

# ***KBH*** SERIES

寶獅牌工業用縫紉機 INDUSTRIAL SEWING MACHINE

**MODEL**  
**KBH1790A**



**COMPUTER-CONTROLLED HIGH-SPEED  
LOCKSTITCH BUTTONHOLE MACHINE**

**User Manual**



精機機械廠股份有限公司 CHING CHI MACHINE CO., LTD  
<http://www.kingtexsewing.com.tw>

Ver 1.0 2025.12  
NO.KBH62MG-1-25-12

## I. 使用时的注意事项/IMPORTANT SAFETY INSTRUCTION

- 1) 没有往油盒加油时, 请绝对不要运转缝纫机。
- 2) 缝制结束之后, 请清扫旋梭、切刀部的灰尘和线绒。并确认油量是否充足。
- 3) 使用启动踏板时, 缝纫机启动后请把踏板返回到原来的位置否则会连续缝制。
- 4) 本缝纫机装有安全开关, 当缝纫机头放倒时, 不让缝纫机运转。

要运转缝纫机时, 请把缝纫机头正确地放置到台板上之后, 再打开电源开关。

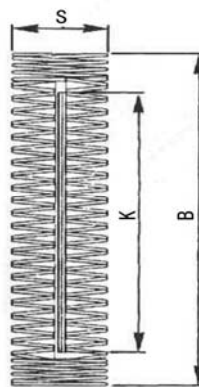
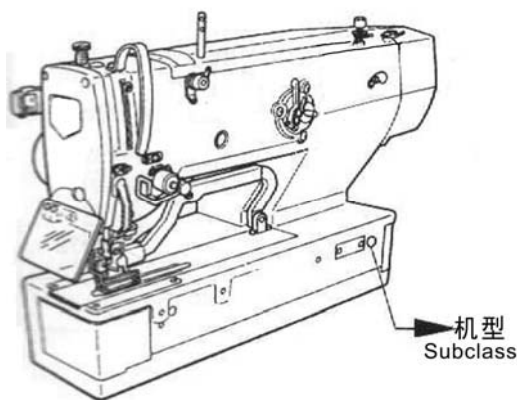
- 1) Never operate the machine unless the oiling tank has been properly lubricated.
- 2) Be sure to remove any dust from the hook or bobbin thread cutting knife section at the end of the day, and check the amount of oil remaining.
- 3) Be sure to return the activating pedal to the home position after the machine has started to run.
- 4) A safety switch is installed so that this sewing machine can't be operated in the state that the machine head is tilted. When operating this sewing machine, turn the power switch ON after setting the sewing machine to the bed base properly.

## II. 规格/ SPECIFICATIONS

### 1. 机种/Subclass

KBH-1790A 系列高速电子平头锁眼机有以下系列机型。

KBH-1790A Serise Computer-controlled high-speed lockstich Straight Button-holing Industrial Sewing Machines has the subclass machines below.



| 机型<br>Subclass | 套结宽幅(S)<br>Width of noose | 切刀尺寸<br>Size of cutter     | 缝制长度(B)<br>Sewing length      | 主要用途<br>Major application   |
|----------------|---------------------------|----------------------------|-------------------------------|---|
| 1790A-S        | 最大 5mm<br>The maximum 5mm | 6.4~31.8mm<br>(1/4"~1-1/4) | 最大 41mm<br>The maximum 41mm   | 缝制衬衣、衬衫、工作服、女装等棉布扣眼<br>Buttonholing of cloth such as men's shirts, blouses, work uniforms |
| 1790A-K        | 最大 5mm<br>The maximum 5mm | 6.4~31.8mm<br>(1/4"~1-1/4) | 最大 41mm<br>The maximum 41mm   | T 恤、POLO 衫等针织料纽扣<br>T-shirt polo shirt knitted material                                   |
| 1790A-L        | 最大 5mm<br>The maximum 5mm | 6.4~31.8mm<br>(1/4"~1-1/4) | 最大 120mm<br>The maximum 120mm | 缝制衬衣、衬衫、工作服、女装等棉布纽扣<br>Buttonholing of cloth such as men's shirts, blouses, work uniforms |



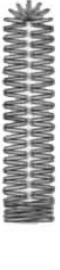








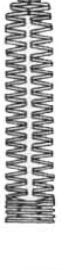

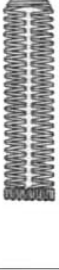

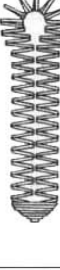












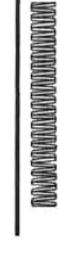

## 2. 规格/Specifications

|         |                                       |
|---------|---------------------------------------|
| 名称      | 规格                                    |
| 套结宽幅    | 标准 5mm                                |
| 缝纫速度    | 标准 3600rpm（最高 4200rpm）                |
| 使用机针    | DP×5 #11J ~ #14J                      |
| 针杆行程    | 34.6mm                                |
| 旋梭      | DP 型 全自动旋转供油旋梭                        |
| 压脚上升量   | 6mm（可任意设定） 最大 17mm（逆转抬压脚时）            |
| 抬压脚驱动方式 | 脉冲马达式（1 个踏板 • 2 个踏板）                  |
| 绕线功能    | 机头内置式（在机器驱动中可绕线）                      |
| 送布驱动方式  | 脉冲马达式                                 |
| 摆针驱动方式  | 脉冲马达式                                 |
| 切刀驱动方式  | 脉冲马达式                                 |
| 面线张力机能  | 电磁铁张力方式通过控制面板操作可对各部位进行数据设定（平行部、套件部张力） |
| 缝迹形状    | 角型、放射型、圆型（控制面板选择）等 30 种               |
| 记忆花样数   | 500 个花样                               |
| 外形尺寸    | 机头宽度 200mm、高度 360mm、长度 570mm          |
| 机头重量    | 55Kg                                  |
| 电源      | 单向 220V                               |

## 2. 规格/Specifications

|                               |   |
|-------------------------------|---|
| Name of Controller            | specifications  |
| Width                         | 5mm（Min: 0.05mm）  |
| Sewing Speed                  | Standard 3600rpm Max 4200rpm  |
| Needles                       | DP×5 # 11J ~ # 14J  |
| Stroke of Needle Bar          | 34.6mm  |
| Shuttle                       | Type DP, All-auto Rotation Oil-supply Shuttle   |
| Presser Height                | 6mm (Customized Setting) Max 17mm(Reverse pressure lifting foot )   |
| Winding                       | Build-in Type (winding at machine running)  |
| Cloth-feeding Driving Device  | Pulse Motor   |
| Swing Needle Driving          | Pulse Motor   |
| Knife Driving Device          | Pulse Motor   |
| Upper-thread Tension Function | Solenoid Tension Method User can set the data at control panel to adjust each part (Parallel Part, Doubling Part Tension) |
| Stitch Form                   | Angle, Radial, Round (Selected at Control Panel) and other 30 types   |
| Patterns in Memory            | 500 Patterns  |
| Size                          | Width 200mm、Height 360mm、Length 570mm   |
| Head Weight                   | 55Kg  |
| Motor used                    | single phase 220V   |

