

CS-6104

CS-6104N

單針雙押腳上下送平車
(大釜) (自動給油)



使用說明書

INSTRUCTION MANUAL

Read safety Instructions carefully and understand them before using.
Retain this Instruction Manual for future reference.

爲了安全地使用，請您在使用之前仔細閱讀本使用說明書。
另外，請您注意保管本使用說明書，以便隨時查閱。



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金輪 GOLDEN WHEEL

操作手冊 INSTRUCTION MANUAL

為了提高機器的耐久性，請在使用前詳細閱讀使用說明書，並請妥善保存好說明書以便隨時使用。

Please read this Instruction Manual carefully before using the unit in order to get the most out of it and to enjoy using it for a long time.
Please keep this Instruction Manual at hand taking care not to lose it.

操作前應注意事項:

BEFORE OPERATION

1. 機器未加油潤滑前，請勿啟動機台或試轉。
2. 請先確認工作場所使用之電壓及相數（單相或三相），並詳閱馬達銘牌上注明之規格，是否相符？
3. 機台安裝完畢，第一次試轉請先確認機頭上輪運轉方向。
★ 開動電源，並保持低速運轉，從機頭上輪位置方向觀察，上輪運轉方向是反時針旋轉。
4. 機台開始使用第一個月，請保持或低於1600轉／每分鐘速度運轉。

1. Do not operate the machine even for trial before lubrication it.
2. Confirm that the voltage and phase (single or 3-phase) are correct by checking them against the ratings shown on the motor nameplate.
3. When running your machine for the first time after the set-up, check the rotational direction of the handwheel. ★ Turn on the power switch. Run the machine at a low speed while checking the rotation direction of the handwheel. (The handwheel should turn counterclockwise as observe from the handwheel side.)
4. For the first month, run the machine at speed of 1600 s.p.m or less.

操作時應注意事項:

CAUTIONS IN OPERATION

1. 啟動電源或機器運轉期間，請勿將手靠近機針位置，並保持距離。
2. 機台操作運轉期間，請勿將個人或讓其他人之頭、手指等靠近機頭上輪、V 型皮帶、繞線器或馬達，同時，亦請勿置其它物品靠近上述地方，以免發生危險。
3. 請勿於移除護指環、皮帶蓋、與任何其它的保護裝置之情況下，操作機器。
4. 移動V型皮帶前，務必先將電源關閉，及馬達確實已停止轉動，才可進行下一動作。

1. Keep your hands away from the needle when you turn on the power switch or while the machine is operating.
2. During operation, be careful not to allow your or any other person's head or fingers to come close the handwheel, V-belt, bobbin winder or motor. Also, do not place anything close to them.
3. Do not turn the machine with the finger guard, belt cover or any other protectors removed.
4. Be sure to turn off the power switch and confirm that the motor is completely stopped before removing the V-belt.

規格說明: SPECIFICATIONS

適用用途	袋子、鞋子、中厚物材料
最大縫速	2000 轉 / 每分鐘
最大縫目	前進: 8mm 倒縫: 8mm
機針規格	DP*17 #22(DB*1 #22)
押腳提升	手動提升: 6mm 膝動提升: 16mm
注 油	機油(白矽油)

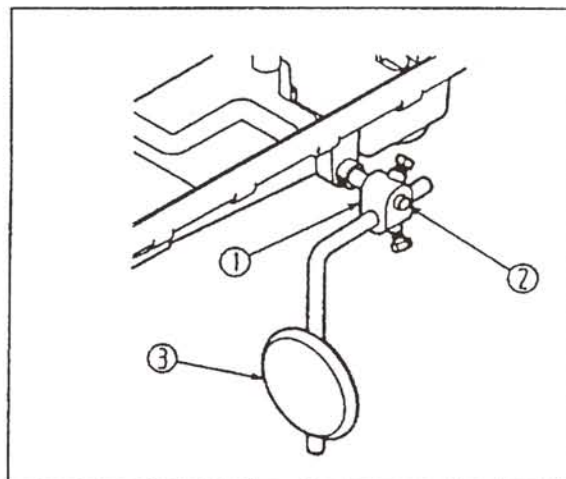
Usage	Bags, Shoes, Medium-weight materials.
Sewing speed	Max 2000s. p. m
Stitch length	Forward stitch: 8mm Reverse stitch: 8mm
Needle	DPx17 #22 DBx1 #22
Lift of presser foot	Hand lifter: 6 mm Knee lifter: 16 mm
Lubricating oil	Machine oil (white spindle oil)

1. 膝動押腳提升安裝

1. MOUNTING POSITION OF THE KNEE LIFTER

- 1). 將膝動提升曲柄①, 插入膝動提升杆軸②。
- 2). 將膝動提升盤③, 裝置於膝動提升曲柄①。

- 1) Insert knee lifter crank ① in the knee lifter shaft ②
- 2) Attach knee lifter plate rod asm ③ to the knee lifter crank ①



