



SHING LING®
星菱牌工業用縫紉機
INDUSTRIAL SEWING MACHINE

TAIWAN
百分之百台灣製造
100% Made in Taiwan

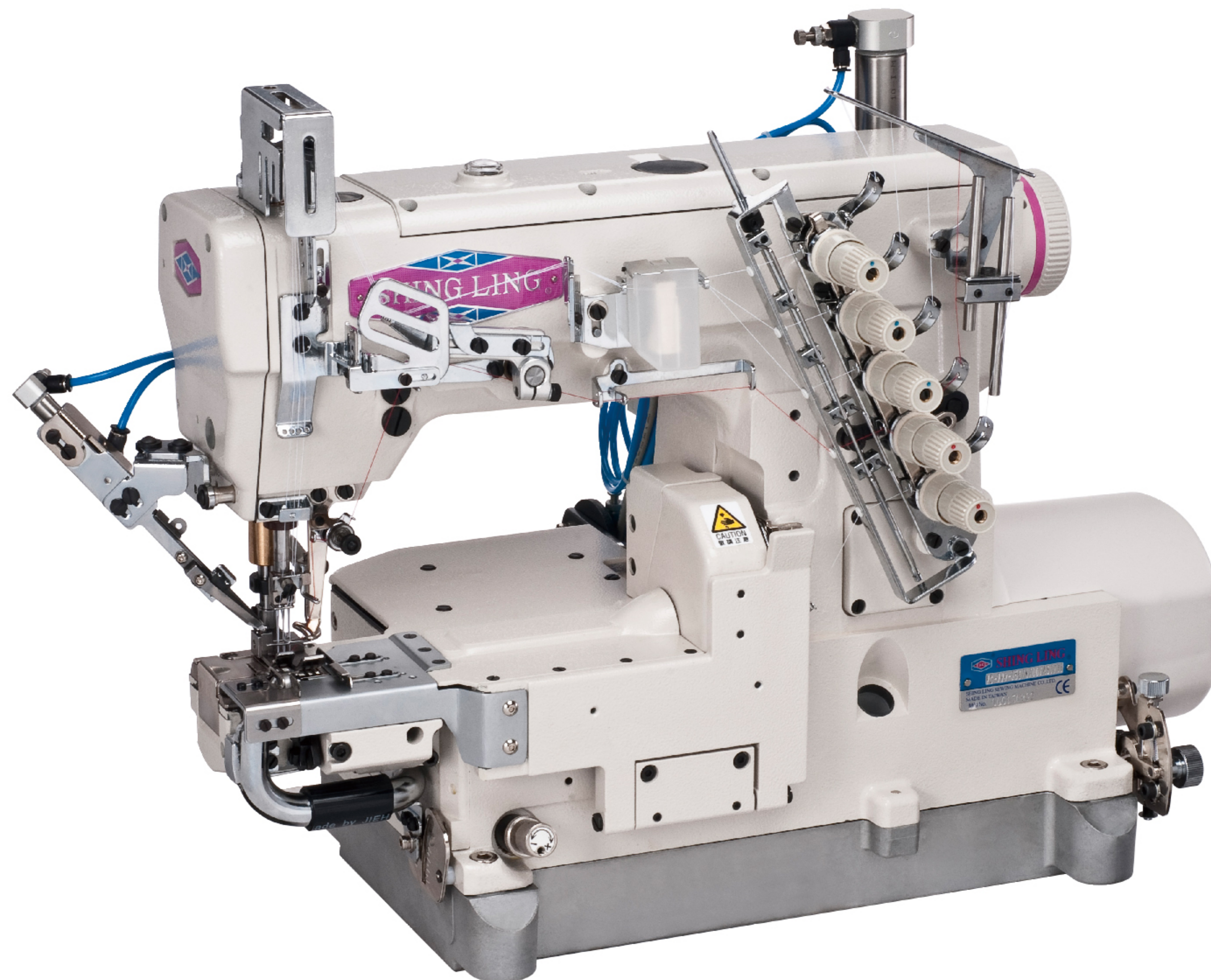


TAIWAN
EXCELLENCE 2012

VG-999S-N700 without TF Series

細筒型三針五線雙面飾綳縫機附左修刀

3-needle 5-thread Small Cylinder-bed Interlock Stitch
Machine with Left-hand Knife Fabric Trimmer



使用說明書 Instruction Book



星菱縫機股份有限公司
SHING LING SEWING MACHINE CO., LTD.

CE ISO 9001/CNS 12681



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操作安全規範

Safety Instructions

1. 確保安全使用

To ensure safe use

請詳閱以下事項安全規範並正確使用此縫紉機及視關設設
Always observe the following instructions to ensure the safe use of the industrial sewing machines and devices.

1-1 機器的應用

Application and purpose

此工業用縫紉機的設計是用於提昇客戶的產能，請勿修改作其他用途。

The sewing machine is designed to improve productivity in the sewing industry and must not be used for other applications and purposes. Do not use this sewing machine until it can be confirmed that safety measures for the drive units have been taken.

1-2 使用前務必參照使用說明書後再開始使用機器

Before use

Read all instruction manuals thoroughly before starting the use of this machine and follow them. Also, read the instruction manual for the installed drive unit.

1-3 工作環境

Working environment

請避免機器在以下環境使用

Do not work in the following environments:

- 高溫及潮濕的地方
Place where atmosphere temperature and humidity give a bad influence the performance of sewing machines.
- 室外或暴露在陽光直射的地方
Outdoors and place where the sewing machines are exposed to sunlight directly.
- 有灰塵、腐蝕氣體或易燃物的地方
Atmosphere containing dust, corrosive gases or flammable gases.
- 額定電壓超過±10%
Place where voltage fluctuation exceeds ±10% of the rated voltage.
- 與馬達消耗功率，電源不符合的地方
Place where power capacity necessary for the used motor specifications cannot be secured.
- 在電流或磁場過強的地方
Place where strong electric or magnetic fields are generated such as near large-output high frequency transmitters or high frequency welding machines.

1-4 拆箱及運送方式

Unpacking and transportation

- (1) 要從車頭上方拆箱
Unpack from the top.
- (2) 當取出機器時，請勿碰觸機器針及穿線處的零件。
Never hold the parts near the needle or threading parts when removing the sewing machine head from the buffer of box.
- (3) 請至少一人協助搬運機器
When carrying the sewing machine head, have an assistant.
- (4) 當使用手推車搬運機器時，要避免碰撞及震動造成機器損壞
Pay attention not to get excessive impact or shock when moving the sewing machine head with a pushcart.

2. 安裝及準備

Installation and preparation

2-1 安裝及訓練

Instruction and training

非經過專業訓練人員，請勿操作或維修此機器

Operator and workers, who supervise, repair or maintain the machine head and machine unit are required to have the adequate knowledge and operation skills to do the job safely. In order to establish such necessary conditions, it needs for the employer to plan and enforce the safety education and training to those workers.

2-2 車板及馬達

Sewing table and motor

- (1) 請使用堅固的桌板安裝此機器
Prepare a machine table that has enough strength to withstand the weight of the sewing head and any reaction while operating.
- (2) 機器操作時光線要充足。確保操作空間順暢、舒適。
Maintain a comfortable working environment with considering the lighting and the arrangement of sewing machine so that the operators can work smoothly.
- (3) 馬達控制箱要安裝在操作員易於操作的位置
When installing the control box and the related parts on the sewing machines, take care about the posture of the worker.
- (4) 附屬驅動元件及配備要依照安裝手冊正確安裝
Install the drive unit correctly according to the instruction manual.

2.3 接電

Wiring

- (1) 在沒有完全安裝好機器之前，請勿接電
Never connect the plug for power supply until assembly is finished.
- (2) 所有電源接頭要牢固地連接到機器、馬達及其他電氣設備
Fix the connectors securely to the sewing machine head, motor, and electric apparatus.
- (3) 接頭的電線要與符合用電規格
Do not apply excessive force to the connection cords.
- (4) 所有電線要遠離機器運轉的部位
Connect the cords away from the driving parts.
- (5) 接地線要固定在機器上指定的位置
Place the ground wire securely to the designated position on the machine head.

2-4 開始操作機器前

Before operation

- (1) 注意任何潤滑油、矽油，溶濟不要接觸到皮膚或眼睛
Take care not to attach lubricant, silicone oil, and grease on the eyes or skin.
- (2) 機器運轉前檢查是否有注入所需的潤滑油及油量
Be sure to fill or drop lubrication oil before operation the sewing machine.
- (3) 不要把手放在針或機器運轉部位附近
Never put your hand under the needle or near the moving parts of the machine when turning on power supply switch.
- (4) 確認皮帶輪及手輪運轉方向與標示方向相符
When operation a new sewing machine, make sure the rotating direction of pulley agrees with the rotating-direction mark.

2-5 操作機器的時候

During operation

- (1) 確認所有運轉部位的安全蓋都有裝上，如皮帶蓋、護手蓋或護目鏡。
Be sure to operate the sewing machine with the safeguards such as belt cover, finger guard, and eye guard.
- (2) 不要把手指、頭髮或身體靠近機器的針或運轉的部位
Never place the finger, hair or objects under the needle or close to the moving parts while operating the sewing machine.
- (3) 穿線或更換針時務必關閉電源
Be sure to turn off the power supply switch when threading or replacing the needles.
- (4) 不要把手放在上下切線刀組接近刀口的位置
Never place your hands close to the knives when operating the sewing machine with the trimming devices.
- (5) 離開工作崗位或工作完成時，務必再次確認機器電源已關閉
Be sure to turn off the power supply switch when terminating the sewing work or leaving the sewing machine.
- (6) 假如機器操作時有不正常的音響及異味產生，請立即關閉電源
If the sewing machine malfunctions, abnormal sound or smell something unusual while operation, be sure to turn off the power supply switch.

2-6 拆卸或更換零件

Removal

- (1) 更換零件或調整機器前務必關閉電源
Turn off the power supply switch if removed or replaced any parts or during adjustment of sewing machine.
- (2) 電源線從插座拔下時，不可拉線，要從插頭拔下
Do not pull the cord when removing the plug. Be sure to hold the plug itself.
- (3) 控制箱內電壓高，請在關閉電源5分鐘後再打開箱蓋
A high voltage is applied inside the control box.
Turn off the power supply switch and wait more than 5 minutes before the cover.

3. 檢查及維修

Maintenance, inspection, and repair

- (1) 請參照機器使用說明作檢查及維修
Follow the instruction manuals for maintenance, inspection, and repair.
- (2) 專業人員需有資格方能作檢查及維修
Entrust the maintenance, inspection, and repair to specially trained personnel.
- (3) 務必關閉電源等到馬達完全停止運轉後才可維修機器
Be sure to turn off the power supply switch and make sure that the sewing machine and motor completely stop before the maintenance, inspection, and repair, (If using a clutch motor, take care that the motor keeps turning for a while even after turning off the power supply switch.)
- (4) 不要依客戶的單方判斷或要求任意更改機器
Do not modify the sewing machine by the customer's judgment.
- (5) 請指名使用原廠商零件作機器維修及更換
Be sure to use original replacement parts for repairs or maintenance.

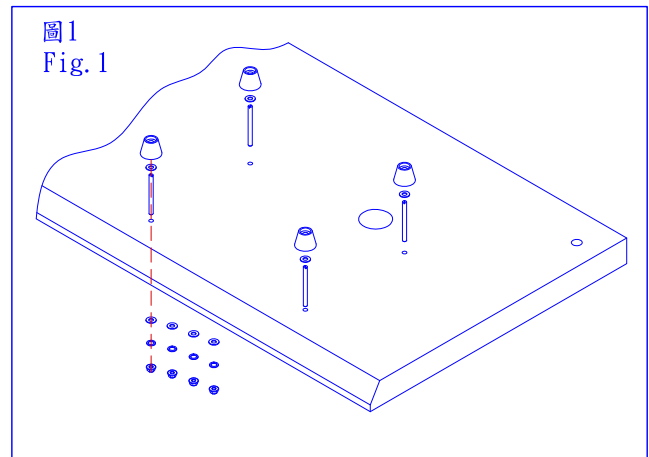
安裝機器的機座

Assembling the machine rest board

請依圖 1 所示，安裝膠墊支架及防震膠墊。

Assemble the components comprising the machine rest board by referring to the Fig. 1.

Be sure to secure all rods, nuts and bolts firmly with no shake.

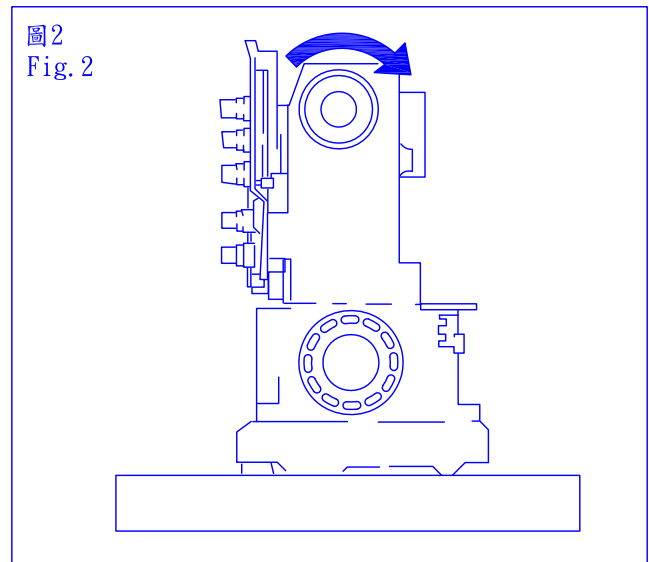


機器手輪運轉方向

Operation direction of the machine pulley

如圖 2 所示，機器手輪運轉為順時針方向。

The machine pulley rotates clockwise as seen from the end of the machine pulley. (Fig. 2)



機器潤滑 Lubrication

請關閉電源後指定專門技術人員更換新油

1. 拆下油槽左方的螺絲 1 .
2. 洩完油槽的油後, 再把螺絲 1 鎖上 . (圖5)
3. 請使用本公司指定的潤滑油 .
4. 打開油蓋 2 , 把油加到油線 H 和 L 中間的位置 , 蓋上油蓋 2 . (圖6)
5. 機器注入適當潤滑油後, 請踩腳踏板使機器開始運轉然後檢查油鏡 5 是否油有正常流動. (圖8)

When lubricating the machine and/or replacing the oil, please use recommended oil. Using other oils may damage the machine. Please assign qualify technician for the work.

Remove cap 1. to drain out the used oil. (Fig. 5)
Add the new oil until the oil level lies between (H) and (L) lines.

After filling the tank with oil, replace the cap 2. (Fig. 6)

Once the machine has been properly filled with new oil, press the machine treadle to run the machine and check oil gauge window 5 to see if the oil is flowing. (Fig. 8)

圖5
Fig. 5

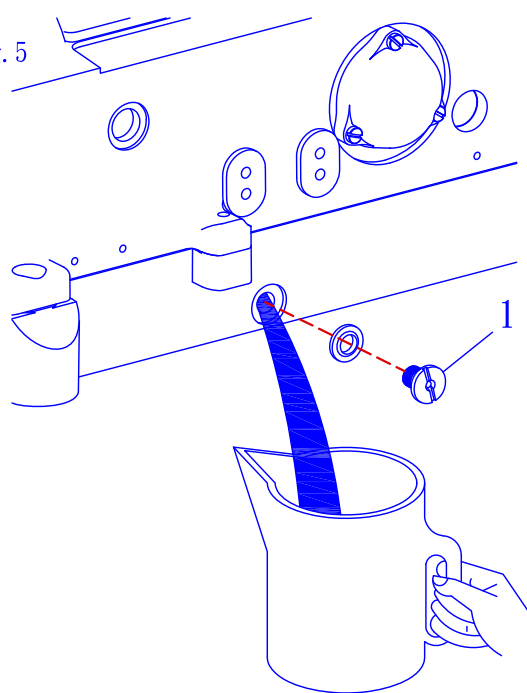


圖6
Fig. 6

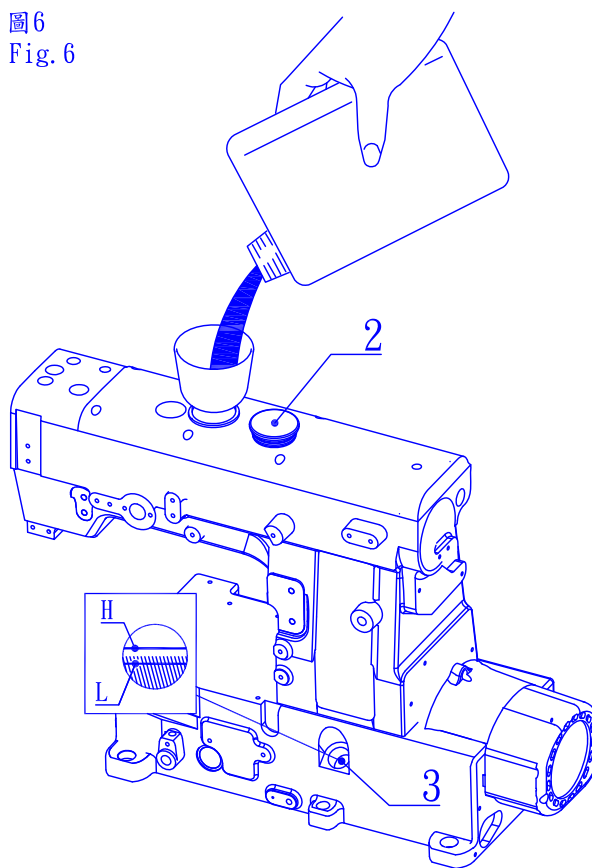
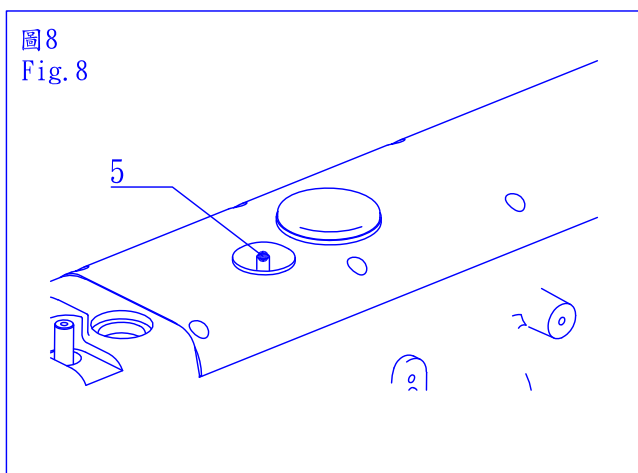


圖8
Fig. 8



穿線 Threading

1. 調整下勾針提線器 1 向上到操作員的方向(圖11)
穿線後再調回原來的位置。(圖12)

Move looper thread take-up 1 up toward the operator.
Put looper thread take-up 1 back in the position after
threading the machine. (Fig. 11 and Fig. 12)

圖11
Fig. 11

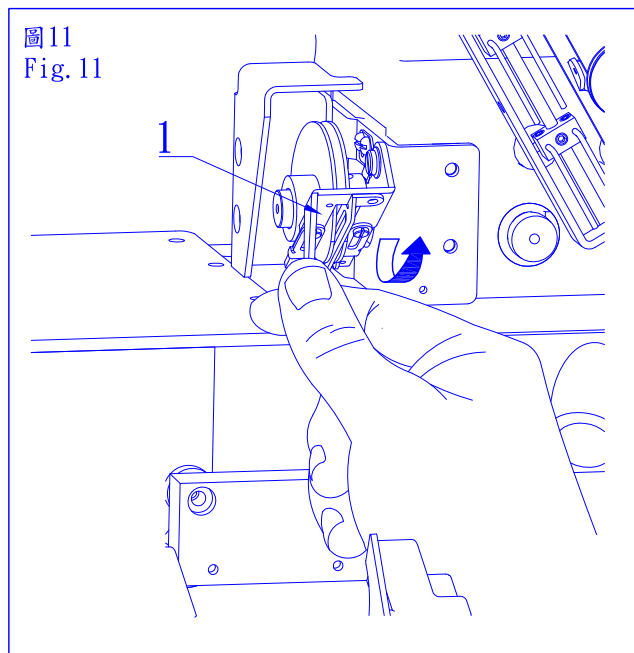
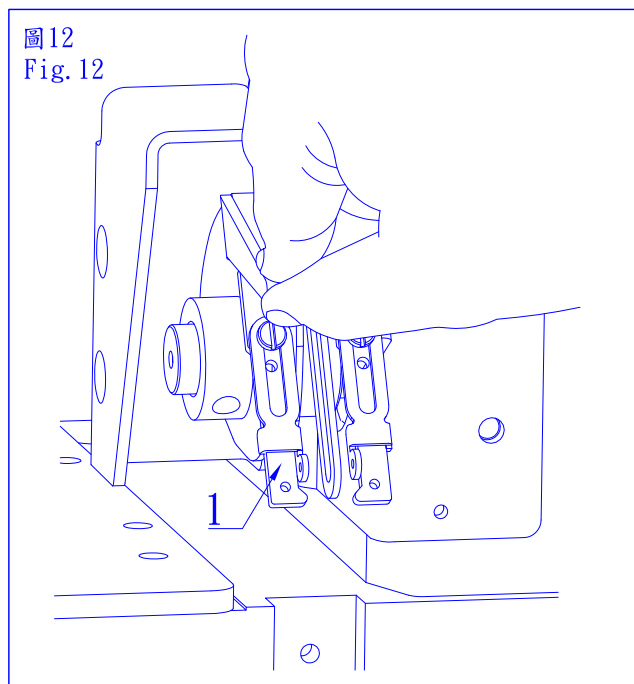