### 3. 标准缝衣形状一览表/Standard sewing shape list

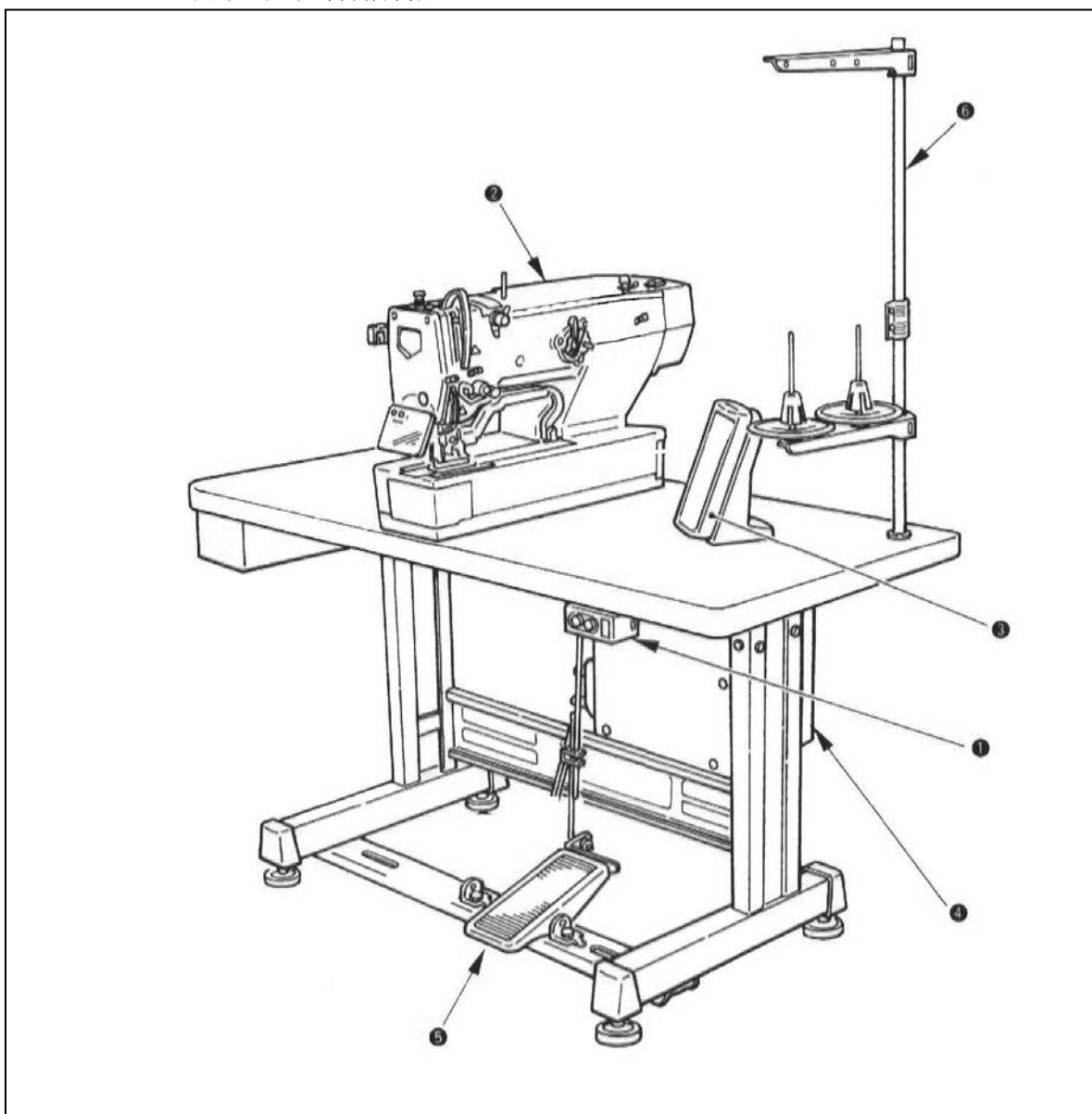
| 1. 角型   | 2. 圆形   | 3. 辐射角型   | 4. 辐射型  | 5. 辐射直角加固型  | 6. 辐射锥型加固型  |
|---|---|---|---|---|---|
| <br>液晶显示<br>1    | <br>液晶显示<br>2    | <br>液晶显示<br>3    | <br>液晶显示<br>4    | <br>液晶显示<br>5    | <br>液晶显示<br>6    |
| 7. 圆头扣眼角型   | 8. 圆头扣眼辐射型  | 9. 圆头扣眼直线加固型  | 10. 圆头扣眼锥型加固型   | 11. 半月型   | 12. 圆角型   |
| <br>液晶显示<br>7    | <br>液晶显示<br>8    | <br>液晶显示<br>9    | <br>液晶显示<br>10   | <br>液晶显示<br>11   | <br>液晶显示<br>12   |
| 13. 半月角型  | 14. 半月直线加固型   | 15. 半月锥型加固型   | 16. 圆头扣眼半月型   | 17. 圆头扣眼圆型  | 18. 角辐射型  |
| <br>液晶显示<br>13  | <br>液晶显示<br>14  | <br>液晶显示<br>15  | <br>液晶显示<br>16  | <br>液晶显示<br>17  | <br>液晶显示<br>18  |
| 19. 角半月型  | 20. 角圆型   | 21. 角直线型加固型   | 22. 角锥型加固型  | 23. 辐射半月型   | 24. 辐射圆型  |
| <br>液晶显示<br>19 | <br>液晶显示<br>20 | <br>液晶显示<br>21 | <br>液晶显示<br>22 | <br>液晶显示<br>23 | <br>液晶显示<br>24 |
| 25. 半月辐射型   | 26. 半月圆型  | 27. 加固缝   | 28. 加固右切断   | 29. 加固左切断   | 30. 加固中央切断  |
| <br>液晶显示<br>25 | <br>液晶显示<br>26 | <br>液晶显示<br>27 | <br>液晶显示<br>28 | <br>液晶显示<br>29 | <br>液晶显示<br>30 |

### 3. 标准缝衣形状一览表/Standard sewing shape list

|  |   |   |  |   |  |
|--|---|---|--|---|--|
| <b>1. Square type</b><br><br><b>PANEL DISPLAY</b><br><br>1             | <b>2. Round type</b><br><br><b>PANEL DISPLAY</b><br><br>2                         | <b>3. Radial square type</b><br><br><b>PANEL DISPLAY</b><br><br>3                 | <b>4. Radial type</b><br><br><b>PANEL DISPLAY</b><br><br>4                     | <b>5. Radial straight bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>5 | <b>6. Radial taper bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>6 |
| <b>7. Eyelet square type</b><br><br><b>PANEL DISPLAY</b><br><br>7      | <b>8. Eyelet radial type</b><br><br><b>PANEL DISPLAY</b><br><br>8                 | <b>9. eyelet straight bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>9   | <b>10. Eyelet taper bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>10 | <b>11. Semilunar type</b><br><br><b>PANEL DISPLAY</b><br><br>11                 | <b>12. Round square type</b><br><br><b>PANEL DISPLAY</b><br><br>12           |
| <b>13. Semilunar square type</b><br><br><b>PANEL DISPLAY</b><br><br>13 | <b>14. Semilunar taper bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>14 | <b>15. Semilunar taper bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>15 | <b>16. Eyelet semilunar type</b><br><br><b>PANEL DISPLAY</b><br><br>16         | <b>17. Eyelet round type</b><br><br><b>PANEL DISPLAY</b><br><br>17              | <b>18. Square radial type</b><br><br><b>PANEL DISPLAY</b><br><br>18          |
| <b>19. Square semilunar type</b><br><br><b>PANEL DISPLAY</b><br><br>19 | <b>20. Square round type</b><br><br><b>PANEL DISPLAY</b><br><br>20                | <b>21. Square straight bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>21 | <b>22. Square taper bar-tacking type</b><br><br><b>PANEL DISPLAY</b><br><br>22 | <b>23. Radial semilunar type</b><br><br><b>PANEL DISPLAY</b><br><br>23          | <b>24. Radial round type</b><br><br><b>PANEL DISPLAY</b><br><br>24           |
| <b>25. Semilunar radial type</b><br><br><b>PANEL DISPLAY</b><br><br>25 | <b>26. Semilunar round type</b><br><br><b>PANEL DISPLAY</b><br><br>26             | <b>27. Bar-tacking</b><br><br><b>PANEL DISPLAY</b><br><br>27                      | <b>28. Bar-tacking, right cut</b><br><br><b>PANEL DISPLAY</b><br><br>28        | <b>29. Bar-tacking, left cut</b><br><br><b>PANEL DISPLAY</b><br><br>29          | <b>30. Bar-tacking, center cut</b><br><br><b>PANEL DISPLAY</b><br><br>30     |

## 4. 构成

KBH-1790A 系列由以下部分所构成：



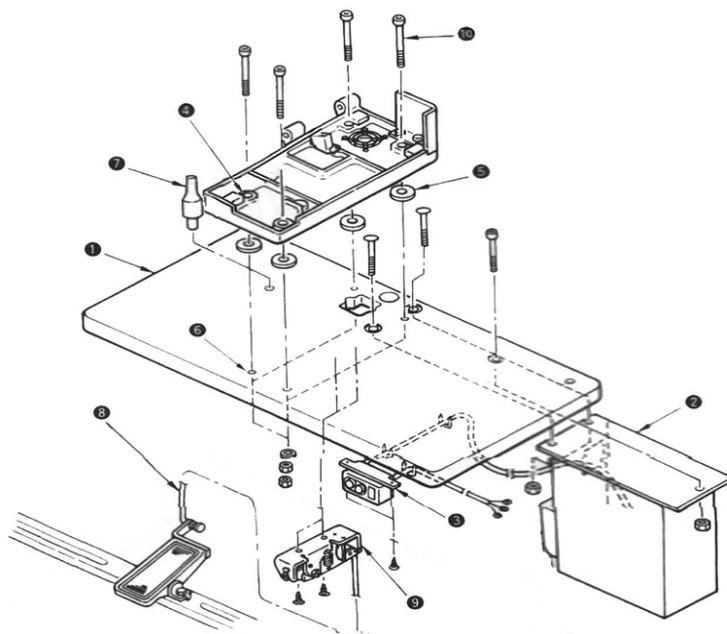
|   |                     |                                       |
|---|---------------------|---------------------------------------|
| ① | 电源 ON/OFF 开关        | Power ON/OFF switch                   |
| ② | 缝纫机机头（KBH-1790A 系列） | Machine head （KBH-1790A Series）       |
| ③ | 操作板                 | Operation panel                       |
| ④ | 电控箱                 | Control box                           |
| ⑤ | 抬压脚、启动踏板            | Presser lifting pedal and start pedal |
| ⑥ | 线架装置                | Thread stand device                   |

### III. 安装/INSTALLATION

★危险： 搬运缝纫机时，请至少 2 人以上进行。

★WARNING: To prevent possible accidents caused by fall of the sewing machine, perform the work by two persons or more when the machine is moved.