2. 注油

2. LUBRICATION

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！

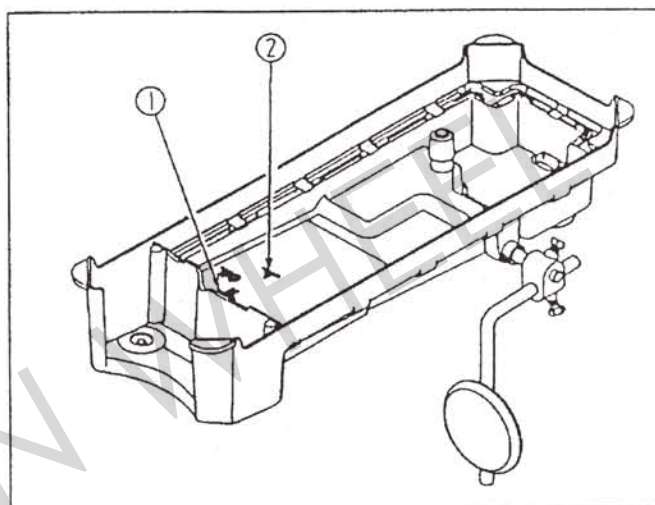


CAUTION

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

- 1). 注油至刻度線 "H" 位置①。
- 2). 當油量下降至低刻度線 "L" ②位置時，請重新注油。（使用油：白矽油）

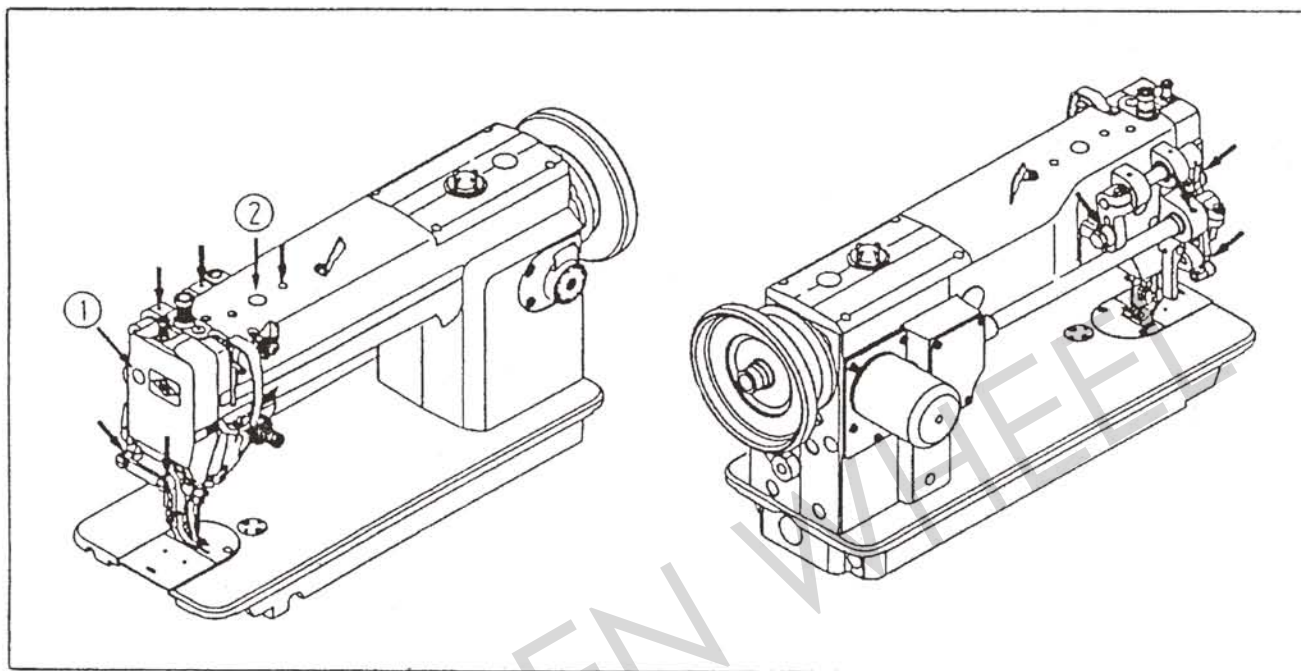
- 1) Fill oil up to marker line 'H' ①.
- 2) When the oil level drops under marker line 'L' ②, refill it.
(Using oil is white spindle oil)



* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！

⚠ CAUTION

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



機台開始啓用前：

- 1). 操作期間，請適度在箭頭所標示位置注油潤滑。
- 2). 上圖標示①及②處，請先卸下橡皮油塞，再充份注油至其下之注油孔。
- 3). 油盤注油，油量不得低於最低部位，否則縫紉機各部位就會出現進油停止，造成發熱咬死等情況，機台安裝完成后，請先依注油步驟完成潤滑動作，並請稍等約10分鐘，待油完全滴入滲透全機，再啓動機器。
機台初使用或持續一段長時間未使用，再重新使用前請先在每一箭頭記號注油孔處，滴2~3滴油潤滑，並保持早、午各一次做基本保養潤滑動作。

Before starting the machine.

- 1) Prior to operation, be sure to properly lubricate the points marked with the arrows.
- 2) At ① and ②, please lubricate the oil braid under the rubber plug
- 3) Supply the oil to the tank of bed
Full oil up to the line when the oil would come bottom level.

When oiling all sections requiring lubrication, after installation of the machine has been completed, wait for a while (approximately 10 minutes) so that oil can penetrate each section sufficiently before starting continuous operation

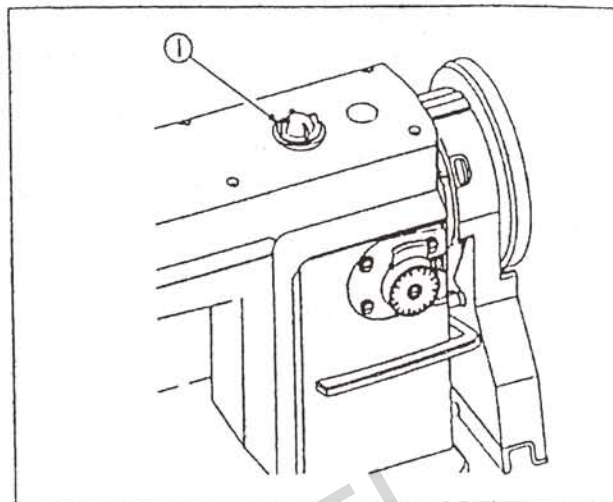
When starting the machine initially and after kept away for a long time without using at all, apply two or three drops of oil each section noted with an arrow mark, and to operate the machine continuously, apply two or three drops of oil each section whenever starting operation in the morning and in the afternoon

3. 潤滑情況

3. LUBRICATION CONDITION

操作機台時，察看油槽窗口①內之油，是否呈現四處散開狀。

- 1) Operate the sewing machine, and confirm the scattering oil at an oily window ①, spread around the state show.



4. 旋梭油量調節

4. REFUELING ADJUSTMENT OF THE HOOK

旋梭的油量，可以用油量調節螺釘①加以調節。

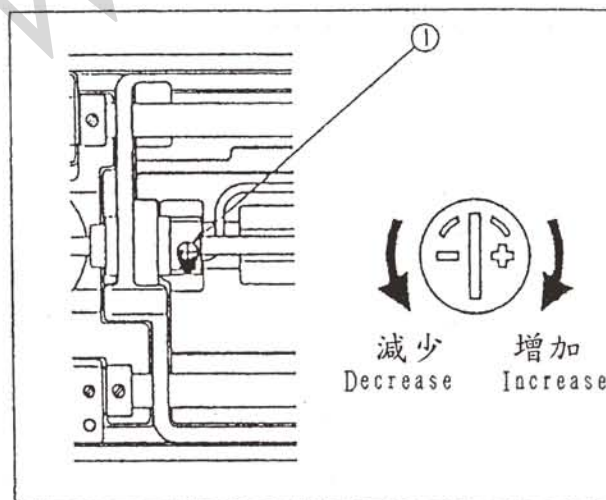
- 1). 順時鐘方向(“+”號方向)轉動油量調節螺釘①，則油量增多；逆時鐘方向(“-”號方向)轉動油量調節螺釘①，則油量減少。

* 注意：在調整過油量調節螺釘①並重新運轉約30秒后，請確認有從旋梭噴撒出油。

If it is necessary to change the amount of oil supplied to the hook, adjust it using knob ①.

