



700K/988

SIRUBA[®]
銀箭牌工業用縫紉機
INDUSTRIAL SEWING MACHINE



700K/988

高林股份有限公司 KAULIN MFG. CO., LTD.






使用說明書 INSTRUCTION BOOK



危險水準的說明 Explanation of Dangerous Level

 危險 Dangerous	<p>如果忽視此標記而運行了錯誤的機械操作, 保養時肯定會引起當事者或第三者人員重傷或死亡</p> <p>Don't ignore the warning sign and don't proceed incorrect operation. Or it will cause the person or the third party seriously injured or dead during maintenance.</p>
 注意 Caution	<p>如果忽視此標記而運行了錯誤的機械操作, 保養時有可能會引起當事者或第三者人員受傷及造成設備損壞</p> <p>Ignoring this warning sign and proceed incorrect operation will cause the person involved or the third party wounded and equipment damaged during maintenance.</p>

警告圖案表示及表示標誌的說明 Explanation of Warning Signs and Labels

警告圖案表示 Warning Sign		運動部位, 謹防工傷事故 Moving part, beware of industrial accident
		高壓部位, 謹防觸電事故 High voltage, beware of electric shock
		高溫部位, 謹防燙傷事故 High temperature, beware of burns
指示標幟 Instruction Label		禁止 Prohibited
		地線的接線表示 Indication of ground wiring

索引	INDEX	頁/PAGE
致使用者	TO ALL USERS	1
一般安全事項說明	GENERAL SAFETY INSTRUCTIONS	1
重要安全事項說明	IMPORTANT SAFETY INSTRUCTIONS	3
特別事項	WARNING	7
警告標籤	WARNING TAG	8
護針安全圖說	SAFETY ILLUSTRATION OF THE NEEDLE GUARD	9
搬運縫紉機	MOVING THE SEWING MACHINE	9
縫紉機的安裝位置	THE INSTALLATION POSITION	10
規格	SPECIFICATON	11
各部件名稱	NAMES OF MAJOR PARTS	13
安裝	INSTALLATION	14
照明設備	LIGHTENING EQUIPMENT	17
新機器啟用規定	HOW TO OPERATE THE NEW MACHINE	17
潤滑油之注入與更換	LUBRICATION AND DRAINAGE	17
穿線方法	THREADING	19
控線調整	ADJUST THREAD TENSION	22
換針方法	REPLACE THE NEEDLE	24
針距調整	ADJUST THE STITCH LENGTH	25
差動比調整	ADJUST THE DIFFERENTIAL FEED RATIO	26
更換切刀	REPLACE THE TRIMMERS	27
包邊寬度調整	ADJUST THE HEM WIDTH	28
針高度之調整	ADJUST THE NEEDLE HEIGHT	29
押具調整	ADJUST THE PRESSER FOOT	30
送具調整	ADJUST THE FEED DOG	31
針與勾針之關係	THE RELATIONSHIP BETWEEN NEEDLE AND LOOPER	33
環勾針運動量之調整	ADJUST THE CHAINSTITCH LOOPER MOVEMENT AMOUNT	36
操作環境照明	LIGHTENING OF THE OPERATION ENVIRONMENT	37

索引 INDEX 頁/PAGE

操作者條件	CONDITIONS OF ALL OPERATORS	37
保養	MAINTENANCE	38
故障檢修	TROUBLESHOOTING	39
報廢流程	DEMOLITON PROCEDURE	46
桌板圖	TABLE CUT-OUT	47

MODEL		700K/988	
Net Weight (Kgs)	27	Noise Level, dB(A)	82dB(A)
Serial No.		Vibration(m/sec ²)	
Dimension	Length	Width	Height
	35cm	22cm	31cm

致使用者

- 我們非常感謝您使用本公司出品之超高轉速直針鎖邊縫紉機(拷克車)。
- 請詳細閱讀此說明書，將使您更了解本機器獨特之性能及正確的使用方法，進而提高您縫製的效率及品質。
- 首先，請您注意：請先注入潤滑油及確認馬達之轉向為順時鐘方向，才可以啟動本機器。

TO ALL USERS

- Thank you very much for using our Ultra High Speed Straight Needle Overlock/Safety Stitch Machine.
- Before operating this machine, please read this instruction book amply to understand the functions and features of this machine. This will help you to increase the sewing efficiency and quality.
- Attention: Because this is an ultra high speed machine, please fill the lubrication oil and confirm that the motor turning direction is clockwise before turn the power on.

一般安全事項說明

GENERAL SAFETY INSTRUCTIONS

警告！

當使用這台機器，基本安全預防應恆被遵守，以減輕火災、電擊、或是個人傷害的風險。包含以下注意事項。在操作這台機器之前，請閱讀所有說明並且謹記於心。

- 1. 保持工作場所清潔**
雜亂的環境與椅子會招引危害。
- 2. 考量工作場所環境**
勿暴露電源於雨水之中、勿在濕氣重的地方或潮濕的場所使用機械器具。保持工作場所良好整齊。當有引發火災或爆炸危險時，勿使用電源工具。
- 3. 免於電擊危害**
避免身體接觸地線或是接地表面。(即：管線，發熱物體，以及冷凍庫)
- 4. 勿使孩童接近**
不要讓訪客碰觸工具或是延伸管線

Warning!

When using this machine, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the followings. Read all these instructions before operating this product and save these instructions.

- 1. Keep work area clean**
Cluttered areas and benches invite injuries.
- 2. Consider work area environment**
Do not expose power to rain. Do not use machine tools in damp or wet locations. Keep work area well lit. Do not use power tools where there is risk to cause any fire or explosion.
- 3. Guard against electric shock**
Avoid body contact with earthed or grounded surfaces (e.g. Pipes, radiators, ranges refrigerators.)
- 4. Keep children away**
Do not let visitors touch the tool or extension code.

5. **適當的穿著**
不要穿著寬鬆衣物或穿戴珠寶，這可能被活動零件拉扯而導致危險。穿戴護髮套以包含住長髮。
6. **不要任意拉扯電線**
絕不要用電線端拉扯機器，或是從插座猛拉電線來拔掉電線。使電線遠離熱源、油類或是尖銳邊緣。
7. **謹慎保養機器**
遵從指示來添加潤滑油或是更換附件。定期檢測工具用線，如果有所損害，請使用合格的維修器具來修復。
8. **分開機器**
當不使用機器時、維修前、以及更換配件時。
9. **避免誤啟動**
不要以手指置於啟動開關上之後，搬運一個已插入電源的工具。確定在插電之前，電源開關是關閉的。
10. **檢查損害零件**
在進一步使用器具之前，應該小心檢查並確認損傷的零件或是穿戴保護器具來確認零件會正確運轉並且呈現應有功能。
11. **警告**
除了在這本使用說明手冊中建議的功能之外，任何附件或是配件的使用，都可能會導致個人傷害的危險。
12. **由合格人員來修理事具**
所以的修理工作應該由合格的人員使用原始個別零件來作修理。

連接電源的特別警示

1. 只可與有"CE"認證的按壓啟動裝置連接這台機器。

5. **Dress properly**
Do not wear loose clothing or jewelry, they can be caught in moving parts. Wear protecting hair covering to contain long hair.
6. **Do not abuse the cord**
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. **Maintain machine with care**
Follow instructions for lubrication and changing accessories. Inspect tool cord periodically. If damaged, have it repaired by an authorized service facility.
8. **Disconnect machine**
When not in use, before servicing and when changing accessories.
9. **Avoid unintentional starting**
Do not carry a plug-in tool with a finger on the switch. Ensure the power switch is off when plugging in.
10. **Check damaged parts**
Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function.
11. **Warning**
The use of any accessory or attachment, other than those recommended in this instruction manual, may present a risk of personal injury.
12. **Have your tool repaired by a qualified person**
Repairs should only be carried out by qualified persons using original spare parts.

SPECIAL WARNING FOR ELECTRIC CONNECTION!








1. Incorporate this machine only with "CE" certificate hold-to-run control device.

2. 遵守此使用說明手冊來安裝控制裝置。
3. 在操作過程中，永遠保持機器適當的接地。
4. 在調整、更換零件、或是維修保養之前，必須確定將插頭由插座拔出，以預防任何機器意料之外的啟動而造成危害。

2. Follow the instruction manual device to install control device.
3. Always earth machine appropriately during operation.
4. 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.








重要安全事項說明

恭喜您購買本機器。為了使這台機器能獲得最佳功能以及安全的操作，務必請正確的使用這台機器，使用前請仔細閱讀使用說明書，希望您能長期使用它。請記得將此說明書放在容易取得的地方。

-  1. 當您使用機器時，除了以下事項外，請注意其他基本安全措施。
-  2. 使用機器前，除了這本使用說明書外，請詳細閱讀其他有關說明書。此外，請妥為保存這本使用說明書，以便需要時可以隨時取閱。
-  3. 先確認機器是符合貴國安全規定及標準後，再使用機器。
-  4. 當機器完成操作準備時，所有安全配備必需安裝就緒，在缺少所述安全配備下操作是不被允許的，以免導致人員受傷。
-  5. 此機器應由受過適當訓練之操作員操作。
-  6. 為了安全，我們建議您配戴安全眼鏡。
-  7. 以下情形，請先關閉電源或拔掉插頭：


IMPORTANT SAFETY INSTRUCTIONS


For operating safely and getting the best functions of this machine, you must operate it correctly. Please read and follow the instructions of this manual, and keep it at hand for future references. We are confident that you will enjoy this machine as much as we enjoy manufacturing it.


-  1. Instead of the following instructions, when you use this machine, please pay attention to the basic safety measures.
-  2. Before using this machine, please read this manual and all related instructions. In addition, please keep this manual for future needs.
-  3. Before using this machine, please ascertain that it conforms with safety standards and regulations of your country.
-  4. When the machine is ready for operation, all the safety equipments must be ready. Operate this machine without the specified safety devices is not allowed.
-  5. This machine must be operated by a properly trained operator.
-  6. For your own safety, we suggest you wearing goggles.
-  7. Please turn off the power switch or disconnect it for any one of the circumstances of the followings :


- (1) 穿針線、線導片、天平等以及更換梭子時，
- (2) 更換針、押具、針板、送具、頂針片、喇叭、車布導板，以及其他附屬配件時。
- (3) 維修工作時。
- (4) 離開工作場所或工作場所無人看顧時。
- (5) 若使用離合器馬達而無煞車片裝置時，必需待馬達完全停止。


- (1) When threading needle(s), adjusting thread Take-up(s), thread guide(s), and / or replacing bobbin(s),
- (2) When replacing needles, presser feet, needle plates, feed dogs, needle guards, horns, cloth guides and other parts or accessories,
- (3) When repairing,
- (4) When the operator leaves the working place or leaves the machine unattended.
- (5) If clutch motors without brake pads are used, must wait until the motor stops completely.


 8. 假如不慎讓機器及配件使用之油或油脂，接觸到眼睛、皮膚或誤食時，請立刻以水清洗接觸部位及就診。


 8. If grease, oil, or any fluid contacts your skin or eyes by any chance, please wash the contacted area completely with clean water and consult a doctor. Or, swallow any fluid mistakenly, consult a doctor immediately.


 9. 請勿擅自碰觸運轉中之零件及配件及注意機器電源是否已開啟，以免導致人員受傷。


 9. Do not touch any functioning parts and devices. Always attend to whether power switch is on or off before operating in order to prevent anyone from getting hurts.


 10. 維修、修改及調整等工作，需由受過適當訓練的技師或熟手為之。維修時只許使用指定之零件。


 10. Qualified technicians are required for adjustment, modification, and repair. Only use assigned parts for replacement.


 11. 一般維修及檢查工作必須由受過適當訓練的人員為之。


 11. Routine maintenance and service must be performed by well trained persons, or qualified technicians.


 12. 電子零件維修及保養工作必須由資深的電子技師為之，或由非常熟練的人員檢查及指導，當發現零件損壞時，請立刻停止機器運轉。


 12. Maintain and check the electronic parts must be done by qualified electrician or well-trained persons. If any electronic part damaged or malfunctioned, stop the machine immediately.


 13. 在做裝有氣動式零件(例如氣缸)機器的維修及保養工作前，機器連接空壓機及高壓空氣必須予以關閉及卸除，機器中殘存高壓氣體必需予以消除，此外調整及性能檢查只能由受過適當訓練的技師或熟手為之。


 13. The air hose has to be detached from the machine and the compressor or air supply has to be cut off before repairing and servicing the machine equipped with pneumatic parts such as an air cylinder. Qualified technicians or well-trained persons are required for adjustment and repairs.


 14. 機器使用一段時間，必需定期清理。


 14. To ensure the best performance, periodically clean the machine is necessary.


 15. 為使機器能正常操作及減少噪音，機台務必平放地上，機器避免在強烈噪音的環境下操作。


 15. In order to operate properly and to reduce the noise, please place the machine flat and level on the ground. Avoid operating the sewing machine at a noisy surrounding.


 16. 選用適當的電源插頭，並由電子技師將其安裝在機器上，且插頭必需插在接地線之插座上。

 16. Select a proper power plug and install it by an electrician. Please connect the power plug to a grounded receptacle.


 17. 機器只允許被使用於指定用途上，其他用途是不允許的。


 17. This machine can only be used for the designed purpose. Other uses of this machine are not allowed.

 18. 修改或變更機器必需依照安全規定及標準，同時採取有效的安全措施，本公司不承擔任何私自因修改或變更機器所引起損壞之責。

 18. Any modification or conversion made on this machine must be conformed with the safety standards and regulations. Precaution is necessary. No responsibility will our company take for damages caused by any modification or conversion of this machine without permission.

19. 警告提示以兩種符號標示：

 (1) 對操作員或服務人員之傷害危險，也為了避免觸電之危險，請勿打開馬達電器箱之外蓋，也不要觸摸電器箱裡面之零件。

 19. Two safety warning signs are applied as warning signs:
(1) For the safety of operators and service persons, please don't open the cover of any electronic control boxes of motor or other devices and don't touch any components inside to avoid electrical shock hazards.



(2) 必需特別注意事項

a. 絕對不可在移開皮帶蓋，手指保護蓋或安全配件後，進行機器操作，以免導致人員受傷。



b. 為了避免被機器纏住，當機器運轉中，您的手、頭髮及衣服，需遠離手輪，皮帶及馬達；此外這些部位周圍不可放置任何物品，以免導致人員受傷。



c. 當您打開電源開關後或機器已在運轉中，絕不可將您的手放在針的下方或針線控線桿外蓋中，以免導致人員受傷。



d. 當機器運轉中，梭頭高速轉動，為了避免對手可能引起之傷害，必需確定您的手保持遠離梭頭附近。此外，當更換梭子時，確定電源開關已關閉，以免導致人員受傷。



e. 當放置或抬起機頭時，小心勿將手置於機器中，以免導致人員受傷。



f. 為了避免機器突然啟動而引起可能意外，當機頭傾斜或移開皮帶蓋及皮帶時，請關掉機器電源，以免導致人員受傷。



(2) Always keep in mind :

a. Please never operate this machine without belt cover, finger guard or any safety device to avoid physical injury.



b. Please keep your hair, fingers and cloths away from the hand wheel, V belt and motor while the machine is in operation, as well as never put anything near these parts, to prevent the risk of injuries by tangled into them.



c. Please never put your fingers under the needle(s) or in the thread take-up cover to prevent physical injuries when you turn on the power switch or operate the machine.



d. While the machine is in operation, the hook rotates at a high speed. Please keep your hands away from the area of hook to prevent any potential injury to your hands. In addition, please make sure to turn off the power of the machine while changing bobbins.



e. Be careful and do not place your fingers inside the machine when placing or lifting the machine head to avoid possible physical injuries.



f. Please turn off the power before tilting the machine head or removing the belt cover and the V belt to avoid possible accidents due to abrupt start of this machine.



G. 如果您的機器是配置伺服馬達，機器於靜止狀態時，馬達是不會產生噪音的，為了避免機器突然啟動而引起可能意外，故請關掉機器電源。



h. 為了避免觸電之危險，請絕不要在移開電源接地線後操作機器。



i. 為了避免觸電或電子零件損壞而引起之可能意外，請先切斷電源，再插上或拔掉插頭。



g. For machines equipped servo motors, the motors do not produce noise while the machines are at rest.

Therefore, please turn off the power of this machine to avoid possible accidents due to abrupt start of the machine.



h. Never operate the sewing machine after the ground wire is removed to avoid electrical shock hazards.



i. Please turn the power switch off before connecting or disconnecting the power plug to prevent possible accidents due to electric shock or damaged electronic components.

特別事項

為了避免機器故障及損壞，請先確定以下事項：



1. 當您安裝好機器後，做第一次機器操作前，請徹底清潔機器。



2. 清除運送途中累積之灰塵及溢出之油脂。



3. 確定電壓及馬達相數(單相或三相)安裝正確。



4. 確定電源插頭正確地接上電源。



5. 當使用電壓與標示電壓不同時，請勿使用機器。



6. 確定機器轉動方向是否正確。

WARNING

Please confirm the followings to avoid malfunction or damage to this machine.



1. After installing the machine, and before the first operation, please clean it completely.



2. Clean all dust and overflowed oil during transportation.



3. Confirm that the voltage and the phase (single or 3 phase) of motor are set correctly.



4. Confirm that the power plug is correctly connected to the power supply.



5. Never use the machine when the local voltage type is different from the marked voltage on the nametag attached on the machine.



6. Confirm that the rotating direction of the machine pulley is correct.



警告：
在操作或調整本書中所提到之各步驟前，請先將電源關掉，以免因為機器突然啟動造成之意外。



Warning :
Before doing any operation or any adjustment described later in this manual, please turn the power off to prevent accidents caused by abrupt start of the sewing machine.

警告標籤

WARNING TAG

1. 縫紉機上有警告標籤。(圖1)
2. 當使用縫紉機時，請遵守標籤上的說明。如果標籤脫落或模糊不清，請和購買商店聯繫。

1. There is a warning tag attached on the sewing machine. (Fig. 1)
2. When using the sewing machine, please follow the instructions of the tag. Please contact the dealer if the tag is fallen off or fuzzy.

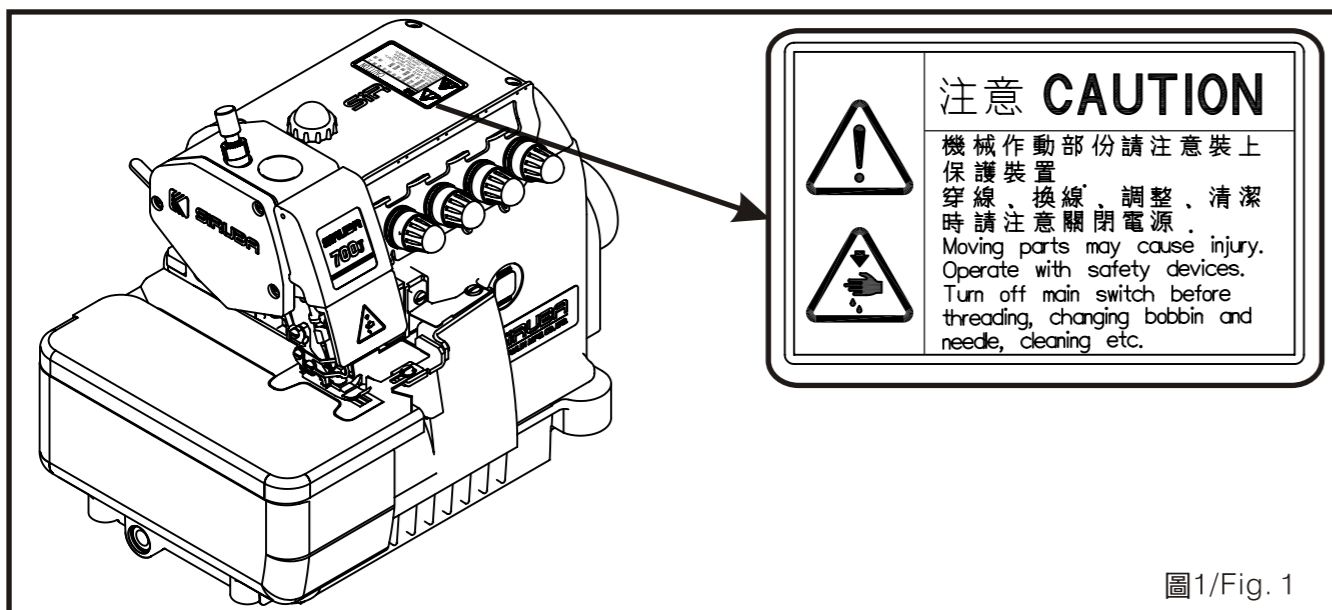


圖1/Fig. 1

3. 安全防護裝置(圖2)

3. Safety protection device (Fig. 2)

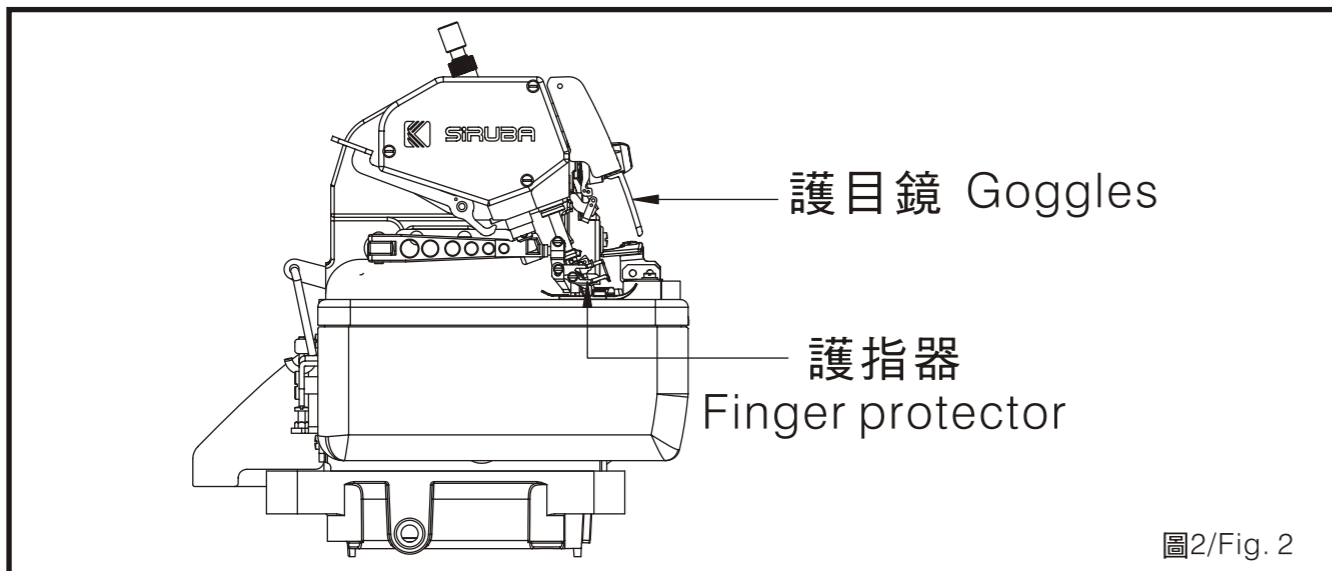


圖2/Fig. 2

4. 表示轉動方向。(圖3)

