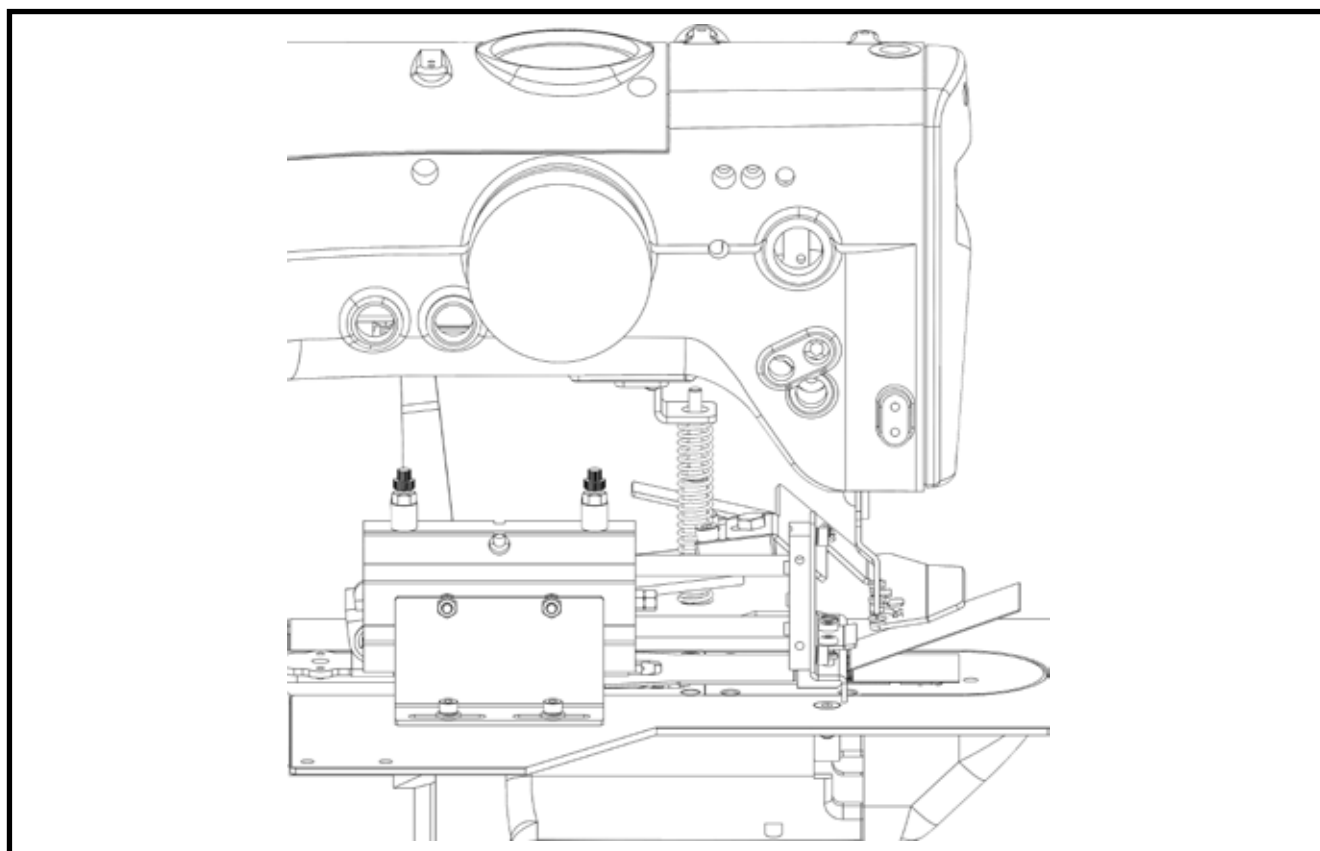
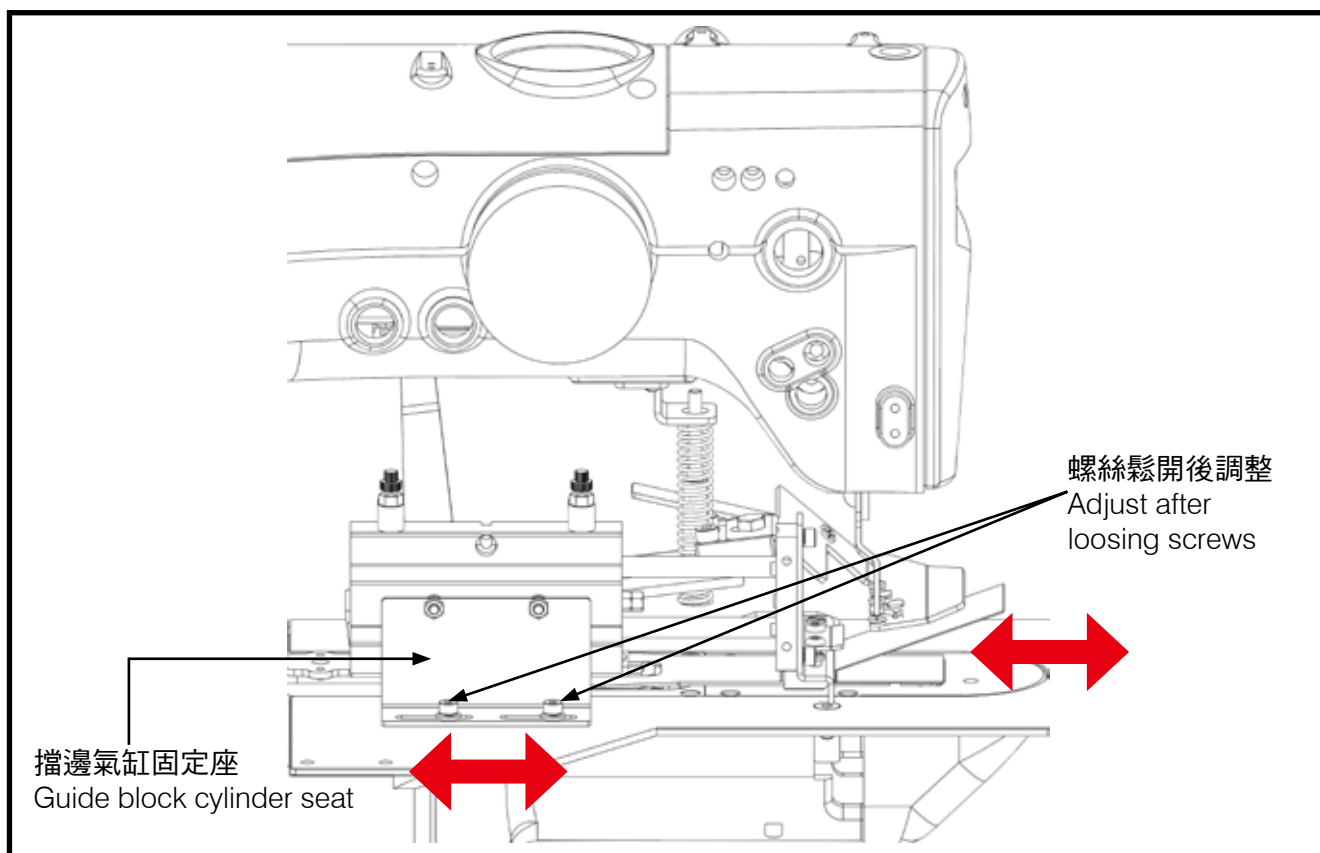
微調卡片寬度位置與限位塊即可改變縫線偏左或偏右的問題。

Fine-tune label width position and limiting block to solve the problem that sewing line deviates left or right.



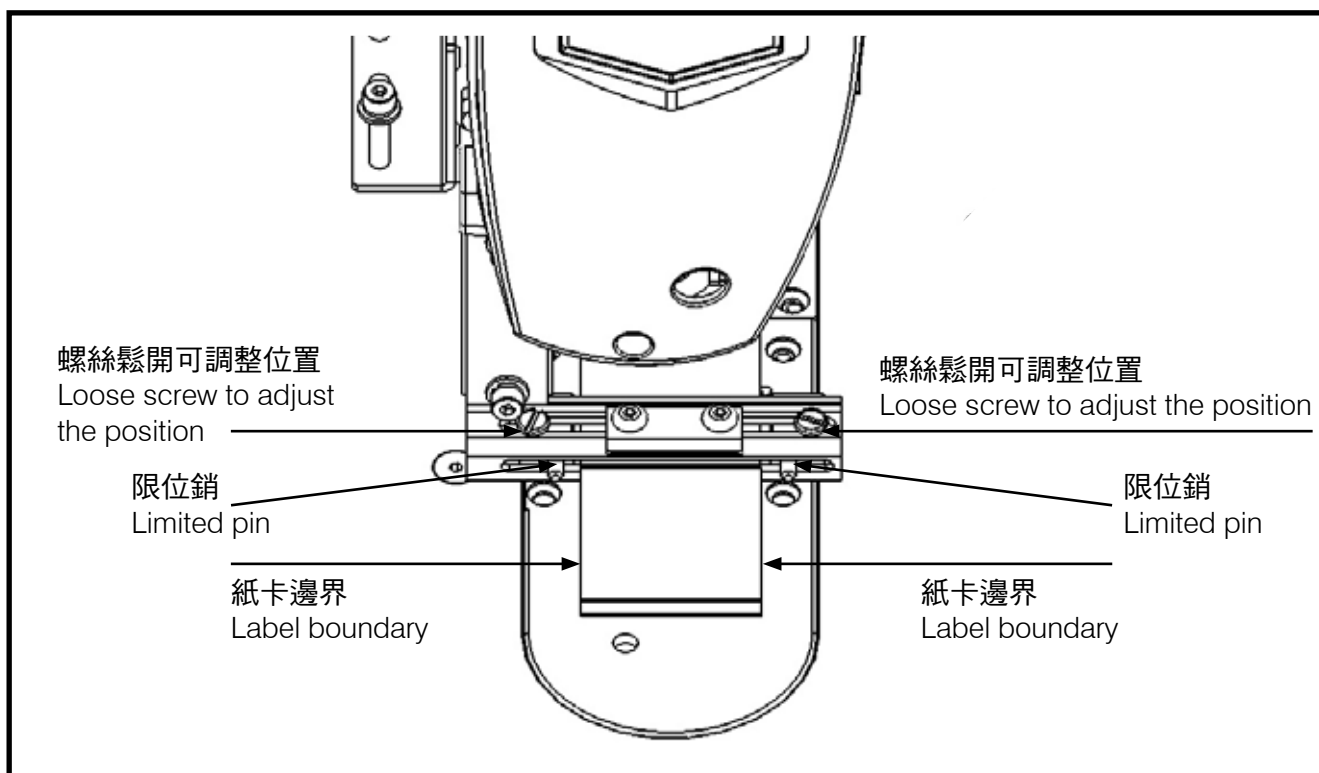
調整擋邊氣缸固定座可決定紙卡縫線前後的位置。

Adjust guide block cylinder seat to set label sewing line position.



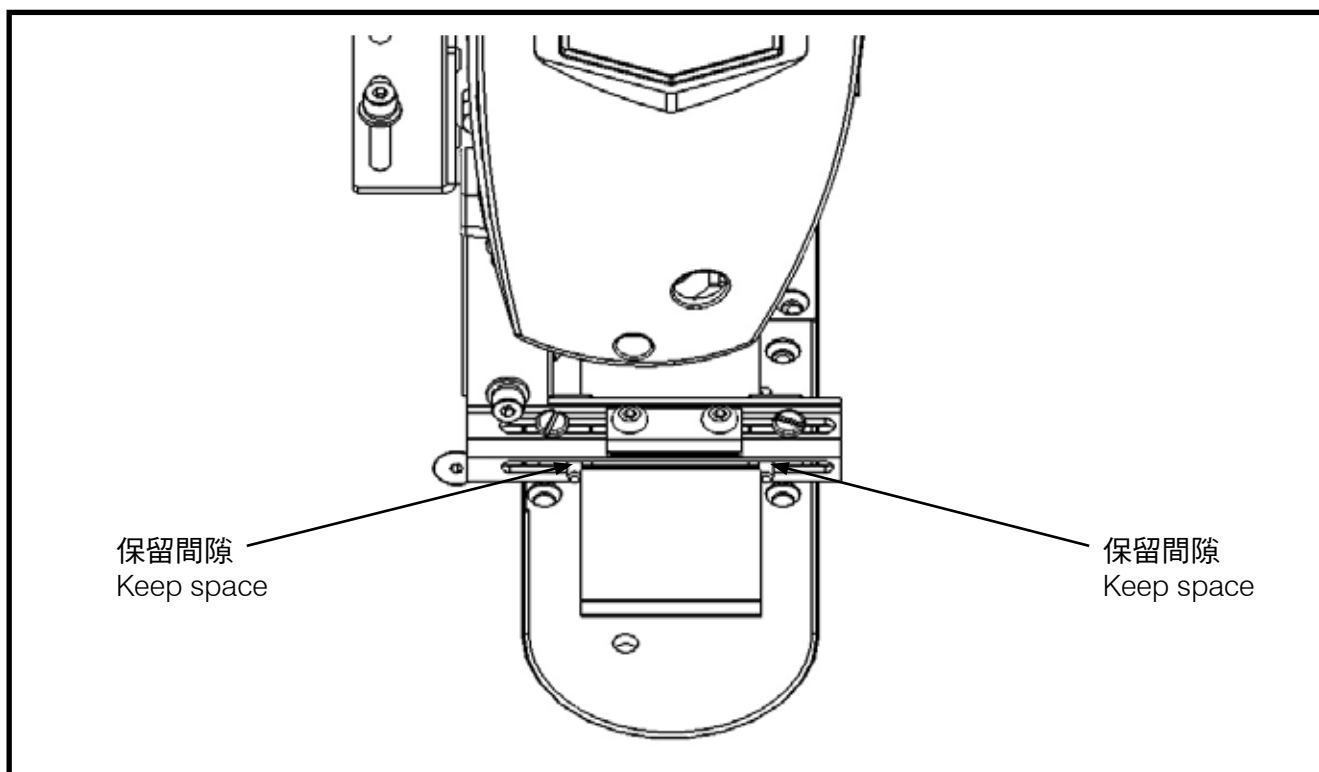
限位銷可限制紙卡左右些許的偏差範圍，當卡片寬度變更時需調整至紙卡邊界。

Limited pin could limit the deviation of the label. When label width changes, limited pin needs to adjust to the label boundary.



限位銷與紙卡邊界需留間隙約 0.5 ~ 1mm，如此紙卡才不會被撞歪。

Need to keep 0.5~1 mm space for limited pin and label. Then label will not crash.



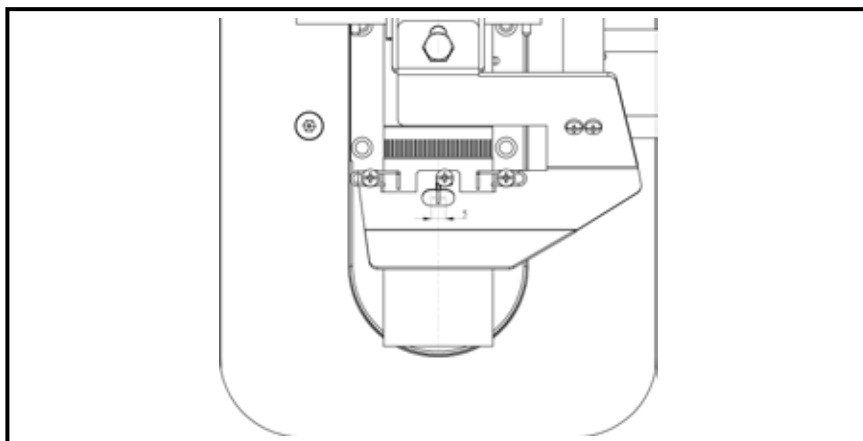
## 車縫花樣一覽表

關於花樣變更方法、請參照 LK-1900A 使用說明書。

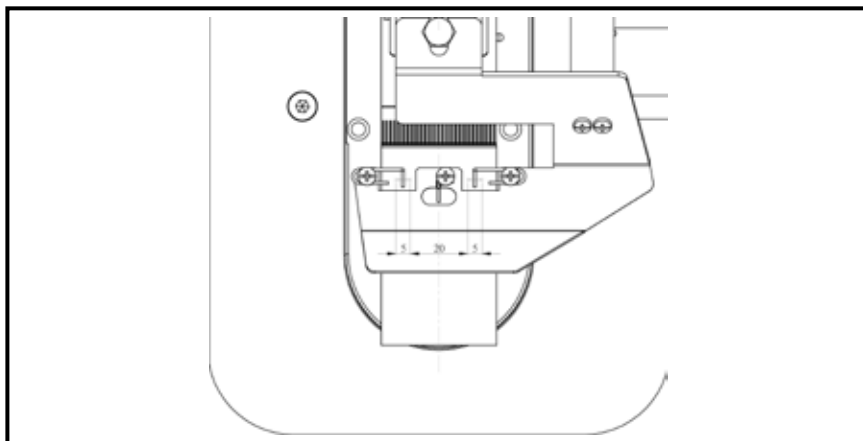
Regarding method of changing pattern, refer to LK-1900A user manual.

編號 No.	落針圖 Sewing Pattern	車縫尺寸橫 x 縱 (mm) Sewing size X * Y ( mm )	針數 Needle no.	加固縫 Bartacking
51		5 x 0	6	無 N/A
52		5 x 0	8	無 N/A
53		5 x 0	10	無 N/A
54		5 x 0	12	有 YES
55		5 x 0	14	有 YES
56		5 x 0	16	有 YES
61		2 - 5 x 0	24	有 YES
62		2 - 5 x 0	28	有 YES
63		2 - 5 x 0	32	有 YES
64		2 - 5 x 0	24	有 YES
65		2 - 5 x 0	28	有 YES
66		2 - 5 x 0	32	有 YES
67		2 - 5 x 0	24	有 YES
68		2 - 5 x 0	28	有 YES
69		2 - 5 x 0	32	有 YES
71		2 - 5 x 0	12	無 N/A
72		2 - 5 x 0	16	無 N/A
73		2 - 5 x 0	20	無 N/A
74		2 - 5 x 0	12	無 N/A
75		2 - 5 x 0	16	無 N/A
76		2 - 5 x 0	20	無 N/A
77		2 - 5 x 0	12	無 N/A
78		2 - 5 x 0	16	無 N/A
79		2 - 5 x 0	20	無 N/A

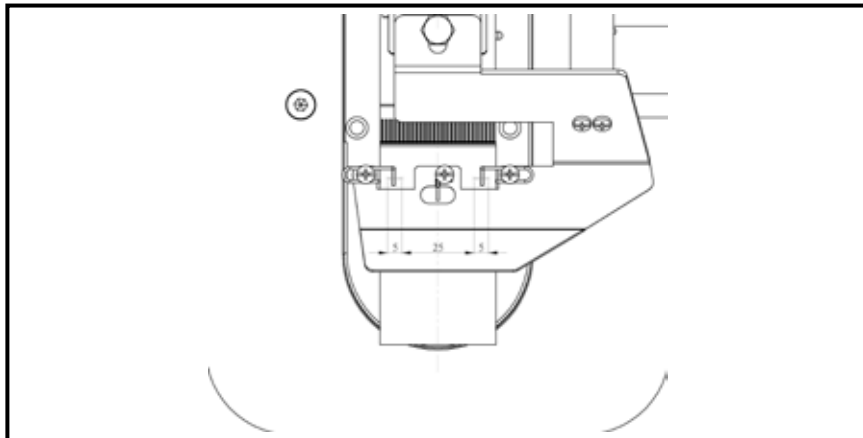
1. 車縫花樣編號 51~56 參考圖



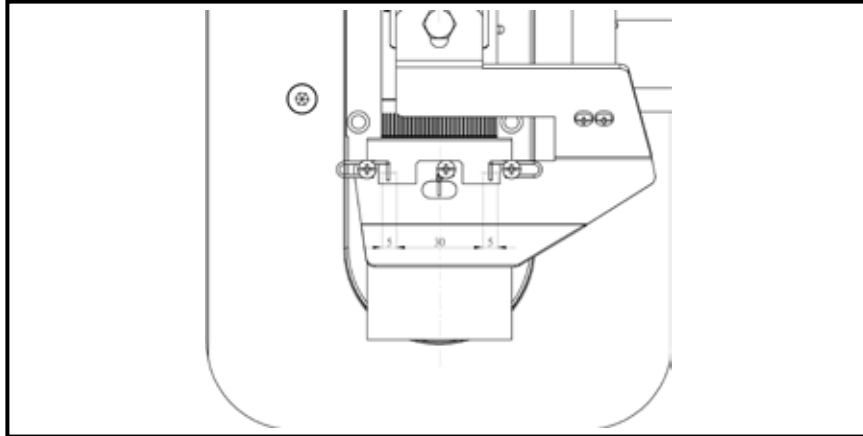
2. 車縫花樣編號 61~63 , 71~73 參考圖



3. 車縫花樣編號 64~66 , 74~76 參考圖



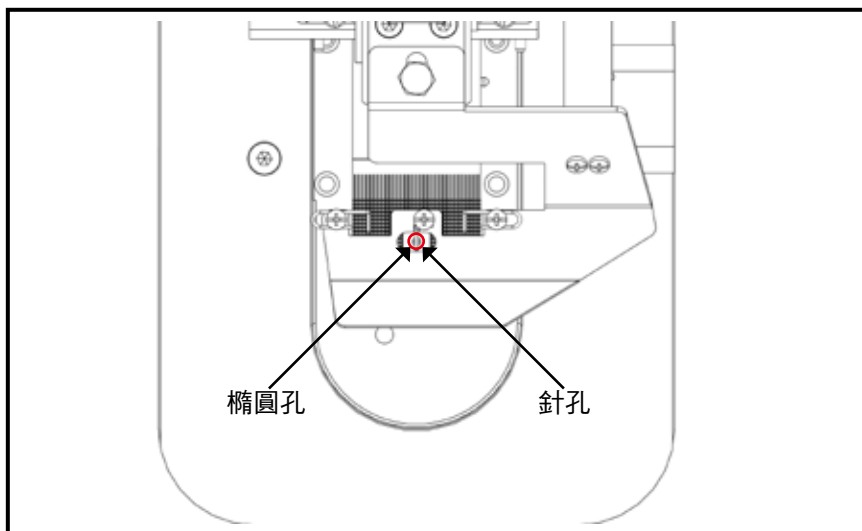
4. 車縫花樣編號 67~69 , 77~79 參考圖



## 規格切換調整

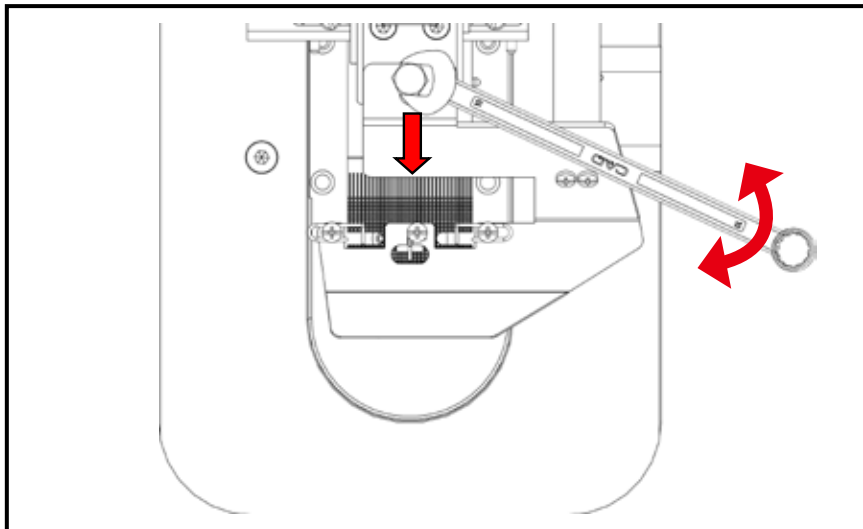
### 1. 單縫規格

調整壓版橢圓孔在針孔位置。



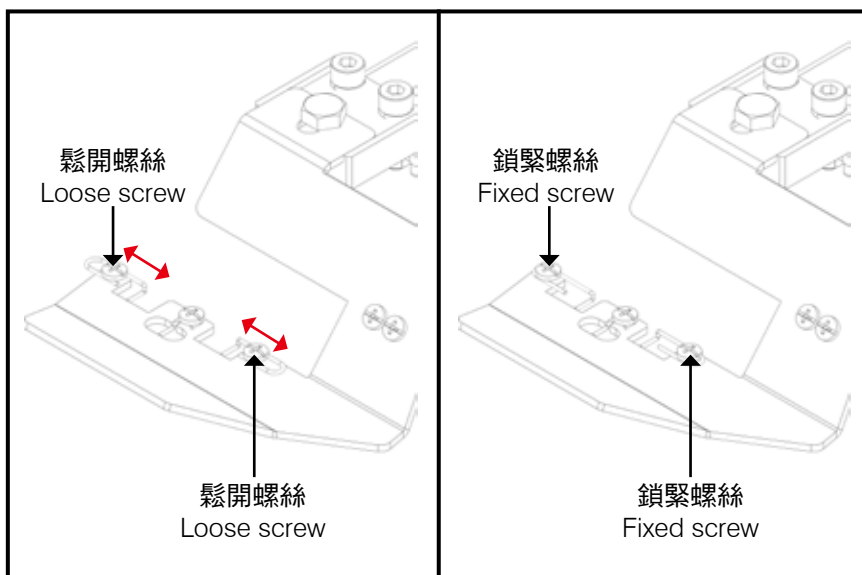
### 2. 雙縫規格

使用 5 號板手鬆開螺絲後，再將壓板前拉到底後鎖緊螺絲。



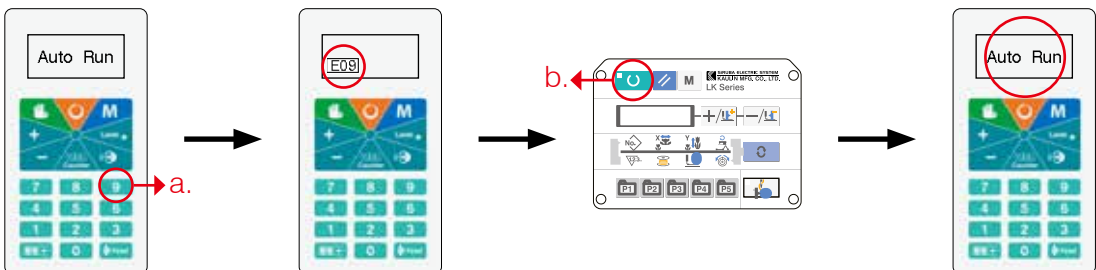
### 3. 鬆線桿位置調整 (雙縫)