- 1) Turn the knob clockwise (in direction '+') to increase the oil supplied or turn it counterclockwise (in direction '-') to decrease it.

Attention : After adjusting the knob and no-load running more than 30 seconds, confirm oil which scatters from the hook



5. 皮帶防護罩及卷線器之安裝

5. INSTALLING THE BELT COVER AND BOBBIN WINDER

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



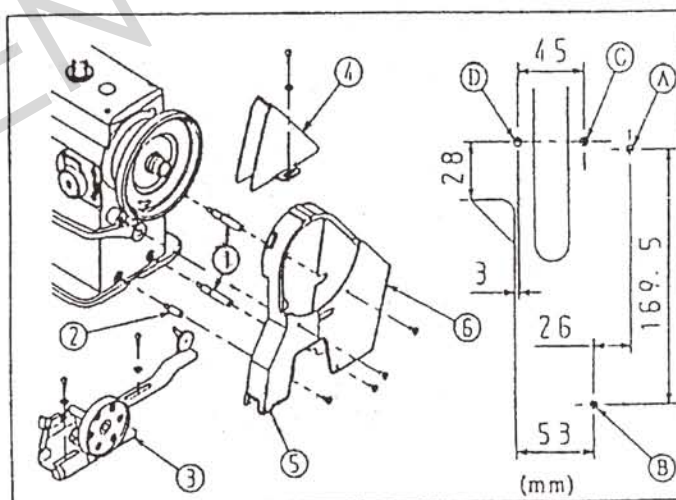
TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNE-
XPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION
OF THE MOTOR BEFORE OPERATIONS.

安裝步驟：

- 1). 如圖所示 ①、②、③、④ 的位置，
在抬板上鑽木螺絲孔。
- 2). 將支撐皮帶蓋之螺釘①、②插入機殼上
之栓孔。
- 3). 調整好卷線器③之位置后，並用木螺絲
將之固定鎖在桌板 ①、② 孔位置。
- 4). 將皮帶護蓋C④部位鎖在桌板 ③、④ 孔
位置。
- 5). 將皮帶護蓋A⑤、B⑥部位，插入支撐螺釘
①、②之上。
- 6). 將皮帶護蓋C④位置調整好，用木螺絲將
之鎖緊固定。

(Installing procedure)

- 1) Perforate the wood screw's guide
hole ①, ②, ③, ④ on the table.
- 2) Insert belt cover support ①, ②
in the tapped hole in the machine
arm.
- 3) Adjust position of the bobbin
winder ③ and fix it to guide
hole ①, ② with wood screws.
- 4) Temporary tight belt cover C ④
in the guide hole ③, ④.
- 5) Fit belt cover A ⑤ and belt
cover B ⑥ onto the support ①, ②.
- 6) Adjust position of the belt
cover C ④, fixing it with
wood screws.



6. 機針之安裝

6. ATTACHING THE NEEDLE

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



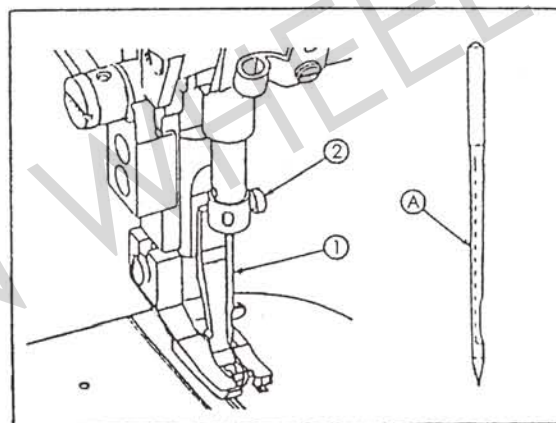
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★機針標準規格使用DP*17

- 1). 轉動機頭上輪，使針棒提升至其頂點位置。
- 2). 旋松鎖針螺絲②，將機針①的長凹槽面Ⓐ朝向左方。
- 3). 將針柄插入針杆下部的針孔內之最底端。
- 4). 旋緊鎖針螺絲②，固定機針即可。

★ The standard needle is DP×17, however, a DB×1 may also be used

- 1) Turn the handwheel to move the needle bar up to its highest position.
- 2) Loosen needle setscrew ②, and hold needle ① so that long groove Ⓐ faces exactly to the left.
- 3) Insert the needle into the needle bar until it will go no further.
- 4) Tighten the screw, fixed the needle.



