

CS-2450, 2450N  
CS-2460, 2460N  
單針上下送人字車系列



# 使用說明書

## INSTRUCTION MANUAL

No:2450A00

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**

CS-2450	單針上下送人字車 1-NEEDLE, TOP & BOTTOM FEED ZIGZAG LOCKSTITCH MACHINE
CS-2450N	
CS-2460	
CS-2460N	

爲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，請勿啓動機台或試轉。
  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 rotational direction of the handwheel. (The handwheel should turn counterclockwise as observed from the handwheel side.)
  - 4 For the first month, run the machine at speed of 1600s.p.m or less.

**操作時應注意事項：****CAUTIONS IN OPERATION**

1. 啓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**

使用	薄料到中厚料
縫紉速度 ※	最大 2000 s. p. m
縫制長度	前縫: 5mm, 倒縫: 5mm
最大 縫制長度	9mm
機針棒	35mm
壓腳升降	手動升: 10mm, 膝蓋升: 10mm
機針	見目次 1 * 機針和綫 *
潤滑油	機油 (白砂油)

※ 最大的速度是依靠面料、綫和縫制條件。

Usage	Light to medium weight material
Sewing speed ※	Max. 2000s. p. m
Stitch length	Forward stitch:5mm, Reverse stitch:5mm
Max. stitch width	9mm
Needle bar stroke	35mm
Lift of presser foot	Hand lifter:10mm, Knee lifter:10mm
Needle	See page 1 for table on 'NEEDLE AND THREAD'
Lubricating oil	Machine oil (white spindle oil)

※ Maximum speed will very depending on fabric, threads and sewing condition

## 人字寬度和最大速度之間關係

**RELATIONSHIP BETWEEN ZIGZAG WIDTH AND MAXIMUM SPEED**

人字寬度	0mm~5mm	5mm~9mm
最大速度	2000 s. p. m	1800 s. p. m

Zigzag width	0mm~5mm	5mm~9mm
Max speed	2000s. p. m	1800s. p. m

## 1. 機針和綫

**1. NEEDLE AND THREAD**

選擇適當的機針不僅依靠機器型號而且也是要靠材料綫的使用, 適當的機針和綫的尺寸去用在各種機器型號上, 請參考以下的規格:

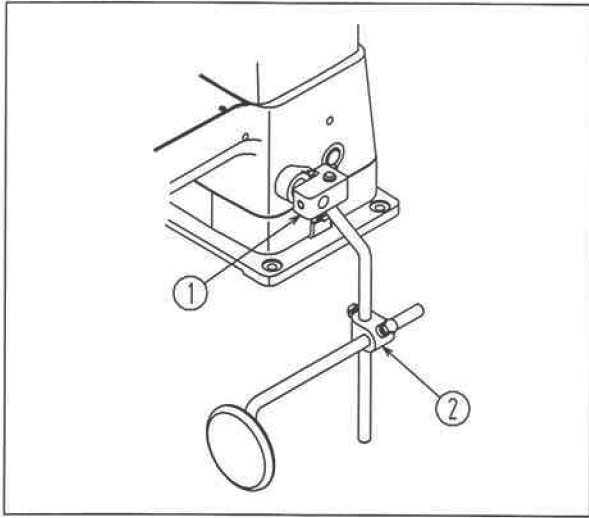
Selection of the proper needle depends not only on the machine model, but also on the material thread used. For selection of proper needle and thread sizes to be used on the various machine models, please refer to the table below.

等級應用	薄料	中料	中厚料
最大綫尺寸 合成物	120	60	30
機針尺寸	DP×17 #10	DP×17 #12~#16	DP×17 #18~#19

Application of class	For light-weight materials	For medium-weight materials	For medium-heavy weight materials
Max thread size (Nm) -Synthetic	120	60	30
Needle size	DP×17 #10	DP×17 #12~#16	DP×17 #18~#19

## 2. 安裝膝靠抬壓腳

### 2. INSTALLING THE KNEE LIFTER



1) 安裝抬壓腳板②和支架①。

1) Install the knee press plate asm. ② to the bracket ①.

