



UF918

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

UF918

高林股份有限公司 KAULIN MFG. CO., LTD.

使用說明書 INSTRUCTION BOOK



EC DECLARATION OF CONFORMITY

According to the following EC Directive

Machinery Directive : 98/37/EC , as amended by 89/336 / EEC and 73/23/ EEC.

The undersigned, ROBERT TSAI , representing KAULIN MFG. CO., LTD. 11F 128
Sec. 3 Min Shen E. Road, Taipei , Taiwan ROC., manufacturer, declares that the
machine described hereafter :

**High Funtional One Needle Lockcstitch
Compound Feed Machine.**

Model :UF918

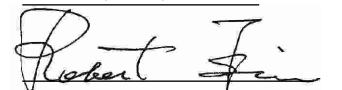
Provided that it is used and maintained in accordance with the generally accepted
codes of good practice and the recommendations of the instructions manual, meets the
essential safety and health requirements of the Machinery Directive.

For the most specific risks of the machine, safety and compliance with the essential
requirements of the Directive has been based on elements of : the European Standard
EN 292 - 1 & - 2 : 1992 Safety of machinery ; basic concepts, general principles for
design.

The compliance of the model with the requirements of EC Machinery Directive was
established by AIB-VINCOTTE Inter n.f.p, Avenue A. Drouart 27-29 , B 1160 , Brussels,
Belgium (Notified body under the number 26 for machinery listed in annex IV of EC
Machinery Directive).

Date : NOV. / 15 / 2005

Signature :



Qualification : R&D MANAGER

General Safety Instructions

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 following.
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.
Dot not use power tools where there is risk to cause 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.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 and if damaged have it repaired by an authorized serviced facility.
- 8.Disconnect machine**
When not in use, before servicing and when changing accessories.
- 9.Avoid unintentional starting.**
Do not carry a plugged in tool with a finger on the switch. Ensure 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.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.

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重要安全事項說明

感謝您購買本機器，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。
- 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：
 - (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、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。

IMPORTANT SAFETY INSTRUCTIONS

For operating safely and to get the most out of the many 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 enjoyed manufacturing it.

- 1・When you use this machine, please pay attention to the basis safety measures.
- 2・Before using this machine, please read this manual and all related instructions. In addition, please save this manual for your future needs.
- 3・Please use this machine after it has been ascertained that it conforms with safety standards and regulations of your country.
- 4・It is not allowed to operate this machine without the specified safety devices. All safety devices must be in right position. When the machine is ready for operation.
- 5・This machine must be operated by an appropriately trained operator.
- 6・For your own safety, we suggest you wear goggles.
- 7・Please turn off the power switch or disconnect it before doing the following tasks :
 - (1)・Threading needle(s), adjusting thread Take-up(s), thread guide(s), and / or replacing bobbin(s).
 - (2)・Replacing needles, presser feet, needle plates, feed dogs, needle guards, folders, cloth guides and other parts or accessories.
 - (3)・Repairing this machine.
 - (4)・When the operator is leaving the working place or when the working place is unattended.

(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。	(5)・While clutch motors without brake pads are used, motors must come to completely stop.
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・By any chance, if you allow grease, oil, or any fluid contact your skin or eyes, please wash the contacted area completely with clean water and consult a medical doctor. If the fluid was swallowed contact a medical doctor immediately.
9・請勿擅自碰觸運轉中之零件或配件及且注意機器電源是否已開啟。	9・Do not touch any parts and devices in motion while the machine is running, Always pay attention to whether power switch is on or off before conducting any task.
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，維修時只許使用由SIRUBA指定之零件。	10・Qualified technicians are required for machine adjustment, modification, and repair. Only genuine parts from SIRUBA are recommended for replacement. Damage resulted in using generic parts are subject to your own risk.
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 check-up have to be performed by appropriately 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・Qualified technician or well-trained persons are required for services to electronic components knowledge of electronic is essential for conducting adjustment or repair tasks. Stop the machine immediately when discover the failure of any of the electronic components.
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，機器中殘存高壓氣體必需予以清除，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 up on the machine is necessary.

15・為使機器能正常操作，機台務平放地上，機器避免在強烈噪音的環境下操作。	15・To level the machine on the ground is essential in order to ensure a proper operation and lower noise. Avoid operating a machine at a noisy surrounding.
16・選用適當的電源插頭，並由電子技師將其按裝在機器上，且插頭必需插在接地線之插座上。	16・A proper power plug must be used with this machine by 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. We assume no responsibility for damage caused by modification or conversion of this machine.
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。 (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。 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。 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。	19・Two safety warning signs are applies : (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)・Always keep in mind : a・Please never operate this machine with belt cover, finger guard or any safety device removed to avoid physical injury. b・Please keep your hair, fingers and cloths away from the hand wheel “bobbin winder”, V belt and motor while the machine is in operation to prevent the risk of injuries by tangled into them. c・Please never put your fingers under the needle or in the thread take up cover when you turn on the power switch or operate the machine.

- 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。

e • 當放置或抬起機頭時，小心勿將手置於機器中。

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。

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。
- 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 possible injury to your hands. In addition, please make sure to turn off the power of the machine while changing bobbins.

e • Be careful not to place your fingers inside the machine when moving / raising the machine head to avoid possible physical injuries.

f • Please turn off the power of the machine 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 • The motor does not produce noise while the machine is at rest if your machine is equipped with a servo motor. So, 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 with the ground wire removed to avoid electrical shock hazards.

i • Please turn the power switch off in prior to the connection or disconnection of the power plug to prevent possible accidents due to electric shock or damaged electronic components.

特別事項	WARNING
為了避免機器故障及損壞請先確定以下事項 - 當您安裝好機器後，做第一次機器操作前，請徹底清潔機器。 - 清除運送途中累積之灰塵及溢出之油脂 - 確定電壓安裝正確。 - 確定電源插頭正確地接上電源。 - 當使用電壓與標示電壓不同時，請勿使用機器。 - 確定機器轉動方向是否正確。 警告： 以下各步驟，請先將電源關掉，以免因為機器突然啟動造成之意外。	Please confirm the following to avoid malfunction and damage to this machine. - Clean this machine completely before putting this machine in operation for the first time after set up. - Clean all dust and oil gathered during transportation. - Confirm that the voltage are set correctly and phase (single or 3 phase) of motor. - Confirm that the power plug is properly connected to the power supply. - Never use the machine where the voltage type is different to the designated on shown on the motor nameplate. - Confirm that the direction of the rotation of the machine pulley is correct. Warning : Before doing the following operation or adjustment, please turn the power off to prevent accidents caused by abrupt start of the sewing machine.

規格

SPECIFICATION

1	車縫布料 Sewing material	用於厚~特厚布料或皮料 Heavy-weight to extra heavy-weight material
2	車縫速度 (MAX) Sewing speed	3500spm (參照「縫速一覽表」) 3500 spm (Refer to sewing speed list)
3	縫距 (MAX)Stitch length	9mm
4	針棒行程 Needle bar stroke	34mm
5	押具行程 Presser foot stroke	9mm (手動) 16mm(膝動) 16mm(自動) By Hand: 9mm By Knee: 16mm Auto: 16mm
6	縫距調整 Stitch length adjustment	旋鈕調整式 Knob type
7	前進後退微調整 Forward/Backward fine adjustment	有 Yes
8	上下交互量 Alternating amount	1~7mm
9	交互動作切換方式 Alternating motion	旋鈕調整式 Knob type
10	使用針 Needle	DP * 17#22
11	梭頭 Hook	水平2倍梭 Horizontal type double speed bobbin
12	梭子 Bobbin	鋁質梭子 Aluminum bobbin
13	自動切線方式 Auto-trimming type	固定刀與移動刀平面咬和式 Fix knife and movable knife surface engagement
14	供油方式 Oil supply	泵浦給油 Oil Pump
15	自動倒縫裝置 Auto-reverse devices	觸動式開關 One touch switch
16	床台尺寸 Table size	177*567

TABLE 1

車縫速度一覽表

SEWING SPEED

押具上下交互運動量 Alternating Amount of Presser Foot	縫製速度 Sewing Speed
1.0~2.4 mm	3,500spm
2.5~3.9 mm	3,000spm
4.0~4.7 mm	2,500spm
4.8~7.0 mm	2,000spm

TABLE 2

- 1・(-12P機型)
由於設定了押具的交互運動量，車縫速度可依上表來自動控制。
注意：要縫製縫距在6mm以上時，馬達本體或操作盤的縫速請設定在2,000spm以下。

2・(一般機型)
由於設定了押具的交互運動量，車縫速度請設定在上表之數值以下，要縫製縫距超過6mm以上時，縫速請設定在2,000spm以下。
- 1・(Model -12P)
Because the presser foot's alternating amount has already been set, the sewing speed can be controlled as table 2.
Attention: If the stitch length is about to set over 6mm, please set the sewing speed of the motor or the control plate under 2,000 spm.

2・(General Type Model)
Because the presser foot alternating amount is fixed, based on your needs and the fixed amount, please set the sewing speed less than the value shown on Table 2. If the stitch length is over 6mm, please set the sewing speed under 2,000spm.

鉸鏈橡皮的安裝

INSTALLATION OF HINGE RUBBER CUSHION

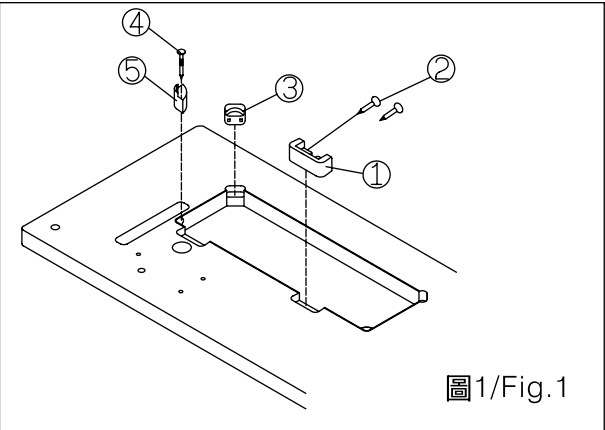
- 1・將長型鉸鏈橡皮墊①用兩支釘子②固定在桌子的凹部。(圖1)

2・將橡皮墊③固定在桌子前方的凹處。

3・將橡皮墊⑤用釘子④固定在桌子後側凹處。
- 1・Use 2 nails ② to fix the hinge rubber cushion ① in the table flute. (Fig.1)

2・Fix a rubber cushion ③ in the front flute of the table.

3・Use a nail ④ to fix rubber cushion ⑤ on the back of table.



油盤的安裝

INSTALLATION OF OIL TANK

1. 如圖示將油盤①用六支木螺釘②固定在桌板③下側。(圖2)
2. 將④固定在油盤①上。

1. Use 6 wooden screws ② to fix the oil tank ① under the table ③. (Fig. 2)
2. Fix ④ on the oil tank.

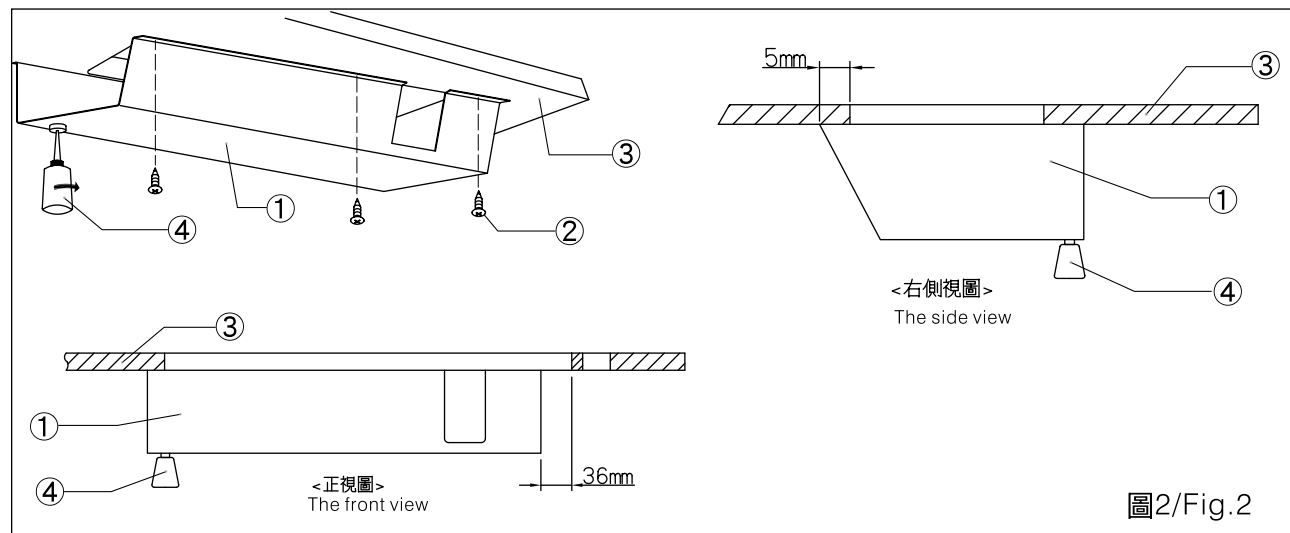


圖2/Fig.2

機器的安裝

INSTALLATION OF MACHINE HEAD

1. 將兩個鉸鏈(1)放入縫紉機底座的孔內。(圖3)
2. 使鉸鏈與桌板鉸鏈橡皮墊(2)相銜接，縫紉機底座放在橡皮墊(3)上面。

1. Put 2 hinges (1) into the holes of the main bed. (Fig. 3)
2. Connect the hinges to the hinge rubber cushions (2) of the table, and put the main bed onto the rubber cushion (3).

3. 將支撐桿(4)釘入桌子。
注意：請將支撐桿釘緊，否則將機頭倒下時，會因安定性不夠而產生危險。

3. Nail the supporter (4) into the table.

Attention:

Please nail the supporter firmly to avoid any danger caused by unstable installation when tilting the machine head.

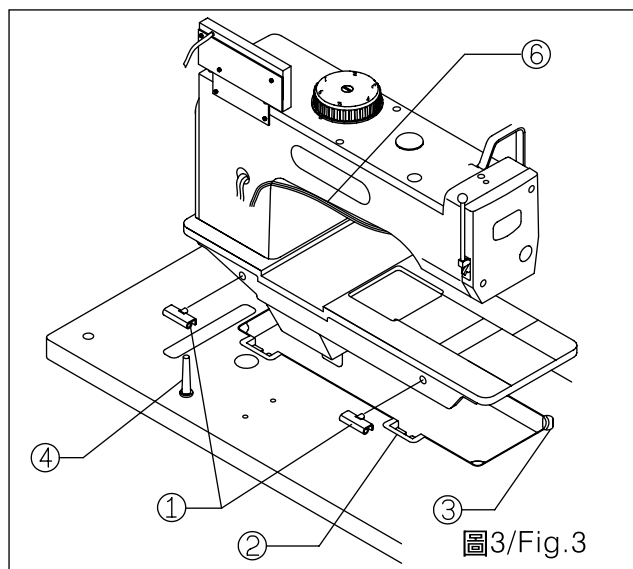


圖3/Fig.3

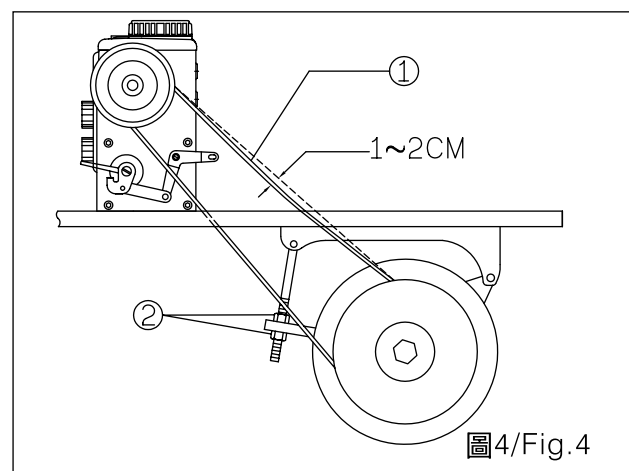


圖4/Fig.4

皮帶的安裝

INSTALLATION OF BELT

1. 將機頭倒下，以V型皮帶掛在馬達皮帶輪及機體皮帶輪上。(圖4)
2. 以9.8N(1kgf)的力量，用指壓V型皮帶(1)的中央，轉動螺絲(2)將其調整成彎曲1~2cm的程度。

1. Tilt the machine head. Put the V-belt onto the pulleys of motor and machine head. (Fig.4)
2. Press the center of V belt (1) by 9.8N (1kgf), then turn the screw (2) to adjust the belt to a curve about 1~2cm.

皮帶蓋的安裝(一般機型)

INSTALLATION OF BELT COVER (NORMAL MODEL)

1. 將兩支螺絲(1)與螺絲(2)鬆開，使左皮帶蓋(3)與右皮帶蓋(4)分開。(圖5,6)
2. 將附在本體的四支螺絲(5)鬆開。
3. 用螺絲(5)來調整和左皮帶蓋(3)與右皮帶蓋(4)的溝(請參照圖6的小圖)。
4. 為了使左皮帶蓋(3)與右皮帶蓋(4)之間沒有空隙，還要在與桌板平行的位置，用兩支螺絲來固定右皮帶蓋(4)。(圖6)

1. Loosen 2 screws (1) and screw (2) to separate the left belt cover (3) and right belt cover (4). (Fig.5,6)
2. Loosen 4 screws (5) that are already attached on machine frame.
3. Use screws (5) to adjust the groove combining the left belt cover (3) and right belt cover (4)(see the small fig of Fig. 6).
4. In order to have no interspace between the left belt cover (3) and the right belt cover (4), 2 screws are needed to fix the right belt cover (4) and parallel the right belt cover with the table.(Fig. 6)

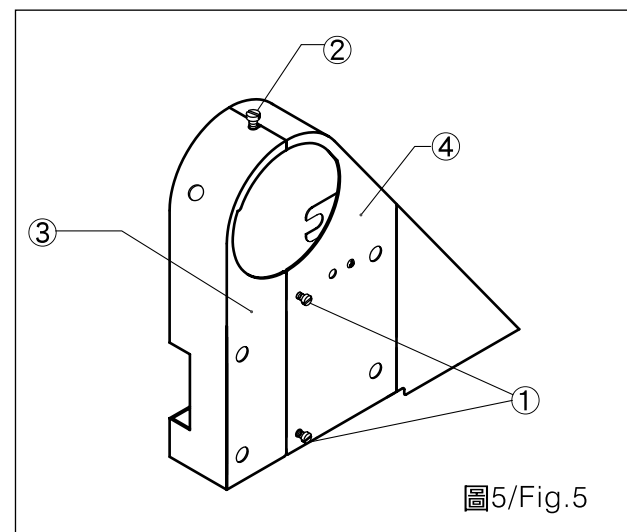


圖5/Fig.5

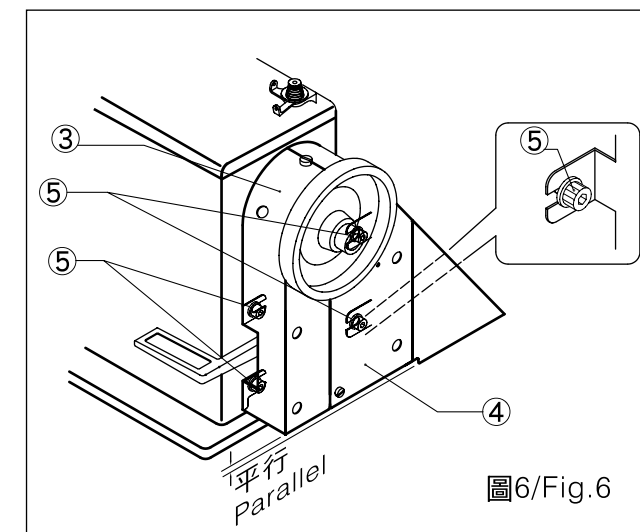


圖6/Fig.6

皮帶蓋的安裝(-12P機型)

1. 用兩支螺絲⑦將檢出器⑥安裝在縫紉機的手輪⑧上。(圖7)
2. 將檢出器支撐棒⑨嵌入檢出器⑥的溝內，用兩支螺絲⑩固定在皮帶蓋④上。
3. 用固定束環⑫將檢出器⑥的電線固定在右皮帶蓋④上。
注意：縫紉機的安裝，給油後請進行「針上停止位置的調整」。
4. 用兩支螺絲⑤，兩支螺絲①及螺絲②來安裝左皮帶蓋③(圖8)

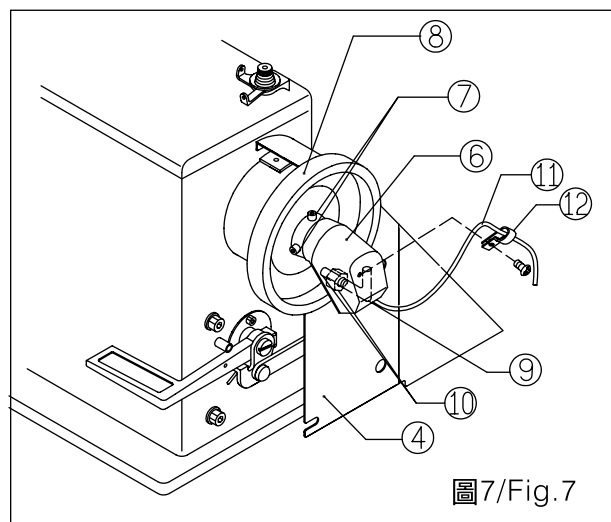


圖7/Fig.7

INSTALLATION OF BELT COVER (MODEL -12P)

1. Use 2 screws ⑦ to fix the detector ⑥ onto the hand wheel ⑧ (Fig.7).
2. Insert the detector supporter ⑨ into the gap of the detector ⑥, and use 2 screws ⑩ to fix it on the belt cover ④.
3. Fix the wire of the detector ⑥ on the right belt cover by a fixing collar ⑫ .
Attention : After oiling, please do the adjustment of the apogee stop-position of the needle movement.
4. Use 2 screws ⑤, 2 screws ① & one screw ② to install the left belt cover. (Fig. 8)

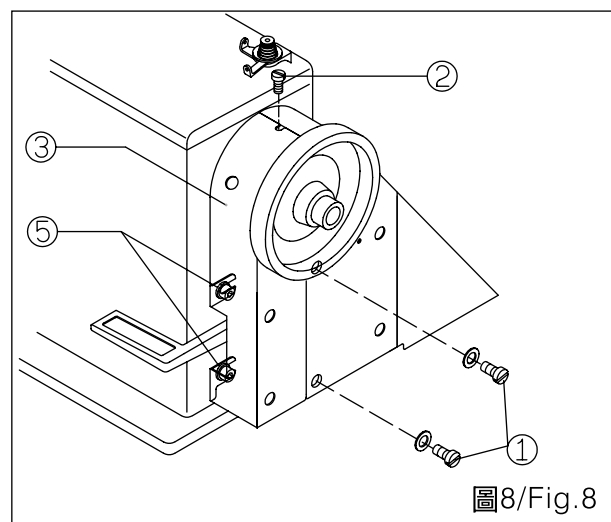


圖8/Fig.8

操作面板的安裝(-12P機型)

1. 用三支螺絲③將操作面板①裝置在固定板上。(圖9)
2. 用兩支螺絲④將固定板②裝在縫紉機本體背面。
注意：螺絲③(M4長度10mm)，螺絲④(M4長度12mm)兩者請不要弄錯。

INSTALLATION OF OPERATION PANEL (MODEL -12P)

1. Use 3 screws ③ to fix the operation panel ① on the metal plate ②. (Fig.9)
2. Use 2 screws ④ to fix the metal plate ② onto the back of the main body.
NOTE : Screws ③ (Length of M4 is 10mm) and screws ④ (Length of M4 is 12mm), please don't mix each other.