鬆開螺絲後，微調鬆線桿至適當位置再鎖緊螺絲。



## 錯誤代碼

## ERROR CODE

代碼 Code	說明 Description	備註 Memo
E01	通訊異常 Network error	見 4. 故障排除 章節 Ref. by paragraph 4.Trouble shooting
E02	缺料顯示 Show lack of material	待載料平台下降，進行補料後，按下重置鍵 Lower material platform, fill material and press reset button
E04	若於運料時，運料失敗，導致成型區感應器未判讀有料，夾爪不會執行前伸動作 If transmitting material is not well, sensor on forming part does not detect material. Clamp will not forward and catch material	按下 重置鍵 再次進行運料動作 Press reset and feed material again
E09	<p>踩下車縫踏板或壓腳踏板時，無相對應動作</p> 	<p>先按下操作盒 數字鍵 9(a.) 操作盒螢幕會顯示 <b>E09</b>，再按下車頭操控面板 重置鍵 (b.)，車頭會做重置動作，操作盒螢幕顯示當前模式，即可繼續操作</p>
E11	運料氣缸未確實處於準備點 / 原點位置 Cylinder for material transmission does not stay in standby/original position well	1 號氣缸 / 準備點微動開關 / 原點磁簧開關異常 No. 1 cylinder/standby point micro switch or original point reed switch error
E12	前伸氣缸未確實縮回 Forward cylinder does not retract well	2 號氣缸 / 磁簧開關異常 No. 2 cylinder/reed switch error
E13	運料氣缸未確實處於原點位置 Cylinder for material transmission does not stay in original position well	1 號氣缸 / 原點磁簧開關異常 No. 1 cylinder/Original point reed switch error
E14	塑形氣缸未確實下降 Forming cylinder does not lower well	4 號氣缸 / 磁簧開關異常 No. 4 cylinder/reed switch error
E18	擋邊氣缸未確實退回 Guide block cylinder does not return well	8 號氣缸 / 磁簧開關異常 No. 8 cylinder/reed switch error

※ 錯誤代碼 E11、E12、E13、E14、E18 處理

Step1. 確認氣缸氣量是否足夠，若氣量不足會導致氣缸動作時間過長，以致誤判產生。

Step2. 若氣缸動作正常，判斷 sensor 是否正常，參照 A02 SENSOR/ 訊號檢測章節。此步驟可搭配確認 sensor 是否於正確位置上：將氣源關閉後，以手動方式移動氣缸對應機構件，模擬實際動作行為，機構件於正確位置時調整 sensor 位置以致可正確判讀。

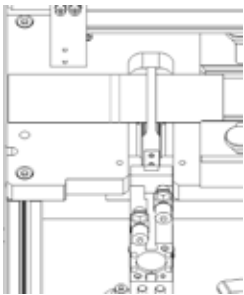
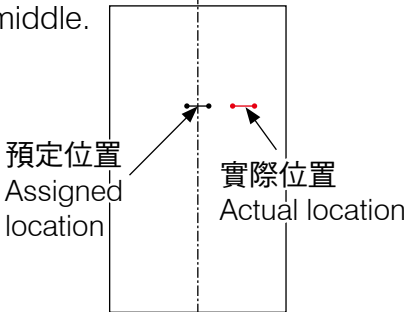
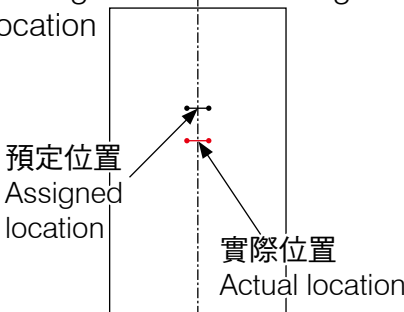
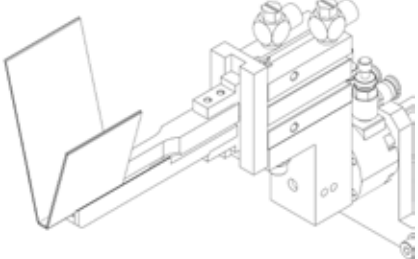
※ 請翻英文

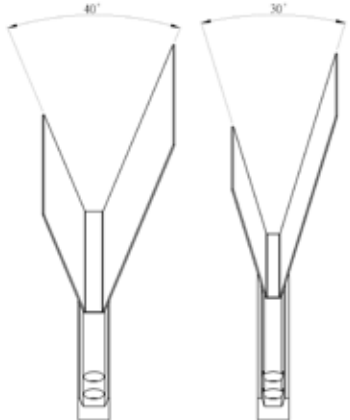
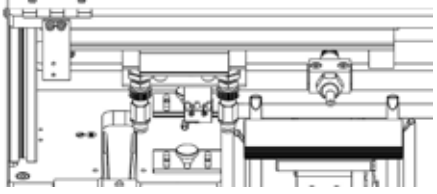
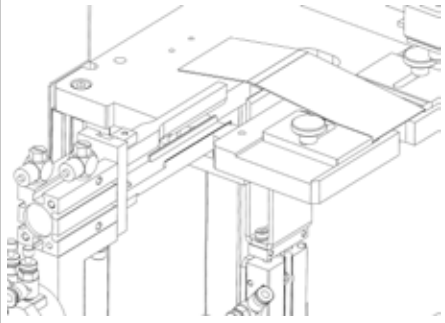
Step1. 確請翻英文。

Step2. 請翻英文

## 異常排除

## TROUBLE SHOOTING

現象 Description	原因 Reason	對策 Solution	參考頁數 Ref. page
摺痕未對夾具中心 Crease is not in the clamp middle 	1. 紙卡安裝位置偏移。 2. 夾具機構位置錯誤。  1.Label position deviates 2.Clamp position error	1. 微調料槽長度滑塊位置。 2. 調整氣缸束環位置。  1.Fine tune length sliding block position of material platform 2.Adjust the position of cylinder limiting ring	P.6~P.7 P.20
縫線未在紙卡正中心 Sewing line is not on the label middle. 	1. 紙卡安裝位置偏移  1.Label position deviates	微調料槽寬度滑塊位置及限位塊。  Fine tune position of width sliding block and limiting block	P.8~P.10
縫線未在指定位置 Sewing line is not on assigned location 	1. 擋邊氣缸位置錯誤  1.Wrong position of guide block cylinder	微調擋邊氣缸固定座的鎖固位置。  Fine tune fixed position of guide block cylinder seat	P.9
夾槽無法開啟 Unable to open clamp slotlocation 	1. 疊料造成  1.Materials overlap.	吸盤分料時，調整吹嘴角度與風量使疊料分離。  When suction cup catches material, adjust the angle of air nozzle and the strength of air to separate material stack.	P.17

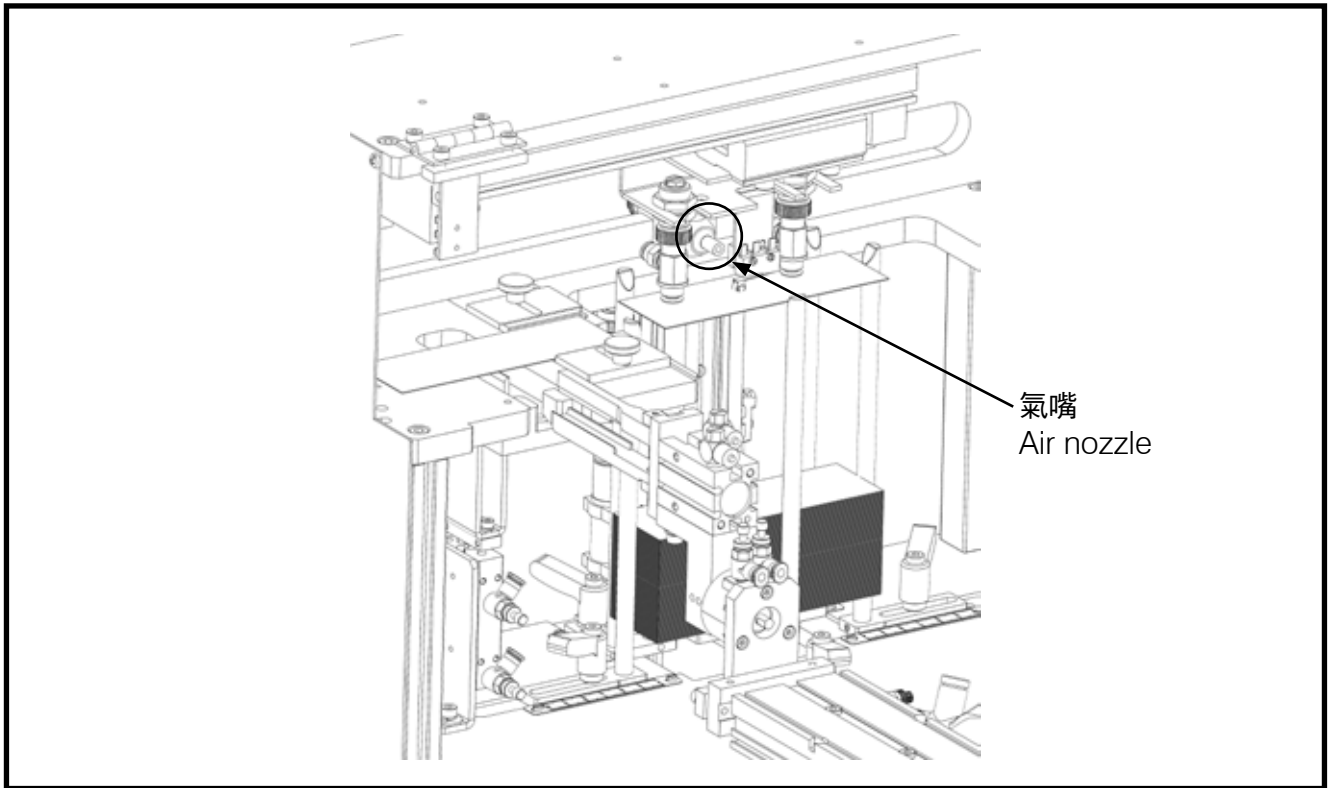
現象 Description	原因 Reason	對策 Solution	參考頁數 Ref. page
<p>成形角度不足 Forming angle is not enough</p> 	<p>1. 夾槽選用錯誤。</p> <p>1. Select wrong clamp slot</p>	<p>更換適用該紙卡摺痕寬度的夾槽。</p> <p>Replace clamp slot which is suitable for label crease width.</p>	P.18~P.19
<p>吸盤取料失敗 Failure to catch material by suction cup</p> 	<p>1. 載料平台上升停止位置過低。</p> <p>1. Material platform raises not enough.</p>	<p>微調入料檢知位置。</p> <p>Fine-tune filling detection position.</p>	P.21
<p>夾具撞擊夾料區紙卡 Clamp crashes label on forming part</p> 	<p>1. 料卡不平整拱起而被進入的夾棒撞歪。</p> <p>1. Material label is not flat and arch so it is crashed by clamping rod when rod is entering</p>	<p>料卡拱起程度不可超過 3mm，需人工整平。</p> <p>Material label can not arch more than 3 mm or need to smoothen it by users.</p>	

## 1. 紙卡疊料

吸盤吸附紙卡兩張以上時，將造成夾具無法開夾而異常，此時可以調整吹氣嘴的角度與吹氣量大小來進行疊料排除。（註：紙卡若因印刷油墨沾黏則需人工排除）

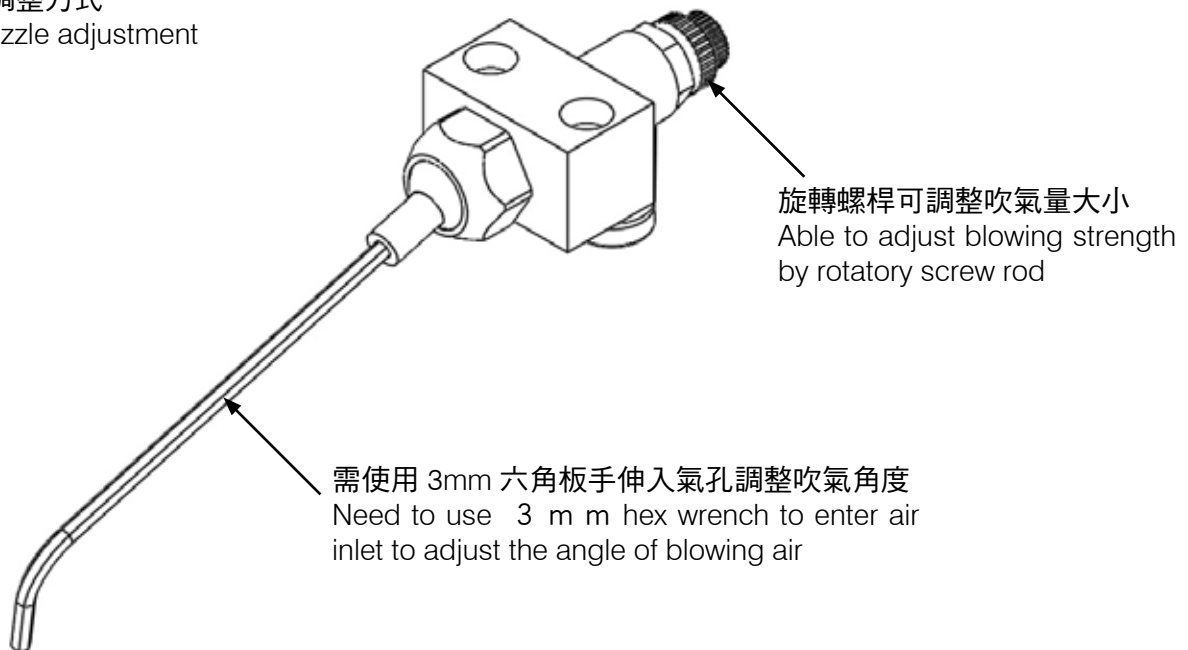
## 1. Labels overlap

When suction cup catches more than 2 labels, clamp will not open and error. In this situation, we can adjust the angle of air nozzle and the strength of air blow to remove material stack (note: users will need to remove by hand if labels stick together by ink or else)



## 氣嘴調整方式

Air nozzle adjustment

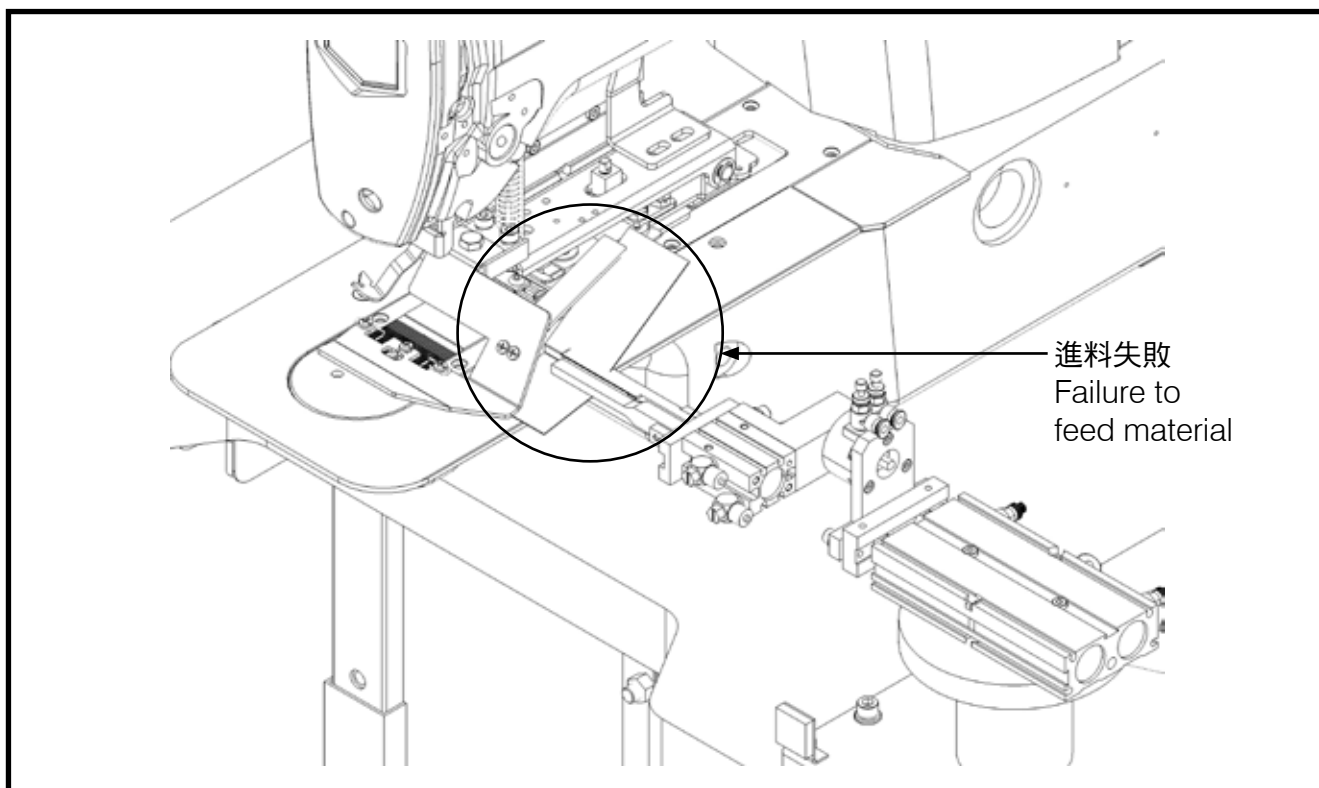
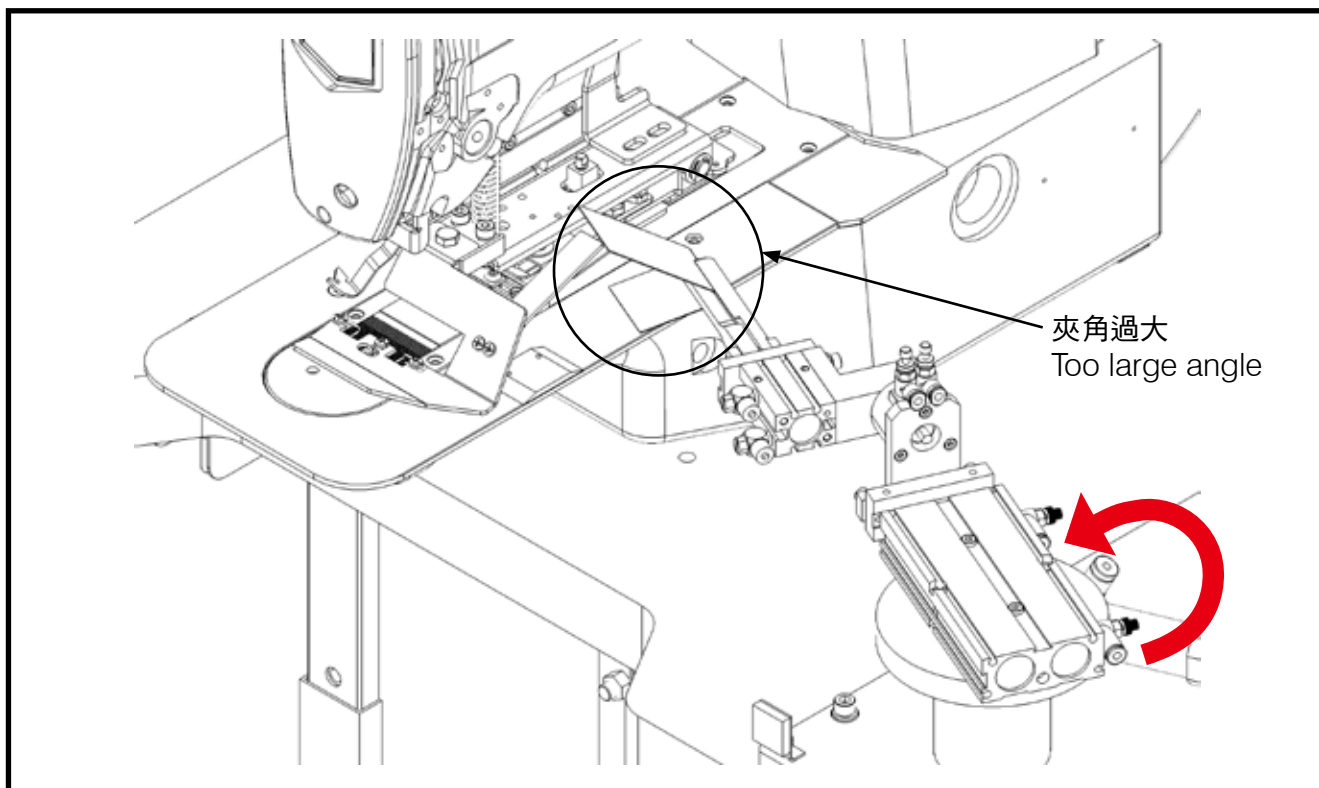


## 2. 成型角度不足

夾具有對應摺痕 5 mm 或 6 mm 寬的夾槽，當成型角度不足時，會發生進料失敗的情形，此時需更換正確的夾槽才能順利成形。

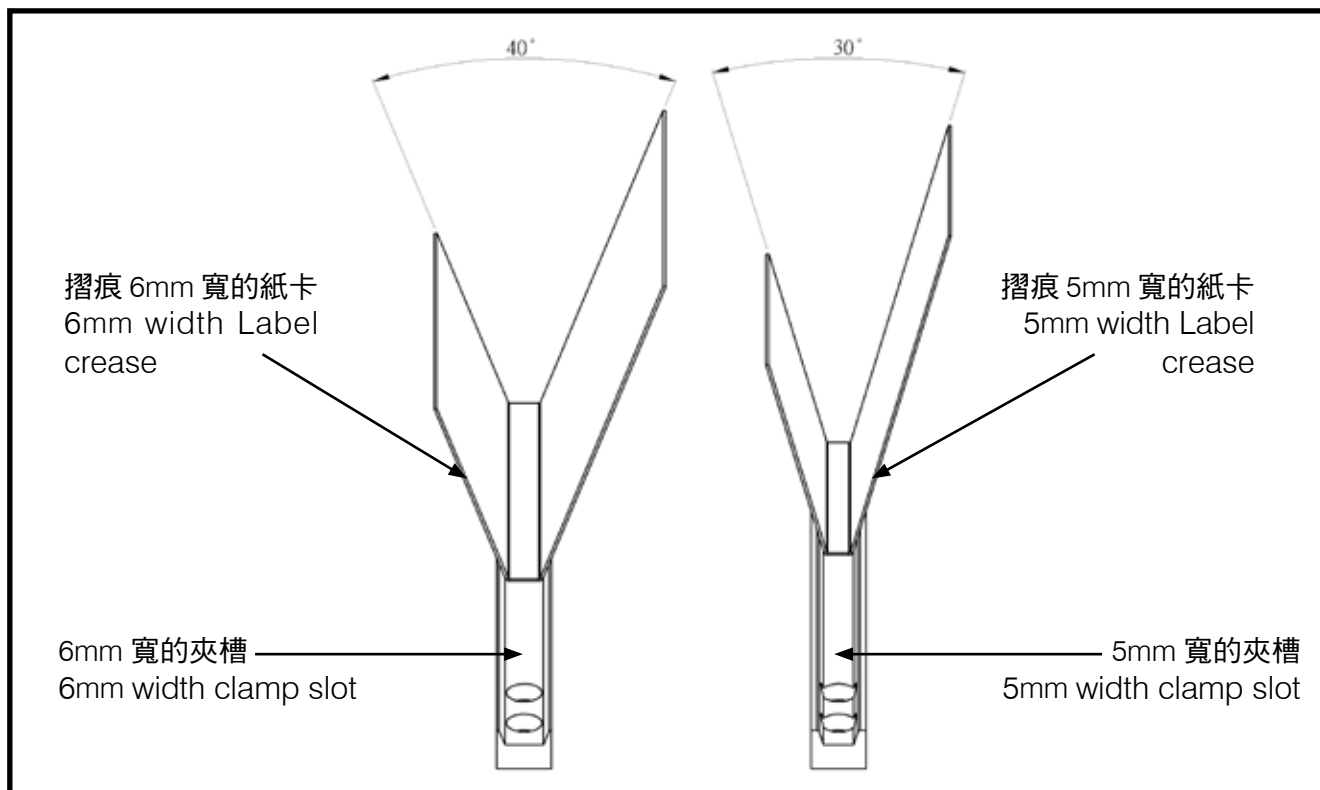
## 2. Incorrect forming angle

Clamp need to match 5 mm or 6 mm width clamp slot. When the forming angle is not enough, feeding process will be error. In such situation, we need to replace correct clamp slot to form it correct.