## 3. 潤滑油 (CS-2450N/2460N)

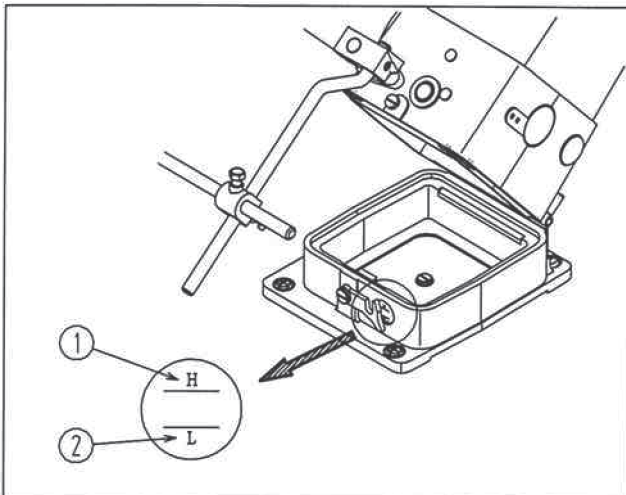
### 3. LUBRICATION (FOR CS-2450N/2460N)

\* 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) 把油注入標記綫“H”①。

2) 當油杆倒入在標注“L”②，再次注入油。

(使用油：白砂油)

1) Fill oil up to marker line "H" ①.

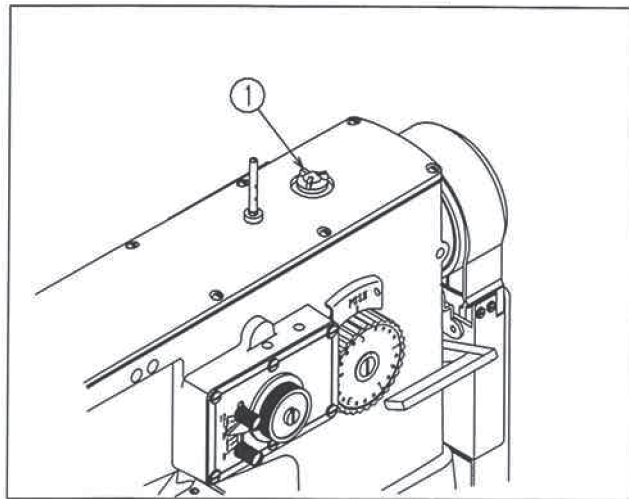
2) When the oil level drops under marker line "L" ②, refill it.

(Using oil is white spindle oil.)

## 4. 潤滑油條件 (CS-2450N/2460N)

**4. LUBRICATION CONDITION (FOR CS-2450N/2460N)**

- 1) 操作縫紉機并確定散射油是在油槽裏①。
- 1) Operate the sewing machine, and confirm the scattering oil at an oily window ①.



## 5. 機針的安裝

**5. HOW TO INSTALL 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！

**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.

☆確保電機電源關閉

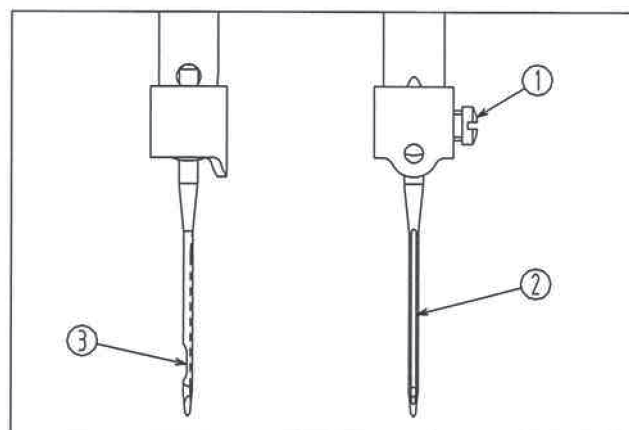
標準機針系統是“DP×17”。

- 1) 用手打開手輪并拿起機針棒放在頂部位置
- 2) 鬆開螺絲①，把機針②插入到孔裏面直到不能插到頂為止。  
◇把機針插入在直接面對直立面的凹槽③。
- 3) 在機針上牢固的壓緊螺絲。

☆BE SURE TO POWER-OFF THE MOTOR.