氣壓閥的安裝(-12P機型)

1. 用四支木螺釘②將氣壓閥組件①安裝在桌板的下面。(圖10)
2. 如圖示，接上五支氣壓管③。
3. 將氣壓管③與其他的固定器，用兩個束帶④固定在桌板的上下。

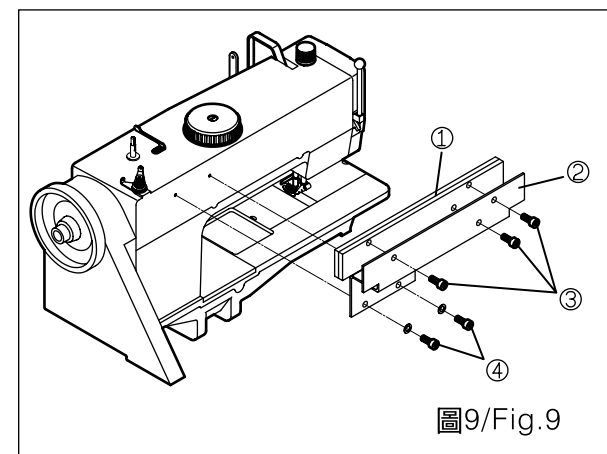


圖9/Fig.9

INSTALLATION OF THE PNEUMATIC DEVICE (MODEL -12P)

1. Use 4 pieces of wooden screws to fix the pneumatic device ① under the table. (Fig.10)
2. Connect those 5 air pipes ③ as the figure shows.
3. Fix the air pipes ③ and other fixers to the up and down side of the table by two bands ④.

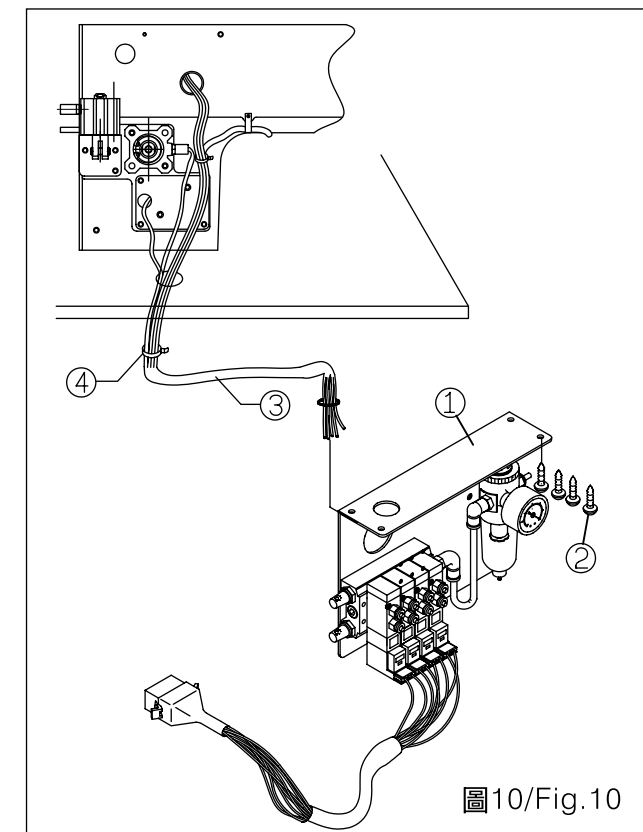


圖10/Fig.10

空氣壓力的調整

空氣壓力設定在0.4Mpa (5kgf/cm²)(圖11)

1. 拉起空氣濾清器①的大旋鈕②來轉動調節。
2. 調節後將大旋鈕②壓下。
注意：要排出空氣時，先將栓子③關閉，再將旋鈕④往箭頭指示方向轉鬆。

THE ADJUSTMENT OF THE AIR PRESSURE

Set the air pressure at 0.49 Mpa(5kgf/cm²) (Fig.11)

1. Pull the knob ② of the air filter ① to turn for adjustment.
2. Push the knob after adjustment.
NOTE : In order to discharge the air, turn off the bolt ③ and then follow the direction of the arrow to loose the switch ④.

線架的安裝

1. 安裝線架組，並將其插入桌板孔(圖12)
2. 鎖緊螺帽①，以固定線架。

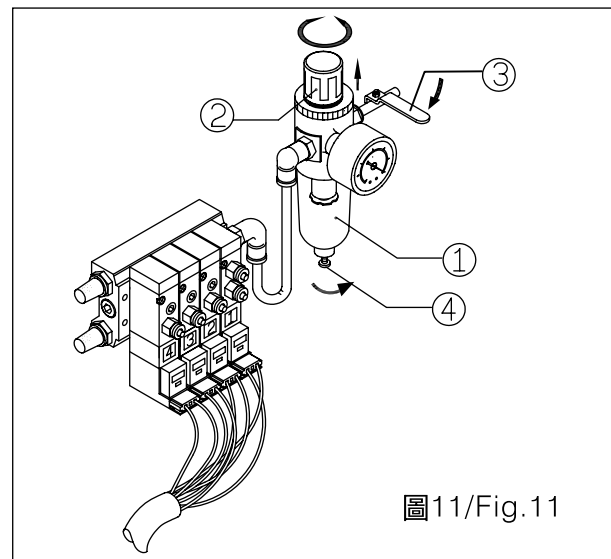


圖11/Fig.11

INSTALLATION OF THE THREAD STAND

1. To install the thread stand, please insert it into the hole of the table. (Fig.12)
2. Locking the screw ① to fix the thread stand to the table.

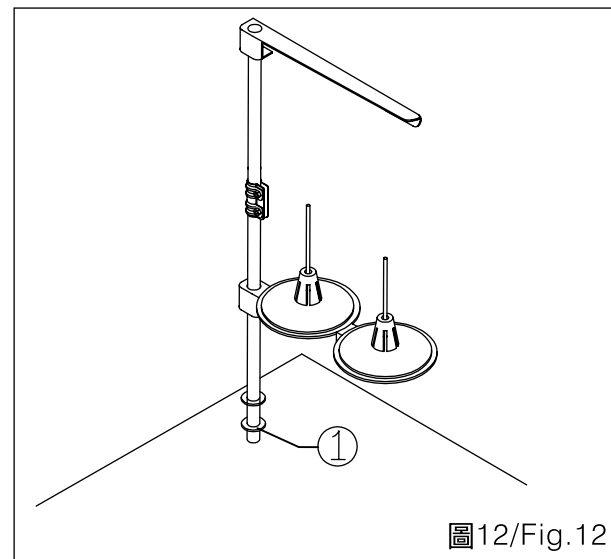


圖12/Fig.12

膝動桿安裝(一般機型)

1. 將膝動桿①壓入縫紉機底側的膝動橫軸②。(圖13)
2. 鬆開螺絲③、④，調節出適合膝動操作的位置。
3. 將螺絲③與④鎖緊。
注意：將縫紉機倒置時，請取下膝動桿。

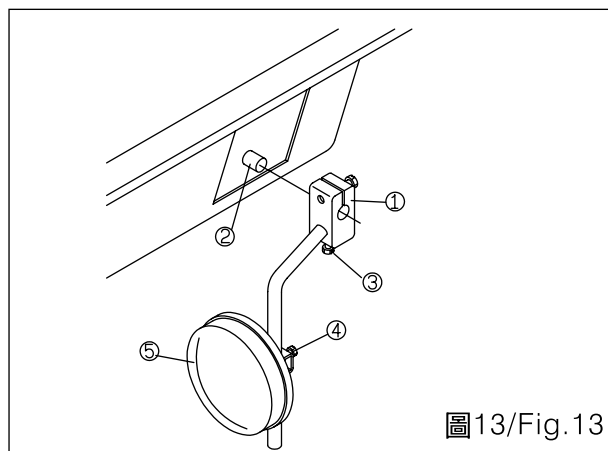


圖13/Fig.13

INSTALLATION OF KNEE-CONTROL LEVER (NORMAL MODEL)

1. Press the knee-control lever ① to the shaft ② on the bottom of machine. (Fig.13)
2. Loosen screws ③ and ④ to adjust the proper position for operating by knee-control.
3. Locking screws ③ and ④.
NOTE: Before tilting the machine, please remove the knee-control lever.

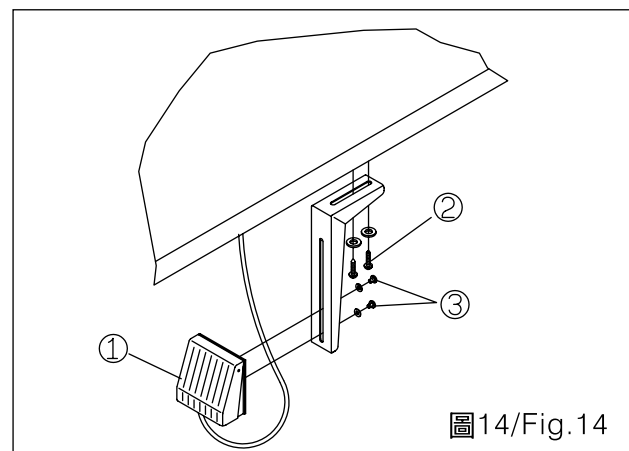


圖14/Fig.14

膝動開關(-12P機型)

1. 用兩支木螺釘②將膝動開關①固定在桌下。(圖14)
2. 鬆開螺絲③，將膝動開關調節在容易操作的位置。
3. 鎖緊螺絲③。

KNEE-CONTROL SWITCH (MODEL -12P)

1. Fix the knee-control switch ① under the table with 2 wooden screws ②. (Fig.14)
2. Loosen the screws ③ and adjust the knee-control switch to a convenient position to operate.
3. Lock the screws ③.

地線的安裝

將地線連接油盤與馬達(圖15)

1. 將油盤②中心點的木螺釘③鬆開，鎖上地線①(有顯示地線記號)
2. 根據馬達的使用說明書將地線接上馬達。

INSTALLATION OF THE GROUND WIRE

Connect the oil tank and the motor with the ground wire. (Fig.15)

1. Loosen the wooden screw ③ on the center of the oil tank ② and then lock screw ③ back with the ground wire ①. (A ground wire mark is shown)
2. Connect the ground wire to the motor according to Motor's Instruction Book.

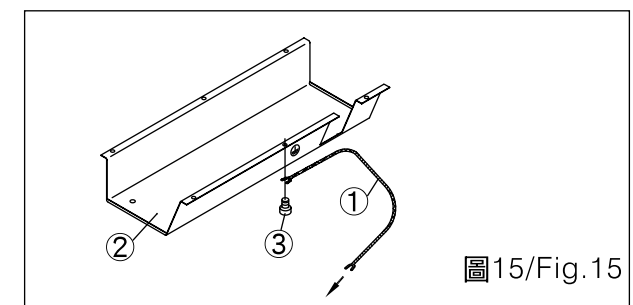


圖15/Fig.15

潤滑

第一次使用或長時間沒有使用，請務必先供油，使用SIRUBA指定的潤滑油。

1. 供油
 - a. 將油箱注入口的螺絲①取下。(圖16)
 - b. 由注入口注入潤滑油，加到油鏡②的上基線為止，如圖示。
 - c. 將螺絲①鎖緊。注意：潤滑油若下降到油鏡②的下基線則請供油
2. 注油，在有箭頭記號的地方各滴潤滑油1~2滴。

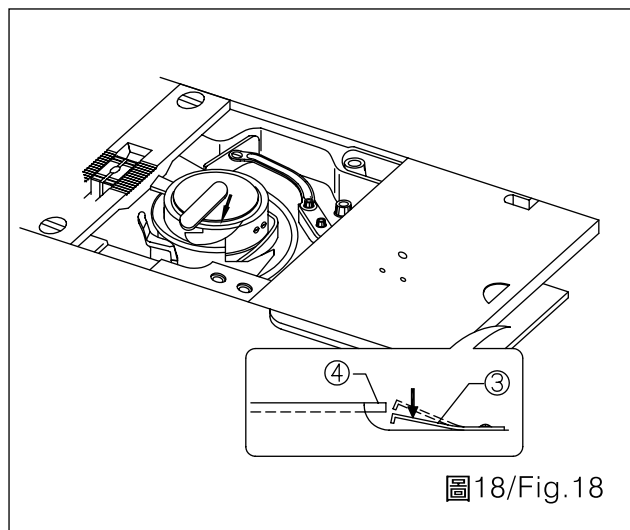
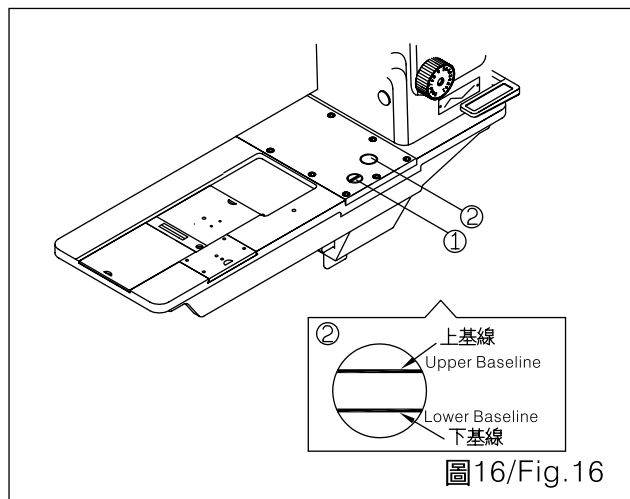
LUBRICATION

Please lubricate the machine with SIRUBA appointed oil for first use or after long idle time .

1. Filling with oil
 - a. Remove the screw ① on the entry of oil tank. (Fig.16)
 - b. Pour oil from the entry to the upper baseline on the oil-view window ② as illustrated.
 - c. Lock the screw ①.NOTE: Refill oil when it is below the lower baseline of oil-view window ②.
2. Drip one or two drops of oil on the part with arrow mark.

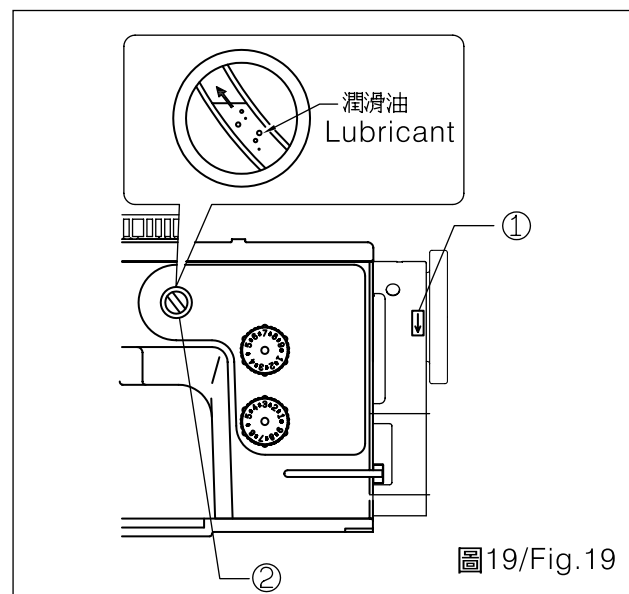
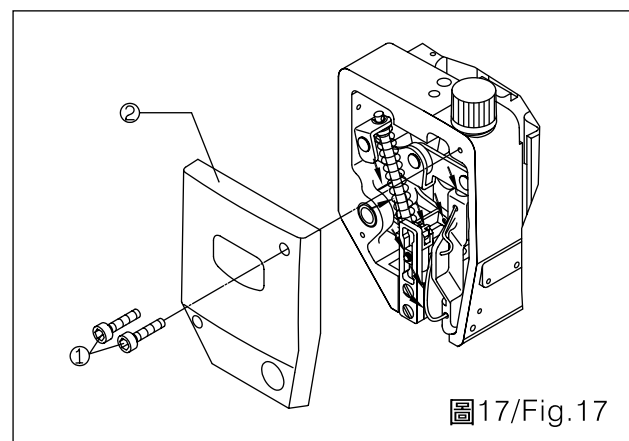
a · 鬆開兩支螺絲①將面板②取下(圖17)

B · 將彈簧板③壓下，打開右滑板④(圖18)



a · Remove the operation panel ② by loosening the screws ①. (Fig.17)

b · Press the spring plate ③ and open the right cover ④. (Fig.18)



皮帶輪迴轉方向的確認

- 1 · 將電源插座插入，打開電源。
- 2 · 慢慢踩踏板，請確認皮帶輪依箭頭①的指示方向開始轉動。(圖19)

注意：若皮帶輪之回轉方向是相反時，請參照馬達的使用說明書來修正回轉方向。

- 3 · 輕踩踏板，從油鏡②確認潤滑油上昇。

注意：潤滑油要遍及整台縫紉機約需1分鐘。

REVERSE DIRECTION OF BELT

- 1 · Insert the plug into the socket and then turn on the power.
- 2 · Step the pedal slowly and make sure the belt pulley turn as the arrow direction ① instructed. (Fig.19)
NOTE : If the direction of the belt pulley is opposite, please refer to the operation manual of motor for correction.
- 3 · Step the pedal slightly and check if the oil line is ascending from the oil-view window ②.
NOTE : It shall take about 1 minute to make the oil spread over the machine.

停針位置調整(-12P機型)

- 1 · 針上停止位置的調整(上定位)
將踏板回到針上停止位置時，由皮帶蓋的窗口可看到C標誌(圖20)

注意：若看不到C標誌則會形成切線不良的現象，請依下列順序調整。

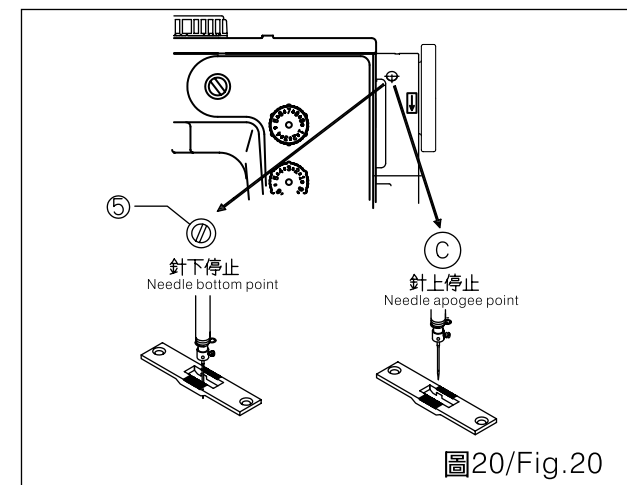
- a · 切斷電源。
- b · 鬆開螺絲③，取下檢出器外蓋④(圖21)
- c · 將針上停止用的圓盤①朝轉輪的回轉方向回轉，則C標誌會停在比調整前更靠近處，若向反方向轉動，則會停在比調整前更前面的位置。

- 2 · 針下停止位置(切線信號位置)的調整(下定位)，將縫紉機停在針下停止位置時，由皮帶蓋的窗口可看到螺絲⑤。

注意：若看不到則會形成下線結線不良的原因，請依下列順序調整。

- a · 切斷電源。
- b · 將針下停止用的圓盤②朝輪轉的方向轉動，則螺絲⑤會停在比調整前更靠近處，若向反方向轉動，則會停在比調整前更前面的位置。

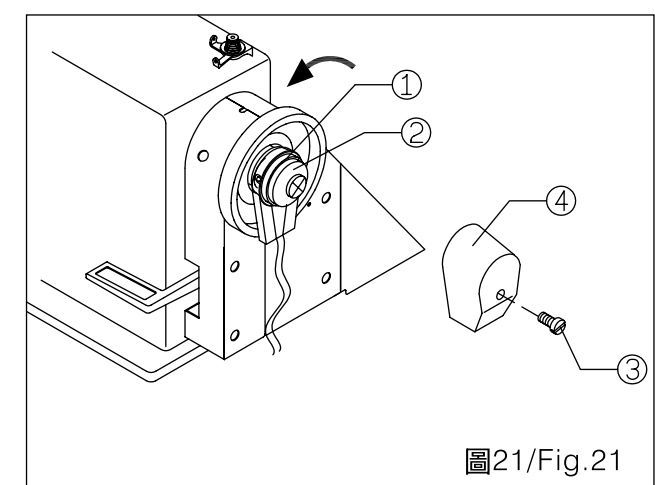
- c · 調整後將檢出器外蓋④用螺絲③固定。



ADJUSTMENT OF NEEDLE STOP POSITION (MODEL -12P)

- 1 · The adjustment of apogee stop position of the needle movement.(upper position)
A "C" mark is visible from the window of the pulley cover when the needle stops at the apogee position. (Fig.20)
NOTE : If the "C" mark is not found, the performance of thread trimming will be defective. Please follow the steps below to adjust the machine.
a · Turn off the power.
b · Loosen the screw ③ and remove the detector cover ④. (Fig.21)
c · Turn the discoidal for needle apogee stop position ① to the reverse direction of the pulley, and the mark C shall locate at the closer position before adjustment. If turning to the opposite direction, it shall stop at a further front of the position before adjustment.

- 2 · The adjustment of the bottom stop point of needle (a point to signal to trim) - the bottom position. When the machine stops at the needle bottom position, the screw ⑤ is visible from the view window of the belt cover.
NOTE : If the screw ⑤ is not visible, the cording of the down thread will be imperfect. Please follow the steps below to adjust.
a · Turn off the power.
b · Turn the discoidal for needle bottom stop position ② to the direction of pulley, and the screw ⑤ shall locate at the closer position before adjustment. If turning to the reverse direction, it shall stop at a further front of the position before adjustment.
c · Fix the detector cover ④ by screw ③ after adjustment.



針的安裝

INSTALLATION OF NEEDLE

1. 轉動轉輪，讓針棒①停在最高的位置。(圖22)
2. 鬆開螺絲②。
3. 將針③的長溝向左，向上插到最底部，鎖緊螺絲②。

1. Turn the wheel till the needle ① moves to the highest position. (Fig.22)
2. Loosen the screw ②
3. Have the groove of needle ③ face left and insert the needle up to the end. Then lock the screw ②.

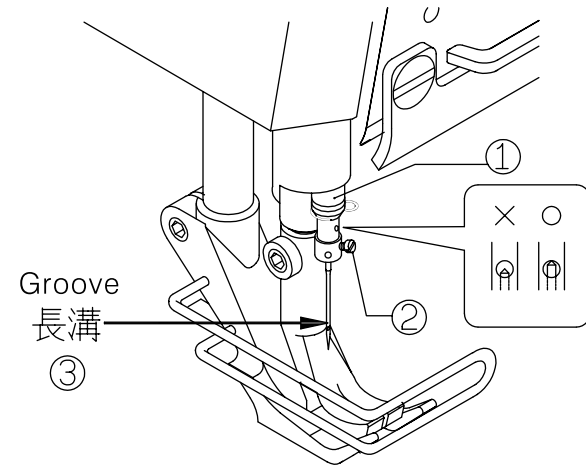


圖22/Fig.22

梭子的取出

TAKING OUT THE ROTARY HOOK

1. 將彈簧板①向下壓，打開右滑板②。(圖23)
2. 將旋梭的扣門③上提，取下梭子④。

注意：空轉防止彈簧(圖24)
空轉防止彈簧③可防止縫製中的梭子空轉。
若為-12P規格則可防止切線時的梭子空轉。

1. Press the spring plate ① and open the right sliding plate ②. (Fig.23)
2. Take out the rotary hook ④ after lifting the retaining bolt ③.

Note: Idling protect spring(Fig.24)
Idling protect spring ③ can avoid the rotary hook running idly. If it is the model-12P, it will prevent the rotary hook running idly when trimming..