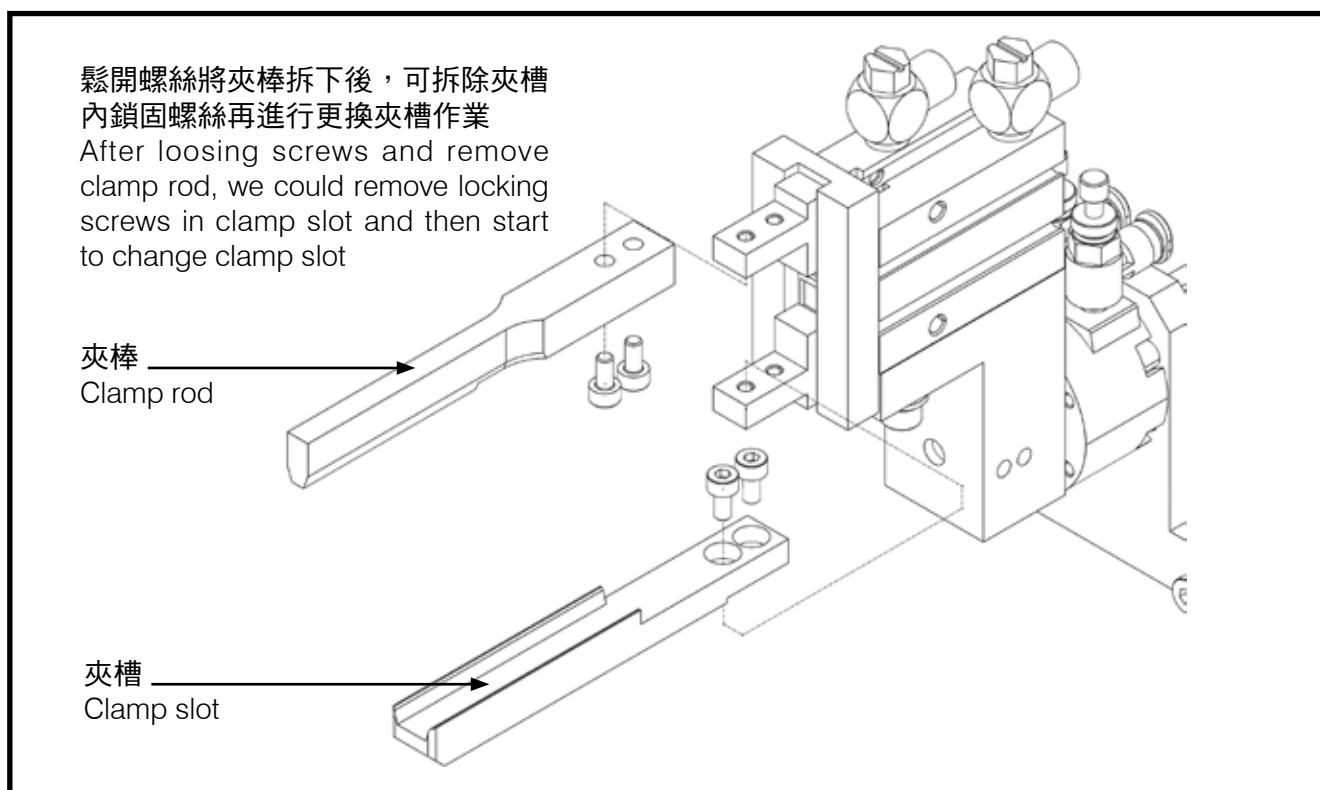
夾槽選用錯誤時將產生成形角度不足的問題

If choosing wrong clamp slot, it will result in the problem of not enough forming angle.



夾槽更換方式

Exchange of clamp slot

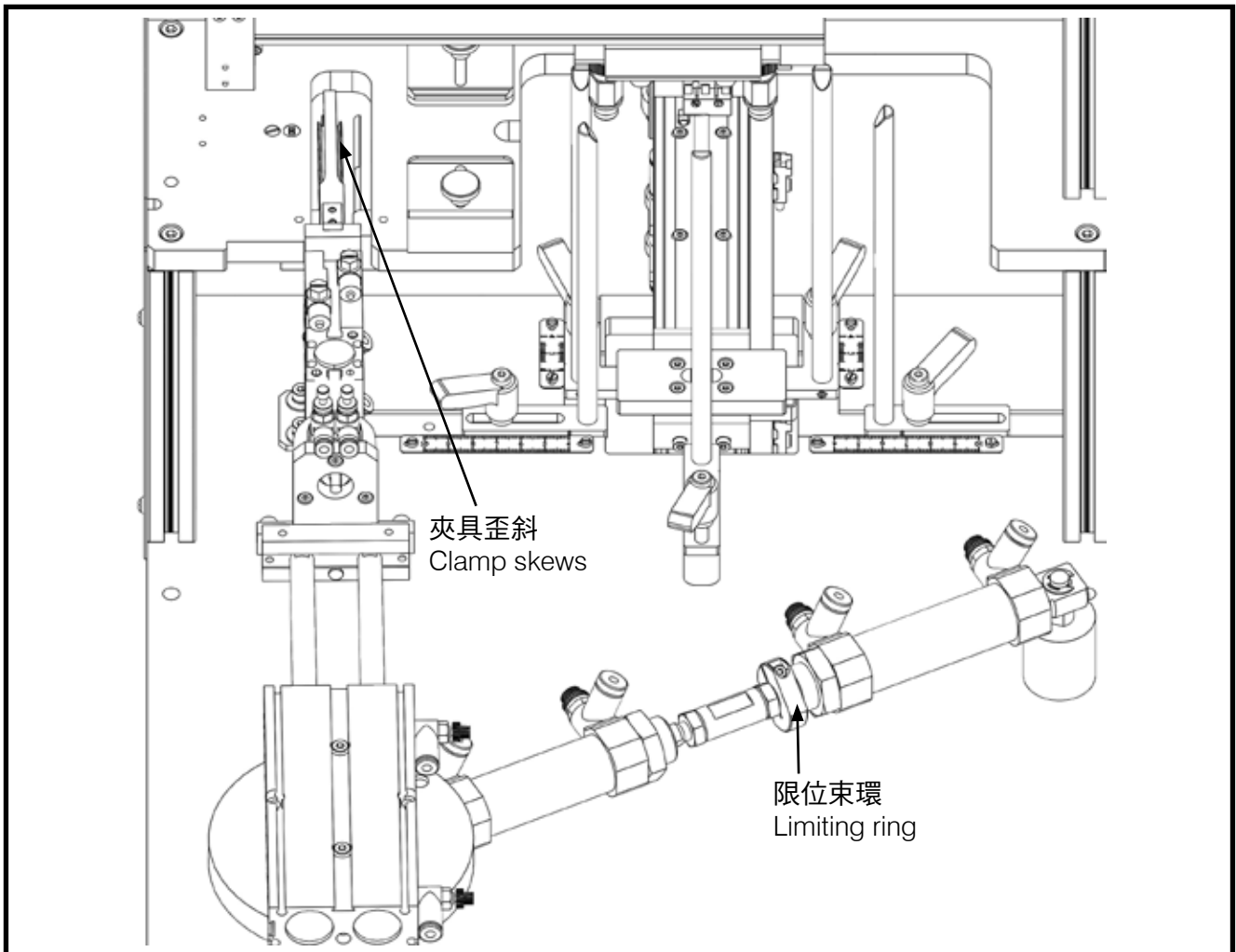


### 3. 機構位置錯誤

夾具歪斜可鬆開汽缸束環的位置來進行微調。

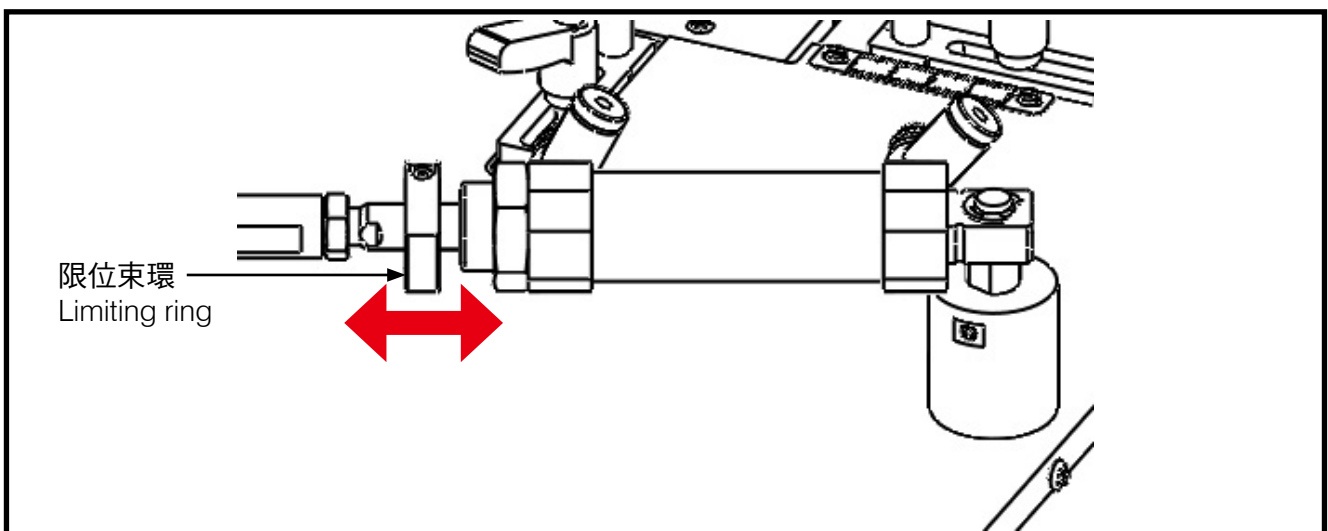
### 3. Incorrect mechanism position

If clamp skews, we can loose cylinder limiting ring for fine tuning the position.



限位束環是鎖在氣缸軸上，鬆開螺絲後微調位置再鎖固即可改變夾具歪斜角度。

Limiting ring is locked on the cylinder shaft. Loose, fine-tune position and then lock the screw to adjust the clamp skew angle.

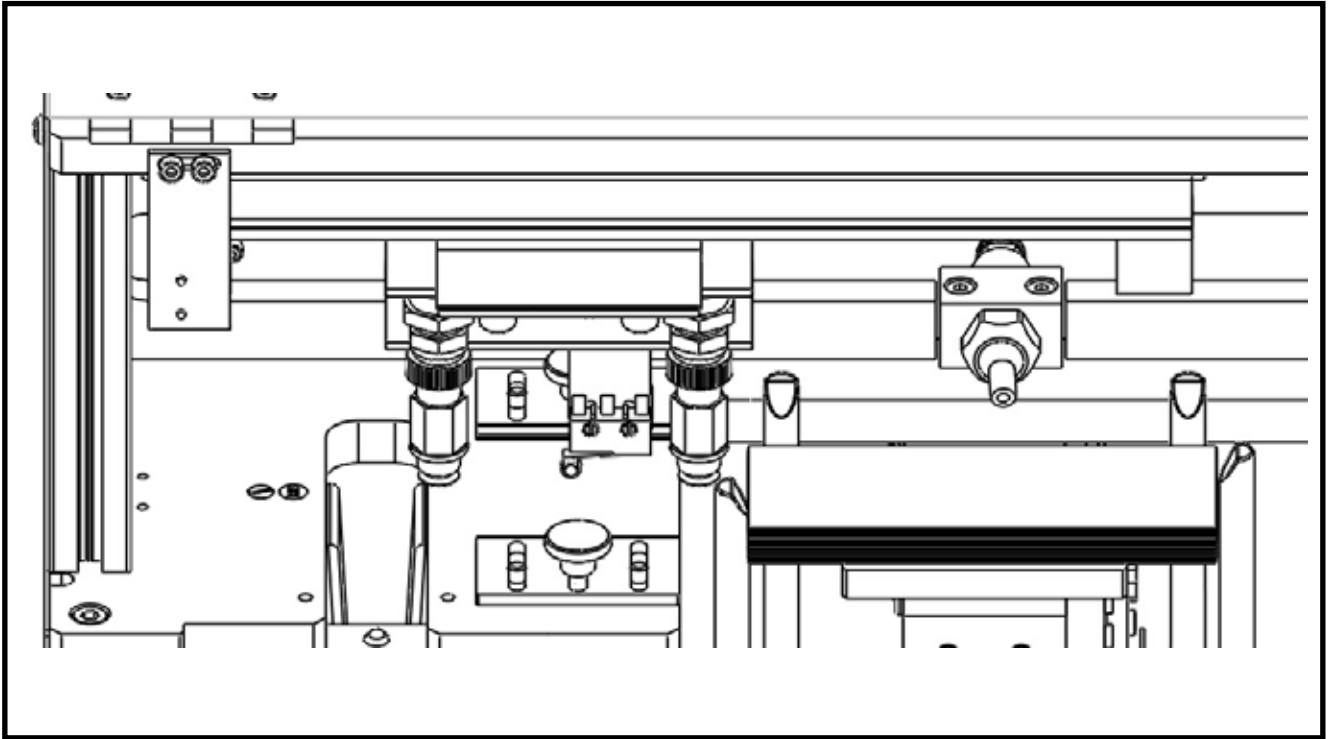


## 4. 吸盤取料失敗

台移載時未將料卡吸住則為取料失敗

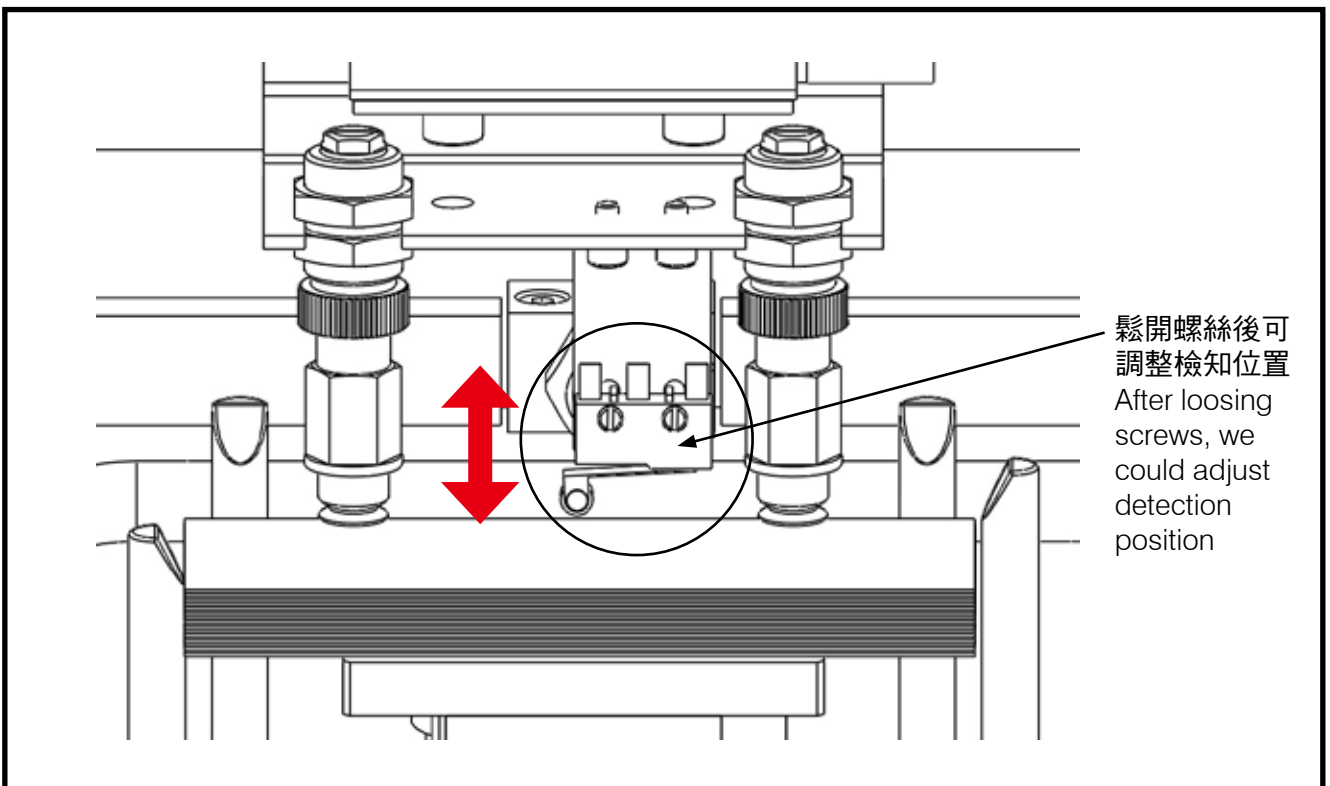
## 4. Failure for suction cup to catch material

When suction cup platform moves to next step but does not catch material label well, suction cup fails to catch material.



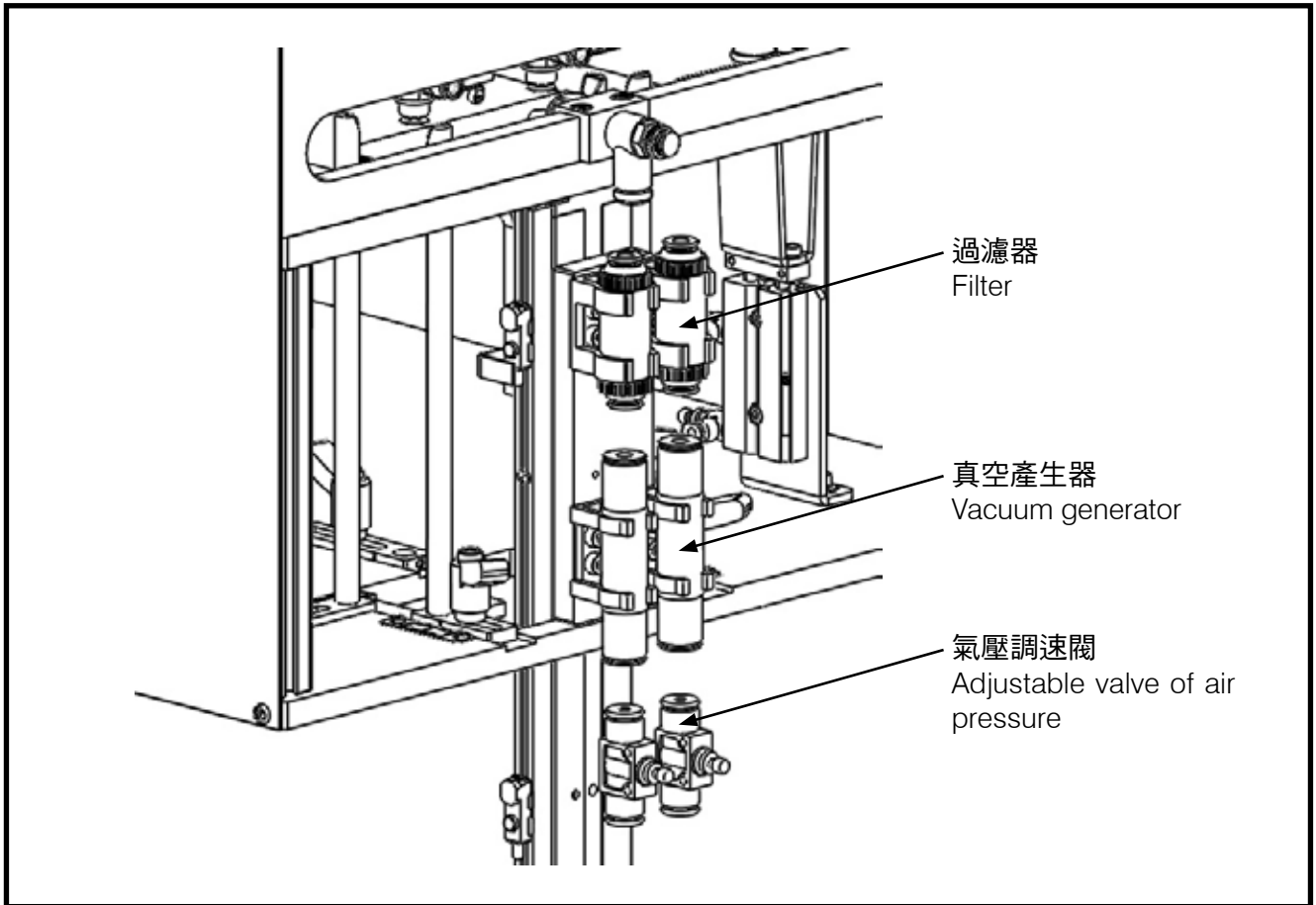
調整入料檢知位置可決定載料平台的上升高度。

To adjust filling detection position could control the raise height of material platform.



真空吸氣量亦是取料因素之一，可單獨調整氣壓調速閥控制吸力大小。若發現過濾器已髒汙嚴重時請進行更換，未更換則吸力會因阻塞逐漸變弱。

Vacuum suction strength is also a factor to catch material label. We can only adjust flow control valve to adjust suction strength. If users find air filters seriously polluted, please replace it, or suction strength will become lesser because of blocks.