圖12
Fig. 12

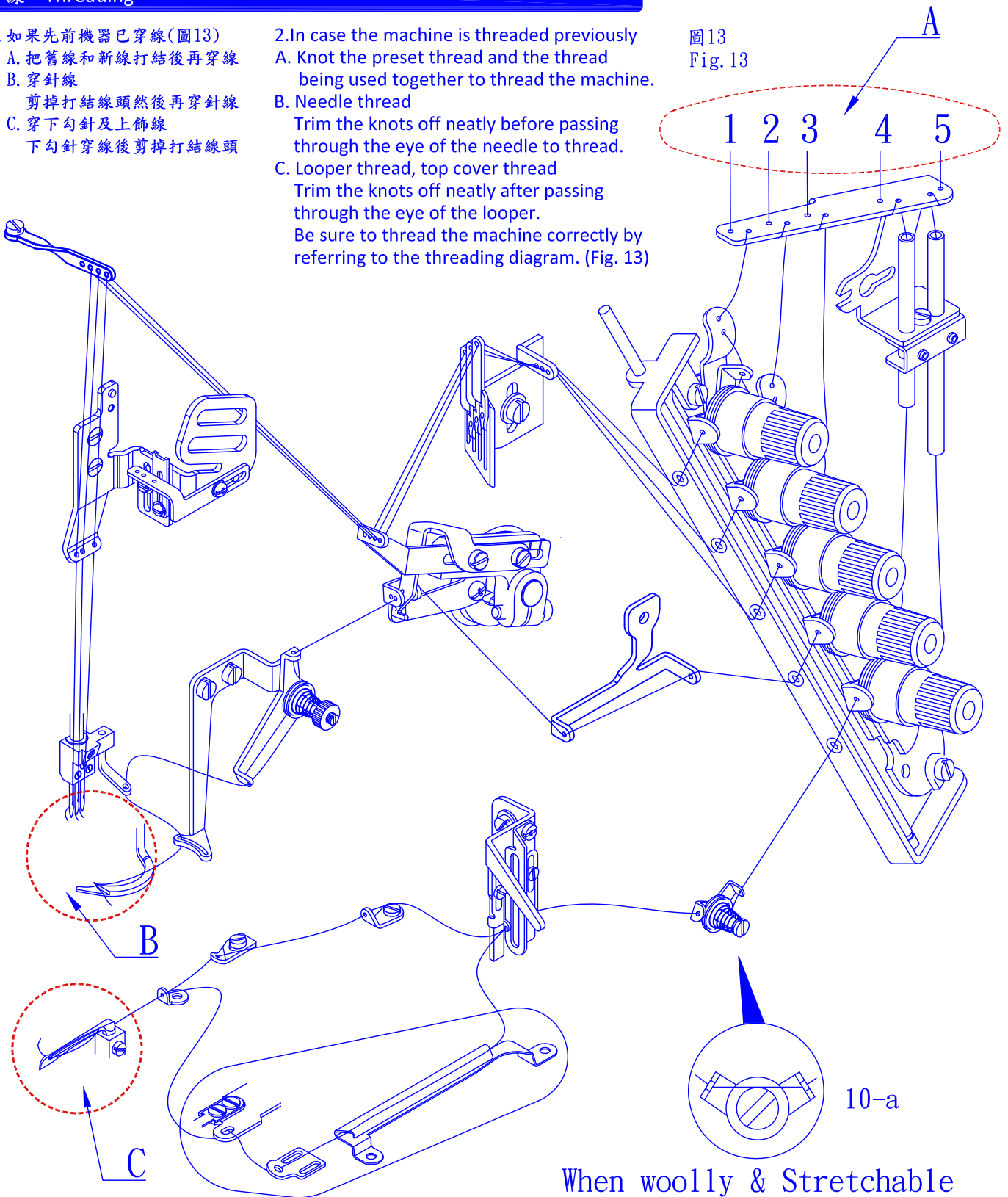


穿線 Threading

2. 如果先前機器已穿線(圖13)
- 把舊線和新線打結後再穿線
 - 穿針線
剪掉打結線頭然後再穿針線
 - 穿下勾針及上飾線
下勾針穿線後剪掉打結線頭

2. In case the machine is threaded previously
- Knot the preset thread and the thread being used together to thread the machine.
 - Needle thread
Trim the knots off neatly before passing through the eye of the needle to thread.
 - Looper thread, top cover thread
Trim the knots off neatly after passing through the eye of the looper.
- Be sure to thread the machine correctly by referring to the threading diagram. (Fig. 13)

圖13
Fig. 13



For thread trimmer.
有自動切線裝置時

When woolly & Stretchable
thread used.
用在伸縮尼龍線

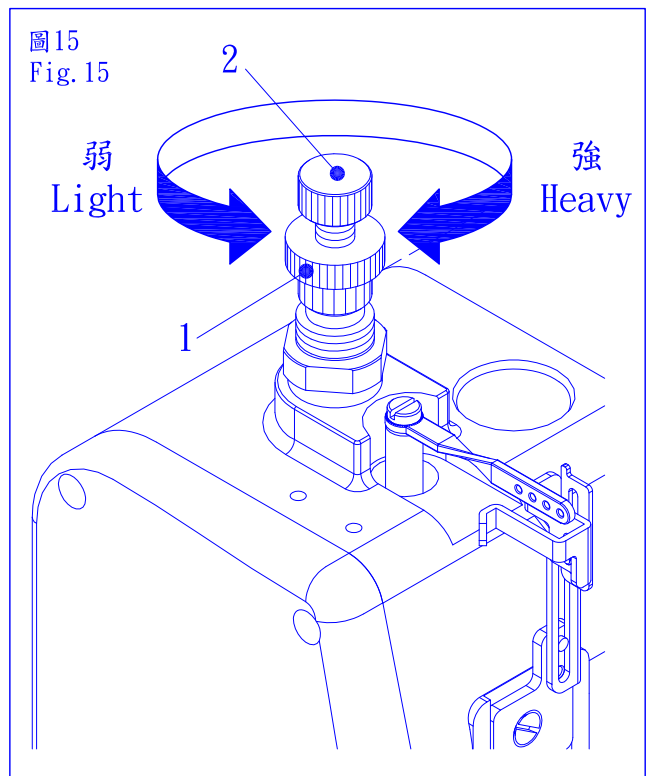
調整抬押腳壓力

Adjusting presser foot pressure

抬押腳壓力調整足夠送料壓力可車縫完美縫目即可，首先鬆開螺母 1，然後旋轉螺絲 2。調整所需要的壓力後再鎖緊螺母 1。(圖15)

The presser foot pressure should be as light as possible, yet sufficient to feed the fabric correctly and provide the uniform stitch formation.

To adjust the presser foot pressure, loosen nut 1 first and then turn screw 2 as required. After this adjustment is made, tighten nut 1.

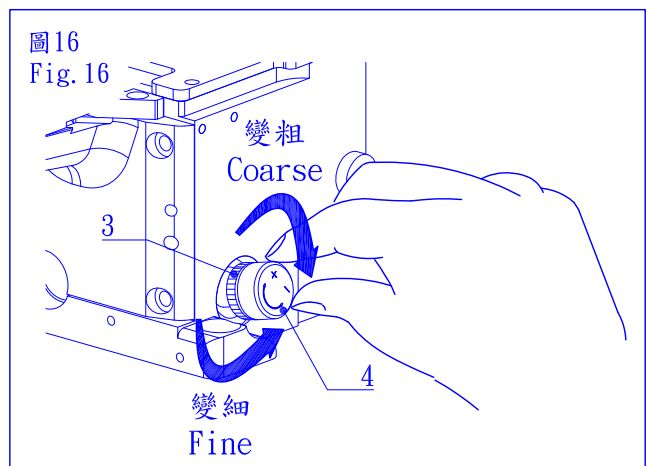


調整縫目長度

Adjusting stitch length

首先鬆開螺母 3，然後旋轉螺絲 4，調整所需要的針距後再鎖緊螺母 3。(圖16)

To adjust the stitch length, loosen nut 3 first and then turn screw 4 as required. After this adjustment is made, tighten nut 3.



調整線的鬆緊度 Adjusting the thread tension

旋轉鈕 2 是調整針線，旋轉鈕 3 是上飾線，旋轉鈕 4 是下勾針。

以上旋轉鈕往順時針方向將線調緊，逆時針方向則將線調鬆，只要能車縫漂亮的縫目，請儘量把線調鬆一點（圖18）

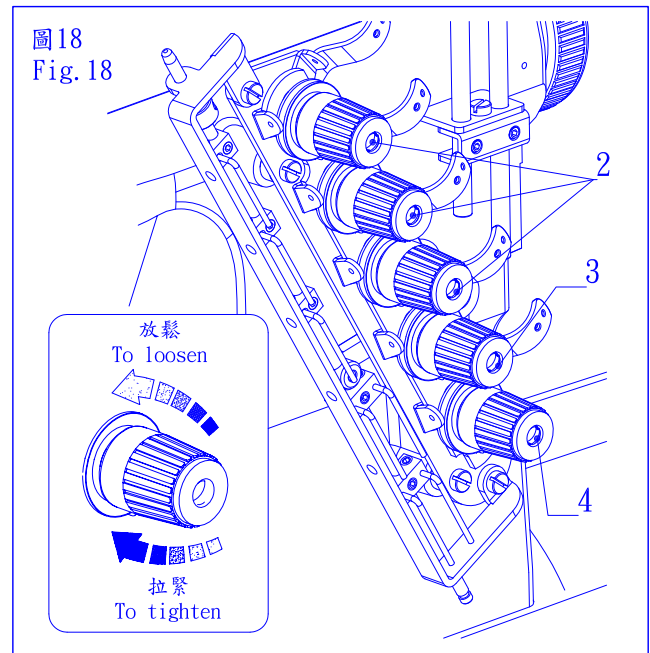
To obtain the proper thread tension, adjust needle thread tension knobs 2, top cover thread tension knobs 3 and looper thread tension knob 4.

To tighten the thread, turn each knob clockwise.

To loosen the thread, turn each knob counterclockwise.

Each thread tension should be as light as possible, yet be sufficient to produce balanced and beautiful stitches.

(Fig. 18)



車針的更換 Replacing the needle

請關閉電源後再做換針的動作

1. 用 1.5mm 的六角板手鬆開螺絲 5 .
 2. 用夾線器要舊針拆下來.
 3. 裝新針時，針的溝槽要面向機器的後方.
 4. 針柄要插入針榴孔的最頂端.
 5. 用 1.5mm 的六角板手鎖緊螺絲 5 .
- (圖20和圖21)

Always turn off the power and unplug the machine when you replace the needle (s).

1. Loosen screw(s) 5 using a red-handled key wrench (1.5 mm).
2. Remove the old needle (s) by using a pincette (provided as accessories).
3. Fix the needle so that its scarf faces the rear side of machine.
4. Insert a new needle into the needle hole as far it will go by using a pincette.
5. Tighten screw(s) 5 using a red-handled key wrench (1.5 mm). (Fig. 20 and Fig. 21)

圖20
Fig. 20

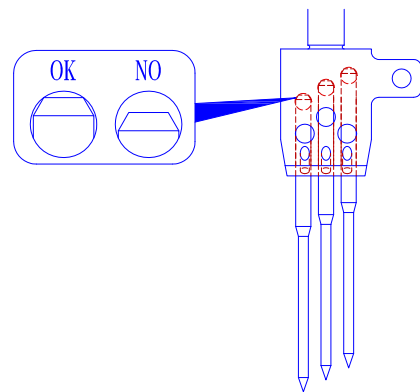
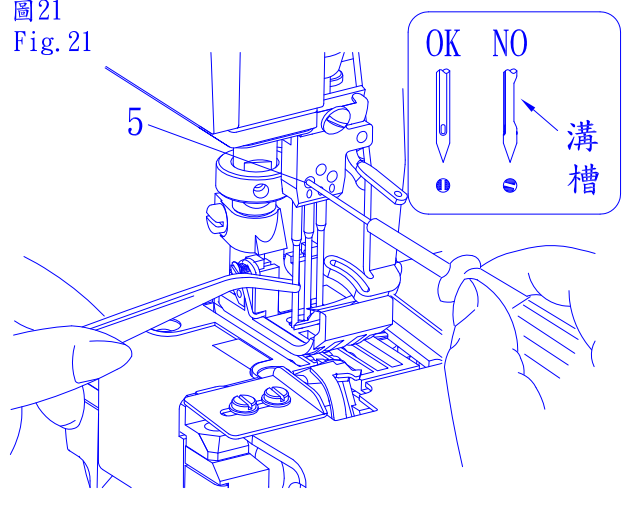


圖21
Fig. 21



檢查及清潔濾油器

Checking and cleaning the oil filter

1. 拆下螺絲 1，蓋子 2，防油圈 3 及濾油器 4。
 2. 必要的話請更換新的濾油器，清潔或更換濾油器後把濾油器 4，防油圈 3，蓋子 2 和螺絲 1 裝回原來的位置。（圖 22）
 3. 使用機器前或長時間不使用，請注入 2-3 滴油到針榴柱 5 及下勾針主軸 6 上。（圖 23）
- 每六個月請更換新的濾油器以保持潤滑系統正常運作。

Replace the oil one month after the first use and thereafter every six months. If you keep using the old oil, it may cause the damage to the machine.

1. Remove screw 1, cover 2, O ring 3 and oil filter 4. Check oil filter 4.

2. Replace the filter if necessary. After checking or replacing the filter, put filter 4, Oil ring 3, cover 2 and screw(s) 1 back into place. (Fig. 22)

3. Apply 2-3 drops of oil on needle bar 5 and looper shaft 6 before using the machine or long time unused. (Fig. 23)

Contaminants on oil filter 4 may cause improper lubrication. Check and clean oil filter 4 every six months.

圖 22
Fig. 22

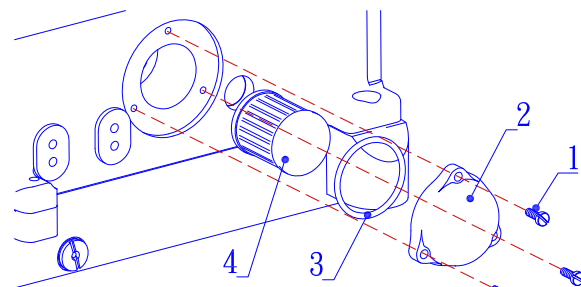
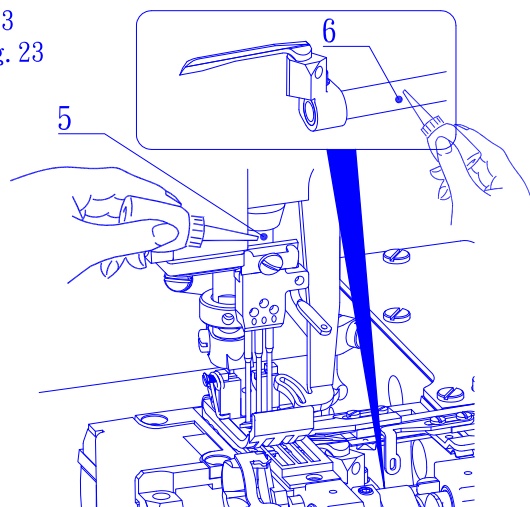


圖 23
Fig. 23



調整提線器及護線片

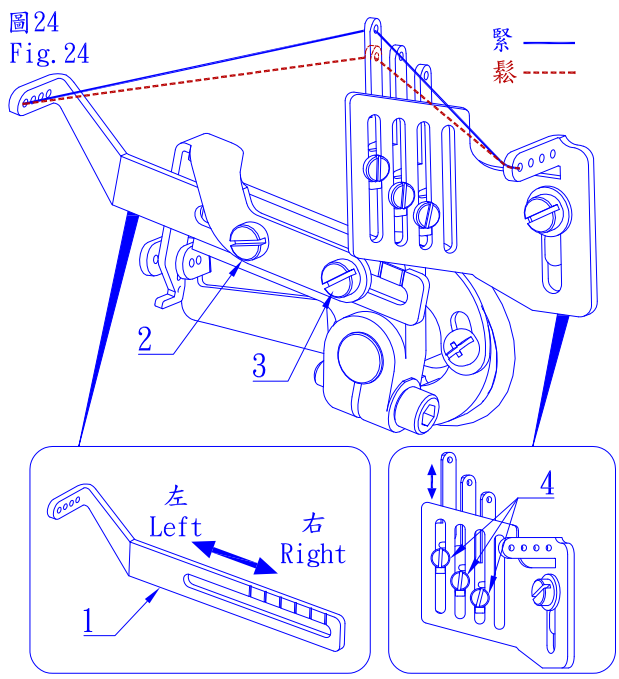
Adjusting the needle thread take-up and needle thread guard

1. 鬆開螺絲 2、3，調整導線桿 1，給線量多少，往左邊線量多，往右邊線量少。
2. 鬆開螺絲 4 調整線的鬆緊度，往上線的緊度加大，往下緊度變小。

1. Loose screw 2 and 3 to adjust the amount of needle thread. Move the needle thread take-up 1 to left, the amount of the thread is increased. Move it to right, the thread is decreased.

2. Loose screw(s) 4 to adjust the threads tension. Move the thread post upward to increase the tension; move it downward to decrease the tension. (Fig. 24)

圖 24
Fig. 24



由鬆縫目變換到緊縫目的規格(圖28)
 Changing the specifications for soft stitches to that for tight stitches (Fig. 28)

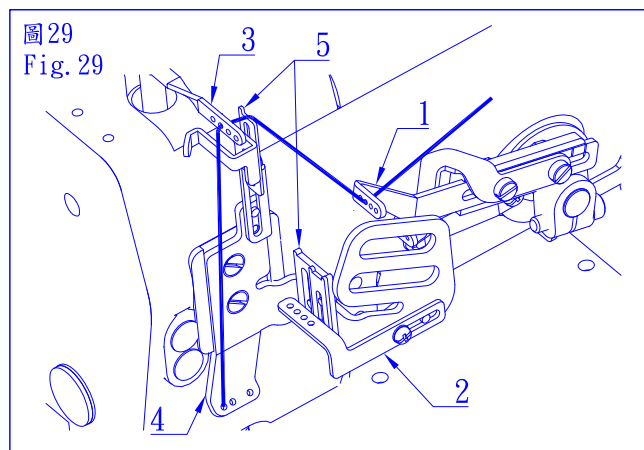
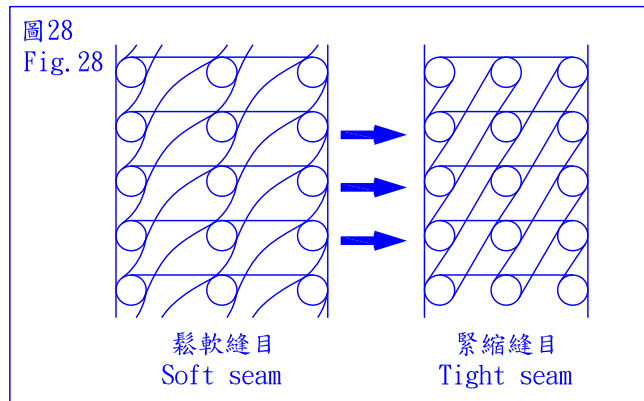
從導線桿 1 往導線片 3 方向穿過經過導線片 4 形成緊縮縫目。(圖29)

- 把導線片 5 調整向上, 可以使線圈尺寸變大.
- 把導線片 5 調整向下, 可以使線圈尺寸變小.

Pass the knots through the eyes of needle thread take-up 1, needle bar thread eyelet 3 and guide plate 4 to produce tight seam.

(Fig. 29)

- * Turn tension plate 5 upward to increase the size of thread loop.
- * Turn tension plate 5 downward to decrease the size of thread loop.



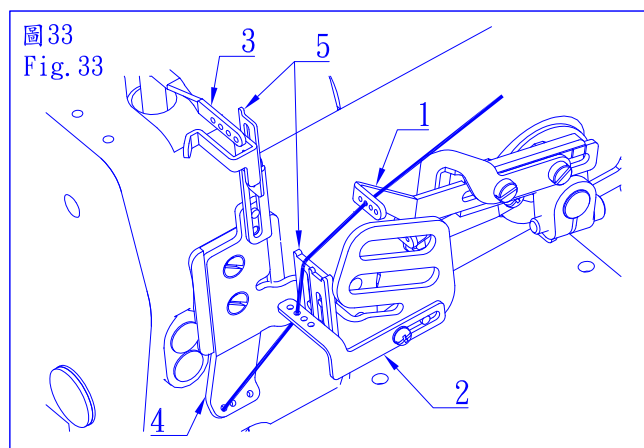
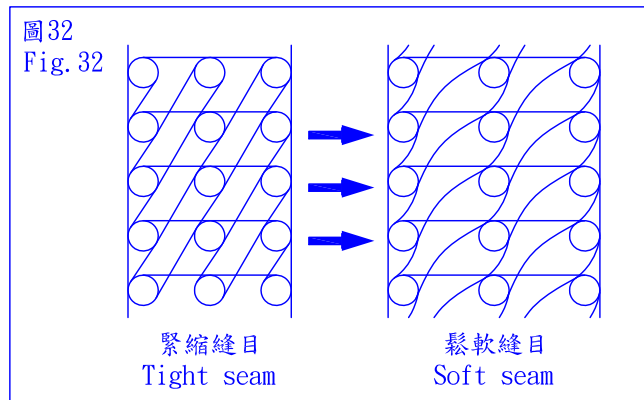
由緊縫目變換到鬆縫目的規格(圖32)
 Changing the specifications for tight stitches to that for soft stitches (Fig. 32)

從導線桿 1 往導線片 2 方向穿過經過導線片 4 形成鬆軟縫目。(圖33)

- 把導線片 5 調整向上, 可以使線圈尺寸變大.
- 把導線片 5 調整向下, 可以使線圈尺寸變小.

Pass the knots through the eyes of needle thread take-up 1, guide plate 2 and thread guide 4 to produce soft seam (Fig. 33).