#### (1) 板的安装/Set-up of the table



- 1) 把控制箱②、电源开关③、固定到台板①上。
- 2) 用固定条把电源开关③的电缆线固定起来。
- 3) 把底座锁紧螺钉⑩（4个）穿过底座④。
- 4) 把减震橡胶安装到台板的底座固定孔⑥（4处），然后固定底座④。
- 5) 把机头支撑杆⑦固定到台板①上。
- 6) 把缝纫机主机放到台板①上后，把踏板和踏板开关⑨和附件的连接杆⑧连接起来。

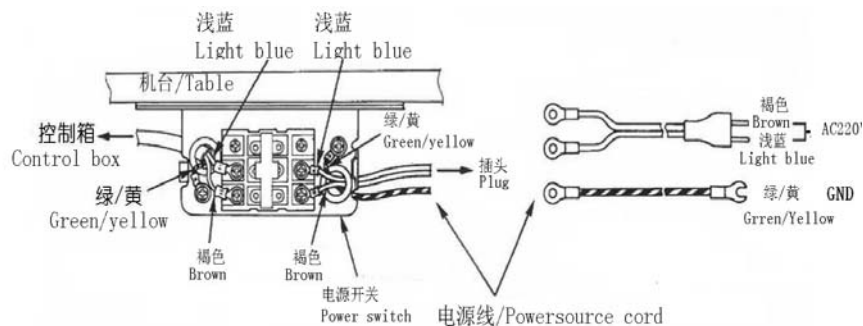
►注意：请调整踏板位置，不让连接杆⑧和控制箱②相碰。

- 1) Securely install control box ②and power switch ③on table ①.
- 2) Securely fix the respective power cables of power switch ③.
- 3) Pass four bed base fixed screws (10)through bed base④.
- 4) Set rubber cushions (5)to holes (6)and then fix on the base.
- 5) Fix head support bar ⑦on table①.
- 6) After placing the sewing machine main unit on bed base①,connect pedal ⑧  
To pedal switch ⑨,connecting rods ⑧which have been supplied as accessories .

►CAUTION : Adjust the positions of the pedals so that connecting road ⑧and control ②do not come in contact with each other.

## (2) 电源线的连接/Connecting the power cord

### ● 单相 220V 的连接/Connecting single phase 220V

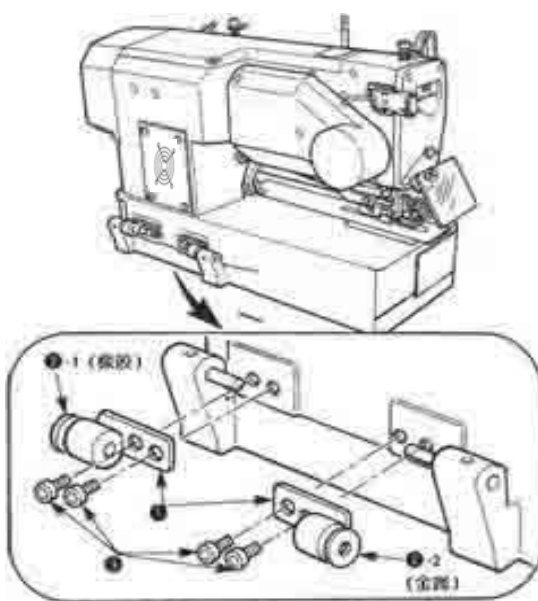


► 注意：在电压规格不同的状态下绝对不能使用。

► CAUTION : Never use under the wrong voltage and phase.

## (3) 缝纫机主体的安装/ Installing the sewing machine main unit .

► 注意：搬运缝纫机时，请一定 2 人以上进行。



► 注意：不要把橡胶铰链和金属铰链安装反了，否则放倒缝纫机时会有危险。

► CAUTION : To prevent possible accidents caused by the tail of the sewing machine, perform the work by two personal or more when the machine is moved.

CAUTION: Place hinge plates ❶ and shaft bearings ❷ in two places on the head base and fix the hinge plates to the machine head with setscrew ❸ in two places.



#### (4) 缝纫机的放倒方法/ Tilting the sewing machine head

★危险：放倒或抬起缝纫机时，请注意不要被缝纫机夹住手指。  
为了防止突然的起动造成的事故，请关掉电源之后再进行操作。

放倒缝纫机时，请轻轻地放倒，让缝纫机被机头支撑杆❶支撑住。



► 注意：

1. 放倒缝纫机之前，请先确认台板上是否装有机头支撑杆❶。
2. 为防止缝纫机突然倒下，请一定把缝纫机放到水平的地方，再放倒缝纫机。

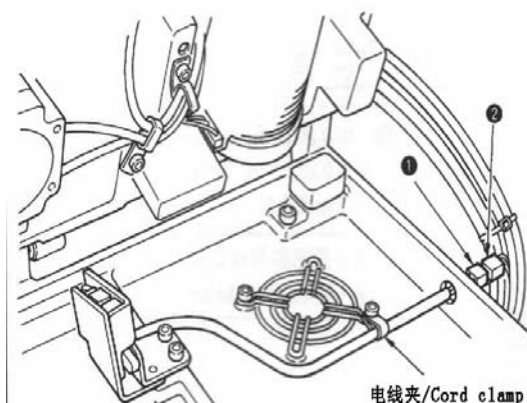
★WARNING : When tilting /raising the sewing machine head, perform the work so as not to allow your fingers to be caught in the machine, to avoid possible accidents caused by abrupt start of the machine, turn OFF the power to the machine before starting the work.

When tilting the sewing machine head, tilt quietly the sewing machine until head support bar❶comes in.

► CAUTION:

1. Make sure that sewing machine head support bar❶is placed on the table before tilting the sewing machine
2. To protect-fall-down, be sure to tilt the sewing machine in a level place.

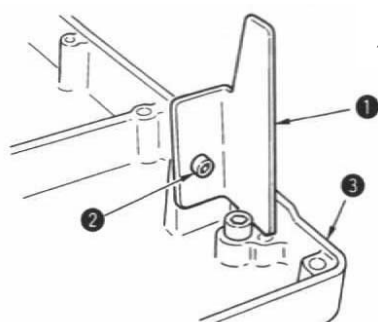
#### (5) 安全开关的连接/Connecting the safety switch connector



打开机头后罩，把安全开关的插口①连接到机头后端电路板 JP7②上，再重新罩上后罩。

After open the machine cover, connecting safety switch connector ① with connect ② located on the PCB which is on the back of the machine.

#### (6) 挡油板的安装/Installing the hook oil shield plate



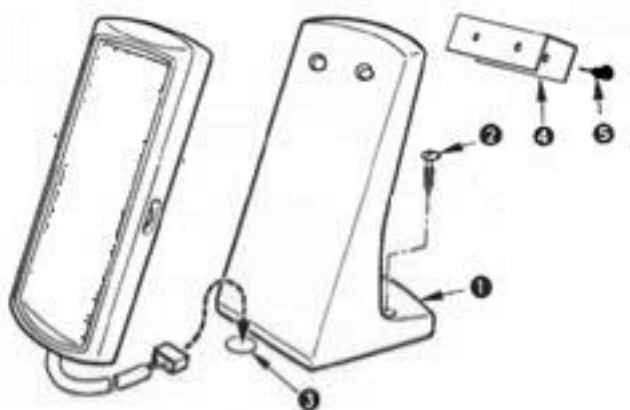
用固定螺钉②把挡油板①安装到底座③上。

►注意：放倒缝纫机或抬起缝纫机时，请注意不要碰到挡油板①。

Install hook oil shield plate ① onto bed base ③ with setscrew ②.

►CAUTION : Fixes the sewing machine so that it does not come in contact with hook oil shield plate ① when raising/tilting the sewing machine.

### (7) 操作板的安装/ Installing the operation panel



用木螺钉②把操作板座①固定到台板上，再把电缆穿过台板孔③。

Install hook oil shield plate

① onto bed base③ with setscrew  
②.

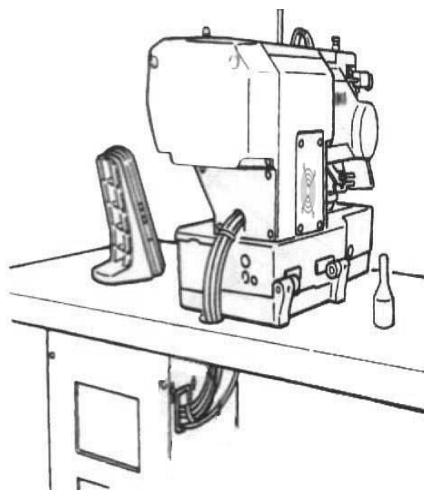
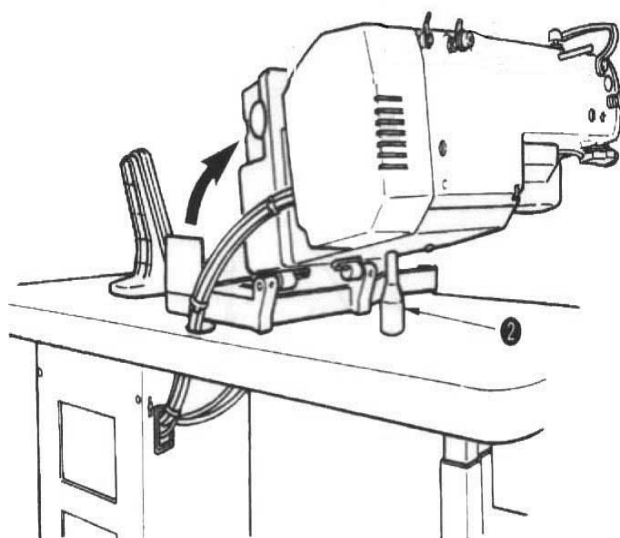
### (8) 电缆的处理/ Managing the cord

请一边慢慢地放倒缝纫机，一边确认电缆没有被勾住。

►注意：放倒缝纫机时，请确认机头支撑杆安装在台板上。

Slowly tilting the sewing machine, check that the cords are not forcibly pulled.