## 動作模式

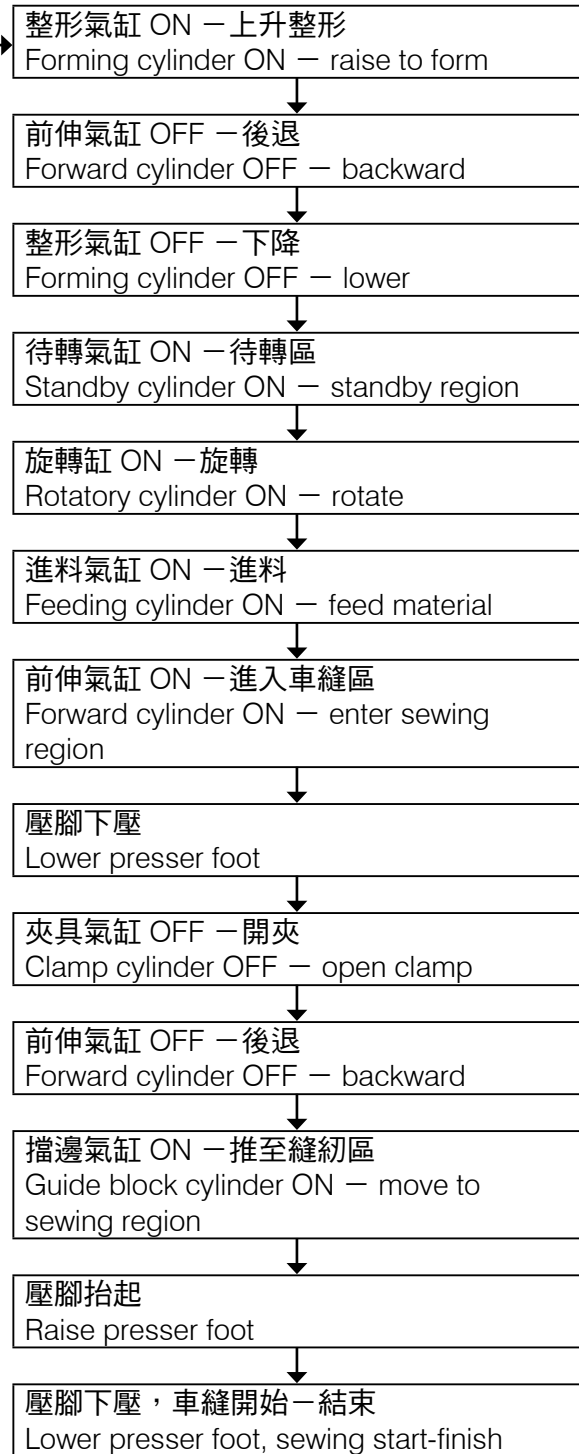
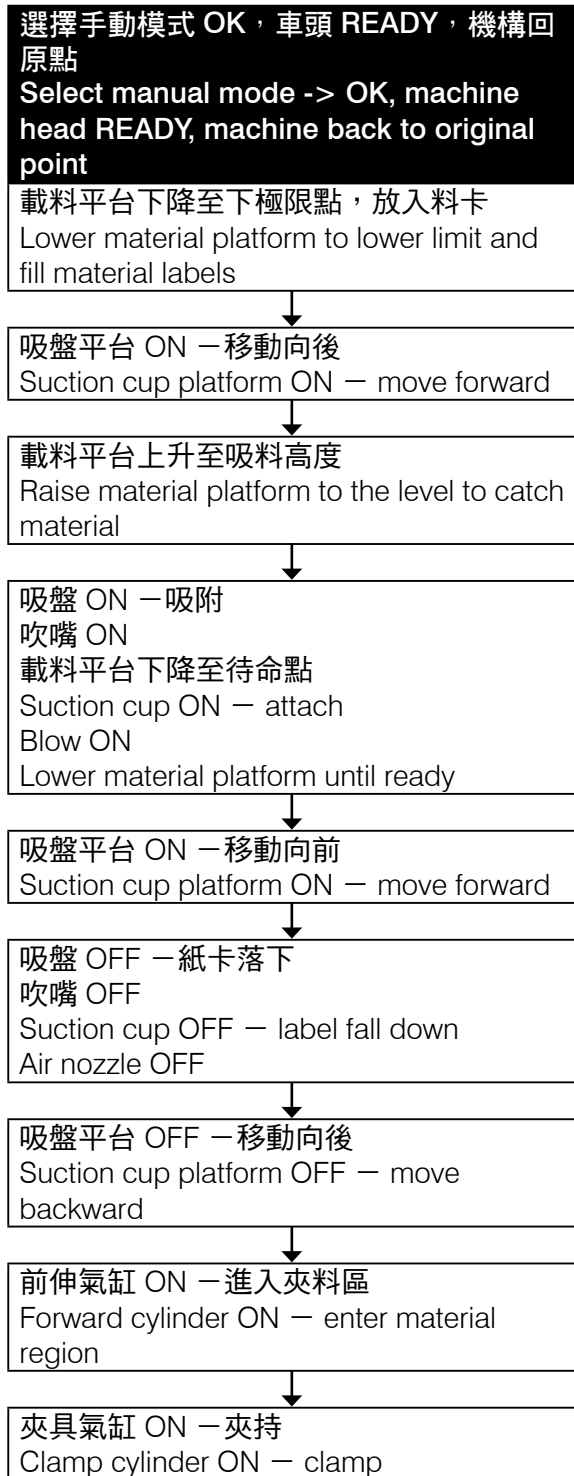
## MODE SELECT

### (1) 單動模式

### (1) Single-step mode

手動狀態 →

Manual mode →



( 2 ) 自動模式

手動狀態 —————→  
自動狀態 - - - - ->

選擇手動模式 OK，車頭 READY，機構回原點  
Select manual mode -> OK, machine head READY,  
machine back to original point

載料平台下降至下極限點，放入料卡  
Lower material platform to lower limit and fill material labels

吸盤平台 ON — 移動向後  
Suction cup platform ON — move forward

載料平台上升至吸料高度  
Raise material platform to the level to catch material

檢查夾料區訊號 Check the signal from forming region

吸盤 ON — 吸附  
吹嘴 ON  
載料平台下降至待命點  
Suction cup ON — attach,  
Blow ON (2 secs),  
Lower material platform to standby point

吸盤平台 ON — 移動向前  
Suction cup platform ON — move forward

吸盤 OFF — 紙卡落下  
Suction cup OFF — label fall down

吸盤平台 OFF — 移動向後  
Suction cup platform OFF — move backward

檢查夾料區訊號 Check the signal from forming region

前伸氣缸 ON — 進入夾料區  
Forward cylinder ON — enter material region

夾具氣缸 ON — 夾持  
Clamp cylinder ON — clamp

整形氣缸 ON — 上升整形  
Forming cylinder ON — raise to form

前伸氣缸 OFF — 後退  
整形氣缸 OFF — 下降  
Forward cylinder OFF — backward  
Forming cylinder OFF — lower

( 2 ) Automatic mode

Manual mode —————→  
Automatic mode - - - - ->

待轉氣缸 ON — 待轉區  
Standby cylinder ON — standby region

旋轉缸 ON — 旋轉  
Rotatory cylinder ON — rotate

檢查車縫結束訊號 Check sewing finish signal

進料氣缸 ON — 進料  
Feeding cylinder ON — feed material

前伸氣缸 ON — 進入車縫區  
Forward cylinder ON — enter sewing region

壓腳下壓  
Lower presser foot

夾具氣缸 OFF — 開夾  
Clamp cylinder OFF — open clamp

前伸氣缸 OFF — 後退  
Forward cylinder OFF — backward

擋邊氣缸 ON — 推至縫紉區  
Guide block cylinder ON — move to sewing region

壓腳抬起  
Raise presser foot

壓腳下壓，車縫開始  
Lower presser foot and start sewing

車縫結束  
Finish sewing

開機第一次 FEED  
First FEED after turning on

進料氣缸 OFF  
待轉氣缸 OFF  
旋轉缸 OFF  
Feed cylinder OFF  
Rotatory cylinder OFF

## ( 3 ) 單縫模式 ( 補縫模式 )

開啟電源後，在單動模式下按下人機介面數字鍵 8 即進入單縫模式，此時自動送料機構停止動作。主要用於人工摺紙卡再進行車縫或補縫用。

## ( 4 ) 單捲線模式

此模式下可單獨捲線

注意！！啟動此模式前請將車針拆下避免撞斷車針

依照下列順序進行。

- A. 將 " 電源開關① " 切至 OFF 。
- B. 將 " 電源開關① " 切至 ON 。
- D. 按下 " 準備鍵② " 變成 ON 。
- E. 按下 " 準備鍵② " 變成 OFF 。
- G. 按下 " 運轉鍵③ "，使其燈號在 " 捲線圖案 " 上亮起。
- H. 按下 " 準備鍵② " 變成 ON 。
- I. 按下 " 起動鍵④ " 即可運轉。
- J. 捲完線，按下 " 起動鍵④ " 即可停止。

## ( 3 ) Only sewing mode (re-sew mode)

After turning on the power, press number "8" on the panel in step mode to enter only sewing mode. Then, automatic feeder stop working.

This mode is mainly designed for users to fold label by hand and then to sew or to re-sew it.

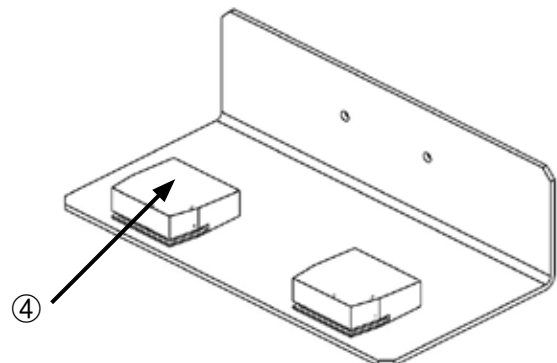
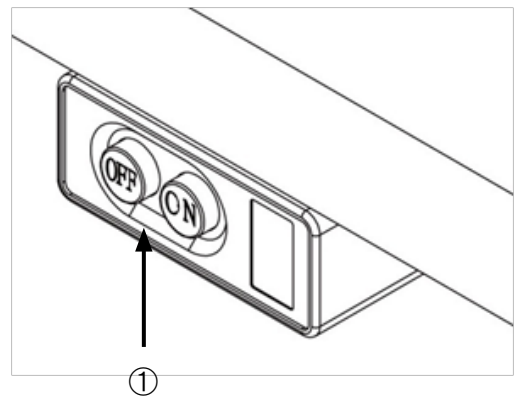
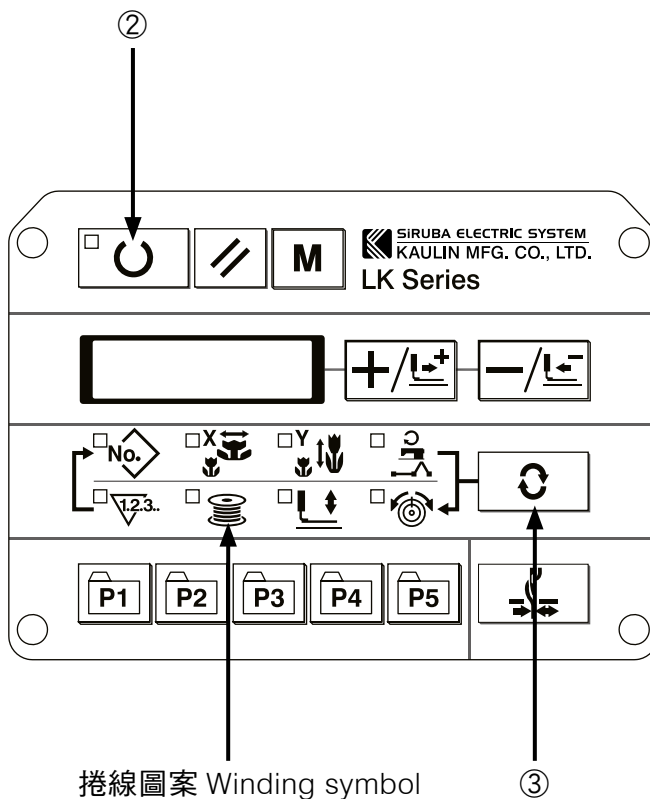
## ( 4 ) Only winding mode

We could only wind in this mode.

Notice！！Please remove sewing needle to prevent crushing the needle before activating this mode.

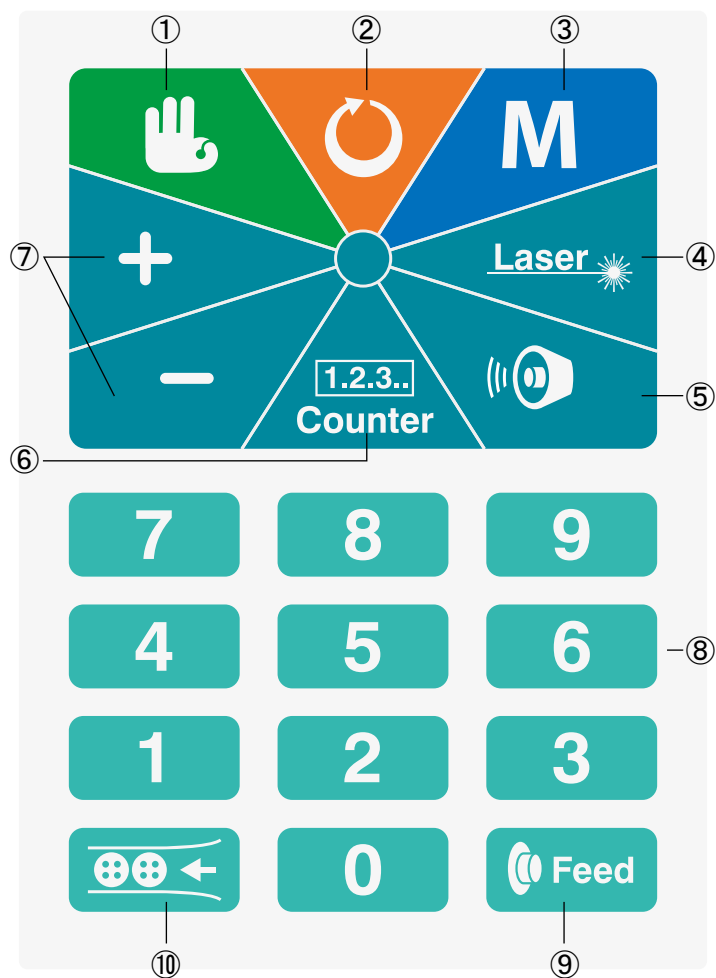
Follow below sequences:

- A. Turn OFF "Power switch ①".
- B. Turn ON "Power switch ①".
- D. Press "Ready ②" to become ON.
- E. Press "Ready ②" to become OFF.
- G. Press "Operation ③" to turn on "Winding symbol" light.
- H. Press "Ready ②" to become ON.
- I. Press "Activation switch ④" to run.
- J. After winding, press "Activation switch ④" to stop.



## 按鍵說明

## BUTTON INSTRUCTIONS



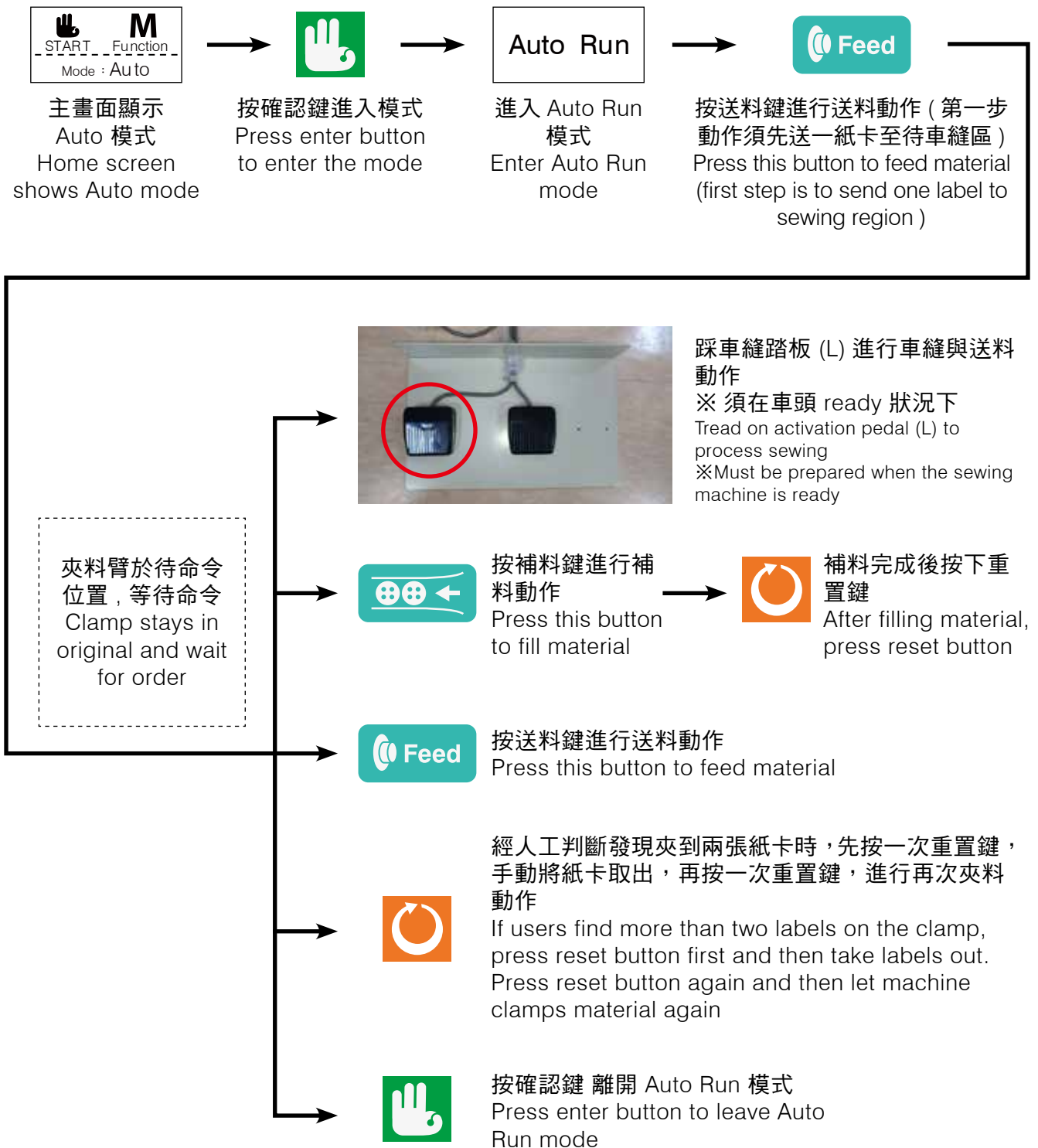
代號 Code	名稱 Description	備註 Memo
1	確認 (準備) Enter	
2	重置 Reset	
3	參數 Parameter	在主頁面時按下可進入 A 參數頁面。 Press this key to enter "A" parameter page under main menu.
4	備用 Spare	無使用。No function
5	備用 Spare	無使用。No function
6	備用 Spare	無使用。No function
7	選擇 (調整) Select	進入參數調整與馬達測試時使用 Use for parameter adjustment or motor test
8	數字鍵 Digit Key	氣缸測試模式時使用 Use for test mode of an air cylinder
9	送料鍵 Feed Material	送紙卡至待車縫區 Send label to sewing region
10	補料鍵 Fill Material	自動模式時，讓載料平台下降，進行補料動作 In automatic mode, lower material platform and then fill materials