- * Turn tension plate 5 upward to increase the size of thread loop.
- * Turn tension plate 5 downward to decrease the size of thread loop



調整下勾針的提線器

Adjusting the looper thread take-up

當左針下降而下勾針後退，左針尖點與下勾針下緣對齊時（如圖40），下勾針線從凸輪的 A 點鬆線。

請鬆開螺絲 2 後，旋轉凸輪 1 到所需要的位置，做以上調整後，請鎖緊螺絲 2。（圖39）

當下勾針線從凸輪的 A 點放開的同時，最左針的尖點與下勾針下緣對齊（圖40）

When the left needle has reached the point shown in the illustration while the looper is moving to the right from the extreme left end of its travel, the looper thread should be released from point A on the looper thread take-up. (Fig. 40)

To make this adjustment, loosen screws 2 and turn looper thread take-up 1 as required. After the above adjustment, tighten screw 2. (Fig. 39)

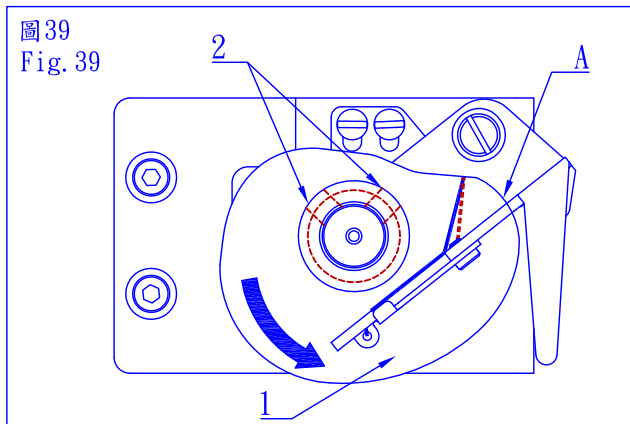


圖39
Fig. 39

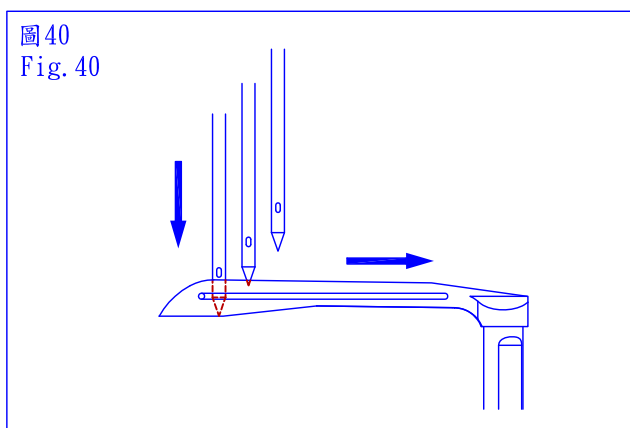


圖40
Fig. 40

調整下勾針線導片

Adjusting the looper thread guides

鬆開螺絲 3 和 4，調整這兩個螺絲分別在導片 5 和 6 溝槽中心的位置，然後暫時鎖緊螺絲 3 和 4。

• 移動導片 5 和 6 往 B 的方向可增加下勾針的線量。

• 移動導片 5 和 6 往 C 的方向可減少下勾針的線量。

做以上調整後，鎖緊螺絲 3 和 4。（圖41）

Loosen screws 3 and 4. Center screws 3 and 4 in the slots on looper thread guides 5 and 6 respectively (standard) by adjusting looper thread guides 5 and 6 (see the illustration on the right).

After the adjustment, tighten screws 3 and 4 temporarily.

* To increase the supply of looper thread, move looper thread guides 5 and 6 in the direction of B.

* To decrease the supply of looper thread, move looper thread guides 5 and 6 in the direction of C.

After the adjustment is made, tighten screws 3 and 4.

(Fig. 41)

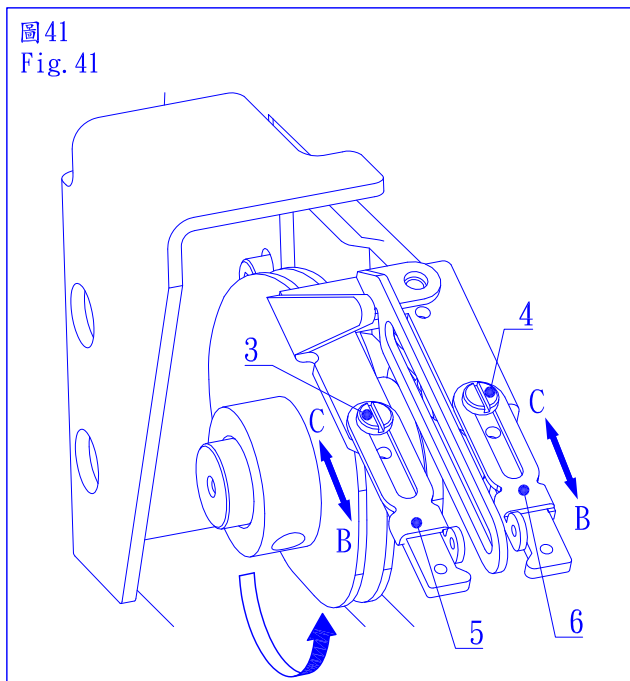


圖41
Fig. 41

調整上飾線

Adjusting the spreader

1. 調整上勾針的高度

調整針板表面與上勾針 1 的底面距離 A (圖42), A 的距離請參照 45 頁做調整, 鬆開螺絲 2 以後上下移動上勾針, 調整以後, 暫時鎖緊螺絲 2 .

• 調整上勾針前後量:

當上勾針的尖點 B 移動接近左針而上勾針 1 正從右死點往左邊移動時, 尖點 B 與左針的間隙為 0.5mm, 請前後調整上勾針 1, 調整以後, 鎖緊螺絲 2 .(圖43)

• 調整上勾針左右量:

當上勾針 1 走到左死點, 最左針的中心點到上勾針尖點 B 的距離為 5.0mm, 請鬆開螺絲 3 及移動上勾針由左到右, 調整好了以後鎖緊螺絲 3 .(圖44)

1. To adjust the spreader

(1) To adjust the spreader height:

Adjust distance A from the top surface of the needle plate to the bottom surface of spreader 1. Select the distance according to the machine being used by referring to the table of adjustment dimensions (see page 45). Adjustment is made by loosening screw 2 and moving spreader 1 up or down.

After the above adjustment is made, tighten screw 2 temporarily. (Fig. 42)

To adjust the spreader front to back :

When point B on the spreader has comes close to the left needle while spreader 1 is moving to the left from the extreme right end of its travel, there should be a distance of 0.5 mm from point B to the left needle. Adjustment is made by moving spreader 1 front to back. After this adjustment is made, tighten screw 2. (Fig. 43)

(2) Left-to right adjustment

When spreader 1 is at the extreme left end of its travel, there should be a distance of 5.0 mm from the center line of the left needle to point B on the spreader.

Adjustment is made by loosening screw 3 and moving spreader 1 left to right. After this adjustment is made, tighten screw 3. (Fig. 44)

圖42
Fig. 42

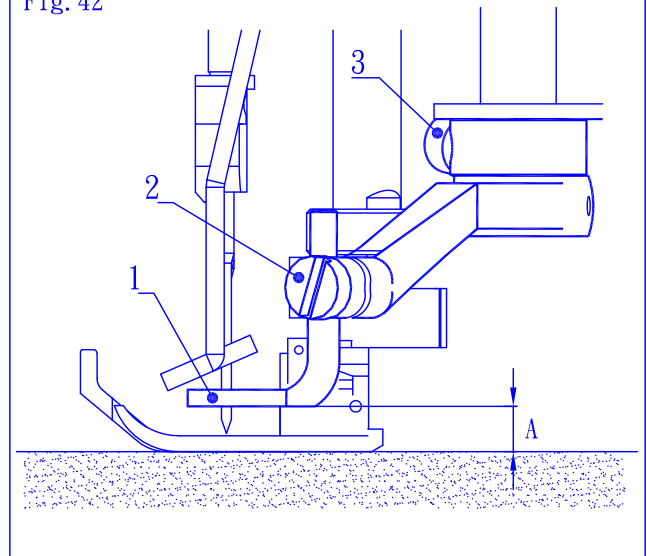


圖43
Fig. 43

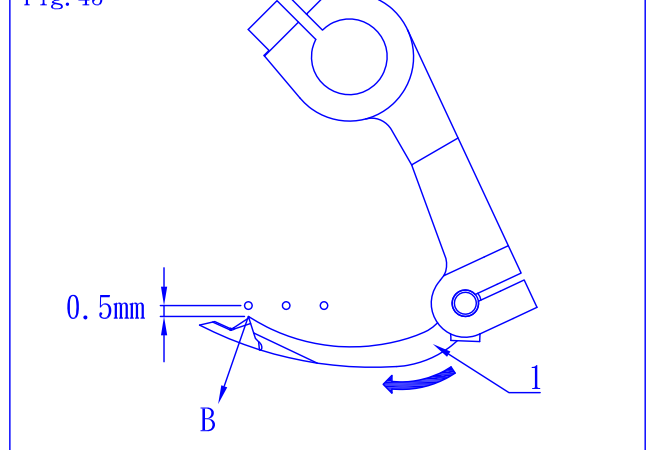
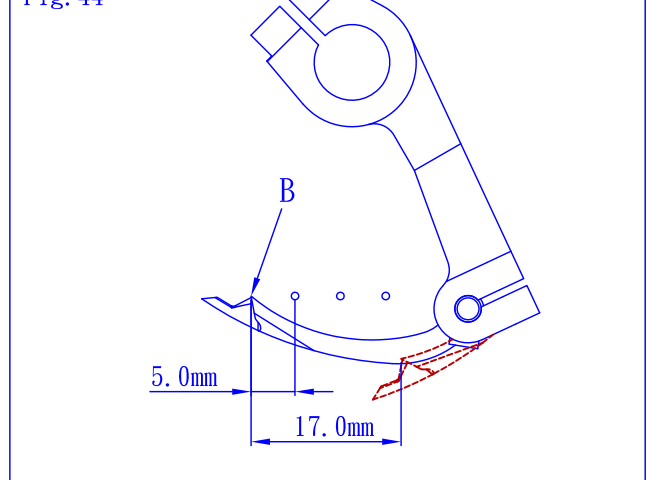


圖44
Fig. 44



2. 調整上勾針導線

- (1) 當上勾針 1 走到右死點上勾針導片 4 的底面與上勾針 1 的間隙為 0.5mm，鬆開螺絲 6，調整後暫時鎖上螺絲 6。
- (2) 由左到右移動上勾針導線 4，調整導線溝槽的中心與上勾針尖點 B 對齊，調整後鎖緊螺絲 6。

3. 調整導線片

- (1) 當針走到行程的最底部，倒線片 5 剛好在上勾針導線溝槽前端 D 的位置，調整時鬆開螺絲 7，調整後暫時鎖緊螺絲 7。
- (2) 前後移動導線片 5，調整導線片 5 和上勾針導線 4 的間隙 1mm，調整後鎖緊螺絲 7。(圖 46)

2. Adjusting the spreader thread guide

- (1) When spreader 1 is at the extreme right end of its travel, there should be a clearance of 0.5 mm between the bottom surface of spreader thread guide 4 and spreader 1. Adjustment is made by loosening screw 6. After this adjustment is made, tighten screw 6 temporarily.
- (2) Align the center of the slot of spreader thread guide 4 with point B on the spreader. Adjustment is made by moving spreader thread guide 4 left to right. After this adjustment is made, tighten screw 6.

3. Adjusting the thread guide

- (1) When the needles are at the bottom of their stroke, position thread guide 5 just above front end D of the slot on thread guide 4. Adjustment is made by loosening screw 7. After this adjustment is made, tighten screw 7 temporarily.
- (2) there should be a clearance of 1.0 mm between thread guide 5 and spreader thread guide 4. Adjustment is made by moving thread guide 5 front to back. After this adjustment is made, tighten screw 7. (Fig. 46)

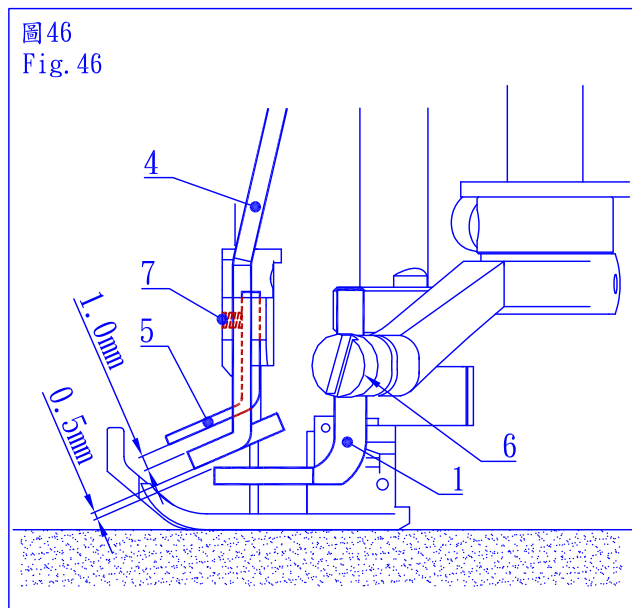


圖 46
Fig. 46

調整上飾線導片

Adjusting the top cover thread guide

1. 當勾線針退至最右位置而能平穩的勾住線時，上飾線之導線器 (D) 的下緣與彎針 (A) 的上緣之間的間隙應為 0.5mm。調整完畢後，鎖緊螺絲 (E)。(圖 47)

Provide a clearance of 0.5mm. between undersurface to Top Cover Thread Guide (D) and the top surface of Spreader (A).

At the position, the thread is caught smoothly by thread hooking part when spreader comes to extreme right, tighten screw (E).

(Fig. 47)

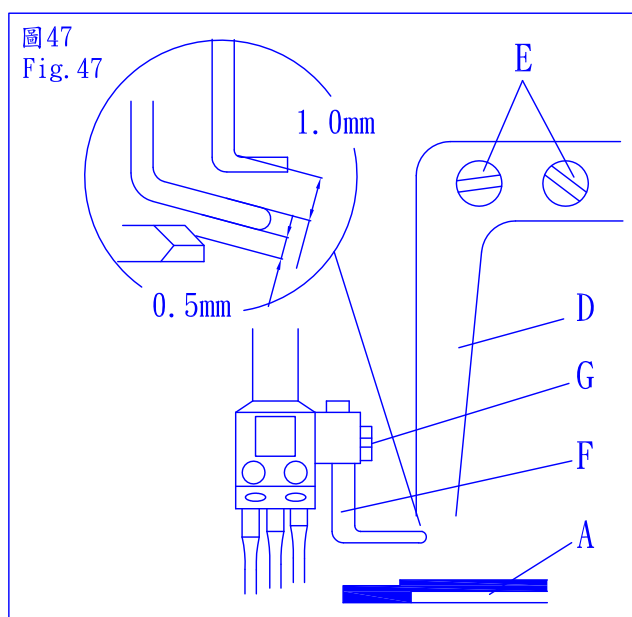


圖 47
Fig. 47

調整押腳提昇

Adjusting the presser foot lift

請參照第 45 頁調整針板表面與押腳底面的距離 A .
(圖51)

1. 旋轉機器的首輪直到上送九齒在最高點的位置.
2. 調低提升桿 2 注意押腳不可以碰到上勾針.

When presser foot 1 is raised, adjust distance A from the top surface of the needle plate to the bottom surface of presser foot. (Fig. 51) Select the distance according to the machine being used by referring to the specifications (see page 45).

1. Turn the machine pulley until the top feed dogs are at the top of their stroke.
2. Adjust the presser foot lift by lowering lever 2.(Fig. 52)

Note that the presser foot should not be in contact with the spreader.
(Fig. 52)

圖51
Fig. 51

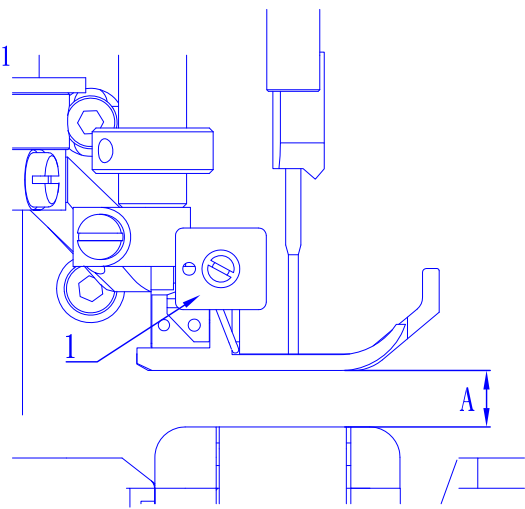
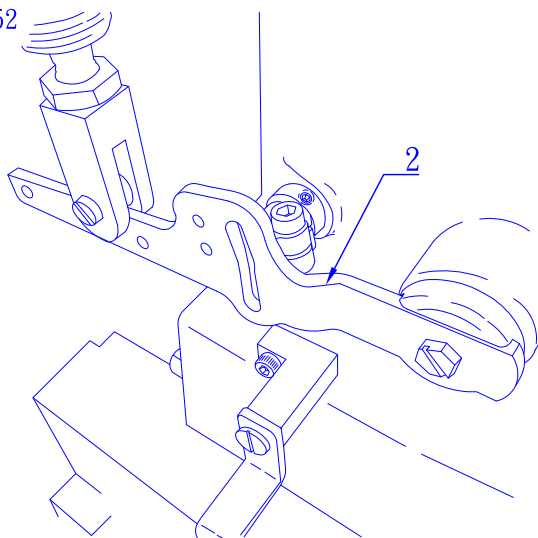


圖52
Fig. 52



調整針的高度 Adjusting the needle height

請參照第 45 頁調整針棒在最高點時左針針尖與針板表面之間的距離 (a)。(圖55)

1. 旋轉手輪 1 使記號 A 與 P 對齊時，針棒在行程的最高點。
2. 鬆開螺絲 2，上下移動針榴 3 (圖54)
調整正確針棒高度後，每支針與它針孔的間隙 (b) 相同 (圖55)，然後鎖緊螺絲 2。

Adjust distance (a) from the point of the left needle to the top surface of needle plate when the needle is at the top of its stroke. (Fig. 55)

The distance varies according to the machine being used. Refer to the table of adjustment dimensions (see page 45).

1. Turn handwheel 1 and align mark A on the machine with mark P on the handwheel to bring the needle bar to the top of its stroke. (Fig. 53)
2. Loosen screw 2. Adjust the needle height by moving needle holder 3 up or down. (Fig. 54)

* Adjust the relationship between each needle and needle drop hole so that clearance (b) is equal after the needle height adjustment. (Fig. 54) Then tighten screw 2.

圖53
Fig. 53

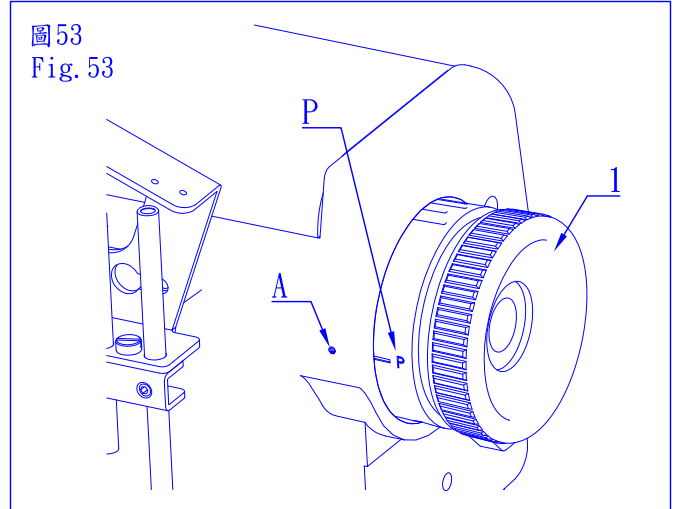


圖54
Fig. 54

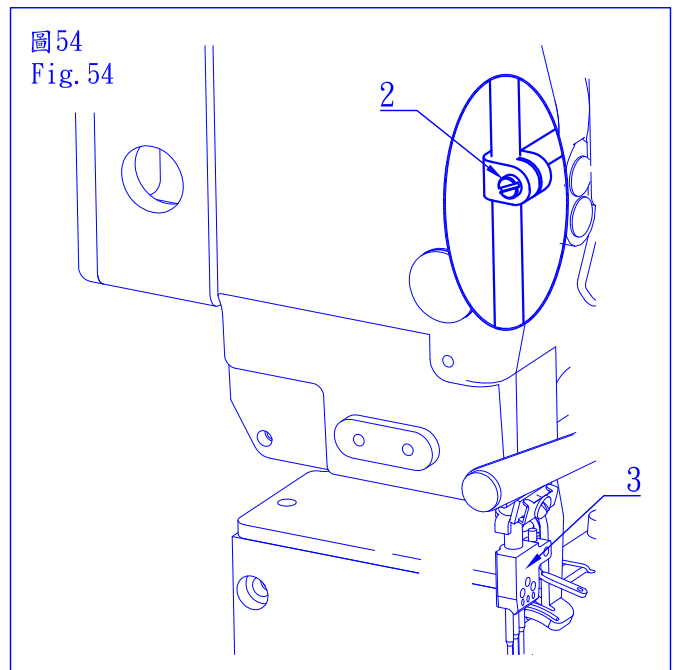
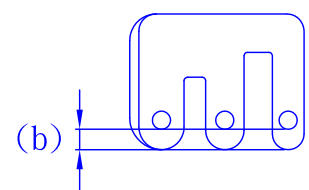
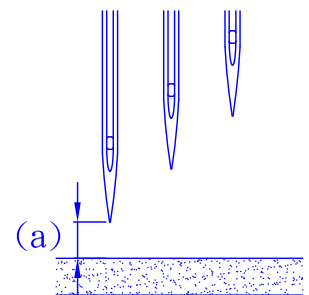


圖55
Fig. 55

規格種類 Needle Gauge	左針高度(mm) Height of Left Needle	退距(mm) From The Back
240	9	3.4~3.6
248	8.8	2.8~3.0
352	8.2	2.8
356	8.2	2.8
360	8.2	2.4
364	8	2.4
460	8.2	2.4
464	8	2.4



調整下勾針 Adjusting the looper

1. 下勾針的退距

請參照 45 頁調整下勾針移動到右死點針尖與右針中心的距離 A，鬆開下勾針座 2 上面的螺絲 3 然後左右調整下勾針座，調整後鎖緊螺絲 3。(圖57)

2. 下勾針與針的間隙

當下勾針從右死點走到右針的中心時，下勾針尖點與右針的前後間隙為 0~0.05mm。(圖58)

1. Adjusting the looper-needle setting distance

Adjust looper-needle setting distance A from the center of the right needle to the point of looper 1 when the looper is at its farthest position to the right. Select the distance according to the table being used by referring to the table of adjustment dimensions (see page 45).