►CAUTION : When you tilt the sewing machine, make sure that the sewing machine head support bar② is placed on the table.



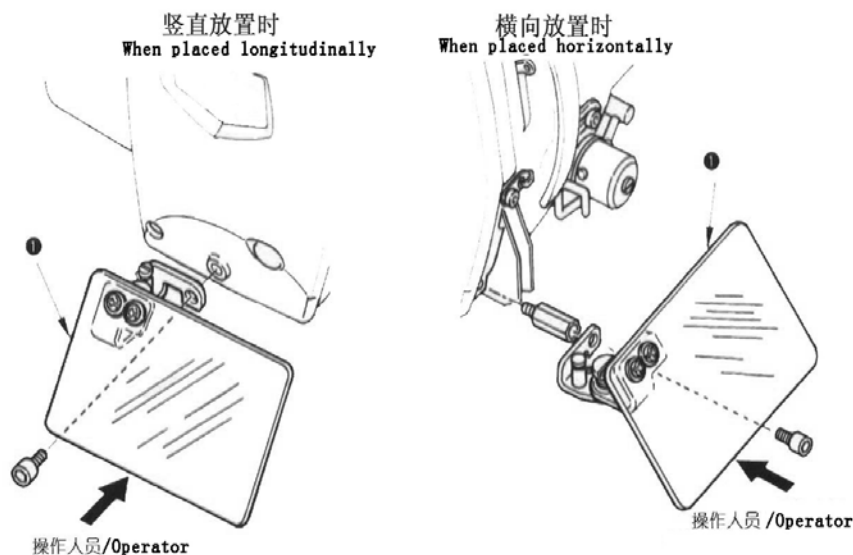
### (9) 眼睛防护罩的安装/Installing the eye protection cover

★危险：为了保护断针飞起弄伤眼睛，请一定安装起来。

请一定安装眼睛防护罩❶后使用缝纫机。

★WARNING : Be sure to attach this cover to protect the eyes from the disperse of needle breakage

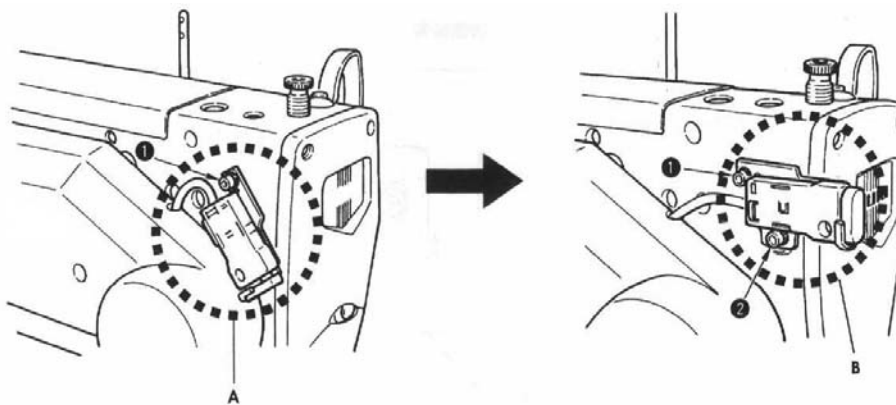
Be sure to install and use eye protection cover ❶ and use the sewing machine.



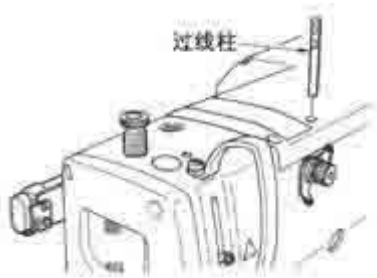
### (10) 急停开关的固定/Fixing the temporary stop switch

出货时，暂停开关为 A 的状态，请拧松固定螺钉，更为 B 状态，然后用附件的固定螺钉❷和固定螺钉❶固定好。

The temporary stop switch has been in the state as shown in figure A at the time of delivery. Loosen setscrew ❶ and set the switch in the state as shown in figure B, and fix it with setscrew ❶ together with setscrew ❷ supplied with the machine.



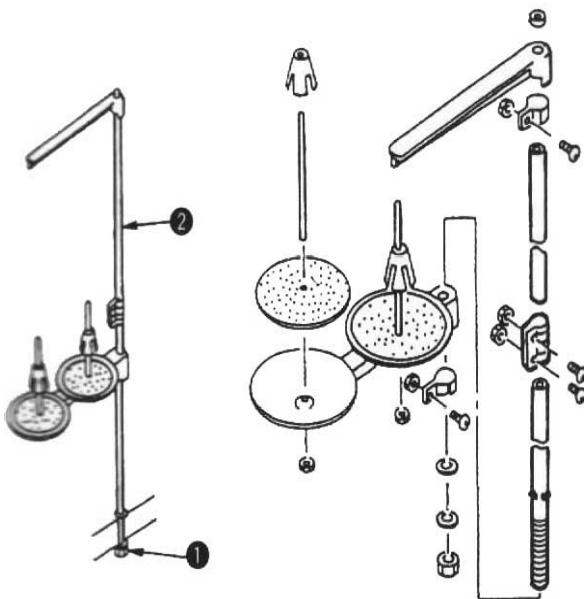
### (11) 过线柱/Thread guide rod



请把过线柱按 2 个横孔朝向正面的方向安装好。

Securely fit the thread guide rod so that two side holes in the thread guide rod face the thread guide.

### (12) 线架装置的安装/ Installing the thread stand



- 1) 安装线架装置，把它安装到台板右上的孔里。
- 2) 拧紧固定螺母①，不让线架装置松动。
- 3) 如果顶部可以配线时，请把电源线从线架杆②中穿过去。

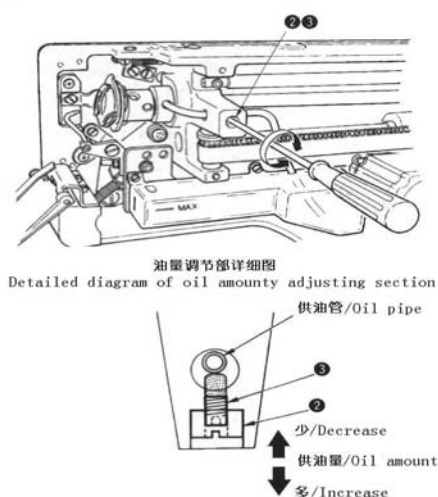
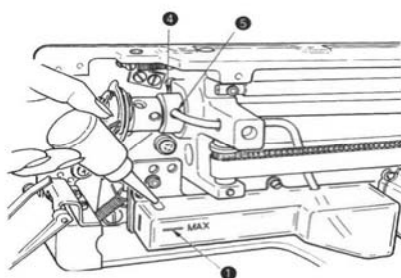
- 1) Assemble the thread stand, and set it in the hole in the top right corner of the machine table.
- 2) Tighten locknut①to fix the thread stand.
- 3) When ceiling wiring is possible, pass the power cord through spool rest rod ②.

## IV、缝纫机开机前的准备/ PREPARATION BEFORE OPERATION

### (1) 加油/ Lubrication

★注意：为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动后再进行。

**WARNING :** To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after tuning the power off and ascertaining that the motor is at rest.



#### 1) 向油箱里加油

- 把机油加满到 MAX 记号的位置①。

#### 2) 旋梭油量的调整

- 拧松油量调节固定螺母②，然后用油量调节螺钉③进行调节。
- 调节旋梭的油量时，拧进油量调节螺钉③则油量减少。
- 油量调节后，请用固定螺母②进行固定。
- 新装缝纫机或较长时间没有用过的缝纫机，使用之前请取下梭壳，在旋梭边槽加 2~3 滴机油。另外，向下轴前套④的加油孔⑤加几滴油，把油浸润到里面的毛毡里。

#### 1) Lubrication oil to oiling tank.

- Fill the oiling tank with Oil up to the level indicated by “MAX .①” .

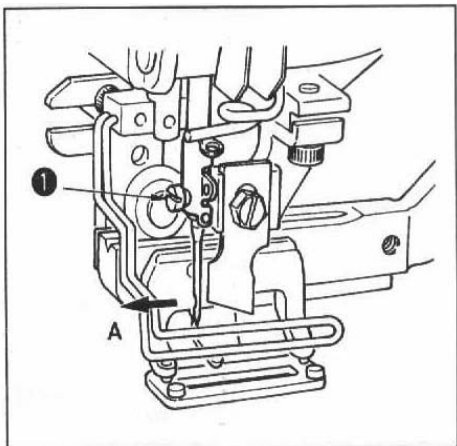
#### 2) Adjusting the lubrication for the sewing hook

- Adjust the amount of oil supplied to the sewing hook by loosening lock nut ② and turning of amount adjustingscrew ③.
- Amount of supplied oil is reduced when turning the screw ③ clockwise
- Fix the screw with lock nut ② after adjusting the lubrication for the sewing hook .
- When you first operate your sewing machine after set-up or after an extended period of disuse ,remove the bobbin case and apply a few drops of oil to the hook race .In addition, apply a few drops oil from oiling hook⑤ in hook driving shaft front metal ④ to soak the inside felt in oil .

