



# 高速微油平缝机

ZJ9000-D<sub>3</sub>B

ZJ9000A-D<sub>3</sub>B

HIGH-SPEED MINI-OIL LOCKSTITCH SEWING MACHINE

## 使用说明书

OPERATION MANUAL

中国·中捷缝纫机股份有限公司  
ZOJE SEWING MACHINE CO., LTD.

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## 运转缝纫机前注意事项

注意：为了防止机械的错误动作或损伤，请确认如下项目。

- 请卸下缝纫机机台上安装的放气盖（红色）。
- 使用之前请一定往油槽中加油。
- 最初使用缝纫机之前，请把机器打扫干净。
- 清除运送途中积存的灰尘，并加油。
- 请确认电压设定是否正确。
- 请确认电源插头是否正确连接。
- 电压规格不同时，请绝对不要使用。
- 请确认马达皮带轮的旋转方向是否正确。
- 请不要把缝纫机向前倒，以免漏油或损坏零件。
- 本缝纫机安装有有机头放倒后不让缝纫机转动的开关。因此，运转缝纫机时，请正确的设置缝纫机台板后再打开电源开关。

## BEFORE OPERATION

Caution: To avoid malfunction and damage of the machine, confirm the following.

- Remove air-vent cap (red color) attached to the sewing machine bed.
- Be sure to pour in the oil before using.
- Before you put the machine into operation for the first time after the set-up, clean it thoroughly.
- Remove all dust gathering during transportation and oil it well.
- Confirm that the voltage has been correctly set.
- Confirm that the power plug has been properly connected to the power supply.
- Never use the machine in the state where the voltage type is different from the designated one.
- Confirm that the direction of rotation of the motor pulley is correct.
- Do not tilt the sewing machine head toward this side since oil leakage or parts breakage occurs.

A safety switch is installed so that the sewing machine cannot be operated with the head tilted. When operation the sewing machine, turn On the power switch after properly setting the head on the table.

## 1. 主要技术规格、参数

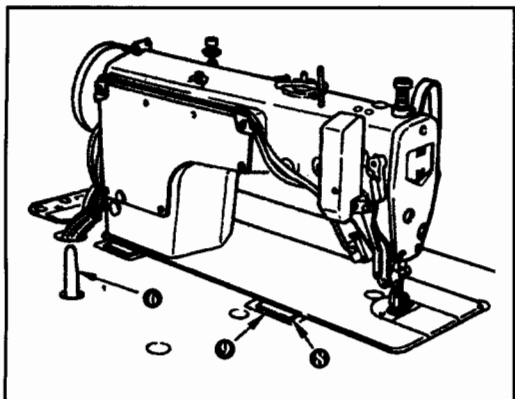
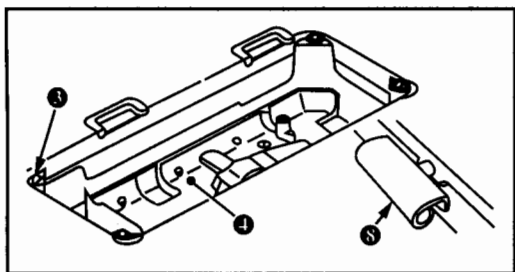
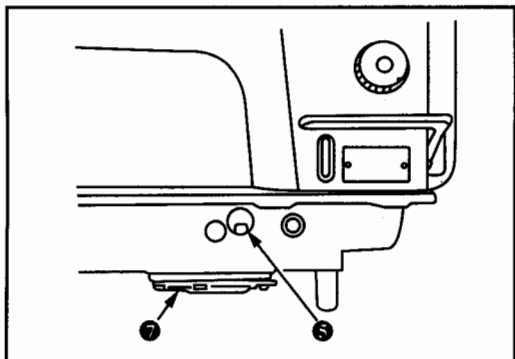
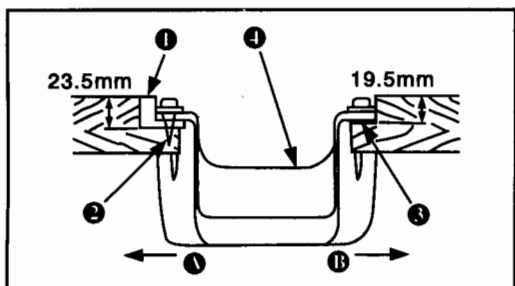
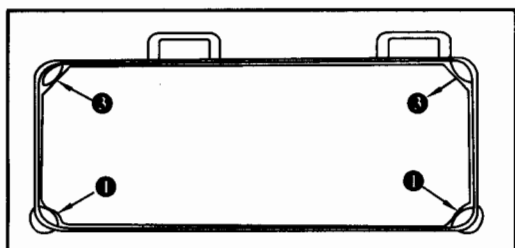
	微量供油型		干机头型	
用途	薄料 — 中厚料	厚料	薄料 — 中厚料	极薄料、内衣料
最高缝速	5000 rpm	4500 rpm	4000 rpm	3500 rpm
最大针距	5mm			
使用机针	DB × 1 9# ~ 18#	DB × 1 20# ~ 23#	DB × 1 9# ~ 18#	DB × 1 SF9# ~ 18#
压脚高度	手提10mm (标准) 膝提15mm (最大)			
使用机油	ZJ 1号机油			
电机功率	450W			