The normal needle system is 'DP×17'.

- 1) Turn the handwheel by hand and raise the needle bar to its top position.
- 2) Loosen screw ① and insert the needle ② into the hole until it will go no further.  
◇Insert the needle with its recess ③ facing directly to the rear side.
- 3) Securely tighten the screw in the needle.



## 6. 旋梭的安裝

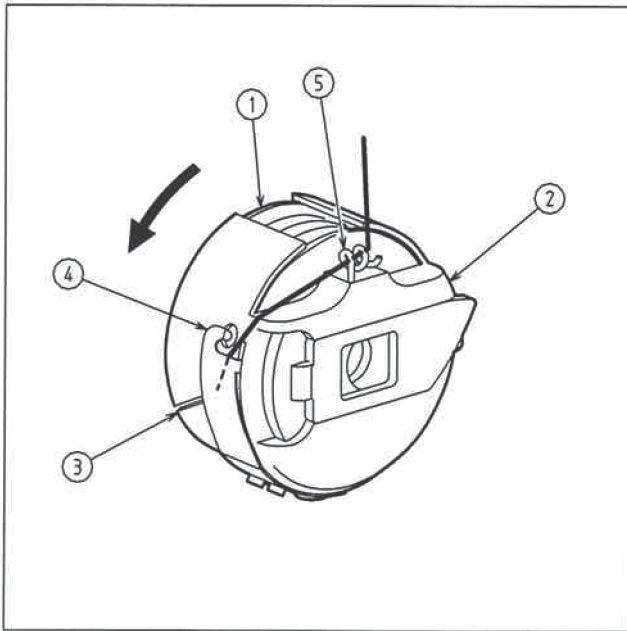
### 6. HOW TO INSTALL THE BOBBIN

\* 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) 把旋梭①放進梭殼裏面②。
- 2) 把線穿過線槽③并壓住梭殼拉力彈簧的凹槽④。
- 3) 把線尾穿過梭殼的導線器⑤并把它拉出約40mm。

注意：在梭線已經拉出時，安裝梭殼的旋梭比便按照箭頭的方向打開。

- 1) Put the bobbin ① into the bobbin case ② .
- 2) Pass the thread through the threading groove ③ and the notch ④ of tensionspring in the bobbin case.
- 3) Pass the end of thread through bobbin case thread guide ⑤ and pull it out a length of about 40mm .

**CAUTION:** Fit the bobbin in the bobbin case so that the bobbin turns in the direction of the arrow when the bobbin thread is pulled.