## 操作說明

## OPERATION INSTRUCTION

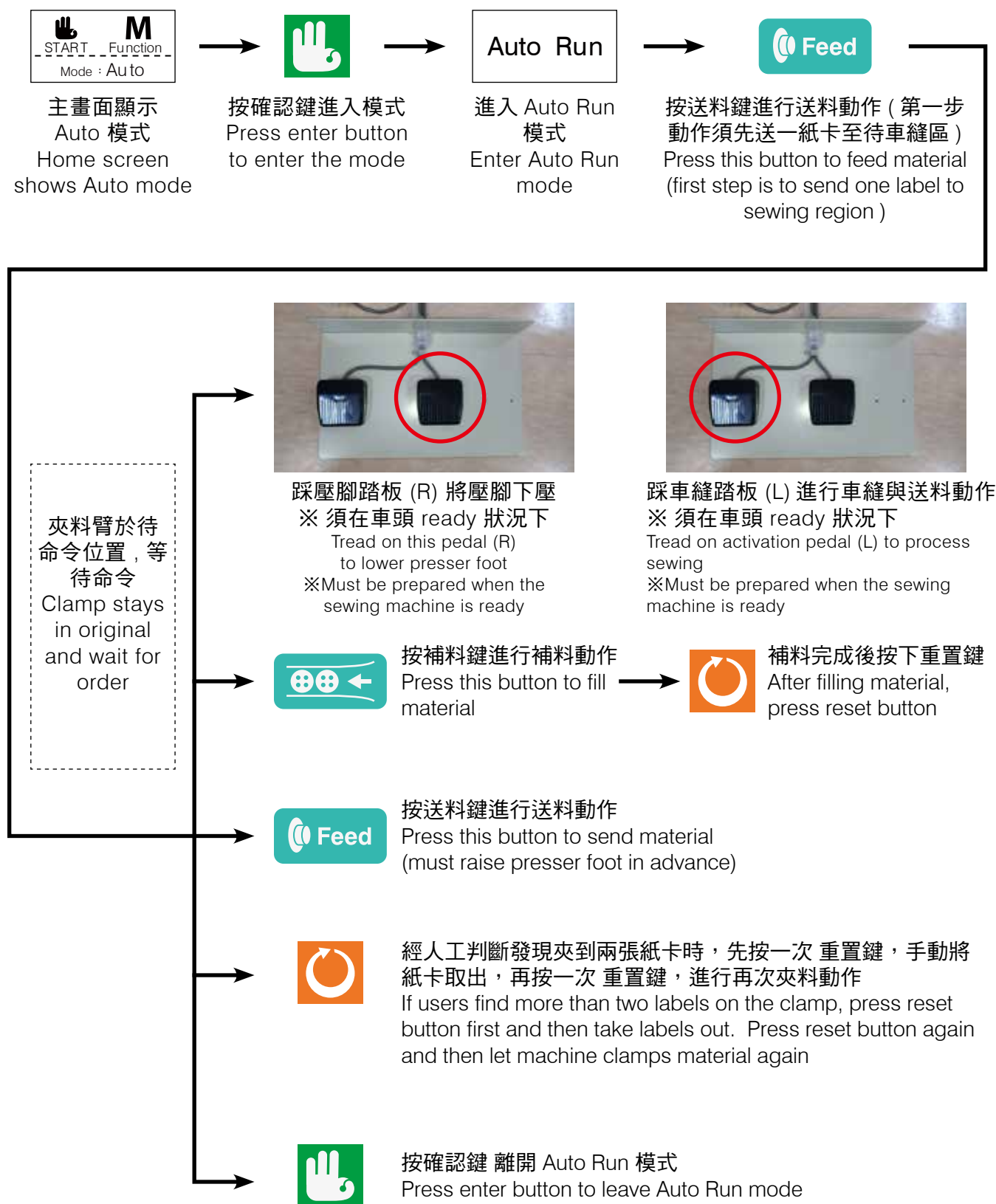
### Auto Run 操作說明 < 單踏板 >

### Auto Run operation instruction < single pedal >



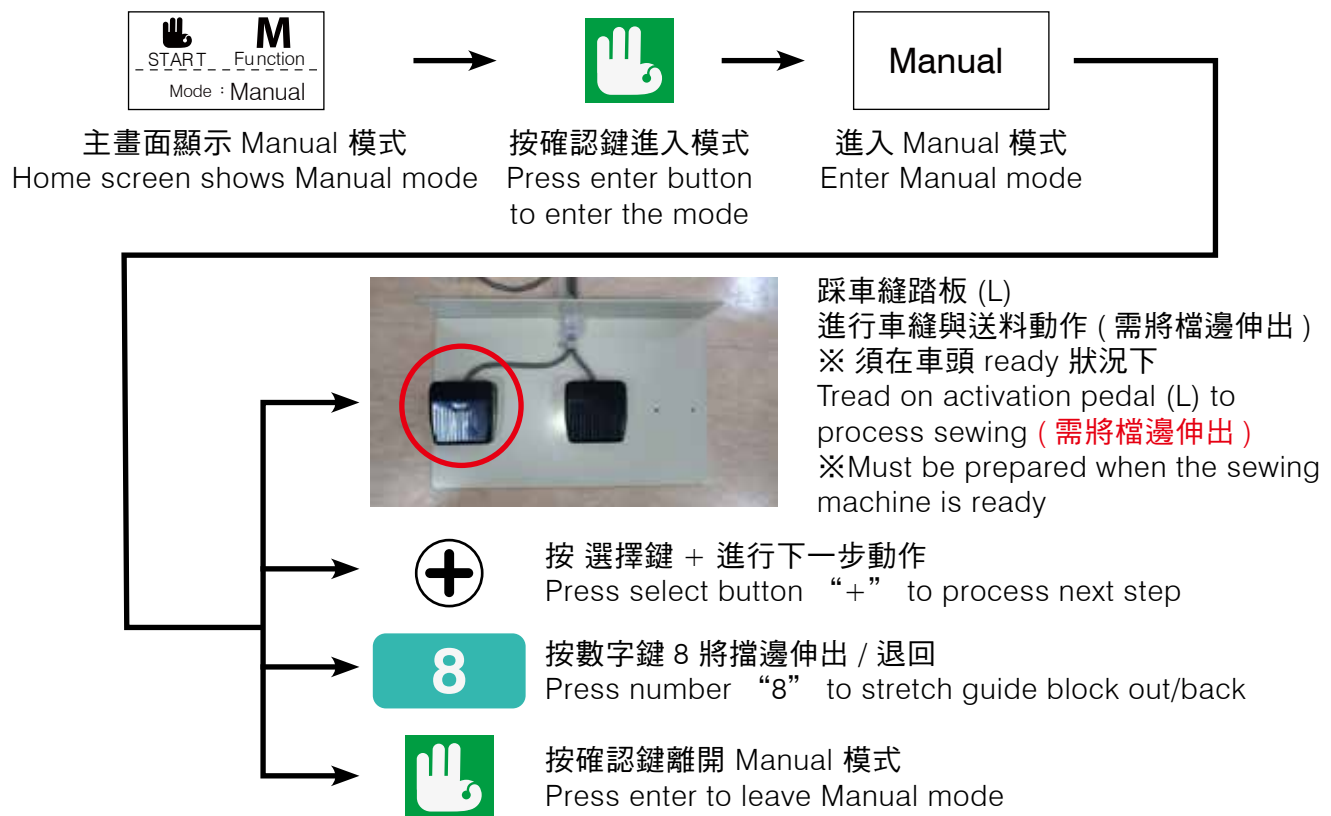
# Auto Run 操作說明 < 雙踏板 >

# Auto Run operation instruction <2-step pedals>



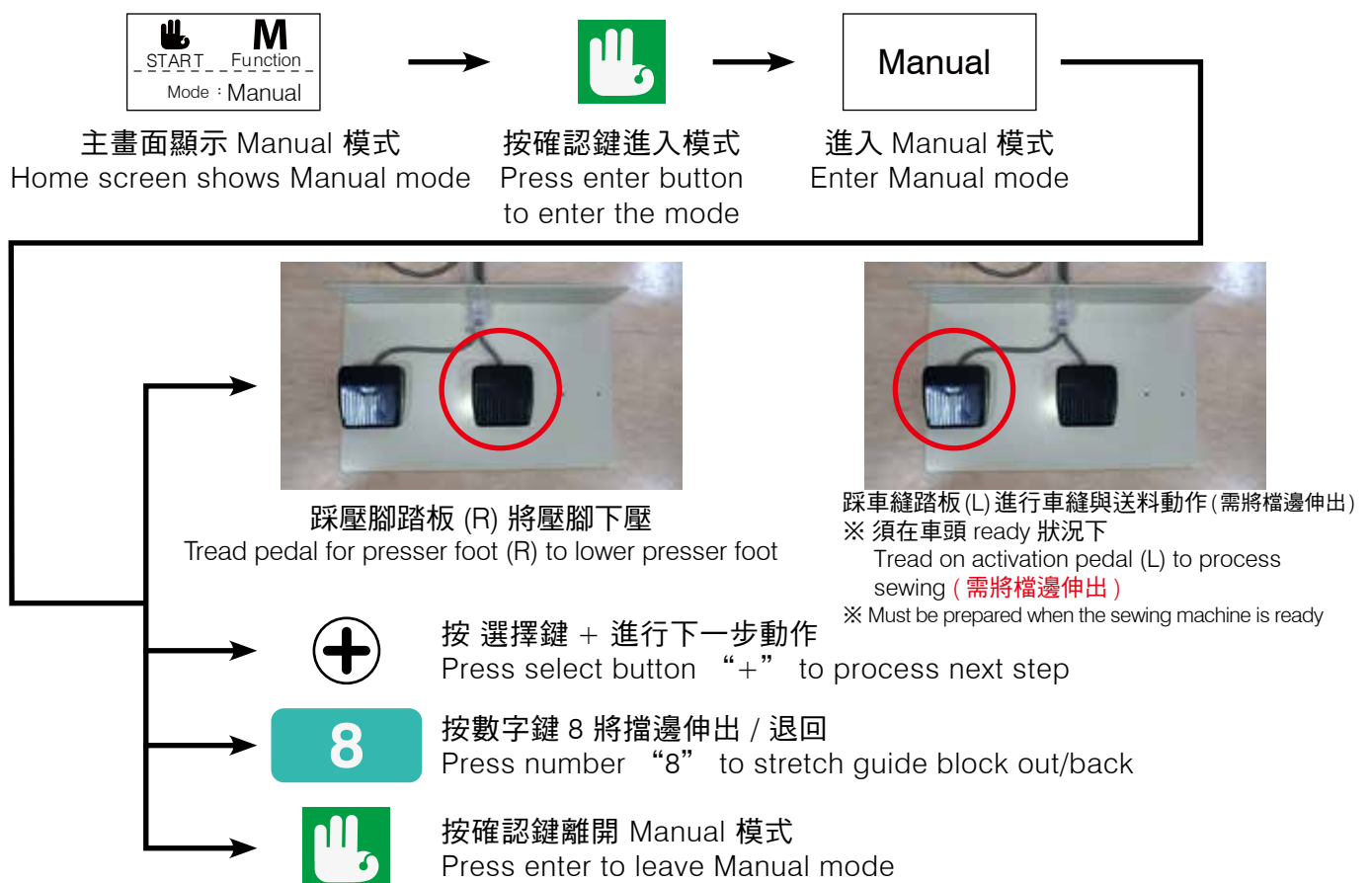
## Manual 模式 < 單踏板 >

## Manual mode <One pedal>



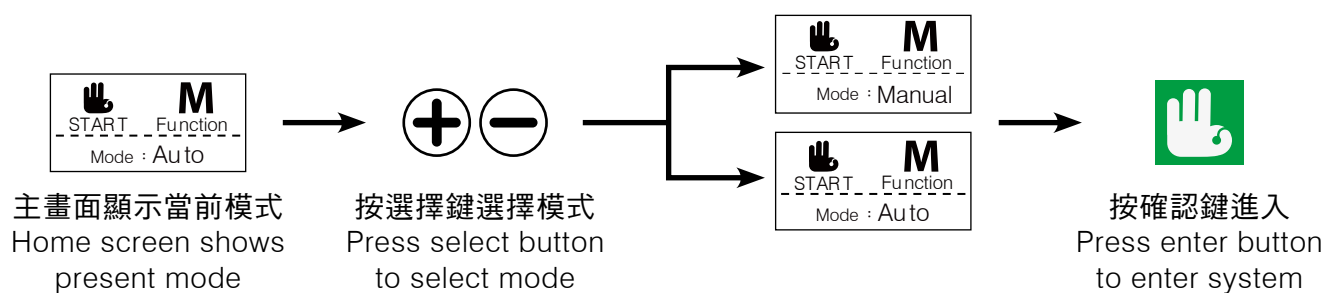
## Manual 模式 < 雙踏板 >

## Manual mode <2-step pedals>



## 模式選擇方式

## Mode selection



## 參數說明

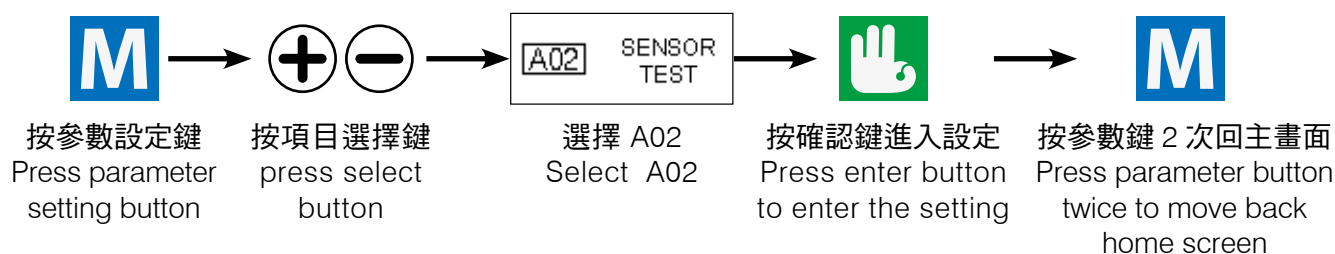
## PARAMETER INSTRUCTION

Item	參數編號 Code	參數名稱 Description	備註 Memo
1	A01	電磁閥 / 壓腳測試 Solenoid valve / presser foot test	0~9, 補料鍵 0~9, button to fill material
電磁閥 編號  Solenoid valve No.	1	運料電磁閥 Transmission solenoid valve	
	2	前伸電磁閥 Forward solenoid valve	
	3	夾爪電磁閥 Clamp solenoid valve	
	4	塑型電磁閥 Forming solenoid valve	
	5	翻轉電磁閥 Rotation solenoid valve	
	6	定位電磁閥 Position solenoid valve	
	7	無 No	
	8	擋邊電磁閥 Guide block solenoid valve	
	9	壓腳 Presser foot	
	0	吸嘴電磁閥 air nozzle solenoid valve	
	補料鍵 Fill material	吹氣電磁閥 Blowing solenoid valve	
2	A02	SENSOR / 訊號 測試 SENSOR / signal test	IN1~IN9, INA~INC
SENSOR 編號  SENSOR No.	IN1	前伸氣缸磁簧開關 Forward cylinder reed switch	
	IN2	塑型氣缸磁簧開關 Forming cylinder reed switch	
	IN3	備用 Spare	
	IN4	擋邊氣缸磁簧開關 Guide block cylinder reed switch	
	IN5	車縫踏板訊號 Sewing activation pedal signal	
	IN6	準備點位置微動開關 Micro switch on standby point of suction cup	
	IN7	成型區感應器 Sensor on forming part	
	IN8	原點位置磁簧開關 Reed switch on original point of suction cup	
	IN9	上極限開關 Upper limit switch	
	INA	下極限開關 Lower limit switch	
	INB	有料判別開關 Storage material detect sensor	
	INC	壓腳踏板訊號 Presser foot pedal signal	
3	A03	入料動作測試 Filling material test	
4	A04	步進馬達動作測試 Stepping motor action test	
5	A05	單 / 雙 踏板動作方式選擇 Select one/two-step pedals	1: 單踏板方式 2: 雙踏板方式 1:one pedal/ 2:2-step pedals
6	A06	前伸氣缸向前做夾料動作的時間點	自動模式 AUTO mode
7		版本顯示 Version display	



## A02 SENSOR / 訊號檢測

## A02 SENSOR / SIGNAL DETECTION



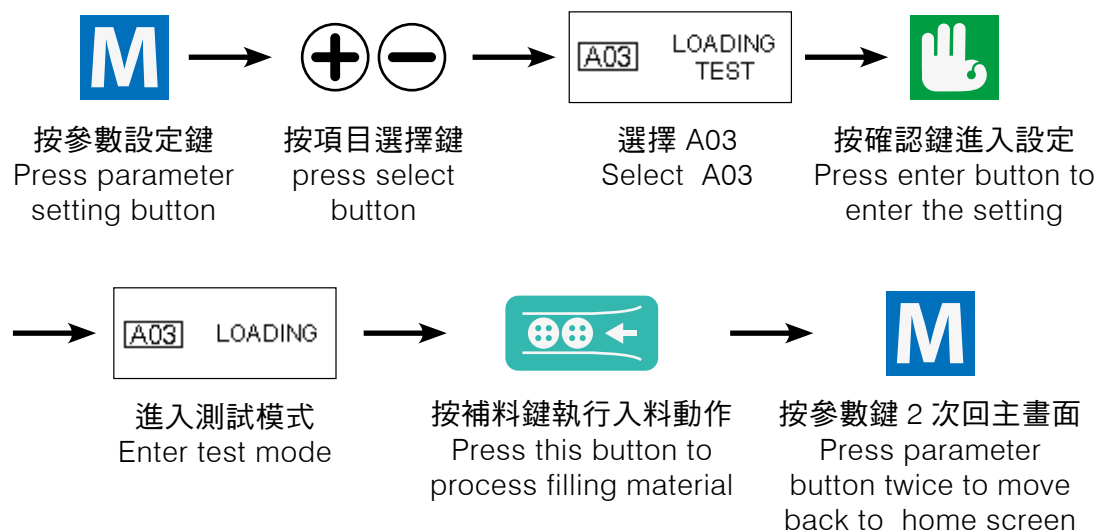
IN1：前伸氣缸磁簧開關 IN1：Forward cylinder reed switch	IN7：成型區感應器 IN7：Sensor on forming part
IN2：塑型氣缸磁簧開關 IN2：Forming cylinder reed switch	IN8：原點位置磁簧開關 IN8：Reed switch on original point of suction cup
IN3：備用 IN3：Spare	IN9：上極限開關 IN9：Upper limit switch
IN4：擋邊磁簧開關 IN4：Guide block reed switch	INA：下極限開關 INA：Lower limit switch
IN5：車縫踏板訊號 IN5：Sewing activation pedal signal	INB：有料判別開關 INB：Storage material detect sensor
IN6：準備點位置微動開關 IN6：Micro switch on standby point of suction cup	INC：壓腳踏板訊號 INC：Presser foot pedal signal

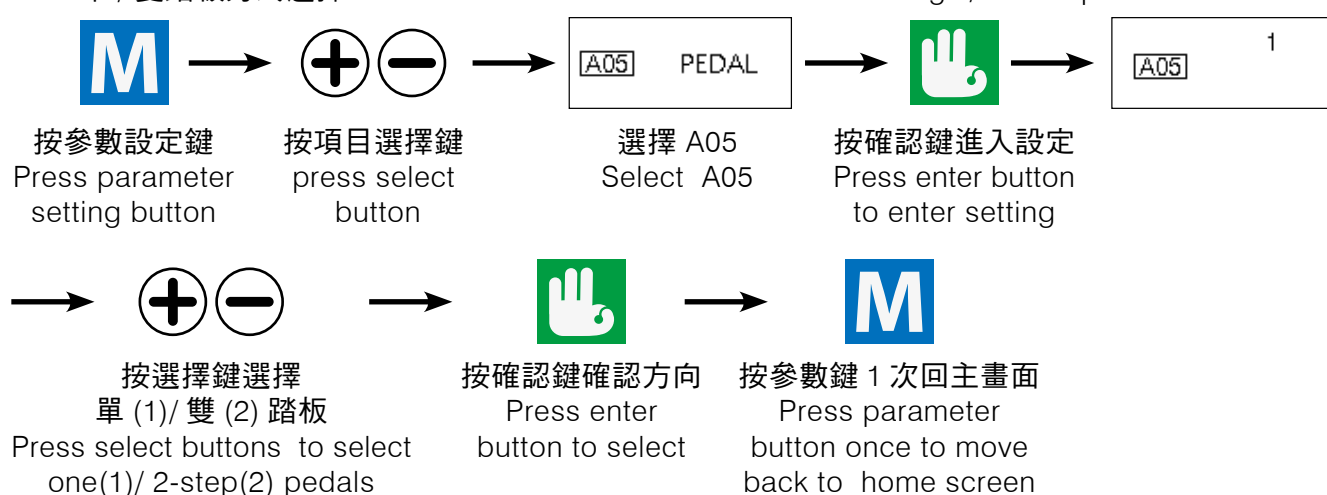
※ 手動操作氣缸，sensor 有亮滅，且螢幕有 ON/OFF 切換表示正常；上 / 下極限開關用一金屬物靠近以輔助判別 sensor 是否正常

※ Users operate cylinder, sensor LED on/off well and screen shows ON/OFF switch -> machine is well; use a metal rod to approach upper/lower limit switches to check if sensors are well.

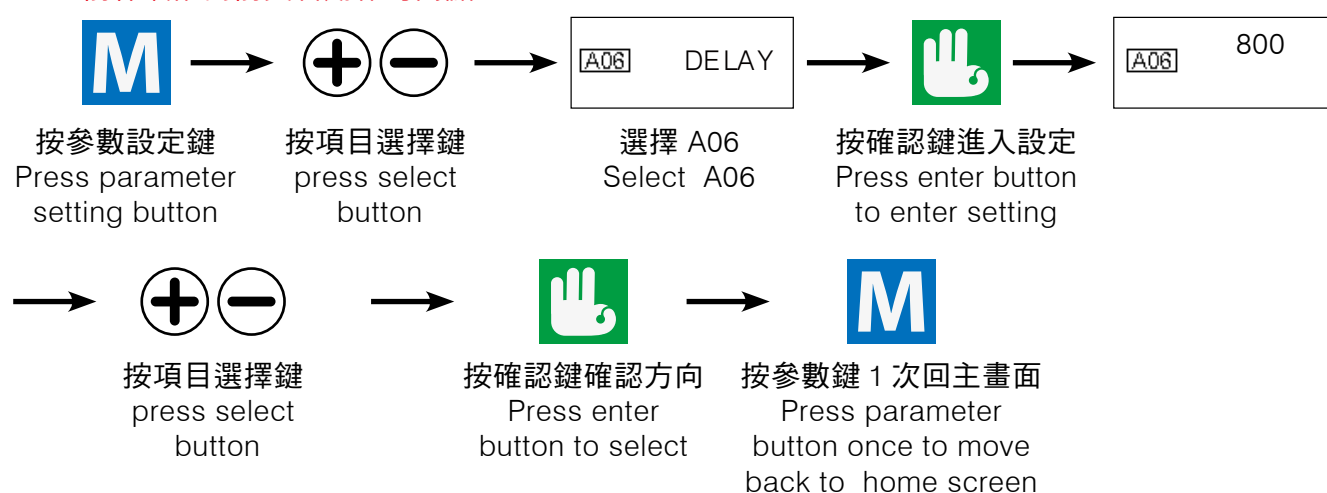
## A03 入料動作測試

## A03 test the action of filling material





### A06 前伸氣缸向前夾料動作時間點





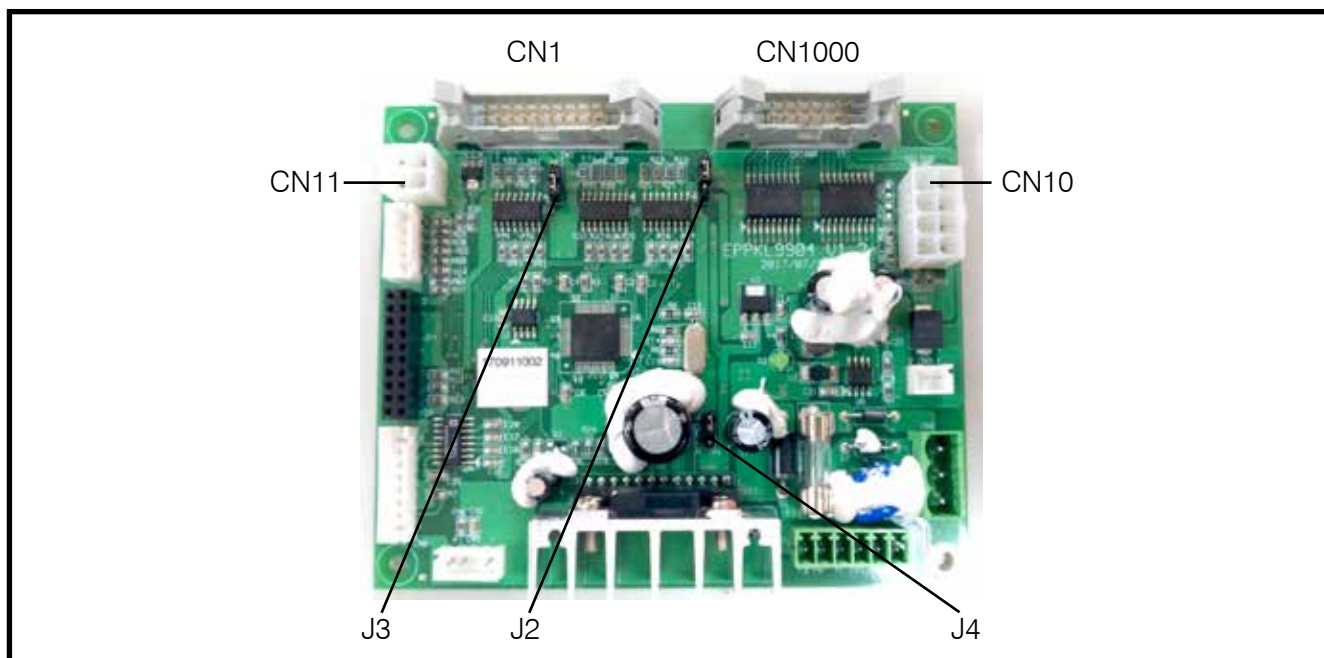
## 故障代碼

## Error code

E01	通訊異常
E02	無紙卡 => 補紙卡 => 檢查 CN12 是否鬆脫 => 檢查上極限 SENSOR(IN7) 接線 => 按復歸再次送紙卡測試
E11	1 號電磁閥異常 => 關電源 => 檢查 1 號電磁閥接線 => 重新開電測試
E12	2 號電磁閥異常 => 關電源 => 檢查 2 號電磁閥接線 => 重新開電測試
E13	3 號電磁閥異常 => 關電源 => 檢查 3 號電磁閥接線 => 重新開電測試
E14	4 號電磁閥異常 => 關電源 => 檢查 4 號電磁閥接線 => 重新開電測試
E16	6 號電磁閥異常 => 關電源 => 檢查 6 號電磁閥接線 => 重新開電測試
E18	8 號電磁閥異常 => 關電源 => 檢查 8 號電磁閥接線 => 重新開電測試
E20	馬達上極限無感應 => 關電源 => 檢查 IN7 接線 => 重新開電測試
E21	馬達下極限無感應 => 關電源 => 檢查 IN5 接線 => 重新開電測試
E22	前送紙卡軌道無感應 => 關電源 => 檢查 IN9、1 號電磁閥接線 => 重新開電測試
E23	後送紙卡軌道無感應 => 關電源 => 檢查 IN10、1 號電磁閥接線 => 重新開電測試
E24	前深夾爪無感應 => 關電源 => 檢查 IN1、2 號電磁閥接線 => 重新開電測試
E25	塑形無感應 => 關電源 => 檢查 IN2、4 號電磁閥接線 => 重新開電測試
E26	擋邊無感應 => 關電源 => 檢查 IN4、8 號電磁閥接線 => 重新開電測試

# 控制板 (一)

# CONTROL BOARD (I)



CN1 I/O 板連接埠 (排線連接 IO 板 CN1)  
CN1 Control board port ( Flexile flat cable  
connect with CN1 on control board )

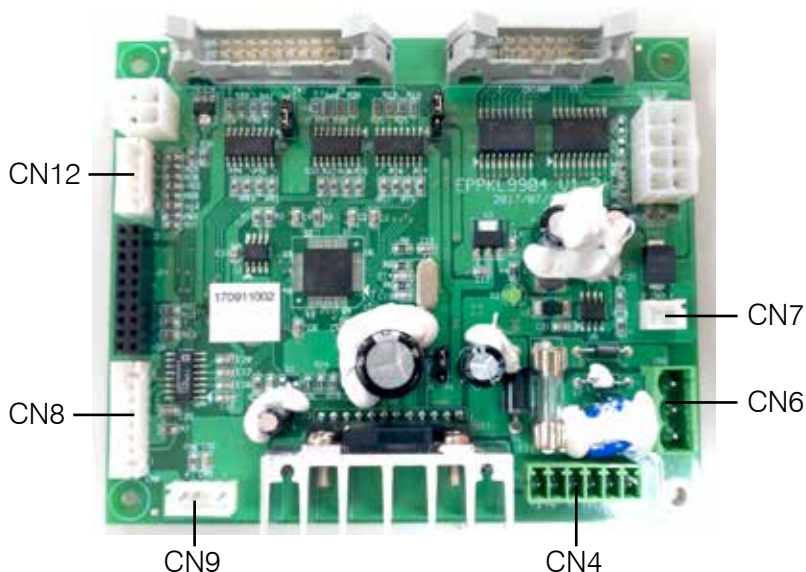
CN1000 I/O 板連接埠 (排線連接 IO 板 CN2)  
CN1000 Control board port ( Flexile flat cable  
connect with CN2 on control board )