## 1. Specifications

	Micro-oil		oil-free	
Application	Thin-medium material	Heavy material	Thin-medium material	Thin, underwear
Sewing speed	5000 rpm	4500 rpm	4000 rpm	3500 rpm
Stitch length	Max 5mm			
Needle	DB × 1 9# ~ 18#	DB × 1 20# ~ 23#	DB × 1 9# ~ 18#	DB × 1 SF9# ~ 18#
Presser foot lift	By hand lifter 10mm (standard) By knee lifter 15mm (max.)			
Oil	ZJ 1#			
Rated power	450W			

## 2. 缝纫机的安装 Installation

- 1) 油盘放置在台板上的凹槽四角上；
- 2) 两只油盘支座①用油盘座钉②固定在④一边（朝操作者一边），将两只油盘座垫③用油盘座钉②固定在⑥一边（与机头连接钩接合一边）然后放上油盘④；
- 3) 卸下底板上的放气盖⑤。（搬动机头时，请一定把放气盖⑤盖上）



4) 将机头连接钩⑧插入底板销孔内，与台板的机头连接钩座⑨相嵌合再把机头放到油盘四只角的机头座垫③上。

注意：如果不卸下放气盖⑤运转缝纫机，就会有油从齿轮箱⑦漏出。

#### 1. Installing the oil pan:

- 1) The oil pan should rest on the four corners of the machine table groove;
- 2) Two rubber seats ① for supporting the head portion on the operator side ④ are fixed on the extended portion of the table by hitting the nails ②, and the other two rubber cushion seats ③ on the hinged side ⑤ are fixed by using a rubber-based adhesive. Then, oil pan ④ is placed;
- 3) Remove air vent cap ⑤ attached to the machine bed. (Be sure to attach cap when transporting the machine head in the state that the machine head is removed from the machine table.)
- 4) Fit hinge ⑧ into the opening in the machine bed, and fit the machine head to table rubber hinge ⑨ before placing the machine head on cushions ③ on the four corners.

**Caution:** If the sewing machine is operated without removing air vent cap ⑤, oil leakage from gearbox portion ⑦ may occur.

### 3. 膝动提升高度的调整

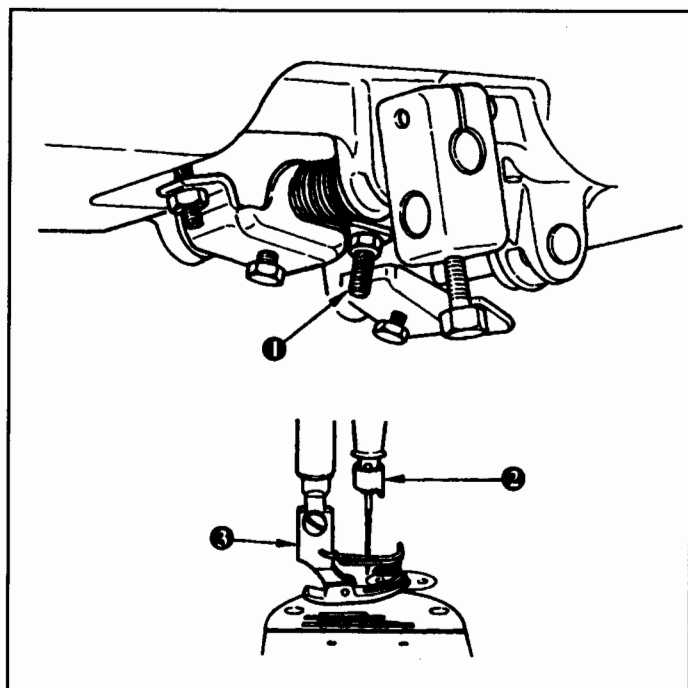
#### Adjusting the height of the knee lifter