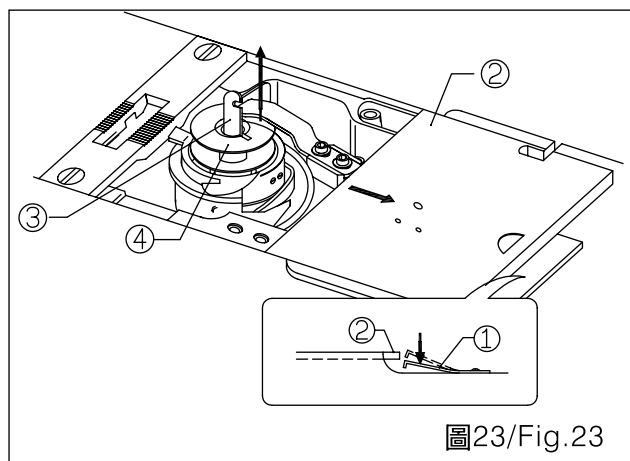


圖23/Fig.23

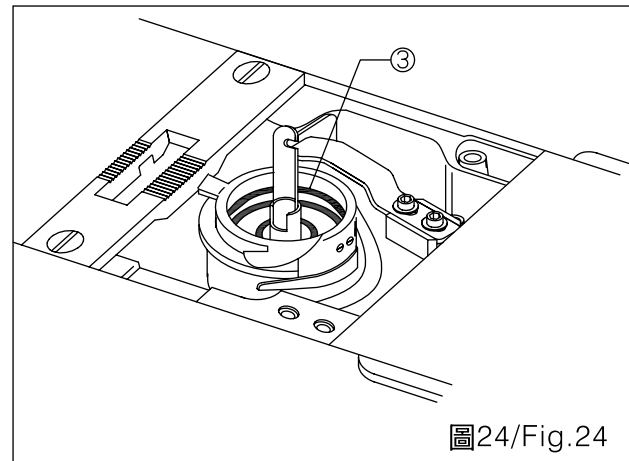


圖24/Fig.24

梭線的捲線

WINDING THE LOWER THREAD

1. 插入電源。
2. 將梭子①裝在捲線軸②上。(圖25)
3. 將線朝梭子①的箭頭方向捲數圈。
4. 將梭子押板③往梭子方向壓。
5. 壓下押具手把④使用押具往上提。
6. 踩踏板，開始捲線。
7. 捲線完畢後，梭子押板③會自動回復。
8. 捲線完畢後，將梭子①取下，用切線刀⑤將線切斷。
注意：鬆開螺絲⑥以移動梭子押板③來調整捲線量，捲線量的最大量以80%為最佳。(圖26)

若線捲的不夠平均時，鬆開螺絲⑦上下移動導線棒⑧來調節使其平均。

1. Insert the plug.
2. Install the bobbin ① onto the winding shaft ②. (Fig.25)
3. Wind the thread around the bobbin ① by the arrow direction.
4. Push the presser ③ to the bobbin.
5. Press down the presser foot handle ④ to lift the presser foot up.
6. Thread on the pedal to start the thread winding.
7. The bobbin presser ③ will come back automatically after finishing winding.
8. Then take out the bobbin ① and cut off the thread by a thread trimmer ⑤.
Note: Loosen the screw ⑥ to move the bobbin presser for adjusting the thread amount. 80% of the maximum thread amount would be the best. (Fig. 26)
If the thread winding is not even, please loosen the screw ⑦ to adjust the thread guide ⑧ up and down to have it evenly.

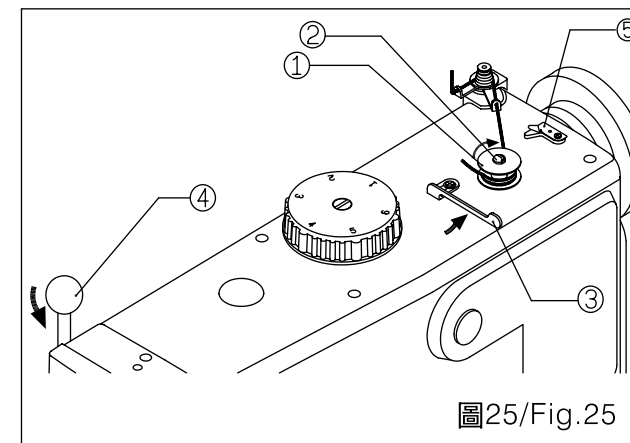


圖25/Fig.25

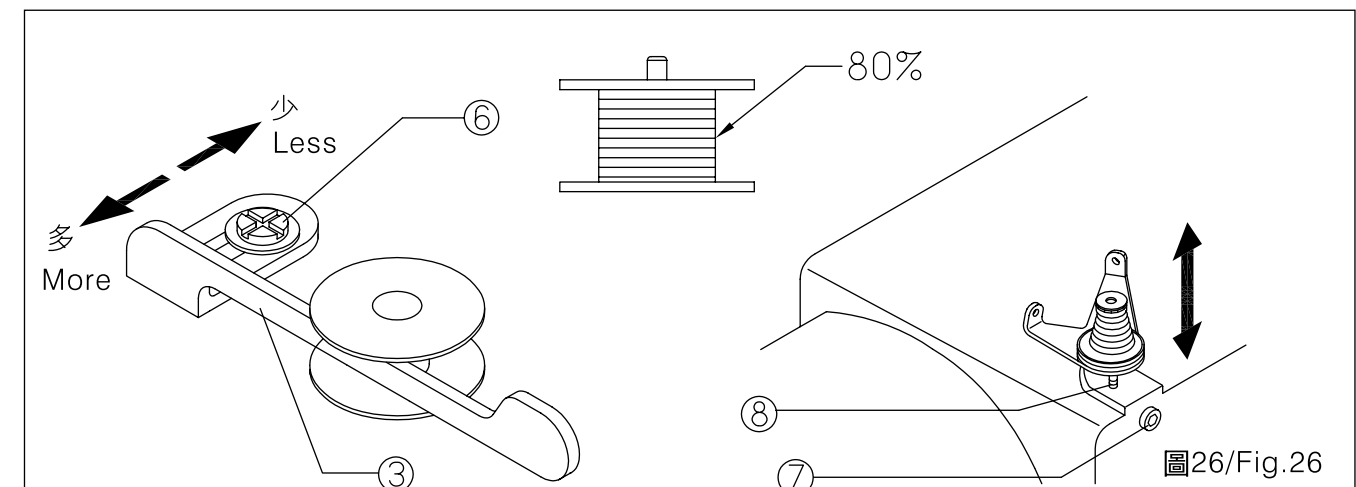


圖26/Fig.26

梭子的安裝

HOOK INSTALLATION

1. 捲線的方向如圖示，將梭子①放入梭殼②內。(圖27)
2. 轉動縫紉機手輪，將外梭轉到能看見調節彈簧③為止。
3. 將梭線穿過內梭的切溝(A)，由梭叉⑤與內梭的突起部中間拉起，通過調節彈簧的內側。
4. 將梭線從切溝(C)的內部拉出，再將扣門⑥壓下扣住。(圖28)
5. 拉梭線，使梭線很平順的從洞(D)中拉出，確認梭子①往箭頭方向回轉。(圖28)
6. 將梭線從針板⑦上拉出約50mm。
7. 將右滑板⑧打開只能讓線通過的空隙，梭線從送具孔中拉出後，再關上右滑板。

1. The direction of winding is as illustrated. Put the bobbin ① into the rotary hook ②. (Fig. 27)
2. Turn the hand wheel of machine to move the outer rotary hook till the adjusting spring ③ is visible.
3. Threading the slot (A) of inner rotary hook and pull the thread from the middle between the hook point ⑤ and the raised part of the inner hook, and then passing the inner side of the adjusting spring.
4. While the thread is pulled out from the inner side of slot (C), press the retaining bolt ⑥ back. (Fig.28)
5. Pull the thread to have it smoothly out from the hole(D). Make sure that the hook is turning by the direction of the arrow. (Fig.28)
6. Pull out the lower thread about 50mm from the needle plate ⑦.
7. Open the right sliding plate ⑧ to have an interspace for lower thread to go through. Close the right sliding plate back after pulling out the lower thread from the hole of needle plate.

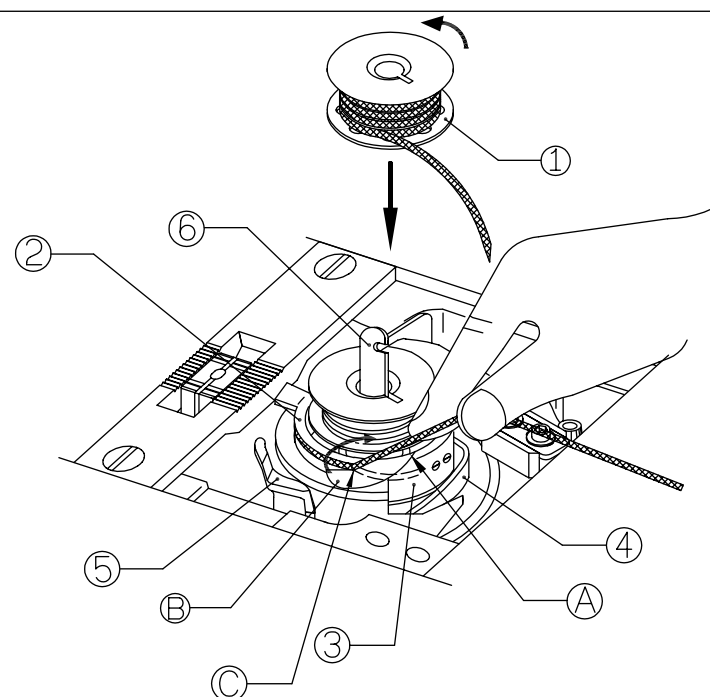


圖27/Fig.27

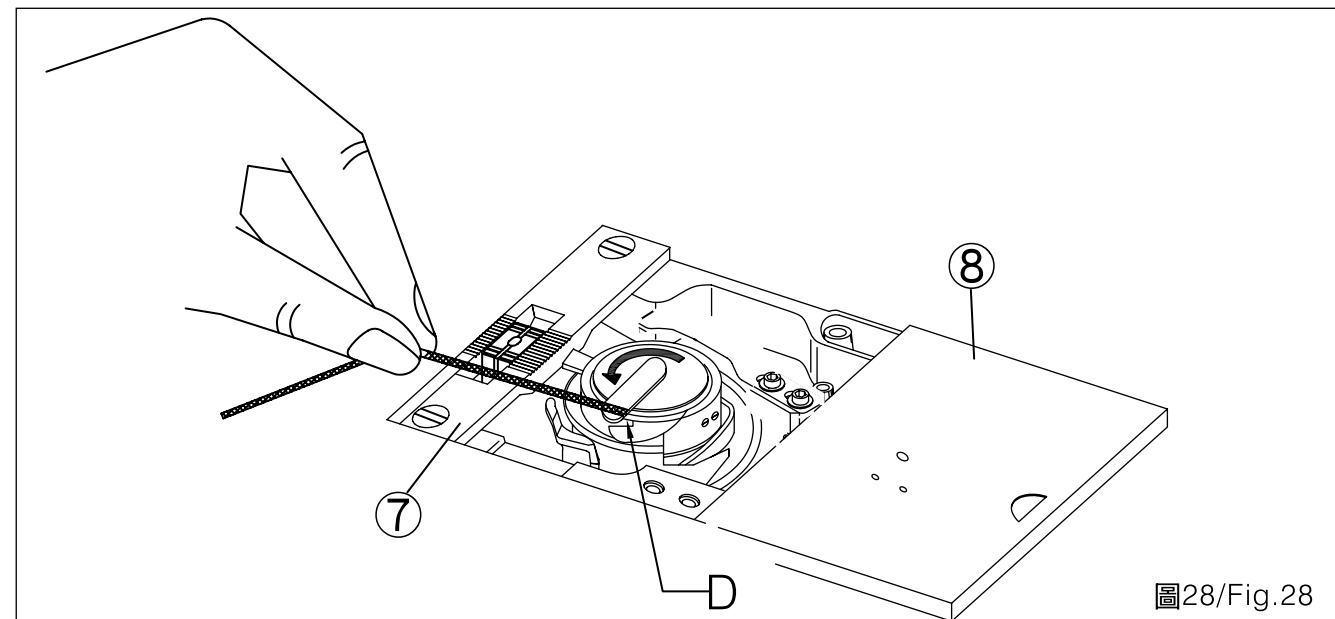


圖28/Fig.28

上線的穿法

THREADING OF UPPER THREAD

轉動縫紉機手輪，當天秤在最高時將線穿過，這樣線較好穿過，且可防止開始縫製時的脫線。(圖29)

Turn the hand wheel of machine and thread when the thread take-up is right on its highest position. It's better for threading and can avoid the thread unraveling when beginning sewing. (Fig.29)

附註：數字是穿線順序

Note: The numbers in the figure are the sequence of threading

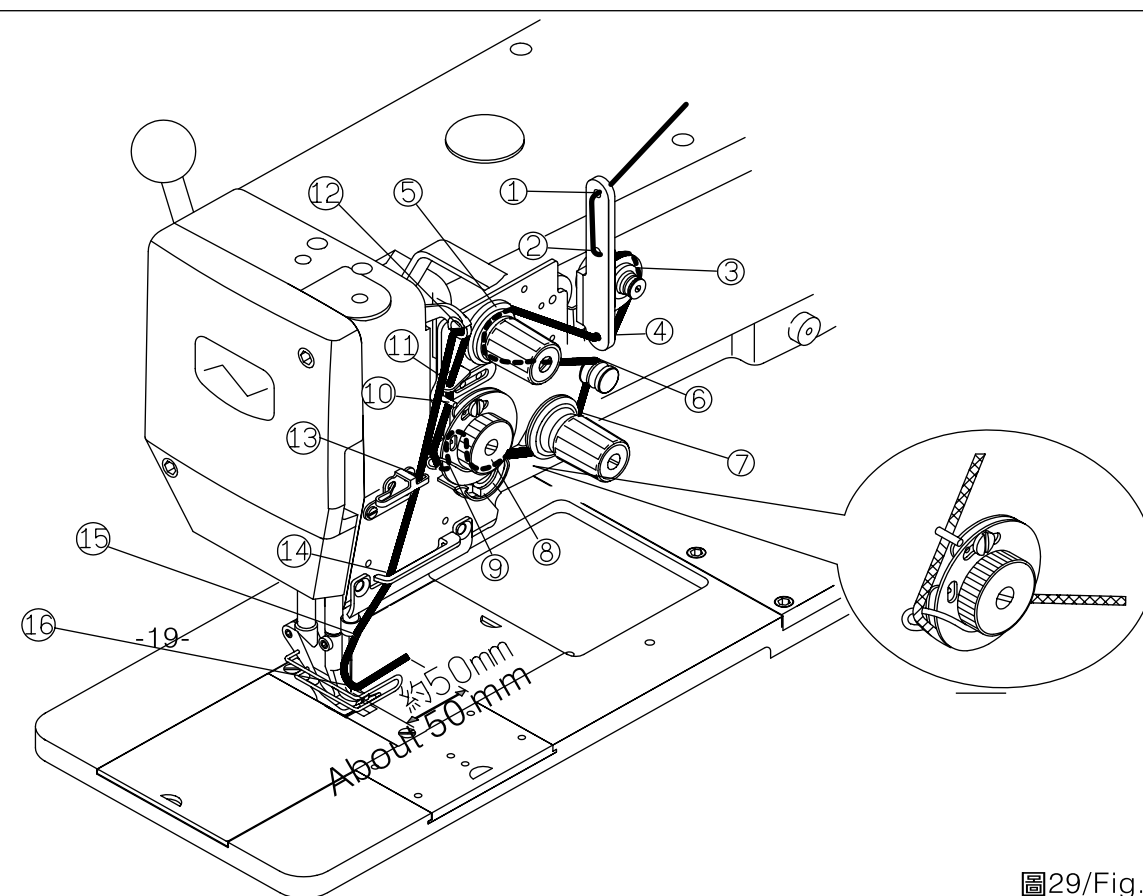


圖29/Fig.29

縫距長度的調整 (一般機型)

左右轉動縫距調整鈕①，將所要的數字對準記號點②。(圖30)

附註：數字越大，縫距也越大。

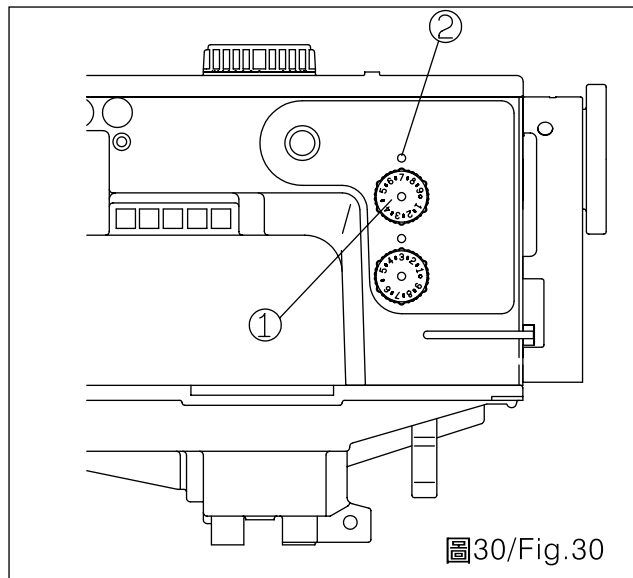
ADJUSTMENT OF STITCH LENGTH (NORMAL MODEL)

Turn the adjusting knob of stitch length ① till the desired length aligns with the mark ②. (Fig.30)

Note: The bigger the number is, the longer the stitch length will be.

縫距長度的調整 (-12P機型)

ADJUSTMENT OF STITCH LENGTH (MODEL-12P)



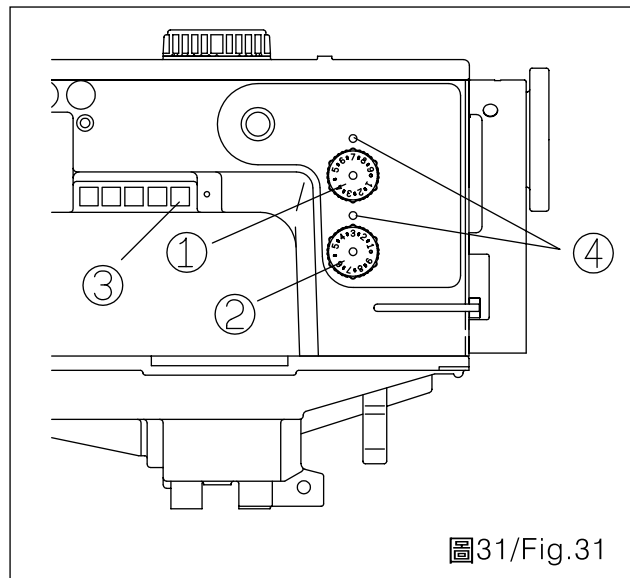
1. 由縫距調整鈕①與②，可設定2種縫距長度，按縫距切換開關③，即可交互切換縫距長度。(圖31)

2. 左右轉動縫距調整鈕①與②，將所要的數字對準記號點④以調節縫距長度。

a. 通常縫距長度調節(只設定1種縫距長度時)此時，只調節上調整鈕①。

注意：因不用下調整鈕②，故請調在最小的數字。請確認縫距切換開關③的燈是熄的(OFF)

b. 設定2種縫距長度
• 大縫距長度設定在上調整鈕①。
• 小縫距長度設定在下調整鈕②。



1. 2 types of stitch length can be set by rotating the adjusting knob ① and ②. Interchanging 2 different stitch length is available by pressing the stitch length switch ③. (Fig. 31)

2. Turn the stitch length adjusting knob ① and ② till the desired length aligns with the mark ④ to adjust the stitch length.

a. Normal stitch length adjustment (only set one stitch length) simply needs to adjust the upper stitch length adjusting knob ①. NOTE: In this mode, the lower adjusting knob ② won't be used. Therefore, please turn to the smallest number and confirm the light of the stitch length switch ③ is off.

b. Set 2 types of stitch length
• The longer stitch length is set by the upper stitch length-adjusting knob ①
• The smaller stitch length is set by the lower stitch length-adjusting knob ②

注意：不可將小縫距設定在上調整鈕①，也不可將最大縫距設在下調整鈕②。

3. 縫距切換開關③

熄燈(OFF)-此時縫製中的縫距是上調整鈕①。

亮燈(ON)-此時縫製中的縫距是下調整鈕②。

附註：每按一次縫距切換開關③，縫距就會交互切換(即使在縫製中也會瞬間切換)

Attention: The short stitch length cannot be set by the upper stitch adjusting knob ① and the longer stitch length cannot be set by the lower stitch length adjusting knob ②.

3. The light of the switch ③ is:

OFF - the stitch length in use right now is the set length of the upper adjusting knob ①.
ON - the stitch length in use right now is the set length of the lower adjusting knob ②.

Note: Press the stitch length switch ③ each time will interchange the stitch length. (even if it's during sewing, the stitch length will interchange in a flash.)

押具的交互運動量

PRESSER FOOT MOVEMENT

1. 中押具①與外押具②之交互運動量，可經由交互運動量之旋鈕③從1~7mm範圍內調整(圖32)。左右轉動交互運動量之旋鈕③，將所需要之數字對準記號點④。

附註：若為-12P機型，則可依據押具之交互運動量來自動控制縫速，請參考「縫速一覽表」。

2. 交互運動量切換開關的使用方法(-12P機型)

a. 交互運動量旋鈕③所設定的動量和最大運動量(7mm),此兩種交互運動量可交互切換。(圖33)

b. 交互運動量切換開關⑤
熄燈(OFF)-此時為交互運動量旋鈕③所設定的運動量在作動。
亮燈(ON)-此時為最大運動量在作動(7mm)。

3. 轉動交互運動量旋鈕③，配合平常的縫製物來設定押具之交互運動量。

4. 先確認此時交互運動量切換開關的燈是熄燈「OFF」才開始縫製。

5. 縫製中，若有較厚的地方時，押下交互運動量開關⑤(燈亮，交互運動量即切換到最大量7mm)。

1. The range of the alternant movement of middle presser foot ① and outer presser foot ② can be adjusted by turning the alternant movement adjusting knob ③ from 1~7mm (Fig.32). Rotate the alternant movement adjusting knob ③ right or left, and align the desired movement number with the mark ④. NOTE: If it's Model-12P, the sewing speed will be automatically controlled by setting different presser foot alternant movements. Please refer to "the Sewing Speed List".

2. The instructions for alternant movement switch operation (for model "-12P")
a. The movement set by the alternant movement adjusting knob ③ and the maximum movement (7mm) can be switched alternately. (Fig.33)
b. Alternant movement switch ⑤:
OFF- the movement right now is set by the alternant movement knob ③.
ON - machine operates under the maximum movement (7mm).

3. Select a suitable movement for materials by turning the alternant movement adjusting knob ③.

4. Before sewing, please be sure that the light of the alternant movement switch is OFF.

5. When having thicker part during sewing, press alternant movement switch ⑤. (When light is "ON", the movement will be changed to the maximum: 7mm.)

注意：押具交互運動量的切換也可用膝動開關來做。

6. 切換馬達的控制，請參考馬達的使用說明書。
7. 每按一次膝動開關，交互運動量旋鈕③所設定的運動量和最大運動量(7mm)就會交互切換。(膝動開關與交互運動量切換開關⑤的燈會有熄燈/亮燈的動作，可以確認切換狀態)

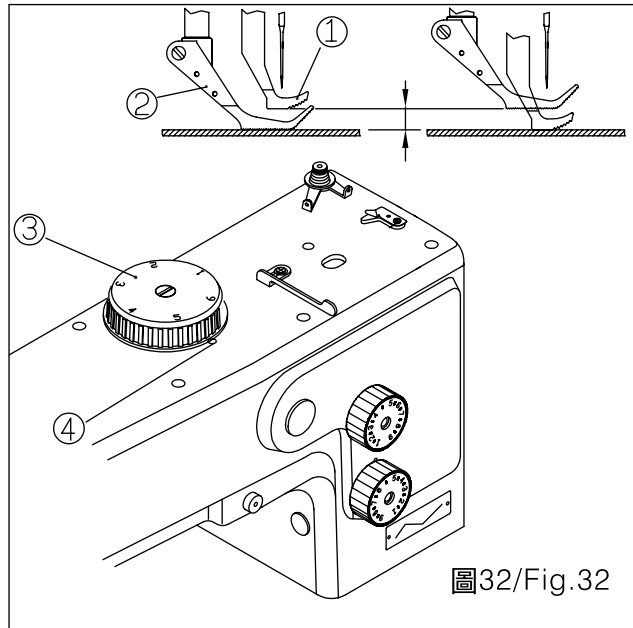


圖32/Fig.32

NOTE: This alternant movement can also be switched by knee controller.

6. As to the control of switching the motors. Please refer to the motor's instruction book.
7. When pressing the knee controller each time, the movement set by the alternant movement adjusting knob ③ and the maximum movement (7mm) will interchange. (Switch condition can be confirmed by seeing the light bright or blackout whether using the knee controller or the alternant movement switch.)