Adjustment is made by loosening screw 3 on looper holder 2 and moving looper holder 2 to the left or right. After the adjustment, tighten screw 3. (Fig. 57)

2. Adjusting the looper avoiding distance

When the point of the looper has reached the center of the right needle from the extreme right end of its travel, there should be 0-0.05 mm front-to-back clearance between the right needle and the point of the looper. (Fig. 58)

圖56
Fig. 56

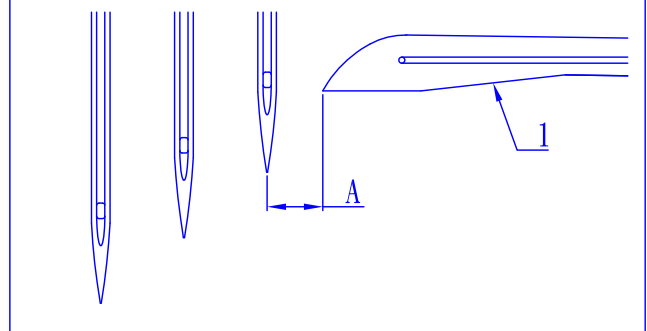


圖57
Fig. 57

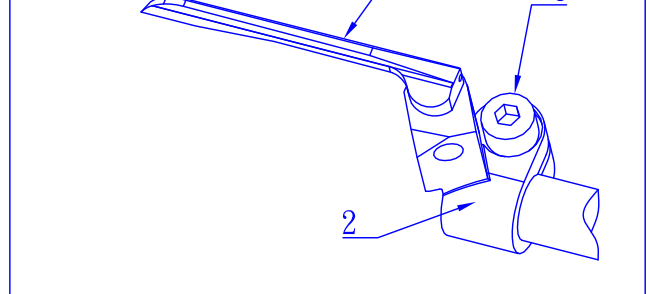
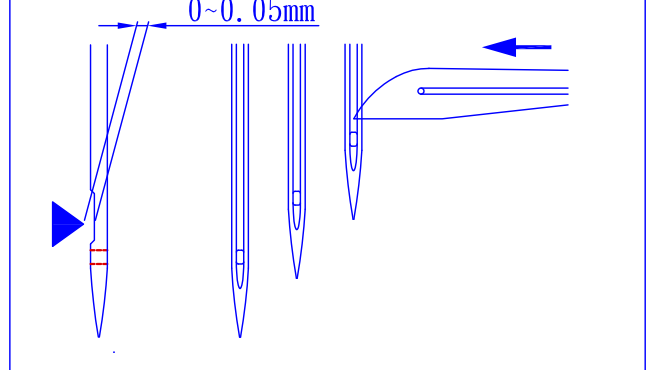


圖58
Fig. 58



變換針棒的行程

Changing the needle bar stroke

1. 旋轉連桿 3 的螺絲 4 使平面 A 在最上方或最下方位置來改變針棒的行程。調整針棒標準行程調整連桿 3 的平面 A 在最下方的位置，然後插入凸輪 1 直到溝槽 B 嵌入定位銷 C。(圖65)調整針棒高行程調整連桿 3 的平面 A 在最上面的位置，然後插入凸輪 1 直到溝槽 B 嵌入定位銷 C。(31mm, 33mm)(圖66)
2. 鎖緊螺絲 2。

1. Loosen screws 2 on motion 1.

Slightly move eccentric 3 in direction of the arrow with a screwdriver until groove B comes out of pin C.

2. To change the needle bar stroke, bring flat surface A to the top or bottom position by turning screw 4 of eccentric 3. (Fig. 65)

(To position the needle bar stroke with standard stroke)

Insert eccentric 3 into the motion with surface A at the bottom position until groove B fits into pin C of the motion.

(To position the needle bar stroke with high stroke)

Insert eccentric 3 into the motion with surface A at the top position until groove B fits into pin C of the motion.

(31mm, 33mm)(Fig. 66)

3. Tighten screws 2.

圖65
Fig. 65

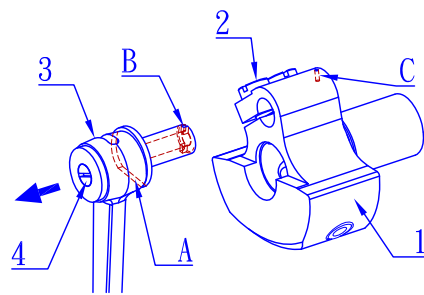


圖66
Fig. 66

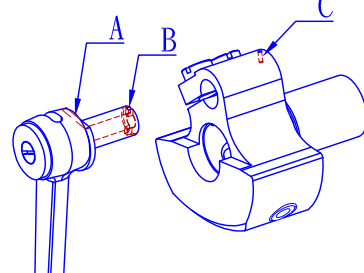
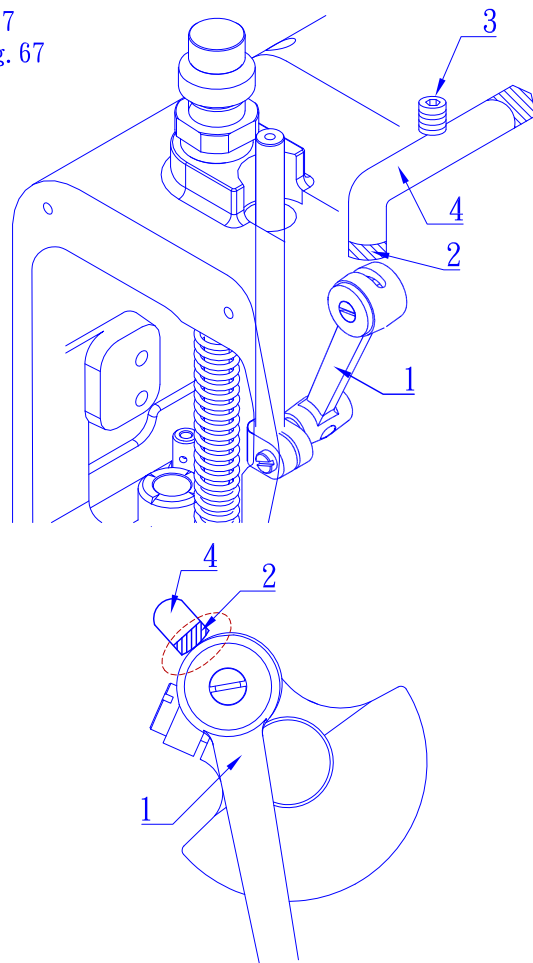


圖67
Fig. 67



檢查針棒連桿與顛墊的接觸

Checking the contact between the needle bar link and the oil felt

在變換針棒行程後，旋轉機器手輪特別是從高行程到標準行程，連桿 1 的頂端可輕微碰觸到油棉 2。

鬆開螺絲 3，調整油管 4 使油棉 2 與連桿 1 輕微碰觸調整完成後，鎖緊螺絲 3。(圖67)

After changing the needle bar stroke, check to make sure that the needle bar link contacts the oil felt properly. Otherwise the machine may not be lubricated sufficiently, causing trouble, such as damage to the machine.

After changing the needle bar stroke, especially from high stroke to standard stroke, check to make sure that needle bar link 1 contact oil felt 2 slightly, while turning the machine pulley by hand. To make this adjustment, loosen screw 3, and position the end of oil tube 4 so that needle bar link 1 contacts oil felt 2 slightly. (Fig. 67)

After this adjustment is made, tighten screw 3. (Fig. 67)

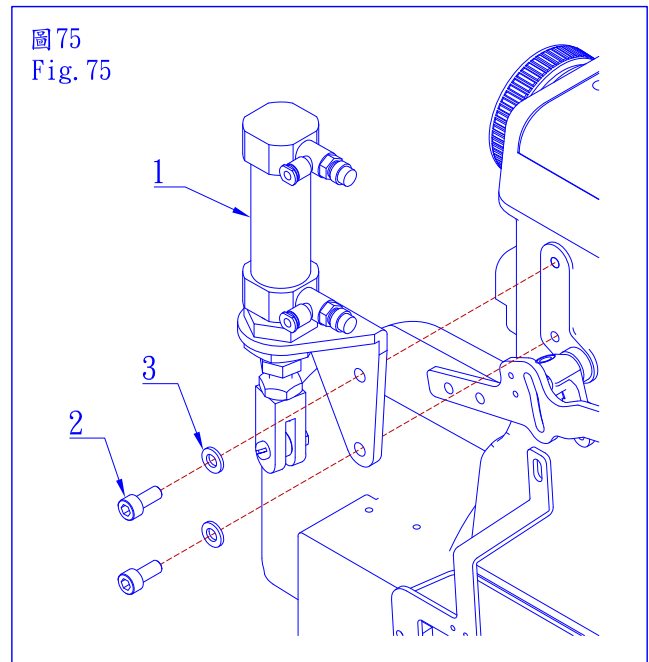
安裝氣動式抬押腳

Installing the pneumatic presser foot lift

用螺絲 2、墊片 3 把氣缸裝到機器上。
(圖75)

Install air cylinder 1 to the machine with screws 2, spring washers 3. (Fig. 75)

圖 75
Fig. 75



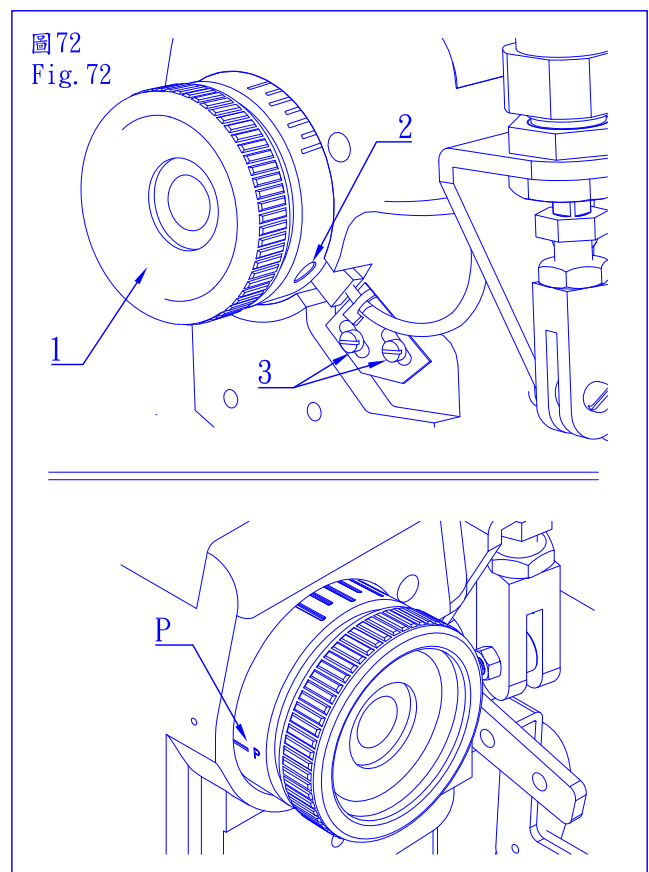
安裝定位器

Installing the position detector

1. 放鬆手輪 1 上的兩顆螺絲 2，再將手輪 1 拆下。
2. 安裝定位器，調整與手輪上磁鐵對齊，鎖緊螺絲 3。
3. 測試定位器 P 點位置，是否針棒上死點有差異放鬆手輪螺絲 2 做調整。

1. Loose the two screws 2 and remove handwheel 1.
2. Install the Synchronizer. The Synchronizer should align with the magnet on the handwheel 1.
3. Adjust the alignment of point P with the top end of the needle bar by adjusting the two screws 2 of handweel 1.

圖 72
Fig. 72



氣動式上切刀風管的連接

Connecting air lines for the pneumatic AST (Pneumatic top cover thread wiper)

請參照圖 80 連接風管及接頭。

注意

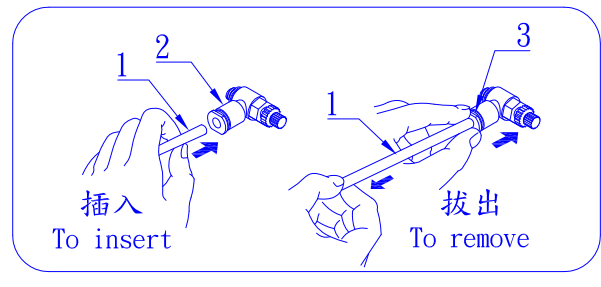
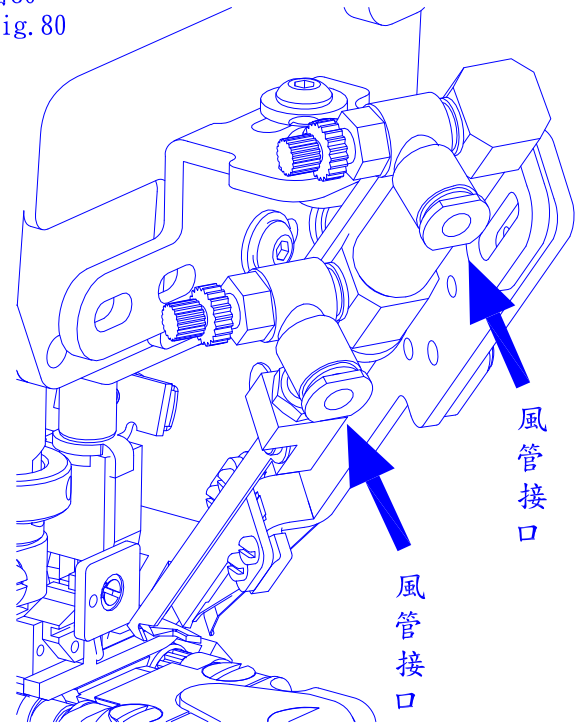
- 把風管 1 完成地插到接頭 2 的底部，並且檢查風管不能用手拉出。
- 壓鬆開圈 3 往接頭 2 的方向可以把風管 1 拉出。

Connect air tubes and air hoses by referring to Fig. 80.

Note:

- * Insert the air tube 1 completely to the depth of the joint 2.
- And check if the air tube cannot be removed by pulling it by hand.
- * to remove the air tube 1 from the joint 2, push the release ring 3 toward the joint 2 and pull out the air tube 1. (Fig. 80)

圖80
Fig. 80



調整氣壓

Adjusting air pressure

把氣壓表 1 的旋鈕 A 往上拉然後設定壓力再 0.5Mpa (5Kgf/cm²).

• 旋轉旋鈕 A 順時針方向可增加壓力.

• 旋轉旋鈕 A 逆時針方向可減少壓力.

請定時把氣壓表內的水分排掉以免水份流入氣缸及電磁造成損壞。(圖81)

Pull up knob A on filter regulator 1 until it clicks.

Then set the air pressure at 0.5 Mpa (Kgf/cm²).

* To increase the air pressure, turn knob A clockwise.

* To decrease the air pressure, turn knob A counterclockwise. (Fig. 81)

[Draining]

Caution !

The water drainage and air spout out downward.

Drain the filter regulator periodically until the drainage reaches the baffle. Otherwise the water drainage will flow into the solenoid valve and/or the air cylinder, causing trouble.

Drain the filter regulator before the water drainage level reaches baffle 2. To do so, press button 3. (Fig. 81)

操作方法

Operation

1. 後踩腳踏板使抬押腳舉起後把布放入押腳下
(此時切線還沒有動作.)
2. 前踩腳踏板使機器啟動.
 - 機器的速度可經由前踩來自由控制
 - 當機器停止運轉時, 用手可順暢地旋轉手輪.
3. 再次後踩腳踏板, 切線啟動然後提起抬押腳, 把布從押腳腳下方取出.
在切線以後, 後踩腳踏板可輕易地提起或放下抬押腳.
(圖82)

1. Raise the presser foot by pressing the treadle with heel.
Position the fabric under the presser foot.
 - * The thread trimming doesn't work at this time
2. Start the machine by pressing the treadle with toe.
 - * Machine speed can be adjusted freely by the amount of pressing when you press the treadle with toe.
 - * The machine pulley can be turned easily with hand while the machine is not running.
3. Press the machine treadle with heel again.
The AWT or AST thread trimming gets actuated. Then the presser foot is lifted.
Remove the fabric from the under surface of presser foot.
 - * After the threads have been trimmed, the presser foot can be easily lifted or lowered by pressing the treadle with heel. (Fig. 82)

圖81
Fig. 81

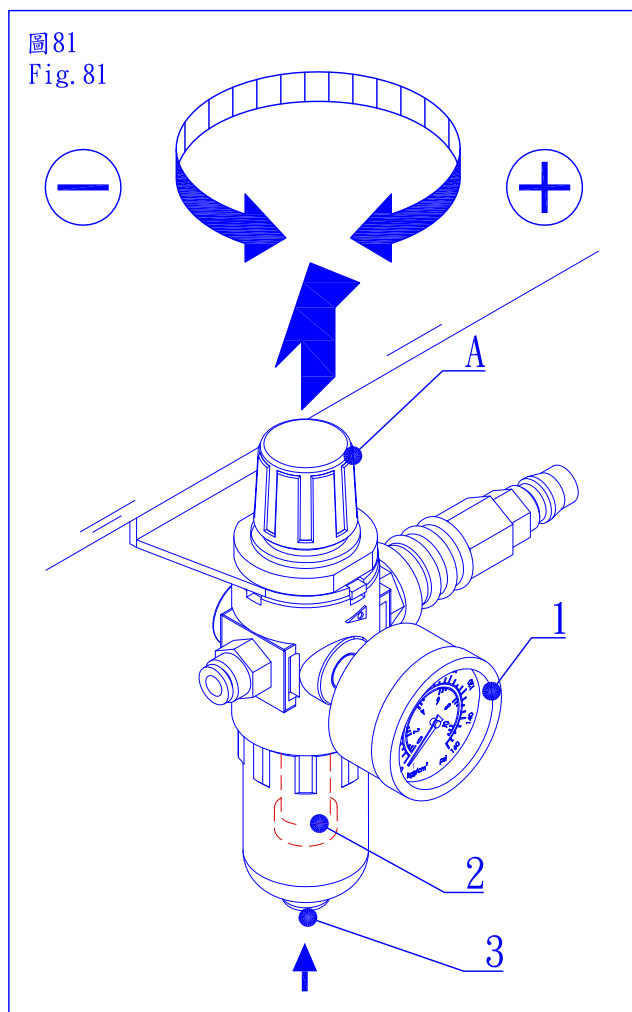
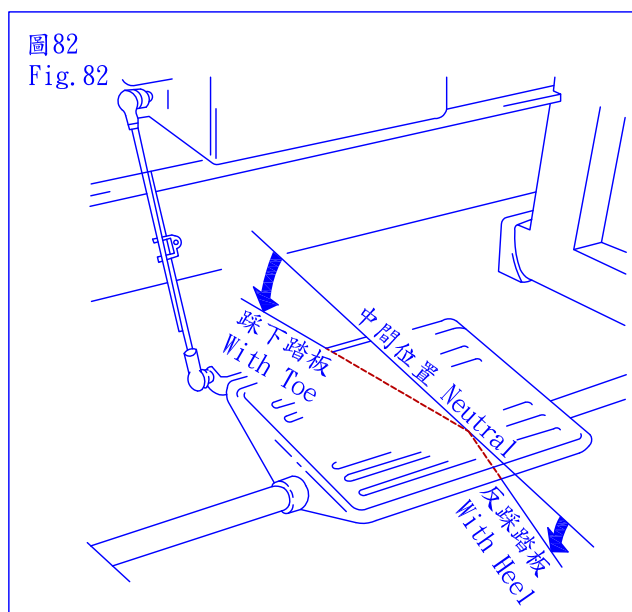


圖82
Fig. 82



調整氣動式撥線裝置

Adjusting the pneumatic needle thread wiper (air wiper)

當針棒在最高點時，調整吹氣孔 A 在左針針孔下緣 1~2mm 位置，調整最左針中心點到吹氣孔中心點的距離 B 約為 0.5~1.5mm，吹氣的角度 C 約為 0°~5°，鬆開螺絲 1 移動撥線器 2，調整後鎖緊螺絲 1。(圖100 & 圖101)

When the needle is at the highest position, set the opening A of the air wiper 1-2 mm below the eye of the left needle. Distance B from the center of the left needle to the air wiper on the backside of the needle should be 0.5-1.5 mm. Blowing angle C should be 0-5°. Adjustment is made by loosening screw 1 and moving air wiper 2. After this adjustment is made, tighten screw 1. (Fig. 100 & Fig. 101)

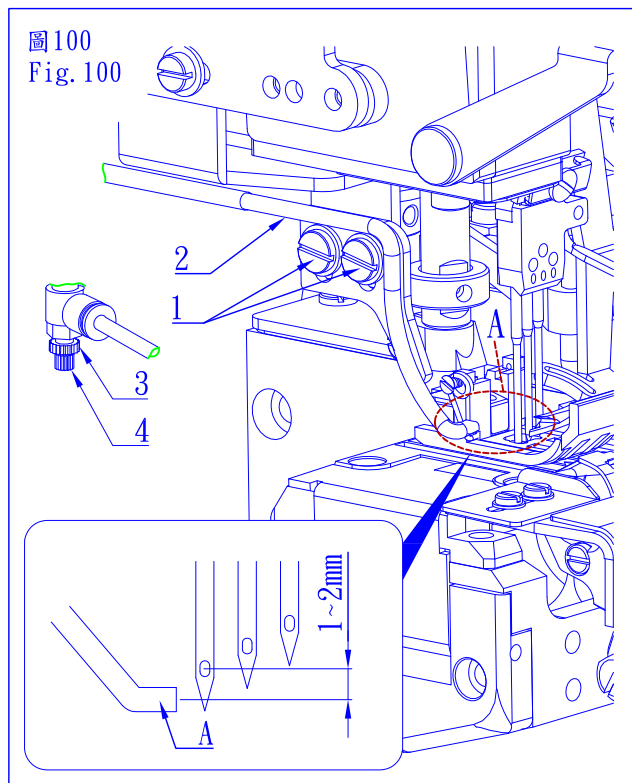
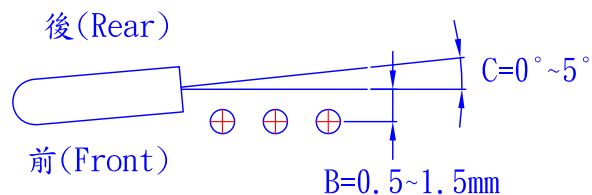


圖101
Fig. 101



調整撥線器的風量

[To adjust the amount of air from the air wiper]

風量要能吹到線頭不會殘留在下一片車縫布上面。鬆開螺母 3，旋轉螺絲 4 到所需要風量後鎖緊螺母 3。

- 往順時針方向旋轉螺絲 4 可減少風量。
- 往逆時針方向旋轉螺絲 4 可增加風量。

(圖100)

The air should be the extent to which the trailing end of trimmed needle threads can be removed from the next fabric. Loosen nut 3. After this adjustment, tighten nut 3.
*To decrease the amount of air, turn screw 4 clockwise.
*To increase the amount of air, turn screw 4 counterclockwise. (Fig. 100)

調整鬆線器

Adjusting the thread releaser

1. 調整鬆線棒的主軸 4 使鬆線盤 2 與鬆線指 3 的間隙為 0.2-0.5mm 然後鎖緊螺絲 1 .