7. 面線之穿法

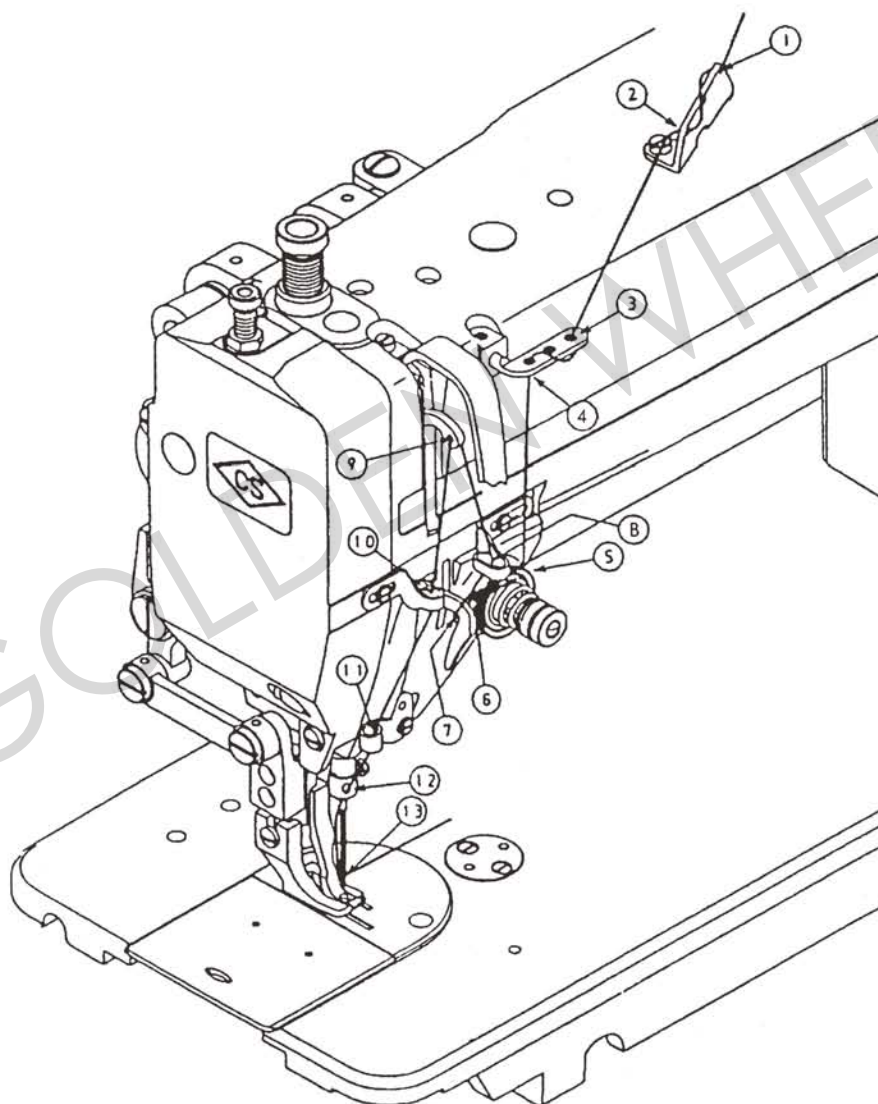
7. THREADING THE MACHINE HEAD

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



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如圖所示步驟穿線

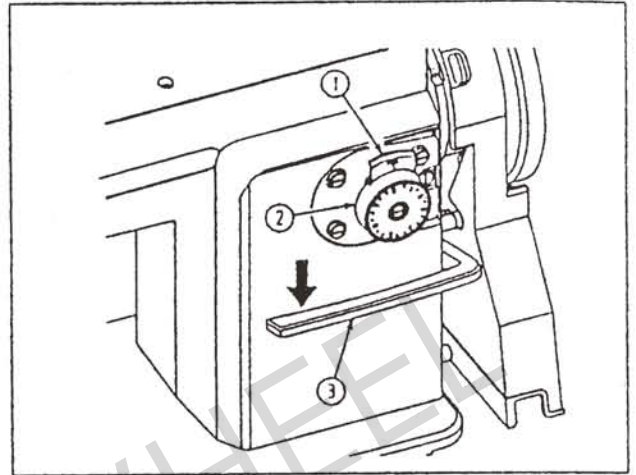
Thread the machine head as illustrated.

8. 縫目的調整

8. ADJUSTING THE STITCH LENGTH

- 1). 縫目的長短，可以用轉動縫目數字盤②來調節，數字盤上數字表示縫目長短尺寸，以mm為單位。用手先壓按住停止板①，再轉動縫目數字盤②上的數字至所須縫目，對準停止板①中心位置后，將手放開。

- 1) The length of the stitch can be adjusted by tuning the number plate ②, figures on the number plate show the size of the stitch length, in mm units. Hold down the stop plate ① by hand, then turn the stitch number plate ② number to the desired stitch. When the stop plate to the center aligned position, hands off.



★ 如何倒針送料:

- 1). 將倒縫杆③向下壓，即可進行倒縫。
- 2). 要持續倒縫工作時，只需持續向下壓住倒縫杆③。
- 3). 放開倒縫杆③，即恢復順向送料車縫。

○ How to engage the reverse feed stitching

- 1) Push feed lever ③ down.
- 2) The machine performs reverse feed stitching as long as the lever is held depressed.
- 3) The moment you release the lever, the machine resumes the normal stitching mode.

9. 縫線張力調整

9. THREAD TENSION

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNE-
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★上線張力的調節

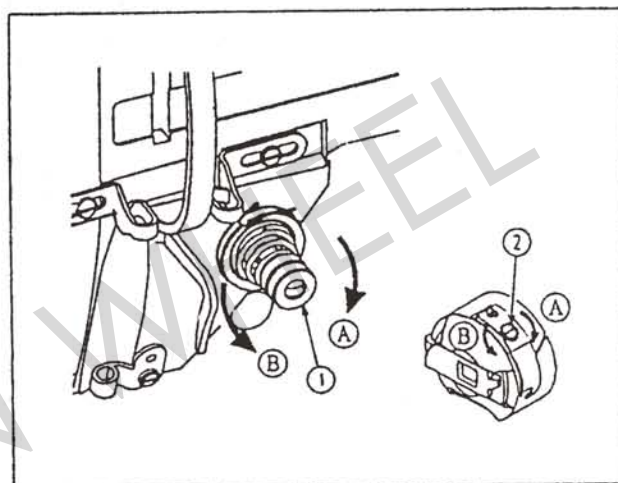
- 1). 轉動沙拉組螺帽①，以順時鐘方向（朝 ④ 方向）旋轉，則上線張力增加。
以逆時鐘方向（朝 ③ 方向）旋轉，則上線張力減小。

- Adjusting the needle thread tension
- 1) Turn tension nut ① clockwise (toward A) increases the needle thread tension
Turning it counterclockwise (toward B) decreases the tension

★底線張力的調節

- 1). 依順時鐘方向（朝 ④ 轉動張力螺絲②，則底線張力增加。依逆時鐘方向（朝 ③ 轉動張力螺帽②，則底線張力減小。

- Adjusting the bobbin thread tension
- 1) Turning tension screw ② clockwise (toward A) increases the bobbin thread tension
Turning it counterclockwise (toward B) decreases the tension