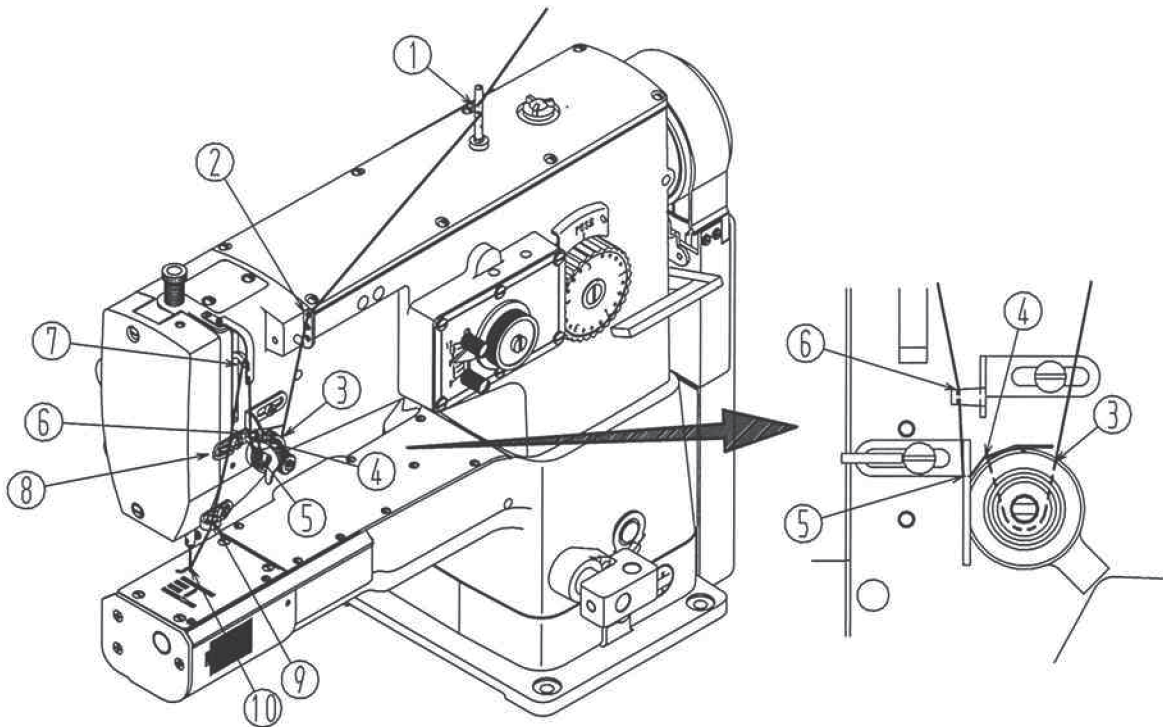
## 7. 機器穿綫

### 7. HOW TO THREAD 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！

**⚠ 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.



如圖所示步驟穿綫

Thread the machine head as illustrated.

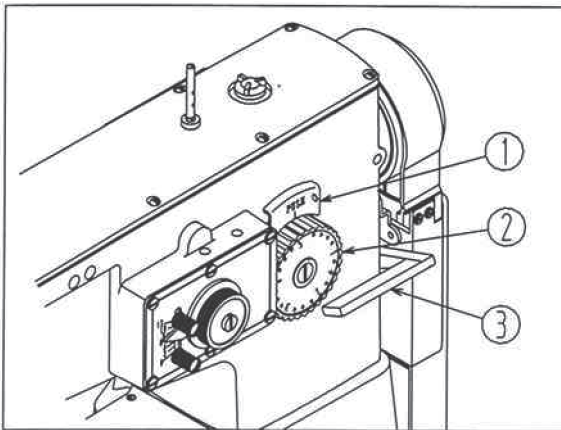


## 8. 調整縫制長度

### 8. ADJUSTING THE STITCH LENGTH

\* 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) 推動阻塞板①，打開刻度表②。

○ 怎樣倒轉送料縫制。

1) 把送料杆③放下。

2) 祇要壓住杆機器就可以倒轉送料縫制。

3) 鬆開杆時，機器恢復標準縫制狀態。

1) Push the stopper plate ①, and turn the dial ②.

○ How to engage the reverse feed stitching.

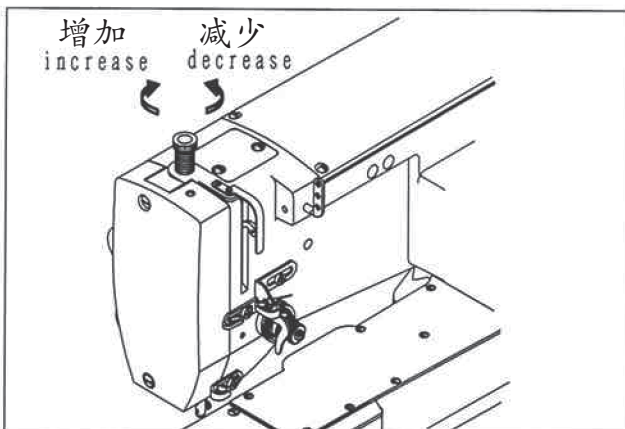
1) Push feed lever ③ down.

2) The machine performs reverse feed stitching as long as the lever is held depressed.

3) The moment you release to lever, the machine resumes the normal stitching mode.

## 9. 調節壓腳壓力

### 9. ADJUSTING THE PRESSER FOOT PRESSURE



1) 向右轉動壓力調節器增加壓力，向左減少壓力。

1) Turn the presser spring regulator to the right to increase and to the left to decrease pressure.