4. Indicates rotating direction.(Fig. 3)

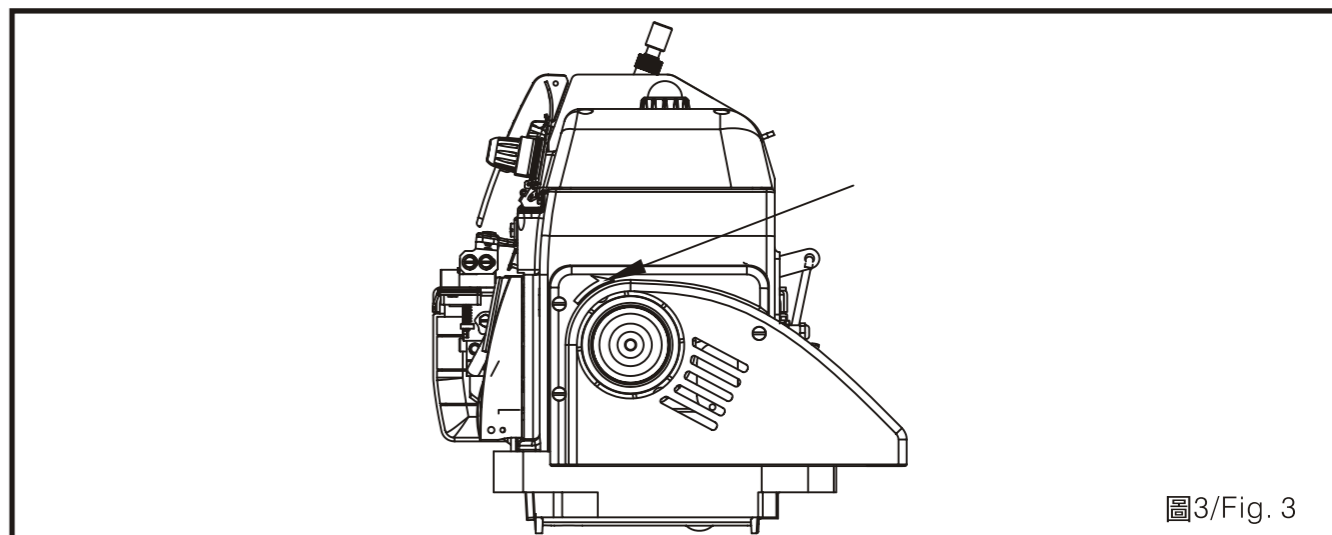


圖3/Fig. 3

護針安全圖說

SAFETY ILLUSTRATION OF THE NEEDLE GUARD

本縫紉機之押具防護裝置如圖所示，為保護操作者的作業安全，嚴禁將其裝置拆卸。(圖4)

This presser foot protection device is as shown as the Fig. 10. For safety of all operators, this device shall not be disassembled. (Fig. 4)

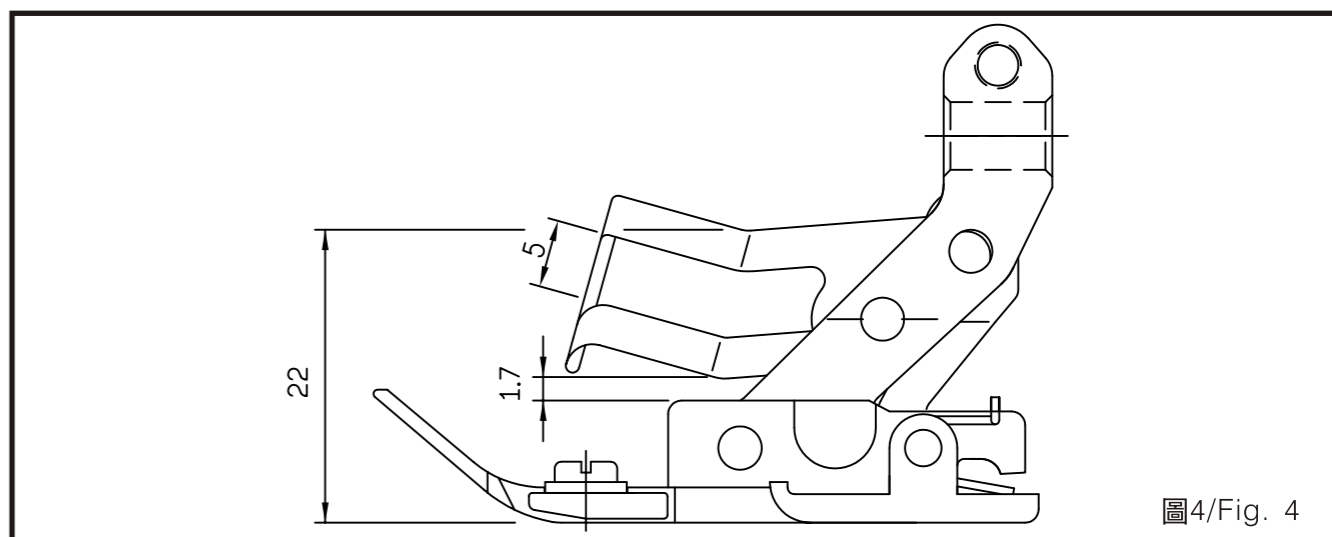


圖4/Fig. 4

搬運縫紉機

MOVING THE SEWING MACHINE

縫紉機之搬運(圖5)

Moving the sewing machine (Fig.5)

1. 應按圖示用左手托住前機殼本體，右手撐扶住底盤進行搬運。

1. To move the sewing machine, please follow the figure shows. Using left hand to hold the front machine cover body, and right hand to hold the bottom plate to move.

2. 搬運時須穿著安全鞋。

2. Please wear safety shoes while moving.

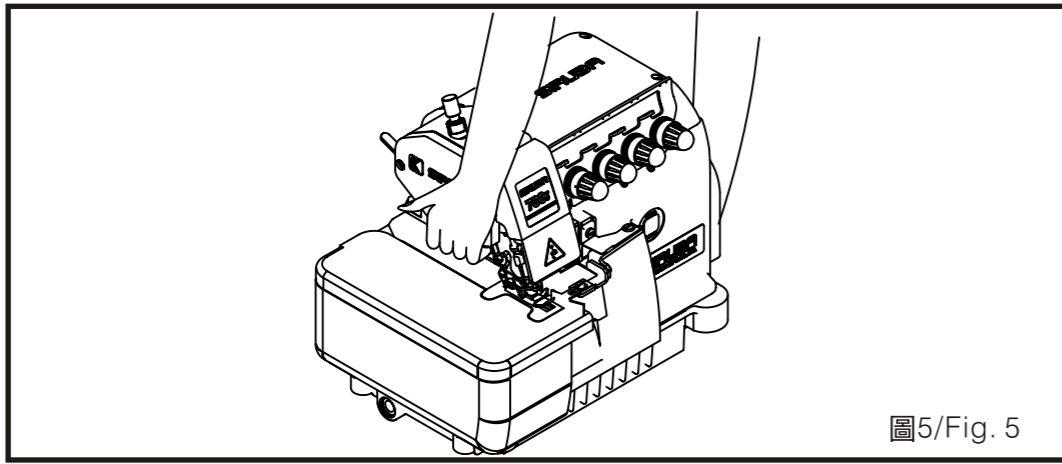


圖5/Fig. 5

縫紉機的安裝位置

THE INSTALLATION POSITION

1. 勿將該縫紉機置於設備附近，如電視機、收音機或無線電話等，否則這些設備可能被縫紉機的電子干擾所影響。(圖6)

1. Please do not install the sewing machine near the equipments, such as Television, Radio, or Wireless Telephone. Or these equipments will experience electronic interference. (Fig. 6)

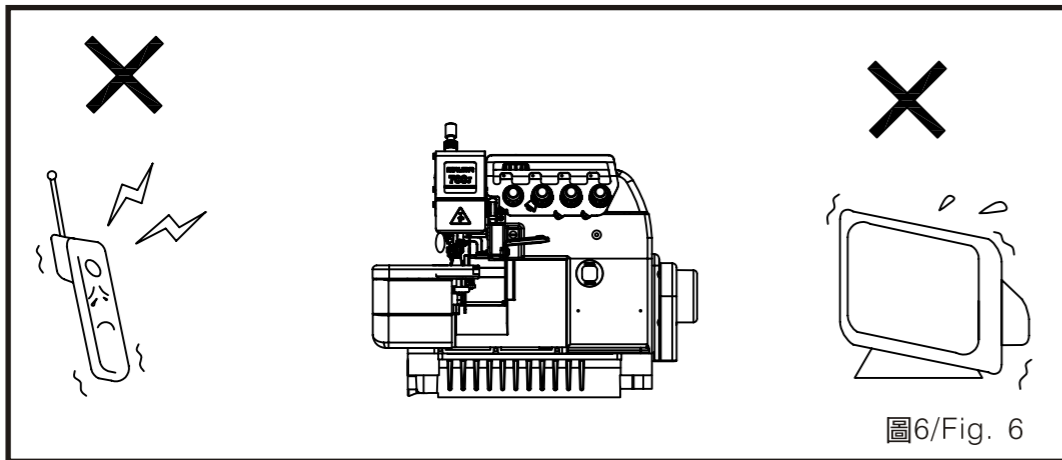


圖6/Fig. 6

2. 應將縫紉機直接插入AC電源插座，如果使用延長線，可能會造成操作故障。(圖7)

2. The wire should insert to the AC power socket directly. If using the extension wire, this might cause malfunction. (Fig. 7)

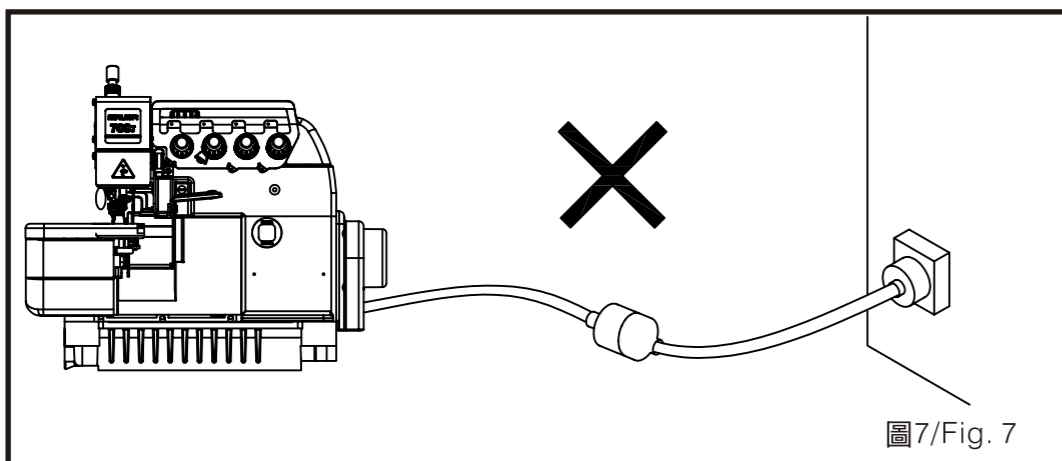


圖7/Fig. 7

規格

SPECIFICATION

1. 外銷型號分類

1. Description

747	K	—	514	M	2	—	2	4	CT
①	②		③	④	⑤		⑥	⑦	⑧

① 表示線數
分737、747、757、767
② 機種別

① Thread numbers
Four types: 737, 747, 757, 767
② Machine type

內銷型號分類

Description

989	—	4T	—	514	M	2	—	2	4	CT
①		②		③	④	⑤		⑥	⑦	⑧

① 機種別
② 表示線數
分3T、4T、5T、6T
③ 縫合方式 (圖表1)
有504、512、514、516、504+401五種型式

① Machine type
② Thread numbers
Four types: 3T, 4T, 5T, 6T
③ Sewing type (Chart 1)
Five types: 504, 512, 514, 516, 504+401

型式 TYPE	504	512	514	516	504+401
圖形 PATTERN					

圖表1/Chart 1

④ 車縫布料
F：輕薄布料
L：薄布料
M：中厚布料
H：厚布料
X：特厚布料
⑤ 送具型式
⑥ 針寬
⑦ 包邊寬度 (表1)

④ Sewing materials
F: Fine weight material
L: Light weight material
M: Medium weight material
H: Heavy weight material
X: Extra heavy weight material
⑤ Feed dog type
⑥ Needle width
⑦ Seam width (Table 1)

編號 Code	包邊寬度 Seam Width
3	3mm
4	4mm
5	5mm
6	6mm

表1/Table 1

⑧ 配件

⑧ Attachment

2. 規格說明

2. Specification

機 型 Model	700K/988
最高縫速 Max Stitch Speed	7500spm
噪音值 Noise Level	82 分貝以下 under 82 dB
縫 距 Stitch Length	4/5/6 mm
針棒行程 Stroke of the needle bar	24.3±0.2 mm
押具揚程 Presser Foot Lift	5.5 mm
押具壓力 Presser Foot Pressure	5kg
送具高度(凸出針板面) Feed Dog Height (over the needle plate)	0.7~0.9 mm
使用針 Needle for Use	DCX27
送具傳動方式 Feed Dog Transmission	偏心輪、連桿 Eccentric, Connecting Rod
送具齒寬度 Teeth Width of the Feed Dog	1.6 mm
縫目調整裝置 Stitch Adjusting Device	按鈕調整 Button Adjustment
押具裝置 Presser Foot Device	彈簧式、旋鈕調整式 Spring Type, Knob Adjustment Type
加油方式 Oil Filling	儲油槽儲存方式，毛氈、棉線毛細管自動供油 Oil tank storage type. Automatic oil supply by felt, cotton thread capillary action.
回油方式 Oil Return Solution	偏心泵浦 Eccentric Pump
使用油 Oil for Use	提供專用油(MOBIL#10) Provide Specific Oil (MOBIL #10)

表2/Table 2

各部件名稱

NAMES OF MAJOR PARTS

- | | |
|--------|-----------------------|
| ① 押具板手 | ① Lifting lever |
| ② 押具 | ② Presser foot |
| ③ 控制箱 | ③ Control box |
| ④ 線架 | ④ Thread stand |
| ⑤ 油窗 | ⑤ Oil gauge window |
| ⑥ 手輪 | ⑥ Pulley (Hand Wheel) |

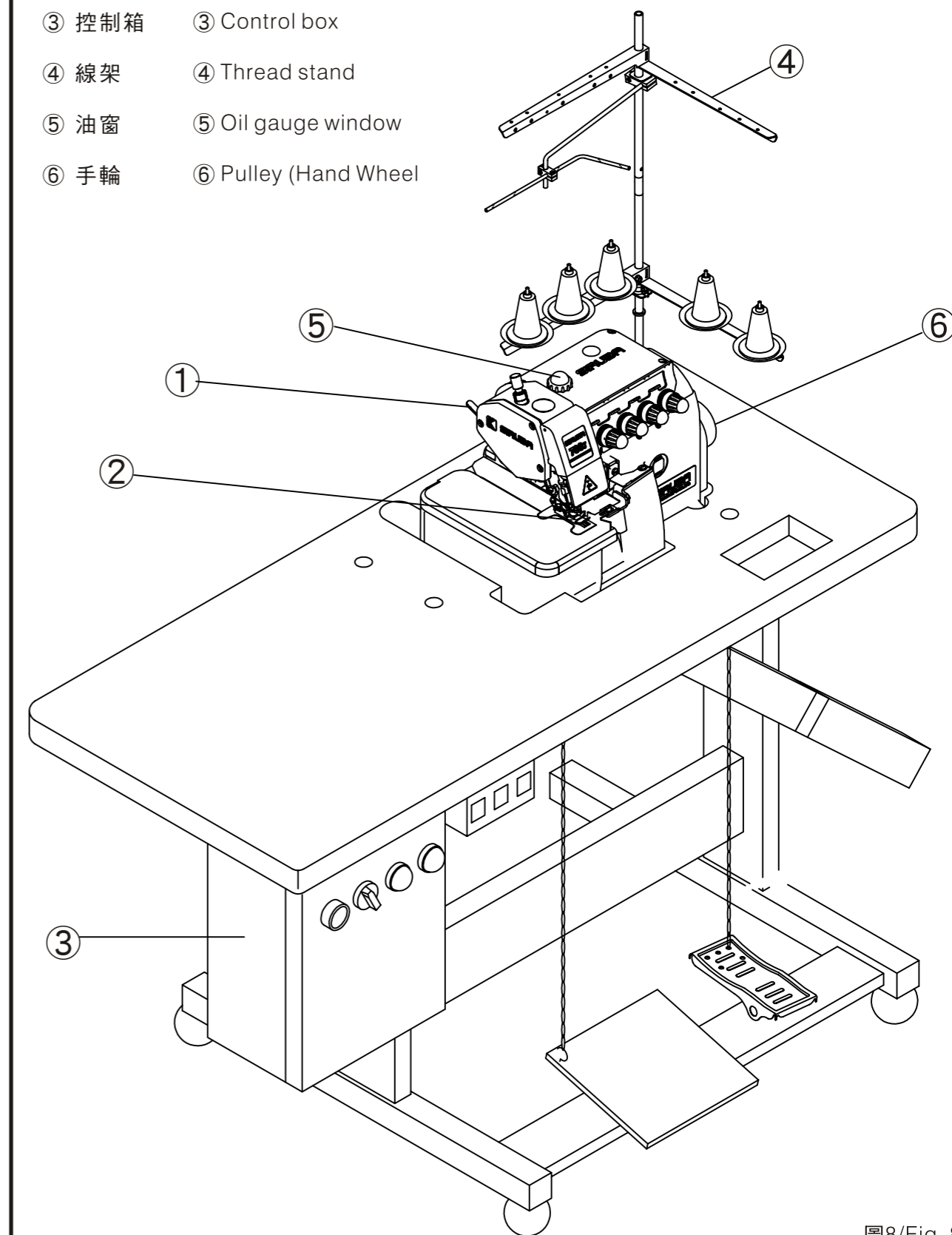


圖8/Fig. 8

注意CAUTION



請讓受過培訓的技術人員來安裝縫紉機。
Machine installation should only be carried out by a qualified technician.



請委託購買商店電氣專業人員進行電氣配線。
Contact your dealer or a qualified electrician for any electrical work that may need to be done.



縫紉機重48公斤, 安裝工作必須由兩人以上來完成。
The sewing machine weighs 48kg. The installation should be carried out by two or more people.



在安裝完成前, 請不要連接電源, 如果誤按啟動開關, 縫紉機動作會導致受傷。
Do not connect the power cord until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.



縫紉機頭倒下豎起時, 請用雙手進行操作。單手操作時因縫紉機的重量萬一滑落易導致受傷。
Use both hands to hold the machine head when tilting it back or returning it to its original position. If only using one hand, the weight of the machine head may be too heavy to hold, and may cause human physical injuries.