CN11 輸入控制 CN11 INPUT CONTROL			CN10 輸出控制 CN10 OUTPUT CONTROL		
PIN	符號 Symbol	說明 Description	PIN	符號 Symbol	說明 Description
1	VCC	外部輸入電壓 Input power	1	PC12	校正成型區感應器 Correcting sensor on forming part
2	VCC	備用 Spare	2	PC13	備用 Spare
3	PA11	車頭訊號 Machine head signal	3	PC14	車縫 Sewing
4	PA12	備用 Spare	4	PC15	壓腳 Presser foot
			5-8	24V	DC24V

J3 VCC2 跳帽電壓選擇埠 J3 VCC2 voltage select port for jumper cap			J2 VCC1 跳帽電壓選擇埠 J2 VCC1 voltage select port for jumper cap			J4 VCC 跳帽電壓選擇埠 J4 VCC voltage select port for jumper cap		
PI	符號 Symbol	說 明 Description	PI	符號 Symbol	說 明 Description	PI	符號 Symbol	說 明 Description
1	24V	DC24V 電源輸入 DC24V Power Input	1	24V	DC24V 電源輸入 DC24V Power Input	1	24V	DC3.3V 電源輸入 DC3.3V Power Input
2	VCC2		2	VCC1		2	MS2	馬達全 / 半步選擇 Full/half step motor select
3	5V	DC5V 電源輸入 DC5V Power Input	3	5V	DC5V 電源輸入 DC5V Power Input	3	GND	GND
跳帽選擇 5V&COM Jumper selects 5V&COM			跳帽選擇 24V&COM Jumper selects 24V&COM			跳帽選擇 MS2&GND Jumper selects MS2&GND		

## 控制板 (二)

## CONTROL BOARD (II)

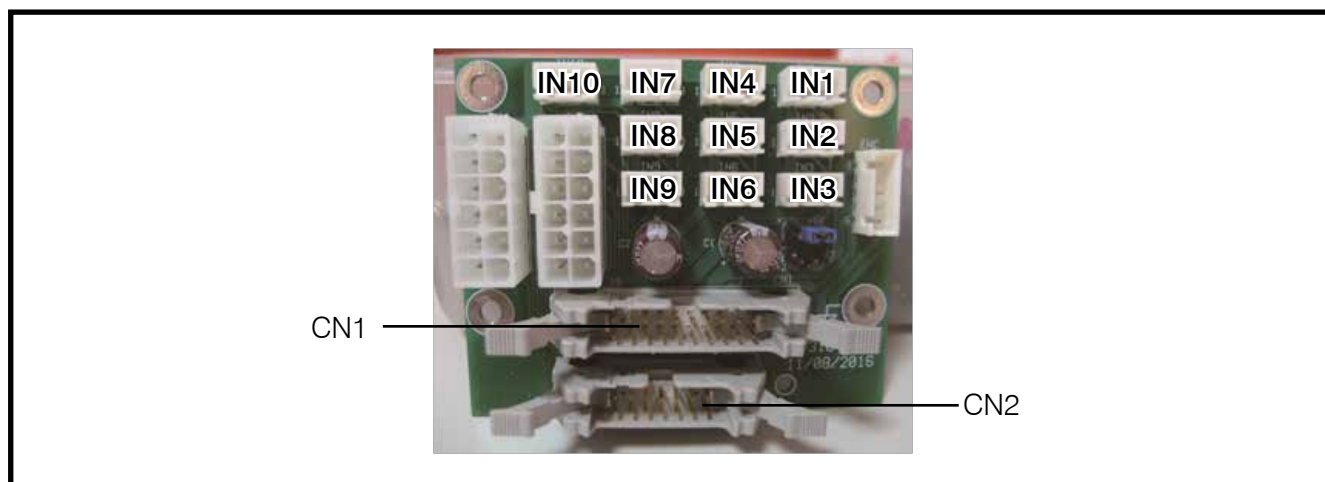


CN9 ADC 信號輸入 CN9 ADC Signal Input				CN6 DC24V 輸入 CN6 DC24V Input			CN7 DC24V 風扇輸出 CN7 DC24V Fan Output		
PIN	符號 Symbol	說明 Description	線色	PIN	符號 Symbol	說明 Description	PIN	符號 Symbol	說明 Description
1	3.3V	3.3V 電源輸出 3.3V Power Input	紅 Red	1	24V	DC24V 電源輸入 DC24V Power Input	1	24V	
2	GND	GND	黑 Black	2	0V		2	0V	
3	IN	ADC 信號輸入 ADC Signal Input	藍 Blue	3	FG	外殼接地 GND			
4	NC								

CN12 IIC 信號 ( 備用 I/O ) Spare for Signal I/O			CN8 操作盒通信接口 Communication Connector			CN4 步進馬達 CN4 Stepper Motor			
PIN	符號 Symbol	說明 Description	PIN	符號 Symbol	說明 Description	PIN	符號 Symbol	說明 Description	線色
1	GND	GND	1	5V	5V 電源輸出 5V Power Output	1	CA	A 相中心點 A Phase center	白 White
2	PA8	壓腳踏板 Presser foot pedal	2	BOOT0		2	CB	B 相中心點 B Phase center	黃 Yellow
3	PB9	有料判別開關 Storage material detect sensor	3	GND	GND	3	A	A 相 A Phase	紅 Red
4	PD2	備用 Spare	4			4	/A	/A 相 /A Phase	藍 Blue
5	PB15	準備點位置微動開關 Reed switch on standby point	5			5	B	B 相 B Phase	綠 Green
			6	TX		6	/B	/B 相 /B Phase	黑 Black
			7	RX	信號輸入 Signal Input				
			8	GND	GND				

## I/O 板

## I/O BOARD



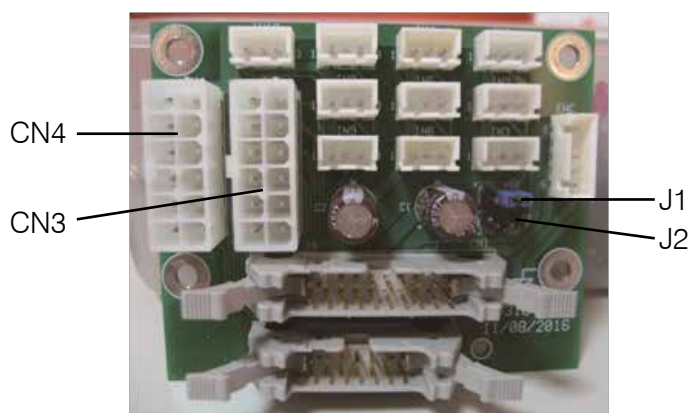
CN1 控制板連接埠  
(排線連接控制板 CN1)

CN1 control port  
(connector control board CN1)

CN2 控制板連接埠  
(排線連接控制板 CN1000)

CN2 control port  
(connector control board CN1000)

PIN	符號 Symbol	說明 Description	
IN(X)_Pin1	P24	X=1~7 此接點為輸出 24V    Output 24V on X=1~7	
IN(X)_Pin3	GND	此接點為輸出 GND, GND output	
IN(X)_Pin1	VCC	X=8~10 此接點可由 J1 跳帽選擇輸出 24V or 5V Output 24V or 5V switched by jumper cap J1 on X=8~10	
IN1~IN10    輸入信號    IN1~IN10    Input signal			
IN 1_Pin2	IN1	前伸氣缸磁簧開關	Forward cylinder reed switch
IN 2_Pin2	IN2	塑型氣缸磁簧開關	Forming cylinder reed switch
IN 3_Pin2	IN3	備用	Spare
IN 4_Pin2	IN4	擋邊氣缸磁簧開關	Guide block cylinder reed switch
IN 5_Pin2	IN5	下極限開關	Lower limit switch
IN 6_Pin2	IN6	車縫踏板	Sewing activation pedal
IN 7_Pin2	IN7	上極限開關	Upper limit switch
IN 8_Pin2	IN8	成型區感應器	Sensor on forming part
IN 10_Pin2	IN10	原點位置磁簧開關	Reed switch on original point of suction cup



CN4 I/O 板輸出連接埠 CN4 I/O board output port

腳位 PIN	符號 Symbol	說明 Description
1	OUT 7	備用 Spare
2	OUT 8	擋邊氣缸電磁閥 Guide block cylinder solenoid valve
3	OUT A	備用 Spare
4	OUT 9	吸嘴氣缸電磁閥 Suction nozzle cylinder solenoid valve
5	OUT 10	吹氣氣缸電磁閥 Blowing cylinder solenoid valve
6	OUT B	備用 Spare
7~9	24V	DC24V 電源輸入 DC24V power input
10~12	VCC2	J2 跳帽選擇 24V&COM J2 jumper cap selects 24V&COM

CN3 I/O 板電磁閥連接埠 CN3 I/O board solenoid connection port

腳位 PIN	符號 Symbol	說明 Description
1	OUT 1	運料氣缸電磁閥 Transmission cylinder solenoid valve
2	OUT 2	前伸氣缸電磁閥 Forward cylinder solenoid valve
3	OUT 3	夾料氣缸電磁閥 Clamp cylinder solenoid valve
4	OUT 4	塑型氣缸電磁閥 Forming cylinder solenoid valve
5	OUT 5	翻轉氣缸電磁閥 Rotation cylinder solenoid valve
6	OUT 6	定位氣缸電磁閥 Position cylinder solenoid valve
7~12	24V	DC24V 電源輸入 DC24V Power Input

J1 VCC 跳帽電壓選擇埠 Jumper voltage select port

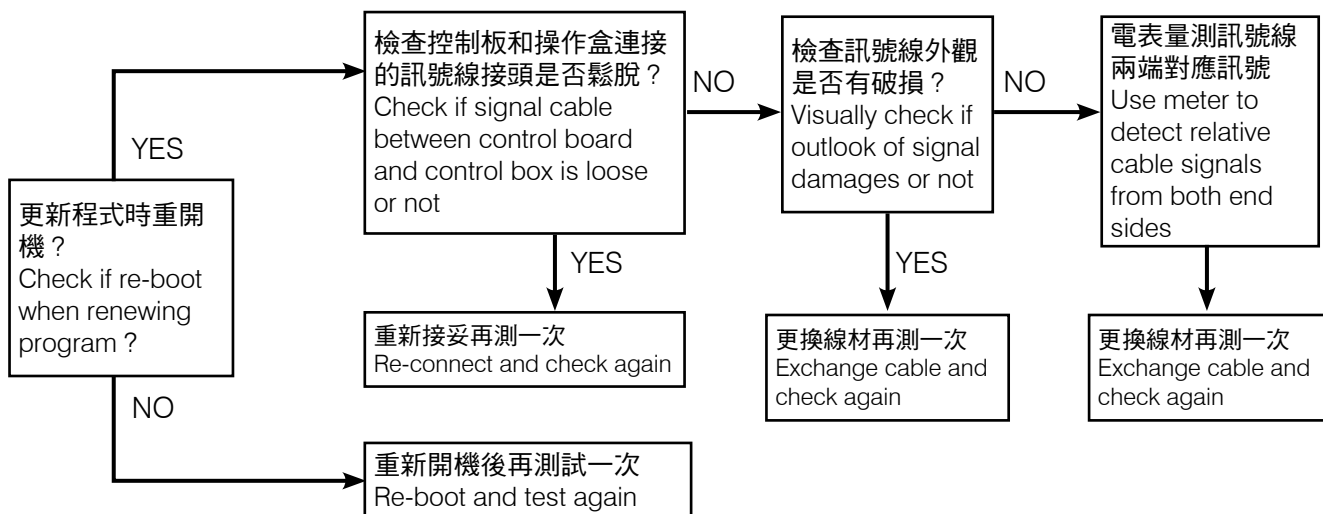
腳位 PIN	符號 Symbol	說明 Description
1	24V	DC24V 電源輸入 DC24V Power Input
2	VCC	
3	5V	DC5V 電源輸入 DC5V Power Input
跳帽選擇 5V&COM Jumper select 5V&COM		

J2 VCC2 跳帽電壓選擇埠 Jumper voltage select port

腳位 PIN	符號 Symbol	說明 Description
1	24V	DC24V 電源輸入 DC24V Power Input
2	VCC2	
3	5V	DC5V 電源輸入 DC5V Power Input
跳帽選擇 24V&COM Jumper select 24V&COM		

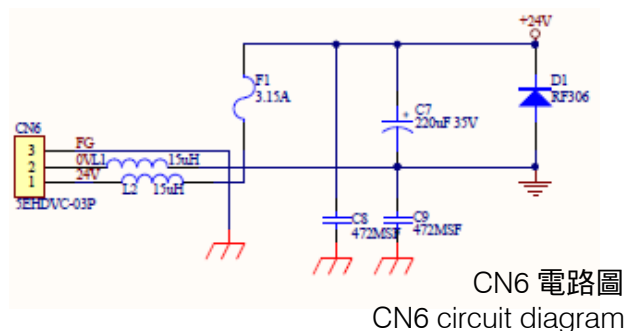
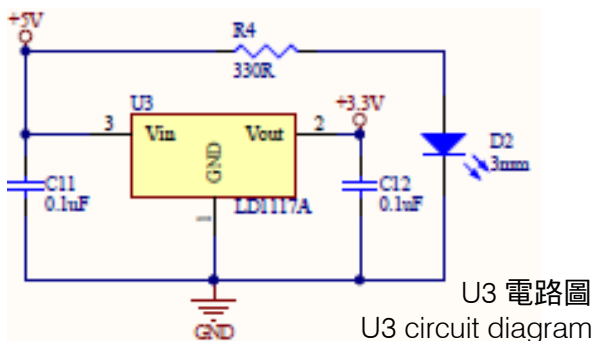
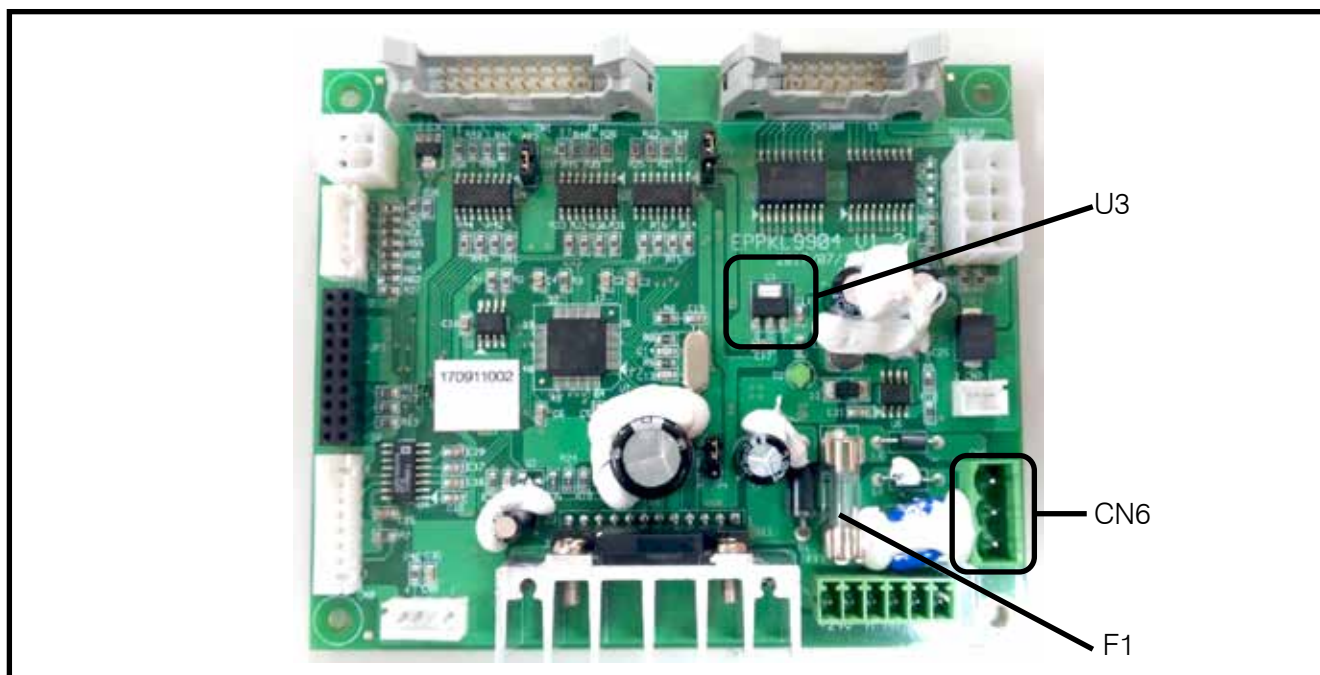
## 出現錯誤代碼 E01： 通訊故障

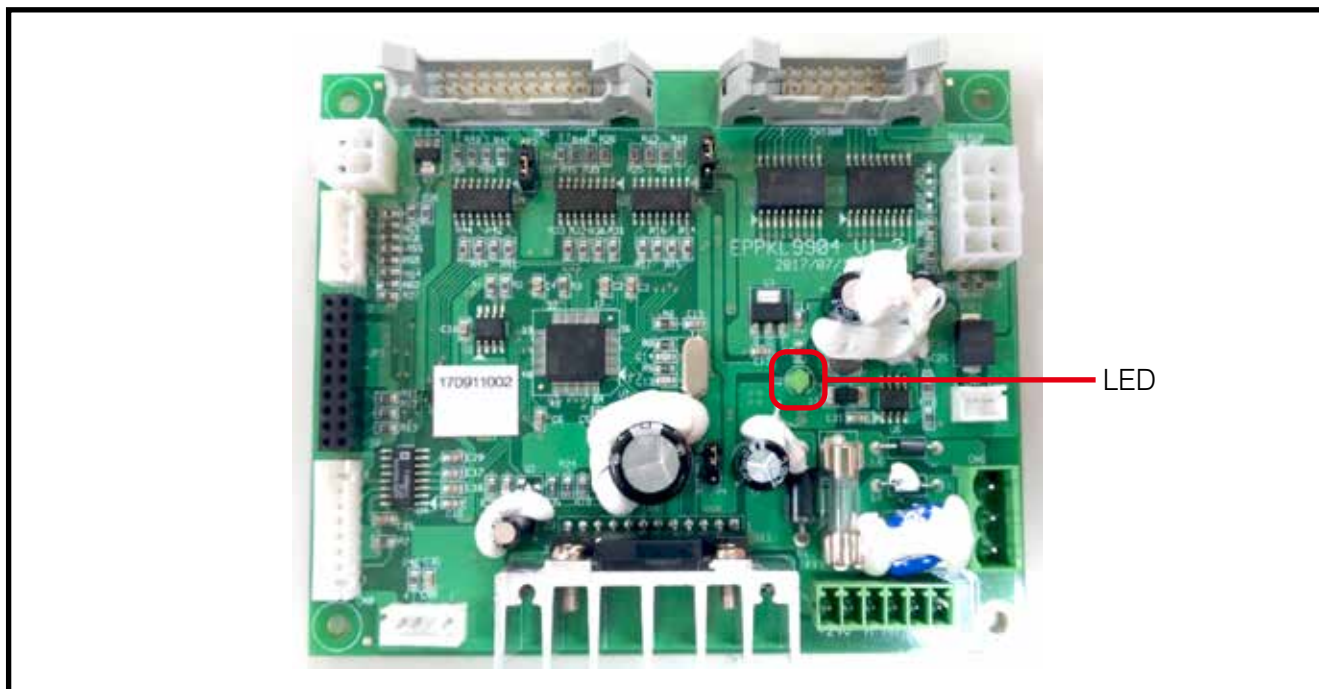
## ERROR CODE E01: COMMUNICATION ERROR



## 簡易維修流程圖

## SIMPLE MAINTENANCE





## A. 無電源

Step 1. 檢查電源插頭是否完整插入？

Step 2. 檢查電源開關是否開啟？

Step 3. 檢查控制基板

a. 檢查控制板 LED 是否正常亮起？

b. 電表量測 CN6 是否為 DC24V？

c. 檢查 F1 ( 3.15A FUES) 是否燒斷？

d. 電錶量測 U3 是否為 5V 與 3.3V？

5V 量測 U3 Pin3 與 Pin1

3.3V 量測 U3 Pin2 與 Pin1

## A. No Power

Step 1. check if power connector fully plugs in.

Step 2. check if power switch is on.

Step 3. check control board.

a. check LED of control board is on.

b. use meter to check if CN6 is DC24V.

c. check if F1 ( 3.15A FUSE) burn out.

d. use meter to check if U3 is 5V or 3.3V.

5V check U3 between Pin3 and Pin1

3.3V check U3 between Pin2 and Pin1



## B. 步進馬達轉動異常

目測 U11 (SLA7073MRT) IC 外觀塑膠部份是否有裂痕？

## B. stepping motor runs error

Visually inspect U11 (SLA7073MRT) IC if there is damage on plastic outlook.

PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0136-A		1 / 15
				Date

Exploded view diagram of the ASP-PTA101 PTA-0136-A assembly. The diagram shows a vertical frame with a motor at the bottom, a central shaft with rollers, and a top carriage. Various components are labeled with part numbers and callouts. The diagram is divided into five horizontal sections labeled A, B, C, D, and E on the left. At the bottom, there are five vertical columns labeled 1, 2, 3, 4, and 5.