## 10. 綫張力調節

### 10. 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 UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

#### 1) 調節沙拉組

順時機針轉動沙拉組銷①增加綫的張力或逆時機針轉動減少綫的張力。

#### 2) 調節旋梭綫張力

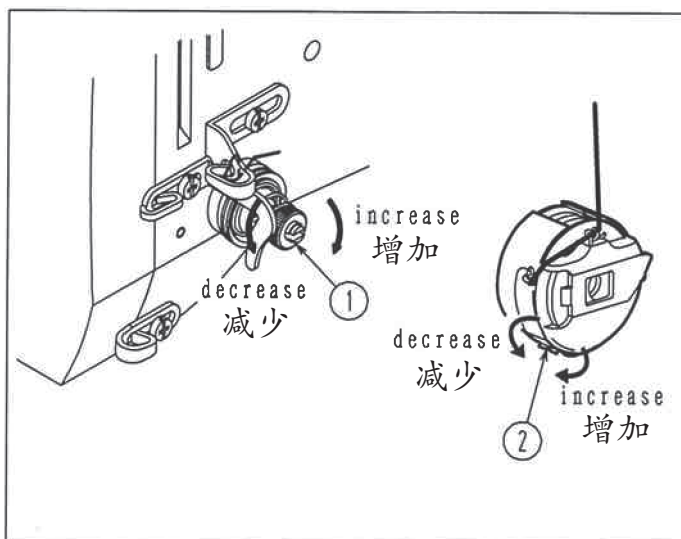
順時機針轉動張力螺絲②增加綫的張力，逆時機針轉動減少旋梭綫的張力。

##### (1) Adjusting the needle thread tension

Turn the thread tension nut ① clockwise to increase or counterclockwise to decrease the needle thread tension.

##### (2) Adjusting the bobbin thread tension

Turn the tension screw ② clockwise to increase or counterclockwise to decrease the bobbin thread tension.

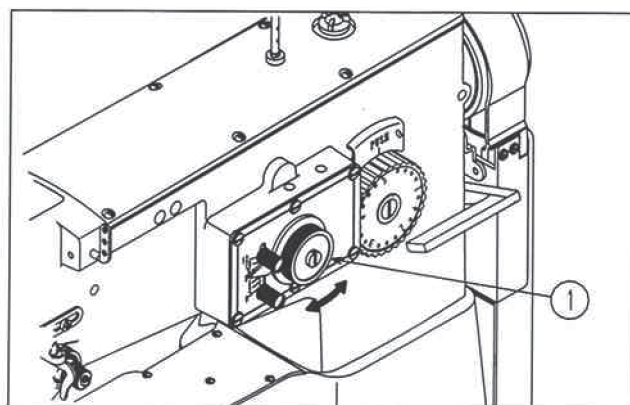


## 11. 縫目寬度調節器

### 11. STITCH WIDTH REGULATOR

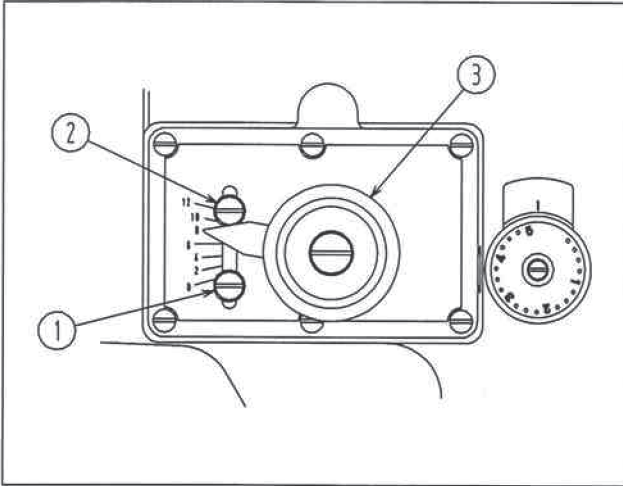
縫目寬度是由縫目寬度調節盤①控制的，當機針刺入布料時請勿調節機針的位置。

The width of zigzag stitch is controlled with biased stitch width regulating dial ①. Do not make any needle position adjustment while the needle is in the fabric.