## (2) 机针的安装方法/Inserting the needle

★危险：为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动再进行。

★WARNING : To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after tuning the power off and ascertaining that the motor is at rest.



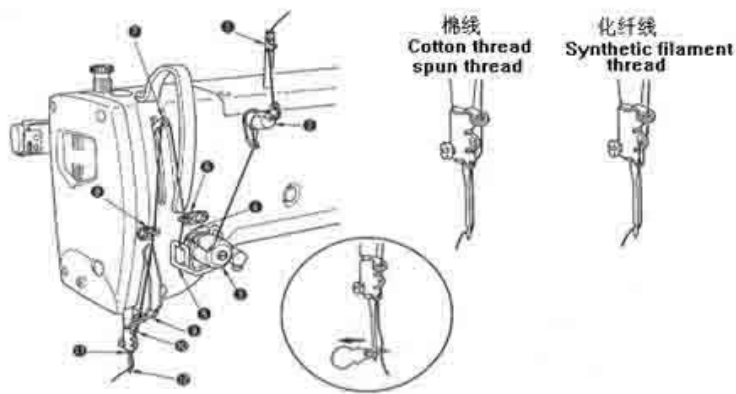
- 1) 从缝纫机的正面看，把机针凹部横向转到前侧 A。
- 2) 然后把机针插进针杆孔的最深处，拧紧机针固定螺钉①。
- 3) 机针使用 DPx5-(#11J~#14J)。

注意：安装机针时，请一定关掉电源

- 1) Hold needle with its recessed part facing toward the operator side A.
- 2) Insert the needle fully into the needle clamping hole ,and tighten needle setscrew ①.
- 3) Use a DPx 5(#11J ~#14J ).

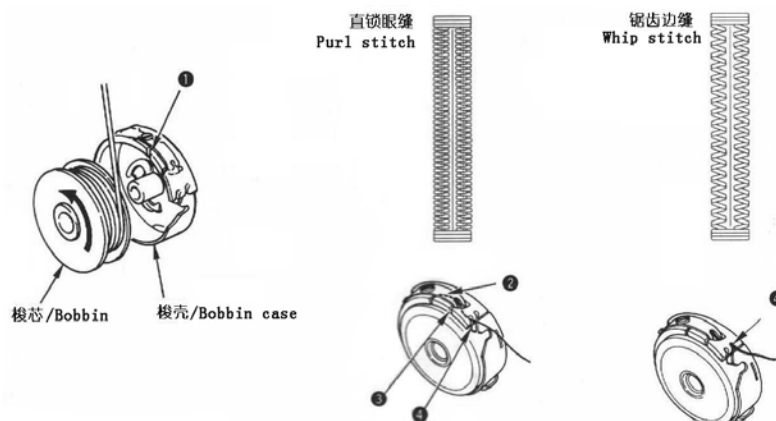
► CAUTION : When attaching the needle, turn OFF the power to the motor.

### (3) 上线的穿线方法/Threading the needle-thread



- 1) 上线如图①~⑫的顺序行穿线。
  - 2) 把线穿针时，使用附件的穿线器时操作会更加方便。
  - 3) 使用机线不同，导线器的穿线方法也不同。
- 1) Pass the needle thread in the order ① to ⑫ as shown in the figures.
  - 2) The threading can be done easily by using the needle threader supplied with the machine.
  - 3) Change the thread guide threading method according to the thread to be used.

### (4) 梭壳的穿线方法/Threading the bobbin case



#### 梭心转动方向和穿线方法

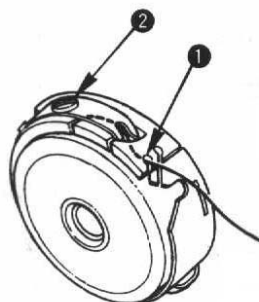
- 1) 头所示方向把梭心插进去。
- 2) 请把缝线穿过穿线口①，然后再从张力弹簧②的下面穿过去，再次穿过穿线口，从③把线拉出来。
- 3) 请注意进行直锁眼缝和锯齿缝时，④的穿线方法不同。

#### Rotating direction of bobbin and threading

- 1) Fit the bobbin so that it rotates in the direction of the arrow.
- 2) Pass the thread through thread slit ①, then through under the tension spring ②, again through thread slit ③, and pull the thread from ④.
- 3) Threading at ④ for purl stitching is different from that for whip stitching. So, be careful.



## (5) 底线张力的调整/Adjusting the bobbin thread tension



在梭壳穿线口①在上方的位置，把底线向上拉出之后，请按照下列的方法调整底线张力。

|      |            |                             |
|------|------------|-----------------------------|
| 直锁眼缝 | 0.05~0.15N | 手拿从梭壳出来的线头，轻轻地上下摆动时，梭壳就稍稍下降 |
| 锯齿边缝 | 0.15~0.3N  | 手拿从梭壳出来的线头，用稍稍强的力量摆动时，梭壳才下降 |

- 1) 把线张力螺钉②向右转动，底线张力变强，向左转动，底线张力变弱。
- 2) 使用化纤缝纫机线时，请把张力稍稍减弱，棉纱线时请稍稍加强。因为本机装有防止空转弹簧，所以装上旋梭之后的线张力请再调强 0.05N 左右。

►注意：调整了底线张力之后，请确认存储器开关的上线张力设定。

Adjust the bobbin thread tension as given below when the bobbin thread is pulled up at the position where thread slit ① of bobbin case comes up .

|             |            |   |
|-------------|------------|---|
| Purl stitch | 0.05~0.15N | To such an extent that bobbin case quietly comes down when holding thread end coming from bobbin case and shaking it quietly up and down. |
| Whip stitch | 0.15~0.3N  | To such an extent that bobbin case barely comes down when holding thread end coming from bobbin case and shaking it somewhat strongly.    |

Turning tension adjust screw ②clockwise will increase bobbin thread tension and turning it counterclockwise will decrease the tension.

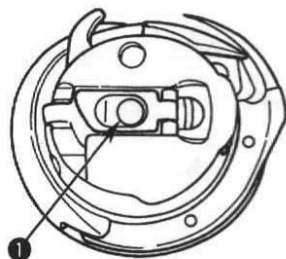
Adjust the bobbin thread tension to lower for synthetic filament thread, and to higher for spun thread .The thread tension is higher by approximately 0.05N when the bobbin case is set to the hook since idle-prevention spring is provided.

►CAUTION : When bobbin thread tension is adjusted, check the needle thread tension setting of the memory switch.

## (6) 梭壳的安装方法/Installation of bobbin case.

★注意：为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动后再进行。

★ **WARNING:** To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after



- 1) 扳起梭壳抓手。
- 2) 插入旋梭轴①，关闭抓手。梭壳被按到一定位置会听到喀嗒的声音。

- 1) Lift up and hold bobbin case latch lever between two fingers.
- 2) Push the bobbin case into the hook so that it is supported by the hook shaft ① and then snap in the latch lever. Press the bobbin case until the predetermined position is reached, and it will click.

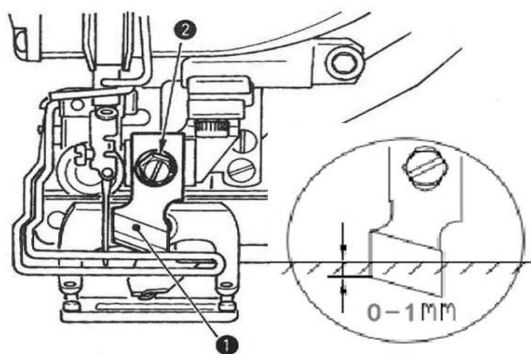
►注意：如果梭壳没有在规定的位置，缝纫后梭心会飞出来，上线绕到旋梭轴上。

► **CAUTION:** If the bobbin case is out of the predetermined position, it can jump out from the hook to cause the needle thread to tangle on the hook shaft. Check to be sure that the bobbin case is properly installed in the correct position.

## (7) 切布刀的安装方法/Installing the knife

★注意：为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动后再进行。

★ **WARNING** : To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power of and ascertaining that the motor is at rest.



请按如下的步骤更换新的切布刀。

- 1) 卸下切布刀固定螺钉②之后，把切布刀①和垫片一起简单地卸下来。
- 2) 用手按下切布刀之后，把切布刀和针板上面的距离调整到 0～1mm,然后套上垫片，并拧紧固定。

When replacing the knife with a new one, perform as follows.

- 1) Knife ① can be easily removed together with the washer when removing knife retaining screw ②.
- 2) Adjust so that the knife, when lowered the knife bar by hand, is spaced to 2 mm away from the top surface of the throat plate as illustrated in the sketch. Then, be sure to place the washer and tighten the knife retaining screw.