(圖104、105)

2. 調整導桿 5 使 A 的距離為 38.5mm , 然後鎖緊螺絲 .

(圖105)

• 每一根針線的鬆線量依照導線塊 7 和鬆線器 8 的關係做調整, 如圖105 . 棉線: B=13mm , C=11mm , D=7mm , E=14mm , F=6mm , 但伸縮尼龍線從 B 到 F 的距離則要縮短一點 .

• 機器不裝上切刀時

調整上飾線鬆線器 9 , 當針線和下勾針線被放鬆時, 才不到被影響 .

• 機器裝上切刀時

調整 E 的距離為 14mm .

首先鬆開螺絲 10 調整鬆線量 .

• 上升提線器 11 可減少線量 .

• 下降提線器 11 可增加線量 .

調整以後鎖緊螺絲 10 . (圖106)

1. Loosen screw 1. Adjust bar shaft 4 to set a clearance of 0.2-0.5 mm between the thread tension disks 2 and fingers on thread releaser 3. Then tighten screw 1. (Fig. 104 & 105)

2. Adjust shaft 5 to obtain distance A (=38.5 mm). After this adjustment is made, tighten screws 6. (Fig. 105)

* The releasing amount of each thread is made by the relationship between thread guides 7 and thread releasers 8. Cotton threads: B=13 mm, C=11 mm, D=7 mm, E=14 mm, F=6 mm for stretchable threads, such as woolly threads, all the distances above from B to F should be slightly shortened.

* Without top cover thread trimmer

Position thread releaser 9 (for top cover thread) so that the top cover thread will not be affected if needle and looper threads are loosened.

* With top cover thread trimmer Set E at 14 mm.

To adjust the releasing amount, loosen screw 10 first.

* To decrease the amount, raise thread take-up 11.

* To increase the amount, lower thread take-up 11.

After this adjustment is made, tighten screws 10.

(Fig. 106)

圖104
Fig. 104

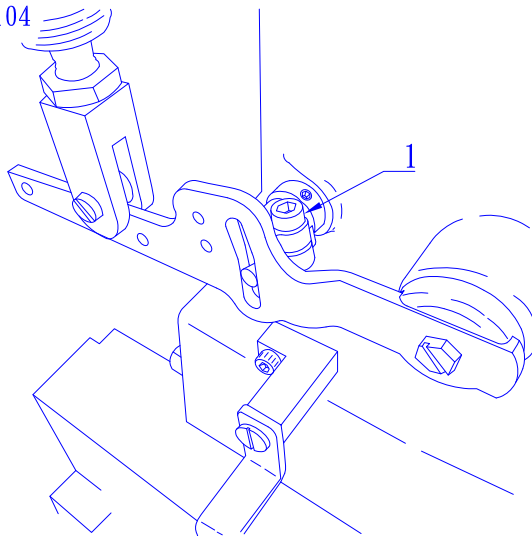


圖105
Fig. 105

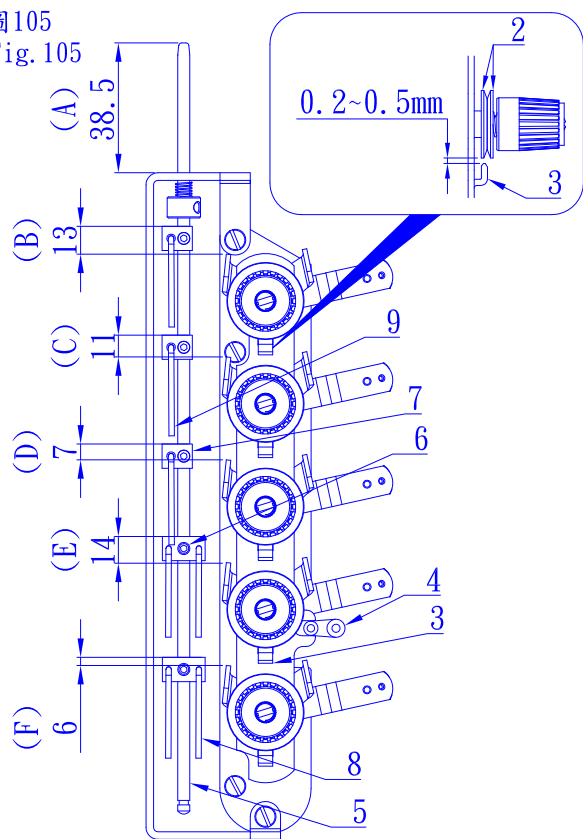
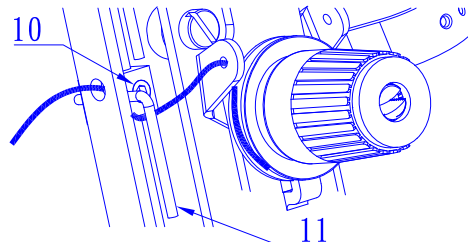


圖106
Fig. 106



自動切線

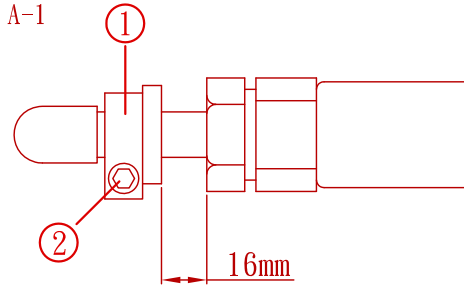
A. 調整切刀氣缸

A. Adjusting trimming air cylinder

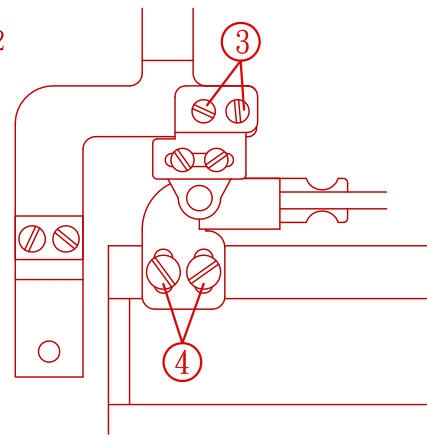
最適合的行程是16 mm.
把軸環 1 上的螺絲 2 鬆開.

The proper stroke is 16 mm.
For adjustment, loosen the screws 2 of the collar 1 .

圖A-1
Fig. A-1



圖A-2
Fig. A-2



⚠ 注意 NOTE

當氣缸的行程被改變, 重新調整切線機構時須檢查調整微動開關.

When the stroke of the air cylinder is changed, readjust the action of the thread trimming mechanism. Check that the condition of the detector switch.

調整如下:

- (1)鬆開螺絲 3 和 4 .
- (2)當下切刀回到原點的位置時把微動開關打開到ON.
- (3)鎖緊螺絲 3 和 4 .

For adjustment:

- (1)Loosen the screws 3 and 4 .
- (2)Adjust so that the switch is turned ON when the trimming knife returns to the original position.
- (3)Tighten the screws 3 and 4 .

B. 下切刀位置

B. Position of lower knife

- (1)使可動刀 1 的邊 2 和固定刀帶動座 3 的邊 4 平行。
- (2)鎖上螺絲 5 。

- (1)Make the side 2 of the lower knife 1 parallel with the side 4 of the lower knife carrier 3 .
- (2)Fix with the screws 5 .

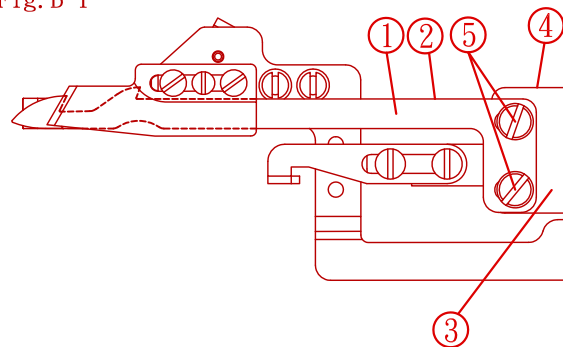


小心 CAUTION

只有針在最高點時,切刀才可以用手動操作若針不是在最高點,零件可能被碰撞而損傷。

The trimming knife mechanism can be operated manually only when the needle is at its top. If the needles are not at the top, the parts may be contacted and broken.

圖B-1
Fig. B-1



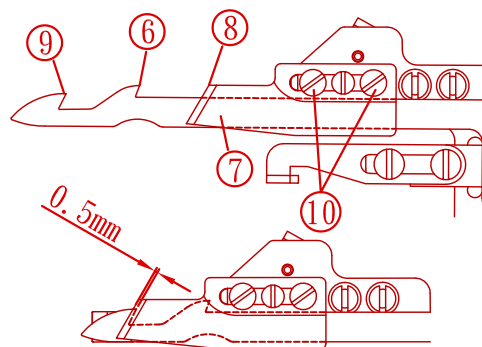
C. 固定刀與可動刀的關係

C. Relation between upper knife and lower knife

- (1)放鬆螺絲 10 。
- (2)調整固定刀 7 的尖點 8 與活動刀的尖點 6 對齊。
- (3)當活動刀在止點時左右調整固定刀 7 與活動刀的尖點 9 切合 0.5mm ~ 1.0mm 。
- (4)鎖緊螺絲 10 。

- (1)Loosen the screws 10 .
- (2)Align the hook 6 for needle thread of the lower knife with the corner 8 of the upper knife 7 .
- (3)When the lower knife is at the extreme right , move the upper knife 7 right and left to make an engagemet of 0.5mm ~ 1.0mm between the hook 9 for looper thread and the upper knife 7 .
- (4)Tighten the screws 10 .

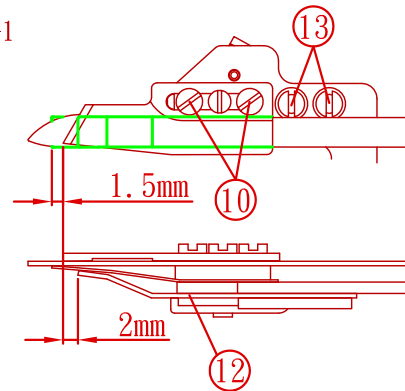
圖C-1
Fig. C-1



D. 夾線彈片與壓力彈片的位置
D. Position of thread clamp spring and thread clamp pressure

- (1) 鬆開螺絲 10 。
 - (2) 調整夾線彈片 11 與固定刀尖點的距離為 1.5mm。
 - (3) 鎖緊螺絲 10 。
 - (4) 鬆開螺絲 13 。
 - (5) 調整壓力彈片12與固定刀尖點的距離為 2mm。
 - (6) 鎖緊螺絲 13 。
- (1) Loosen the screws 10 .
 - (2) Make a distance of 1.5mm from the tip of thread clamp spring 11 to that of upper knife .
 - (3) Tighten the screws 10 .
 - (4) Loosen the screws 13 .
 - (5) Make a distance of 2mm from the tip of clamp spring pressure to that of upper knife .
 - (6) Tighten the screws 13 .

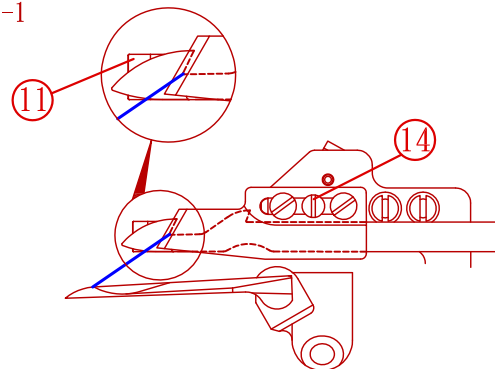
圖D-1
Fig. D-1



E. 夾線彈片的壓力
E. Pressure of thread clamp spring

- (1) 切線後，下勾針線被夾線彈片 11 夾住。
 - (2) 要增加夾線壓力時，順時針方向轉動 14 螺絲。
 - (3) 要減少夾線壓力時，則為逆時針方向轉動 14 螺絲。
- (1) Looper thread is held by the thread clamp spring 11 after cut .
 - (2) To increase the pressure, turn the adjusting screw 14 clockwise .
 - (3) To decrease, turn screw 14 counterclockwise .

圖E-1
Fig. E-1



⚠ 注意 NOTE

壓力應該在能夾住下勾針線的範圍即可

The pressure should be minimized so long as looper thread can be held .

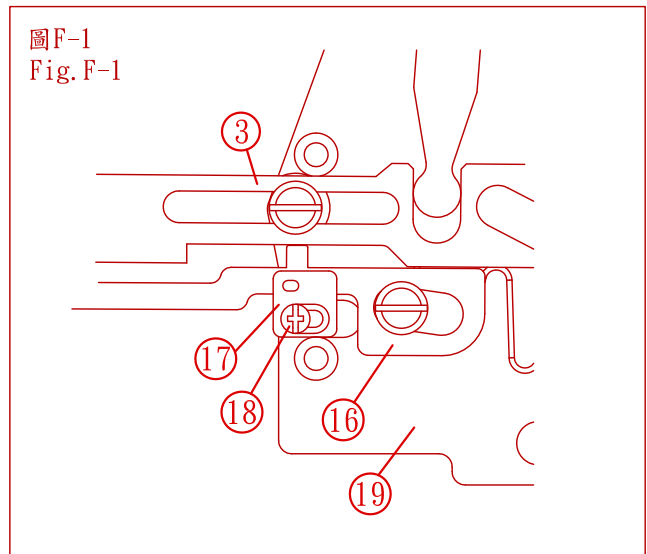
F. 固定刀帶動座的位置

F. Position of upper knife carrier

固定刀與活動刀帶動座 3 同時滑向左邊，接觸到固定刀帶動器 16 的止動塊 17 後停止，固定刀滑動到針板底下。

The upper knife carrier 16 slides to the left simultaneously with the lower knife carrier 3 and stops by touching the upper knife carrier stopper 17. The upper knife slides under the stitch plate.

圖F-1
Fig. F-1



小心 CAUTION

帶動座 16 不要滑到太左夾線彈簧會碰撞到下勾針

NEVER slide the carrier 16 to the left too much, because the thread clamp spring pressure touches the looper.

調整如下：

- (1) 鬆開螺絲 18。
- (2) 調整止動塊 17 的位置，其與螺絲 18 之中心兩邊要對稱。
- (3) 鎖緊螺絲 18。

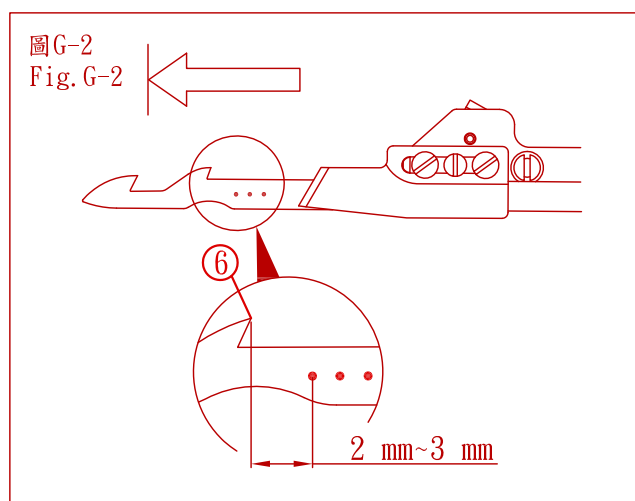
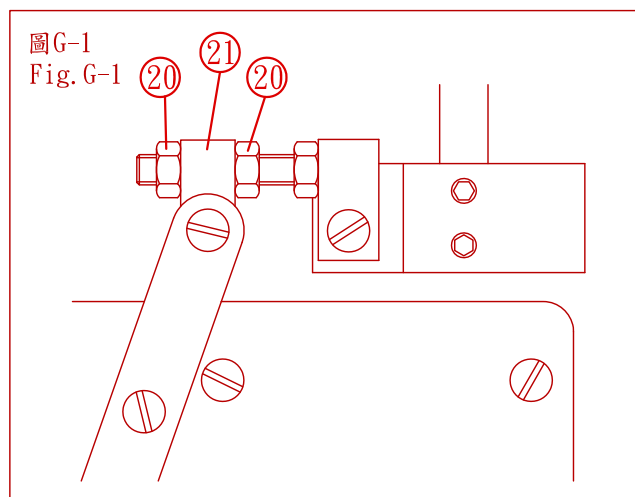
For adjustment :

- (1) Loosen the screws 18.
- (2) Adjust Screw 17 and 18 to align With carrier stopper.
- (3) Tighten the screws 18.

G. 活動刀與針的關係
G. Relation between lower knife and needle

- (1) 鬆開螺母 20 。
- (2) 把活動刀移到左死點。
- (3) 左右調整連動塊 21 使活動刀刀口尖點 6 和左針中心點距離為2mm~3mm。
- (4) 鬆開螺母 20 。

- (1) Loosen the nuts 20 .
- (2) Move the lower knife to the extreme left .
- (3) Adjust the connecting block 21 to the right and left to make a distance of 2mm - 3mm from the hook 6 for needle thread to the left needle .
- (4) Tighten the nuts 20 .

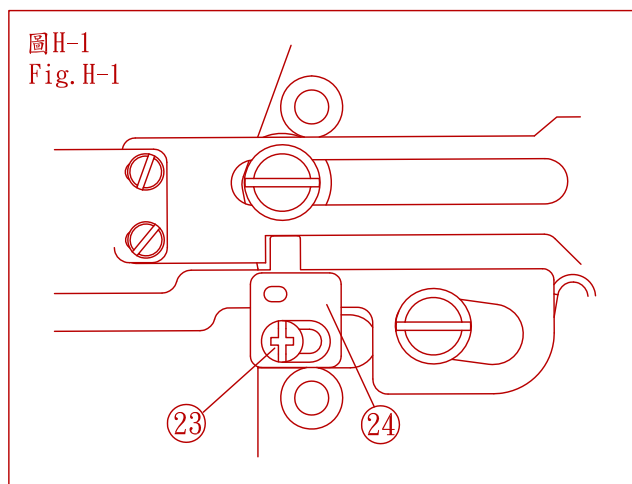


H. 活動刀尖點的位置 H. Position of lower knife point

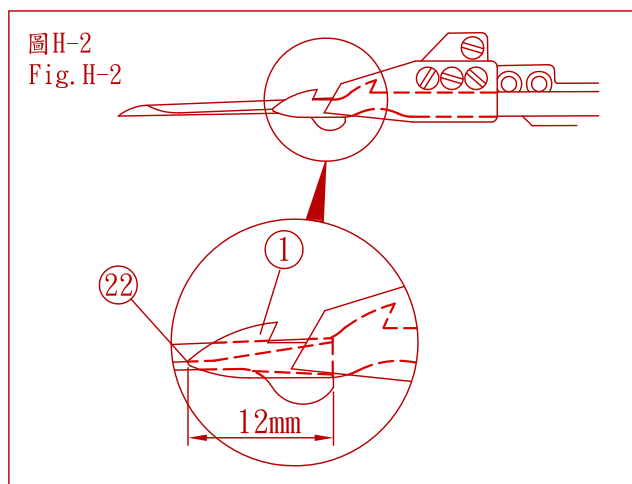
- (1) 滑動活動刀到左邊。
- (2) 當活動刀 1 的點尖點 22 與下勾針的最右點距離為 12mm，調整活動刀的頂尖點 22 與下勾針上緣內側1/3對齊。
- (3) 鬆開 23 螺絲，調整止動塊 24，左右移動調整活動刀 1，頂尖點的位置為12mm。

- (1) Slide the lower knife to the left.
- (2) When the distance between the point 22 of knife 1 and the right end of looper is at 12 mm, the point 22 should align with 1/3 proportion of the slant of looper.
- (3) Loosen screw 23 and move the bracket 24 left and right for the adjustment.

圖H-1
Fig. H-1



圖H-2
Fig. H-2



I. 調整活動刀帶動引導器

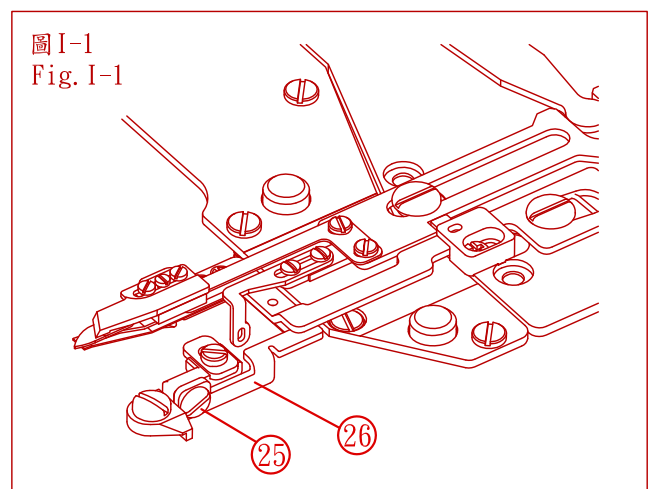
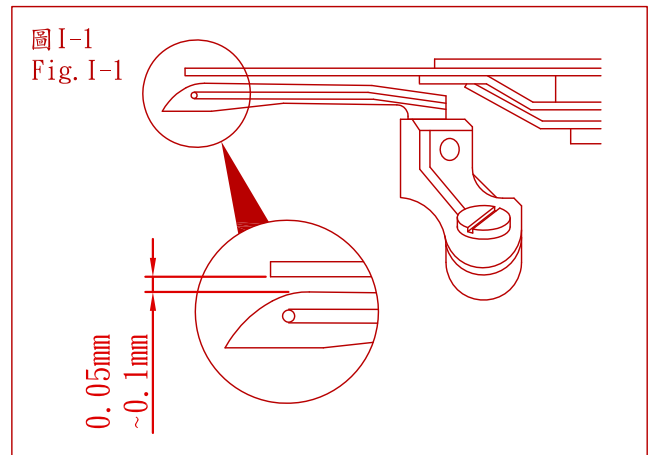
I. Adjusting lower knife carrier guide

活動刀下緣與下勾針上緣的距離應為0.05~0.1mm之間。

- (1)鬆開螺絲 25 並且下移動活動刀引導器 26，使引導器上緣貼到固定刀帶動座下緣。
- (2)鎖緊螺絲 25。
- (3)檢查固定刀帶動座和活動刀帶動器，必須能夠滑動順暢。

The proper distance is 0.05 - 0.1mm between the lower knife 1 and the top of the looper .