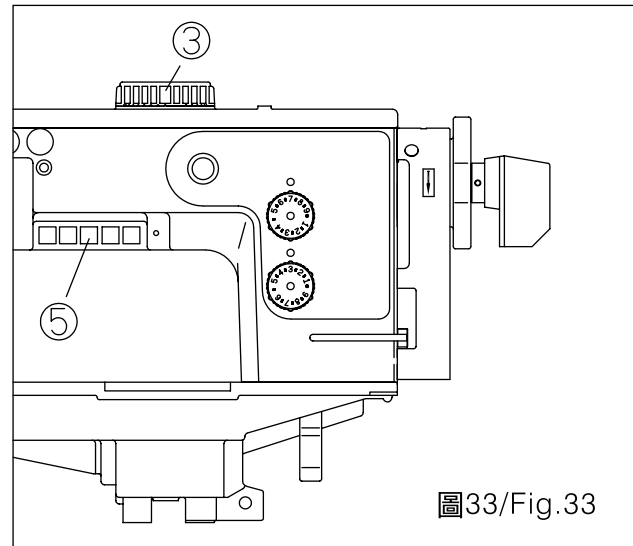


圖33/Fig.33

手動開關的使用 (-12P機型)

1. 手動開關的使用

a. 快速倒縫開關(圖34)

縫製中若壓住此開關① (只有壓住的時候)則會變成倒縫。

b. 交互運動量切換開關

每壓一次此開關②，兩種交互運動量就會交互切換

- 燈為熄燈狀態時，是交互運動量旋鈕⑥所設定的運動量在作動。
- 燈為亮燈狀態時，是最大運動量在作動。

INSTRUCTIONS FOR MANUAL SWITCHES (FOR MODEL -12P)

1. Instructions for Manual Switches

a. High-Speed Reverse Stitching (Fig.34)

Press this switch ① during sewing, the normal stitching will alter into reverse stitching. (Only when pressing the switch).

b. The instructions for alternant movement switch operation.

Pressing the switch ② each time, the 2 kinds of movements will be switched alternately.

- When the light is "OFF"-machine operates under the movement set by the alternant movement adjusting knob(6).
- When the light is "ON"-machine operates under the maximum movement.

c. 自動停止車縫選擇開關。

操作盤上若有設定「前停止縫」或「後停止縫」(ON的狀態)時，壓此開關③則第一次設定的「停止縫」即解除。若沒有設定停止縫時(OFF的狀態)，壓此開關③則只實行第一次設定的「停止縫」(此時是以先前設定的針數來實行)

d. 針上停止開關

當縫紉機在針下停止時，壓此開關④，針就會往上停止位置移動(切線後不會動作)

e. 縫距切換開關

每壓一次開關⑤，兩種的縫距長度即可交互切換。

- 燈為熄燈狀態時，是以上調整鈕⑦所設定的值(大的縫距)在縫製。
- 燈為亮燈狀態時，是以下調整鈕⑧所設定的值(小的縫距)在縫製。

c. Auto-stop stitching switch

If there is a "front stitch-stop" or a "back stitch-stop" on the function panel set as ON, the first "stitch-stop" configuration will be removed by pressing this switch. If there is no stitch-stop to set (the status is OFF), only first "stitch-stop" configuration will be executed. (Following the previous set needle numbers at this moment)

d. Needle apogee stop position switch

When sewing machine stop at needle down stop position, press the switch ④, the needle will move to up stop position (no moving after cutting the thread).

e. Stitch Length ON/FF Switch

When pressing this switch ⑤ each time, 2 kinds of stitch lengths will be able to interchange.

- When the light is "OFF"- machine operates under the stitch length (longer) set by the upper adjusting knob ⑦.
- When the light is "ON"- machine operates under the stitch length (shorter) set by the lower adjusting knob ⑧.

2. 膝動開關的使用

壓膝動開關①則押具向上提升。(圖35)

2. To use the knee controller

Press knee controller (1), and the presser foot will be lifted. (Fig.35)

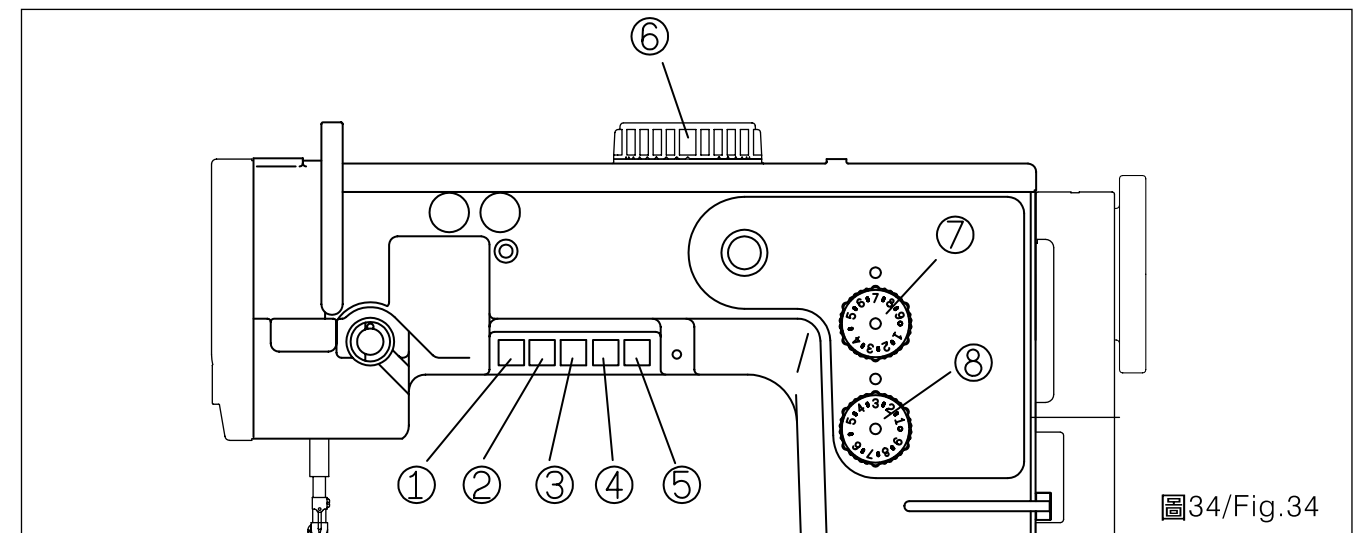
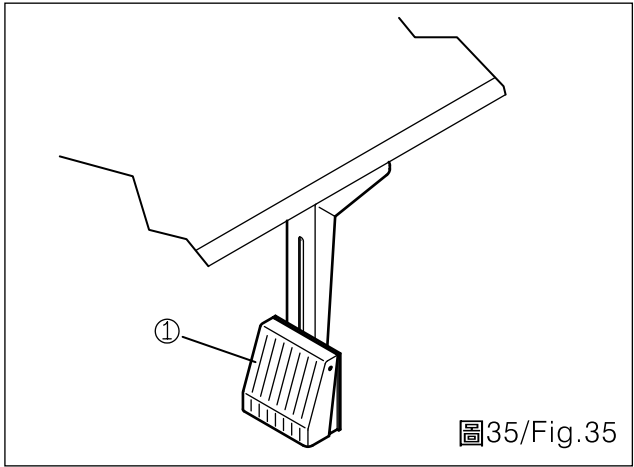


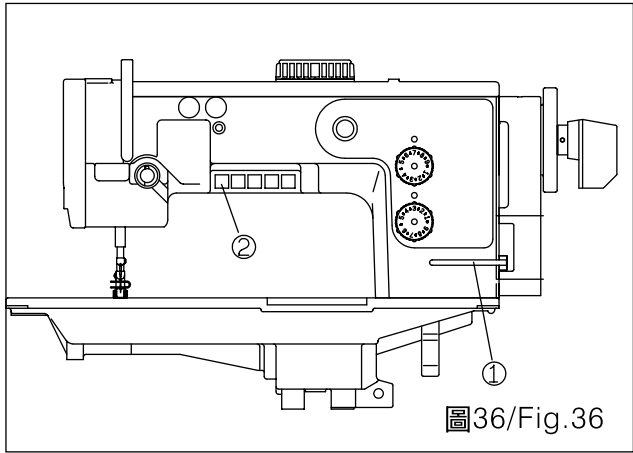
圖34/Fig.34

此外，依照切換馬達內控制盒中的開關，膝動開關①也可當作交互運動量切換開關來使用。

注意：只是，此時就沒有押具提昇的機能。



In addition, the knee controller(1) can be used as the presser foot alternant movement switch by switching the switch on the control box in the motor.
NOTE : The knee controller will not have the function of foot lifter at this time.



縫製

SEWING

- 1・縫製方法
 - a・插入電源。
 - b・踩踏板，開始縫製。
- 2・倒縫方法
縫製中，壓下倒縫桿①或快速倒縫開關②(-12p機型)就會倒縫，放開後即恢復正常。(圖36)

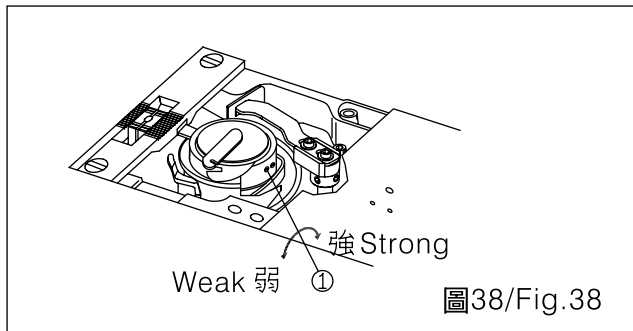
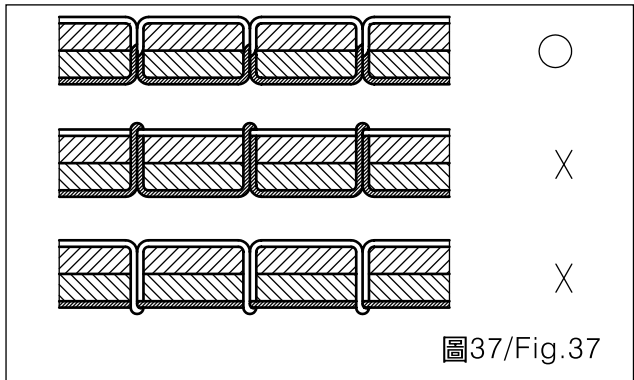
- 1・Sewing method
 - a・Plug in.
 - b・Tread on the pedal to start sewing.
- 2・How to sew reversely
Press the backstitch bar ① or speedy backstitch switch ② (-12 model) to do backstitch when sewing. Releasing them will turn back to normal. (Fig.36)

縫線鬆緊度

ADJUSTING THREAD TENSION

- 如(圖37)所示
- A：適合的縫線緊度
 - B：針線太強，梭線太弱
 - C：針線太弱，梭線太強

- Showing as (Fig.37)
- A: Well balanced stitch
 - B: The upper thread is too tight and the lower thread is too loose.
 - C: The upper thread is too loose and the lower thread is too tight.



縫製調整

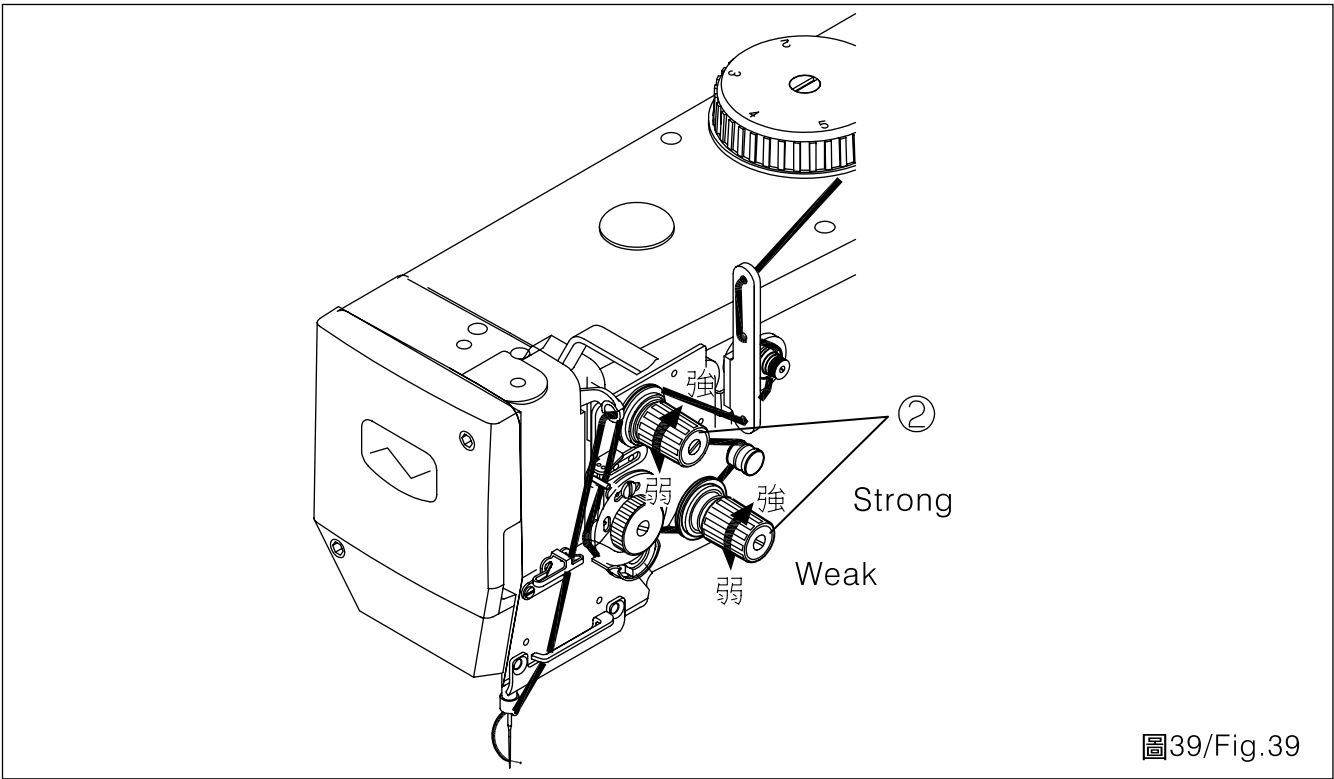
ADJUSTMENT THE SEWING

- 1・針線梭線的調整
 - 2・梭線張力
轉動下梭螺絲①來調節。(圖38)
 - 3・針線張力
梭線張力調節後再調節針線張力，以調整出均整的好縫距。
- a・拆下押具。
B・轉動控線鈕②。(圖39)

- 1・Adjustment of upper and lower thread.
 - 2・The tension of the bobbin thread.
Turn the hook screw ① to adjust. (Fig.38)
 - 3・The tension of the upper thread
Adjust the tension of the upper thread after adjusting the tension of the bobbin thread in order to have good and balanced stitches
- a・Remove the presser foot.
b・Turn the thread adjusting knob ② (Fig.39)

注意：請將兩個控線鈕②調在相同程度的張力。

NOTE : Please adjust these two thread control knob ② to the same tension.



押具壓力調整

ADJUSTMENT OF THE PRESSURE OF THE PRESSER FOOT

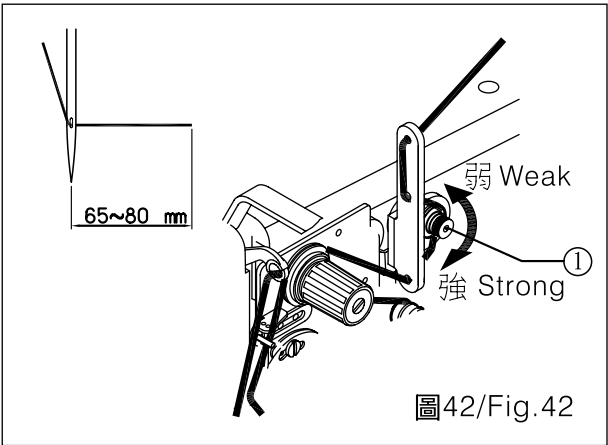
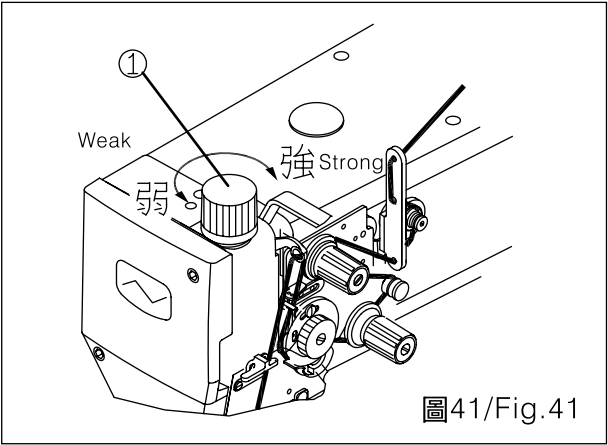
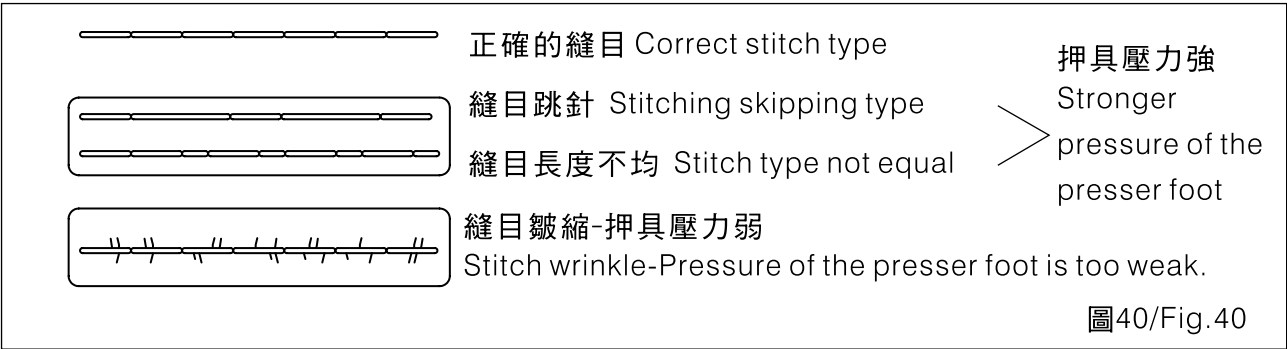
- 1・因縫製物厚薄及料質料關係，押具壓力應做適當調整。(圖40)
- 2・主押具與送料具之壓力各別做適當調整。
- 3・壓力在能送料範圍內儘量調整在最小。

- 1・Pressure of the presser foot should be adjusted properly according to the sewing material. (Fig.40)
- 2・Adjust the pressure of both the feed dog and the presser foot separately.
- 3・Adjust the pressure as weak as possible within the range which can feed.

- a · 將押具調整鈕①向右轉則壓力會變強，向左轉則變弱。(圖41)

B · 請將押具壓力調弱到使布料不會滑動的程度。
- a · When turn the presser foot knob ① to the right, the pressure will be stronger. Otherwise, the pressure will be weaker. (Fig.41)

b · Please adjust the pressure of presser foot as weak as keep the material without slipping.



切線後針線殘餘量的調整 (-12P機型)

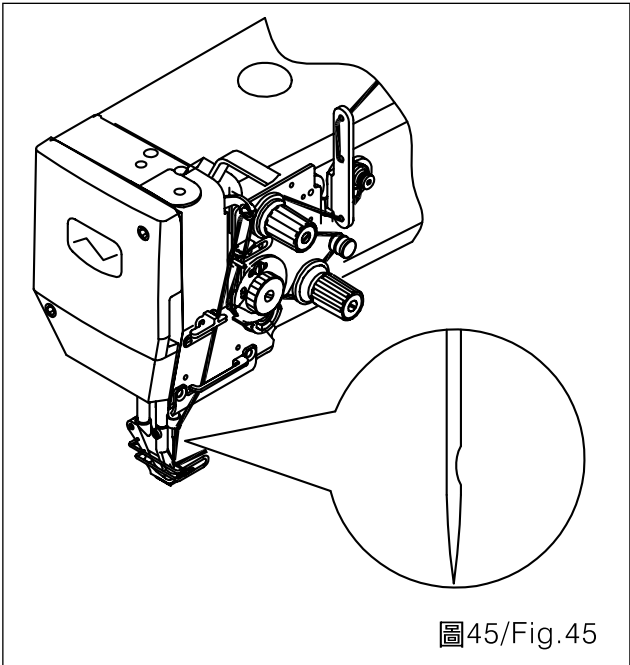
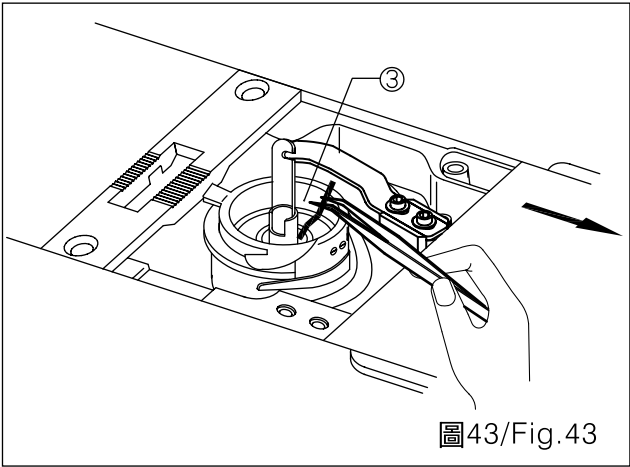
- 1 · 切線時線會放鬆，此時只有控線鈕①的彈簧張力。(圖42)
- 2 · 針線殘餘量以65~80mm為標準。(設定於上停針位置時)
- 3 · 彈簧張力強時，切線後的上線殘餘量變短；張力弱時，殘餘量變長。可轉動控線鈕①來調整。

ADJUSTMENT OF REMAINING UPPER THREAD AFTER CUTTING (MODEL -12P)

- 1 · The thread will be loose when cutting, and only spring tension of the knob ① remains. (Fig. 42)
- 2 · 65-80mm of the upper thread remaining is the standard. (It's set at the upper dead point)
- 3 · When the spring tension is strong, the remaining thread will become shorter after cutting. When the tension become weak, the remaining thread will become longer. Turn the tension knob ① to adjust.