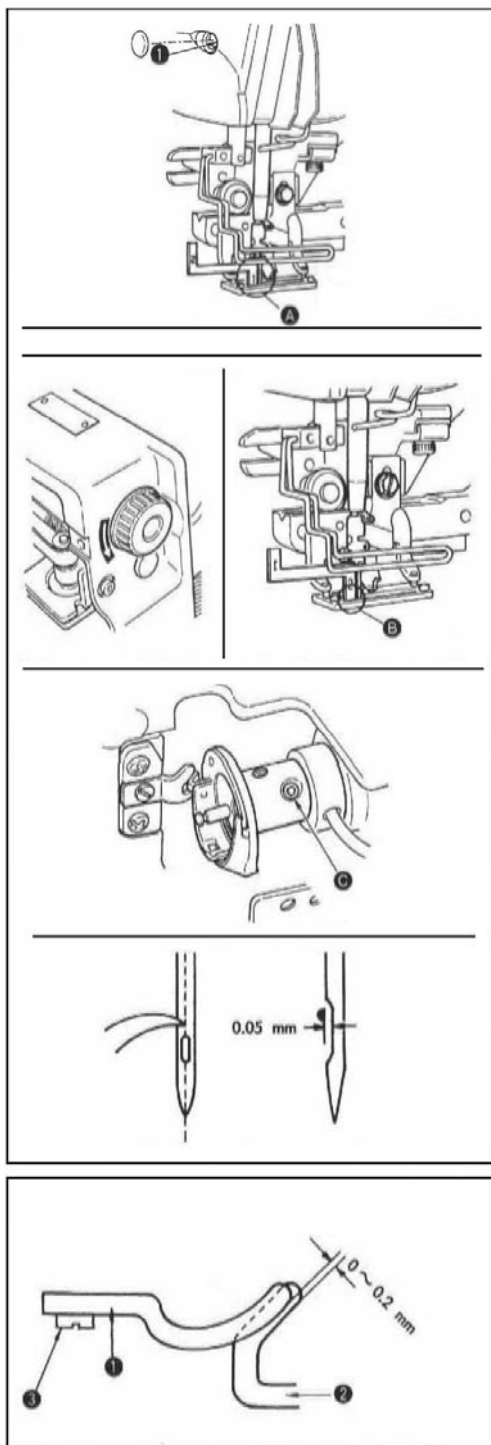
inch→mm 换算表/Inch→mm CONVERSION TABLE mm CONVERSION TABLE

| 切布刀尺寸/inch<br>Knife size /inch | mm 表示<br>Indication of mm | 切布刀尺寸/inch<br>Knife size /inch | mm 表示<br>Indication of mm |
|--------------------------------|---------------------------|--------------------------------|---------------------------|
| 1/4                            | 6.40                      | 13/16                          | 20.60                     |
| 3/8                            | 9.50                      | 7/8                            | 22.20                     |
| 7/16                           | 11.10                     | 1                              | 25.40                     |
| 1/2                            | 12.70                     | 1 1/8                          | 28.60                     |
| 9/16                           | 14.30                     | 1 1/4                          | 31.80                     |
| 5/8                            | 15.90                     | 1 3/8                          | 34.90                     |
| 11/16                          | 17.50                     | 1 1/2                          | 38.10                     |
| 3/4                            | 19.10                     |                                |                           |
|                                |                           |                                |                           |

## V. 维修

### 1. 机针和旋梭的同步时间调整

★ 危险：为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动后再进行。



机针和旋梭的同步调节，请在机针落到针板孔的中央时调整。

#### (1) 针杆高度

- 1) 把针杆降到最下点；
- 2) 把高度尺[1]的部分如图所示插入针板和针杆下端之间，使针杆碰到高度尺；
- 3) 拧紧针杆套管固定螺钉①，决定针杆高度。

#### (2) 机针和旋梭的同步

- 1) 按逆时针的转动主向转手轮，让机针从最下点开始上升；
- 2) 把高度尺[2]的部分插入针板和针杆下端之间，让针杆顶到高度尺；
- 3) 拧松轴套固定螺钉，把旋梭尖调整到机针的中心；
- 4) 此时，机针与旋梭尖之间的间隙为约 0.05mm，距离过大会导致跳针，过小会磨损旋梭尖；

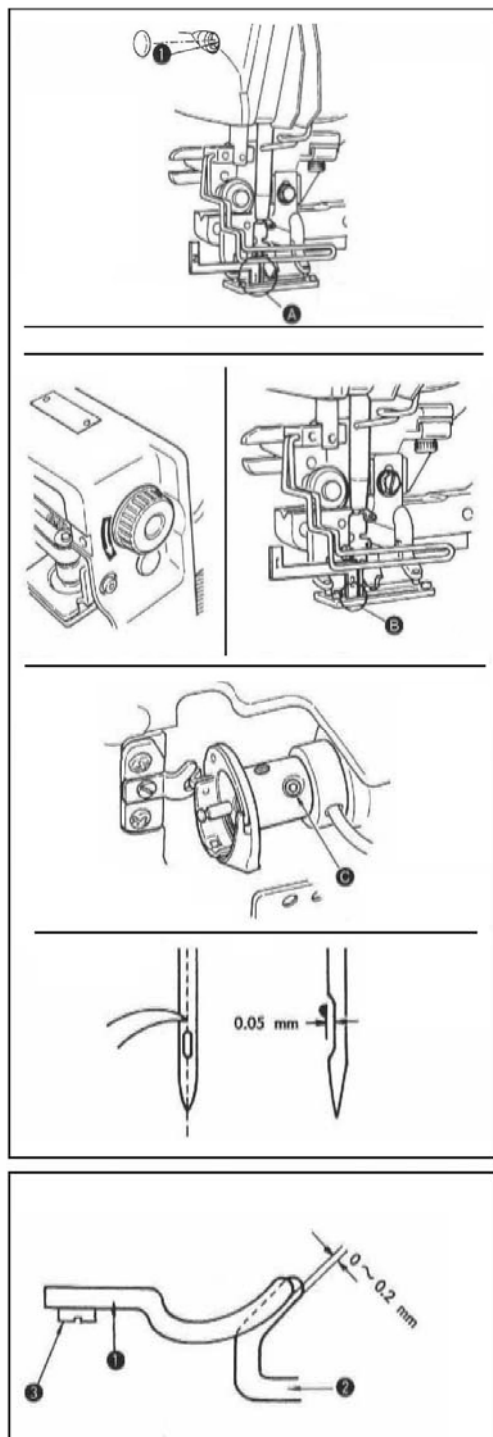
#### (3) 内旋梭的固定和调整

用固定螺钉③把内旋梭固定器①的前端和内旋梭②的端面的咬合调整为 0~0.2mm

## V. MAINTENANCE

### 1. Adjusting the needle-to-hook relation

★ **WARNING :** To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



**Adjust the needle-to-hook relation when the needle enters the center of the needle hole in the throat plate**

#### (1) Needle bar height

Bring down the needle bar to the lowest point.

Insert the part [1] of timing gauge into the gap between the bottom end of needle bar and throat plate, where the bottom end of the needle bar touches the top of the part [1] of the timing gauge.

Loosen needle bar connection screw ❶, and adjust the height of the needle bar.

#### (2) Set the needle to hook relation in the following way:

Rotate the hand pulley in the correct direction until the needle starts to go up from its lowest point.

Inset the part [2] of the timing gauge into the gap between the bottom end of the needle bar and the throat plate, where the bottom end of the needle bar touches the top of the part [2] of the timing gauge.

Loosen setscrew of the hook sleeve, and align blade point of the sewing hook with the center of needle hole. Make adjustment so that a clearance of approx. 0.05mm is provided between the needle and the blade point of the hook.

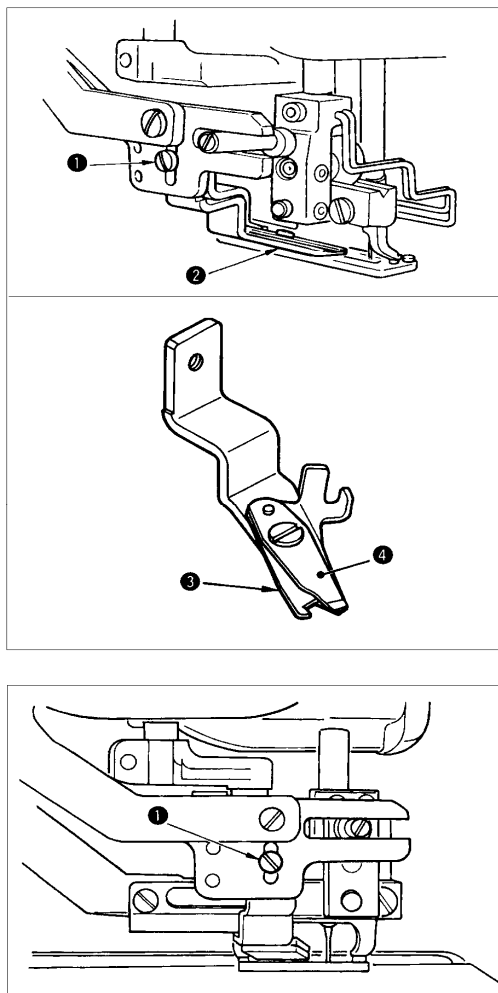
#### (3) Adjusting the bobbin case positioning stopper

Adjust with setscrew ❸ so that the contact of the top end of bobbin case positioning stopper ❶ and the end of inner hook ❷ is 0 to 0.2mm.