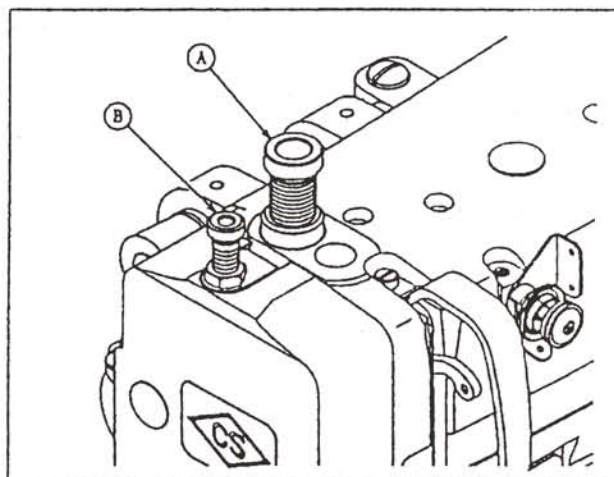
10. 押腳壓力調整

10. PRESSURES OF THE PRESSER FOOT AND WALKING FOOT

- 1). 依據縫製物料の種類厚度來調整內外押腳之壓力。
轉動壓力調節螺帽 ④，調節外押腳之壓力。
轉動壓力調節螺帽 ③，調節內押腳之壓力。
縫製厚物時，順時鐘方向旋轉，壓力加大。
縫製薄物時，逆時鐘方向旋轉，壓力減小。
押腳之壓力，以能正常推送縫料為宜，且二押腳間之壓力應調至最小差距為適當。

- 1) The pressures of presser foot ④ and walking foot ③ can be adjusted according to the type of materials.

※ It is advisable to minimize the pressures of both feet.

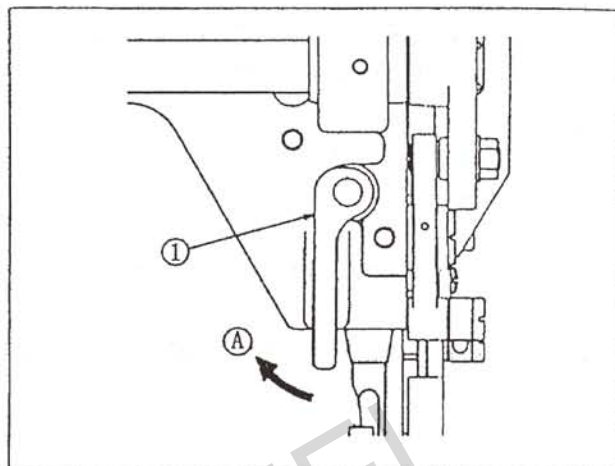


11. 押腳的提升

11. LIFTING THE PRESSER FOOT

- 1). 將提升杆①朝順時鐘方向（朝 A 方向）扳動，則押腳提升。

1) Turn the hand lifter lever ① clockwise (toward A), the presser foot up.



12. 送布牙的高度調整

12. HEIGHT OF THE FEED DOG

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



CAUTION

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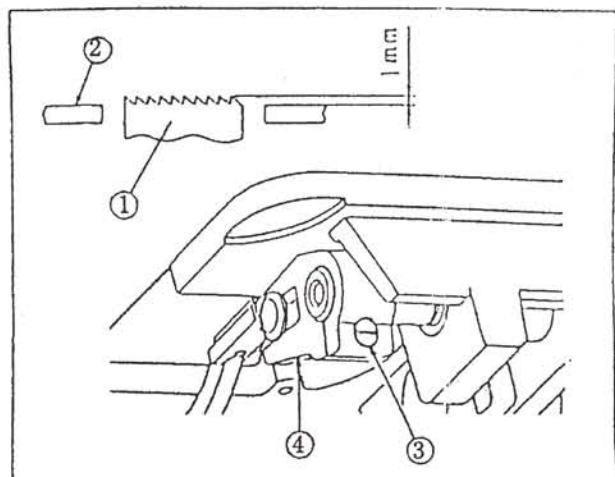
當送布量最大，送布牙的前端齒面靠進針板面槽前側時，送布牙①齒面前端與針板②槽前側的間距為1mm，這是標準的送布牙安裝位置。

當因縫製規格需求，或因更換送布牙因素，須重新調整送布牙之高度時請由圖示位置調整：

- 1). 松開牙架固定螺絲③。
- 2). 移動送料牙架杆④，上下移動以調節其間隙位置，調節好后，再將螺絲③鎖緊即可。

Feed dog ① is factory-adjusted to jut out 1.0mm from the surface of throat plate ②. When the feed dog height needs to be adjusted according to the sewing specifications or after the feed dog is replaced, do as follows:

- 1) Loosen the screw ③.
- 2) Move the feed bar ④ up or down to perform adjustment, then securely tighten the screw.



13. 送布牙坡度的調整

13. SLOPE ADJUSTMENT OF THE FEED DOG

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！

**CAUTION**

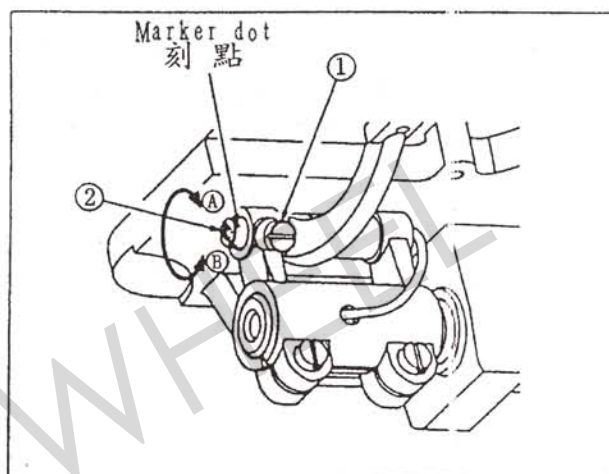
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因縫製物規格需求，送布齒坡度需調整時，請由圖示位置調整：

- 1). 松開牙架曲柄（土台）螺絲①。
- 2). 將牙架曲柄之杆軸②，依順時鐘（朝Ⓐ）方向或逆時鐘（朝Ⓑ）方向轉動來調整。
- 3). 調整好后，再將螺絲①鎖緊固定。

When the feed dog slope needs to be adjusted according to the sewing specifications do as follows:

- 1) Loosen screw ①.
- 2) Turn the feed bar shaft ② clockwise (toward Ⓐ) or counterclockwise (toward Ⓑ).
- 3) Then securely tighten the screw