注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



1. 用膝提时的标准压脚高度是10毫米；

2. 用膝提调整螺钉①可以调节压脚提升量最大可至15毫米；

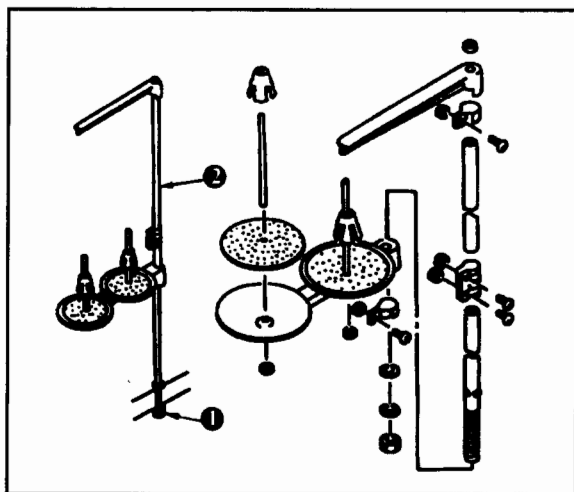
注意：当压脚提升超过10毫米时，请不要运转缝纫机，因为针杆②与压脚③会相碰。

1. The standard height of the presser foot lifted using the knee lifter is 10mm.

2. You can adjust the presser foot lift up to 15mm using knee lifter adjust screw ①.

Caution: Do not operate the sewing machine state that the presser foot ③ is lifter 10mm or more since the needle bar ② in contact with the presser foot ③.

### 4. 线架的安装 Installing the thread stand



1. 如图所示那样线架安装到缝纫机台板孔上。

2. 用固定螺母①固定线架。

3. 顶线配线时，请把电源线从线架杆②中穿过。

1. Assemble the thread stand unit, and insert it in the hole in the machine table.

2. Tighten locknut ① to fix the thread stand.

3. For ceiling wiring, pass the power cord through spool rest rod ②.

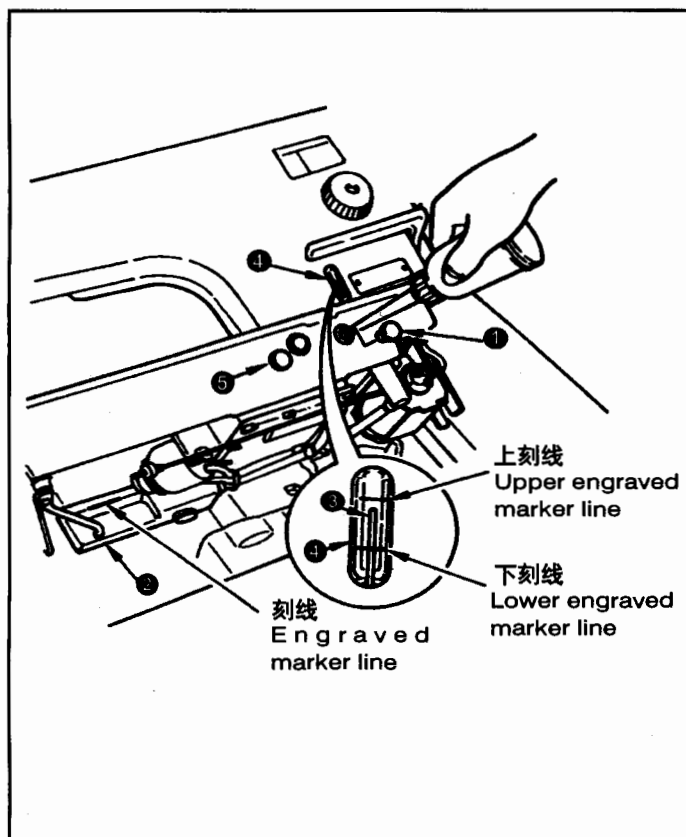
## 5. 加油 Lubrication (适用于微量供油型机器)