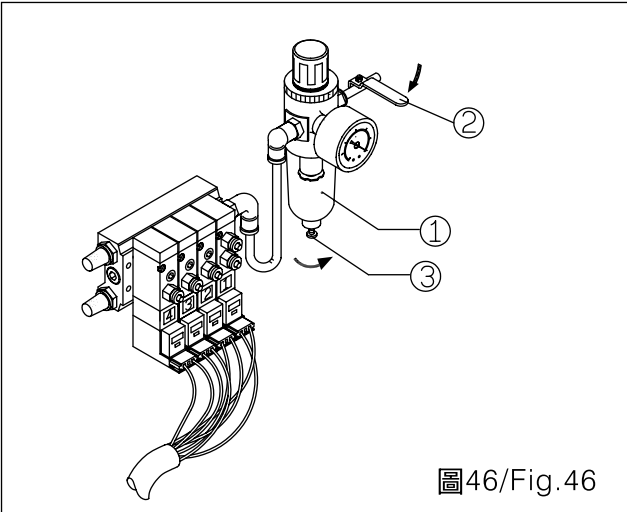
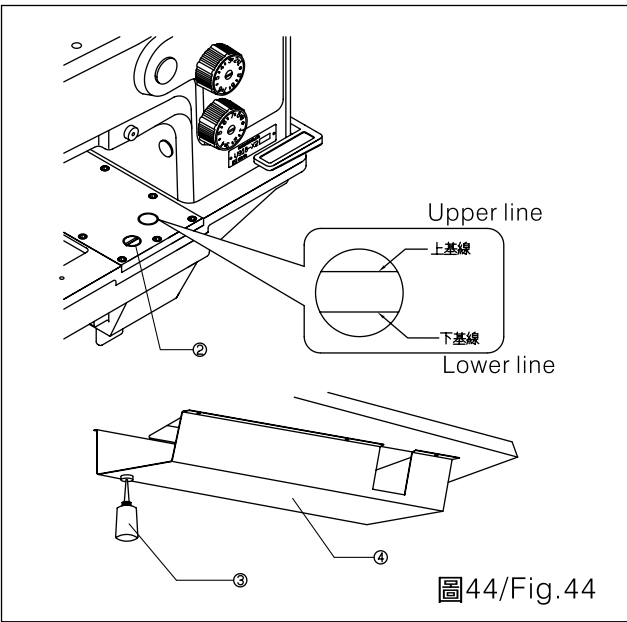
保養維護

- 1 · 旋梭的清潔
- a · 打開右滑板取下清潔。(圖43)
- b · 將旋內的線屑清除乾淨。
- c · 裝上梭子。
- 2 · 供油(請使用SIRUBA指定的潤滑油。)
- a · 潤滑油的油量若下降到油鏡的下基線則供油，鬆開螺絲②由注入口將潤滑油加注到油鏡①的上線。(圖44)
- b · 若油壺③堆積了油，則將油壺鬆開，將油倒掉。
- c · 再將油壺③鎖入油盤④
- 3 · 針線的確認



MAINTENANCE

- 1 · Clearance of the hook
- a · Open the right slide board and take out the hook to clean. (Fig.43)
- b · Clean the lines inside of the hook.
- c · Install the hook
- 2 · Lubrication
- (Please use the oil appointed by SIRUBA)
- a · If the oil level lowers down to the bottom line of the oil level gauge(1), loosen the screw (2) and add oil until it reaches the upper level. (Fig.44)
- b · If the oil in the oiler(3) is full, open it and empty the oil.
- c · Put the oiler(3) back to oil tank (4).
- 3 · Check the needle and thread



- a · 確認上線是否正確穿入(圖45)
- b · 確認針頭是否完好，針頭若有損傷換針。
- c · 試縫
- 4 · 空氣濾清器的排水(-12P機型)
空氣瓶①內若有積水，則將手把②關閉，將旋鈕③往箭頭方向鬆開，讓水排出。(圖46)

- a · Check whether the upper thread is put correctly. (Fig.45)
- b · Check the needle to see if it's in good condition or change a new one if there is any detriment.
- c · Test sewing.
- 4 · Drainage of the water in the air filter (Model-12P). If there's water in the air bottle ①, turn the grip ② and turn the knob ③ to the arrow direction to drain the water. (Fig.46)

過濾油網的清潔 (每月保養一次)

過濾棉①髒或供油消耗量顯著增加時，將螺絲②及螺絲③鬆開，取下過濾網清洗或換新(圖47)。

注意：

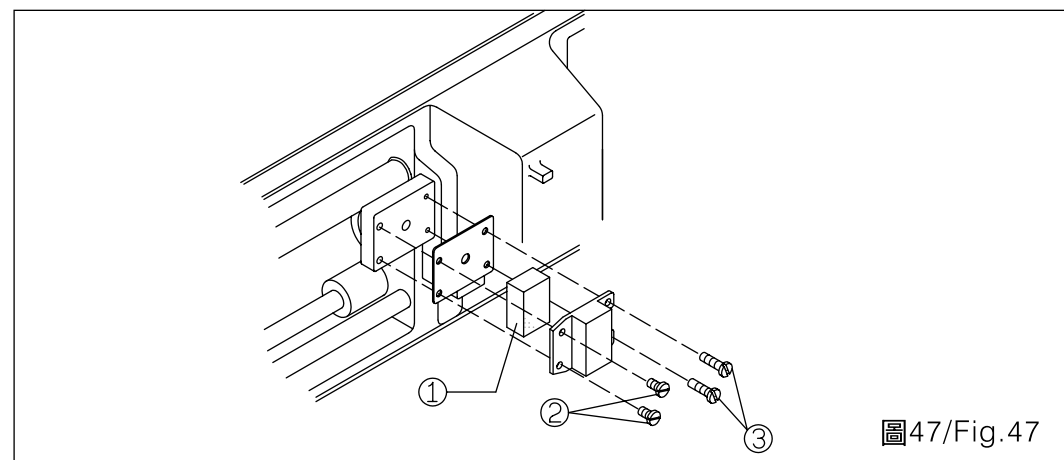
螺絲②長度8mm，螺絲③長度19mm，安裝過濾網時，兩者請不要弄錯。

CLEARANCE OF OIL FILTER (MAINTAIN ONCE A MONTH)

If the filter ① is dirty or if oil consumption increases obviously, loosen screws ② and ③ to remove the filter to clean or change a new one. (Fig.47)

NOTE :

The length of screw ② is 8mm, and the length of screw ③ is 19mm. Please be careful and don't confound with each other.



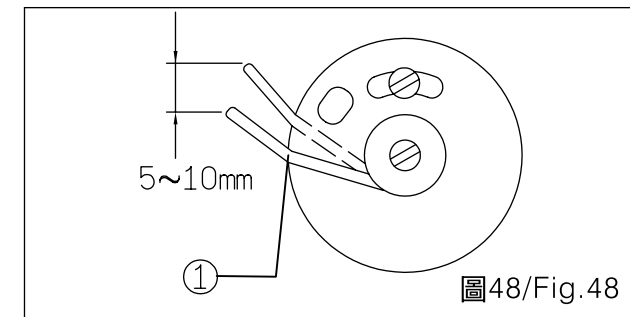
標準調整

- 1 · 挑線彈簧的作動範圍以5~10mm為標準。(圖48)
- a · 鬆開螺絲②，轉動挑線彈簧止動片③來調整。(圖49)
- b · 將螺絲②鎖緊。

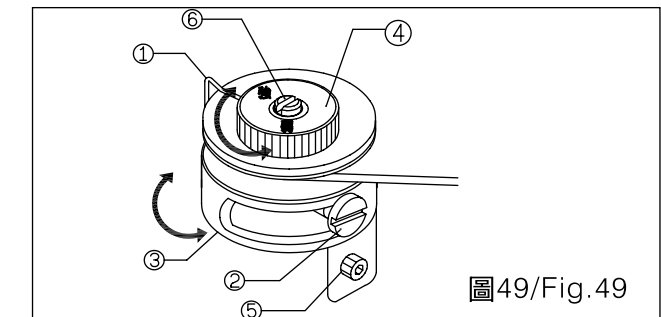
STANDARD ADJUSTMENT

- 1 · The movement range of thread take-up spring is 5~10mm. (Fig.48)
- a · Loosen screw ②, turn the stopper of thread take-up spring ③ to adjust. (Fig.49)
- b · Lock the screw ②.

- 2 · 挑線彈簧的強度
挑線彈簧的強度以0.39~0.78N (40~80gf)為標準。
- a · 鬆開螺帽④。
- b · 鬆開螺絲⑤轉動線調整桿⑥來調整。
- C · 鎖緊螺絲⑤再來鎖緊螺帽④。



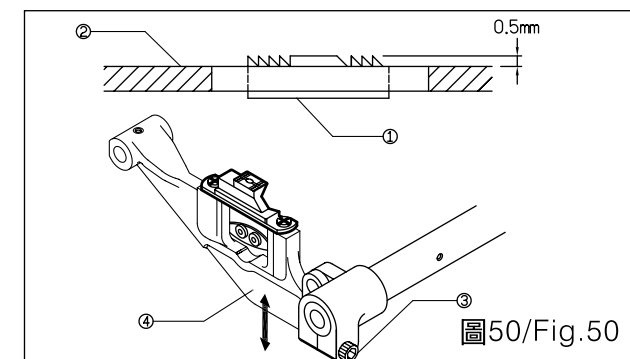
- 2 · The strength of thread take-up spring.
The standard strength of thread take-up spring is 0.39~0.78N (40-80gf)
- a · Loosen the nut ④.
- b · Loosen the screw ⑤ and turn the thread adjusting lever ⑥ to adjust.
- c · Lock the screw ⑤ before locking the nut ④.



送料齒的高度調整

送料齒①在最高點時離針板面以0.5mm為標準。(圖50)

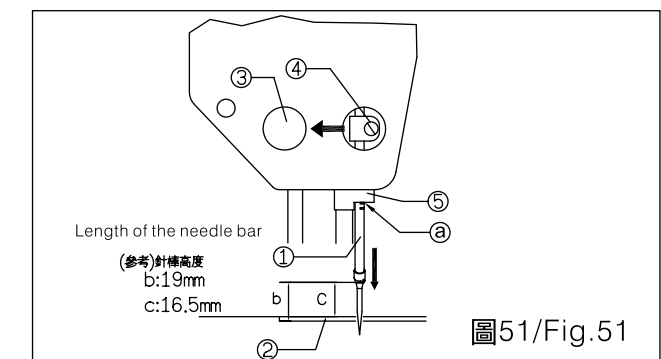
- 1 · 轉動縫紉機手輪，將送料齒①停在最上面位置。
- 2 · 將縫紉機倒置。
- 3 · 鬆開螺絲③，以上下送料固定座④來調整。
- 4 · 將螺絲③鎖緊。



HEIGHT ADJUSTMENT OF FEED DOG

The standard highest point of feed dog ① is 0.5mm from needle plate. (Fig.50)

- 1 · Turn the pulley to stop the feed dog ① on the top.
- 2 · Tilt down the sewing machine.
- 3 · Loosen the screw ③, and adjust the height by the up/lower feed dog fixed bracket ④.
- 4 · Lock the screw ③.



針棒的高度調整

將縫距調整鈕調至最小，當針棒①在到最低點時，針板②安裝面到針棒前端的距離為19mm。(圖51)

- 1 · 取下橡皮塞③。

HEIGHT ADJUSTMENT OF NEEDLE BAR

Adjust the stitch length to the smallest. When the needle bar ① at the bottom dead point, the distance from needle plate ② to front point of needle bar ③ is 19mm. (Fig.51)

- 1 · Take off the rubber ③.

- 2. 將縫距調整鈕調到最小。
若為-12P機型，先將下調整鈕調到最小，再將上調整鈕調到最小。
- 3. 轉動縫紉機手輪，使針棒停在最低點。
- 4. 鬆開螺絲④，上下移動針板，使針板②安裝面到針棒①前端的距離調整為19mm。(此時，若使用針棒①的上基準線(a)與針棒導座⑤下緣一致，大致上可調整到規定的尺寸)
- 5. 將螺絲④鎖緊。

- 2. Adjust the stitch length to the smallest. If it's the model-12P, please adjust the lower adjustment knob to the smallest before adjusting the upper one.
- 3. Turn the pulley to set the needle at the bottom dead point.
- 4. Loosen the screw ④ to move up and down the needle bar to adjust the distance from needle plate ② to needle bar ① to be 19mm. (If adjusting the upper standard line (a) of the needle bar ① reaching the needle bar guide ⑤, generally it will be the standard distance.)
- 5. Tighten screw ④.

針與旋梭的時位

TIMING OF NEEDLE AND HOOK

縫距調整鈕調到最小，轉動縫紉機手輪，使針棒在下停點將往上升時皮帶蓋①的視窗顯示出G，此時，旋梭尖與針的中心一致。(圖52)

Turn the stitch length adjusting knob to the smallest, turn the pulley to make "G" show on the window of belt cover ①. At the same time, the center of needle should point at hook point (Fig.52).

The distance between needle and hook top ② is 0.02~0.1mm when the needle does not touch the needle guard ③ yet.

Attention :

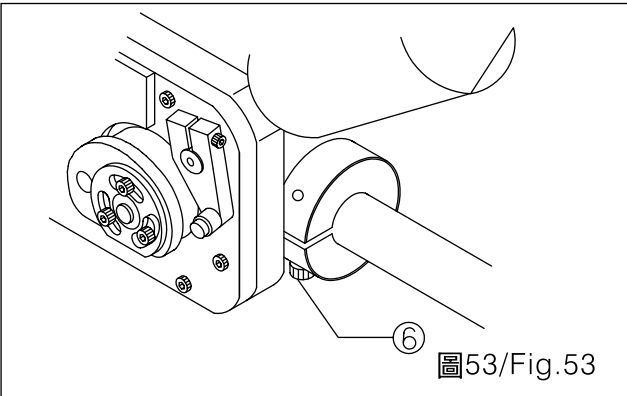
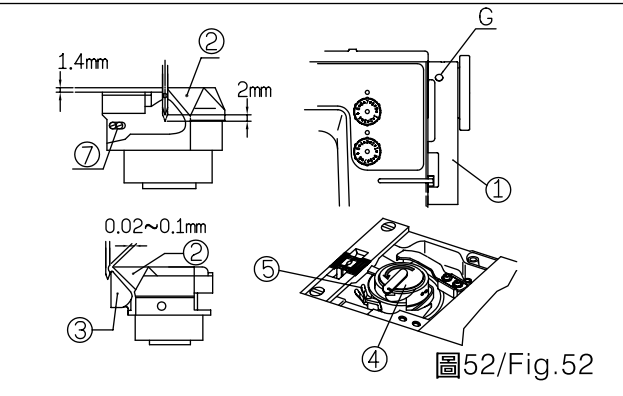
- After adjusting "the timing of the needle and hook", "the gap between needle and hook top" needs to be adjusted.
- Because the pulley turns once, the hook ④ will turn twice. Therefore, if the hook top ⑤ turns once, the hook will turn twice.
- When the hook top close to hook ④, please follow the steps belows to adjust.

1. The timing of needle and hook

注意：

- 調整「針與旋梭的時位」後一定要調整「針與旋梭尖的間隙」。
- 因縫紉機手輪轉1回，旋梭④要轉2圈，故當梭叉⑤轉動一次的時間，旋梭要轉2圈。
- 當梭叉靠近旋梭④的位置時，請進行下列的調整。

1. 針與旋梭的時位



- a. 將縫距調整鈕調到最小。
- b. 取下針板。
- c. 將縫紉機倒置。
- d. 鬆開螺絲⑥。(圖53)
- e. 轉動縫紉機手輪，使針棒從最低點上昇時，皮帶蓋的視窗顯示出G。(針上昇2mm，針的線孔到旋尖②的距離為1.4mm)
- F. 轉動旋梭，使旋梭尖與針的中心一致，再鎖緊螺絲⑥。

2. 針與梭尖的間隙

- g. 將螺絲(右)⑦向右轉，使針不要碰到護針器③。(圖53)
- h. 鬆開螺絲⑧與螺絲⑨。(圖54)
- I. 將旋梭基座的軸環⑩向右轉，旋梭基座⑪的側面(A)輕輕的靠上底座加工面(B)，左右移動旋梭基座⑪將針與旋梭尖②的間隙調為0.02~0.1mm。

- j. 鎖緊螺絲⑨。
- k. 鎖緊螺絲⑧。
- L. 裝上針板，此時，將內梭的止動部⑬裝入針板⑫缺口處。

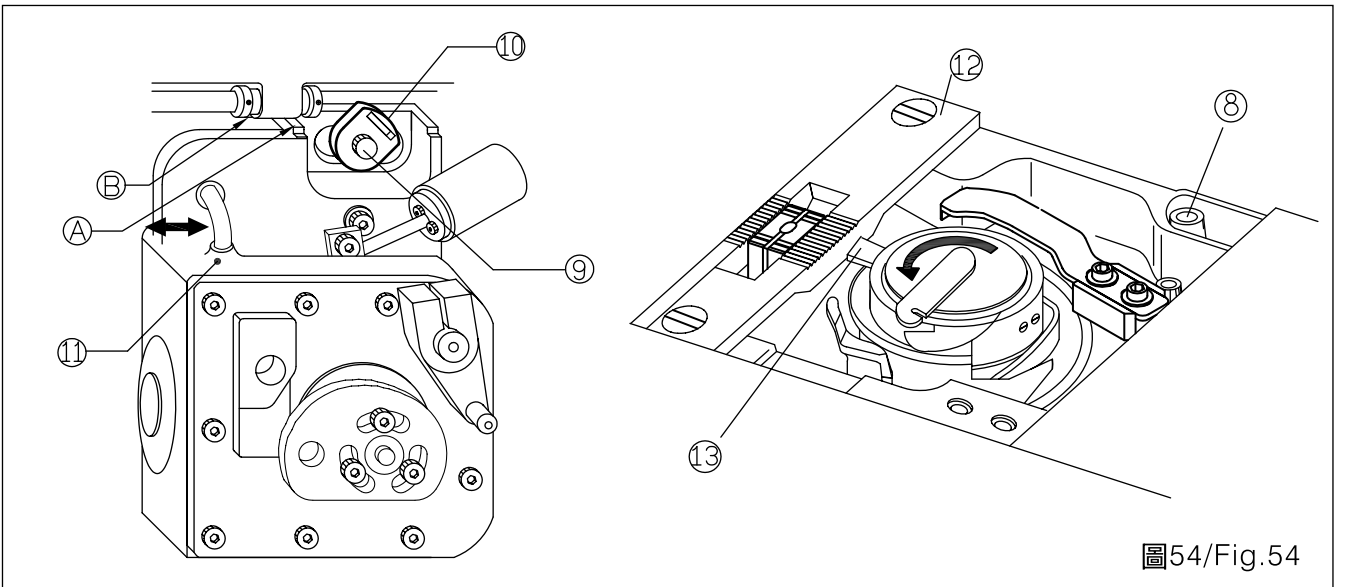
- m. 調整護針片③的位置。

- a. Adjust the stitch length to the smallest.
- b. Take off the needle plate.
- c. Tilt the sewing machine.
- d. Loosen the screw ⑥. (Fig.53)
- e. Turn the pulley to have the needle bar rise from the lowest point and to have the "G" visible from the window of belt cover.at the same time (When needle rises 2mm, the distance from needle hole to hook top ② is 1.4mm)
- f. Turn the hook to make the needle center point at hook top, and then tighten screw ⑥.

2. The interspace between needle and hook top.

- g. Turn the screw (right) ⑦ to the right, so the needle won't touch the needle guard ③. (Fig.53)
- h. Loosen screws ⑧ and ⑨. (Fig.54)
- i. Turning the ring of hook base ⑩ right, and then put the side(A) of hook base⑪to the bottom (B) lightly. Move the hook base⑪left or right to make the interspace from needle to hook top ② become 0.02 - 0.01mm.

- j. Lock screw ⑨.
- k. Lock screw ⑧.
- l. Install needle plate, and then insert the inner hook stopper ⑬ in the gap of needle plate ⑫.
- m. Adjust the position of needle guard ③.



護針器的位置調整

ADJUSTMENT OF NEEDLE GUARD POSITION

轉動縫紉機手輪，使針棒從最低點往上升，使皮帶蓋①的視窗顯示出G，此時針在護針片②上約0.1~0.2mm。(圖55)

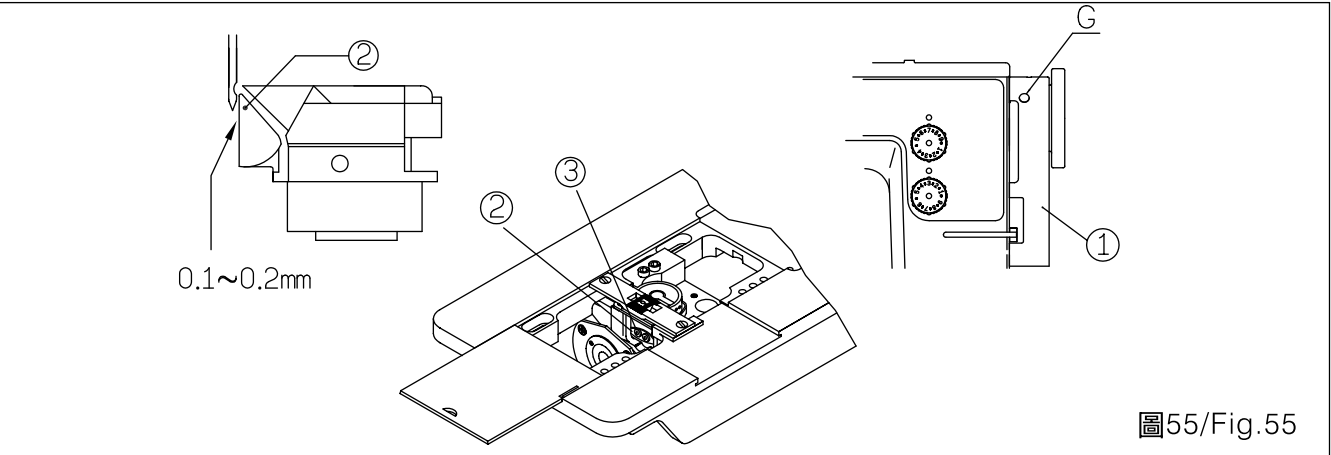
Turn the pulley to make the needle rise from the bottom dead point and let the “G” show on the window of belt cover ①. Meanwhile, the needle will be 0.1~0.2mm above the needle guard ②. (Fig. 55)

- 1. 首先，調整「針與旋梭的時位」與「針與旋梭尖的間隙」。
- 2. 將縫紉機倒置。
- 3. 轉動螺絲(右)③，使針靠近護針片之間隙為0.1~0.2mm。

- 1. First, adjust “the timing of needle and hook”, then adjust “the interspace between needle and hook top”.
- 2. Tilt the sewing machine.
- 3. Turn the screw ③ to make the interspace between needle and needle guard become 0.1~0.2 mm.

注意：將螺絲(右)③向右轉，則護針片會靠向內側，往左轉則向外。

NOTE：Turn the screw ③ right then the needle guard will be close to inside, and turn left it will be close to outside.



針與送料具的時位

TIMING OF NEEDLE AND PRESSER FOOT

- 1. 水平送料方向
將縫距調整鈕轉到最大，轉動縫紉機手輪，當皮帶蓋之視窗顯示B時，即使上下搖動倒縫桿①針與送齒都不會動(圖56)

- 1. Horizontal feed direction
Turn the stitch length adjusting knob to the maximum and turn the pulley to let “B” show on the window of belt cover. Meanwhile, needle and the feed dog won't move even move the backstitch bar ① up or down. (Fig.56)

- a. 取下底座上蓋板②。
- b. 將縫距調整鈕調到最大。
若為-12P規格，則將上調整鈕調到最大。

- a. Take off the cover plate of bed ②.
- b. Turn the stitch length adjusting button to the max. If it's model-12P, turn the upper adjustment knob to the max.

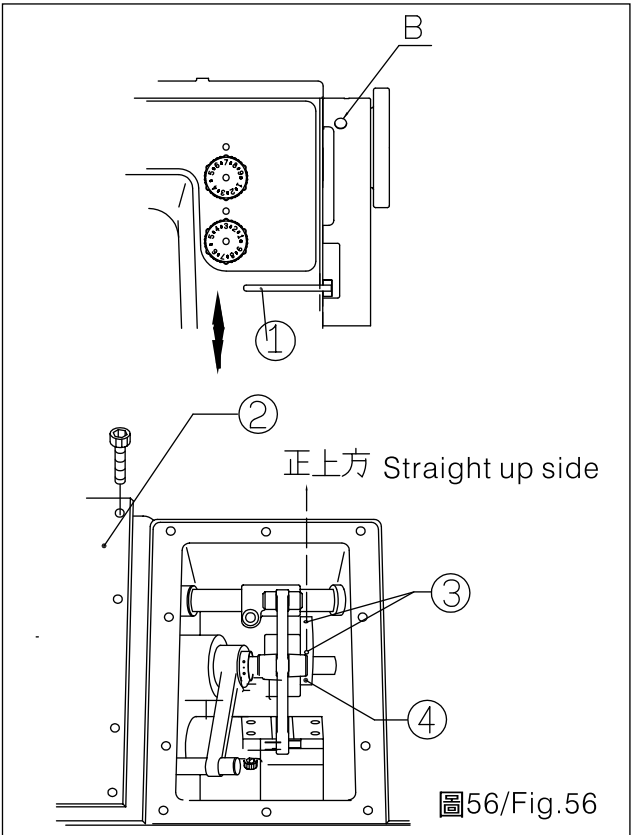
- c. 鬆開兩支螺絲③。
- d. 轉動縫紉機手輪，使皮帶蓋的視窗顯示B。
- e. 轉動下送凸輪④正前方的螺絲③。(手輪轉動的前方)暫時調向正上方。

- f. 慢慢轉動下送凸輪④，即使上下搖動倒縫桿①，針與送齒也不會動的位置。

- g. 鎖緊兩支螺絲③。

- 2. 上下送料方向
將縫距鈕調整到最小，使針棒最低點時，送齒①是在最上位置(針板②上方0.5 mm)，請作以下調整。(Fig.57)

- a. 鬆開兩支螺絲③。
- b. 轉動縫紉機手輪使針棒在最低點。
- c. 轉動下送凸輪④，上下調整凸輪的記號點⑤，調到上下送料連桿⑥寬度的中心線上。
- d. 鎖緊螺絲③。



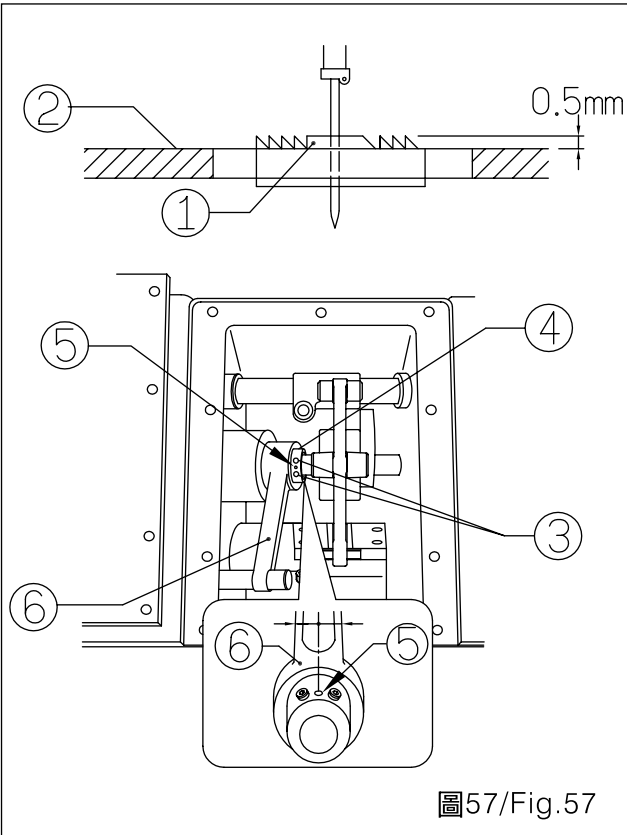
- c. Loosen two screws ③
- d. Turn the pulley to let “B” show on the window of belt cover.
- e. Turn the front screw ③ of bottom feed ④ (In front of the pulley) to adjust it to up direction temporally.