1. 縫紉機拆箱搬運過程中, 不可扶持布蓋板
①下方。(圖9)

1. While moving the sewing machine after opening the box, please do not hold the below side of the cloth cover ①. (Fig. 9)

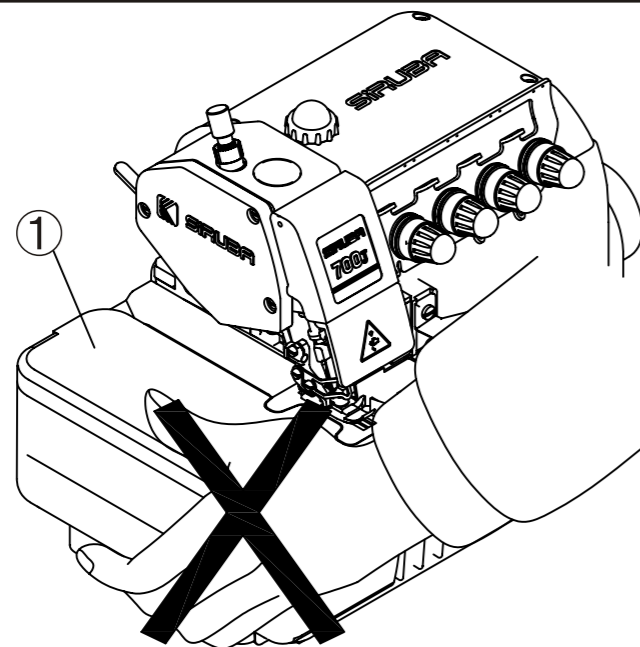


圖9/Fig. 9

2. 依本機所附桌板裁製圖及零件組合圖所列之配件, 依序安裝防震機座鋁板①。(圖10)

2. Please refer to the attached table cut-out drawing and the parts list to assemble the anti-chock machine aluminum plate ① in order. (Fig. 10)

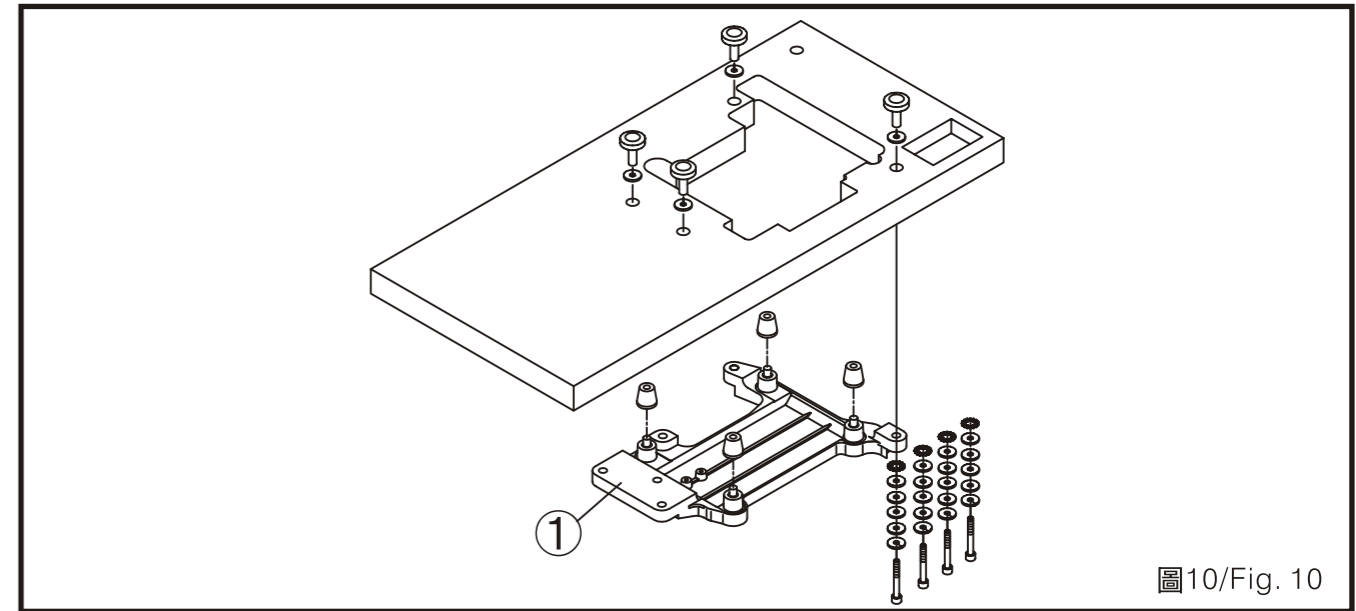


圖10/Fig. 10

3. 裝置導布屑及線架。(圖11)

3. Assemble the waste disposal set and the thread stand. (Fig. 11)

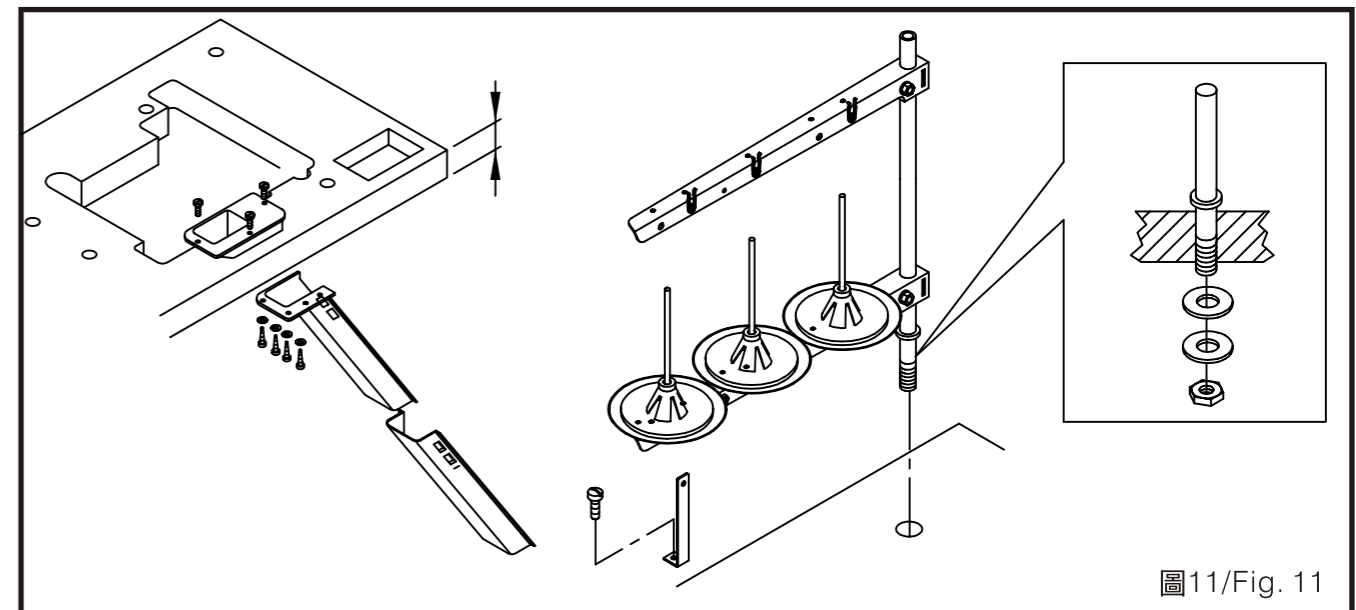


圖11/Fig. 11

4. 馬達啟動踏板①裝於左邊, 押具腳踏板②則裝於右邊。(圖12)

4. Assemble the motor starting pedal ① to the left side, and the presser foot pedal ② to the right side. (Fig. 12)

**本體與車板
不得干涉**

The machine and the machine bed shall not interfere with each other.

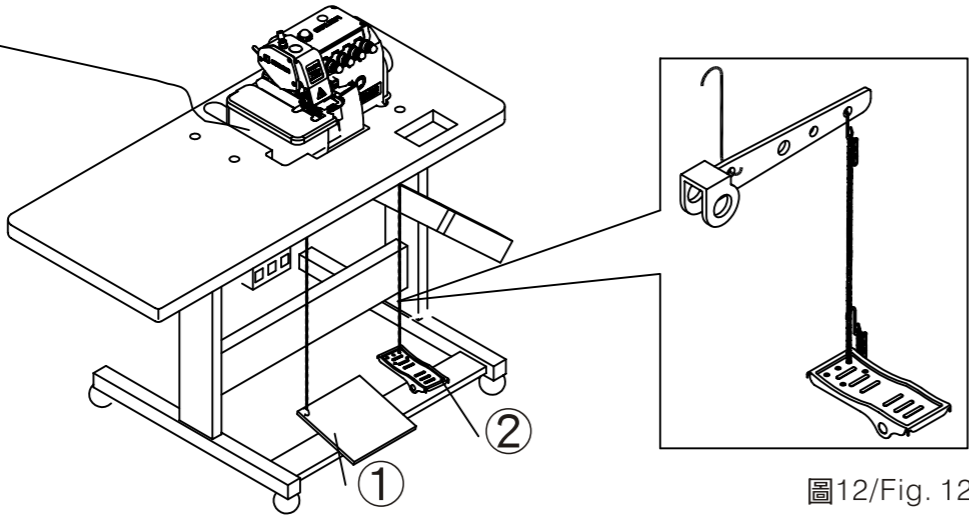


圖12/ Fig. 12

5. 注意馬達之轉向為順時鐘方向，皮帶①之鬆緊度以用手指向內壓下縮10 mm之緊度為宜。皮帶輪②大小與車縫轉速請參照表3及圖13。

5. Please be noted that the turning direction of the motor is clockwise. The best tension of the motor belt ① is that the belt can be pressed in about 10 mm by a finger. Please refer to Table 3 and Fig. 13 about the size of the pulley ② and the sewing speed.

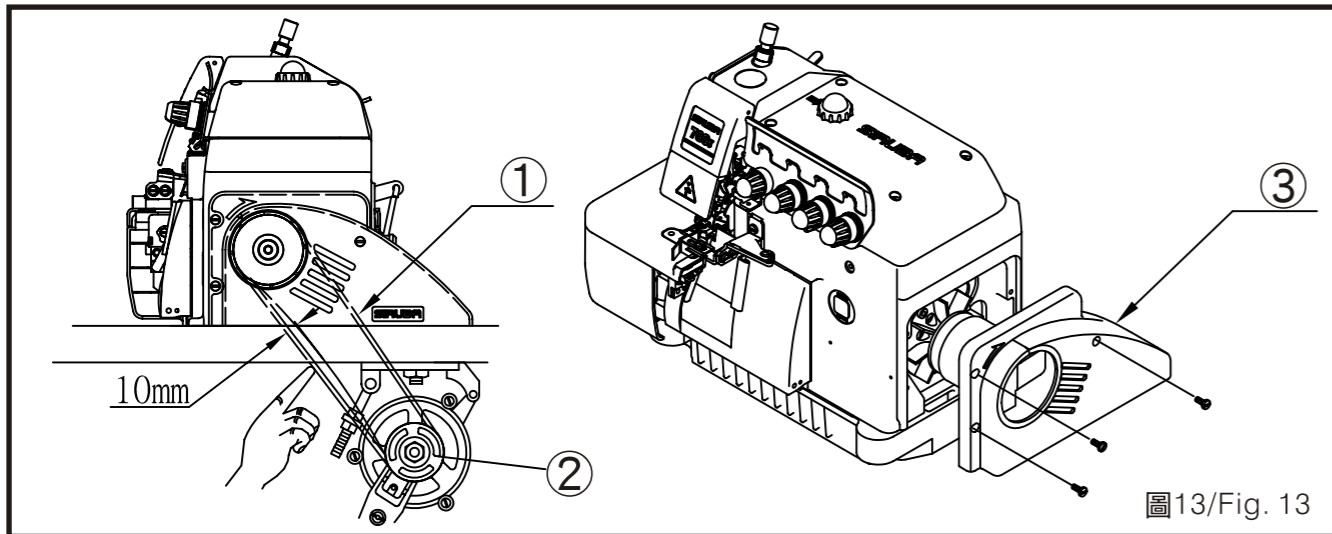


圖13/ Fig. 13

Machine (S.P.M.)	Motor pulley Diameter(mm)	
	60Hz	50Hz
6,000	95	115
6,500	105	125
7,000	110	135
7,500	120	145

圖3/ Table 3

6. 確保使用者的安全，一定要鎖上皮帶護蓋③。

6. To ensure the safety of the operators, please tighten the belt protection cover ③ tightly.

照明設備

貼心使用者設計的照明機構，其採用不發熱、壽命長之發光二極體LED燈具，讓使用者能方便於穿線。(圖14)

LIGHTENING EQUIPMENT

A thoughtful lightening equipment is designed for the operators. Non-heating and long life LED lamps are adopted so that the operators can thread easily.

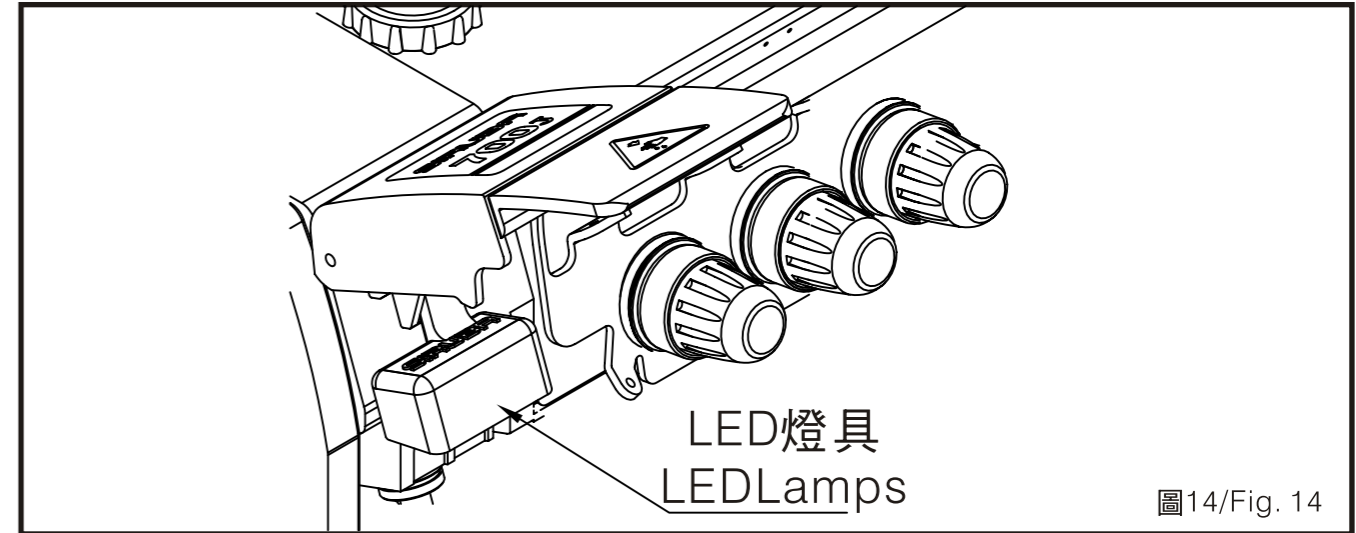


圖14/ Fig. 14

新機器啟用規定

1. 新機器在最初啟用磨合期的四個星期內，請用低於最高速度20%的速度運轉，之後換上新潤滑油，才可運轉至最高速度。
2. 定期之清潔保養，確保延長機器之使用壽命。

HOW TO OPERATE THE NEW MACHINE

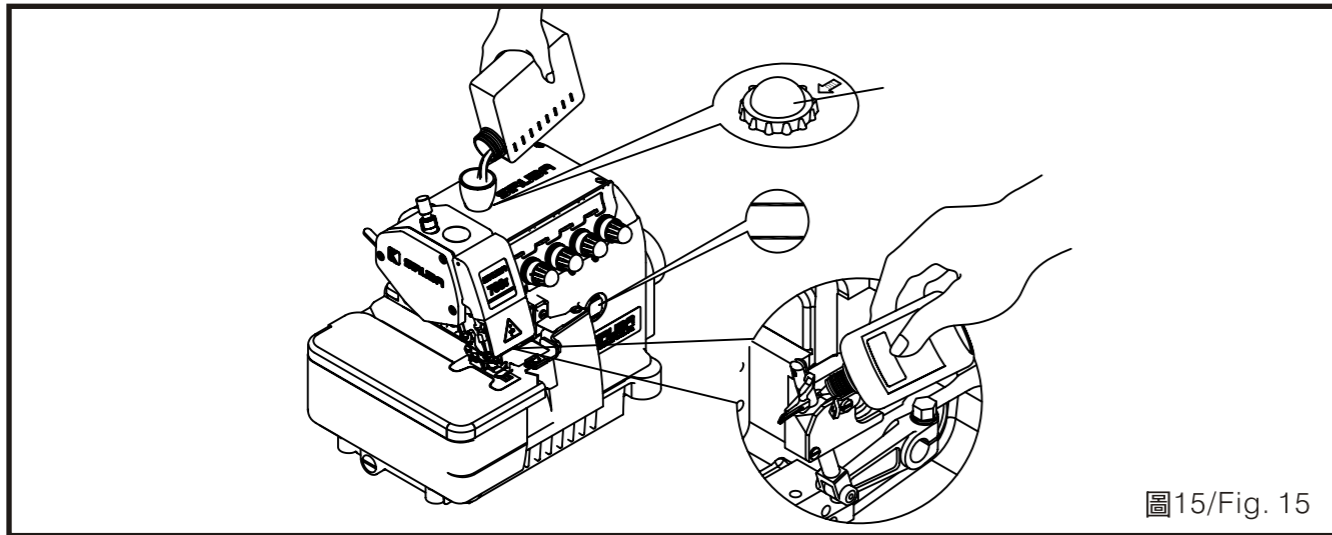
1. Please operate this machine in 80% of the maximum speed in the first four weeks for engagement. After four weeks, please do not operate under the maximum speed until replacing the new lubrication oil.
2. Periodically maintain and clean the machine to ensure and extend the usage term of the machine.

潤滑油之注入與更換

1. 潤滑油之注入(圖15)
 - (1) 將螺絲①旋開，以包裝箱內所附之超高速潤滑油或選用ESSO#32 (或 MOBIL#10)等相當之機油加入，使油量指示桿位於油標上下之間即可，然後再鎖緊螺絲①。

LUBRICATION AND DRAINAGE

1. Fill the lubrication oil (Fig. 9)
 - (1) Remove the screw ①, and fill it with the attached ultra high speed lubricating oil, or choose ESSO#32 (or MOBIL #10) or equivalent. Tighten the screw ① after the oil level indicator locates between the two marking lines.



(2) 開箱新機器或久置未使用時，請在針棒、上鉤針台等加油潤滑。

(2) Please lubricate the needle bar and the upper looper shaft before starting operating a new machine or a long idling machine.

2. 潤滑油之更換(圖16)

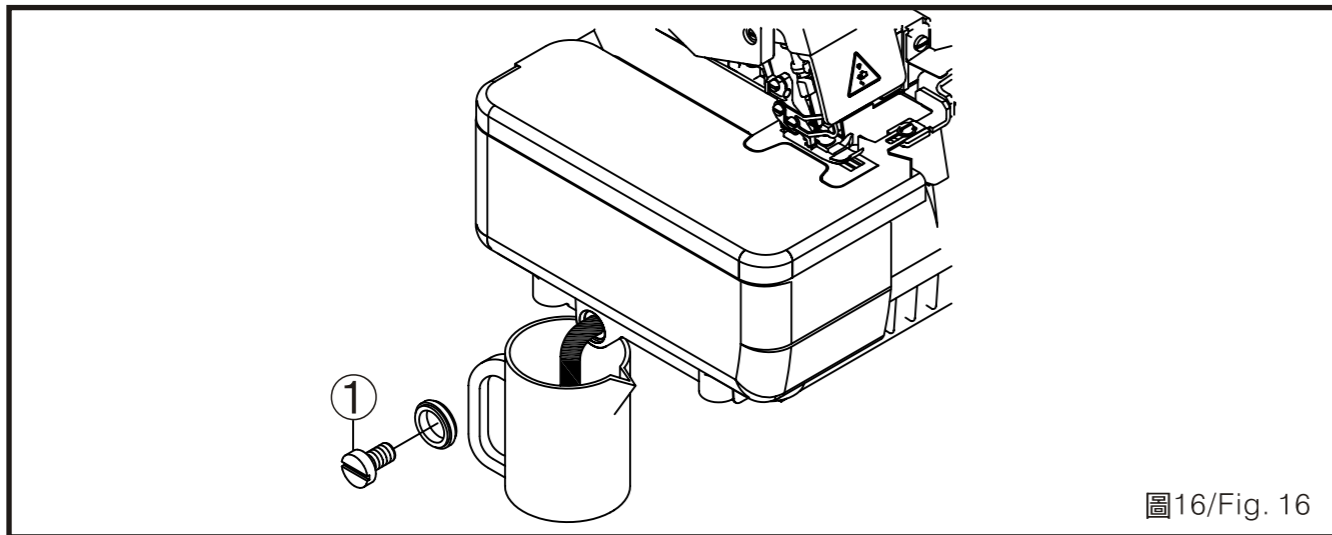
(1) 將螺絲①放鬆旋開，使油槽內的油完全排出後再鎖緊。

2. Drainage and refill the oil (Fig. 16)

(1) Loosen the screw ① and drain all the oil inside the oil tank. Then, tighten the screw ① again.

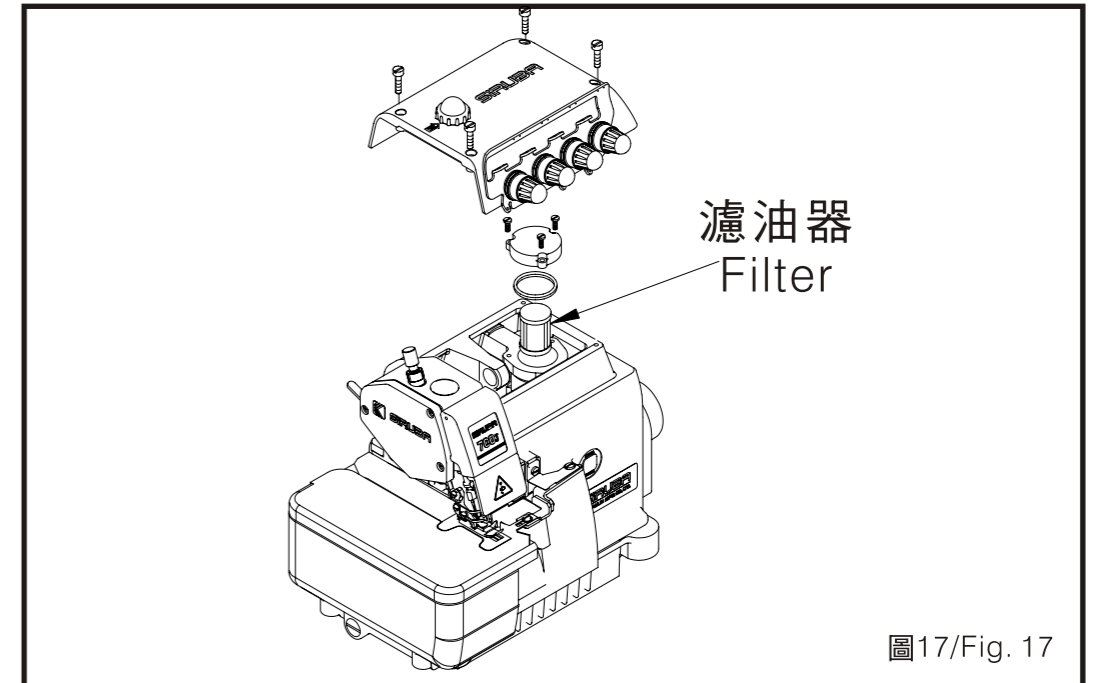
(2) 為延長本機器之壽命，請於開始使用後四星期更換新油，爾後約每四個月更換一次。

(2) In order to extend the term of usage, please replace the oil after the first four week, and then replace it every four months.