- (1)Loosen the screw 25 and move the lower knife carrier guide 26 up and down to make its top to touch with the bottom of upper knife carrier .
- (2)Tighten the screw 25 .
- (3)Check that the upper knife carrier and the lower knife carrier can move smoothly .



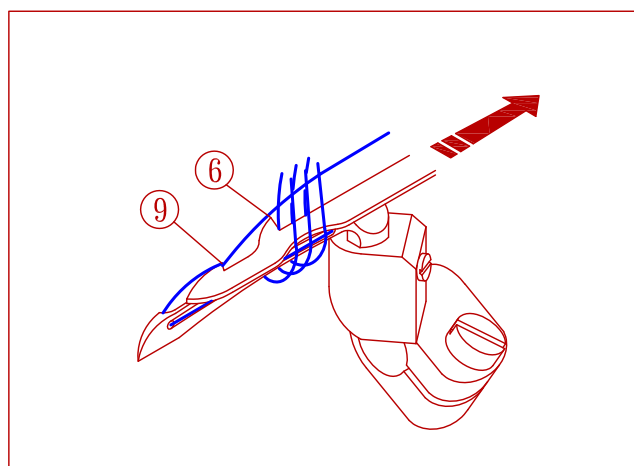
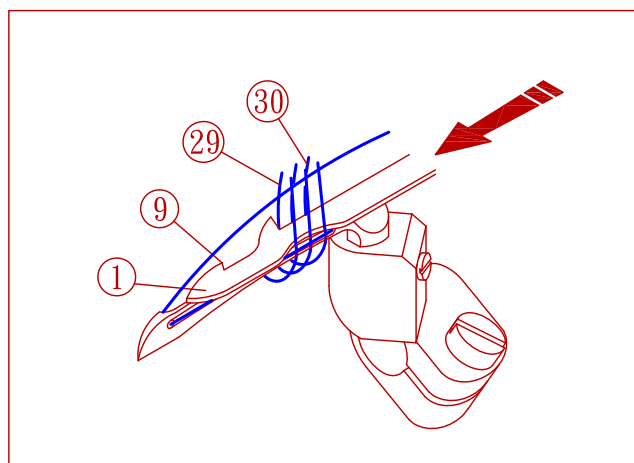
K. 針線，下勾針線及活動刀之間的關係
K. Relation between needle thread, looper thread and lower knife

車縫前，請檢查如否照以下方式設定：

- 活動刀 1 通過線圈 29 和 30 。
- 活動刀口 9 移到下勾針線的前面。
- 針線由活動刀口 6 拉到右邊後，被固定刀切斷。
- 下勾針線由活動刀口 9 拉到右邊後，被固定刀切斷。

Before sewing performance, be sure to check as follow :

- The lower knife 1 passes through the loops 29 and 30 of needle thread .
- The hook 9 for looper thread moves in front of looper thread .
- The needle thread is pulled to the right by the hook 6 to be cut by the upper knife .
- The looper thread is pulled to the right by the hook 9 to be cut by the upper knife .

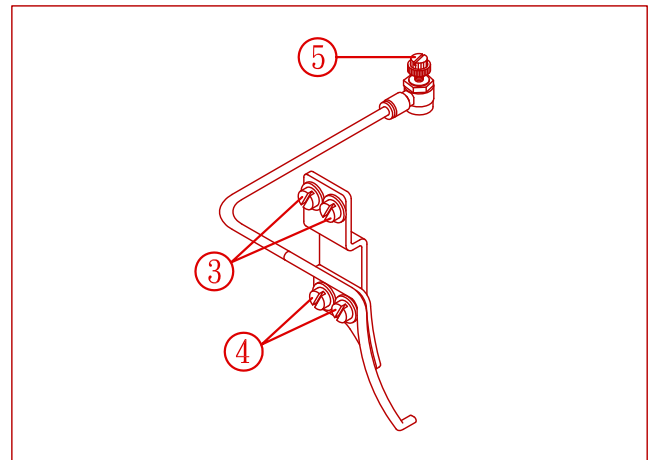
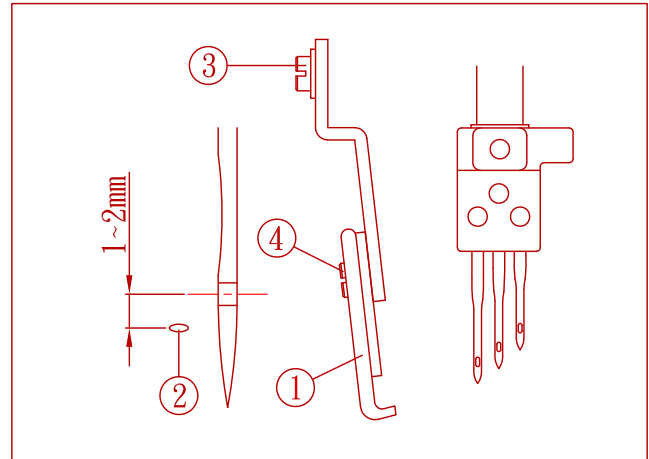


L. 調整吹線器

L. Adjustment of air wiper

- (1) 鬆開螺絲 3。
- (2) 前後調整吹線器使位置在針後面吹氣。
- (3) 鎖緊螺絲 3。
- (4) 鬆開螺絲 4。
- (5) 當真提升到最高度，吹線器 1 的吹孔中心點應在左針針孔下方 1 ~ 2 mm 處。
- (6) 鎖緊螺絲 4。
- (7) 從調整鈕 5 調整吹氣流量，要減少吹氣流量，轉順時針方向，要增加則轉逆時針方向。

- (1) Loosen the screws 3 .
- (2) Slide the air wiper back and forth to position so that the wiper blows air behind the needle .
- (3) Tighten the screws 3 .
- (4) Loosen the screws 4 .
- (5) When the needles are at the top of their travel, position the air wiper 1 so that the center of the air blowing hole is 1.0mm - 2.0mm below the needle eye of the left needle .
- (6) Tighten the screws 4 .
- (7) Adjust the air flow with the speed controller 5 .
To decrease the air flow, turn the adjusting screw clockwise .
To increase, turn counterclockwise .

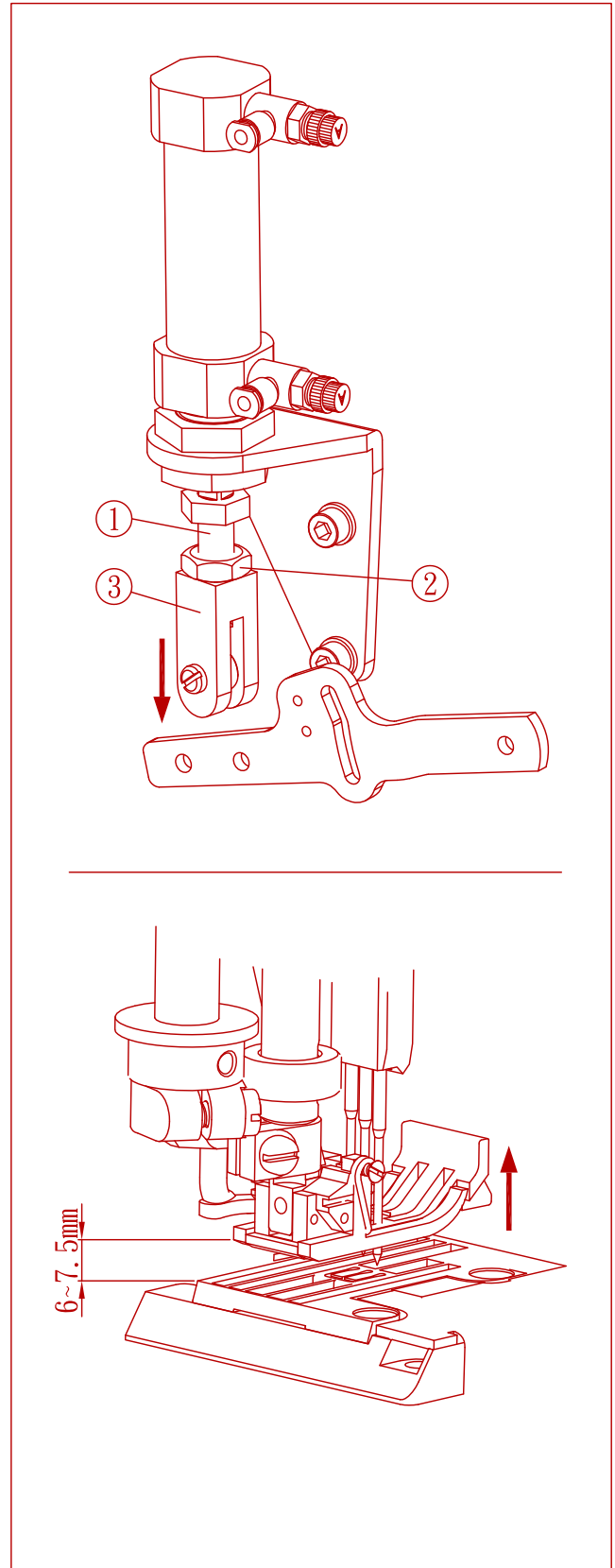


M. 壓腳機構

M. Presser foot lifter mechanism

- (1) 鬆開固定螺母 2。
- (2) 轉氣缸桿襯片 3 調整氣缸桿移到最下方時，抬壓腳上升 6 ~ 7.5mm。
- (3) 鎖緊固定螺母 2。

- (1) Loosen the lock nut 2 .
- (2) Turn the cylinder rod chip 3 and adjust so that the presser foot rises by 6 mm-7.5 mm when the cylinder rod is at its bottom (when the cylinder operates) .
- (3) Tighten the lock nut 2 .

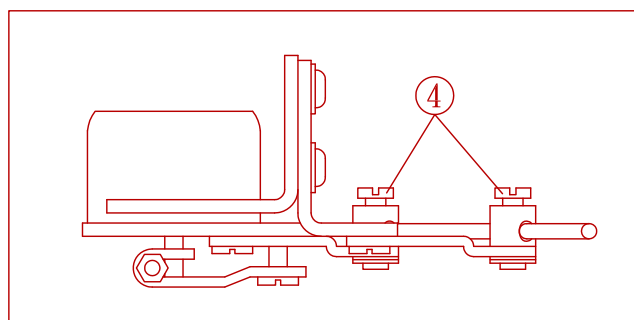
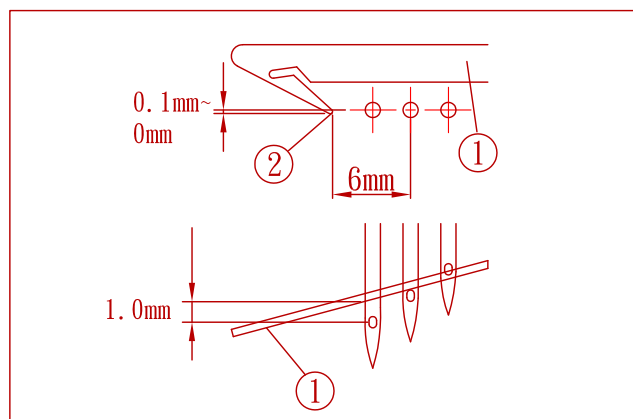


N. 撥線器與針之間的關係

N. Position of wiper and needles

- (1) 撥線勾 1 往下擺動至呈水平狀態時，撥線片勾點 2 與針中心點為 0~0.1mm 的距離。
- (2) 撥線勾 1 與最左針之針尖的高度距離為 1.0mm。
- (3) 當撥線器在左底點時，針棒中心點與撥線勾頂點 2 距離為 6.0mm。
- (4) 調整時可鬆開螺絲 4 調整撥線勾桿至適當位置。

- (1) When wiper 1 is at down dead point, the clearance between wiper hook 2 and 3 needles is 0~0.1mm.
- (2) The clearance between wiper 1 and left needle is 1.0mm.
- (3) The clearance between wiper hook 2 and middle needle is 6.0mm.
- (4) To adjust the proper position by loosening the screws 4.

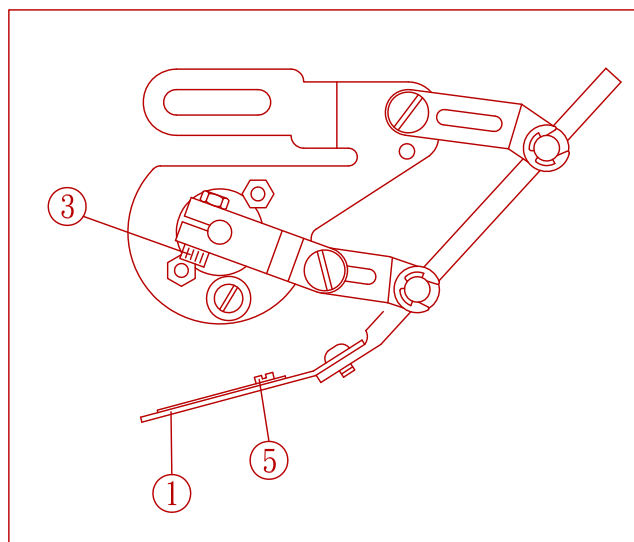


O. 撥線器與夾線彈片的關係

O. Adjustment for wiper and clamp spring

- (1) 調整夾線彈片與撥線勾 1 能輕輕拉住針線即可。

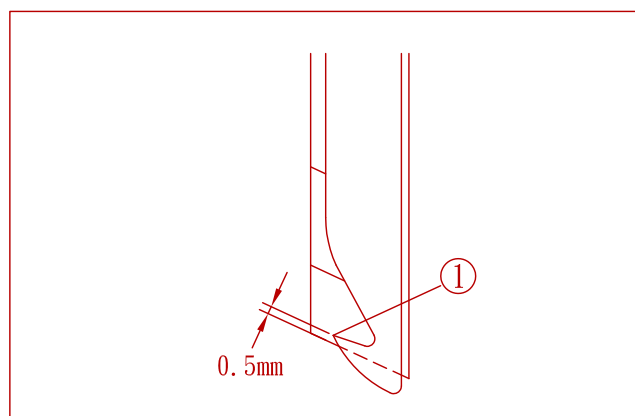
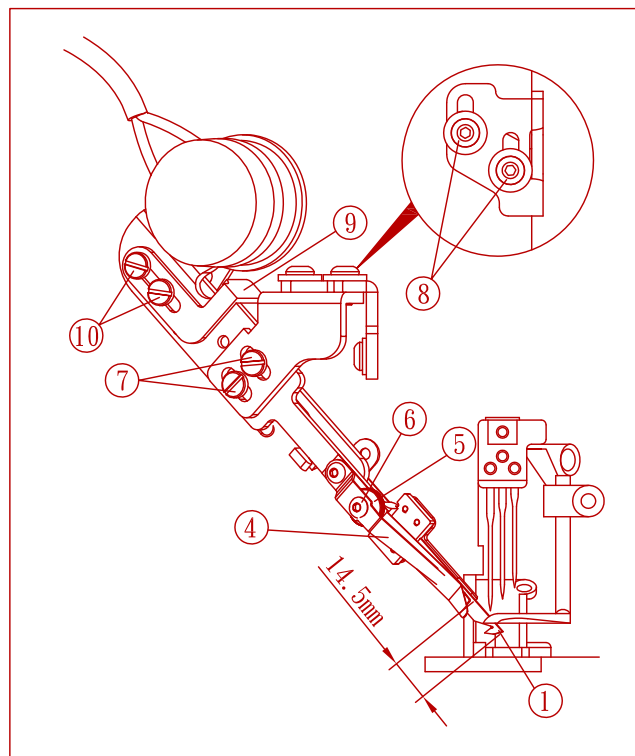
- (1) Adjust the clamp spring and wiper hook to hold the needle threads gently.



P. 活動刀與固定刀之間的嚙合與行程
 P. Position and stroke of the movable trimming knife and fixed trimming knife

- (1)活動刀刀尖 1 固定刀邊緣要有0-0.5mm的嚙合。
- (2)活動刀被驅動到最低點時，活動刀刀尖 1 與固定刀下緣須有14.5mm的距離。〈電動式上切刀15~18mm〉
- (3)調整時可鬆開螺絲 10，移動活動座 9 作以上調整。
- (4)切線後，上飾線須被夾線片 4 與活動刀穩穩夾住。
- (5)調整時可鬆開螺絲 5，旋轉螺絲 6，使夾線片至適當鬆緊。

- (1)The clearance between them should be 0 to -0.5mm.
- (2)When movable trimming knife is at its down dead point, the distance between its hook 1 and the bottom of the fixed trimming knife should be 14.5mm. (15-18mm for electrical type).
- (3)To adjust the movable holder 9 by loosening the screws 10.
- (4)After trimming, upper thread have to be clipped by clamp spring and movable trimming knife smoothly.
- (5)Adjust the clamp spring to proper tension by loosening screw 5 and turning screw 6.



Q. 上切刀之高度
Q. The height of top thread trimmer

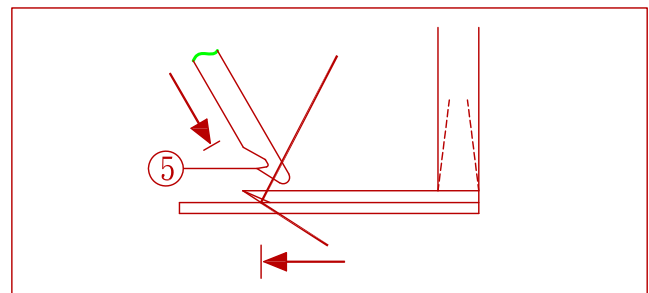
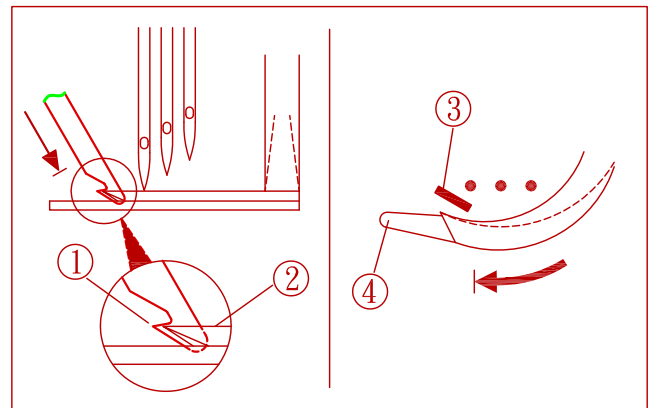
! 小心 CAUTION

安裝、調整上切刀組時必須先確定針棒是否停於上定點，且上勾針之相關位置必須處於正常狀態下。

Please make sure the needle bar is at up dead point, and the spreader's position is normal prior to install and adjust top thread trimmer.

- (1)當活動刀片移至最低點時，活動刀之刀尖 1 與上勾針 2 之上沿須切齊等高。
- (2)調整時可鬆開螺絲 7 調整切刀之高低。

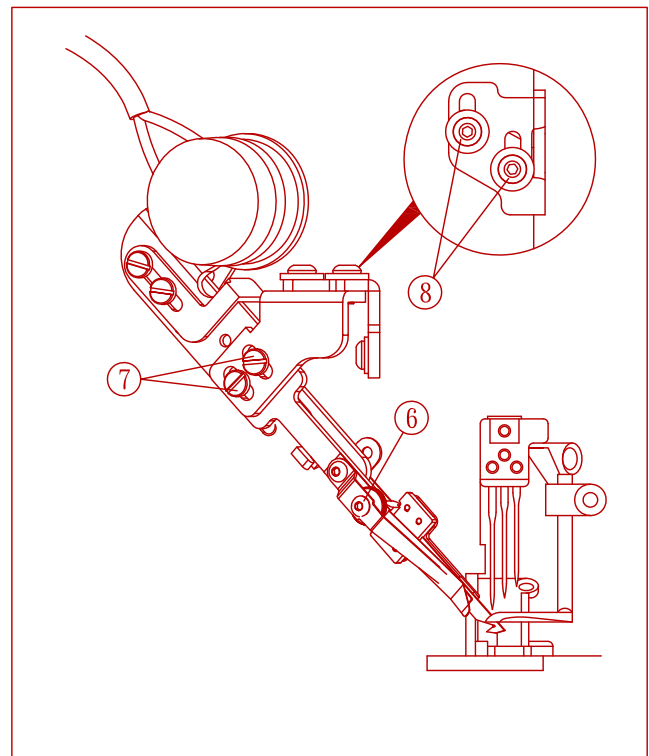
- (1)When movable trimming knife is at down dead point, its hook 1 is at the same height of the spreader 2 .
- (2)Adjust its height by loosening the screw 7 .



R. 上切刀組之角度
R. Angles of top thread trimmer

- (1)當活動刀片 3 往下移至下定點，須位平針及上勾針 4 之間隙中央。
注意：活動刀片不可和針磨擦碰撞。
- (2)活動刀片往下移時，刀片前端斜面須和上飾線有磨擦接觸情形 5，當活動刀片往上收時，上飾線才能順利滑入刀槽內。
- (3)調整時可放鬆螺絲 8 調整切刀之角度。

- (1)Movable trimming knife is between needle 1 and spreader 2 when it is at down dead point.
Note: Movable trimming knife can't touch needle and spreader.
- (2)When movable trimming knife is moving downward, it will touch the spreader lightly 3 to make sure when movable trimming knife moves upward, the upper thread can be trimmed properly.
- (3)Adjust the angles by loosening the screws 8 .