- f. Turn the bottom feed ④ slowly to the position where the needle and presser foot will not move even when moving the backstitch bar up or down.

- g. Lock two screws ③.

- 2. Top and bottom feed direction
Turn the stitch length adjustment knob to smallest to make the needle bar at the lowest point and presser foot ① at the highest point (0.5 mm above the needle plate ②). Please adjust as the following steps.(Fig.57)

- a. Loosen two screws ③.
- b. Turn pulley to make the needle bar at the lowest point.
- c. Turn the bottom feed ④ and adjust the mark ⑤ of the wheel to be in the center line of width of the top and bottom feed rod ⑥.
- d. Lock the screw ③



梭叉的位置調整

ADJUSTMENT OF HOOK TOP POSITION

當梭叉①在最靠近內旋梭②時，針板③與內旋梭止動片④之間隙為0.5~0.7mm。(線通過的間隙)。(圖58)

When the hook top ① is close to the inner hook ②, the interspace from needle plate to inner hook stopper ④ is 0.5~0.7mm (The space for thread through) (Fig.58)

- 1. 轉動縫紉機手輪，梭叉①向a方向打開，鬆開螺絲⑤。
- 2. 轉動縫紉機手輪，梭叉①向b方向關閉，鬆開螺絲⑥。
- 3. 轉動縫紉機手輪，讓梭叉①最靠近內旋梭②。
- 4. 用手指將梭叉靠上內旋梭②，使針板③與內旋梭②的止動片④之間隙為0.5~0.7mm。
- 5. 鎖緊螺絲⑥。
- 6. 轉動縫紉機手輪，梭叉①向a方向打開，鎖緊螺絲⑤。

- 1. Turn the pulley, and hook top ① will open to the direction "a", and then loosen screw ⑤.
- 2. Turn the pulley, and hook top ① will close to the direction "b". Loosen screw ⑥.
- 3. Turn the pulley to make the hook top ① reach the closet point to inner hook ②.
- 4. Use finger to put the hook top close to inner hook ② to make the space between needle plate ③ and inner hook stopper ④ become 0.5~0.7 mm.
- 5. Tighten screw ⑥.
- 6. Turn the pulley to open the hook top toward the direction "a", and then lock screw ⑤.

注意：梭叉①的動作量，梭叉①開向a方向時，梭叉①的前端至底座內側的距離約9.4mm。

Note: The movement of hook top ①. When the hook top ① open to direction "a", the distance is about 9.4mm between its top and inside of bottom.

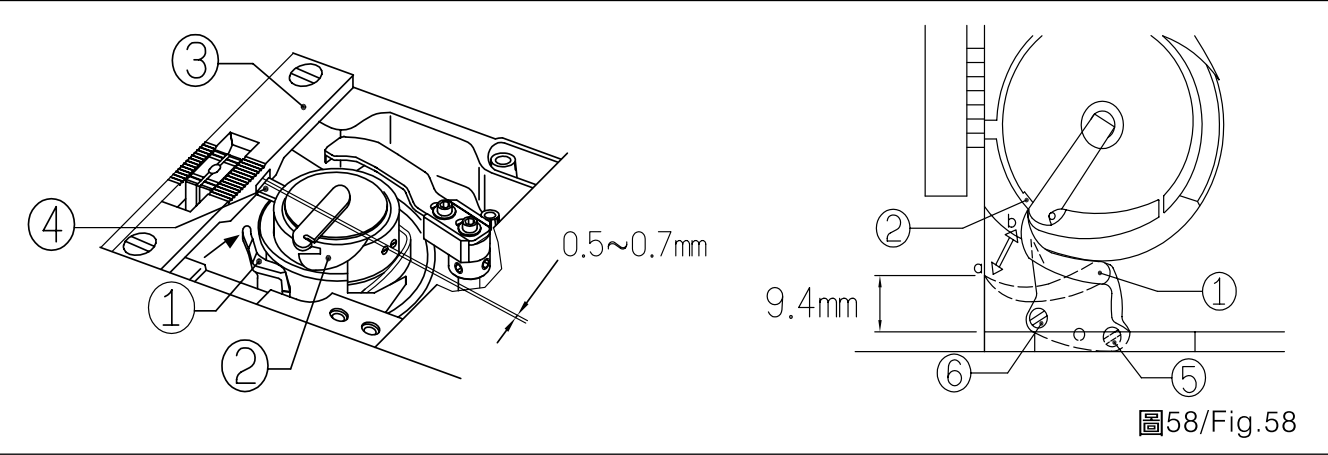


圖58/Fig.58

押具高度調整

ADJUSTMENT OF PRESSER FOOT HEIGHT

拉下把手①將押具向上提昇，外押具②的上升量以9mm為標準。(圖59)

Use upper presser bar ① to rise the presser foot. The standard rising height of outside presser foot ② is 9 mm. (Fig.59)

- 1. 取下前蓋。

- 1. Take off front cover.

- 2. 鬆開押具調整鈕③，使押具沒有壓力。
- 3. 取下前蓋④。
- 4. 將把手下壓，鬆開螺絲⑤。
- 5. 上下移動押具軸⑥，將外押具②的高度調整為9mm。

- 2. Loosen the presser foot adjusting knob ③ to make no pressure on presser foot.
- 3. Take off the front cover ④.
- 4. Push the handle and loosen screw ⑤.
- 5. Move the presser bar ⑥ up and down to adjust the height of the outside presser foot to 9mm.

- 6. 在押具軸連桿⑦的缺口部(C)靠上止動梢⑧(如圖)的狀態下，且無間隙時，邊壓上把手心軸⑨邊鎖緊螺絲⑤。

- 6. Under the status that the indent (C) of the presser foot shaft connection ⑦ is onto the stop pin ⑧ (as the fig) without any space, press upper handle shaft ⑨ and lock screw ⑤ at the same time .

注意：如圖，在把手凸塊A⑩與把手凸塊B⑪咬和無間隙的狀態下，將螺絲⑤鎖緊。

NOTE: Lock the screw ⑤ when the block of upper lever A ⑩ and the block of upper lever B ⑪ are contacted completely.

- 7. 用押具調整鈕③來調整押具壓力。

- 7. Use presser foot adjusting knob ③ to adjust the pressure of presser foot.

- 8. 裝上前蓋。

- 8. Install the front cover.

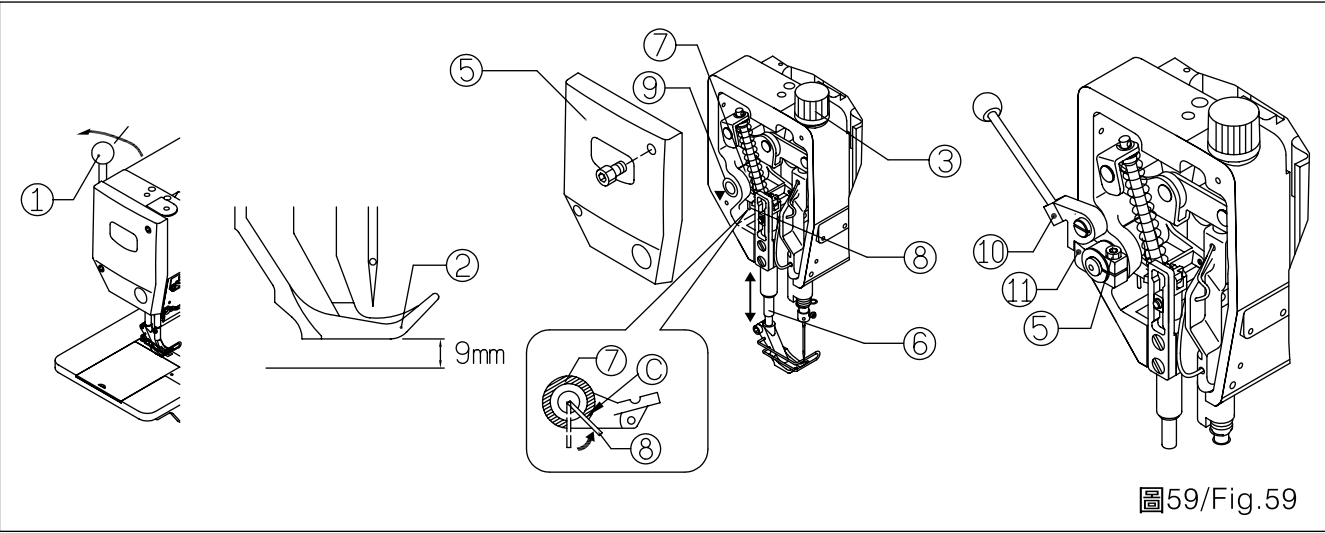


圖59/Fig.59

押具交互運動量的調整

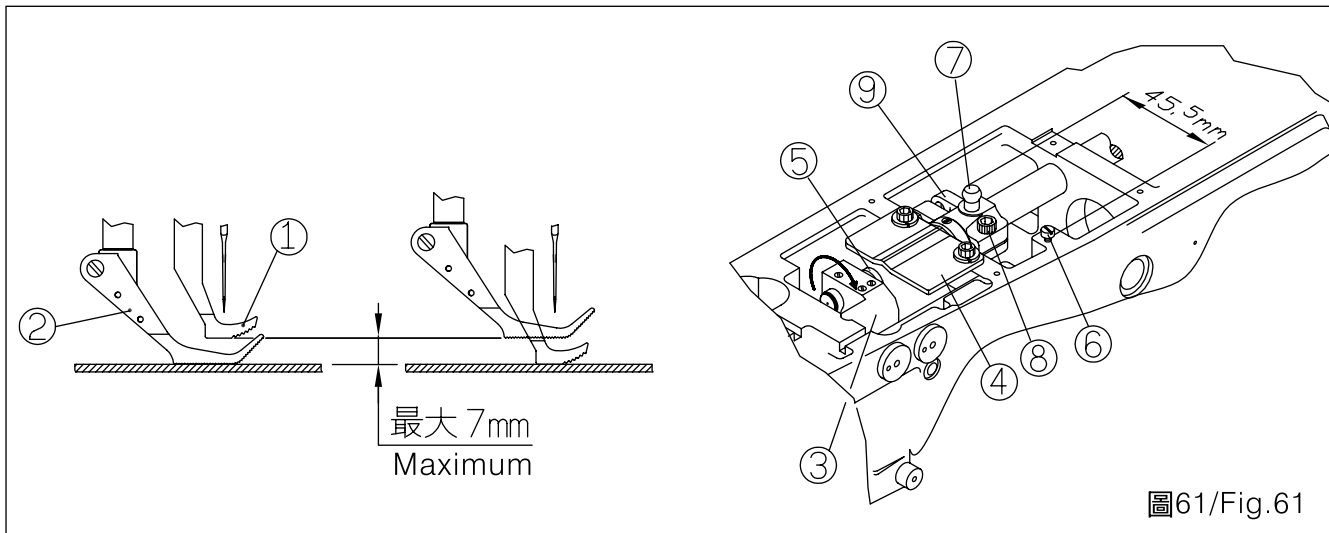
ADJUSTMENT OF PRESSER FOOT MOVEMENT

- 1. 押具的最大交互運動量
為了要使中押具①與外押具②的最大交互運動量為7mm，可做下列調整。(圖60)

- 1. The max movement of presser foot.
For keeping the max movement of middle presser foot ① and outside presser foot in 7mm, please do the following adjustments. (Fig.60)

- a. 取下上蓋板
- b. 抬起上下量調整台③，讓止動平板④碰到上下量調整台軸環⑤。

- a. Take off the upper cover plate.
- b. Rise the up and down adjustment platform ③ to make stop plate ④ contact with the up and down adjusting ring ⑤.



c · 此時，為了要使螺絲⑥的外緣到圓梢⑦的外緣距離達到45.5mm，則鬆開螺絲⑧，轉動連桿⑨來調整，再鎖緊螺絲⑧。

注意：安裝上蓋板時，交互運動量調整鈕請轉在「1」的位置。

2 · 中押具與外押具的運動量
放下押具轉動縫紉機時，為了要使中押具①與外押具②的運動量均等，可作下列的調整。(圖61)

a · 開始時，依「送齒的高度」、「針棒的高度調整」、「針與送具的時位」做調整。

b · 將縫距調整鈕調到最大。

c · 取下上蓋板的橡皮塞③。(圖62)

c · Loosen screw ⑧ and turn the connecting rod ⑨ to make the distance between screw ⑥ and connecting round pin ⑦ become 45.5 mm, and then lock screw ⑧.

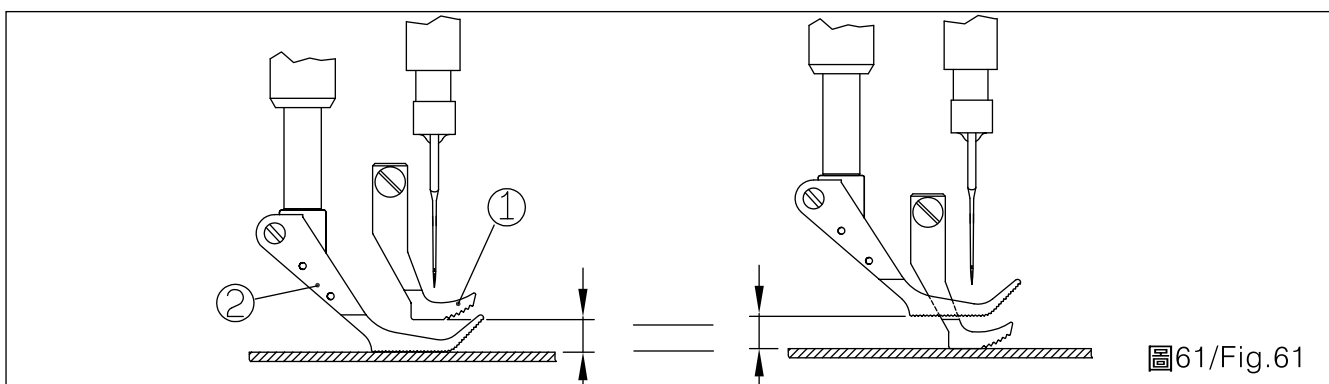
NOTE : Please be sure that the movement adjustment knob is at "1" when you install upper cover plate.

2 · The movement of middle presser foot and outside presser foot.
To equal the movement of the middle presser foot ① and the outside presser foot ② when placing down the sewing machine (Fig.61)

a · At the beginning, adjust by "the height of feed dog", "height of needle bar" and "the timing of needle and feed dog".

b · Turn the stitch length adjusting knob to the max.

c · Take off the rubber ③ of upper cover plate. (Fig.62)



d · 將交互運動量調整鈕④調到「3」。

e · 鬆開螺絲⑤。

f · 轉動縫紉機手輪，使針板面⑥，針尖，送齒⑦三者在一線。

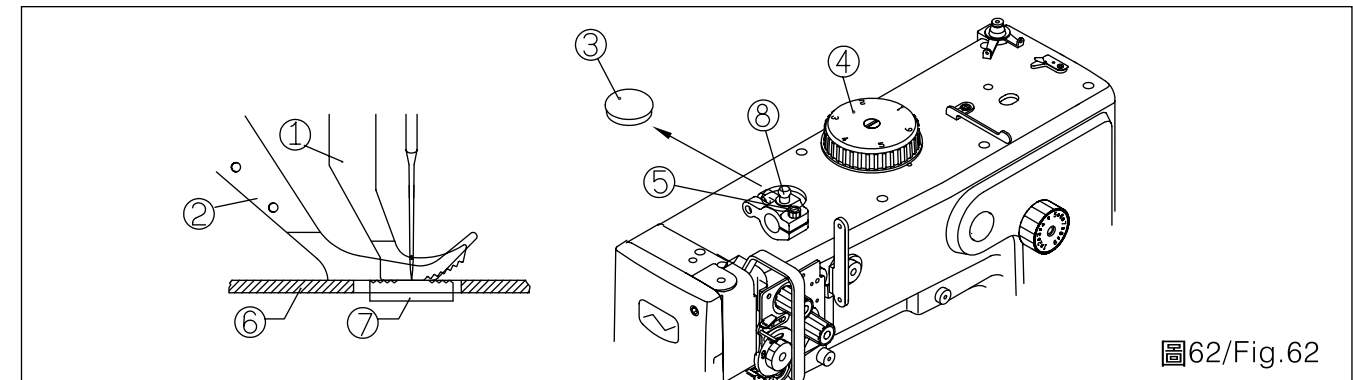
g · 此時，轉動曲柄⑧的位置，使中押具①與外押具②底部都碰到針板⑥的上面，再鎖緊螺絲⑤。(即五者都在一線上。)

d · Turn the alternant movement adjusting button to "3".

e · Loosen screw ⑤.

f · Turn pulley to align the top of needle plate ⑥, needle tip and feed dog ⑦.

g · Turn the crank ⑧ to make middle presser foot ① and outside presser foot touch the top of needle plate ⑥ (That means to align these five items in a line). Then lock screw ⑤



押具的時位

押具下壓，將手輪朝正前方轉動時，當針尖到達送料齒之前，中押具會先接觸到送料齒。而針向上時，正常的狀況是針尖會先離開送料齒，然後中押具再離開。(圖63)

1 · 取下上蓋板。

2 · 鬆開兩支螺絲①

3 · 轉動縫紉機手輪，皮帶蓋②的視窗出現C。

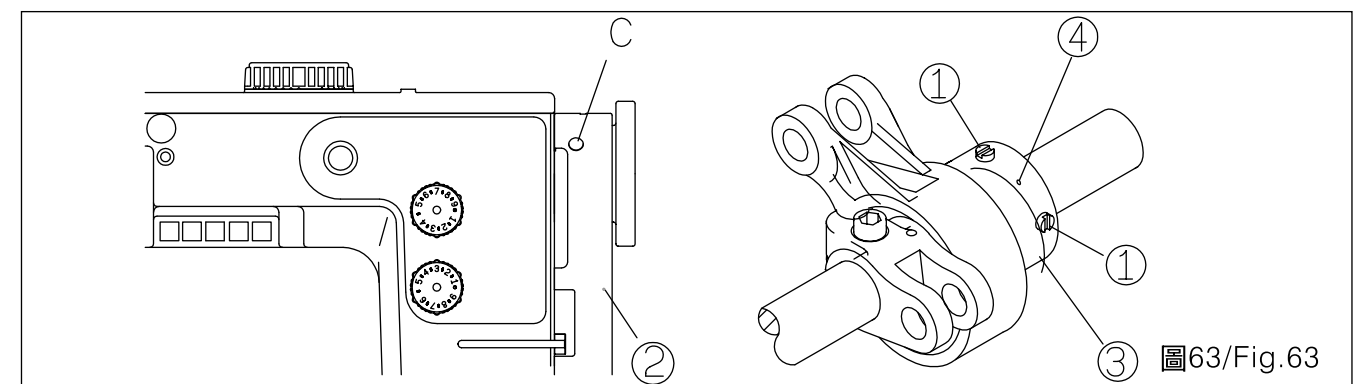
TIMING POSITION OF PRESSER FOOT

While the presser foot presses down and makes the pulley moving forward, the middle presser foot will contact the feed dog right before the needle tip reach the feed dog. The regular situation is when the needle moves up, the needle tip will leave feed dog and then middle presser foot leaves. (Fig.63)

1 · Remove the cover.

2 · Loosen 2 screws ①

3 · Rotate pulley, mark "C" will appear on the window of belt cover ②



4・轉動中押具上下凸輪③，將中押具上下凸輪的記號點④調在正上方的位置。

5・鎖緊螺絲①。

注意：安裝上蓋板時，請將交互運動量調整鈕調在「1」之位置。

4・Rotate middle presser foot cam ③, adjust the mark ④ on the cam to the upright position.

5・Lock screw ①

NOTE：Adjust the alternant movement adjusting knob to “1” when installing the upper cover.

切線調整 (-12P機型)

1・固定刀位置的調整

從針板後緣的位置到固定刀①刀刃的前端之距離為26mm，針板側邊面到固定刀①刀刃前方的左邊面之距離為4 mm。(圖64)

a・鬆開兩支螺絲②。

b・調整固定刀的位置再緊鎖螺絲②。

2・刀口切線位置的調整

・固定刀①的位置調整後，再調整切線的位置(圖65)。

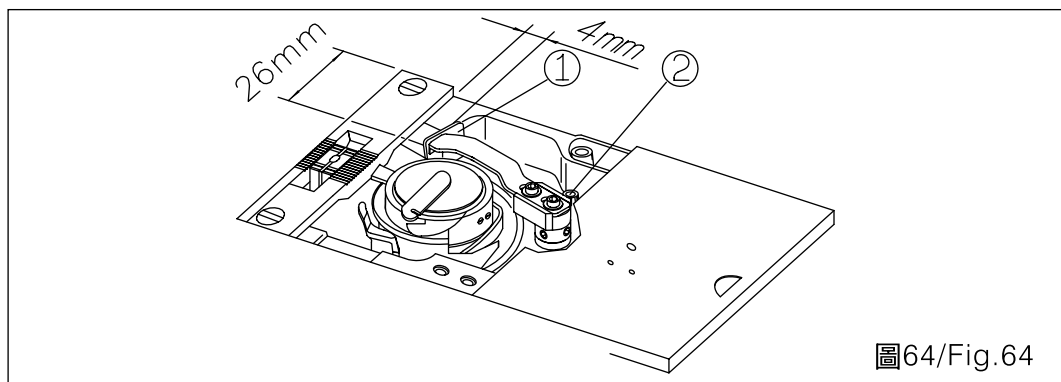
・在活動刀②的前端5.5mm的位置將其調整成使活動刀開始接觸固定刀①。

a・轉動縫紉機手輪，使皮帶蓋的視窗顯示D(為了要使活動刀可以手動)。

b・鬆開兩支螺絲③。

c・左右移活動刀②來調整位置，再鎖緊螺絲③。

3・活動刀高度調整



1・Adjustment of the fixed knife position

The distance from back edge of needle plate to front point of fixed knife is 26 mm, as well as the distance is 4 mm from the side edge of needle plate to left side of fixed knife front part. (Fig.64)

a・Loosen 2 screws ②.

b・Adjust the position of fixed knife and lock the screws ②.

2・Thread trimming adjustment

・Adjust the position of fixed knife ① first, and then adjust the position of thread trimming. (Fig.65)

・Adjust the movable knife ② to contact with the fixed knife ① at 5.5mm from the tip of the movable knife ②

a・Rotate the pulley and mark “D” will appear on the window of belt cover (in order to make the movable knife can be operated manually)

b・Loosen 2 screws ③

c・Move the movable knife right and left to adjust to the correct position and then lock screw ③

3・The adjustment for the height of movable knife.