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



运转缝纫机之前，请一定往旋梭油槽中加油

1. 把缝纫机放倒，并支到机头支撑杆上。
2. 卸下加油口的盖①，使用附带的加油壶加入ZJ 1号机油。
3. 请把油加满到油槽②的刻线位置。请注意加油过多的话，机油会从油槽空气孔漏出来，也会发生不能正常加油的现象。
4. 使用缝纫机时，如果油量指示杆③指到油量指示窗④的下刻线以下，请进行加油。

注意：

1. 使用新缝纫机或较长时间没有使用的缝纫机时，请先进行3000~3500转/分钟的磨合运转之后再使用。

2. 请不要把橡胶栓⑤拔掉。

**Fill the oil tank with oil for hook lubrication before the sewing machine.**

- 1) Tilt the machine head until it comes in contact with the head support rod.
- 2) Remove oil hole cap ① and fill the oil tank with ZJ No.1 using the oiler supplied with the machine.
- 3) The amount of oil should reach up to the engraved marker line of oil tank ②.  
If the oil is filled excessively, it will leak from the air vent hole in the oil tank or proper lubrication will be not performed. So , be careful.
- 4) When you operate the sewing machine, refill oil if the top end of oil amount indicating rod ③ comes down to the lower engraved marker line of oil amount indicating rod comes down to the lower engraved marker line of oil amount indicating window ④.



(Caution) 1.when you use a new sewing machine or a sewing machine after an extended period of disuse, run your machine at 3,000to 3,500rpm for the purpose of break-in

2. Do not remove rubber plug⑤

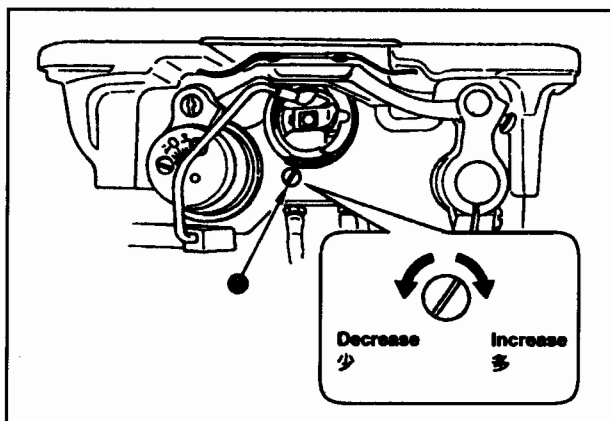
## 6. 旋梭油量的调整 (适用于微量供油型机头) Adjusting the amount of oil in the hook



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



旋梭油量用旋梭油量调节螺钉①来调节。

1. 调节方法:

拧紧（向右转动）旋梭油量调节螺钉①后，旋梭油量变多，拧松（向左转动）旋梭油量变少。

(注意) 1. 微量供油型缝纫机使用RP旋梭（干式旋梭）时，请一定把油量调到最小，不让机油流出。

2. 使用RP旋梭（干式旋梭）时，也一定不能把机油槽的油放掉。

Adjustment of the amount of oil in the hook is performed with oil amount adjustment screw ①

1. Adjustment procedure

Tighten (turn clockwise) oil amount adjustment screw ① to increase the amount of oil in the hook, or loosen (turn counterclockwise) to decrease it.

(Caution) 1. When using RP hook (hook for dry head) for the SS type, be sure to loosen the oil amount adjustment screw up to the minimum so as to reduce the oil amount in the hook.