S. 調整驅動系統

S. Adjusting the driving system

螺絲 2 和螺絲 3 兩中心點的距離為 23mm 是連桿正確的位置，請暫時鎖緊螺母 1 做下切刀的微調。(圖 84)

鬆開螺帽 4 用手可輕易地移動驅動桿 5，當移動驅動桿 5 時，請確定針在行程的最高點。(圖 85)

Caution !

- * Always turn off the power, shut down the air compressor and then authorized technicians are allowed to adjust the air cylinder assembly, top and under thread trimming system.
- * To prevent injury to your hands and/or fingers by the cutting edge of the lower knife, great care should be taken when you perform these procedures.
- * The lower knife and the needle may touch with each other. Be sure to bring the needle to its highest position when adjusting the lower knife.

The distance from the center of screw 2 to that of screw 3 is 23 mm.

Temporarily loose nuts 1 to make a fine adjustment on the lower knife. (Fig.84)

To make a fine adjustment on the knife, loosen screw 4 so that driving lever 5 can be moved easily by hand.

When moving driving lever 5, be sure to bring the needle to the top of its stroke. (Fig. 85)

圖 84
Fig. 84

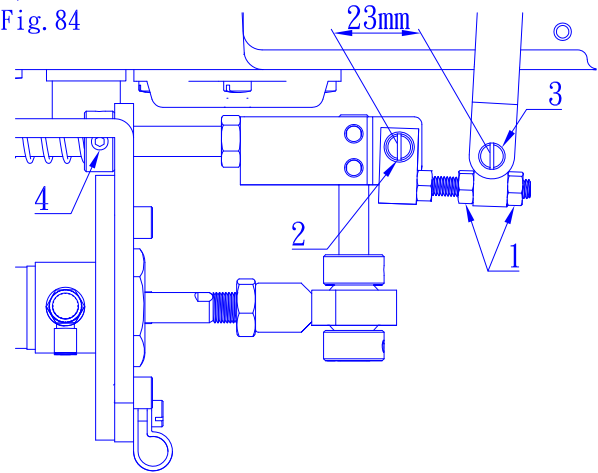
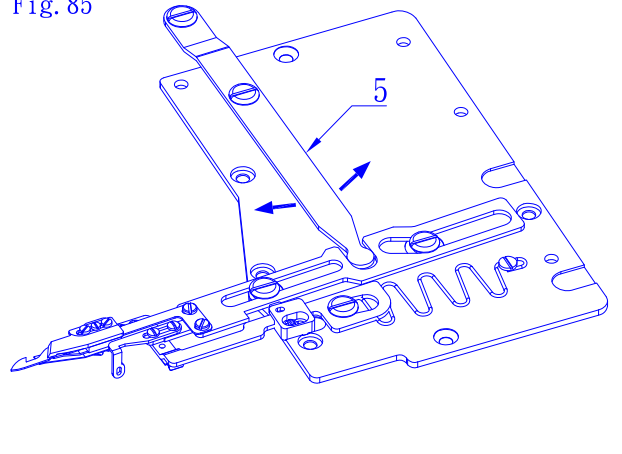


圖 85
Fig. 85



T. 調整下切刀片 T. Lower knife adjustment

- 避免人員受傷，請務必關閉電源後再做調整。
- 當調整下切刀時，請務必把針帶到最高點的位置，才不會造成彼此的碰撞。

1. 調整活動刀左右的方向

平行位置調整活動刀 1，固定螺絲 2 的中心點和活動刀的尖點距離為 66mm，鬆開螺絲 2 和 3 調整活動刀 1 到正確位置後再鎖緊螺絲 2 和 3。(圖86)

2. 調整活動刀前後的方向

調整活動刀 1 使刀尖的尖點與下勾針右端點的距離為 9mm，並且調整活動刀間點在下勾針 4 背部的中心點，鬆開螺絲 5 並且前後調整下勾針座 6，調整完成後鎖緊螺絲 5 (圖87、88)

3. 調整活動刀上下的位置

當活動刀的尖點 A 從左移動到右 9mm 時，活動刀 1 的下緣必須輕輕接觸下勾針 2 的上緣(圖89)

1. To position the lower knife left and right

Horizontal positioning adjustment of the lower knife 1. The distance between the center of lower knife set screw 2 and tip A of the lower knife should be 66 mm. This adjustment is made by loosening screws 2 and 3, and moving lower knife 1 as required. After this adjustment is made, tighten screws 2 and 3. (Fig. 86)

2. To position the lower knife front and back

Position lower knife 1 so that point A of the lower knife is 9 mm past the right end of looper 4 and centered front to back over looper 4. Adjustment is made by loosening screws 5 and moving lower knife holder 6 front or back as required. After this adjustment is made, tighten screws 5. (Fig. 87 & 88)

3. Positioning the lower knife up and down

When point A of the lower knife has moved 9 mm to the left from the right end of looper 2, the bottom of lower knife 1 should slightly contact the top surface of looper 2.(Fig.89)

圖86
Fig. 86

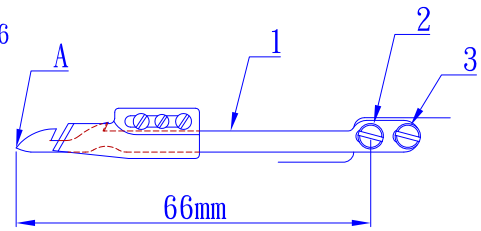


圖87
Fig. 87

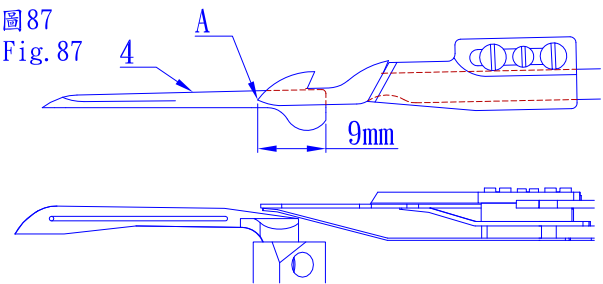


圖88
Fig. 88

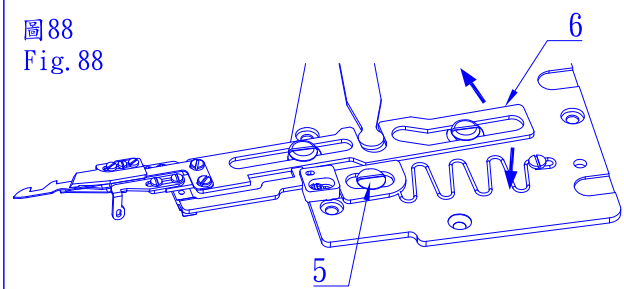
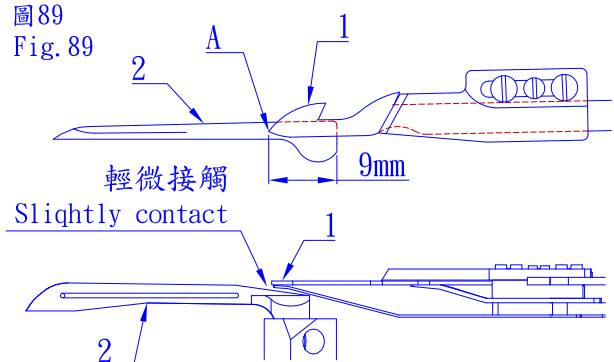


圖89
Fig. 89



4. 調整活動刀在行程左端點的位置

當活動刀在行程的左死點時，活動刀尖點 A 與針棒中心點的距離為 22mm，請鬆開螺絲 3 調整後鎖緊螺絲 3 以上位置等於下勾針針孔左緣與活動刀尖點 A 對齊。(圖91, 圖92)

5. 確認

以上調整完成後，請做以下確認

- 當活動刀在行程的左死點時，圖 93 的間隙 B 大約是 1mm.

6. 當氣缸不動作在原點時(圖92)從托架 5 的左緣到氣缸環 4 的右緣間隙大約 15mm. 請鬆開螺絲 6，移動氣缸環 4 到正確的位置後，鎖緊螺絲 6。(圖92)

4. Positioning the lower knife at the extreme left end of its travel

With lower knife 1 at the extreme left end of its travel, point A of the lower knife is positioned 22 mm from the center of the needle bar.

Adjustment is made by loosening nuts 3.

After this adjustment is made, tighten nuts 3.

- * To check the above easily is to make sure the left end of the looper's eye is aligned with point A of lower knife. (Fig. 91 & 92)

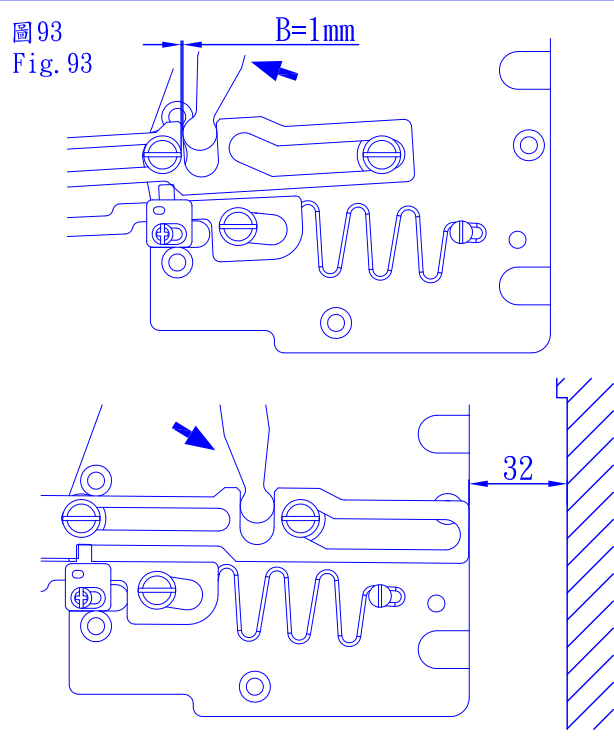
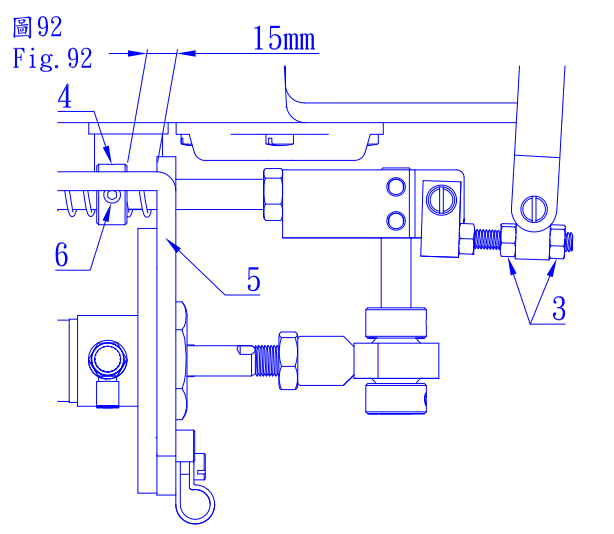
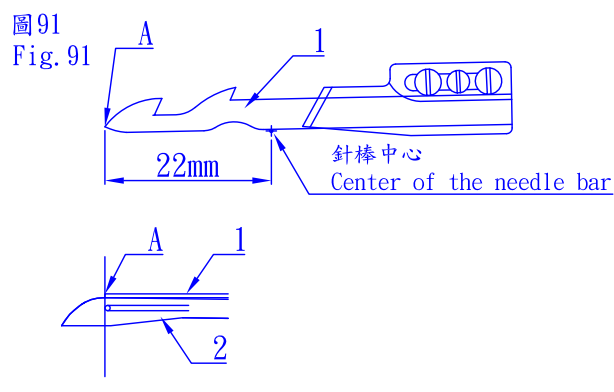
5. Checking

After the above adjustment has been made, check the following.

- * Distance B is approximately 1 mm with lower knife 1 at the extreme left end of its travel.

6. Position the collar

When the air cylinder is not in operation (see Fig. 92), there should be a distance of 15 mm from the left end of bracket 5 to the right end of collar 4. This adjustment is made by loosening screw 6 and moving collar 4 as required. After this adjustment is made, tighten screw 6. (Fig. 92)



U. 調整上切刀片 U. Upper knife adjustment

當活動刀移動到右死點時，活動刀口 2 與固定刀口 1 有 0.5mm 的嚙合。鬆開固定螺絲 3，前後調整固定刀使刀的尖點 A 與活動刀的前緣對齊(如圖94)。做以上調整的同時，請鬆開夾線彈片，調整夾線鬆緊度。(請看以下說明)調整後，鎖緊螺絲 3。

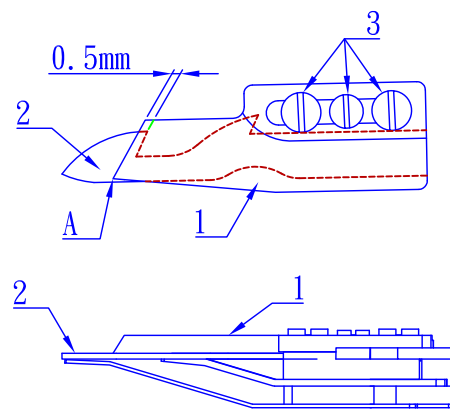
Caution!

Pay close attention to the knife edges not to injure your hands and/or finger.

This adjustment achieves the correct overlap of upper knife 1 and lower knife 2. There should be 0.5 mm when the lower knife is at the farthest position to the right. To adjust the upper knife front to back, align tip A of the upper knife with the front edge of the lower knife by loosening set screws 3. When making the above adjustment, the lower knife clamp spring can be loosened, adjust the lower knife clamp spring simultaneously.(see the following).

After this adjustment is made, tighten screw 3. (Fig. 94)

圖94
Fig. 94



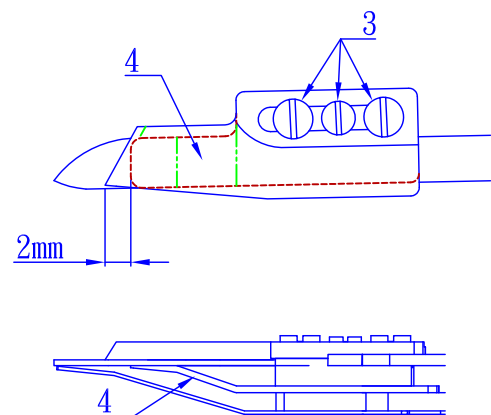
V. 調整下切線彈簧片 V. Lower knife clamp spring adjustment

請依照右圖所示調整夾線彈片 4 與固定刀的尖點 2mm 的間隙。鬆開螺絲 3，前後調整夾線彈簧片。請確認夾線彈簧片與活動刀要平行，調整後鎖緊螺絲 3。(圖95)

Position lower knife clamp spring 4 with 2 mm to the right from the tip of the upper knife as shown in the right illustration. Adjust the lower knife clamp spring front to back by loosening set screws 3.

Be sure that the lower knife clamp spring is parallel with the lower knife. After this adjustment is made, tighten screws 3. (Fig. 95)

圖95
Fig. 95



W. 下勾針線固定板的調整

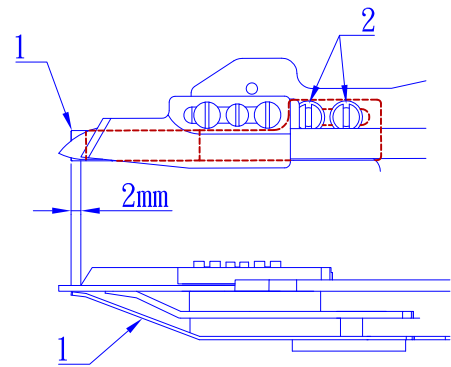
W. Under thread holder adjustment

請依照右圖所示，調整夾線固定片 1 向左與固定刀片尖點的距離為 2mm，鬆開螺絲 2 前後調整夾線固定片。請確認夾線固定片與活動刀平行。調整以上鎖緊螺絲 2。(圖96)

Position under thread holder 1 with 2 mm to the left from the tip of the upper knife as shown in the right illustration. Adjust the under thread holder front to back by loosening set screws 2. Be sure that the looper thread holder is parallel with the lower knife.

After this adjustment is made, tighten screw 2. (Fig. 96)

圖 96
Fig. 96



X. 下切刀、擋片的調整

X. Upper knife stopper adjustment

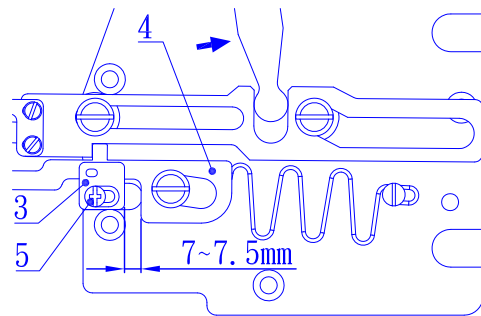
當刀座導片 4 在行程右死點時，刀座導片與固定刀擋片的距離為 7~7.5mm，請鬆開螺絲 5，移動固定刀擋片到正確位置後鎖緊螺絲 5。

- 要減少針線長度請加長這個距離
- 要增加針線長度請縮短這個距離。(圖97)

When knife holder guide 4 is at the extreme right end of its travel, the standard distance between the knife holder guide and upper knife stopper 3 is 7 to 7.5 mm. To make this adjustment, loosen screw 5 and move the upper knife stopper as required. After this adjustment is made, tighten screw 5.

- * Increasing the clearance reduces the needle thread length.
- * Decreasing the clearance increases the needle thread length. (Fig. 97)

圖 97
Fig. 97



Y. 調整夾線彈簧及刀的位置

Y. Knife holder guide clamp spring adjustment

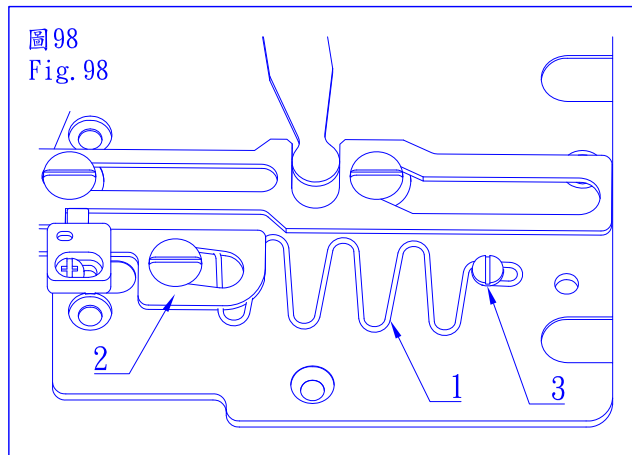
當固定刀和活動刀嚙合時，刀座導片彈簧 1 壓住導片 2 在正確位置。

如果固定刀和活動刀不能夠順暢的移動，請鬆開螺絲 3 做調整，然後鎖緊螺絲。

如果彈簧壓力太大，固定刀和活動刀則無法正常地回到原位。(圖98)

Knife holder guide clamp spring 1 presses knife holder guide 2 to keep the upper knife in the position when the upper and lower knives overlap. In the standard setting, screw 3 should be centered in the set slot for spring 1. If the upper knife and lower knives are not activated properly in the standard setting, adjust the spring pressure by loosening screw 3. After this adjustment is made, tighten screw 3.