## 12. 如何控制人字縫目寬度

### 12. HOW TO CONTROL THE WIDTH OF ZIGZAG STITCH



爲了控制人字車縫的最小和最大值，首先鬆開螺絲①，縫目調節器③開始可以調節，轉動到最小位置，然後鎖緊螺絲①。

鬆開螺絲②，轉動到最大位置，然後鎖緊螺絲②。

此時你可以控制縫目的調節，或者在0到9 mm的範圍內調節。

To obtain minimum to maximum width zigzag stitches, first loosen thumb screw ①, to permit the stitch width regulator ③, to return to its minimum position and retighten thumb screw ①.

Then loosen thumb screw ②, to return to its maximum position and retighten thumb screw ②.

You can now regulate the stitch width regulator within the range of zero to 9mm.

## 13. 機針與旋梭的關係

**13. 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！

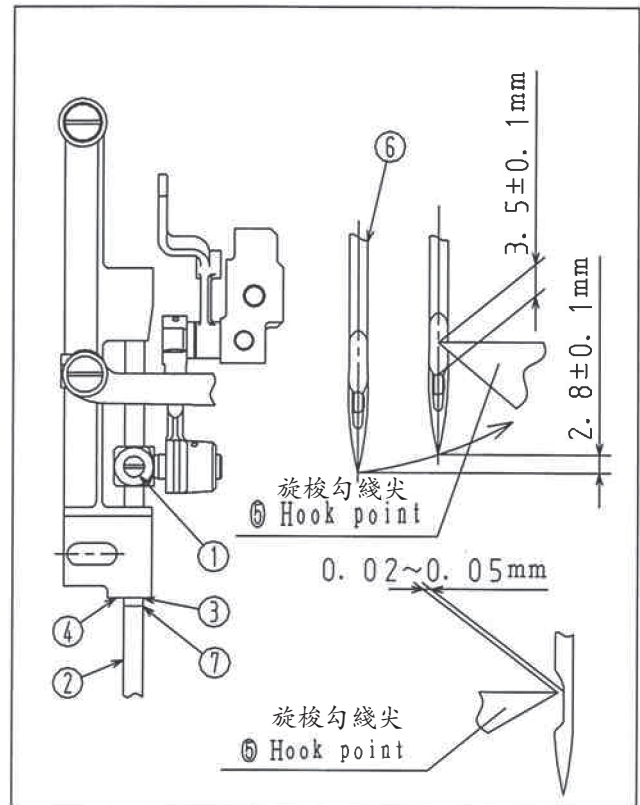
**⚠ CAUTION** TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.

依下列方式將機針棒設定在合適的高度然後

- 1) 移除機針板。
- 2) 設定縫目調節器為垂直狀態。
- 3) 朝操作者方向轉動手輪直到機針到達最低位置。
- 3) 鬆開機針棒螺絲①，此時祇有機針棒②可以自由的上下移動。
- 4) 按要求向上或下移動針棒②使其上部的計時刻度③與針棒夾④底部對齊，然後安全鎖緊針棒螺絲①。

依下列方式調節機針與旋梭的時間

- 1) 在機針處于中間位置時設定機器為垂直車縫狀態。
- 2) 依次調節，當機針棒上升至2.8mm位置時，旋梭點⑤接觸機針⑥的中間部位，此時鎖緊旋梭的固定螺絲。（此時調節的粗略指示，機針棒上的刻度線⑦與機針棒底面④對齊。）是粗略的指示。
- 3) 調節機針⑥與旋梭點⑤之間公差在0.02~0.05mm之間。



◇ Set the needle bar at the proper height first as follows

- 1) Remove face plate.
- 2) Set stitch width regulator for straight stitching.
- 3) Turn machine pulley over toward you until needle descends to its lowest position.
- 3) Loosen needle bar screw ① so that only the needle bar ② will move up and down freely.
- 4) Move needle bar ② up or down as required, and align its upper timing mark ③ with underside of needle bar frame ④. Then securely tighten needle bar set screw ①.