牙架曲柄杆軸記號點位置 marker dot position of feed bar shaft		送布牙 feed dog	
	標準 standard		標準 standard
	上方 upside		
	下方 underside		

14. 前/倒縫縫目比率調整

14. FORWARD/REVERSE SEAM RATIO

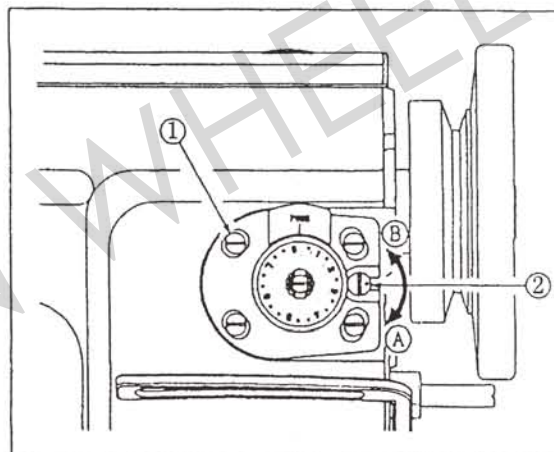
* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！

**CAUTION**

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

- 1). 旋松四個螺絲①。
- 2). 使用螺絲起子轉動偏心插鎖②，以順時鐘（朝A）方向轉動，可以增加前縫（順向車縫）縫目長度。
- 3). 使用螺絲起子轉動偏心插鎖②，以逆時鐘（朝B）方向轉動，則前縫縫目長度減小。
- 4). 調整好后，再將螺絲①鎖緊。

- 1) Loosen four screws ①.
- 2) When increasing the forward stitch length -th, turn the eccentric pin ② clockwise (toward A) using a screwdriver.
- 3) When decreasing the forward stitch length -th, turn the eccentric pin ② counter-clockwise (toward B) using a screwdriver.
- 4) Then securely tighten the screws.



15. 內外押腳的調節

15. ADJUSTING THE WALKING FOOT AND THE PRESSER FOOT

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

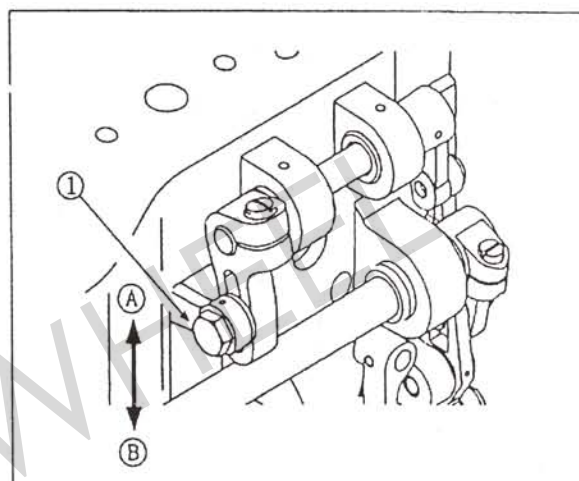
(1). 內外押腳提升量的調整

當進行薄物料之車縫時，壓腳上下運動的壓力，應該調整至最低限度。在縫製過程中，要改變內外押腳之提升量，其調節方法如下：先將偏心輪連杆螺帽①旋松，然後調整偏心輪連杆凸起部位的位置：

朝上 ① 方向……上下移動提升量將增加（最高5mm），

朝下 ② 方向……上下移動提升量將減少（最低2mm）。

調整好后，將螺帽鎖緊，並慢慢轉動上輪，檢查有無碰撞現象，一切正常后，方可使用。



(1). HEIGHT OF THE WALKING FOOT AND PRESSER FOOT

When sewing a thin fabric, the up and down movement should be adjusted at minimum. To adjust, loosen the nut ①, and shift the position of crank rod boss.

upward ①……the up and down movement will increase. (max 5 mm)

downward ②……the up and down movement will decrease. (min 2 mm)

After adjustment, tighten the nut and slowly turn the upper wheel to check whether the collision phenomenon, all normal, before use.

(2). 內外押腳交互垂直運動的調節

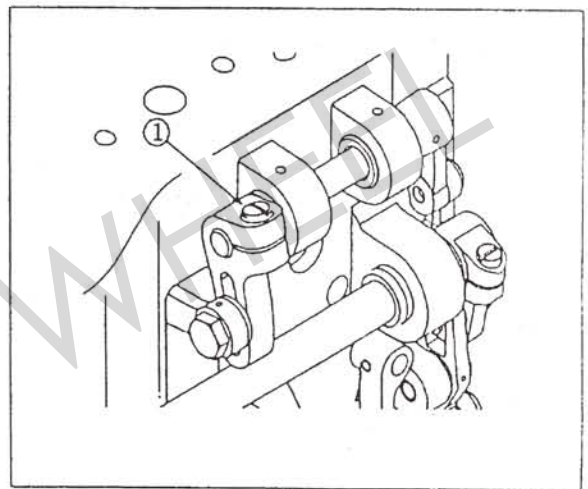
內外押腳的交互垂直沖程，一般狀態是相等的，在縫紉過程中，縫料的磨擦係數不同及縫紉工藝的不同要求，外押腳的垂直沖程也許會被調得比內押腳小一些，調整方法如下：

- 1). 轉動機頭上輪，將押腳高度從針板上提升一些。
- 2). 旋松螺絲①。
- 3). 押腳因彈簧的力量，降落到針板上，然後將螺絲①，就其現在位置將之鎖緊。

(2). ALTERNATE VERTICAL MOTIONS OF THE WALKING FOOT AND THE PRESSER FOOT

The alternate vertical strokes of walking foot and presser foot are normally equal. Depending on the type of materials, however the vertical stroke of the presser foot may be set smaller than of walking foot. Do as follows:

- 1) Turn the handwheel, raise the presser foot from throat plate a little.
- 2) Loosen screw ①.
- 3) The presser foot falls to the throat plate by power of the spring. Then tighten screw ① in its position.