Key components and part numbers shown in the diagram:

- SM415\*2
- JA044
- PTA-0031-E
- PTA-0029\*2
- SM411N\*8
- PTA-0105
- SM311N\*4
- PTA-0007
- PTA-0331
- PTA-0106
- SM510N\*4
- PTA-0135
- PTA-0030\*2
- PTA-0276\*2
- SM515\*2
- PTA-0330
- SM4108N
- WM407\*4
- WM410\*4
- SM4107N\*3
- SM3500\*2

<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0102-A		2 / 15
				Date

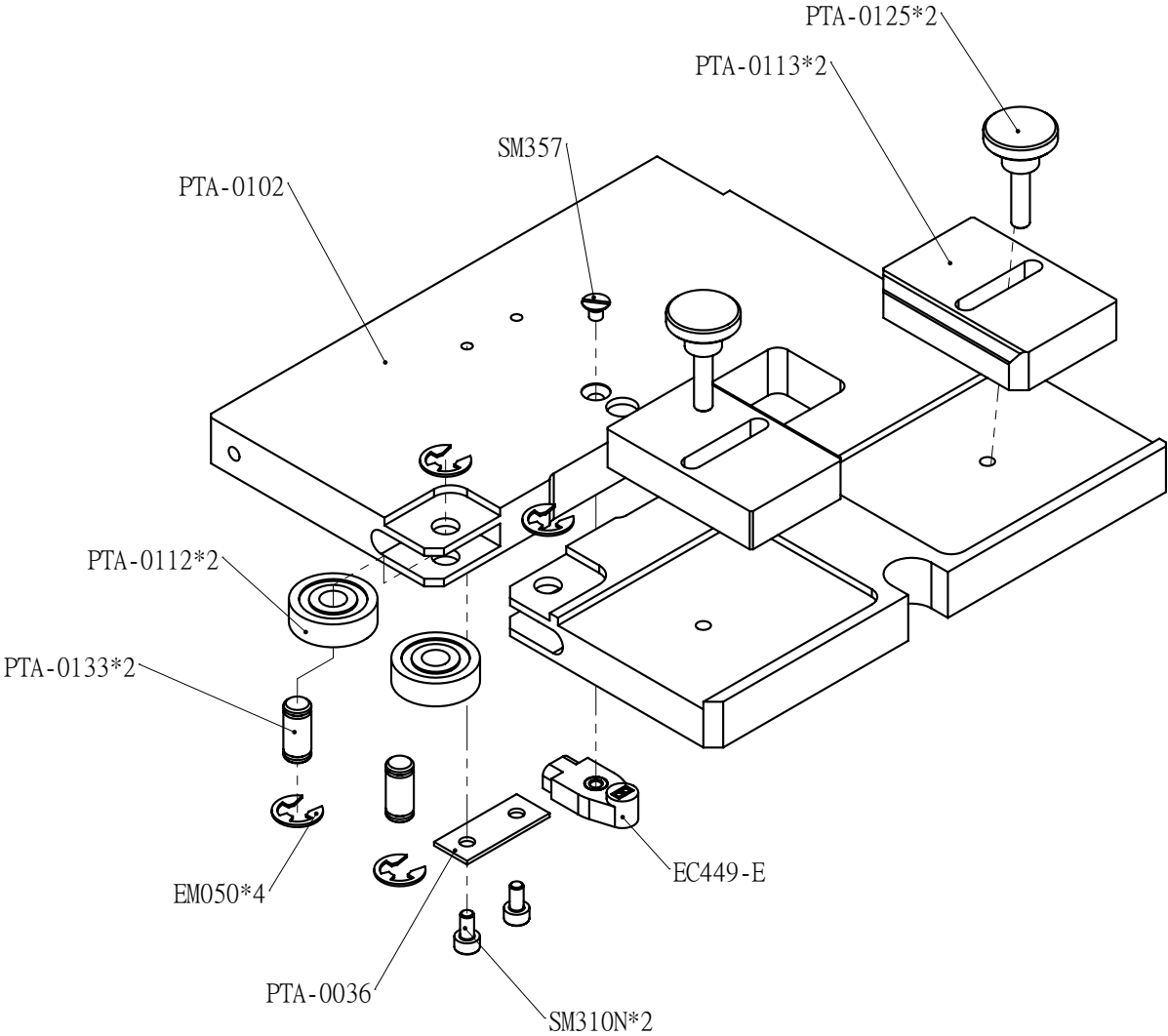
A

B

C

D

E



PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0144-A		3/15
				Date

A

B

C

D

E

1

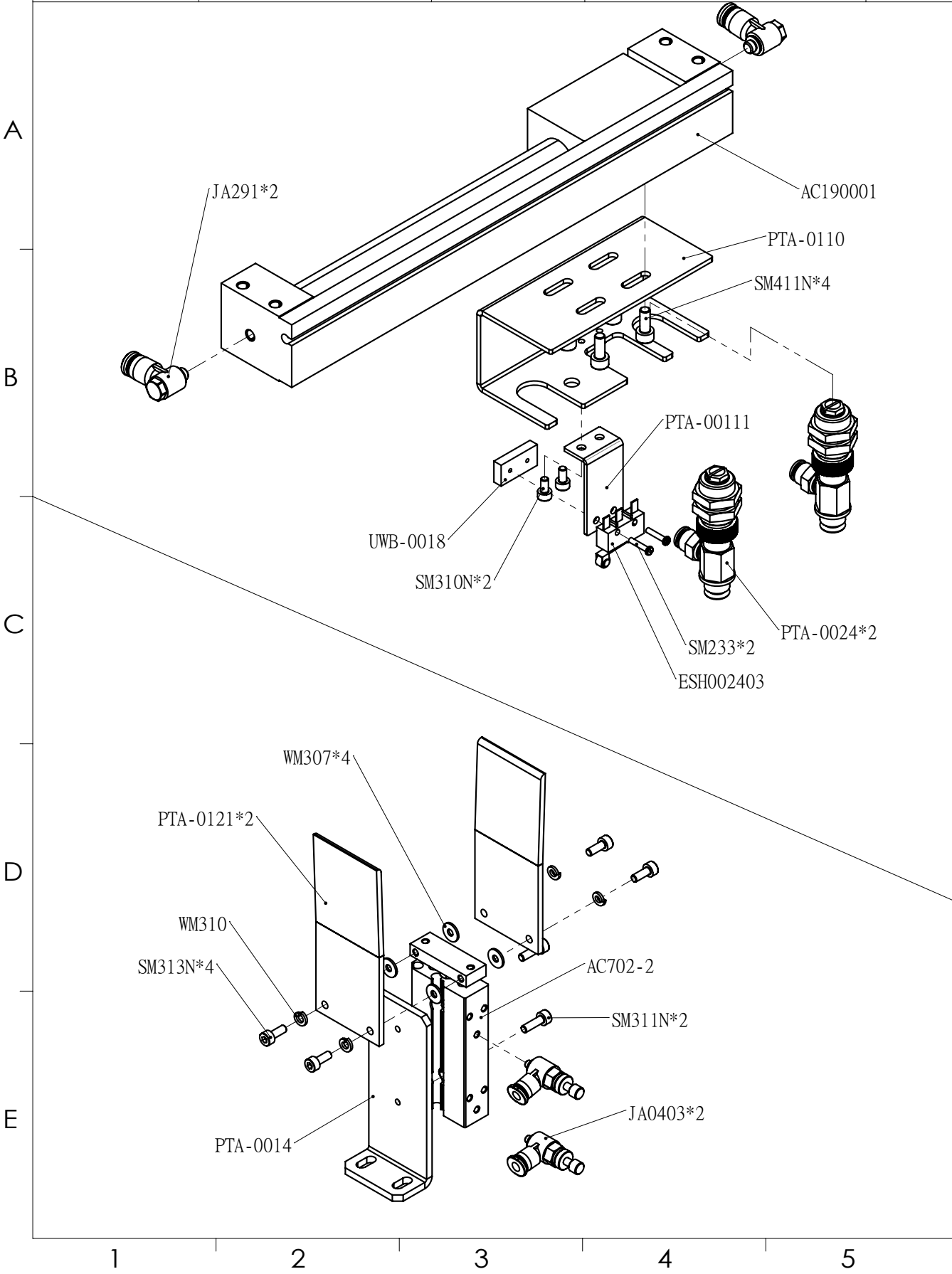
2

3

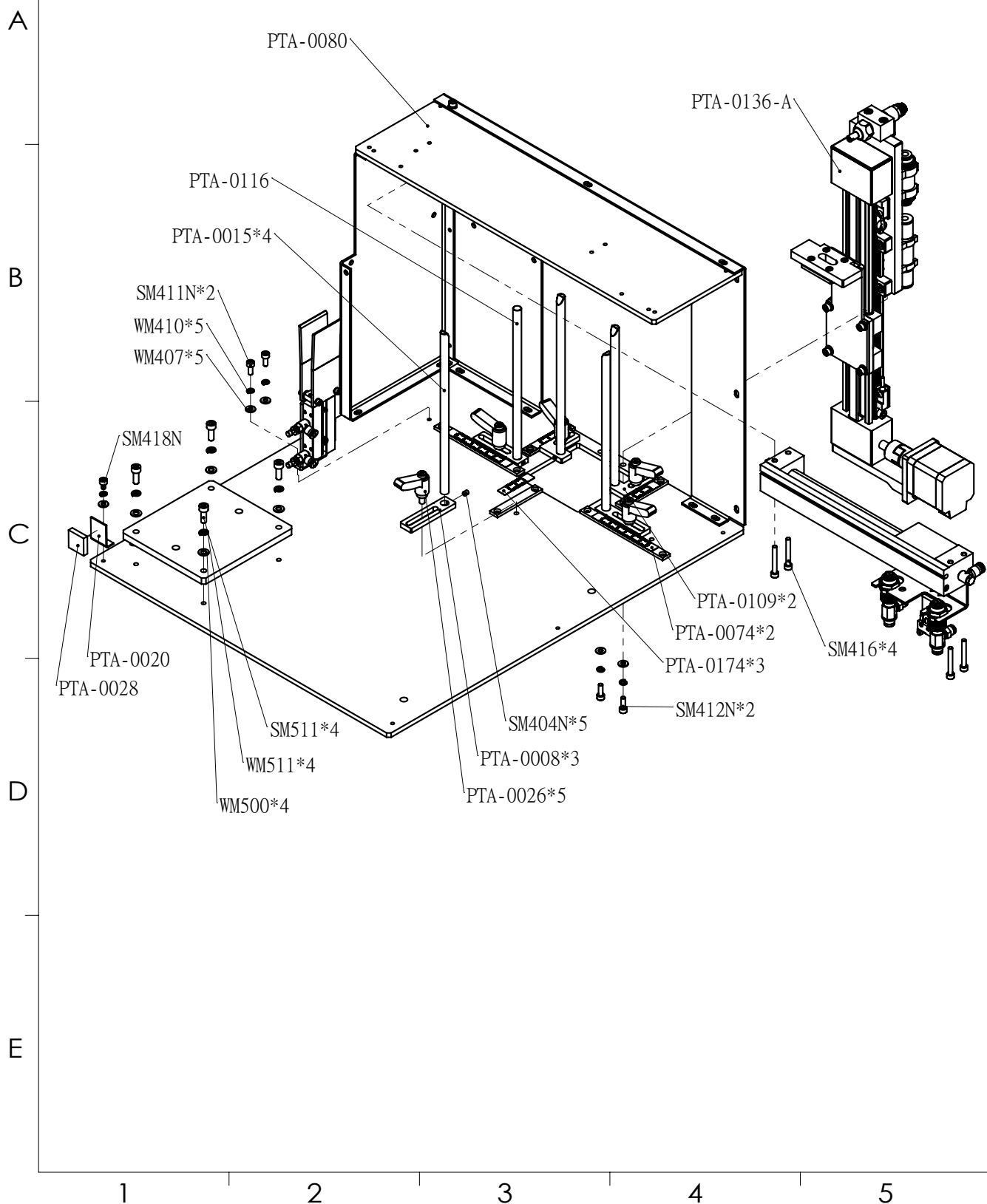
4

5

<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0080-A		4 /15
				Date



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0080-A		5/15
				Date



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0219-A		6/15
				Date

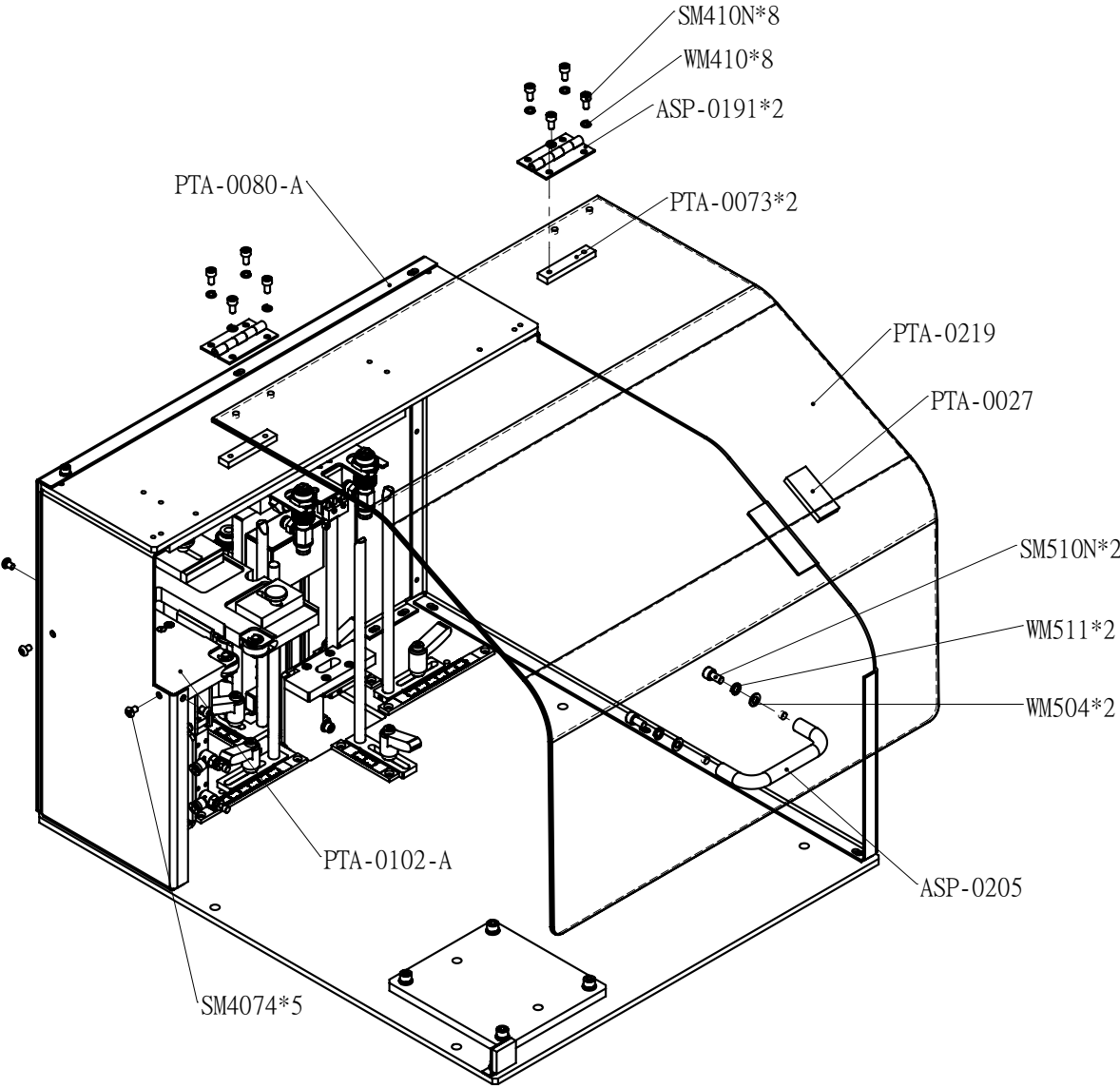
A

B

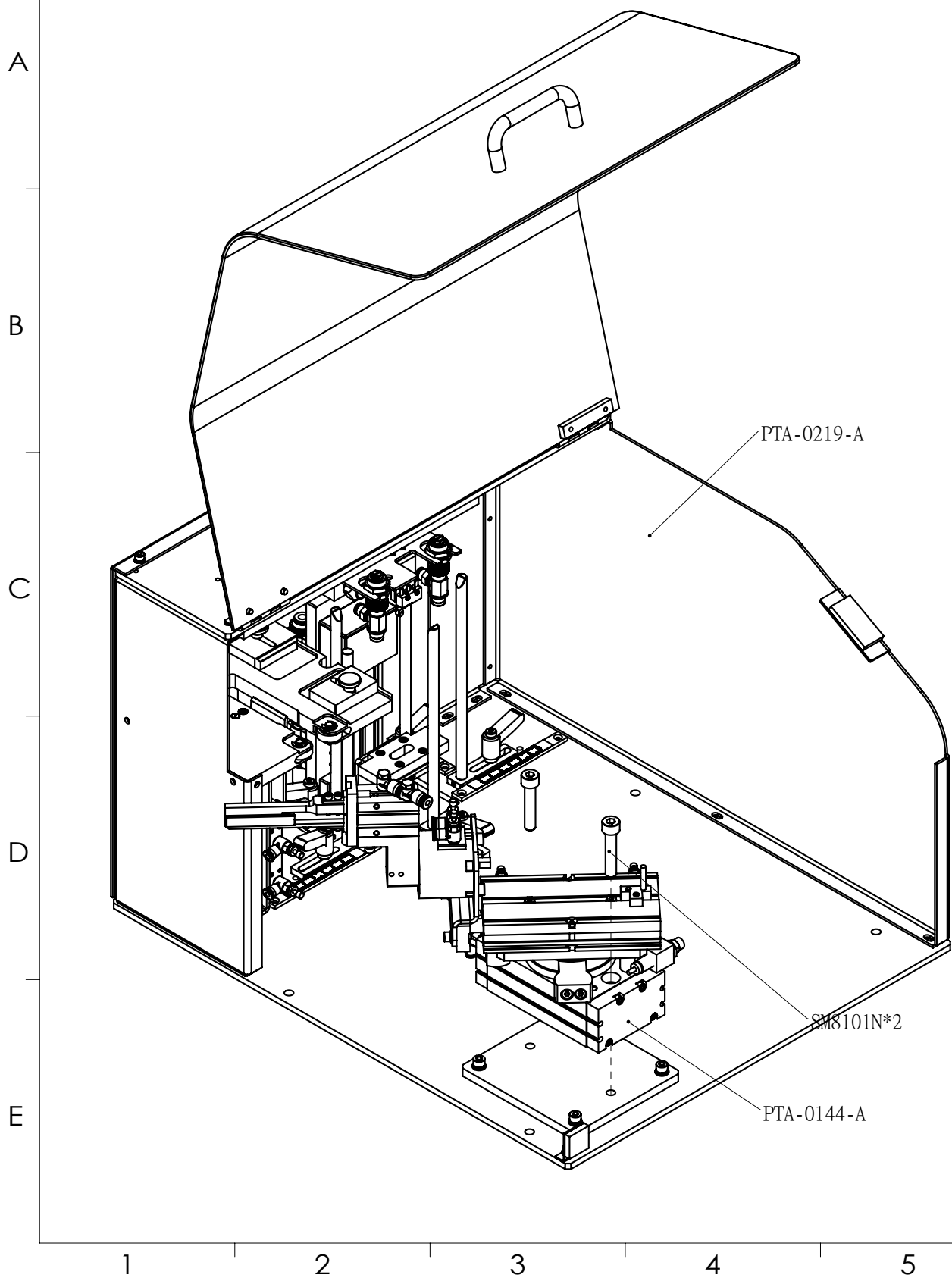
C

D

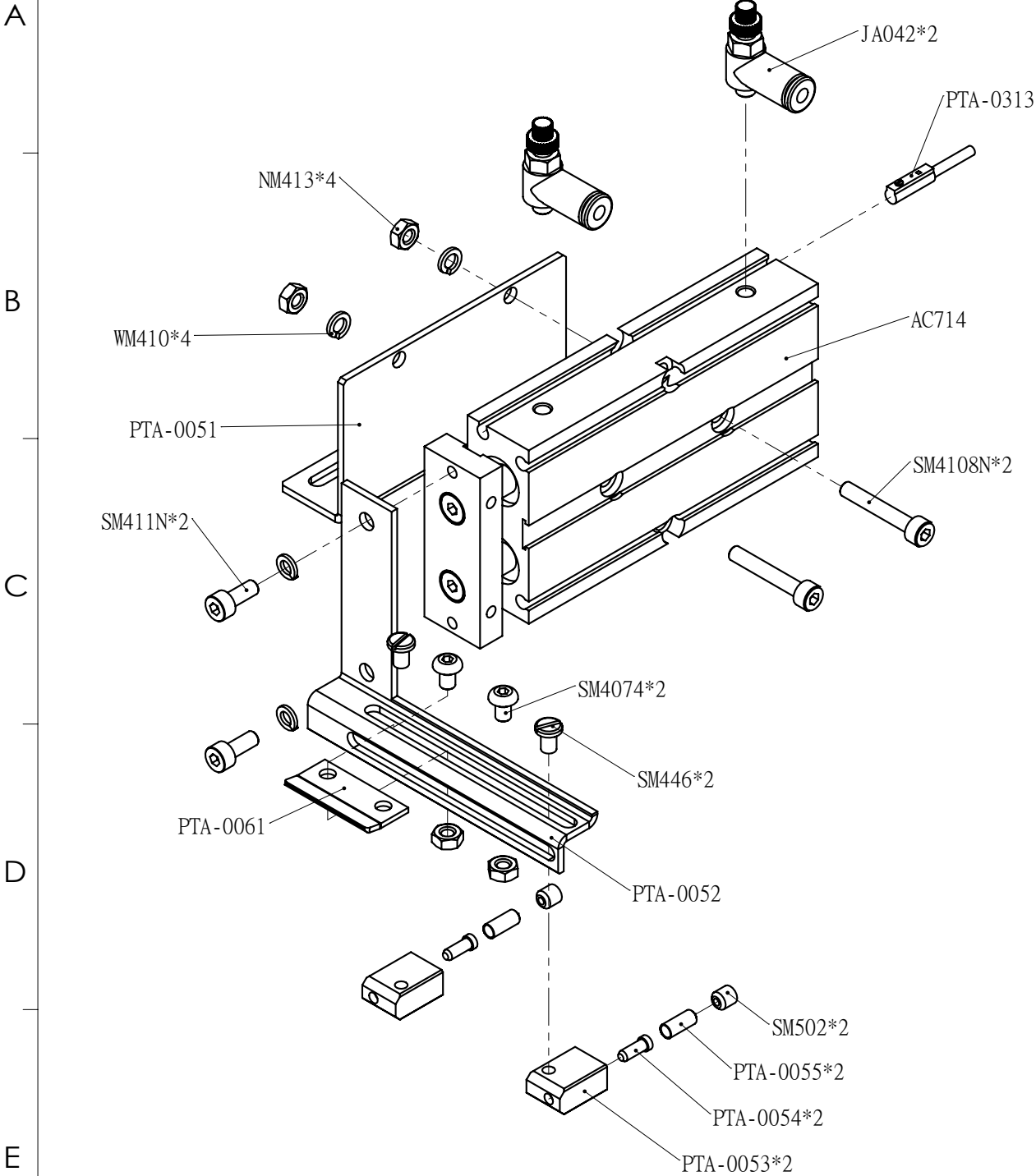
E



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0112-A		7/15
				Date



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0051-A		8 / 15
				Date



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0058-A		9 / 15
				Date

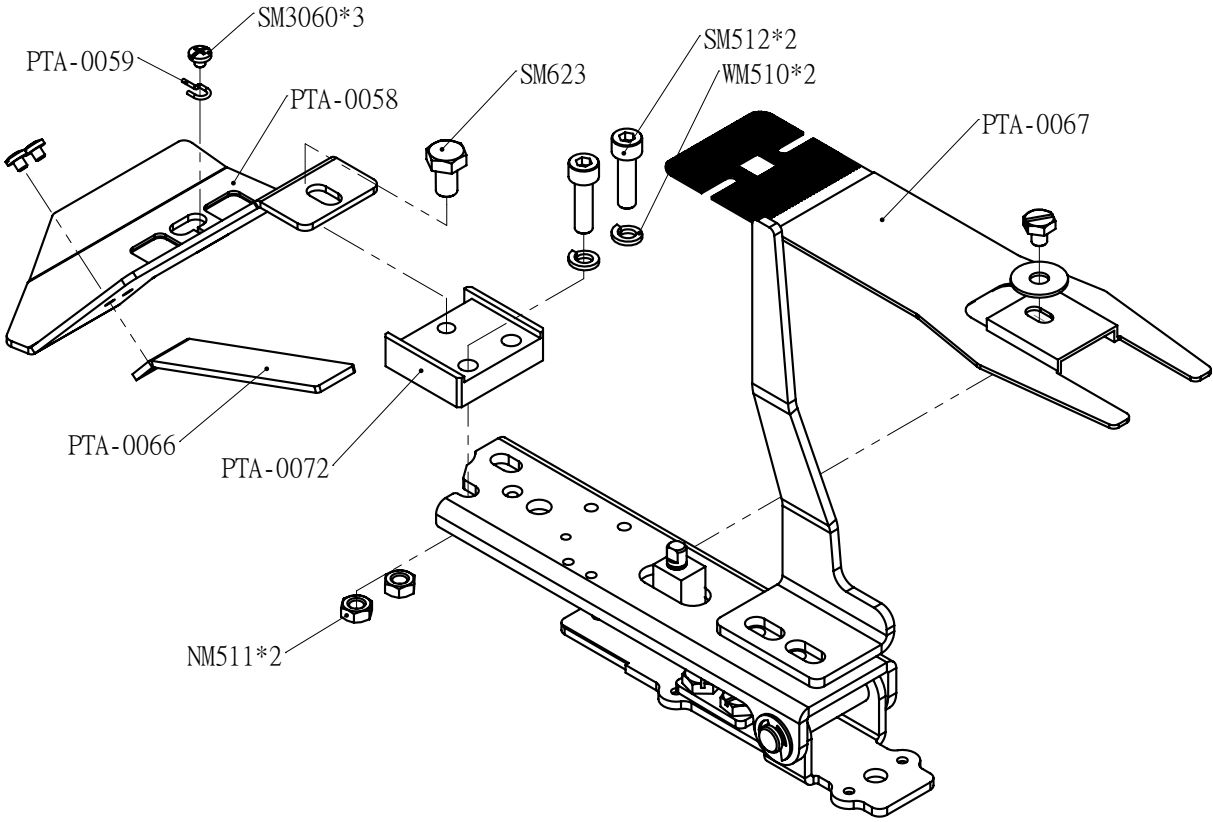
A

B

C

D

E



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0100-A		10 / 15
				Date

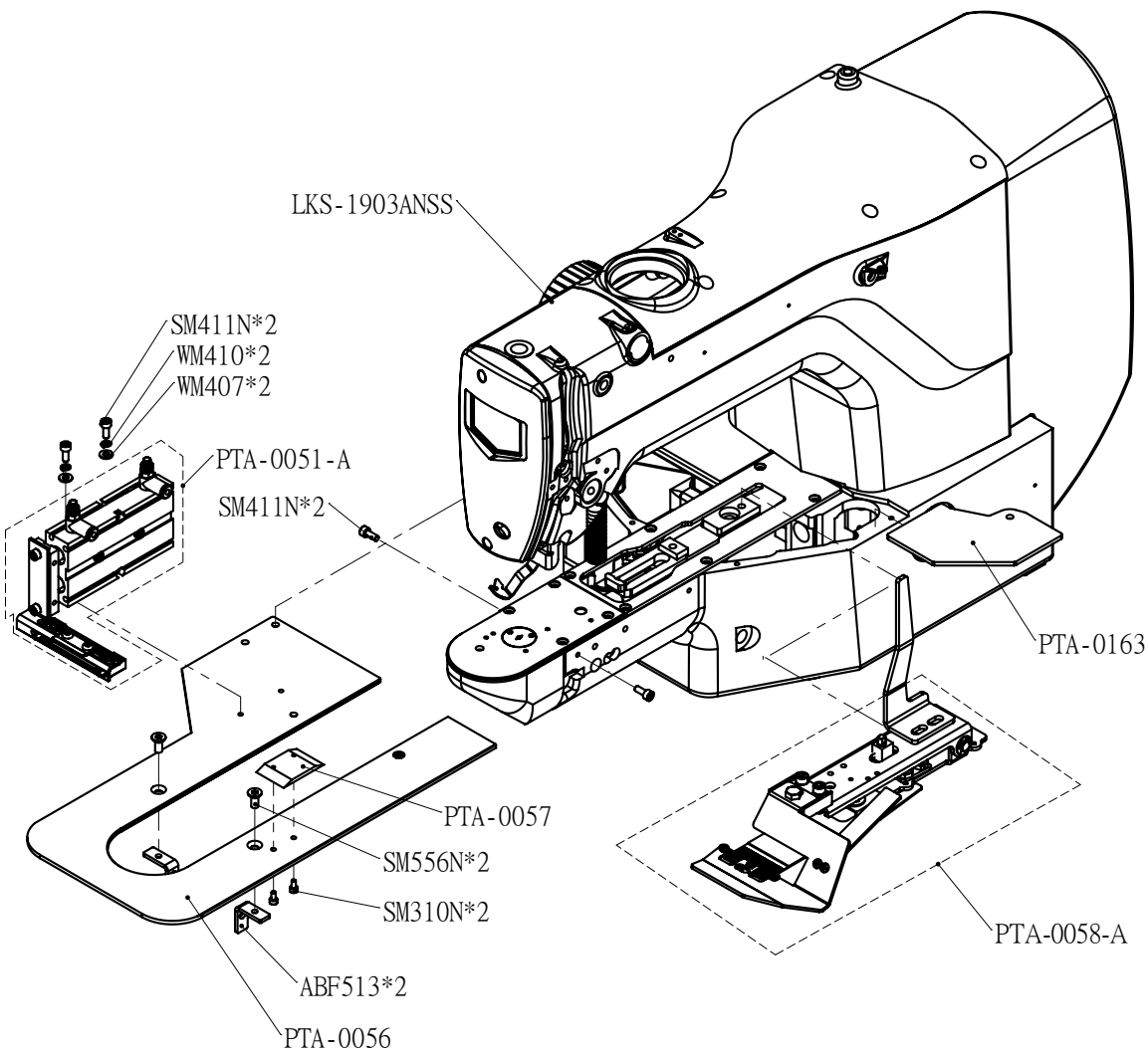
A

B

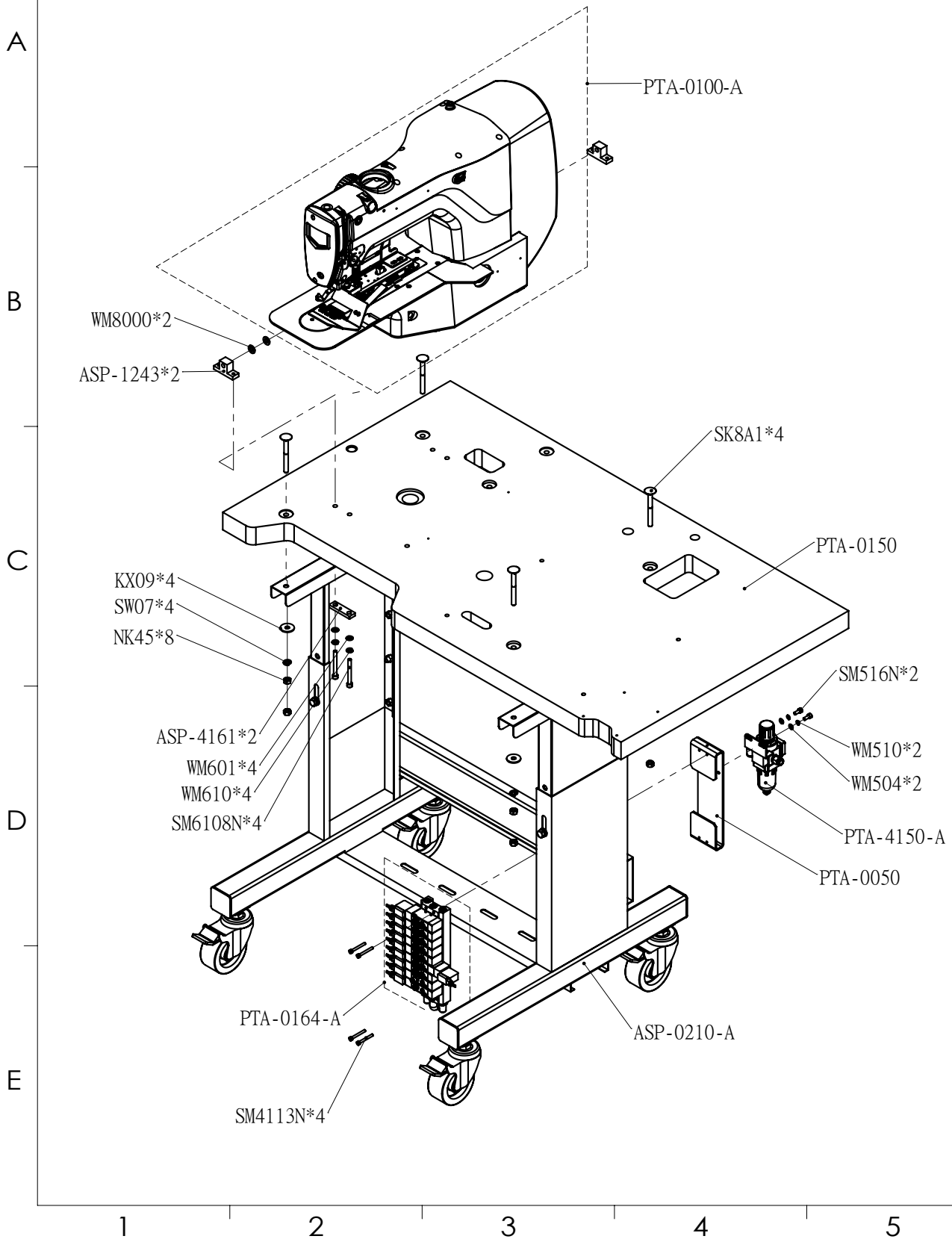
C

D

E



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0150-A		11 / 15
				Date