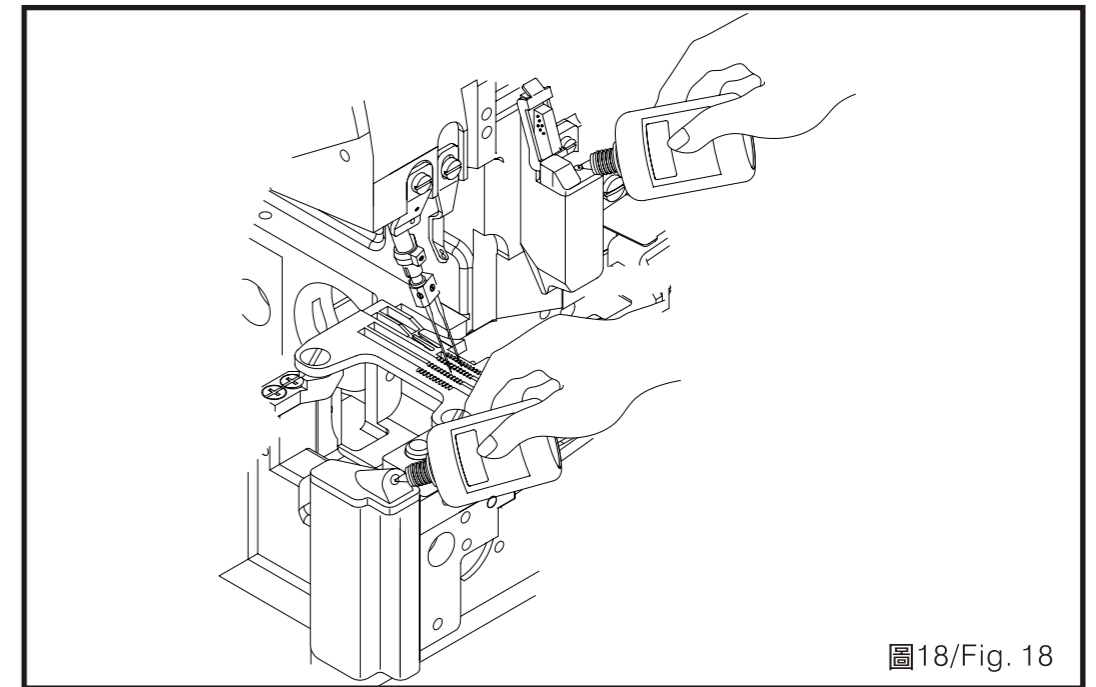
(3) 為延長北機器之壽命，特別裝有濾油器之機構，請在每使用一個月後卸下清洗乾淨，必要時得更換新品。(圖17)

(3) To extend the usage term, this machine has equipped an oil filter. Please disassemble and clean it every month, as well as change it if needed. (Fig. 17)



3. 針之冷卻油
使用油：矽油(圖18)

3. Needle cooling lubrication oil: SILICON OIL. (Fig. 18)



穿線方法

THREADING

請確實按照圖示穿線，錯誤之穿線將引起斷線、跳針及車縫不平坦...等現象。(圖19~22)

Follow the procedures for threading. Wrong threading may cause thread breaking, stitch skipping, puckering or unexpected sewing. (Fig. 19~22)

只有三線-737/988-3T
For Three Thread Only
737

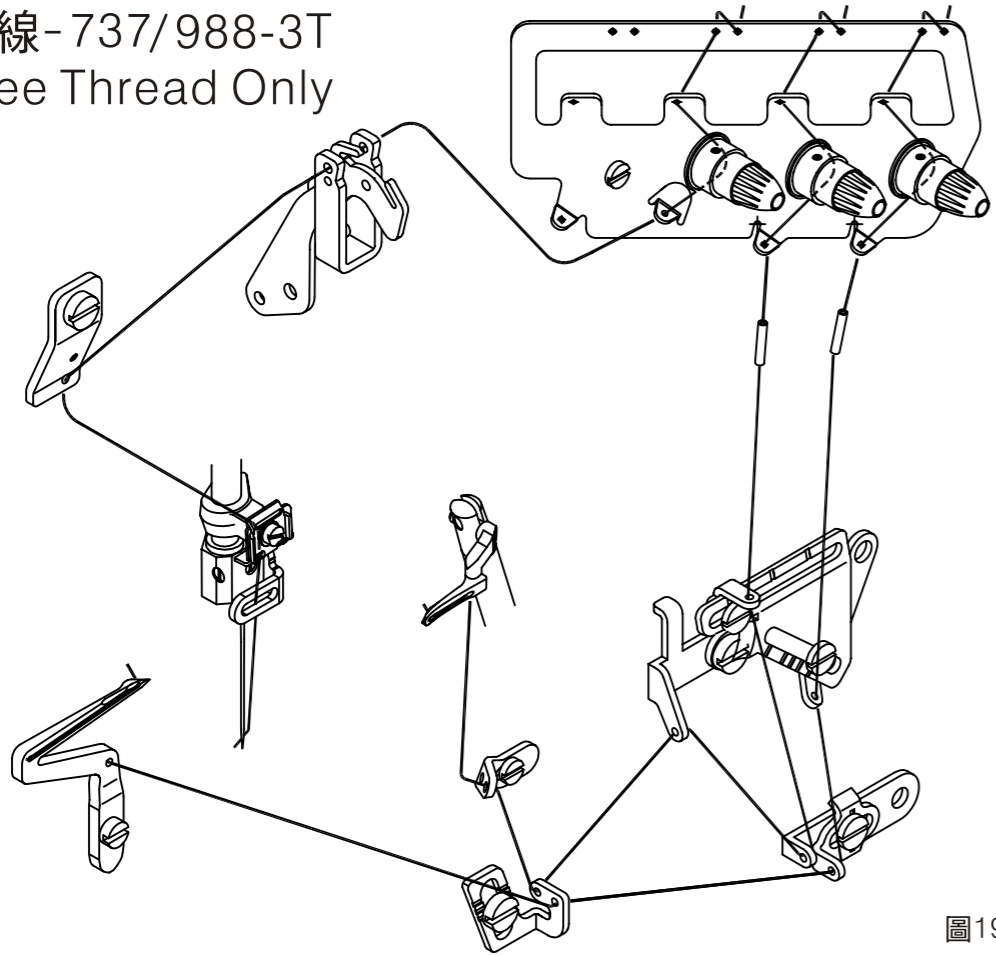


圖19/Fig. 19

四線-747/988-4T
For Four Thread Only
747

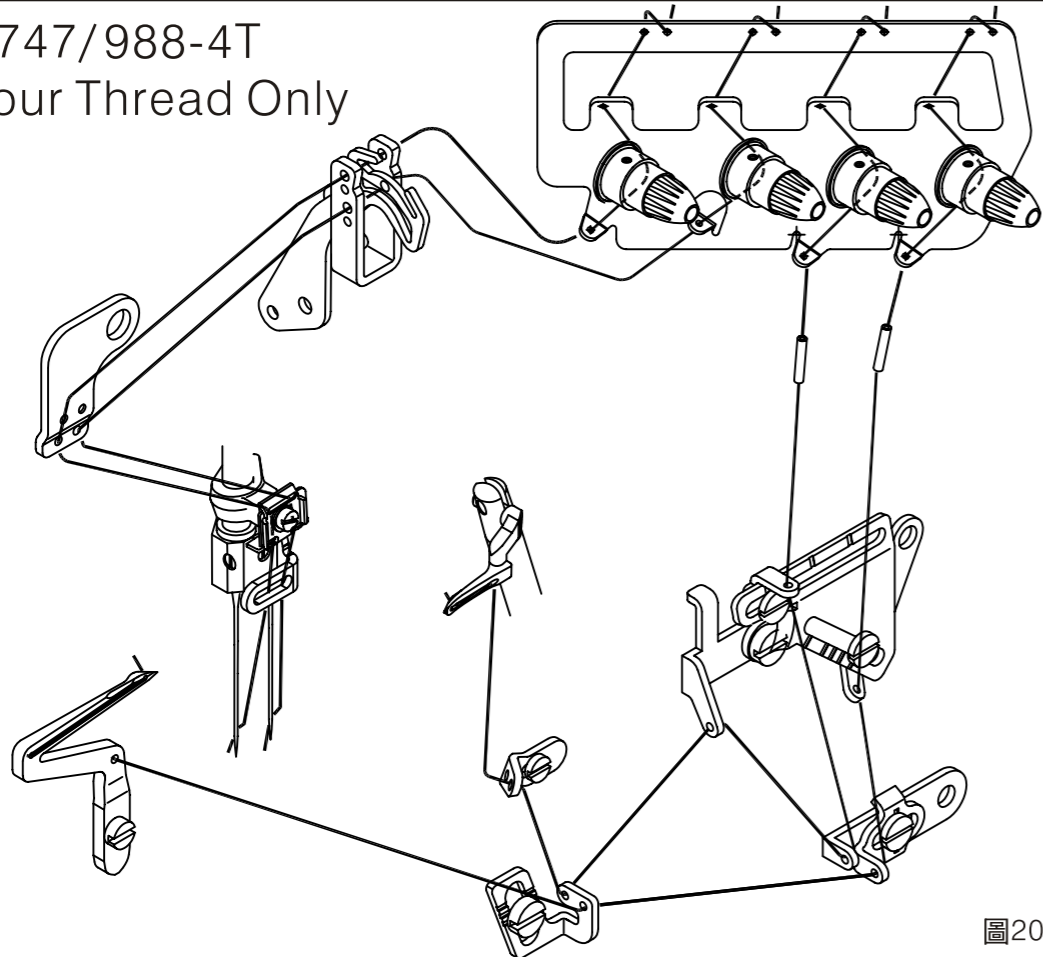


圖20/Fig. 20

五線-757/988-5T
For Five
Thread Only
757

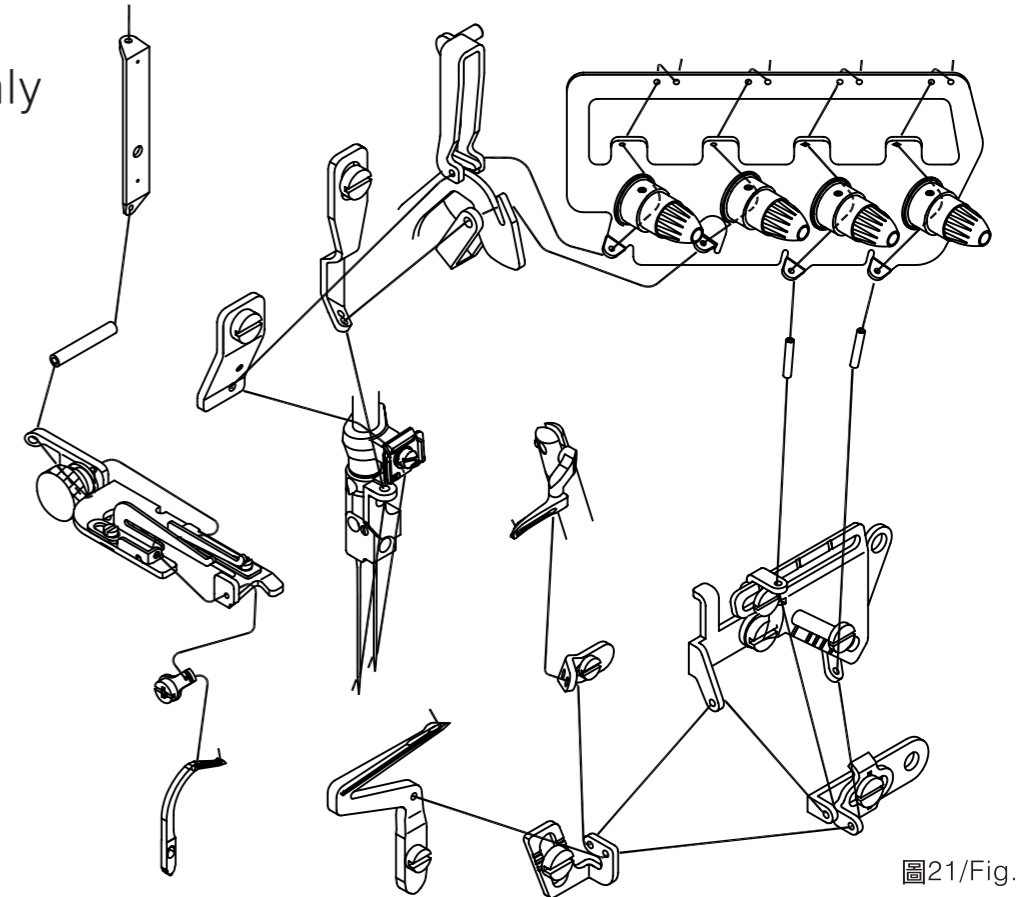


圖21/Fig. 21

六線-767/988-6T
For Six
Thread Only
767

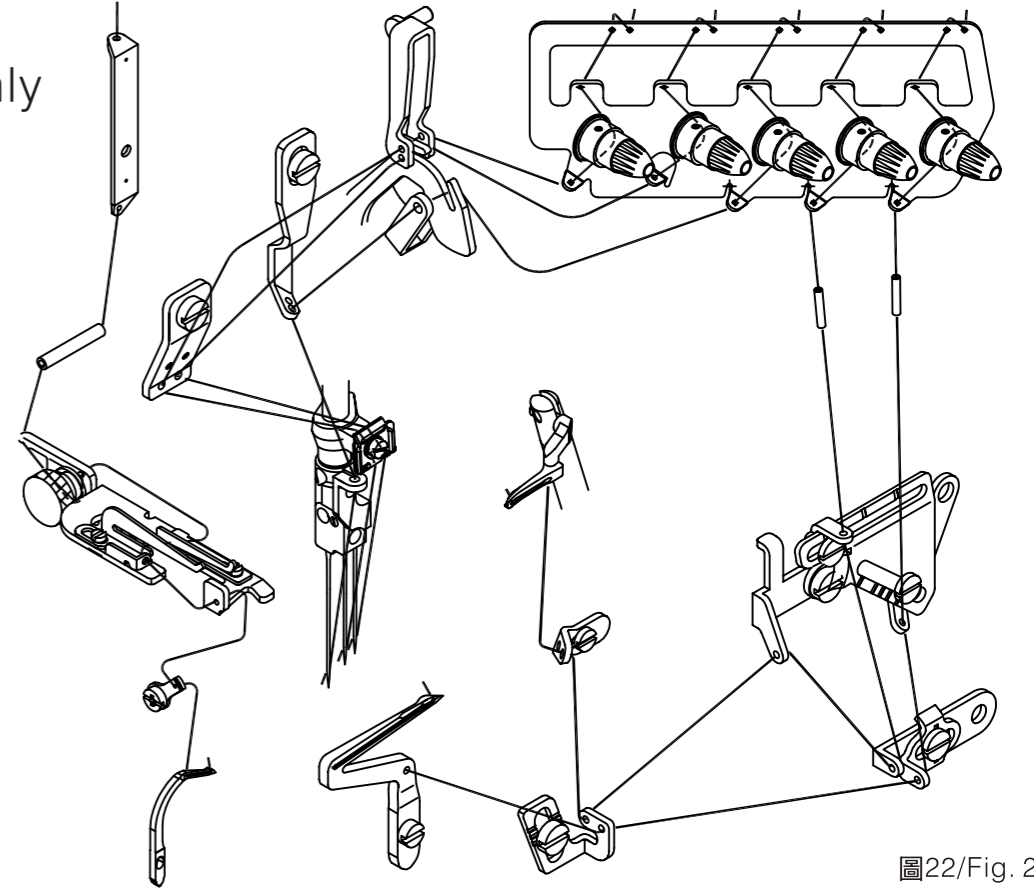


圖22/Fig. 22

控線調整

ADJUST THREAD TENSION

線張力必須根據縫合布料種類，布料厚薄，線及包邊寬度等之差異而做不同的調整。順時針旋轉張力控制螺帽，縫線張力加大，反之減弱。

The thread tension should be adjusted properly according to the kinds and the thickness of the materials, stitch length, and seam width, etc. In addition, adjust the nuts case by case individually. Turn the nuts clockwise will increase the thread tension. Otherwise, the thread tension will be decreased.

1. 調整鈕之控線關係(圖23)

- (1) 第一調整鈕①控制雙環針線或左邊拷克線
- (2) 第二調整鈕②控制包邊針線
- (3) 第三調整鈕③控制上勾針線
- (4) 第四調整鈕④控制下勾針線
- (5) 第五調整鈕⑤控制雙環勾針線

1. Thread tension adjusting nuts (Fig. 23)

- (1) The first adjusting nut ① controls double chain stitch threads or the left over-lock needle thread.
- (2) The second adjusting nut ② controls the seam lock needle thread.
- (3) The third adjusting nut ③ controls the upper looper thread.
- (4) The fourth adjusting nut ④ controls the lower looper thread.
- (5) The fifth adjusting nut ⑤ controls the double chain looper thread.

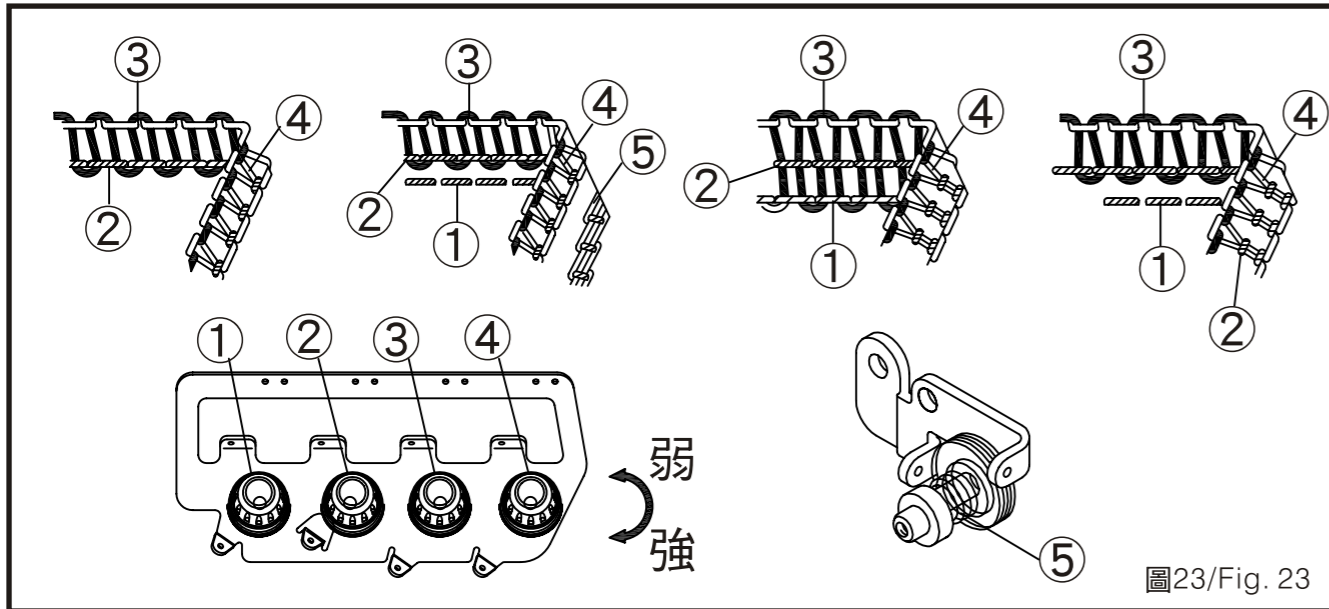


圖23/ Fig. 23

2. 針線控線關係(圖24, 圖25)

- (1) 在縫合方式504、512、514時，將過線組件①移至最下端，縫合方式516時，則將過線組①、②移至最上端。

2. Needle thread control (Fig. 24, Fig. 25)

- (1) When the sewing type is set to 504, 512, or 514, move the threading part ① to the lowest part. When the sewing type is 516, move the threading part ① and ② to the highest point.

- (2) (+)表示增加針線放線量。

- (2) The (+) direction indicates to increase the needle thread length.

- (3) (-)表示減少針線放線量。

- (3) (-) means to decrease the needle thread length.