## 2. 上线切线的调整/ adjusting the needle thread trimmer

★注意：为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动后再进行。

★CAUTION : To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



### (1) 上线切刀的切线力的调整

上线切刀切线力不稳定时，始缝时上线容易跳线。

- 1) 切线力弱时拧松螺丝①，卸下上线切刀②。
- 2) 把压线弹簧前端轻轻弄弯，把切线压板③和上切刀④的接触间隙调整为没有。

### (1) Adjusting the thread grasping force of the needle thread trimmer

If the needle thread trimmer fails to provide consistent thread grasping force, the needle thread can slip off at the beginning of sewing.

- 1) If the thread grasping force of the needle thread trimmer has reduce, loosen setscrew ① and detach needle thread trimmer ②.
- 2) Slightly bend the top end of thread presser spring ③ so that it comes in contact with thread trimming blade of upper knife ④ over the length with no clearance and so that the needle thread trimmer securely holds the thread regardless of the position of the thread trimming blade at which the thread is trimmed.

### (2) 上切刀的安装高度

请拧紧上切刀安装螺钉①调整上切刀的安装高度。在上切刀和压脚不接触的情况下请尽量调低压脚，这样上线切刀残线长度较短。

但是缝纫多层布时，压脚会倾斜。请把位置稍稍提高，确保切刀与压脚相碰。

### (2) Adjusting the height of the needle thread trimmer

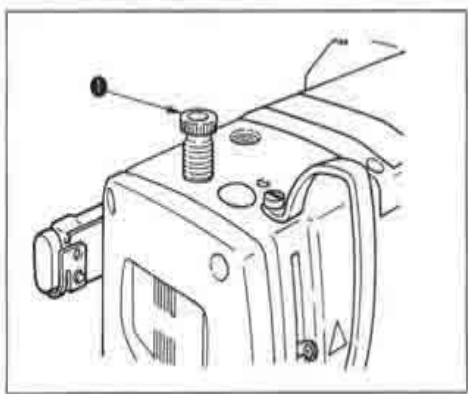
To adjust the height of the needle thread trimmer, loosen setscrew ①. Set the height of trimmer as low as possible, provided that it does not touch work clamp check, in order to minimize the length of remaining thread on the needle after trimming.

Note that the work clamp check tilts when sewing a multi-layered portion of the material, attach the needle thread trimmer to slightly raise the installing position of the trimmer.

### 3. 压脚压力的调整/adjusting the presser bar pressure

★注意：为了防止突然启动造成人身事故，请关掉电源，确认马达确实停止转动后再进行。

★CAUTION : To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



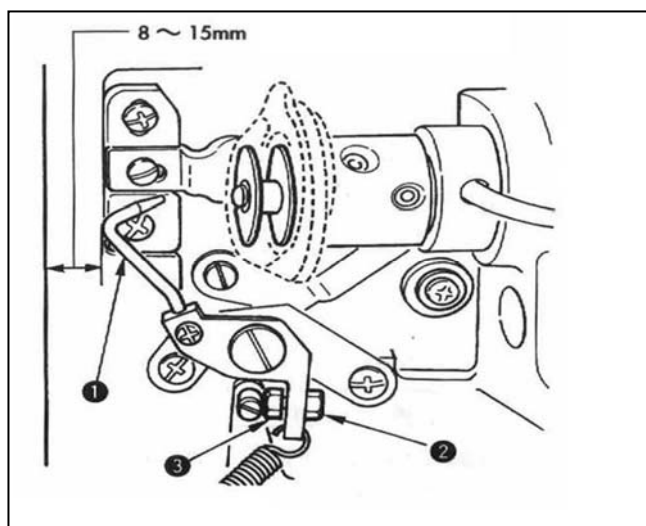
压脚的压力用压脚调节螺钉①调节。拧紧调节螺钉①后，压脚压力变大，布不容易起皱。

To adjust the pressure applied by the presser bar to fabric, turn presser spring regulator ①. When the pressure is not enough to prevent fabric from puckering, turn regulator ①clockwise.

#### 4. 旋梭定位钩座位置的调整/Adjusting of the bobbin presser unit

★ 注意： 为了防止突然启动造成人身事故，请关掉电源，确认马达确实停止转动后再进行。

★ CAUTION : To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

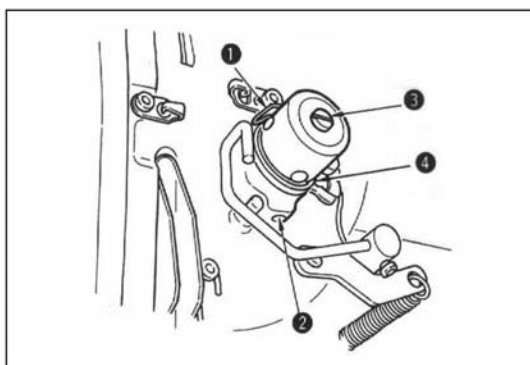


缝纫机停止时，拧松挑线连接块复位螺钉螺母②把底板前端和旋梭定位钩座①的距离调整为 8~15mm,然后用挑线连接块复位螺钉③调整位置，再拧紧螺母②。

Loosen nut ② and adjust the position with stopper spring ③ so that the distance from the front end of machine bed to bobbin presser ① is 8 to 15mm when the sewing machine stops. Then tighten nut ②.



## 5. 线张力/Thread tension



### (1) 挑线弹簧（直锁眼缝）

1)挑线弹簧①的挑线量为 8~10mm, 开始强度 0.06~0.1N 左右较为适当。

2)改变挑线弹簧的动作量时,请拧松螺钉②,把螺丝刀插到线张力杆③的缺口部转动调节。

3)改变挑线弹簧的强度时,请在螺钉②拧紧的状态下,把螺丝刀插到线张力杆③的缺口部转动调节。向右转动之后,挑线弹簧的强度变强,向左转动之后,强度变弱。

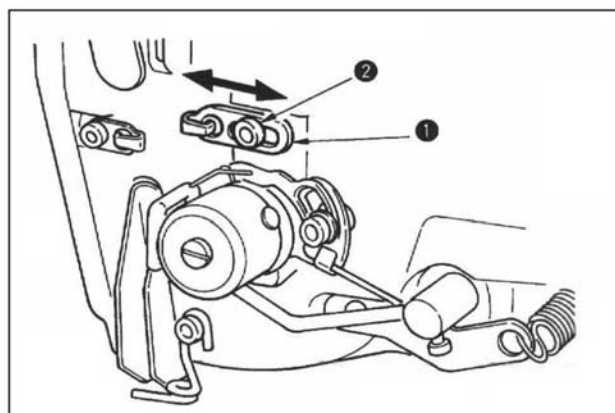
### (1) Thread take-up spring (purl stitch )

1) The thread take-up amount of thread take-up spring ① is 8 to 10mm, and the appropriate pressure at the start is approximately 0.06 to 0.1N.

2) To change the stroke of the thread take-up spring, loosen screw ②, insert a thin screwdriver into the slot of thread tension post ③, and turn it.

3) To change the pressure of the thread take-up spring, insert a thin screwdriver into the slot of thread tension post ③ while screw ② is tightened, and turn it. Turning it clockwise will increase the pressure of the thread take-up spring.

Turning it counterclockwise will decrease the pressure.



### (2) 挑线杆挑线量的调整

挑线杆挑线量,根据布料的厚度进行调节。

- 缝制厚料时,拧松右线勾①的固定螺钉②,向左移动右线勾。
- 缝制薄料时,把右线勾①向右移动。挑线杆的挑线量变少。

### (2) Adjusting the thread take-up amount of the thread take-up lever

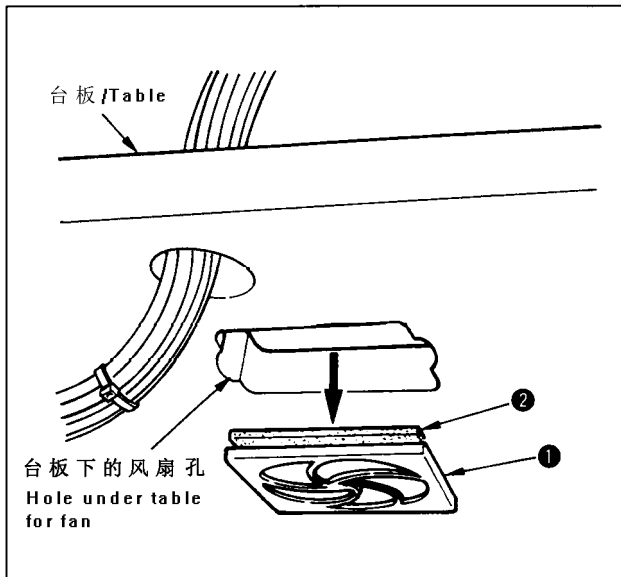
The thread take-up amount of the thread take-up lever should be adjusted in accordance with the thickness of the sewing products so as to obtain well-tightened stitches.

- For heavy-weight materials, loosen setscrew ② in thread guide ①, and move the thread guide to the left the thread take-up amount of the thread take-up lever will be increased.
- For light-weight materials, move thread guide ① to the right. The thread take-up amount of the thread take-up lever will be reduced.