TRIMMING (MODEL -12P)

活動刀①的刀尖下端與內旋梭②的低面之間隙為0.3~0.4mm。(Fig. 66)

a・轉動縫紉機手輪，使皮帶蓋的視窗顯示D(為了使活動刀①可以手動)。

b・鬆開兩支螺絲③。

c・將縫紉機倒置。

d・鬆開兩支螺絲④，⑤及⑥。

e・上下移動活動刀軸⑦來調整活動刀的位置。

f・用軸環⑧與⑨夾住旋梭座⑩，鎖緊螺絲③與④，固定活動刀軸。

注意：此時請輕輕轉動以確認驅動刀軸不會上下晃動。

g・暫時鎖上螺絲⑤與⑥。此後，再進行「活動刀停止位置調整」及「活動刀動作調整」。

The interspace between the tip of movable knife ① and the lower surface of the hook ② is 0.3~ 0.4mm. (Fig.66)

a・Rotate pulley to let mark “D” appear on the window of belt cover (in order to make the movable knife can be operated manually).

b・Loosen 2 screws ③.

c・Tilt the sewing machine.

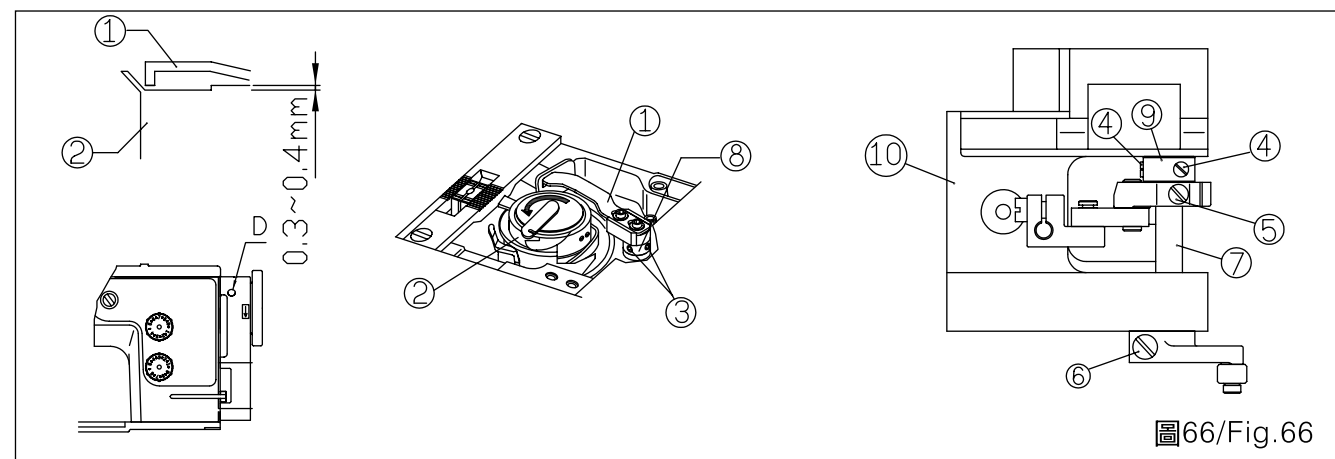
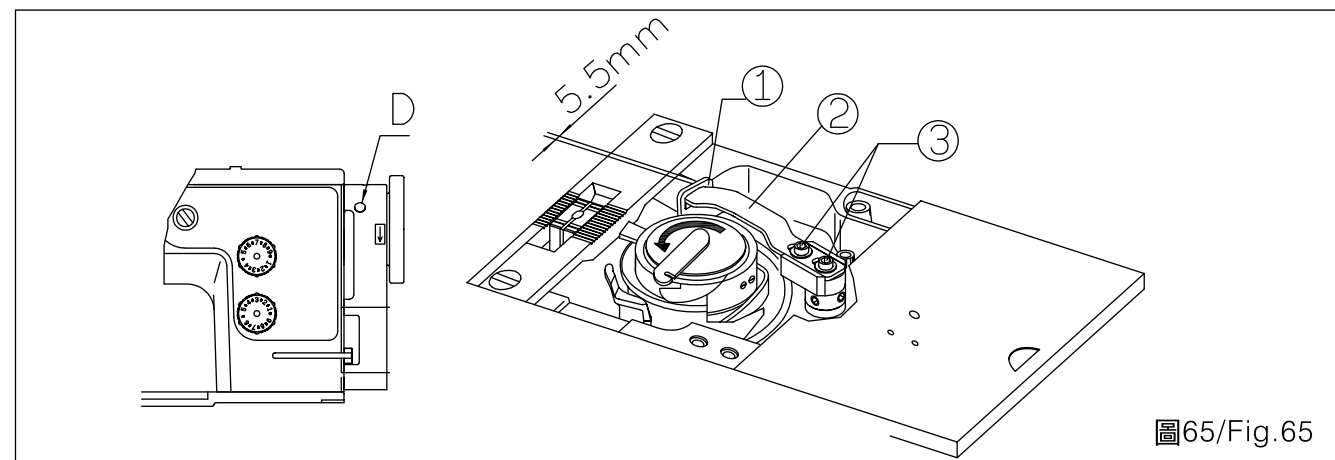
d・Loosen the screws, ④*2, ⑤ & ⑥.

e・Adjust the movable knife position by moving knife shaft ⑦ up and down.

f・Using rings ⑧ & ⑨ to clamp the hook holder ⑩, and lock screw ③ & ④ to fix movable knife shaft.

NOTE：Rotate it lightly to make sure the knife shaft will not shake.

g・Lock screws ⑤ & ⑥ temporarily, and then proceed “the stop position adjustment of movable knife” and “movable knife operation adjustment”.



4・活動刀停止位置調整

當活動刀①移動至固定刀②最側邊位置時，固定刀的刀尖到活動刀的前端之距離為0.5mm。(圖67)

- a・將縫紉機倒置。
- b・轉動縫紉機手輪，將活動刀曲柄③上滾輪④往切線凸輪⑤的最外側(右側)靠。
- c・鬆開螺絲⑥。
- d・移動活動刀，使固定刀的前端到活動刀的前端之距離為0.5mm，再鎖上螺絲⑥。

注意：鎖緊螺絲⑥，使活動刀曲柄③與旋梭座⑦貼緊。

5・活動刀作動位置調整

- 活動刀曲柄①左側面到切線電磁線圈推桿②螺絲前端之標準距離為2 mm。(圖68)

- 切線凸輪③外緣的最高側(右側)與活動刀曲柄滾輪④之間隙為0.1mm。

- a・將縫紉機倒置。

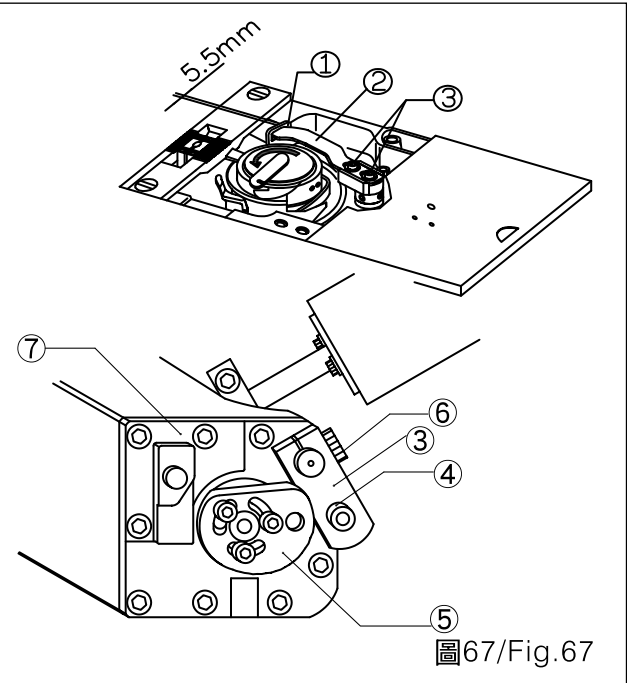


圖67/ Fig.67

4・The stop position adjustment of movable knife.

The distance between fixed knife ② tip and movable knife ① is 0.5 mm when movable knife ② moves to the side of fixed knife ①. (Fig.67)

- a・Tilt down the sewing machine.
- b・Turn the pulley, move the roller ④ of movable knife crank ③ to the right side of trimming cam ⑤.
- c・Loosen screw ⑥
- d・Adjust movable knife to make the distance from the tip of fixed knife to movable knife become 0.5 mm, and then lock screw ⑥.

NOTE：Lock the screw ⑥ tightly to make the movable knife crank ③ and hook holder contact ⑦ with each other completely.

5・Movable knife operation adjustment

- The standard distance from the left side of the movable knife crank ① to the tip of the screw of trimming solenoid lever ② is 2 mm. (Fig.68)

- The distance from thread trimming cam ③ (right side) to the roller of movable knife crank ④ is 0.1 mm.

- a・Tilt the sewing machine.

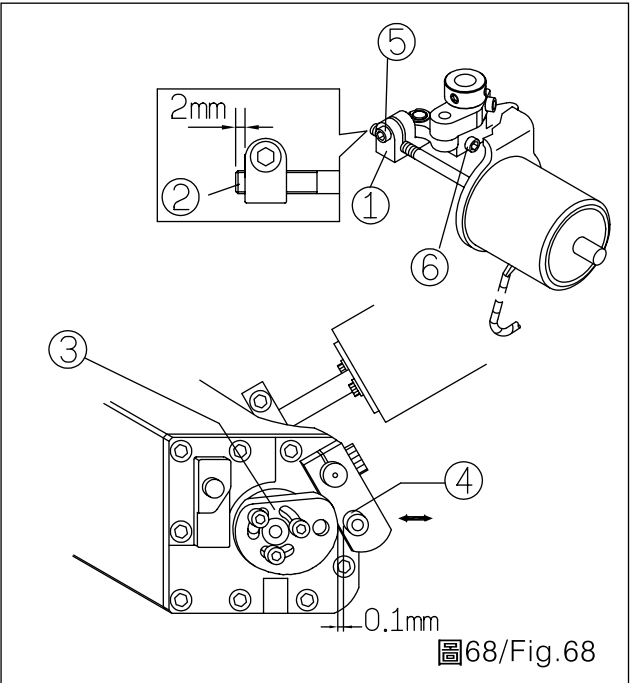


圖68/ Fig.68

- b・鬆開螺絲⑤。

- C・轉動切線電磁線圈推桿②，使活動刀曲柄①左側面到推桿②螺絲前端的距離為2mm，鎖緊螺絲⑤。

- d・鬆開螺絲⑥。

- e・將推桿②推到最左邊的位置。

- F・轉動縫紉機手輪，移動滾輪④，使切線凸輪③外圍的最外側(右側)與滾輪④的間隙為0.1mm，再鎖緊螺絲⑥

6・夾持彈簧的位置調整

- 梭線夾持彈簧①是為了在切線後，要夾持梭線以備下次的縫製準備(圖69)

- 梭線夾持彈簧①與固定刀②側面的間隙為1.4~1.6mm。

- a・鬆開兩支螺絲③。

- b・移動梭線夾持彈簧以調整位置，再鎖緊螺絲③。

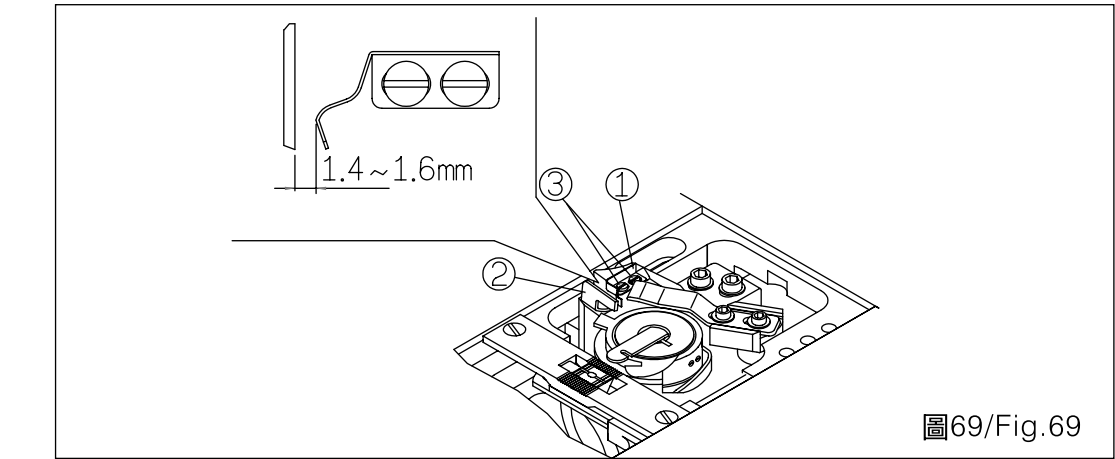


圖69/ Fig.69

7・切線的時位調整

轉動縫紉機手輪，使皮帶蓋的視窗顯示C時，梭叉基座軸①中心，凸輪上基準孔②中心及活動刀曲柄滾輪③中心成為一直線。(圖70)

- a・轉動縫紉機手輪，使皮帶蓋的視窗顯示C。

- b・將縫紉機倒置。

- b・Loosen screw ⑤

- c・Rotate trimming solenoid lever ② to make the distance from left side of movable knife crank ① to the screw of the lever ② is 2 mm, and then lock the screw ⑤.

- d・Loosen screw ⑥.

- e・Push the lever ② to left dead point.

- f・Rotate the pulley to move the roller ④ in order to have the the outer line of the thread trimming cam ③ close to the roller ④ in the distance less than 0.1mm, and then lock the screw ⑥.

6・Adjustment of holding spring position

- Lower thread holding spring ① is used to hold the lower thread for next work after trimming. (Fig.69)

- The interspace from lower thread holding spring ① and the side of the fixed knife ② is 1.4~1.6 mm.

- a・Loosen 2 screws ③

- b・Adjust the position of lower thread holding spring and lock the screw ③.

7・Timing adjustment of trimming

When rotate pulley to make the mark C appear on the window of belt cover, the centers of hook top base shaft ① and cam standard hole ② and the roller of movable knife crank ③ will align into a line. (Fig.70)

- a・Rotate pulley to have the mark C appear on the window of belt cover.

- b・Tilt down the sewing machine.

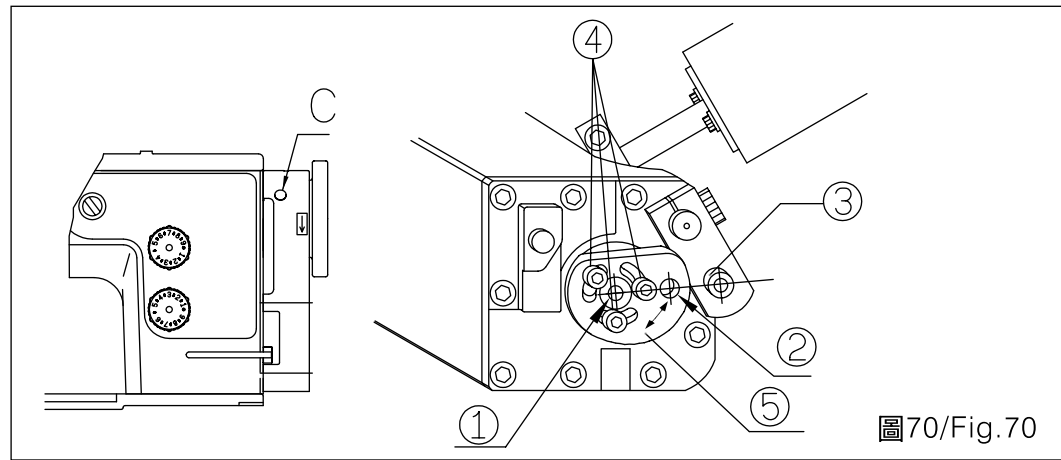


圖70/Fig.70

c · 鬆開三支螺絲④。

d · 轉動切線凸輪⑤，調整其位置使梭叉基座軸①中心凸輪上，基準孔②中心及活動刀曲柄滾輪③中心成為一直線。

e · 鎖緊螺絲④。

8 · 針線鬆緊度的調整
切線時，標準狀況是控制①旋鈕張開0.8~1.0mm之間隙。(圖71)

a · 取下上蓋板。

b · 放下押具。

c · 用手壓電磁線圈②，使其在「ON」的狀態。

d · 此時，鬆開螺絲③，轉動螺絲④將控制盤①調整成張開0.8~1.0mm之間隙。

e · 鎖緊螺絲③

注意：安裝上蓋板時，請將交互運動量調節盤轉在「1」之位置。

c · Loosen 3 screws ④.

d · Rotate the thread trimming cam ⑤ and adjust the center can of hook top base shaft ①, the center of the standard hole ② and the center of the roller of movable knife crank ③ aligning into a line.

e · Lock screw ④.

8 · Adjustment of thread tension. Standard condition is that dial ① of the knobs has an interspace to be opened 0.8~1.0 mm. (Fig.71)

a · Remove the cover.

b · Press down the presser foot.

c · Push the solenoid ② by one hand to keep it is under "ON" status.

d · In the mean time, loosen screw ③ and turn screw ④ to make the dial ① to have an interspace of 0.8~1.0 mm.

e · Lock screws (3).

NOTE : Adjust the interactive dial to "1" when installing the upper cover.

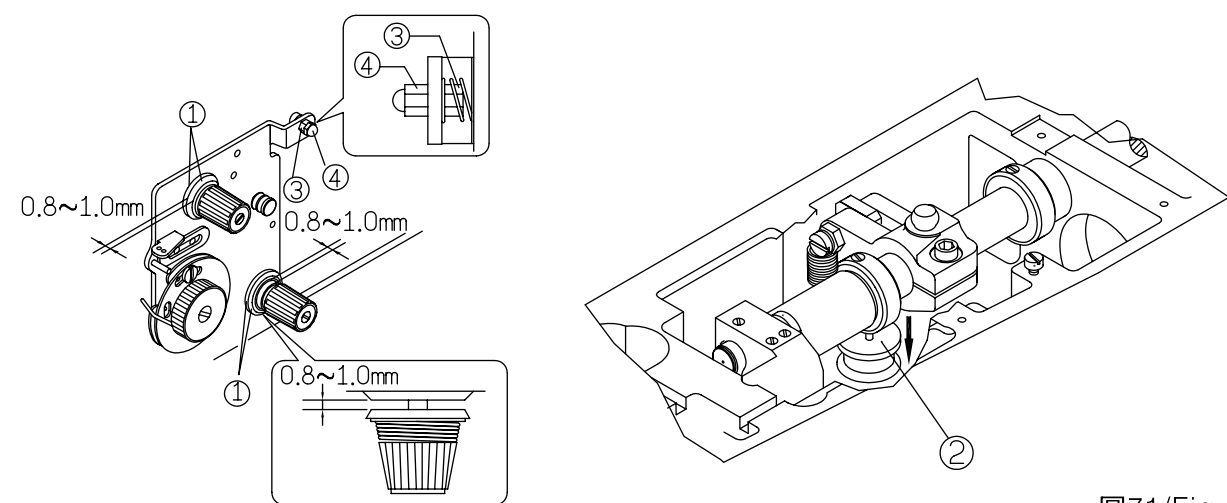


圖71/Fig.71

旋梭供油量的調整

調整旋梭的供油量時，請照下列順序進行。
注意：更換旋梭時，請務必要調整旋梭的油量。

1 · 供油量的確認

將供油量調整螺絲調整後，讓縫紉機運轉1分鐘，待供油安定之後再做供油量的確認。(圖72)

a · 用手拿著油量確認紙①插入旋梭的右側，讓縫紉機高速運轉10秒鐘(任何紙質的油量確認紙均可)。

b · 確認紙上的飛散油量。(約10秒鐘後確認旋梭飛散油量，如右圖示)

2 · 供油量的調整

a · 打開左滑板②。(圖73)

b · 轉動縫紉機手輪，再將旋梭轉動到油量調整螺絲③看得見的位置。

c · 將油量調整螺絲③轉動約45度調整供油量。

注意：油量調整螺絲向右轉則油量變少，向左轉則變多。

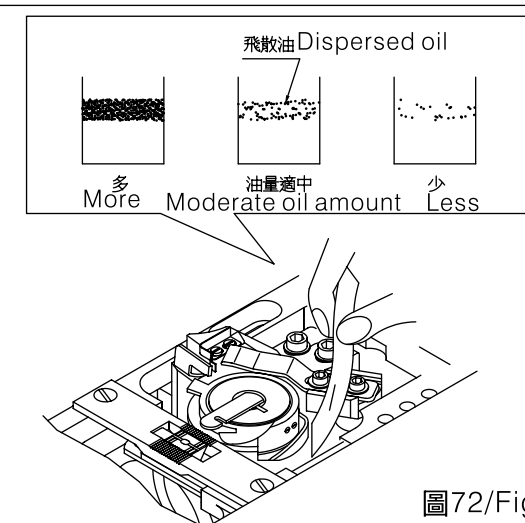


圖72/Fig.72

ADJUSTMENT OF HOOK OIL AMOUNT

Please adjust the hook oil amount as following steps.

NOTE : It is necessary to adjust the hook oil amount when changing the hook.

1 · Confirmation of oil amount

Turn the screw to adjust the oil amount, and then, check the oil amount after running the machine for one minute. (Fig.72)

a · Insert an oil amount testing paper ① to the right side of the hook and have the machine running for 10 seconds. (any kind of oil amount testing paper is available)

b · Confirm the oil spots on the paper (confirm the splatters from hook on the testing paper after 10 seconds, see examples on Fig. 72.)

2 · Adjustment of oil amount

a · Open the left slide plate ②. (Fig.73)

b · Turn the pulley until the adjusting screw of the oil ③ amount is visible.

c · Turn the screw ③ around 45 degrees to adjust the oil amount.

NOTE : Turn the screw clockwise will reduce the oil amount and counter-clockwise will increase the oil amount.

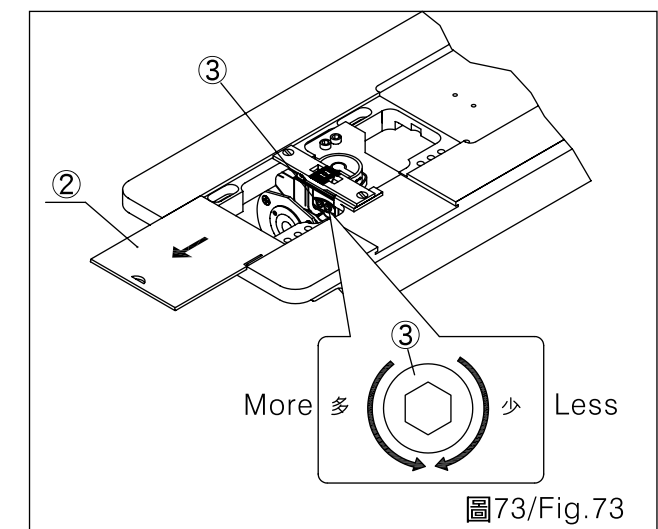


圖73/Fig.73

d・請參照上述「供油量的確認」以確認供油量。

注意：請以每次約45度的位置來調整油量調整螺絲③，重複的確認，直到恰當的供油量為止。

參考：轉動油量調整螺絲③時，在漸漸感覺沈重的位置，就是油量最少的位置。(此時請不要再繼續鎖緊)在此以最大1圈迴轉的範圍內調整。

d・Please refer to "Confirmation of oil amount"

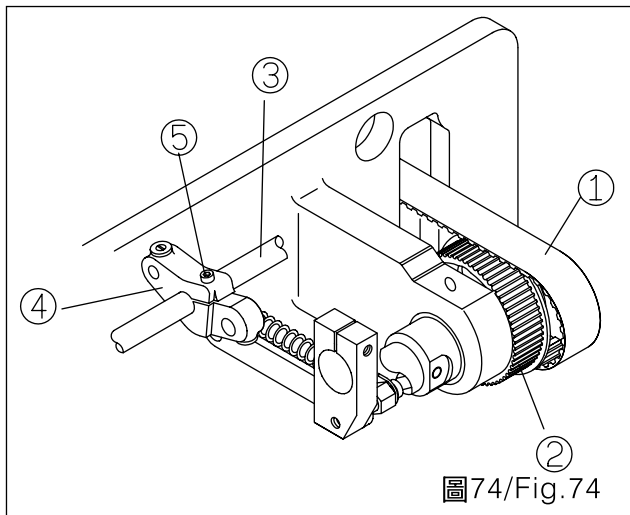
NOTE：Turn screws ③ around 45 degrees each time to adjust the oil amount until the hook get the proper oil amount.