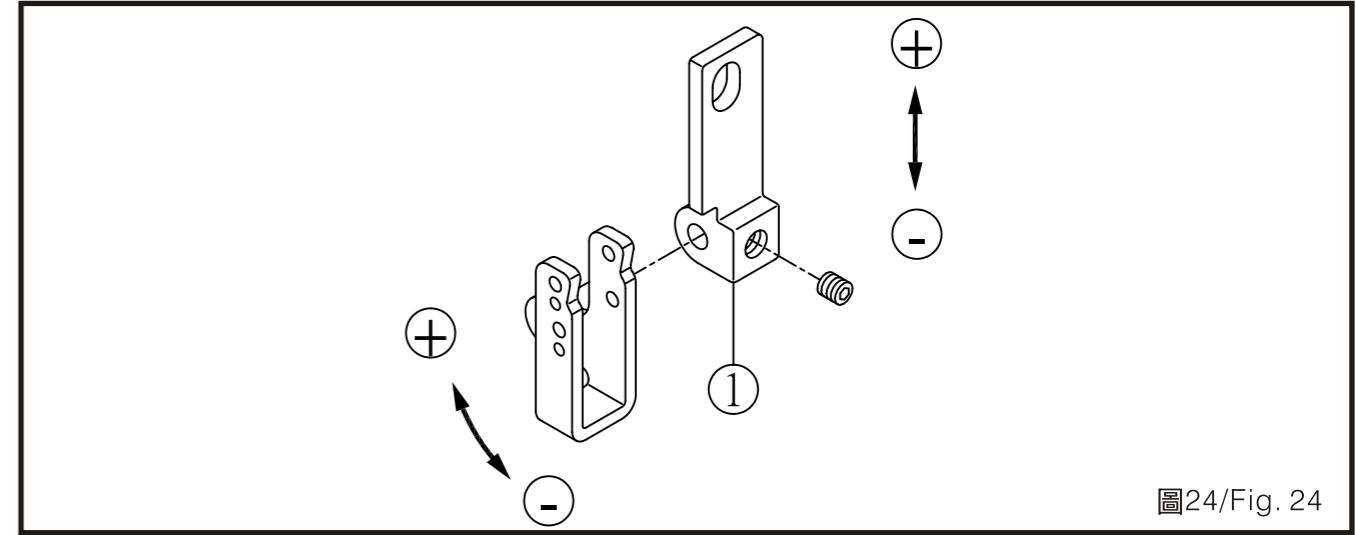


圖24/ Fig. 24

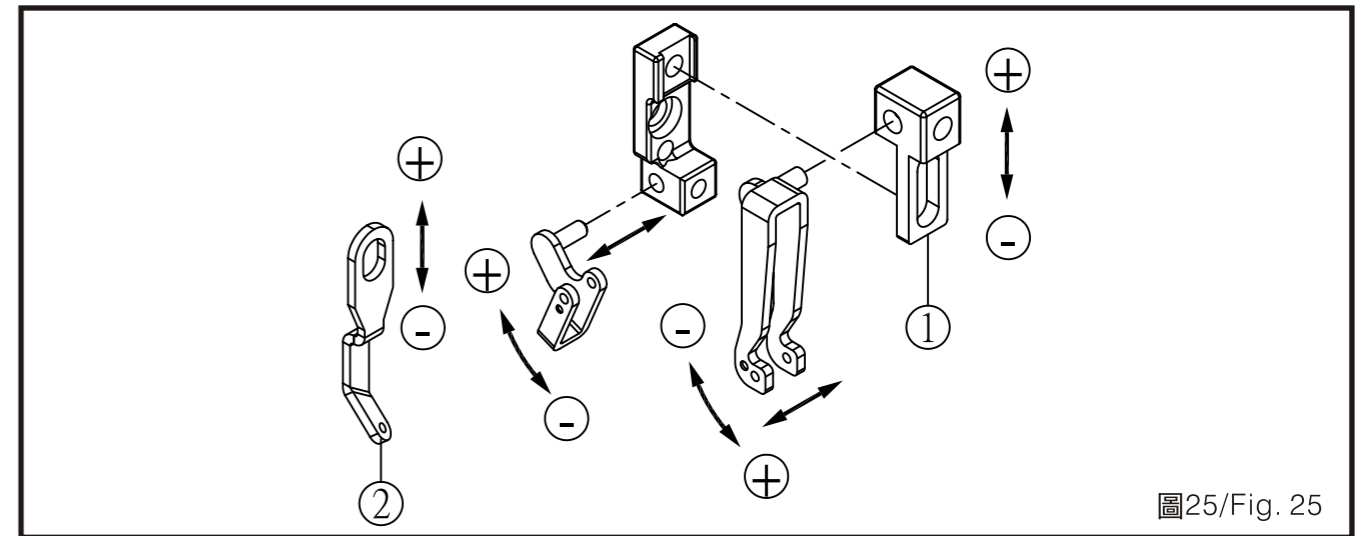


圖25/ Fig. 25

3. 勾針控線關係(圖26)

- (1) 若縫合方式為503, 504, 505及上勾針移至最低時，將①及②調整至+位置。若縫合方式為505時，則移至-端。

3. Looper thread control (Fig. 26)

- (1) When the sewing type is 503, 504, 505, and the upper looper is on the lowest point, adjust ① and ② at the position of (+). When the sewing type is 505, set the take-up ① and ② at the position of (-).

- (2) 固定線導板③、④如下：
+方向為縫合線較多，反之較少。

- (2) Adjust fixed thread guide plate ③ and ④ as the following:
The direction (+) is for more thread in sewing seam, and the (-) direction is for less thread in sewing seam.

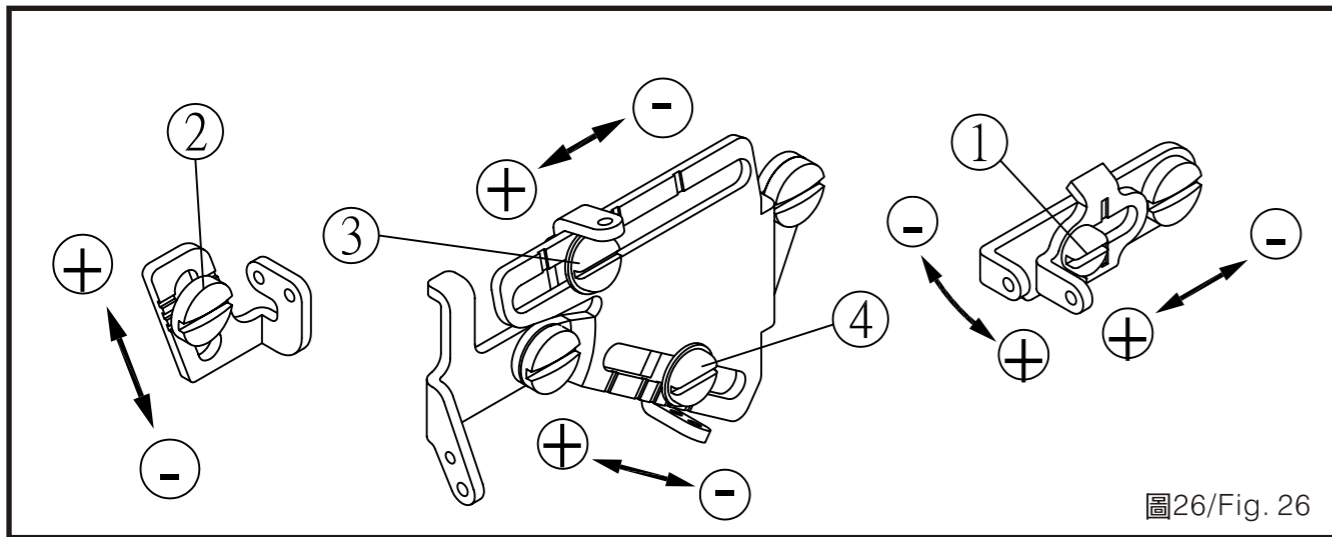


圖26/Fig. 26

4. 環縫線凸輪控線關係(圖27)

(1) 調整線導致線環不穩定(鬆塌或成形不足)時。

(2) ⊕表示增加針線放線量。

(3) ⊖表示減少針線放線量。

4. Chainstitch thread cam control (Fig. 27)

(1) Adjusting the lower thread causes the thread ring unstable (too loose or didn't form a thread ring).

(2) ⊕means to have more thread amount while sewing.

(3) ⊖means to have less thread amount while sewing.

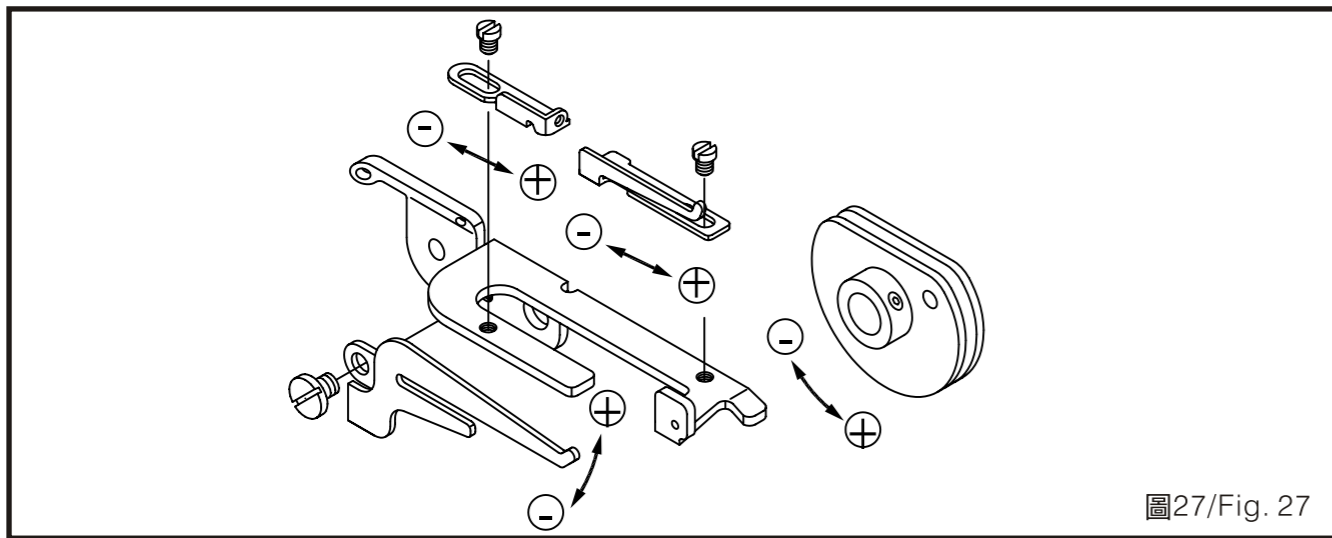


圖27/Fig. 27

換針方法

1. 使用DCX27或同規格之針。(圖28)
2. 旋開螺絲①並取下針。
3. 將新針插至針孔最底端，並使針之長溝面向自己，固定螺絲①。

REPLACE THE NEEDLE

1. Please use the needle DCX27 or the equivalents. (Fig. 28)
2. Loosen the screw ① and take off the needle.
3. Insert the new needle till reaching the end, as well as the long groove faces your side. Tighten the screw ①.

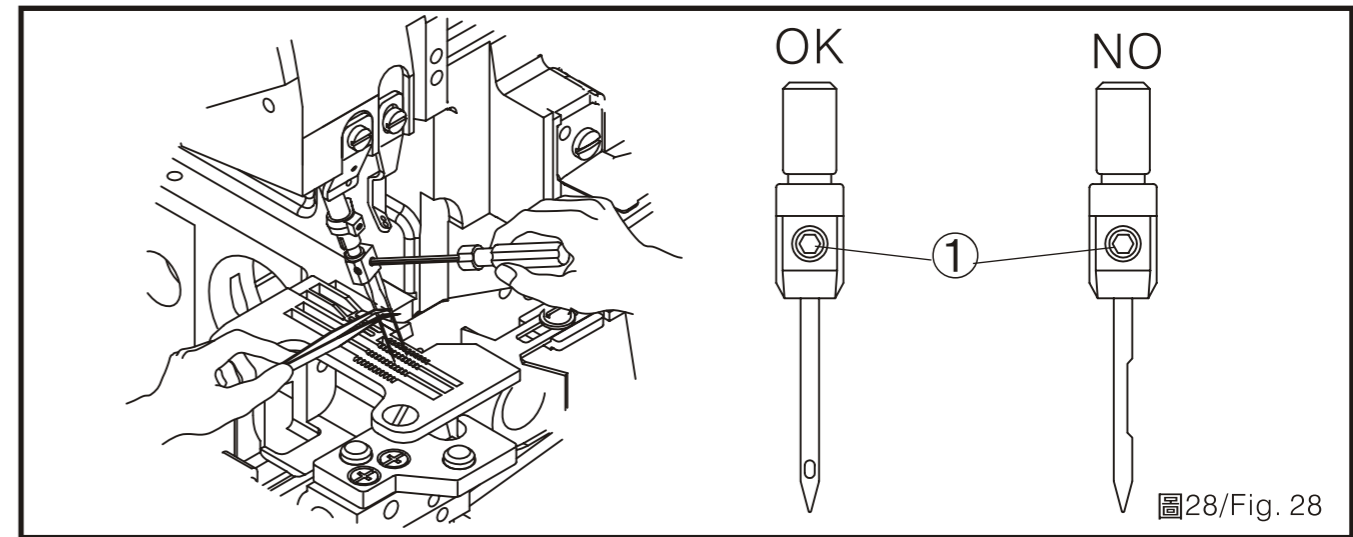


圖28/Fig. 28

針距調整

ADJUST THE STITCH LENGTH

通常依縫合布料，差動比等之不同而調整。持續壓下按鈕①並轉動皮帶輪使鈕卡住，再轉動皮帶輪至所需之針距後放開此按鈕。(圖29，表4)

The stitch length is adjusted according to the fabrics, the differential ratio, or other factors. Keep pressing the button ① and turn the pulley till the button is locked. Then, release the button after reaching the desired stitch length. (Fig. 29, Table 4)

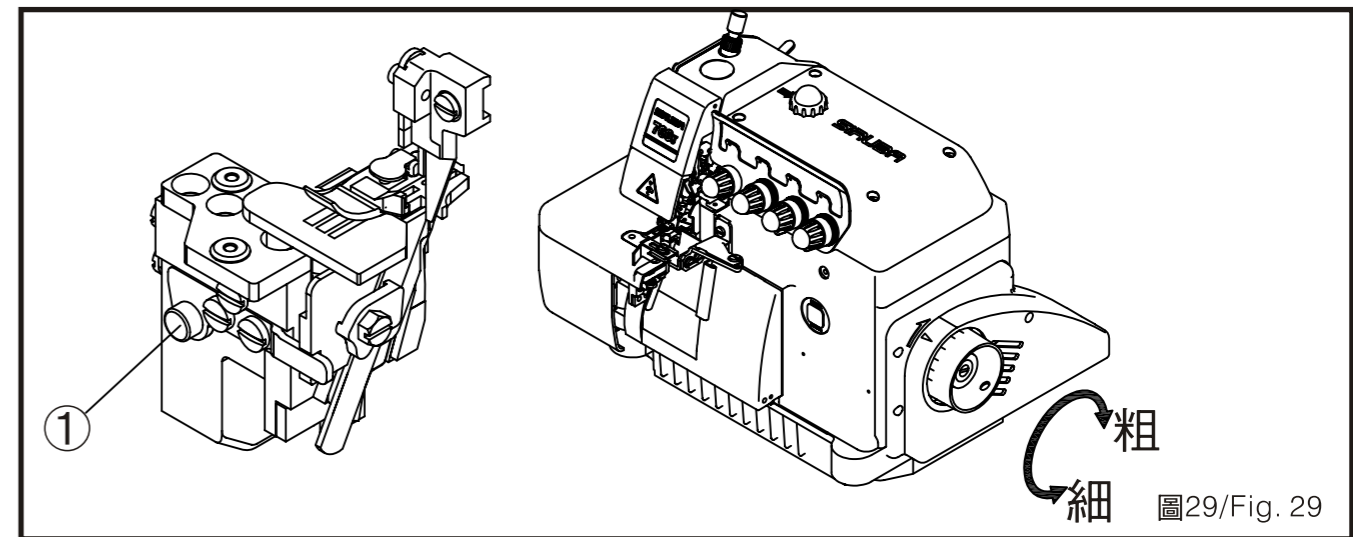


圖29/Fig. 29

Maxi Diff ratio	Machine type	Pulley scale						
		1	2	3	4	5	6	7
1:2	Seaming	0.6	1.13	1.66	2.19	2.72	3.25	3.8
1:3	Shirring	0.6	1.03	1.46	1.89	2.32	2.71	3.2
1:1.3	Serging	0.8	1.5	2.2	2.9	3.6	4.3	5
1:4	Special	0.6	1.02	1.44	1.66	2.28	2.7	—

表4/Table 4

差動比調整

ADJUST THE DIFFERENTIAL FEED RATIO

若主送具之運動行程大於差動送具運動行程時，布料車縫時會伸張，反之則會收縮。

If the stroke of the main feed dog is larger than the stroke of the differential feed dog, the fabric will be extended while sewing. Otherwise, it will be shrunk.

1. 調整方法一：
放鬆調整鈕①，當調整桿②向下調整時使布料收縮，反之則伸張，調整後再鎖調整鈕①。(圖30，表5)

1. Adjust solution 1:
Loosen the adjusting nut ①. Adjust the adjusting rod ② downward will shrink the fabric, whereas move it upward will extend the fabric. Tighten the adjusting nut ① after the adjustment finishes. (Fig.30, Table 5)

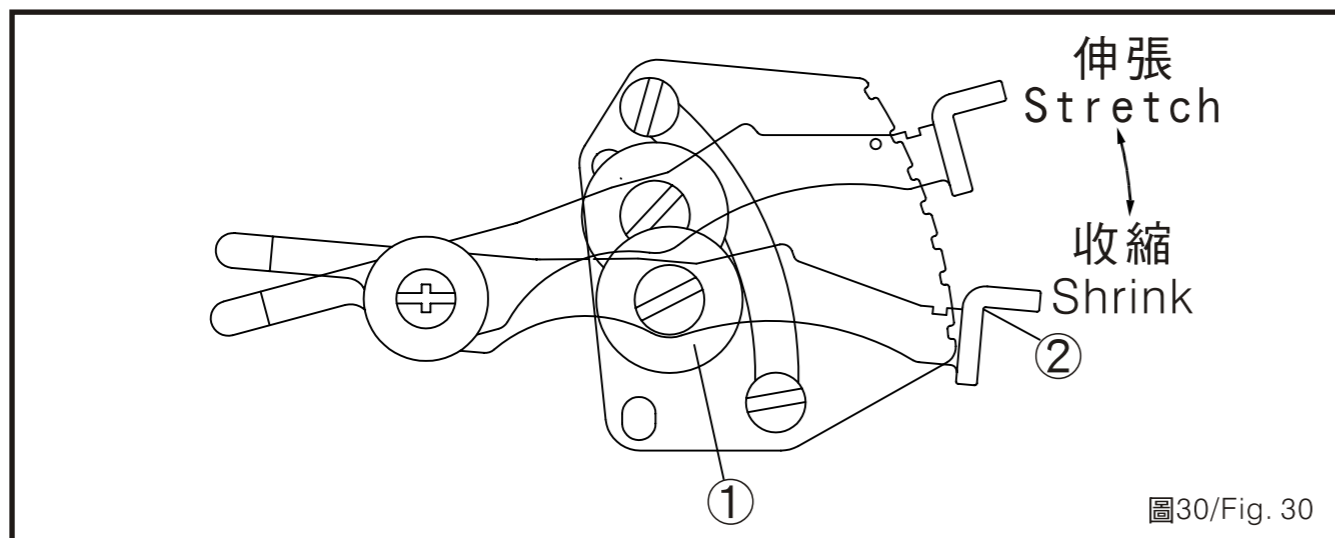


圖30/Fig. 30

Scale		1	2	3	4	5
Differential feed ratio	1:1.3	-	1:0.7	1:0.9	1:1.1	1:1.3
	1:2	1:0.7	1:1	1:1.14	1:1.17	1:2
	1:3	1:1	1:1.5	1:2	1:2.5	1:3
	1:4	1:1.1	1:1.6	1:2.3	1:2.8	1:3.3

表5/Table 5

2. 調整方法二：
(1) 鬆開螺絲④，並從機台後方移開外蓋⑤。
(2) 鬆開螺帽⑥，上下移動連桿⑦。

2. Adjust solution 2:
(1) Loosen the screw ④ and remove the cover ⑤ from the rear side of the machine bed.
(2) Loosen the nut ⑥, and move the connecting rod ⑦ upward and downward.

欲增加差動比，把連桿⑦往(+)方向移動。

To increase the differential feed ratio, move the connecting rod ⑦ to (+) direction.

欲減少差動比，把連桿⑦往(-)方向移動。

To decrease it, move the connecting rod ⑦ to (-) direction.

- (3) 在調整過後，把外蓋⑤放回機台後方並鎖回螺絲④。(圖31)

- (3) After adjusting, put the cover ⑤ back to the rear of the machine bed and tighten the screw ④. (Fig. 31)

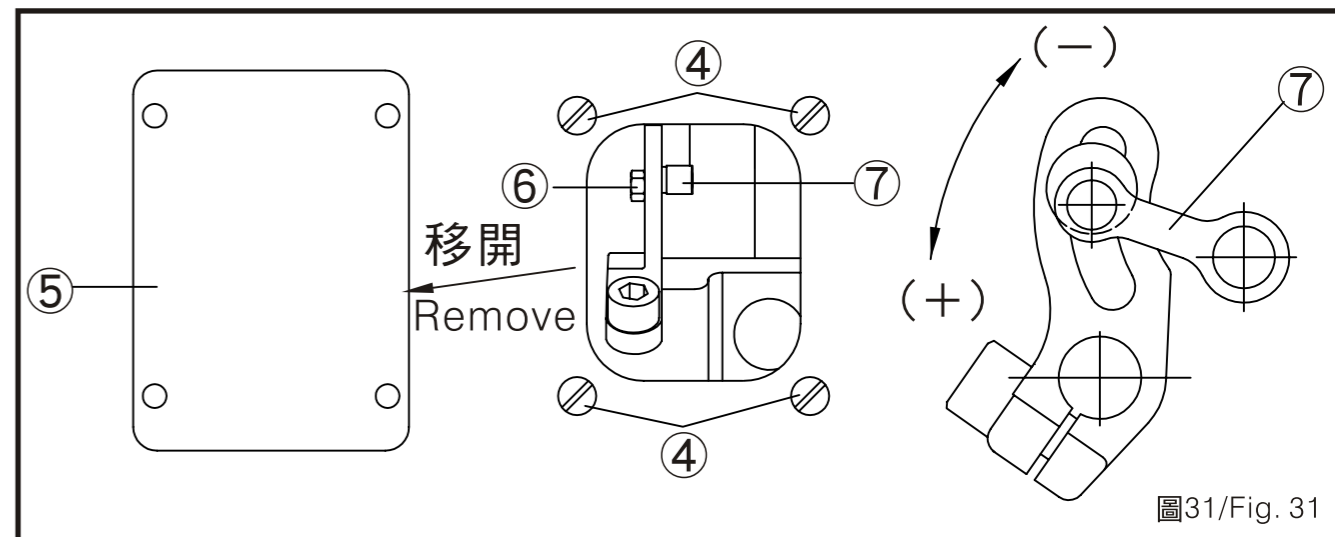


圖31/Fig. 31

更換切刀

REPLACE THE TRIMMERS

1. 更換上切刀(圖32)
(1) 放鬆螺絲①將下刀座②向左邊推，輕鎖螺絲①。
(2) 取下螺絲③，換上新刀片後，輕輕鎖上螺絲③。
(3) 轉動皮帶輪使上刀移至下死點，調整上刀高低使上刀與下刀相交約0.5~1.0 mm，鎖緊螺絲③。
(4) 放鬆螺絲①，使下刀座還原位置，並試驗上下刀能剪斷車縫線，鎖緊螺絲①。

1. Replace the upper trimmer (Fig. 32)
(1) Loosen the screw ①, and move the lower trimmer holder ② to the left. Then, tighten the screw ① a little.
(2) Remove the screw ③ and put the new trimmer. Then, tighten the screw a little.
(3) Turn the pulley to move the upper trimmer to the lower dead point. Adjust the height of the upper trimmer so that the upper trimmer can cross the lower trimmer about 0.5~1.0 mm. After that, tighten the screw ③.
(4) Loosen the screw ① and return the lower trimmer to its original position. Test if the upper and the lower trimmer can cut the thread exactly, and then tighten the screw ①.