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	PTA-0070-A		12 / 15
				Date

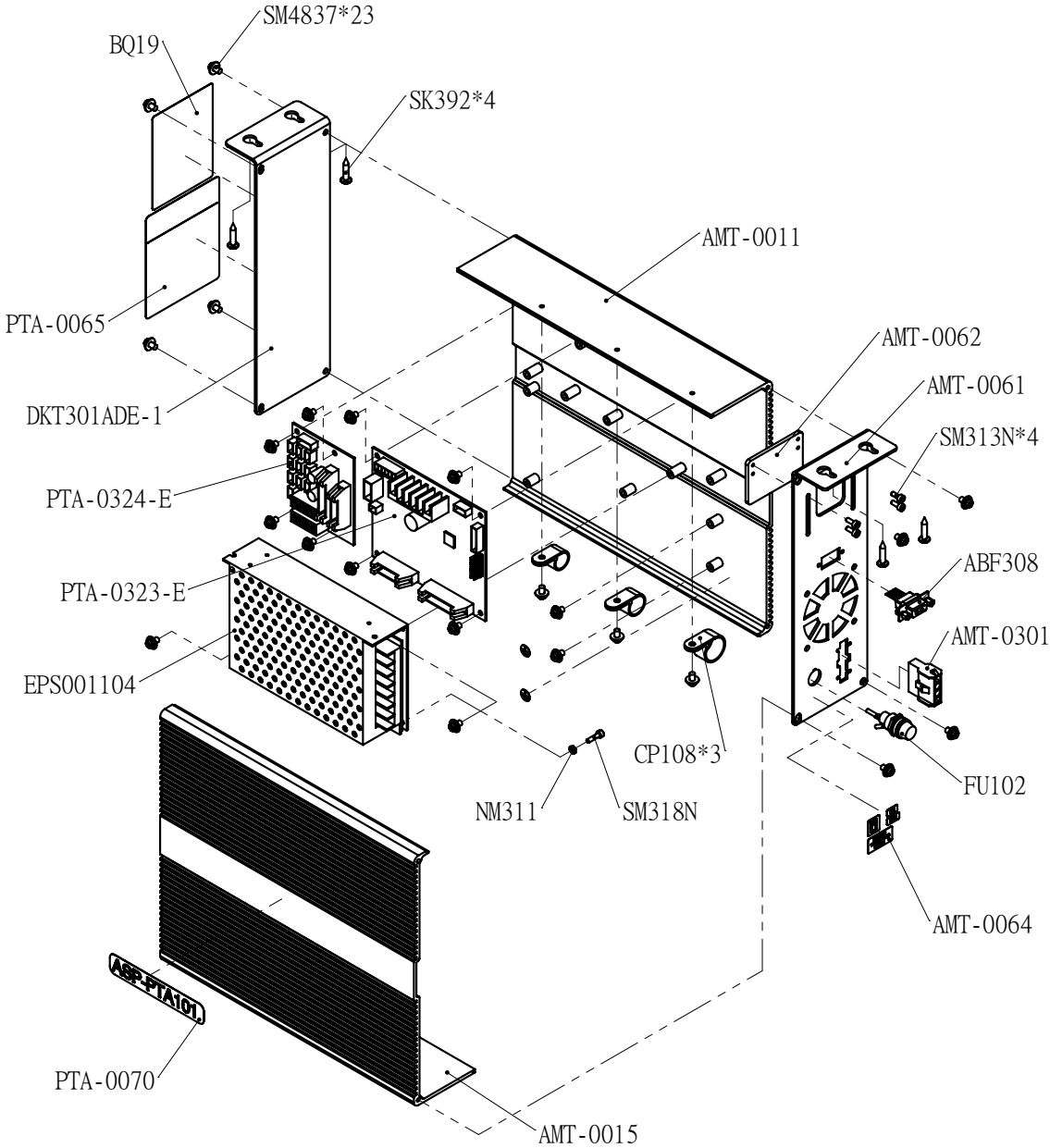
A

B

C

D

E



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	ASP-PTA101		13 / 15
				Date

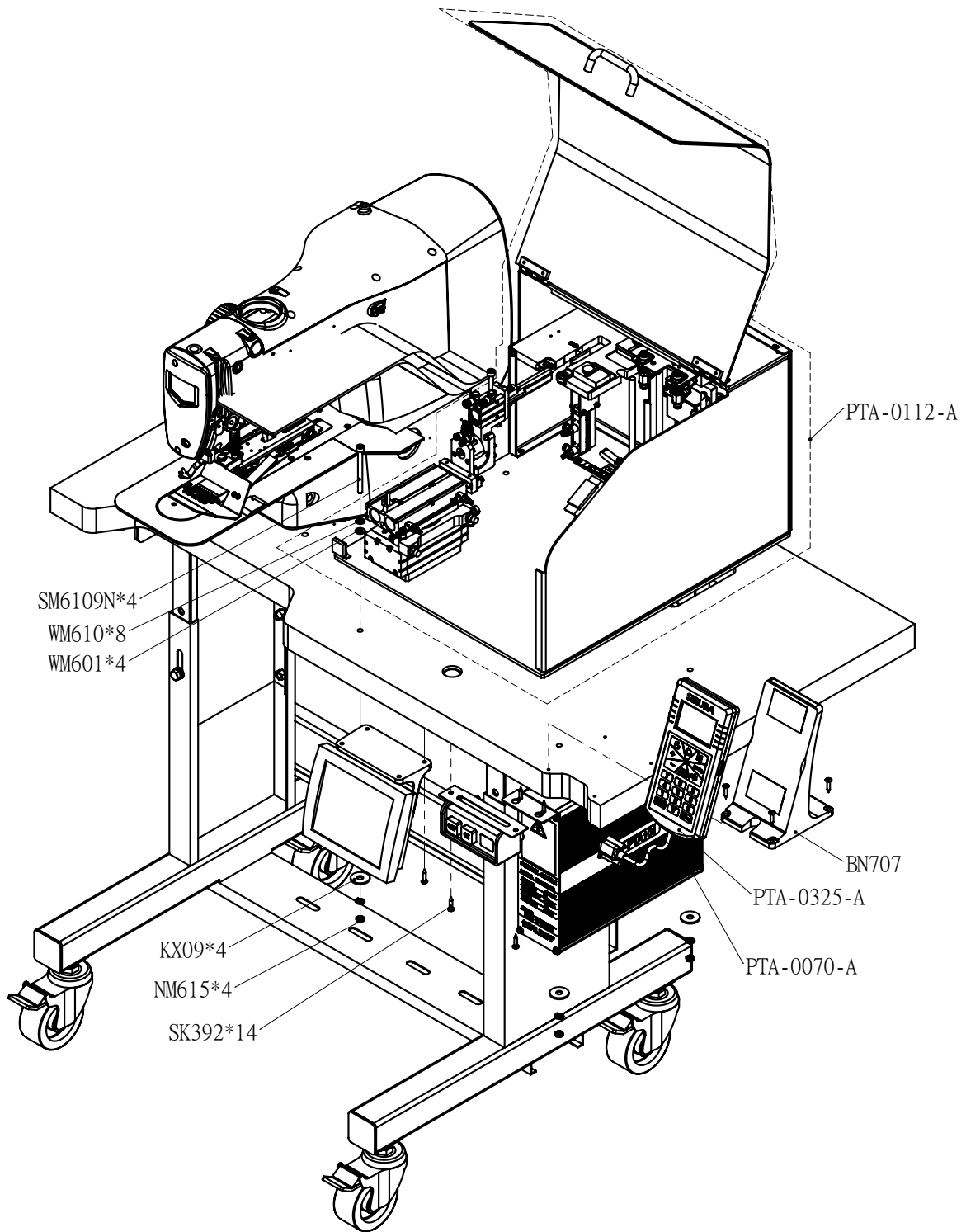
A

B

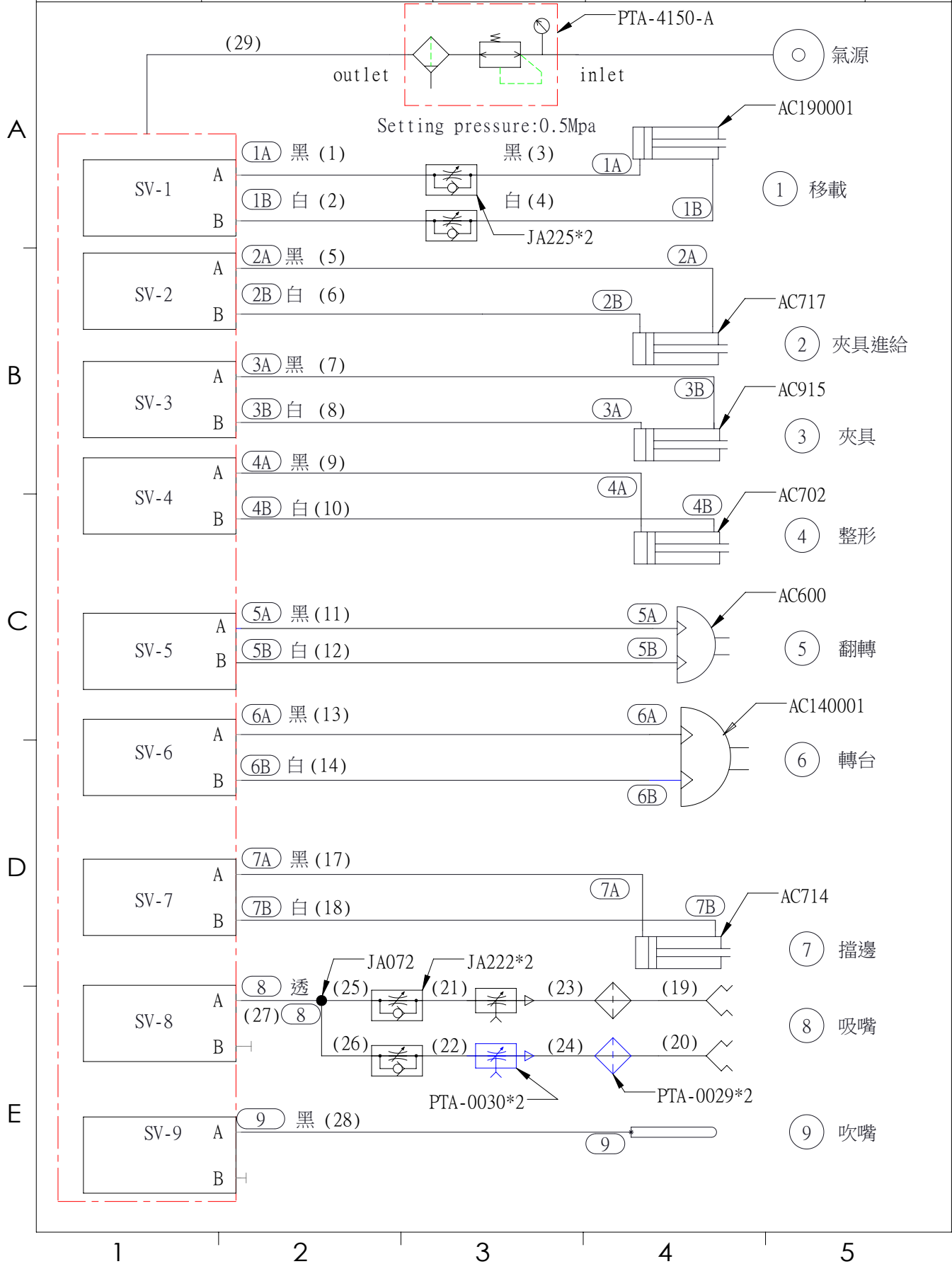
C

D

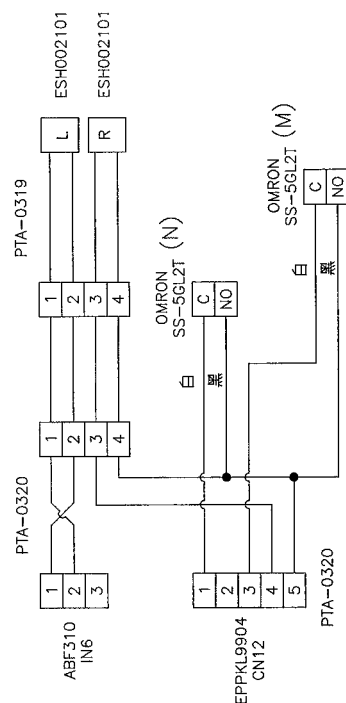
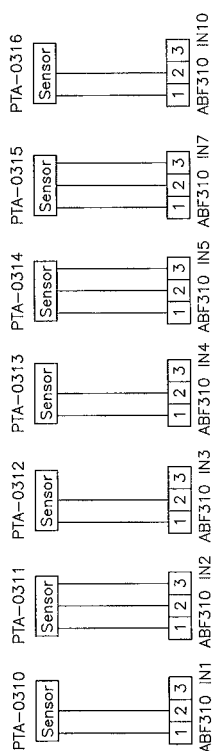
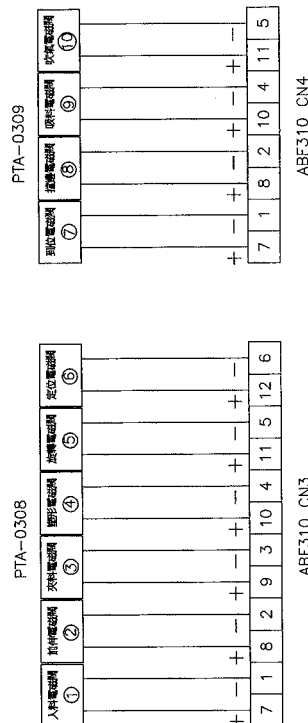
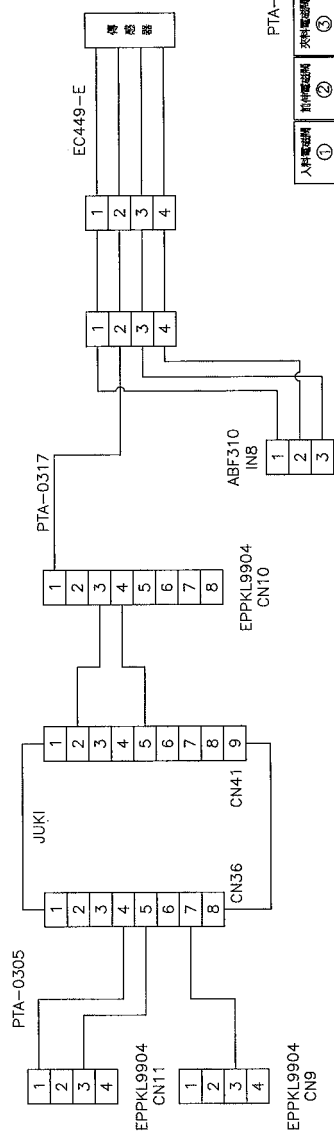
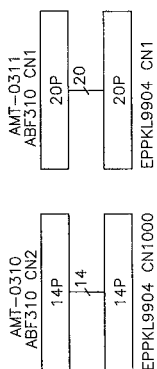
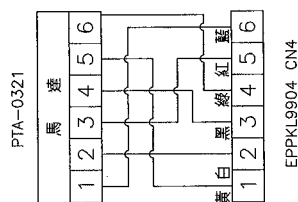
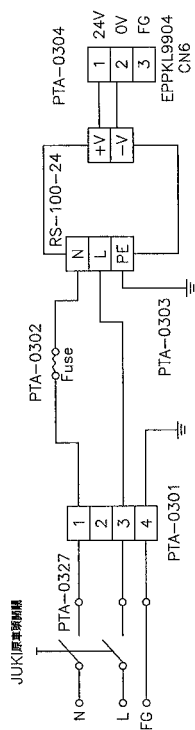
E



<b>SIRUBA</b>  PARTS LIST	Series	Parts Group	Subclass Remark	Page
	ASP-PTA101	氣壓流程圖		14 / 15
				Date







機種:ASP-PTA100

熱處理：		NO		更改內容		高林關係企業									
硬 度：		NO													
硬度層深度：				表面處理		NO		中文品名		線路總圖					
尺寸區分 mm		加工區分 (單、雙、鑽)		沖壓加工		第三重		角 法		單位：mm					
0.59±0.6以下		±0.1		±0.2		±0.4		±0.2		重 量：		比例：1:1			
60±30以下		±0.2		±0.3		±0.5		±0.3		責任者		年 月 日			
30±15以下		±0.3		±0.4		±0.7		±0.5		繪圖		18 06 07			
120±15以下		±0.5		±0.6		±1.0		±0.6		校對		徐國隱			
31.5±1000以下		±0.8		±1.1		±1.5		—		覆核		楊忠達			
1000以下		±1.2		±1.8		—		—		核准		詹政衛			
切削加工形狀、位置精度		◎ 加工		公差的 1/4		Z 角度公差 ±2°		1/100		1/100		1/100			
表面相度之範圍 (Rq)		▽▽▽ 0.2		▽▽ 0.2~1.6		▽▽ 2~6.3		▽ 8~25		註：成品需符合歐盟 RoHS 危害物質使用指令規範		10			





高林股份有限公司  
KAULIN MFG. CO., LTD.

由於對產品的改良及更新，本產品使用說明書中與零件圖之產品及外觀的修改恕不事先通知！  
The specification and/or the equipment described in the instruction book and parts list  
are subject to change because of modification with out previous notice  
ASP-PTA101.FEB.2021