**(3). 內押腳的送料點之調節**

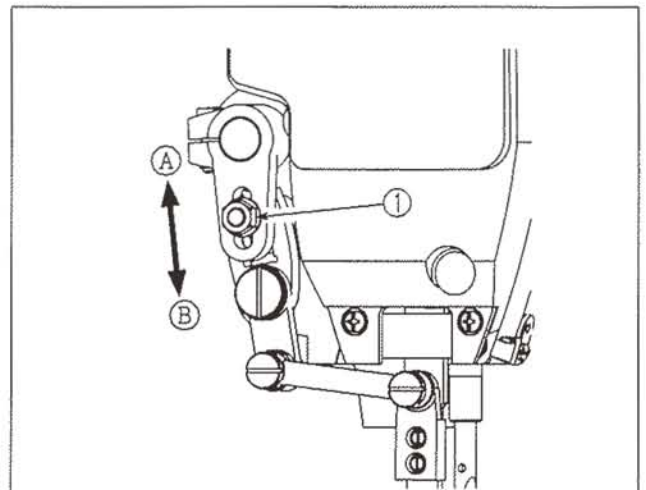
上、下送料是本產品的重要性能之一，出廠設定值—上送料與下送料的比率為1:1。如有需要，上送料量的調節方法如下：

- 1). 鬆開螺帽①。
- 2). 移動上送料機構之押腳滑塊位置。
- 3). 朝上 ① 之方向移動——上送料量減小，朝下 ② 之方向移動——上送料量增加。
- 4). 調節好后將螺帽①鎖緊。

(3). FEED PITCH OF THE WALKING FOOT

The ratio of the bottom feed to the top feed is factory-adjusted to 1:1. If necessary, the top feed amount may be changed as follows:

- 1) Loosen nut ①, and move the slide block up (toward ①) to decrease the feed pitch, or move it down (toward ②) to increase the feed pitch. Lock the nut after adjustment.



16. 針與旋梭的關係調整

16. NEEDLE-TO-HOOK RELATIONSHIP

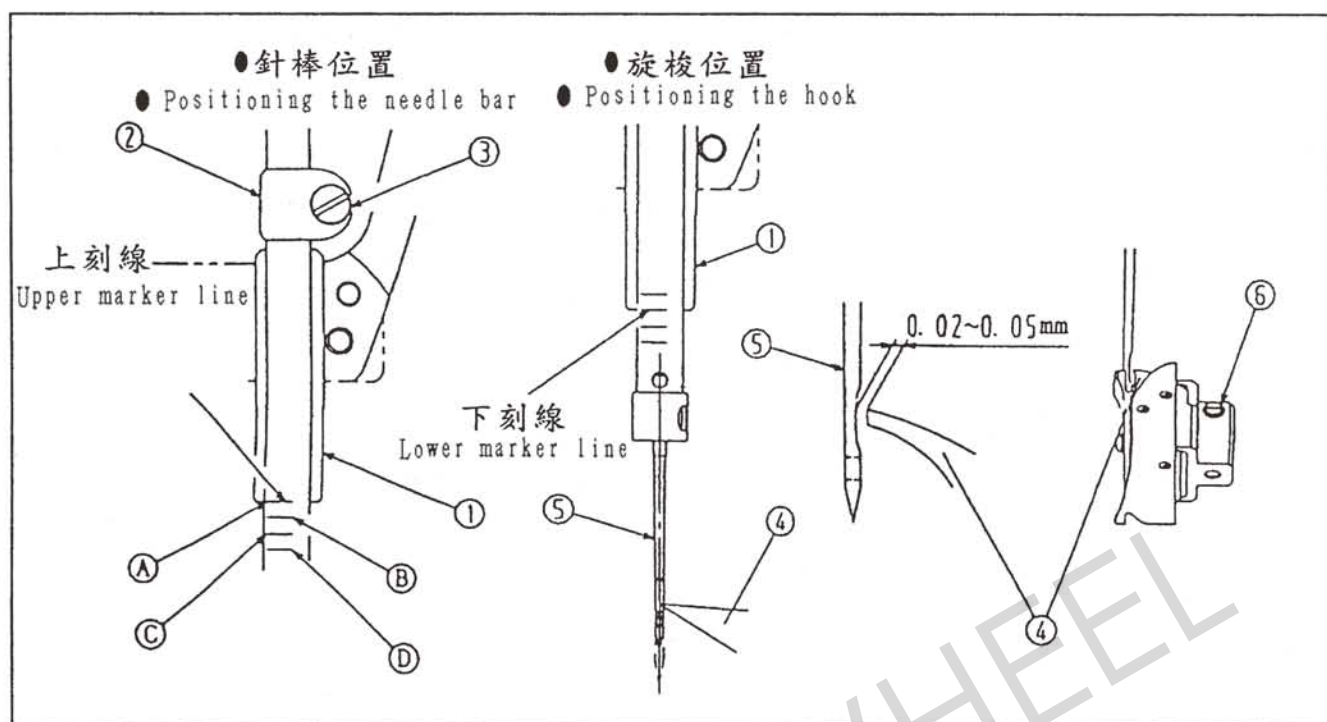
* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！



CAUTION

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNE-
XPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION
OF THE MOTOR BEFORE OPERATIONS.

GOLDEN WHEEL



★針棒高度的調整

轉動機頭上輪，使針棒下降至其下最低位置，卸下面板蓋，旋松針棒束套螺絲③，調整針棒位置（從底部算上來第四條刻線 ④ 位置，使用DB*1車針規格），或從底部算上來第二條刻線 ③ 位置，使用DP*17車針規格），依使用機針規格指定之針棒刻線與針棒下軸套管①之底端對準，然後將針棒束套②之螺絲③鎖緊。

○ Set the needle bar at the proper height first as follows:

- 1) Bring the needle bar down to its lowest position, and adjust so that specified marker line (the 4th line ④ from the bottom for a DB*1 needle, or the 2nd line ③ from the bottom for a DP*17 needle) on the needle bar aligns with the bottom end of needle bar lower bushing ①, then tighten screw ③ of needle bar clamp ②.