◇ Adjust the timing between the needle and the hook as follows

- 1) Set machine for straight stitching at center needle position.
- 2) Adjust so that, when the needle bar goes up to 2.8mm above its lowest position, hook point ⑤ nearly meets the center of needle ⑥. Then tighten hook setscrew. (As a rough indication of this adjustment, marker line ⑦ on needle bar aligns with the bottom face of the needle bar frame ④.)
- 3) Adjust the clearance between needle ⑥ and hook point ⑤ to 0.02 to 0.05mm.

## 14 常見問題故障排解

問題	原因	解決方案
上綫斷裂	<ol style="list-style-type: none"> <li>1. 穿綫是否正確?</li> <li>2. 過綫系挂及系調子皿區綫頭是否清除?</li> <li>3. 面綫張力是否太緊?</li> <li>4. 機針是否彎曲或機針尖鈍化?</li> <li>5. 機針是否正確安裝?</li> <li>6. 對於工作材質及綫的規格, 及所用機針是否正確?</li> <li>7. 綫有無打結搓捻?</li> </ol>	<ol style="list-style-type: none"> <li>1. 更正穿綫</li> <li>2. 將綫頭及毛球從旋梭殼及旋梭中移除</li> <li>3. 調節面綫張力</li> <li>4. 更換機針</li> <li>5. 從新正確安裝機針</li> <li>6. 更換適用規格的機針及綫</li> <li>7. 將打結搓捻的綫去除</li> </ol>
底綫斷裂	<ol style="list-style-type: none"> <li>1. 底綫穿綫是否正確?</li> <li>2. 底綫卡住或纏綫?</li> <li>3. 底綫張力是否正確?</li> <li>4. 旋梭運轉是否平衡?</li> </ol>	<ol style="list-style-type: none"> <li>1. 從新穿底綫</li> <li>2. 從梭殼夾綫彈簧片將卡綫解除</li> <li>3. 調整底綫張力</li> <li>4. 檢查旋梭綫繞綫有無正確</li> </ol>
車縫跳機針	<ol style="list-style-type: none"> <li>1. 機針安裝是否正確?</li> <li>2. 機針是否彎曲或機針尖鈍化?</li> <li>3. 機針與綫的要求是否符合?</li> <li>4. 上綫穿綫是否正確?</li> </ol>	<ol style="list-style-type: none"> <li>1. 從新正確安裝機針</li> <li>2. 更換新機針</li> <li>3. 選配適合工作材料的機針</li> <li>4. 更正穿綫動作順序</li> </ol>
斷機針	<ol style="list-style-type: none"> <li>1. 機針安裝是否正確?</li> <li>2. 機針是否彎曲或機針尖鈍化?</li> <li>3. 機針與綫的要求是否符合?</li> <li>4. 鎖機針螺絲是否脫落?</li> <li>5. 車縫中物料有無被拉住?</li> </ol>	<ol style="list-style-type: none"> <li>1. 從新正確安裝機針</li> <li>2. 更換新機針</li> <li>3. 選配適合工作材料的機針</li> <li>4. 鎖緊鎖機針螺絲</li> <li>5. 車縫中不要將物料拉住</li> </ol>
布料無法送料	<ol style="list-style-type: none"> <li>1. 送料調節盤是否有適度調節?</li> <li>2. 壓腳壓力是否有適度調節?</li> </ol>	<ol style="list-style-type: none"> <li>1. 轉動送料調節盤加長縫目長度</li> <li>2. 加強壓腳壓力</li> </ol>
布料起皺	<ol style="list-style-type: none"> <li>1. 機針安裝是否正確?</li> <li>2. 機針是否彎曲或機針尖鈍化?</li> <li>3. 綫張力是否太緊?</li> </ol>	<ol style="list-style-type: none"> <li>1. 更正穿綫順序</li> <li>2. 更換機針</li> <li>3. 適度調整綫張力</li> </ol>
回轉噪音大	<ol style="list-style-type: none"> <li>1. 送料齒處是否有綫頭或毛球?</li> <li>2. 旋梭中是否有綫頭?</li> </ol>	<ol style="list-style-type: none"> <li>1. 清除送料齒處綫頭毛屑</li> <li>2. 清除旋梭中的綫頭毛屑</li> </ol>
機器無法啓動	<ol style="list-style-type: none"> <li>1. 電源插頭是否有連接電源?</li> <li>2. 電源開關是否有在 ON 的位置?</li> </ol>	<ol style="list-style-type: none"> <li>1. 將插頭連接電源</li> <li>2. 電源開關激活在 ON 位置</li> </ol>