Reference：The position of the least oil amount is feeling heavier and heavier when turning the oil adjusting screw ③. At this time, stop locking the screw and adjust it within the max range of 1 turn from now on.

時規皮帶的更換

時規皮帶拆換的方法(圖74)

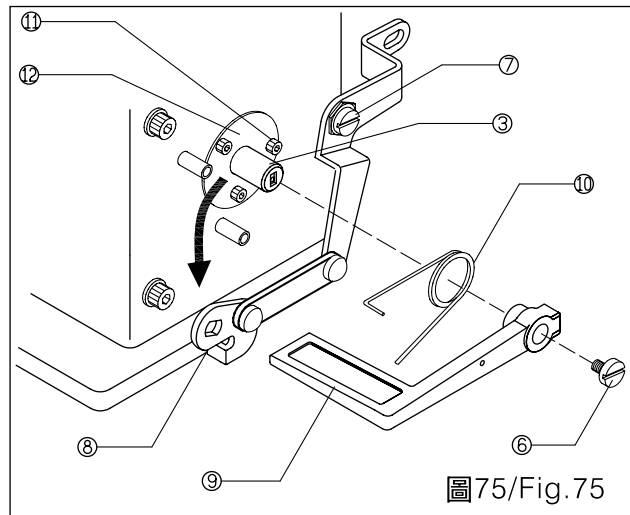
- 1・拆下皮帶蓋。(若為-12P機型規格，請將針位檢出器拆下)
 - 2・拆下上蓋板。
 - 3・將縫紉機倒置。
 - 4・將時規皮帶①從下皮帶輪②拆下。
 - 5・將送具調整曲柄④的螺絲⑤鬆開。
 - 6・拆下倒縫桿的固定螺絲⑥。(圖75)
 - 7・鬆開螺絲⑦半圈，將倒縫桿平板⑧從倒縫桿心軸③拆下。
- 注意：拆下倒縫桿平板⑧時，請不要過分用力。
- 8・取下倒縫桿⑨與彈簧⑩。
 - 9・取下三支螺絲⑪，拆下間座⑫。



CHANGING TIMING BELT

Method to replace the timing belt (Fig. 74)

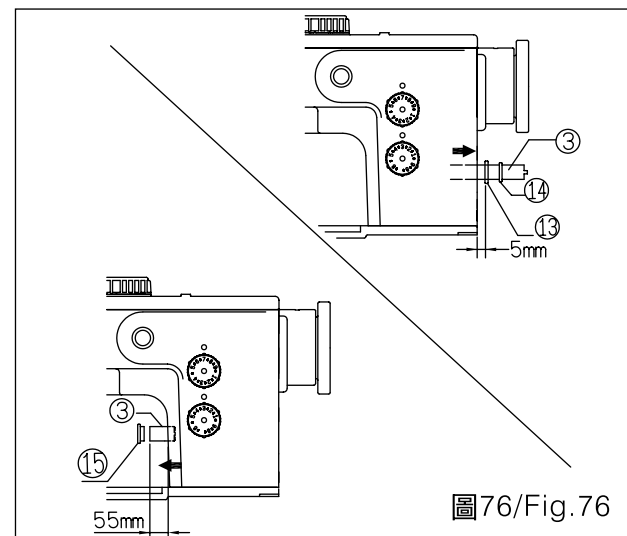
- 1・Remove the belt cover. (If the model is -12P, please remove the synchronizer)
 - 2・Remove the cover.
 - 3・Tilt the sewing machine.
 - 4・Remove the timing belt ① from lower pulley ②.
 - 5・Loosen the screw ⑤ of feed dog adjusting lever ④.
 - 6・Remove the screw ⑥ of the backstitch lever. (Fig.75)
 - 7・Loosen the screw ⑦ for a half turn and remove the plate of the backstitch lever ⑧ from shaft ③.
- NOTE：Don't use too much strength to remove the plate of the backstitch lever ⑧.
- 8・Remove backstitch lever ⑨ and spring ⑩.
 - 9・Remove 3 screws ⑪ and holder ⑫.



- 10・將倒縫桿③拉出到距E扣環⑬5mm的位置。(圖76)
- 11・將墊圈⑭及E扣環⑬從倒縫桿心軸③取下。
- 12・用鉗子將倒縫桿心軸③的前端平面部夾住，邊轉軸邊壓入上座內側(橡皮栓⑮會從上座脫落)。
- 13・將倒縫桿心軸③拉到上座外側55mm，以確保上座有間隙可使時規皮帶通過。

注意：若倒縫軸③拉出55mm以上，則上座內的零件會鬆脫，不易組合。

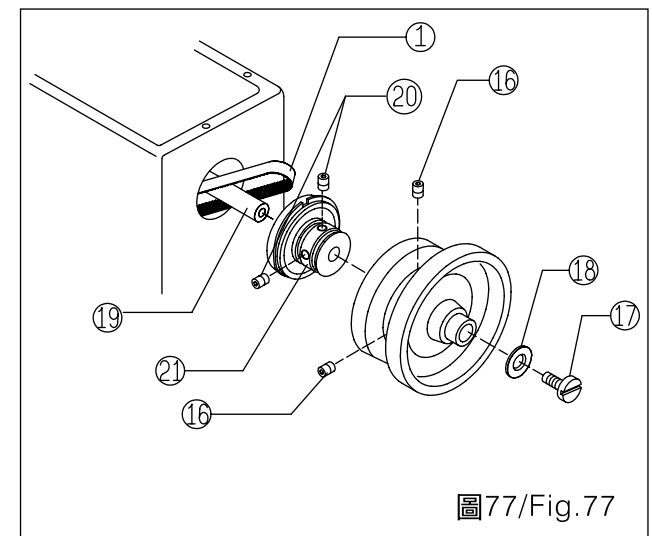
- 14・鬆開兩支螺絲⑯，取下螺絲⑰，墊片⑱，將手輪從上軸⑲拔出。(圖77)
- 15・鬆開兩支螺絲⑳，取下軸承㉑。
- 16・從上座的內孔中取下時規皮帶。



- 10・Bring the backstitch lever ③ to the distance 5mm from E-buckle ⑬. (Fig.76)
- 11・Remove the washer ⑭ and E-buckle ⑬ from backstitch lever shaft ③.
- 12・Turn and push the shaft ③ by using pliers to clamp it. (Rubber ⑮ will fall off from arm)
- 13・Move the backstitch shaft ③ to 55mm from upper holder to enable there is enough space for timing belt passing through.

Note：If the backstitch shaft ③ is pulled more than 55mm, some of the parts will fall off and not be easy to be assembled.

- 14・Loosen 2 screws ⑯ to remove screw ⑰ and washer ⑱, and then pull the pulley out from the shaft ⑲. (Fig.77)
- 15・Loosen 2 screws ⑳ to remove shaft ㉑.
- 16・Remove the timing belt from the hole of the upper holder.



時規皮帶的安裝方法

- 1・將新的時規皮帶從上座的內孔中放入，暫時掛在皮帶輪㉒上。(圖78)
- 注意：請不要彎曲或折到時規皮帶，否則會使時規皮帶內的玻璃纖維折斷。
- 2・將軸承㉑裝在上軸⑲，將軸承㉑押入上座的孔內，鎖緊螺絲⑳。

INSTALLATION OF TIMING BELT

- 1・Put the new timing belt through the hole of the upper holder, and hang it on pulley temporary ㉒. (Fig.78)
- NOTE：Please don't bend or fold the timing belt, otherwise, the glass fiber in it will be broken.
- 2・Install the bearing ㉑ on the shaft ⑲, and then, push the bearing ㉑ to the hole of upper holder; lock the screw ⑳.

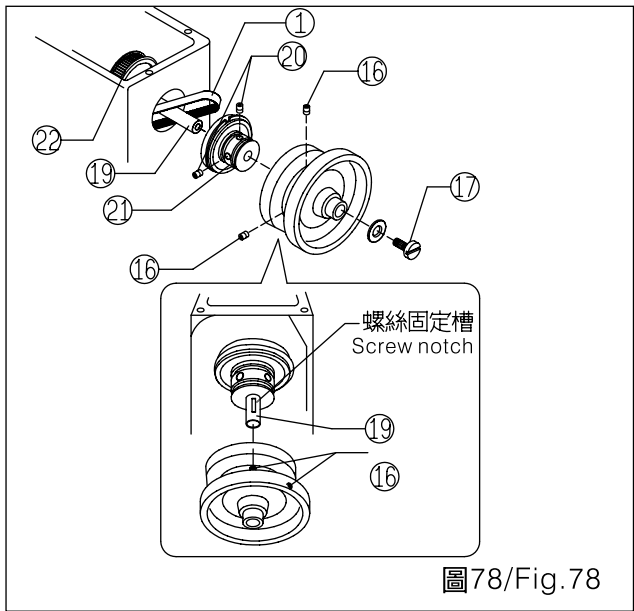


圖78/Fig.78

3. 將手輪裝在上軸 ①⑨，鎖緊螺絲 ①⑥及 ①⑦。

注意：將手輪安裝在回轉方向那一邊的第一個螺絲①⑥對準上軸 ①⑨的V型螺絲位置。

4. 縫距調整鈕轉在「2」。
5. 將倒縫桿心軸③放入時規皮帶①的齒輪中。(圖79)
6. 將倒縫桿心軸③從手輪側推出到距E扣環①③安裝溝5 mm的位置。

注意：倒縫軸③若推出超過5mm以上，則上座內的零件會脫落，組合困難。

7. 將E扣環①③裝在倒縫桿心軸③上。
8. 將倒縫桿心軸③全部壓入上座側，(讓E扣環①③碰到最裡面)。

9. 將墊片①④裝在倒縫桿心軸③上。
10. 將固定片①②裝在倒縫桿心軸③上，鎖緊螺絲①①。
11. 確認倒縫軸③是否輕輕轉動。

12. 如圖，將彈簧①⑩掛在倒縫桿⑨與下止動梢②③之間，將倒縫桿⑨插入倒縫桿心軸③。(圖80)

13. 將倒縫桿的平板⑧裝在倒縫心軸③，鎖緊倒縫桿固定壓螺絲⑥。

14. 鎖緊螺絲⑦

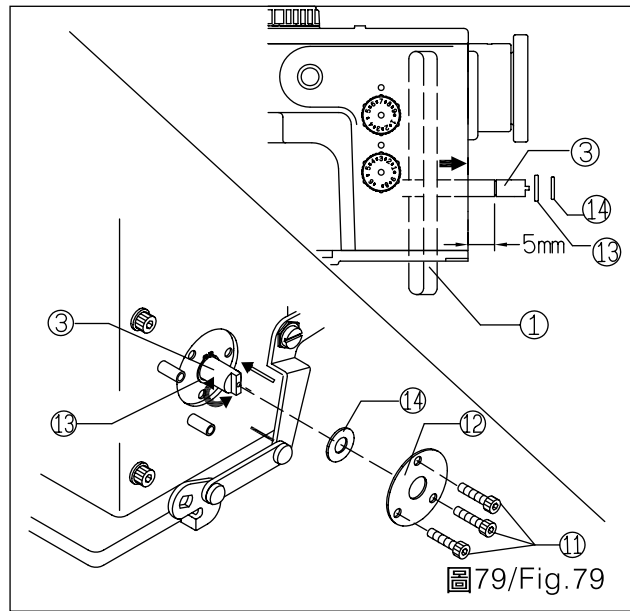


圖79/Fig.79

3. Install the hand wheel to the shaft ①⑨ and lock the screw ①⑥ & ①⑦.

NOTE: Make the screw ①⑥ face to the v-type screw on the shaft ①⑨.

4. Turn the stitch length dial to "2".
5. Install the backstitch shaft ③ to the gears of timing belt ①. (Fig.79)
6. Push the backstitch shaft from the side of the pulley 5 mm to the installation gap of E-buckle ①③.

Note: If the backstitch shaft ③ is pulled more than 55 mm, some of the parts will fall off and are not easy to be assembled.

7. Install the E-buckle ①③ onto backstitch shaft ③.
8. Push the backstitch shaft ③ into the machine and make the E-buckle ①③ contact with the inner end.
9. Install the washer ①④ to backstitch shaft ③.
10. Install the fixed plate ①② on the backstitch shaft ③ and lock the screw ①①.
11. Check the backstitch shaft ③ if turning lightly.
12. As the figure, hang the spring ①⑩ between the backstitch lever ⑨ and lower stop pin ②③, and insert the backstitch lever ⑨ to backstitch shaft ③. (Fig. 80)
13. Install the plate of backstitch lever ⑧ to backstitch shaft ③, and lock the screw ⑥ of the backstitch lever.
14. Lock screw ⑦

15. 將縫距調整鈕調到最小。(圖81)

16. 將縫紉機倒置。

17. 將倒縫桿⑨與上止動梢②④之間的距離調到9.3mm，壓下連結板②⑤，使倒縫桿的平板⑧接觸到倒縫桿⑨。

18. 將縫距調整鈕調到最大。

19. 壓倒縫桿⑨確認是否有輕輕動作。

注意：若轉動的很沈重時，則當步驟17完成後需再經過以下調整。

- a. 將縫距調整鈕調到最小。
b. 將縫紉機倒置。
c. 鬆開螺絲⑤，調整送料曲柄④的左右位置。
d. 重複步驟17~19的操作。
20. 將橡皮塞①⑤裝在上座的內孔中(圖82)
21. 轉動縫紉機手輪，將天秤轉在最高點。

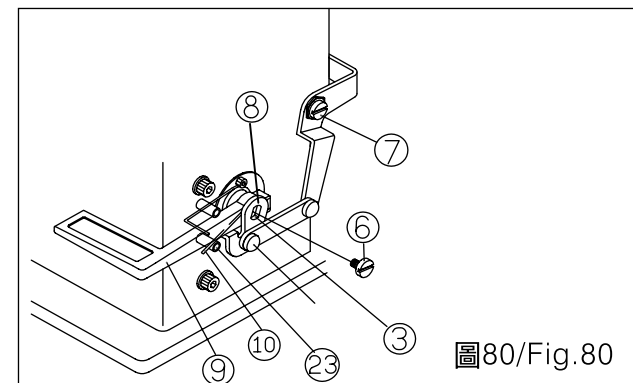


圖80/Fig.80

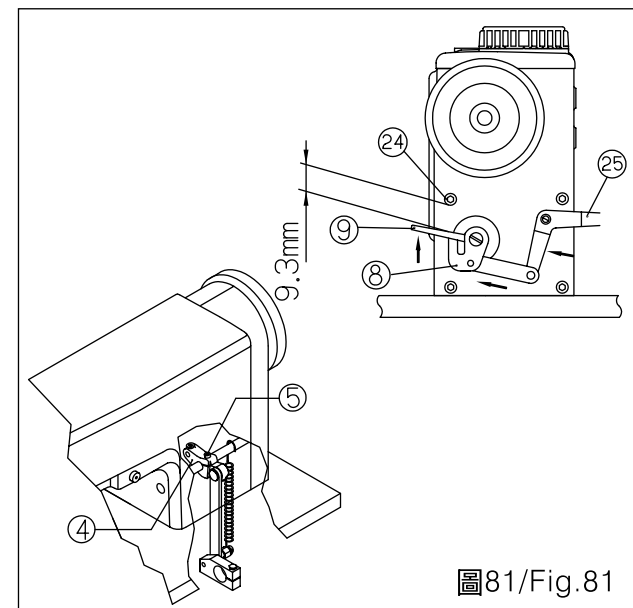


圖81/Fig.81

15. Adjust the dial of stitch length to min. (Fig.81)

16. Tilt the sewing machine.

17. Adjust the distance between the backstitch lever ⑨ and upper stop pin ②④ to 9.3mm. Press down the connecting plate ②⑤ and make the backstitch lever plate ⑧ to touch the backstitch lever ⑨.

18. Adjust the stitch length dial to max.

19. Press the backstitch lever ⑨ and check whether having slight movement or not.

NOTE: If the rotation is very heavy, please do the following adjustment after finishing step 17.

- a. Adjust the stitch length dial to min.
b. Tilt the sewing machine.
c. Loosen screw ⑤ and adjust the feeding rod position ④ right or left.
d. Repeat the step of 17~19.
20. Input the rubber plug ①⑤ to the hole of upper holder. (Fig.82)
21. Rotate the hand pulley and make the thread take-up to the highest point.

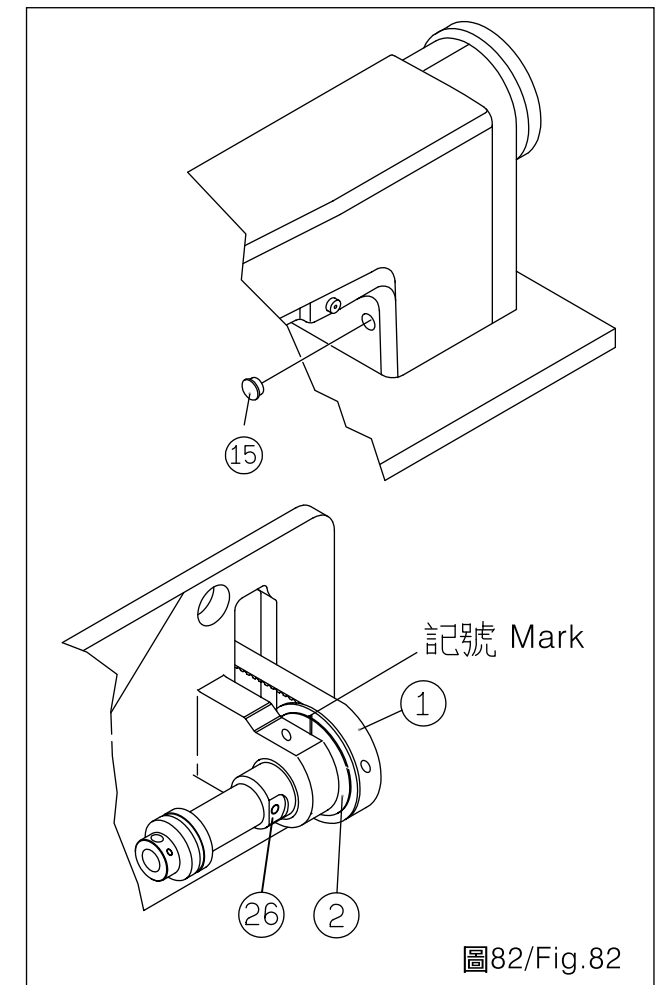


圖82/Fig.82

- 22. 轉動下皮帶輪②，使下皮帶輪②左側面的標記對準下軸襯套②6的油管安裝口的中心線。
- 23. 在這個位置上，將時規皮帶①掛在下皮帶輪②上。
- 24. 此時請試縫，確認前進與倒縫的縫距是否相同。

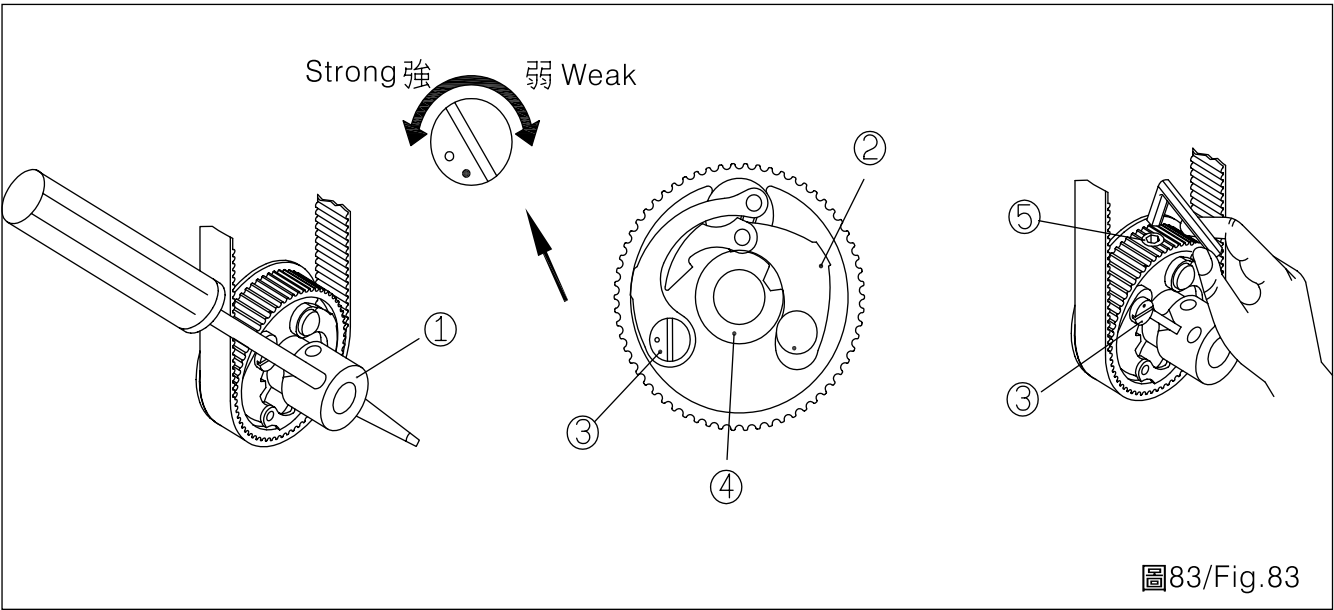
注意：若前進與倒縫縫的縫距不同，則表示步驟17倒縫桿⑨與上止動梢②4的距離非9.3mm，請從步驟15開始重新調整。

- 25. 交互運動量調整鈕調到「1」後，再安裝上蓋板。
- 26. 安裝上皮帶蓋。

- 22. Rotate lower pulley ② and make the mark on the left side of the pulley ② align to the central line of the oil tube installing hole of the lower shaft bushing ②6.
 - 23. At this time, install the timing belt ① to lower pulley ②.
 - 24. Please do sewing test to see if the stitch length of forward stitches and back stitches are the same or not.
- NOTE: If the stitch length of forward stitches and back stitches are different, this means that the distance between backstitch lever ⑨ and upper stop pin ②4 is not 9.3 mm (step 17). Please re-adjust from step 15.
- 25. Adjust the interactive movement dial to "1" before installing the upper cover.
 - 26. Install the belt cover.

安全裝置

SECURITY INSTRUMENT



安全裝置的設定方法(圖83)

- 1. 取出附著在旋梭上的線、雜物等。

注意：為了避免損傷到旋梭，請不要使用前端是尖的工具。

- 2. 將螺絲起子放入下皮帶軸環①，螺絲起子不要轉動，用手逆轉縫縫紉機手輪。

How to set the security instrument (Fig.83)

- 1. Clean the threads and dust which attached on the hook.

NOTE: To avoid scratching the hook please don't use sharp end tools.

- 2. Insert the screw driver into the pulley ① without turning it. Then turn the hand pulley in counterclockwise.

- 3. 再更用力的逆轉縫紉機手輪，則安全裝置會恢復正常。(請確認咬合板②是否確實在下皮帶軸環①的溝內。)

- 3. Turn the hand pulley in counterclockwise harder, and the security instrument will restore to the normal situation. (Please make sure if the connecting board ② is right in the groove of lower pulley ①).

安全裝置的咬合強度

CONNECTING STRENGTH OF SECURITY INSTRUMENT

當咬合板心軸③的記號左旋時變強，右旋時變弱，調整如下: (圖83)

The connecting strength of security instrument is getting weaker when the mark of connecting board main shaft ③ is turned clockwise but getting stronger when turning counterclockwise. (See Fig. 83)

- 1. 轉動縫紉機手輪到六角板手可放進去螺絲⑤的位置。
- 2. 檢驗螺絲⑤轉動咬合板心軸③來調整。
- 3. 調整後再鎖緊螺絲⑤。

- 1. Turn the hand pulley in order to make the hexagonal head wrench be able to put into the screw ⑤.
- 2. Loosen the screw ⑤ and adjust by turning the connecting board main shaft ③.
- 3. After adjusting, please lock the screw ⑤.

TABLE CUT-OUT

所有尺寸公差/DIFFERENCE:±2