★機針與旋梭的同步調整

旋梭與機針之間的相互運動關係，對縫紉性能的影響很大，標準的同步關係是：

用手轉動上輪，使機針向下運動到最低位置后再向上回升2.5mm，這時旋梭勾線尖④，應與機針⑤的中心線一致，在此位置時，勾線尖應高於機針線孔上邊約1.2mm。

在調節旋梭的同步關係時，要注意旋梭勾線尖④與機針的側面間隙，機針⑤的缺口，底部與旋梭勾線尖④的間隙為0.02~0.05mm。

旋梭位置的調整，將針板移開，從針板側面位置，使用螺絲起子旋松旋梭固定螺絲⑥，調整好后再將螺絲鎖緊⑥即可。

○ Adjust the timing between the needle and the hook as follows:

- 2) Adjust so that the specified marker line (the 3rd line ③ from the bottom for a DB*1 needle, or line ④ at the bottom for a DP*17 needle) on the ascending needle bar aligns with the bottom end of lower bushing ①. Further adjust to make hook point ④ nearly meet the center of needle ⑤, then tighten hook setscrews ⑥.
- 3) Adjust the clearance between needle ⑤ and hook point ④ to 0.02 to 0.05mm.
- 4) To adjust the hook, remove the throat plate, and loosen hook setscrews ⑥ from the throat plate side, using a screwdriver.

17. 送料時間的調整

17. FEED TIMING

* 注意：進行此步驟時，務必將電源關掉，馬達確實停止轉動，以避免不必要之危險！

**CAUTION**

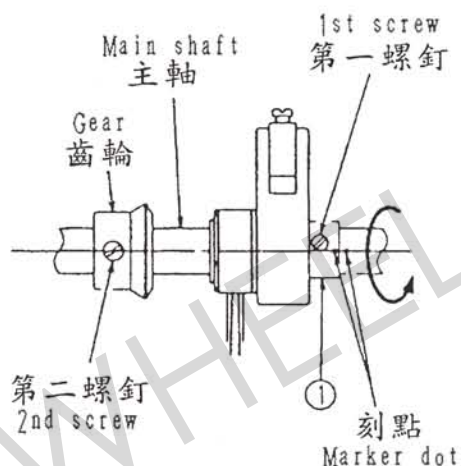
TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

如圖所示，為送料凸輪及傳動凸輪之標準位置。

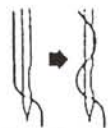
- 1). 移動頂蓋，改變送料凸輪①的位置，可調節送料時間。

It is the standard position of feed cam and driving cam as illustrated


- 1) Remove a top cover, and change the position of feed cam ①. In that case, the feed time can be adjusted.



18. 問題與處理方式

問 題	原 因	解 決 方 法
1. 斷線 (線磨斷或磨損) (針線仍有2~3公分 長度留在物料的錯誤 一方)	①過線道, 針尖、梭頭勾線尖 端或梭殼定位舌尖有損傷。 ②上線張力太高。 ③針撞擊到旋梭的勾線尖。 ④旋梭油量潤滑不充分。 ⑤上線張力太低。 ⑥調線簧的沖程太小, 以致調 線簧之張力太高。 ⑦針與旋梭相對應時間太早或 太晚。	* 用細砂紙將梭頭尖端之磨損予 以磨除, 內釜定位舌尖予以拋 光處理。 * 調整上線張力至適當 * 請參閱#16說明, 機針與旋梭 的關係。 * 適當地調整潤滑油, 請參閱#4 旋梭油量調節。 * 調整上線張力至適當。 * 減低張力, 增加沖程。 * 請參閱#16說明, 機針與旋梭 的關係
2. 跳針	①針與旋梭勾線尖之間隙太大。 ②針與旋梭相對應時間太早或 太晚。 ③押腳壓力太低。 ④針眼孔頂端與梭頭尖端之間 距不正確。 ⑤機針規格錯誤。 ⑥使用化學纖維線或細線。	* 請參閱#16說明, 機針與旋梭 的關係。 * 請參閱#16說明, 機針與旋梭 的關係。 * 加強押腳之壓力。 * 請參閱#16說明, 機針與旋梭 的關係。 * 將機針換為“大一號”規格。 * 以等級較厚的針替代。 * 針線繞請依圖示。 
3. 縫目松弛	①底線未穿過梭殼夾線片彈簧 的V型槽。 ②線道的磨光處理不良。 ③梭子的運轉不平順。 ④底線張力太小。 ⑤梭子底線繞得太緊。	* 須正確的穿底線。 * 用細砂紙做拋光處理。 * 更換梭子或旋梭。 * 增強底線張力至適當。 * 減少梭子底線的繞線張力。

18. TROUBLE AND CORRECTIVE MEASURES

Trouble	Causes	Corrective measures
1. Thread breakage (Thread frays or wears out.) Needle thread remains 2 to 3 cm on the wrong side of the cloth)	① The thread path, needle point, hook point or bobbin case positioning finger has scratches. ② The needle thread tension is too high. ③ The needle hits the hook point. ④ Lubrication to hook is inadequate. ⑤ The needle thread tension is too low. ⑥ The thread take-up spring has an excessively high tension while it has an excessively small stroke. ⑦ The timing between the needle and hook is too early or late.	○ Remove the scratches on the hook point using a fine sand paper. Buff the bobbin case positioning finger. ○ Properly adjust the needle thread tension. ○ See '16 NEEDLE-TO-HOOK RELATIONSHIP'. ○ Properly adjust the lubrication. See '4 REFUELING ADJUSTMENT OF THE HOOK'. ○ Properly adjust the needle thread tension. ○ Decrease the tension, and increase the stroke. ○ See '16 NEEDLE-TO-HOOK RELATIONSHIP'.
2. Stitch skipping	① The clearance between the needle hook point and the is too large. ② The timing between the needle and hook is too early or late. ③ The presser foot pressure is too low. ④ The clearance between the top edge of the needle eyelet and the hook point is not correct. ⑤ The size of the needle is wrong. ⑥ A synthetic fiber thread or thin thread is used.	○ See '16 NEEDLE-TO-HOOK RELATIONSHIP'. ○ See '16 NEEDLE-TO-HOOK RELATIONSHIP'. ○ Increase the presser foot pressure. ○ See '16 NEEDLE-TO-HOOK RELATIONSHIP'. ○ Replace the needle by one which one grade thicker. ○ Wind the thread round the needle as illustrated. 
3. Loose stitches	① The thread has not been passed through the notch of the bobbin case tension spring. ② The thread path is poorly finished. ③ The bobbin does not rotate smoothly. ④ The bobbin thread tension is too low. ⑤ The bobbin thread has been wound too tight.	○ Properly thread the bobbin case. ○ Grind it using a fine sand paper or a buff. ○ Replace the bobbin or hook. ○ Properly adjust the tension. ○ Decrease the bobbin thread winding tension.

GOLDEN WHEEL

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