## 14. TROUBLESHOOTING CHART

Problem	Cause	Solution
Needle thread breaks	<ol style="list-style-type: none"> <li>1. Is machine properly threaded ?</li> <li>2. Are thread guides or tension disc area lint-free?</li> <li>3. Is needle-thread tension too tight?</li> <li>4. Is needle bent or have a blunt point?</li> <li>5. Is needle inserted correctly?</li> <li>6. Is needle the correct size for thread and fabric?</li> <li>7. Is thread free of slubs and knots?</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct needle threading</li> <li>2. Remove lint and fluff in bobbin case and hook</li> <li>3. Adjust needle thread tension</li> <li>4. Replace the new needle</li> <li>5. Insert needle correctly</li> <li>6. Select proper needle size and thread</li> <li>7. Remove slubs and knots</li> </ol>
Bobbin thread breaks	<ol style="list-style-type: none"> <li>1. Is bobbin threading correct?</li> <li>2. Is thread tangled or caught?</li> <li>3. Is thread tension correct?</li> <li>4. Does bobbin rotate smoothly?</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct bobbin threading</li> <li>2. Untangle thread from bobbin case thread tension</li> <li>3. Adjust needle and bobbin case thread tension</li> <li>4. Check whether bobbin thread is wound correctly</li> </ol>
Stitches skip	<ol style="list-style-type: none"> <li>1. Is needle inserted correctly?</li> <li>2. Is needle bent or have blunt needle point?</li> <li>3. Is size of needle and thread suitable for fabric?</li> <li>4. Is threading correct?</li> </ol>	<ol style="list-style-type: none"> <li>1. Insert needle correctly</li> <li>2. Replace the new needle</li> <li>3. Select proper needle size and thread</li> <li>4. Correct needle threading</li> </ol>
Needle breaks	<ol style="list-style-type: none"> <li>1. Is needle properly inserted?</li> <li>2. Is needle bent?</li> <li>3. Is needle the correct size for the fabric?</li> <li>4. Is needle clamping screw loose?</li> <li>5. Is the fabric pulled while sewing?</li> </ol>	<ol style="list-style-type: none"> <li>1. Insert needle correctly</li> <li>2. Replace the new needle</li> <li>3. Select proper needle and thread for fabric</li> <li>4. Tighten needle set screw</li> <li>5. Do not pull fabric while sewing</li> </ol>
Fabric fails to feed	<ol style="list-style-type: none"> <li>1. Is feed regulating dial properly adjusted?</li> <li>2. Is presser foot pressure adjusted properly?</li> </ol>	<ol style="list-style-type: none"> <li>1. Lengthen stitch length by feed regulating dial</li> <li>2. Increase presser foot pressure</li> </ol>
Fabric puckers	<ol style="list-style-type: none"> <li>1. Is needle threading correct?</li> <li>2. Is needle point blunt?</li> <li>3. Is thread tension too tight?</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct needle threading</li> <li>2. Replace the new needle</li> <li>3. Adjust needle tension properly</li> </ol>
Rotating heavy noisy	<ol style="list-style-type: none"> <li>1. Is there any lint or fluff on feed dog?</li> <li>2. Is there any lint in rotating hook?</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove lint and fluff from feed dog</li> <li>2. Remove lint and fluff from rotating hook</li> </ol>
Machine fails to start	<ol style="list-style-type: none"> <li>1. Are electrical plugs properly connected?</li> <li>2. Is power and light switch turned on?</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect plug to power source</li> <li>2. Turn on power switch</li> </ol>

啓翔股份有限公司

CHEE SIANG INDUSTRIAL CO., LTD.

NO.32 WU CHUAN 7TH ROAD, WU KU INDUSTRIAL AREA,  
WU KU HSIANG 24248, TAIPEI HSIEN, TAIWAN.