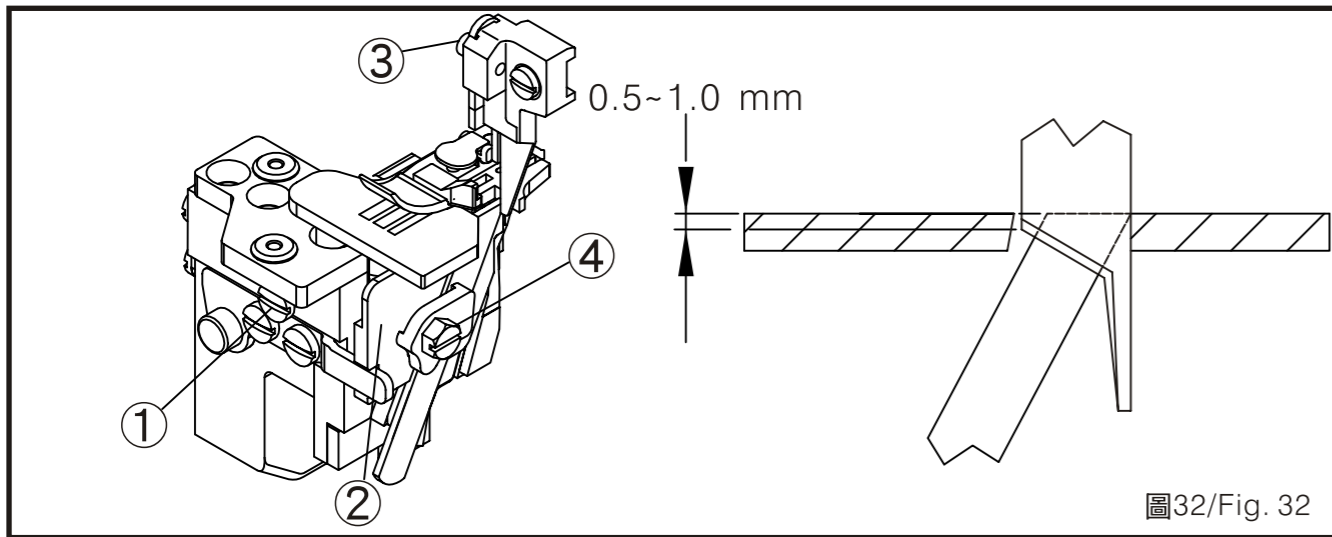


圖32/Fig. 32

2. 更換下切刀(圖32)

- (1) 放鬆螺絲①將下刀座②向左邊推，輕鎖螺絲①。
- (2) 放鬆螺絲④，取下舊刀換上新刀。
- (3) 調整下刀之刀口與針板面平齊後，鎖緊螺絲④。
- (4) 放鬆螺絲①，使下刀座還原位置，並試驗上下刀能確實剪斷車縫線，鎖緊螺絲①。

2. Replace the lower trimmer (Fig. 32)

- (1) Loosen the screw ① and move the lower trimmer holder ② to the left. Then, tighten the screw ① a little.
- (2) Loosen the screw ④. Take off the the trimmer and replace a new one.
- (3) Adjust the edge of the lower trimmer to be align with the surface of the needle plate. Then, tighten the screw ④.
- (4) Loosen the screw ① to return the lower trimmer holder to its original position and test if the upper and the lower trimmer can cut the thread exactly. Then, tighten the screw ①.

包邊寬度調整

1. 轉動皮帶輪，將上刀移至下死點。(圖33)
2. 放鬆螺絲①，向左移動下刀座②後，暫時輕鎖螺絲①。
3. 放鬆螺絲③，移動上刀座向左或向右，直到達到所要的包邊寬度後再鎖緊螺絲③。
4. 放鬆螺絲①，使下刀座②位置還原，並測試能切斷車縫線後，鎖緊螺絲①。

ADJUST THE HEM WIDTH

1. Turn the pulley to move the upper trimmer to the lower dead point. (Fig. 33)
2. Loosen the screw ① and move the lower trimmer holder ② to the left, and then tighten the screw ① a little.
3. Loosen the screw ③, and move the upper trimmer holder ② left or right till reaching the desired width. Then, tighten the screw ③.
4. Loosen the screw ① to return the lower trimmer holder ② to its original position. Test if the trimmers can cut the thread, and then tighten the screw ①.

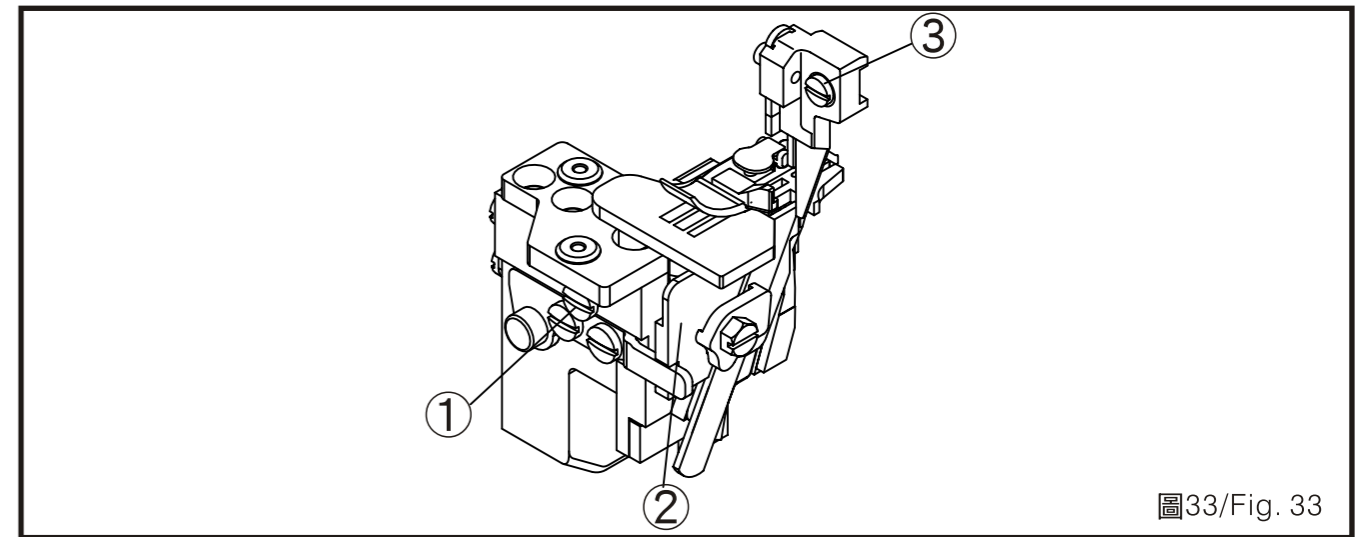


圖33/Fig. 33

針高度之調整

ADJUST THE NEEDLE HEIGHT

1. 轉動皮帶輪使針上升至最高點時，針尖至針板面之距離為(a)。(圖34)
2. 調整：
 - (1) 打開上蓋③。
 - (2) 放鬆螺絲④，移動針棒至所需高度，鎖緊螺絲④。
 - (3) 放回上蓋③，並且密合鎖緊。

1. The (a) is the distance from the needle tip to the surface of the needle plate when the needle is risen to the highest point after turning the pulley.
2. Adjustments
 - (1) Open and remove the upper cover ③.
 - (2) Loosen the screw ④, and move the needle bar to the desired height. Then, tighten the screw ④.
 - (3) Put the upper cover ③ back, and seal it.

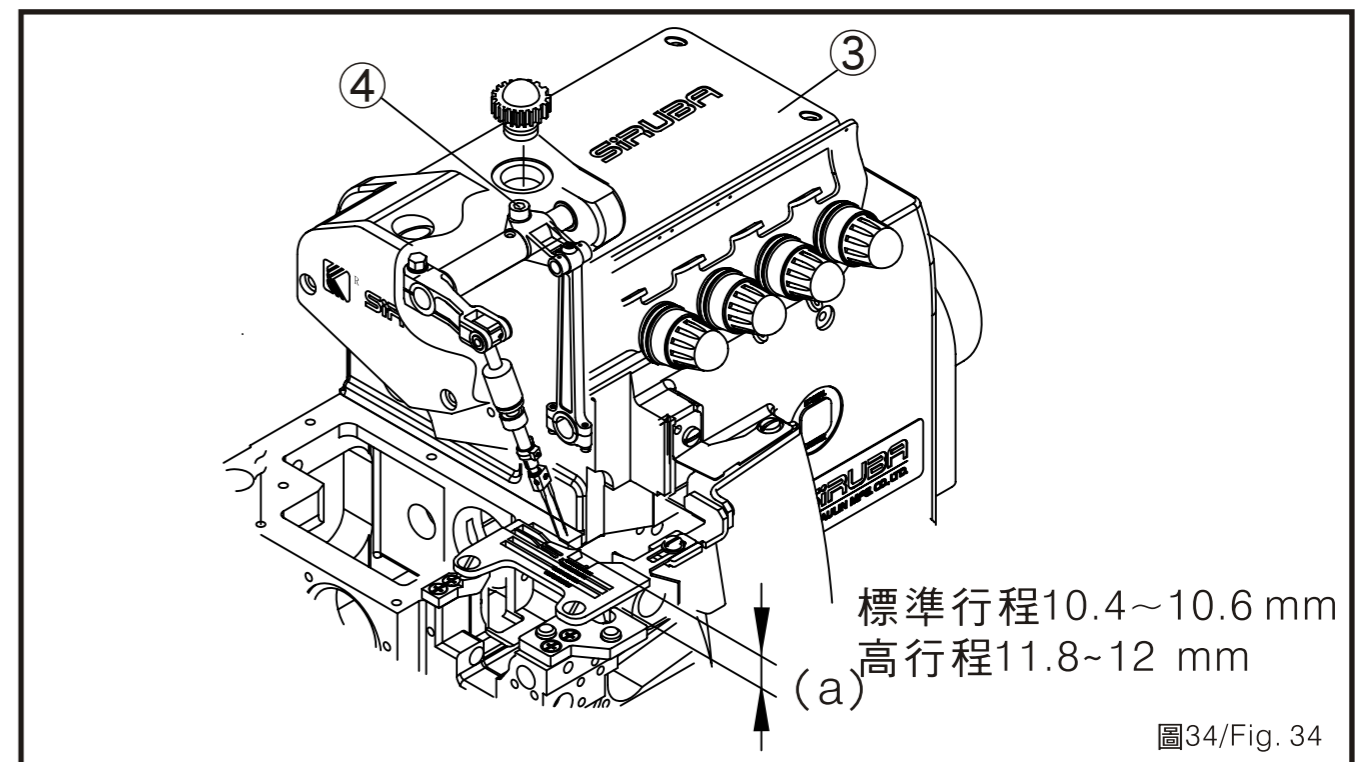


圖34/Fig. 34

押具調整

ADJUST THE PRESSER FOOT

1. 押具位置調整(圖35)

- (1) 放鬆押具彈簧壓力①及押具螺絲⑦。
- (2) 移動押具⑥，使其押具槽與針板槽一致，使押具底平壓於針板上，鎖緊螺絲⑦。
- (3) 放鬆螺絲⑤，左右移動④，使③與②吻合，且②能上下活動輕順，鎖緊螺絲⑤。
- (4) 調整適當壓力，螺絲①順時針方向旋轉時，壓力加大，反之減弱。

1. Adjust the presser foot position (Fig. 35)

- (1) Release the pressure spring ① of the presser foot and the the screw ⑦ of the presser foot.
- (2) Move the presser foot ⑥ so that the groove of the presser foot can align with the groove of the needle plate. Also, the bottom of the presser foot can stand on the needle plate flatly, and then tighten the screw ⑦.
- (3) Loosen the screw ⑤, and move ④ left and right so that ③ can match ② and ② can move upward and downward smoothly. Then, tighten the screw ⑤.
- (4) To adjust to a proper pressure: turn the screw ① clockwise will increase the pressure, whereas turn it counter clockwise will decrease the pressure.

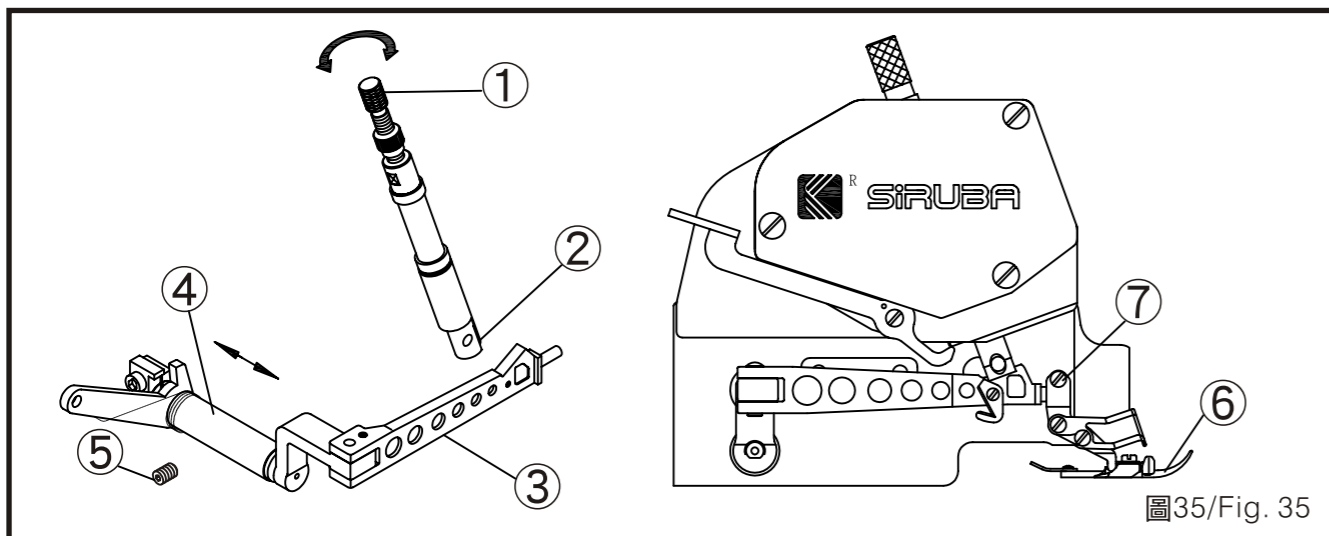


圖35/Fig. 35

2. 押具提升量調整(圖36)

- (1) 轉動皮帶輪使送具降至針板下，押具底平貼針板。

2. Adjust the lift amount of the pressure foot. (Fig. 36)

- (1) Rotate the pulley to move the feed dog downward until the feed dog is under the needle plate, as well as the bottom of the presser foot touches the needle plate flatly.

- (2) 放鬆螺帽④，壓下拉桿⑥使押具上升至適當位置約5.0~5.5 mm，調整螺絲⑤及固定螺帽④。

- (3) 拉桿①與固定座②須保持有1 mm的間隙，可輕輕放鬆螺絲③調整。

- (4) 要確實鎖緊螺絲③。

- (2) Loosen the nut ④, and press the pull rod ⑥ in order to rise the presser foot from the needle plate in about 5.0 ~ 5.5 mm. Then, adjust the screw ⑤ and tighten the nut ④.

- (3) There should be a clearance of 1 mm between the pull rod ① and the fixed bracket ②, which can be adjusted by loosening the screw ③ slightly.

- (4) After all the adjustments above, please tighten the screw ③.

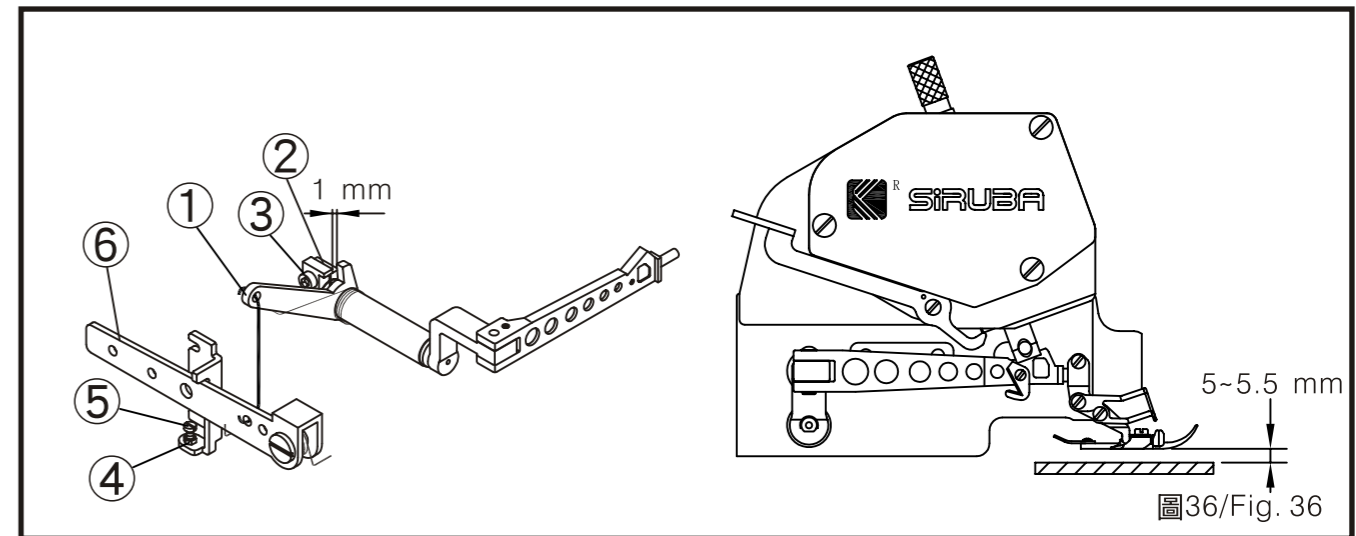


圖36/Fig. 36

送具調整

ADJUST THE FEED DOG

1. 送具高度調整(圖37)

- (1) 轉動皮帶輪使送具上升至針板上最高點。

- (2) 放鬆螺絲①，上下移動主送具②，使其齒面高出針板面約0.7~0.9mm，鎖緊螺絲①。

- (3) 放鬆螺絲③，上下移動差動送具④，使其齒面高出針板面約0.7~0.9mm，鎖緊螺絲③。

1. Adjust the feed dog height. (Fig. 37)

- (1) Rotate the pulley to rise the feed dog to the highest point of the needle plate.

- (2) Loosen the screw ①, and move the main feed dog ② up and down in order to keep the teeth side over the needle plate about 0.7~0.9 mm. Then tighten the screw ①.

- (3) Loosen the screw ③, and move the differential feed dog ④ up and down in order to keep the teeth side over the needle plate about 0.7~0.9 mm. Then, tighten the screw ③.

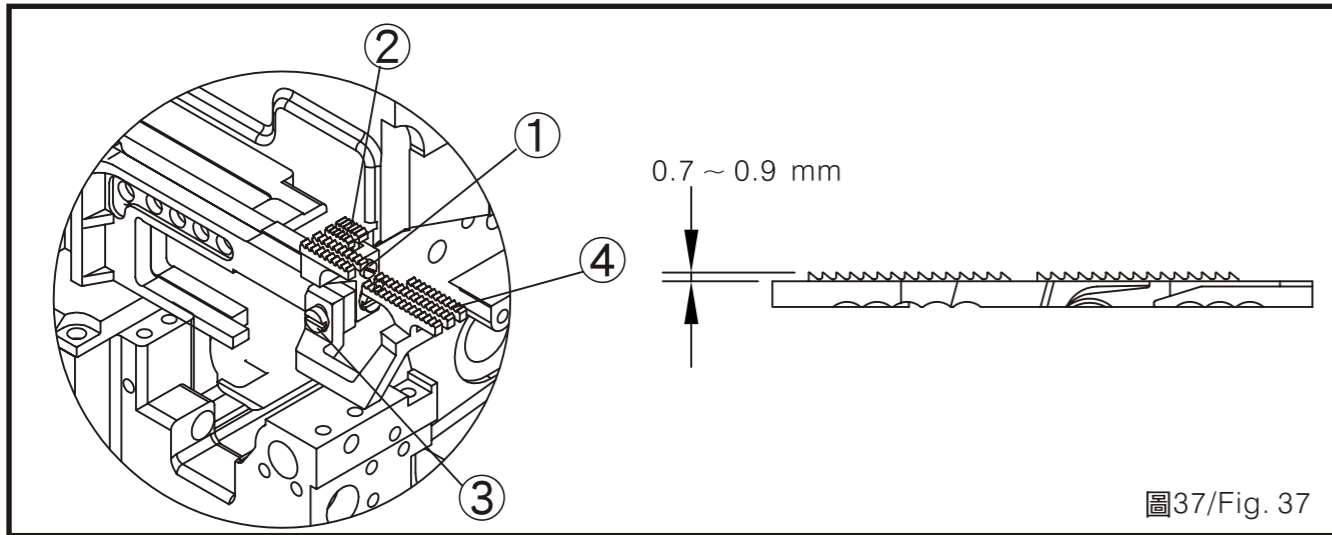


圖37/Fig. 37

2. 送具水平調整 (圖38)

- (1) 送具齒的齒面在運轉的循環中，必須保持針板面呈水平。
- (2) 調整時放鬆螺絲①，旋轉後支軸②，齒面呈水平後固定螺絲①。

2. Adjust the feed dog horizontally (Fig. 38)

- (1) During operation, the teeth side of the feed dog should keep parallel with the surface of the needle plate.
- (2) For adjustment, loosen the screw ①, and rotate the rear support shaft ②. Do not tighten the screw ① until the teeth side of the feed dog is horizontal.