## 6. 滤清器的清扫/Cleaning the filter

★注意： 为了防止突然启动造成人身事故，请关掉电源，确认马达停止转动后再进行。

★ **WARNING** : To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



请每周清洗台板下面的风扇过滤器①

- 1)沿箭头方向拉过滤网②，把它卸下来。
- 2)用水冲洗清扫滤清器①。
- 3)把滤清器①、过滤网②安装到原来的位置。

Clean filter ① of the fan located on the bottom surface of the machine table (bed base) once every week.

- 1) Pull the screen kit ② in the direction of the arrow to remove it.
- 2) Wash the filter ① under running water.
- 3) Reinstall the filter ① and the screen kit ②.

## 故障现象与原因、处理对策/TROUBLES AND CORRECTIVE MEASURES

| 现 象                    | 原 因   | 处 理 对 策  | 页  |
|------------------------|---|--|--|
| 1. 上线断线                | 1. 平行部张力过强;<br>2. 挑线弹簧的强度过强, 移动量过大;<br>3. 旋梭尖部分有毛刺, 有伤痕;<br>4. 旋梭的同步时间不对;<br>5. 线道上有伤痕;<br>6. 机针安装不良;<br>7. 机针过细;<br>8. 机针的前端有伤痕; | ○减弱平行部张力;<br>○减弱挑线弹簧的弹力, 或缩小移动量;<br>○锉平旋梭尖的毛刺, 或更换旋梭;<br>○用高度尺调整旋梭的同步时间;<br>○用布或锉刀去除伤痕和毛刺;<br>○调整机针的朝向和高度;<br>○更换成粗机针;<br>○更换机针; | —<br>24<br>—<br>—<br>19<br>—<br>14<br>14<br>14 |
| 2. 上线脱线                | 1. 上线切刀张开过早;<br>2. 始缝部线勾不到一起 (始缝的张力过强);<br>3. 上线穿线方法不对;<br>4. 始缝的速度过快;  | ○推迟上线切刀张开时间;<br>○减弱始缝张力;<br><br>○重新正确地穿线;<br>○设定软起动;   | —<br>—<br><br>15<br>—                          |
| 3. 平行部缝迹不均匀            | 1. 平行部线张力过弱;<br>2. 底线张力过强;<br>3. 钮扣整体张力过弱;  | ○增强平行部线张力;<br>○减弱底线张力;<br>○增强上夹线器张力;   | —<br>—<br>—                                    |
| 4. 始缝缝迹不均匀             | 1. 平行部张力过弱;<br>2. 上线切必位置过高;<br>3. 挑线弹簧的移动量过大;   | ○加强平行部张力;<br>○不碰到压脚的前提下尽量下降压脚;<br>○减小挑线弹簧的移动量;;  | —<br>21<br>24                                  |
| 5. 加固缝部上线从布的下面露出, 成圈状  | 1. 加固缝线张力过弱;<br>2. 底线张力过强;<br>3. 缝放射状的图案时放射针数过多;<br>4. 结束缝的张力过弱;  | ○增强加固缝线张力;<br>○减弱底线张力;<br>○减少放射针数;<br>○增强结束缝线张力;   | —<br>—<br>—<br>—                               |
| 6. 缝迹鼓起                | 1. 底线张力过弱;<br>2. 底线从梭壳中脱出来;   | ○增强底线张力;<br>○重新正确地穿梭壳线;<br>○底线卷绕量绕得不要过多;   | 16<br>15<br>—                                  |
| 7. 锁眼绽出                | 1. 钮扣孔比压脚小;<br>2. 缝制薄料时皱缩;<br><br>3. 机针安装不好;<br>4. 机针弯曲;<br>5. 旋梭尖部有毛刺或伤痕;  | ○把压脚更换成更小的;<br>○推迟机针和旋梭的同步时间 (把针杆下降 0.5mm 左右);<br><br>○重新调整机针的朝向、高度等;<br>○更换机针;<br>○用锉刀锉平梭尖或更换旋梭;                                | —<br>19<br><br>14<br>14<br>—                   |
| 8. 线绽开                 | 1. 固定缝针数少;<br>2. 固定缝宽度过宽;   | ○增加缝制结束时加固缝的针数;<br>○减小缝制结束时的加固缝宽度;   | —<br>—   |
| 9. 缝制结束上线留线过长          | 1. 固定缝宽度过窄;<br>2. 固定缝张力过弱;  | ○增加缝制结束时的加固缝针数;<br>○减小缝制结束时的加固缝宽度;   | —<br>—   |
| 10. 始缝时上线断线, 或者背面线迹不好; | 1. 始缝张力过弱;  | ○增强始缝张力;   | —  |

| Trouble  | Causes  | Corrective measures   | Page                                      |
|--|---|---|---|
| 1. Needle thread breakage  | 1. Thread tension at parallel section is too high.<br>2. Pressure or stroke of thread take-up spring is too large.<br>3. There is a burr or scratch on the blade point of hook.<br>4. Hook timing is not proper.<br>5. There is a scratch on the thread path.<br>6. Attaching needle is wrong.<br>7. Needle is too thin.<br>8. Needle tip is damaged. | ○ decrease the thread tension at parallel section.<br>○ decrease the tension of thread take-up spring or decrease its stroke.<br>○ Buff the blade point of hook. Or, replace the hook.<br>○ Adjust again the hook timing with timing gauge.<br>○ Polish the thread path with sand paper and buff it.<br>○ Adjust again the direction, height, etc.<br>○ Replace the needle with a thicker one.<br>○ 更 Replace the needle. | —<br>24<br>—<br>19<br>—<br>14<br>14<br>14 |
| 2. Needle thread slips off.  | 1. Needle thread trimmer opens too early.<br>2. Whip stitching is not formed at the start of sewing.(tension ).<br>3. Threading needle thread is wrong.<br>4. Speed at the start of sewing is too fast.   | ○ Delay the opening timing of the needle thread trimmer.<br>○ Decrease tension at the start of sewing.<br>○ Thread properly again.<br>○ Set the soft-start function.  | —<br>—<br>15<br>—                         |
| 3. Wobbling at parallel section  | 1. Thread tension at parallel section is too low.<br>2. Bobbin thread tension is too high.<br>3. Pre-tension is too low.  | ○ Increase the thread tension at parallel section.<br>○ Decrease bobbin thread tension.<br>○ increase pre-tension.  | —<br>—<br>—                               |
| 4. Wobbling at the start of sewing   | 1. Thread tension at parallel section is too low.<br>2. Position of needle thread trimmer is too high.<br>3. Stroke of thread take-up spring is too large.  | ○ Increase the thread tension at parallel section.<br>○ Lower the needle thread trimmer to such an extent that it does not come in contact with the presser.<br>○ Decrease the stroke of thread take-up spring.   | —<br>21<br>24                             |
| 5. Needle thread appears on the wrong side of material at bar-tacking section in dumpling condition. | 1. Bar-tacking thread tension is too low.<br>2. Bobbin thread tension is too high.<br>3. Number of stitches of radial shape is too many.<br>4. Tension at the end of sewing is too many.  | ○ Increase the bar-tacking thread tension.<br>○ Decrease the number of stitches<br>○ Decrease the number of stitches.<br>○ Increase tension at the end of sewing.   | —<br>—<br>—<br>—                          |
| 6. Stitches float.   | 1. Bobbin thread tension is too low.<br>2. Bobbin thread comes off bobbin case.   | ○ Increase the bobbin thread tension.<br>○ perform proper threading the bobbin case.<br>○ take care that the winding amount of bobbin thread is not excessive.  | 16<br>15<br>—                             |
| 7. Stitch skipping   | 1. Button hole is small in terms of the   | ○ Replace the presser with a smaller  | —   |

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|--|--|---|-------------------------|
|  | size of presser.<br>2. Material flops because of light-weight.<br>3. Attaching needle is wrong.<br>4. Needle id bent.<br>5. There is a burr or scratch on the blade point of hook. | one.<br><input type="radio"/> Delay the hook-to-needle timing. (Lower the needle bar by 0.5mm);<br><input type="radio"/> Adjust again the direction, height, etc.<br><input type="radio"/> Replace the needle.<br><input type="radio"/> Buff the blade top of hook. Or, replace the hook. | 19<br><br>14<br>14<br>— |
| 8. Thread frays.   | 1. Number of stitches of the stitching is too small.<br>2. Width of tie stitching is too wide.   | <input type="radio"/> Increase the number of stitches of tie stitching at the end of sewing.<br><input type="radio"/> Narrow the width of tie stitching at the end of sewing.   | —<br>—                  |
| 9. Length of needle thread remaining at the end of sewing is too long.               | 1. Width of tie stitching is too narrow.<br>2. Tension of tie stitching is too low.  | <input type="radio"/> Widen the width of tie stitching at the end of sewing.<br><input type="radio"/> Increase tension at the end of sewing.  | —<br>—                  |
| 10. Needle thread breaks at the start of sewing, or the wrong side of seam is dirty. | 1. Tension at the start of sewing is too low.  | <input type="radio"/> Increase tension at the start of sewing.  | —                       |



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Feed-Off-The-Arm Machine



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6-Needle Double Chain Stitch Machine



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cylinder bed top feed overlock fitted with  
labor-saving rib folder



CXM2085-0-356M  
Attaching Pre-Closed Flat Knit Elastic Band  
Onto Waists Of Tubular Goods  
(With Right Knife, Rear Puller & Chips Suction Pipe)



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