If the spring pressure is too heavy, the upper and lower knives will not return home correctly. (Fig. 98)



Z. 切線的調整

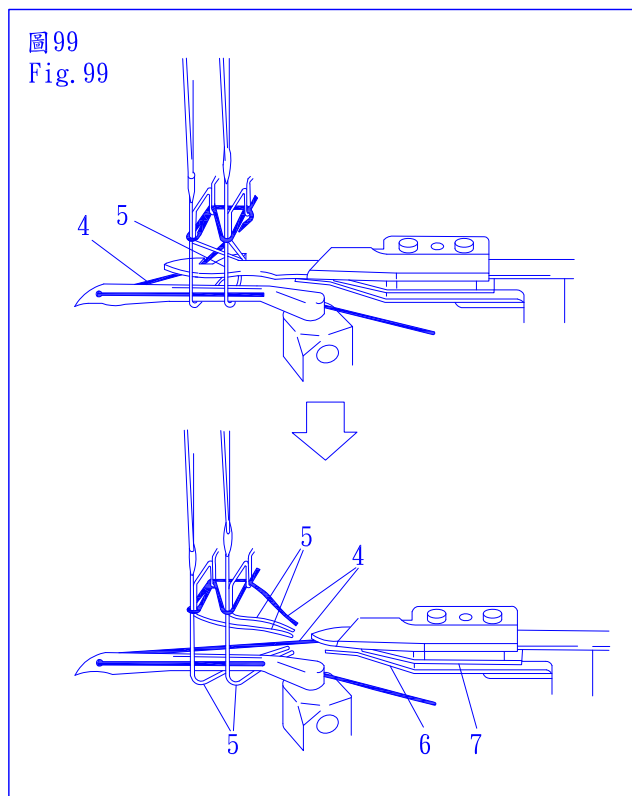
Z. To position the knives

請用伸縮尼龍線測試切線功能。

下勾針線 4 和針線 5 能夠很順暢被切斷並且下勾針線 4 可以被夾線彈片夾住。如果針線無法切斷，請參照 31 頁再一次調整夾線彈片 7。

如果下勾針線無法被夾住，請參照 28 頁再一次調整夾線彈片 6。(圖99)

Check for proper cutting action using woolly threads. Check to see if looper thread 4 and needle thread 5 are smoothly cut, and looper thread 4 is clamped by looper thread clamp spring 6. If the thread are not smoothly cut, adjust flat spring 7 again by referring to page 31. If the looper thread is not clamped, adjust looper thread clamp spring 6 again by referring to page 28. (Fig.99)



調整基準數值 Adjustment dimentions (mm)

	X□□□								
VG-999N700-03F -03G -08A	356	S	標準型 Standard lift	7.5	3.5~3.8	7.5~7.9	4.5~5.0	17.0	
			高提昇型 High lift	9.0	3.1~3.3	8.6	5.0~5.3		

S表示針板舌厚度為2.8mm S:Needle plate finger 2.8mm thick

針規格對照表 Comparison table of equivalent sizes 標準使用針 Standard needle

日本尺寸 Japanese size	#	9	10	11	14	16	18	21	Organ UY128GAS
公制尺寸 Metric size	Nm	65	70	75	90	100	110	130	356
									75

VG-999SN700 規格表
VG-999SN700 Series subclass specifications

用途 Application	型號 Subclass	針數 Number of needles	線數 Number of threads	針距(mm) Needle space(mm)	主齒最大運動量 Max. main feed dog's movement amount (mm)	上送前後運動量 Amount of top feed dog front-to-back movement (mm)
折下擺 Hemming	VG-999SN700 折下擺	2	4	4 , 4.8	3.2	1.0~2.5
		3	5	5.6 , 6.4	3.2	1.0~2.5

用途 Application	上送上下運動量 Amount of top feed dog up-and-down movement (mm)	壓腳提昇高度 Presser foot lift (mm)	最高迴轉數 Max. speed (r. p. m)	備考 Remarks
折下擺 Hemming	最大 Max. 5.0	4.5	4000	
		4.5	4000	

縫目形式 Stitch type	602, 605	車頭淨重 Net weight (head only)	48 Kg
使用針 Needle size	UY128GAS#9S UY128GAS#10S	車頭加附屬配件總重量 Gross weight (with accessories)	60 Kg
車頭尺寸(WxDxH) Machine size (WxDxH)	W:430mm D:340mm H:460mm	噪音值 Working noise level	n=3, 600rpm: LpA ≤ 78. 4dB DIN 45635 48A-1 Noise measurement according to DIN 45635 48A-1



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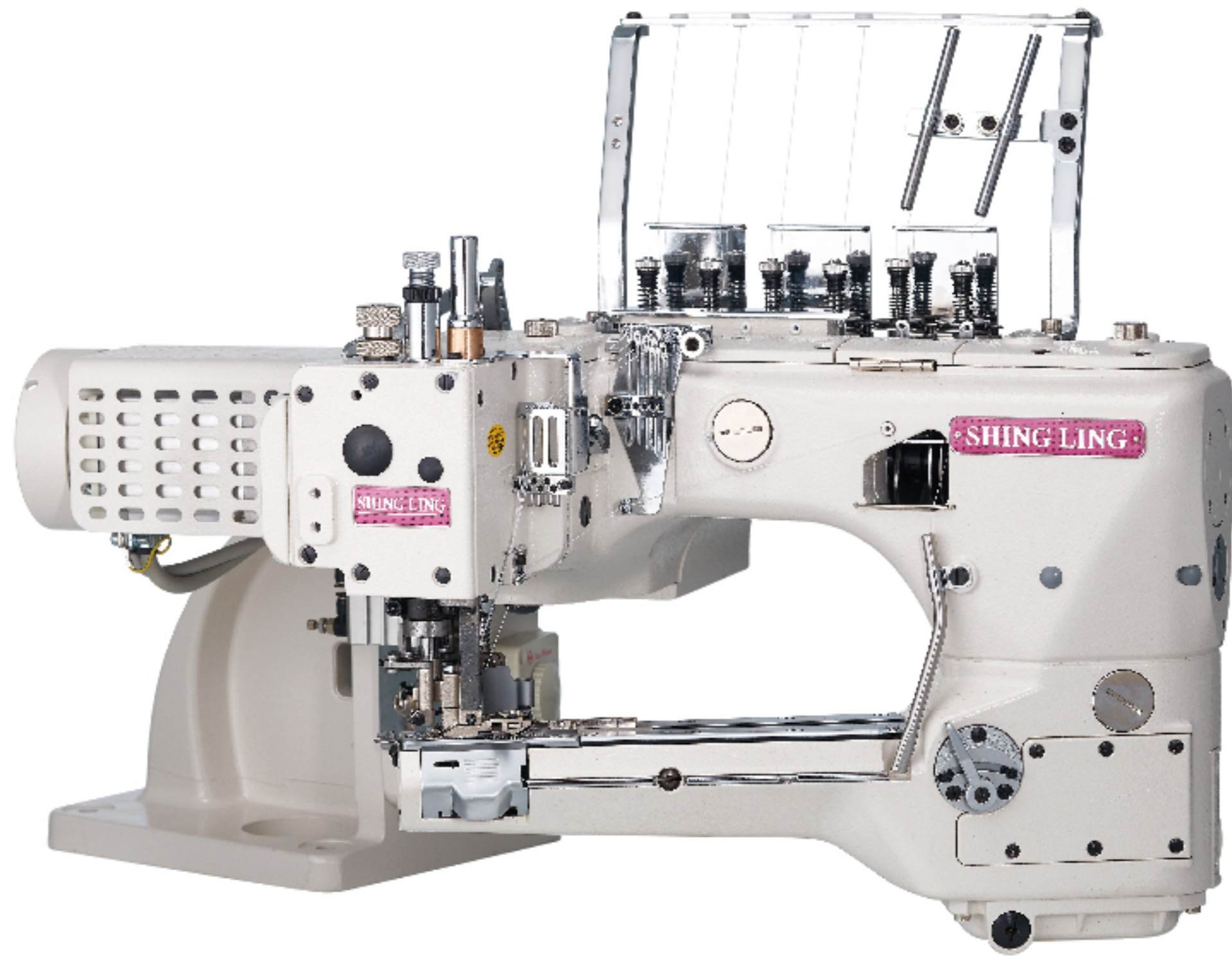
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 EXCELLENCE 2012

SL-703-GX-452/460/DS/PLA/VD

4-needle 6-thread feed-off-the-arm Interlock Flatseaming Machine with dual differential feed ratio regulator
 手臂型四針六線併縫機(附雙差動送布齒裝置)



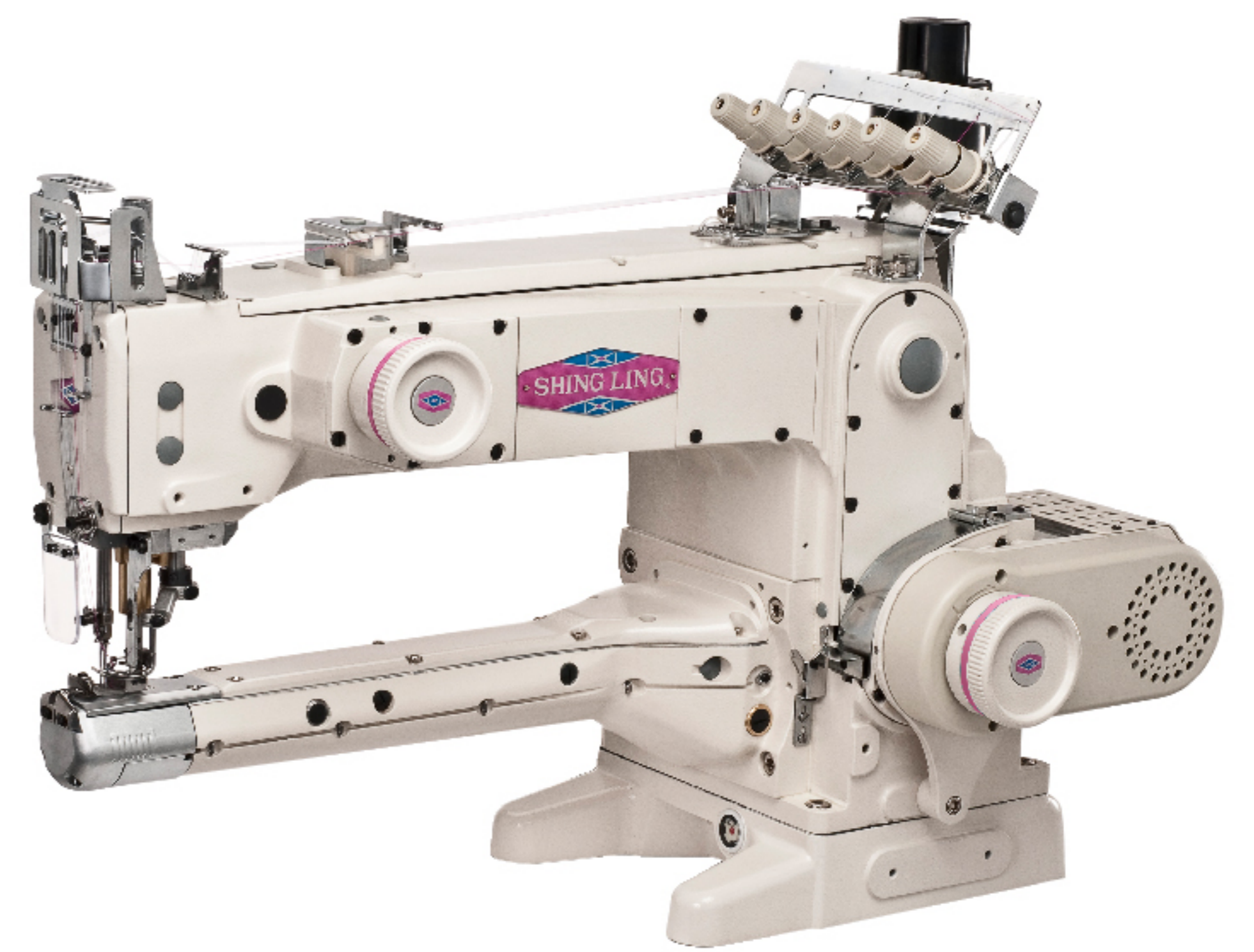
SL-2700-AST/EST

Feed-up-the-arm Interlock Machine with Compact Servo Motor and Thread Trimmer
 縱筒型三針五線雙面飾綳縫機



SL-2800-356/SM

Feed-up-the-arm Interlock Machine with Compact Servo Motor and Thread Trimmer
 縱筒型三針五線雙面飾綳縫機



VG-999ES-AST-TF-DS

Extremely-Small Cylinder-bed Interlock Machine with Thread Trimmer and Top Feeder
 超細筒型三針五線雙面飾綳縫機



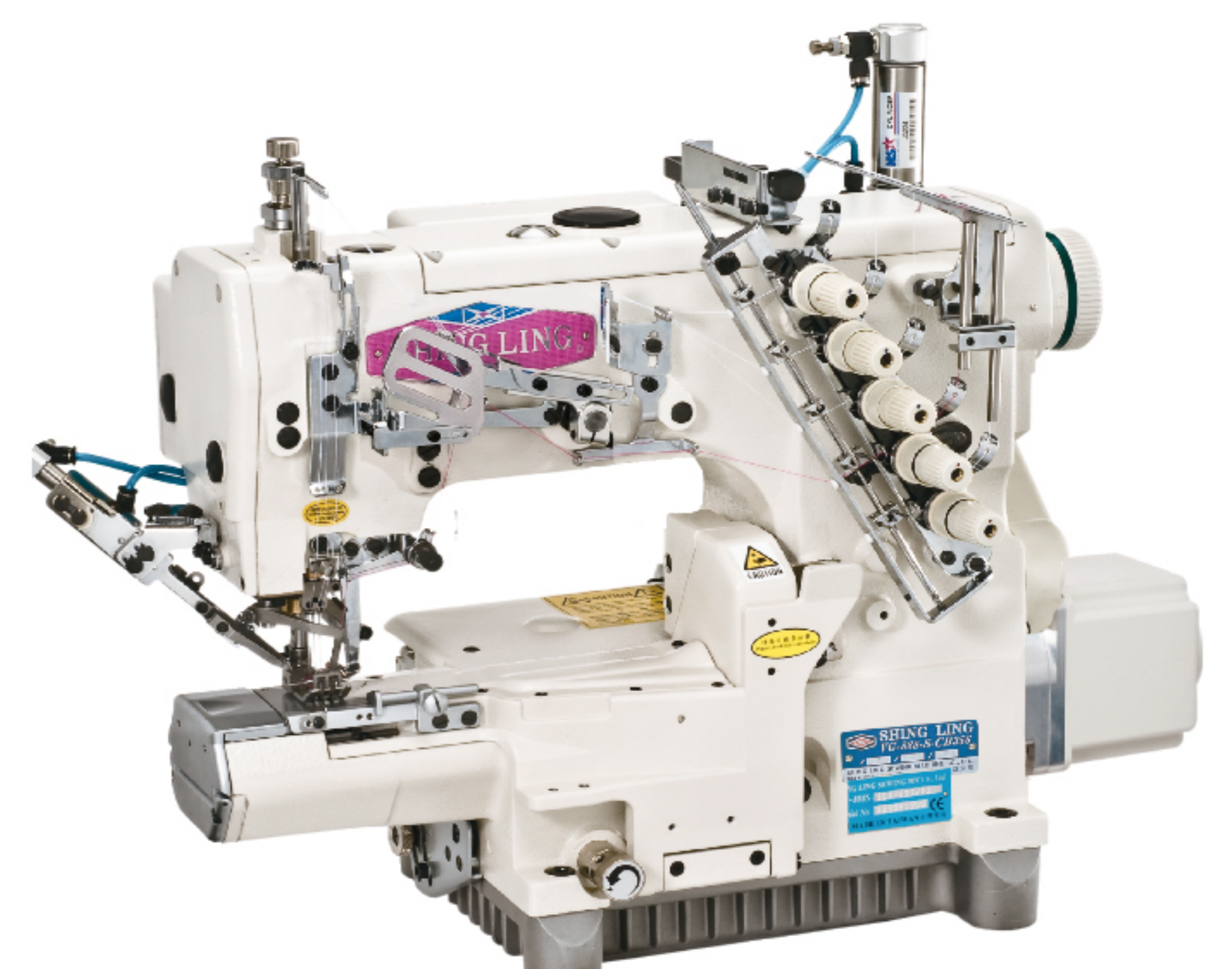
VG-888S-TF-AST

Small Cylinder-bed Interlock Machine with Thread Trimmer and Top Feeder
 細筒型三針五線雙面飾綳縫機(附上送裝置)



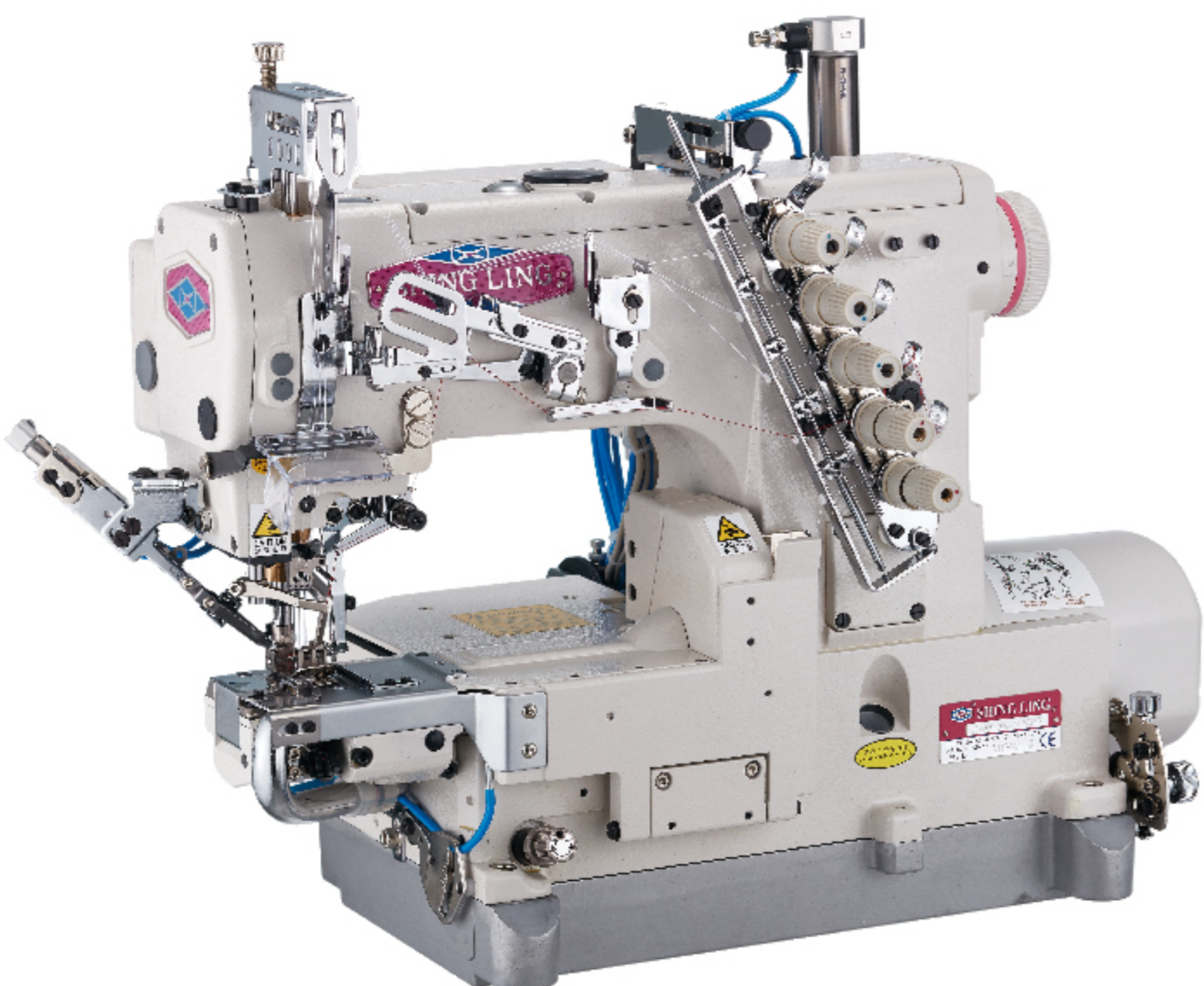
VG-888A-TF/AST

Top Feeder for 3-needle 5-thread Cylinder-bed Interlock Machine
 橫筒型三針五線雙面飾綳縫機(附上送裝置)



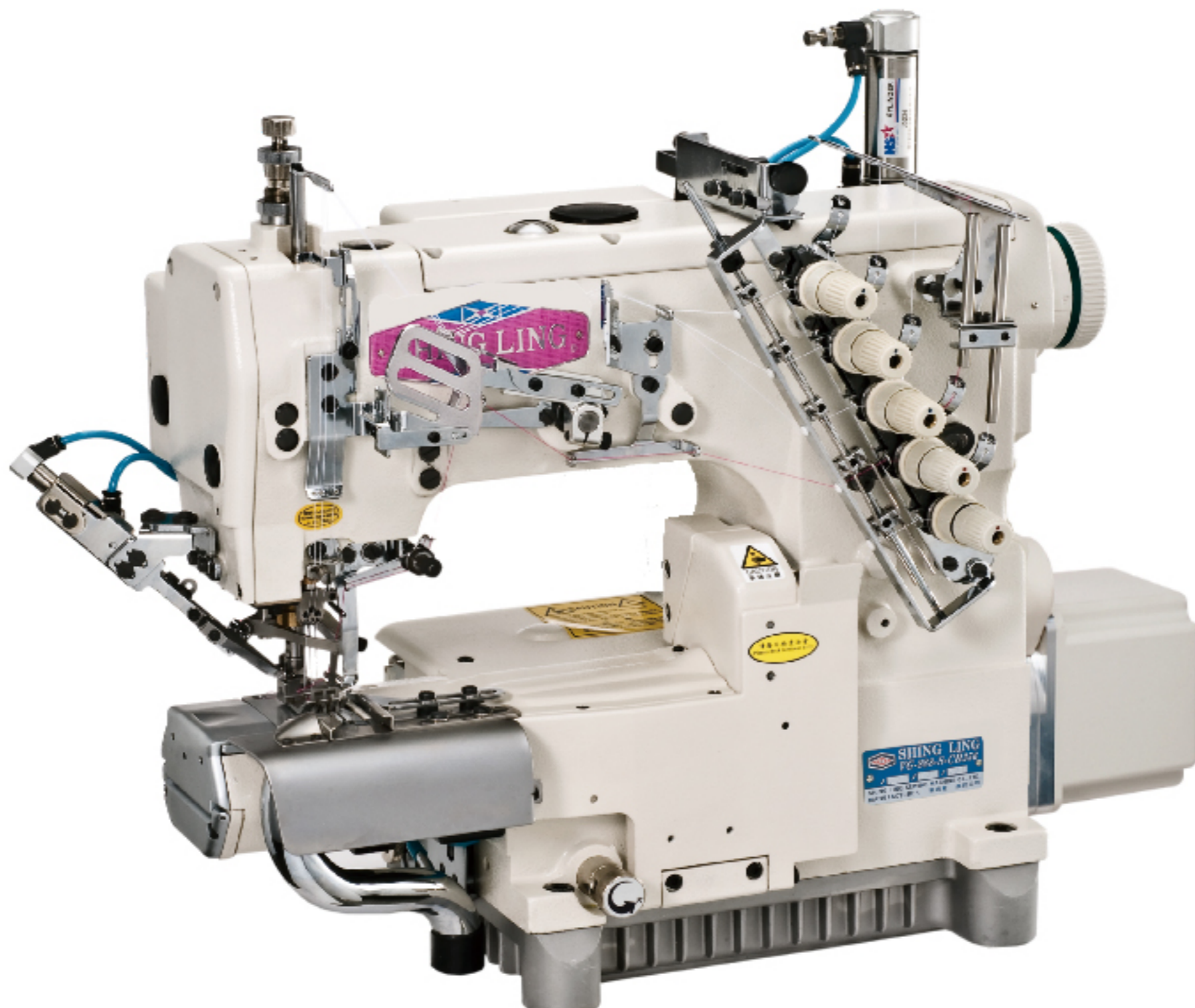
VG-999S-N700-AST-TF-DS

Small Cylinder-bed Interlock Machine with Left hand Knife and Top Feeder for Hemming
 細筒型三針五線雙面飾綳縫機(附左修刀)



VG-888A-N600-TF/AST

Interlock Machine with Left-hand Knife and Thread Trimmer for Hemming
 橫筒型附左修刀雙面飾綳縫機



SL-1790S

Computer-controlled High-speed Lockstitch Buttonholing Machine
 高速電子平頭鎖眼機



VG-999-SB-AST/EST-DS

High-speed Short Cylinder-bed Interlock Machine with Thread Trimmer
 短筒型三針五線雙面飾綳縫機



VG-999-R500-AST-RP

Interlock Machine with Right-hand Knife and Rear Puller for Elastic Waistband Attaching
 高速橫筒型三針五線附右修刀雙面飾綳縫機



VG-999-356/EST/DS/ZBR

Dual Colors Decorative Stitches Interlock Machine with Top and Under Thread Trimmer
 高速橫筒型三針五線雙色上飾綳縫機