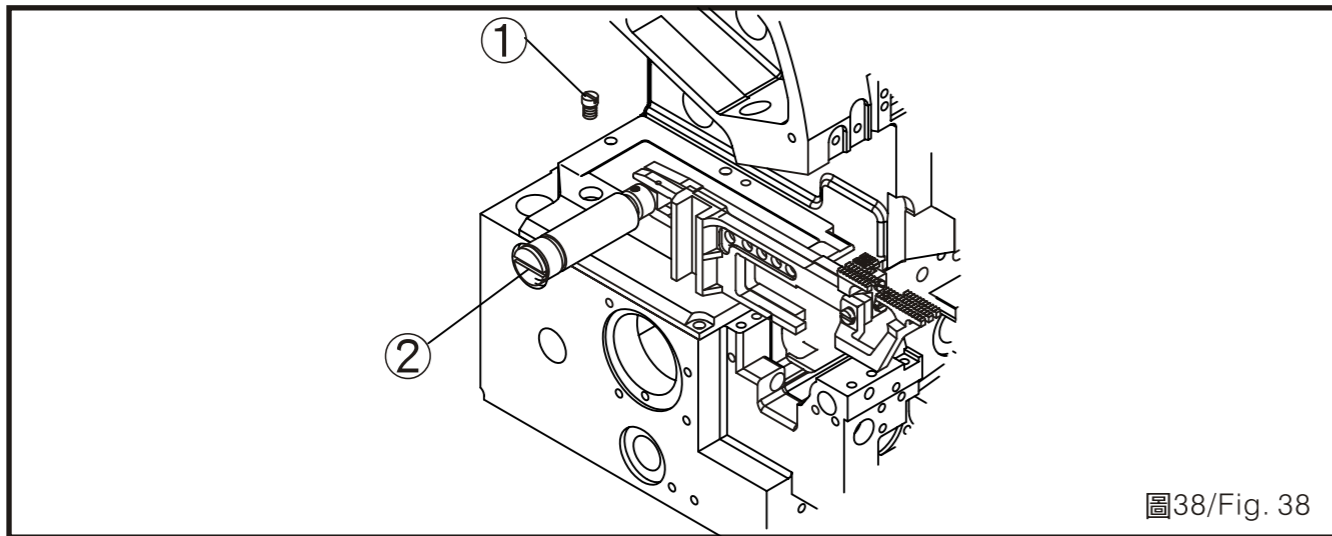


圖38/Fig. 38

3. 輔助送布齒高度 (圖39)

- (1) 輔助送具①，其齒面比送布齒齒面低 0.3~0.5 mm，可放鬆螺絲②來調整。

3. Adjust the auxiliary feed dog height. (Fig. 39)

- (1) The teeth side of the auxiliary feed dog is 0.3~0.5 mm lower than the feed dog. The height can be adjusted by loosening the screw ②.

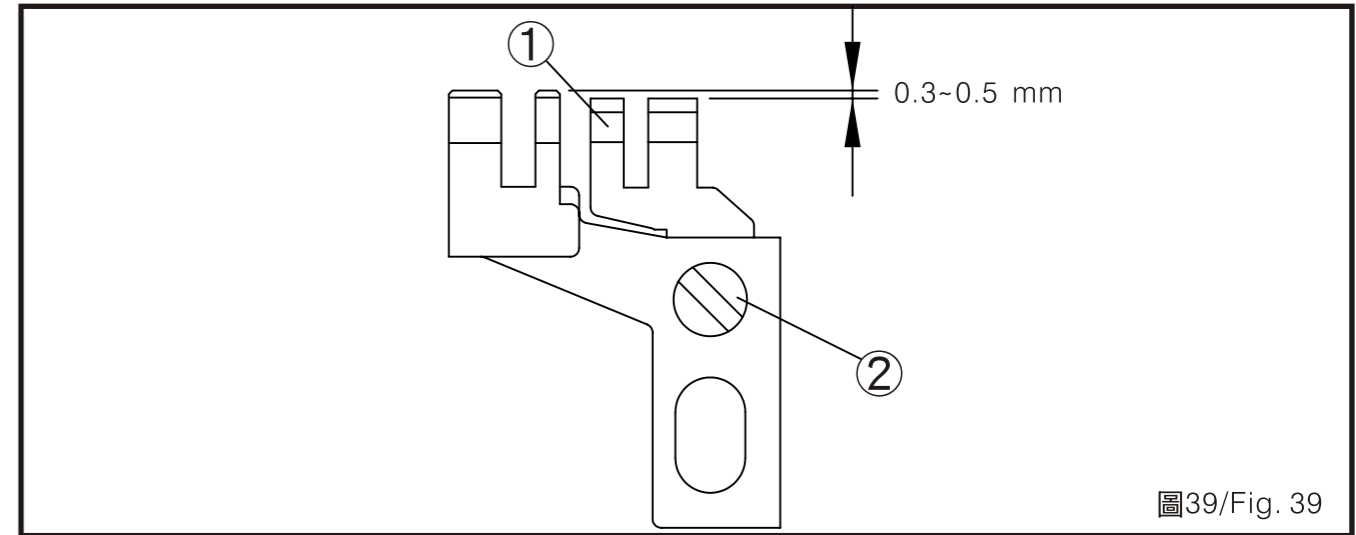


圖39/Fig. 39

針與勾針之關係

THE RELATIONSHIP BETWEEN NEEDLE AND LOOPER

1. 針與上勾針之關係 (圖40)

- (1) 當上勾針移至最左時，勾針尖端與針中心距約4.4~4.7 mm，雙針時其左針中心與勾針尖端距約5.4~5.7 mm。

1. The relationship between the needle and the upper looper. (Fig. 40)
When the upper looper moves to the leftmost point, the distance from the looper tip to the middle line of the needle is 4.4~4.7 mm. For double needles model, the distance from the looper tip to the middle line of the left needle is 5.4~5.7 mm.

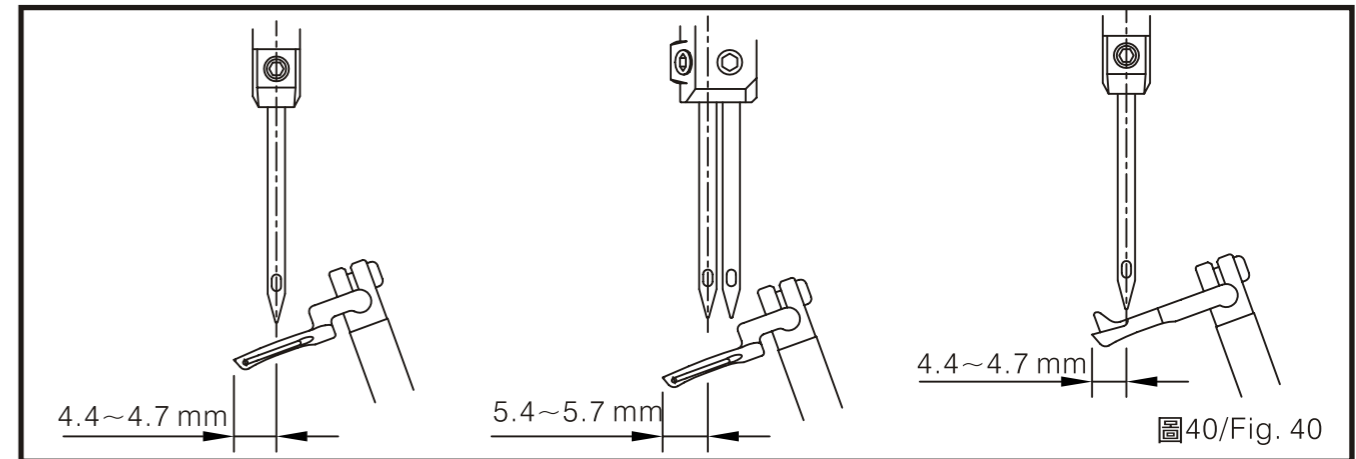


圖40/Fig. 40

2. 針與下勾針之關係

- (1) 當下勾針移至最左時，勾針尖端與針中心距約3.7~3.9 mm (雙針時以左針為主)。(圖41)

2. The relationship between the needle and the lower looper.
(1) When the lower looper moves to the leftmost point, the distance between the looper tip and the middle line of the needle should be about 3.7~3.9 mm. For double needles model, the distance is from the lower looper tip to the middle line of the left needle. (Fig. 41)

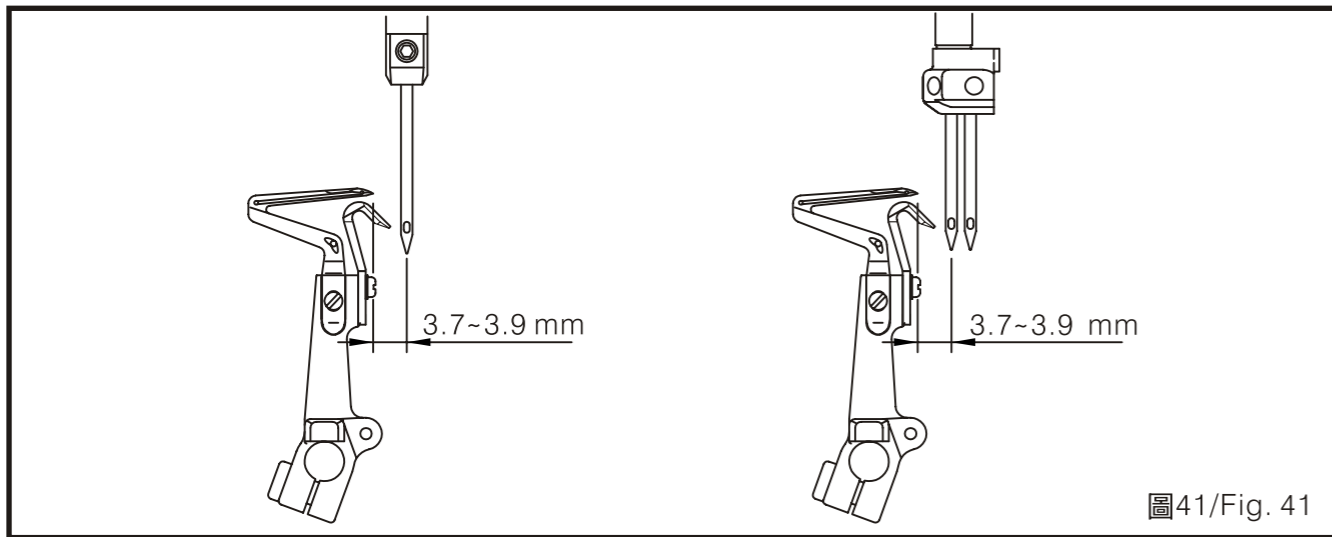


圖41/Fig. 41

(2) 當下勾針向右移至針中心時（雙針時以左針為主），針與勾針之間隙為0~0.05 mm。（圖42）

(2) When the lower looper moves right to the middle line of the needle (use the left needle as standard when it's double needle model), the clearance between them should be 0~0.5 mm. (Fig. 42)

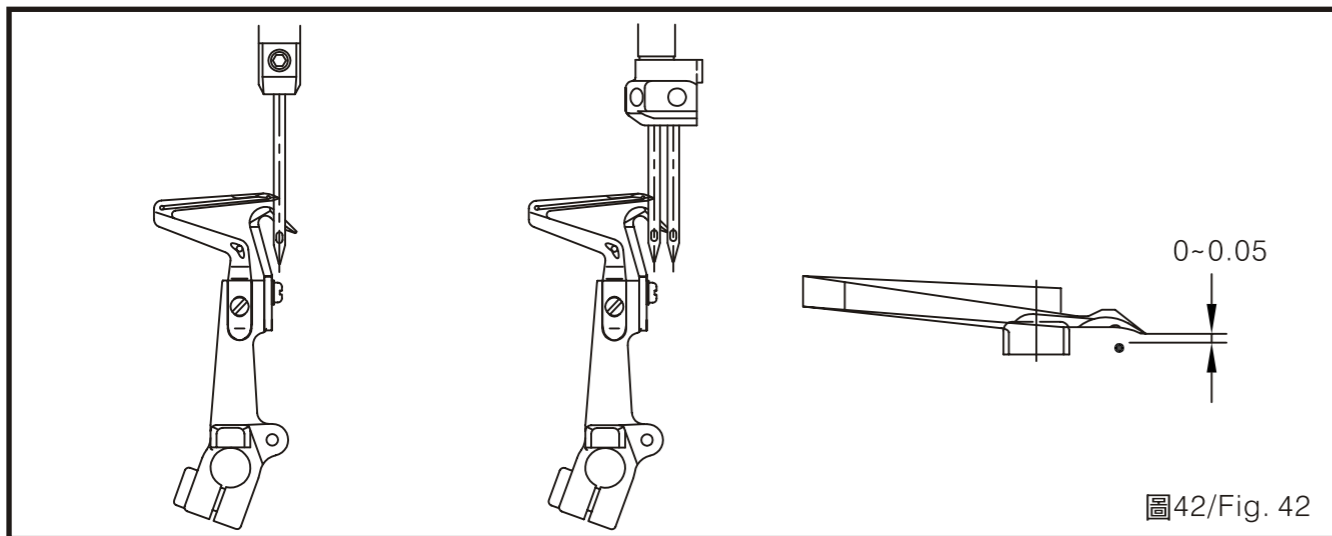


圖42/Fig. 42

3. 上勾針與下勾針之關係（圖43）

當上下勾針相交時，兩勾針盡量接近，但不可摩擦或碰撞。其間隙A點為0.5 mm，B點為0.2 mm。

3. The relationship between the upper looper and the lower looper. (Fig. 43)

When the upper and the lower looper cross, keep them as close as possible. Somehow, the loopers shall not either touch nor collide to each other. The clearance point A is 0.5 mm, as well as the clearance point B is 0.2 mm.

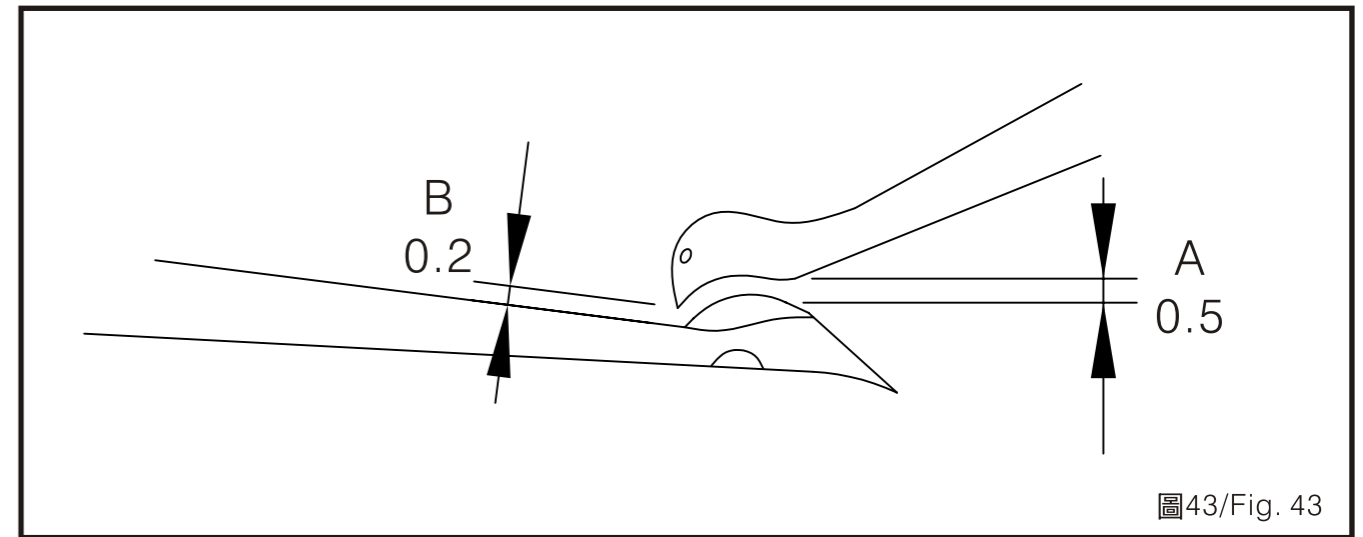


圖43/Fig. 43

4. 針與環縫勾針之關係（圖44）

當環縫勾針移至最左時，勾針尖端與針之中心距離為1.4~1.6 mm。

4. The relationship between the needle and the chainstitch looper (Fig. 44)

When the chainstitch looper moves to the leftest point, the distance from the chainstitch looper pin to the middle line of the needle is 1.4~ 1.6 mm.

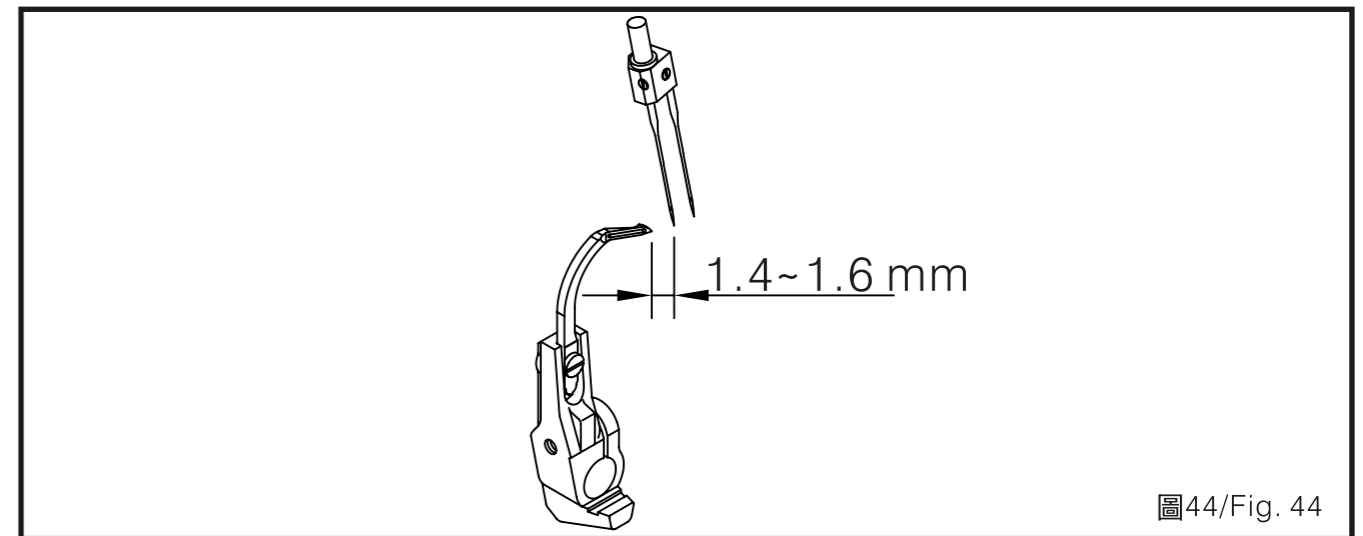


圖44/Fig. 44

5. 針與擋針片之關係（圖45）

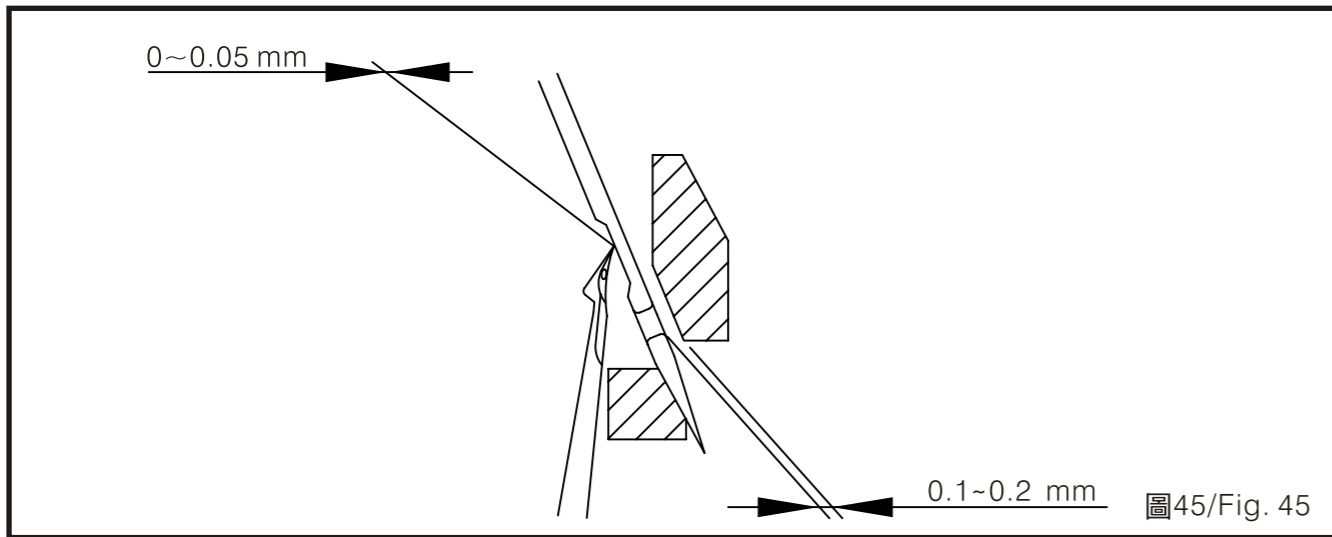
(1) 當下勾針由左向右至針中心時（雙針時以左針為主），針與後擋針片之間隙為0~0.05 mm。

(2) 當針在下死點時，針與前擋針片之間隙為0.1~0.2 mm。

5. The relationship between the needle and the needle guard (Fig. 45)

(1) When the lower looper moves from left to right to the central line of the needle (when it's double needle model, it means the left needle), the clearance from the needle to the rear needle guard is 0~ 0.05 mm.

(2) When the needle is at the lower dead point, the clearance between the needle and the front needle guard is 0.1~ 0.2 mm.



環勾針運動量之調整

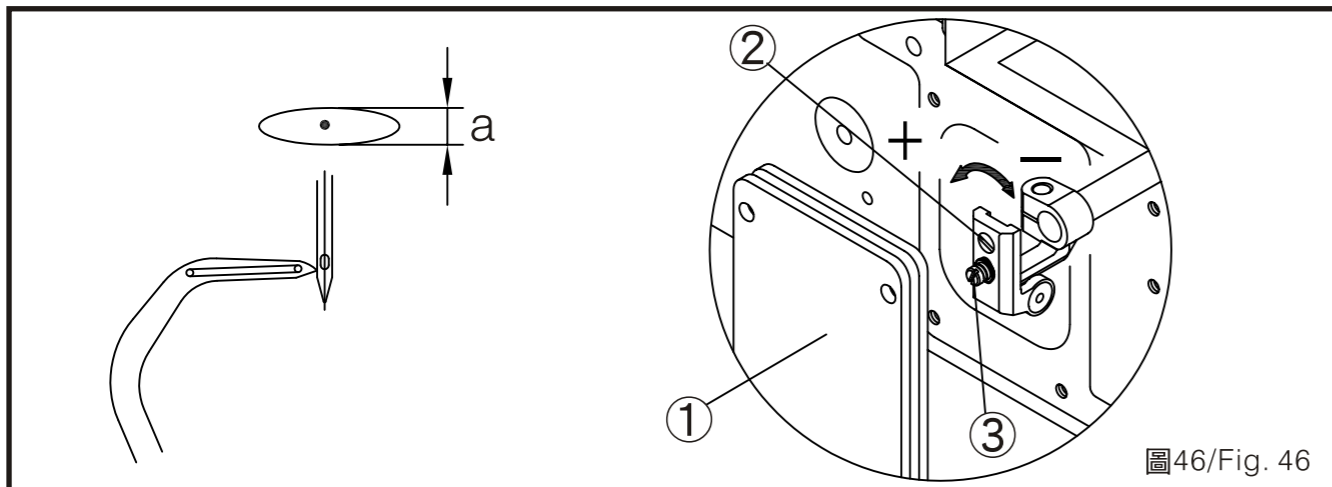
環勾針之運動呈橢圓形，當針號數變動過大時或有必要調整環勾針之前後運動量a時，請依照以下步驟調整。(圖46)

1. 打開縫紉機背面的封蓋①。
2. 輕輕放鬆螺絲③。
3. 旋轉調整螺絲②。
向+方向轉動加大前後運動量。
向-方向轉動減少前後運動量。
4. 調整後鎖緊螺絲③。
5. 鎖緊封蓋①。

ADJUST THE CHAINSTITCH LOOPER MOVEMENT AMOUNT

The movement of the chainstitch looper is oblong shape. When the difference of the changed needle number is too large, or there is necessary to adjust the front/rear movement amount a of the chainstitch looper, please follow the steps below to adjust. (Fig. 46)

1. Open the sealed cover ① in the back side of the machine.
2. Loosen the screw ③ slightly.
3. Turn the screw ② to adjust.
To increase the movement amount, turn to + direction.
To decrease the movement amount, turn to - direction.
4. Tighten the screw ③ after the adjustment.
5. Then, seal the cover ①.

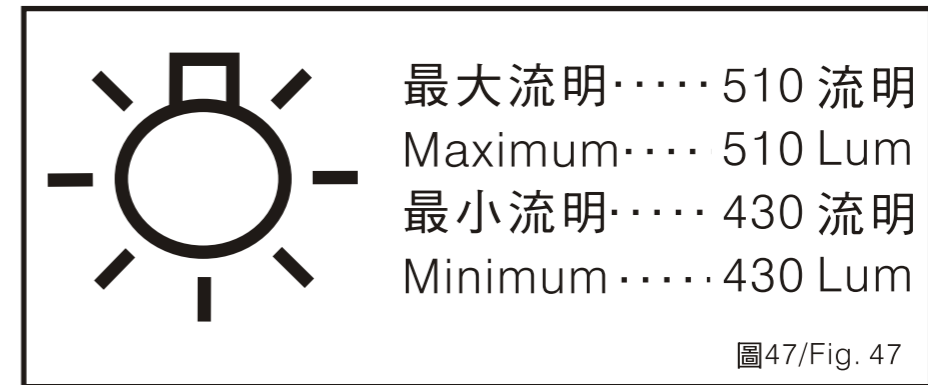


操作環境照明

提供一個警示標誌，告知使用者：工業用縫紉品或是縫紉系統必須在該縫紉區域未啟動照明裝置前，禁止插電或通電；照明裝置的最大輸入功率應該能夠輕易辨識，當照明裝置被重置或移動的時候，警示標誌也應設置在照明裝置插座上或是附近。警示標示如圖47所示

LIGHTENING OF THE OPERATION ENVIRONMENT

Provide a warning that an industrial sewing unit or sewing system must always be unplugged from the local lighting of the sewing area before relamping, the marking of maximum rated input of a lamp shall be easily discernible while the lamp is being replaced indicated on or near the lamp socket as shown on Fig. 47.



操作者條件

1. 熟讀並了解使用說明書內容。
2. 認識機器各部功能及注意事項。
3. 了解各警告標籤之意義。
4. 了解熟悉機器之操作方式。
5. 操作者須保持精神狀態良好。
6. 操作者須穿著合宜適當之工作服。
7. 視需要培養操作者使用機器之熟練度。

CONDITIONS OF ALL OPERATORS

1. Read and understand well the content of this instruction book.
2. Know the functions of major parts and understand the notices.
3. Truly realize the meanings of all warning tags.
4. Realize and be familiar with how to operate this machine.
5. Operators have to keep well mental status.
6. Operators shall wear appropriate and proper working suits.
7. Develop the familiarity of how to operate the machine if needed.



注意CAUTION

清潔作業前，請切斷電源。當誤觸起動開關時，縫紉機動作易導致人員受傷。
Turn off the power switch before carrying out cleaning. The machine may operate if the treadle is pressed incautiously, which could result in injury.

加潤滑油和黃油時，務必戴好保護眼鏡和手套，以防潤滑油進入眼中或沾在皮膚上，易引起發炎。
Be sure to wear protective goggles and gloves when handling the lubricating oil and grease so that they do not get into your eyes or onto your skin, otherwise inflammation can be resulted.

潤滑油或黃油不能飲用，否則將會引起嘔吐和腹瀉，將油放在小孩拿不到的地方。
Furthermore, do not drink or eat the oil nor the grease for they can cause vomiting and diarrhea. Keep the oil away of the reach of children.

縫紉機頭倒下或豎起時，請以雙手進行操作。
Use both hands to hold the machine head when tilting or returning it to its original position.

單手操作時，因縫紉機的重量較重，萬一滑落易導致受傷。
If only using one hand to move the machine, the weight of the machine head may cause slipping and you may get hurt.

《定期保養項目》(表6)

《Periodical Maintenance Items》(Table 6)

保養循環 Maintenance Cycle	保養項目 Maintenance Items
每天 Daily	1. 清潔送料具上之棉絮 1. Clean the lint on the feed dog.
	2. 檢查油盤是否有足夠之液態油。(油量在油鏡之上、下兩紅漆記號間) 2. Check if there has enough liquid oil inside the oil pan. (The amount should be between the red up and down paint mark of the oil level gauge.)
	3. 保持機器及操作台清潔 3. Keep the machine and the operation table clean.
每週 Weekly	1. 保持電源外觀乾淨 1. Keep the power cords looking clean and neat.
	2. 保持操作面板乾淨 2. Keep the operational panel clean
	3. 檢查電源零件是否鬆脫或在正確位置 3. Check if the power parts is loosening or still at the right position
每三個月 Quarterly	1. 更換油盤內之液態油 1. Change the liquid oil inside the oil pan
每年 Annually	1. 檢查傳動皮帶是否疲乏或毀損 1. Check the transmission belt to see if it is weariful or damaged.

表6/Table 6



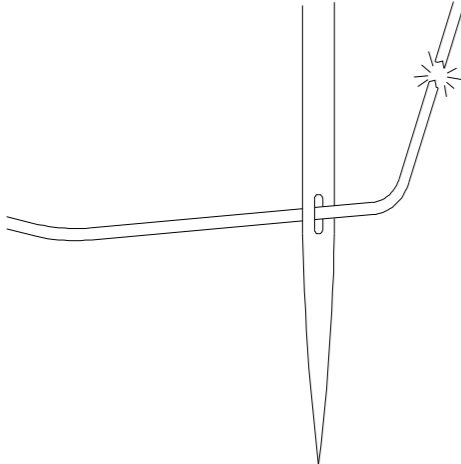
注意CAUTION

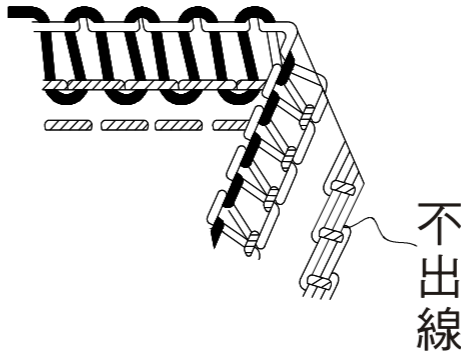
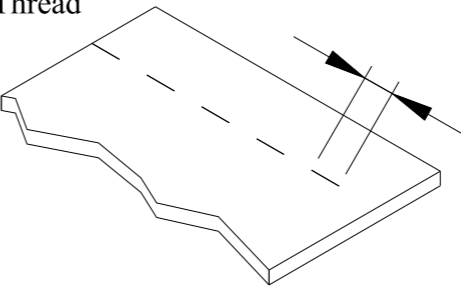
在進行故障檢修查詢之前，請先關閉電源並拔出電源，否則如果誤觸啟動開關，縫紉機會動作，易導致人身傷害。
Before processing the troubleshooting, please turn off the power switch and un plug the electronic cord. Otherwise, if touching the start switch incautiously, the sewing machine will function and will probably cause injuries happened o operators.

No.	現象 Problem	檢查及調整 Exam and Adjustment
1.	針線太過緊密/鬆疏 Needle thread too tight/ loose 	<ul style="list-style-type: none"> ● 針線張力是否過大或過小? The tension of the needle thread is too loose or to tight? ◎ 調整針線張力。 Adjust the needle thread tension
2.	針線的跳線現象 The Skipping Stitch of Needle Thread 	<ul style="list-style-type: none"> ● 車針的選擇不對? Choose the wrong needle? ◎ 選擇配合布料的車針與縫線號碼。 Select the needle and thread number match the fabrics ● 車針不良? Bad needle? ◎ 換新車針。 Change a new needle ● 車針與左勾針尖端之間有間隙? Any clearance between the needle and the top of the left looper? ◎ 調整左勾針尖端與車針之間±0 Adjust the distance from the top of the left looper to the needle to be ±0 ● 張力調整小彈簧不起作用? The small spring of tension adjustment does not function? ◎ (1)小彈簧不起作用時，要把彈簧拉緊一點。(注意)拉太長則會發生斷線。 (1) If the small spring does not function, pull it to be more tightened. (Note) The broken thread will happen if pull the spring too tight. (2)張力調整盤發生溝槽時，則須更換新調整盤。 (2) If there is any groove existing on the tension adjusting plate, please change a new one.

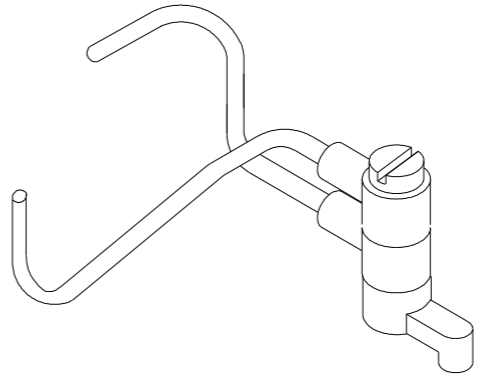
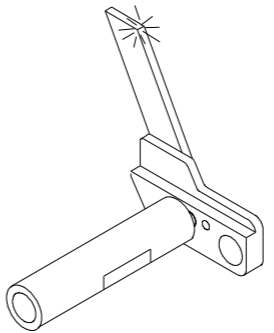
No.	現象 Problem	檢查及調整 Exam and Adjustment
2.	針線的跳線現象 The Skipping Stitch of Needle Thread	<ul style="list-style-type: none"> ●針線的張力太緊? The tension of the needle thread is too tight? ◎(1)把針線張力 適度調整。 (1)Loose the tension of the needle thread properly. (2)把針線的線路(A)調整在最高位置，使針線的勾線器(B)的針線放出量減少。 (2)Adjust the line (A) of the needle thread to the highest position, so that the release amount of the needle thread from thread hooking will decrease. (3)把線路(C)左傾一點，以增加勾針的線放出量。 (3)Lean the line (C) to left a little to increase the release amount of the looper thread.
3.	右勾針線的跳線 The Skipping Stitch of the Right Looper Thread	<ul style="list-style-type: none"> ●右勾針與車針的間隙太大? The space between the right looper and needle is too wide? ◎右勾針向右退後時，和車針的間隙必須為0.1mm 乃使用正規的右勾針。(備有單針、雙針、厚料、薄料用各機種最合適的右勾針) When the right looper turn right and backward, the distance to the needle has to be 0.1 mm, which is using the correct right looper. (The appropriate right looper for each type, such as single need, 2 needles, materials, and thin fabrics, are included) ●雙針時，右勾針與左針的間隙大? The distance is too wide between the right and left needle when using 2 needles? ◎由於右勾針安裝時的左右位置以及右勾針座上下運動位置之雙方關係，予以調整在勾針的運動軌跡，在右勾針下降時，將左針到右針的下降量予以減少。 Because the correlation of the left/right position of the right looper while assembling and the up/down moving position of the right looper seat, adjust the movement path of the looper. When the right looper descends, decrease the descending amount from left needle to right needle.
4	左勾針線的跳線 The Skipping Stitch of Left Looper	<ul style="list-style-type: none"> ●左右勾針交叉時，右勾針不會勾到左勾針線? The right looper didn't hook the left looper thread while they are crossing each other? ◎換新左勾針。(左勾針尖端磨損，要修正時，不得把頭部凸出處予以磨低(磨薄)。 Change the new left looper. (The top of the left looper is worn. When fix and replace, the protrusion fo the looper top shall not be worn.

No.	現象 Problem	檢查及調整 Exam and Adjustment
4	左勾針線的跳線 The Skipping Stitch of Left Looper	<ul style="list-style-type: none"> ●右勾針尖端的磨損? The wear of the right looper top? ◎換新勾針或用油石把尖端磨尖。 Change a new looper or use the oil stone to wear the top.
5	斷針 Needle Broken	<ul style="list-style-type: none"> ●車針的選擇不對? Choose the wrong needle? ◎在布料不發生針孔的範圍內，使用粗一點的車針。 Use thick needle within the range that there will be no pinhole occurred on the fabric. ●押具的安裝不良? Bad assembling of the presser foot? ◎安裝時必須使用車針會插進押具落針處中央。 During assembly, make sure the needle can insert to the central point of the presser foot. ●送布齒的安裝高低不對? Wrong assembling height of the feeding teeth? ◎調整送布齒的高度為 0.8mm~1mm，同時保持適當的押具壓力。 Adjust the height of the feeding teeth to be around 0.8 mm to 1 mm. Meanwhile, keep the appropriate presser foot pressure. ●縫線不良? Bad threading? ◎縫線有結頭要事先加以處理後，重新穿線。 If there is any connecting part of the thread, it needs to be dealt first. Then, rethreading.
6.	車針尖端受損 The Top of the Needle Damaged	<ul style="list-style-type: none"> ●右勾針及車針高低不對? The right looper and the needle have wrong height position? ◎車針在上死點附近時，用手指故意把車針向前彎曲，看看尖端會不會碰到右勾針，然後調整車針高低或右勾針的運動位置。 When the needle moves close to the upper dead point, push the needle forwards a little by finger. See whether the top of the needle touches the right looper or not. Then adjust the height of the needle position or the moving position of the right looper.

No.	現象 Problem	檢查及調整 Exam and Adjustment
6.	車針尖端受損 The Top of the Needle Damaged	<ul style="list-style-type: none"> ●頂針片太靠近? The ejector plate is too close? ◎裡面的頂針片必須在左勾針的尖端到達車針右側面時，就要從車針離開。前面頂針片與車針的間隙必須留大約 0.2mm。 The ejector plate inside must leave from the needle before the top of the left looper reaches the right side of the needle. The distance between the front ejector plate to the needle is about 0.2 mm. ●針板安裝位置不對? Incorrect needle plate assembling position? ◎把針板拉前安裝使 A 部分的間隙大一點。 When assembling the needle plate, pull it forwards a little so that the space of part A can be larger.
7	斷線與縫合不順 Broken Thread and Rough/Uneven Stitch	 <ul style="list-style-type: none"> ●線架的線孔沒有磨光? The thread hole of the thread stand did not polish? ◎用砂布把線孔周圍磨光。 Use emery cloth to polish the surroundings of the thread hole. ●線的選擇錯誤? Choose the wrong thread? ◎更換較好的線，使粗細線均勻。 Change a better thread to balance the threads. ●線的張力調整不好? Cannot adjust to the best thread tension? ◎注意左右勾針的線不要太鬆，要調整一支針線時也要注意有關的線變化。 Please be noted that the threads of the left/right looper should not be too loose. When adjust the position of one needle, the related changes of the threads are needed to be noticed. A. 拉緊針線→左勾針線會鬆→右勾針線會緊。 A. Pull the needle thread tightly→the left looper is looser→the right looper is tighter B. 拉緊左勾針線→右勾針線會鬆→針線也會鬆。 B. Pull the left looper thread tightly→the right looper is looser→the needle thread is looser, too. C. 拉緊右勾針線→左勾針線會鬆→針線會鬆。 C. Pull the right looper thread tightly→the left looper thread is looser→the needle thread is looser

No.	現象 Problem	檢查及調整 Exam and Adjustment
7	斷線與縫合不順 Broken Thread and Rough/Uneven Stitch	<ul style="list-style-type: none"> ●押具彈簧調整不良? Incorrect adjustment of the presser foot spring? ◎調整押具彈性配合所要用的布料 Adjust the presser foot flexibility to fit the fabric. ●切刀磨損? The knife is worn? ◎磨利刀口或更換新品。 Sharpening the knife or changing a new one. ●差動比未配合? The differential ratio not match? ◎調整配合布料的差動送料。 Adjust the differential feeding to match the feeding fabric.
8	環縫不出線 The Thread does not Come Out When Doing Chainstitch	 <ul style="list-style-type: none"> ●環勾針線凸輪調整不當? The cam of the chainstitch looper is not appropriate? ◎調整適當的凸輪方位。 Adjust the cam to an appropriate position. ●控線器不良? Thread tension device does not work well? ◎(1)調整彈簧強度 (1)adjust the spring strength (2)拋光或換新 (2)polishing or changing a new one ●押具後彈簧安裝不良? The presser foot rear spring did not assemble well? ◎重新調整彈簧或換新，使押具活動自如，並試其壓力。 Readjust the spring or change a new one to make sure the presser foot can act smoothly and test its pressure.
9.	粗細針不能分 Cannot Separate the Thin and Thick Thread	 <ul style="list-style-type: none"> ●偏心凸輪生鏽? The eccentric is rusty? ◎清除阻塞部分使油通到凸輪上。 Clean the stuck part so the the oil can reach the cam. ●偏心凸輪控制彈簧調整不當? Inappropriate adjustment of the eccentric cam control spring? ◎調整適當之緊度，但不可太鬆。 Adjust to the proper tension, but should not be too loose.

No.	現象 Problem	檢查及調整 Exam and Adjustment
9.	粗細針不能分 Cannot Separate the Thin and Thick Thread	<ul style="list-style-type: none"> ●與止軸輪配合之滑塊配合不當? Inappropriate match with the slide block of the stopper cam? ◎(1)校正 KP09D寬度或磨小KP06F寬度。 (1)Correct the width of KP09D or polish the width of KP06F short. (2)更換 KP09D/KP06F。 (2)Change KP09D/KP06F
10.	大聲、異聲 Loud Noise, Strange Noise	<ul style="list-style-type: none"> ●布板聲? Sound of fabric plate? ◎(1) 調整螺絲適當位置 (1) adjust the screw to the proper position (2) 調整KB06E的NK26使布板蓋側蓋靠穩 (2) Adjust Nk26 of KB06E to stabilize the side cover of the fabric plate cover. ●心軸鬆動出聲? The main shaft is loose and has noise? ◎把大心上的銅套之銅面膠清除，重新調整。 Clean the copper glue from the copper cover of the main shaft and readjust. ●泵浦聲(沙沙聲)? Noise of the pump (scratchy?) ◎用治具加壓泵浦齒輪，使運轉 3~5 分鐘即可。 Use the fixture to add pressure on the gear of the pump, and keep the pump running 3-5 minutes. ●針棒鬆動? The needle bar is loosening? ◎更換新品或磨合其接觸面使之間隙變小。 Change a new one or to polish the contacting surface so that the clearance is smaller. ●連桿上控制間隙之固定勾鬆動、碰撞? The fixed hook of the connecting rod controlling the clearance is loosening or clashing? ◎(1)螺絲加膠 (1)Add glue onto the screw (2)溝寬磨大或倒角 (2)Polish the groove width wider or chamfer (3)更換新品 (3)Change a new one. ●上下刀位置不對? Incorrect position of the upper and the lower knife? ◎調整上刀下刀角度。 Adjust the angles of the upper and the lower knife.

No.	現象 Problem	檢查及調整 Exam and Adjustment
10.	大聲、異聲 Loud Noise, Strange Noise	<ul style="list-style-type: none"> ●布板蓋之側蓋碰撞聲? Crashing noise from the side cover of the fabric plate cover? ◎校正布板蓋之側蓋的角度，使之不會撞到下勾針與上刀台。 Correct the angle of the side cover of the fabric plate cover to keep it from the lower looper and the upper knife seat.
11.	不能噴油 The Oil Does Not Splash	<ul style="list-style-type: none"> ●泵浦不出油? The oil does not come out from the pump? ◎(1)重新鎖正確位置 (1)Relock it to the correct position (2)重新組配泵浦中齒輪與心軸位置 (2)Reassemble the gear of the pump to the main shaft and adjust the position. ●上機構不噴油? Upper mechanism does not splash the oil? ◎(1)清除毛頭換新出油螺絲 (1)Clean the lints and change the oil releasing screw. (2)換新濾油器 (2)Change a new filter (3)清除污穢的東西或換新 (3)Clean the dirt or change a new one (4)用鐵絲疏通油路 (4)Use the iron wire to clean through the oil path. 
12.	刀片不利 The Knife Is Not Sharp	<ul style="list-style-type: none"> ●切刀不利? The knife is not sharp? ◎(1)磨利或更換新品 (1)Polish or change a new one (2)校正上下刀片座角度 (2)Correct the angle of the upper and lower knife set (3)重新正確安裝(按基準調整安裝) (3)Reassemble it correctly (to assemble and adjust based on the norm) 

圖表2/Chart 2