2. Never drain the oil in the oil tank even when RP hook (hook for dry head) is used.

## 7. 旋梭部油量（油迹）的调整方法（适用于微量供油型机头） Adjusting the amount of oil (oil splashes) in the hook

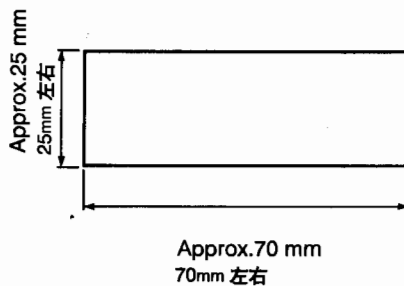


注意：旋梭是以高速运转的。为了防止人身事故，调整油量时，请加以充分的注意。



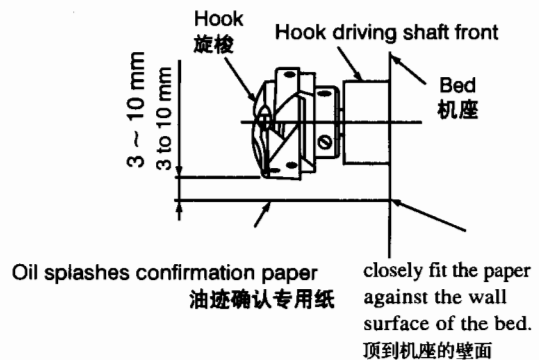
Warning: Be extremely careful about the operation of the machine since the amount of oil has to be checked by turning the hook at a high speed.

- ① Amount of oil(oil splashes) confirmation paper  
① 油量(油迹)确认专用纸



- \* Use any paper available regardless of the material.  
※ 不用考虑纸的质量。

- ② Position to confirm the amount of oil(oil splashes)  
② 油量(油迹)确认位置



- \* Place the amount of oil (oil splashes) co paper under the hook.  
※ 把油量(油迹)确认专用纸插到旋梭下面。

### 1. 油量（迹）确认方法

进行下列2)的操作时，请卸下滑板，同时要充分注意手指不要碰到旋梭。

- 1) 机头冷却时，请进行3分钟左右的空转。（适当的间歇运转）。
- 2) 请在缝纫机转动时将油量（油迹）确认专用纸插入。
- 3) 确认油槽中是否有油。
- 4) 油量（油迹）确认时间为5秒。

### 1. How to confirm the amount of oil (oil splashes)

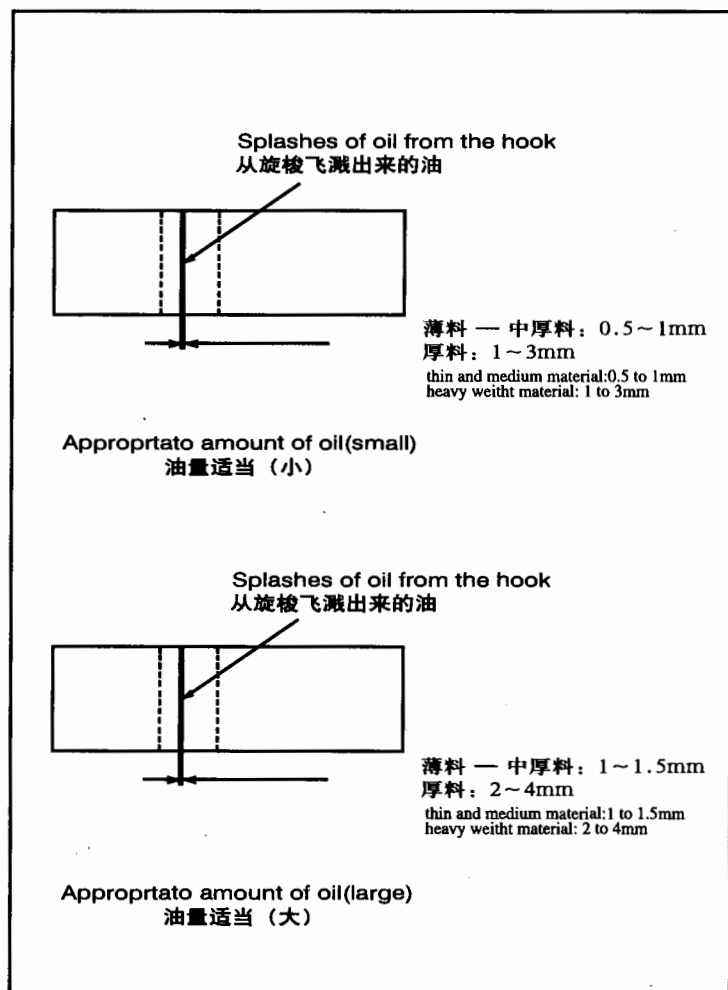
When carrying out the procedure described below in 2, remove the slide plate and take extreme caution not to allow your fingers to come in contact with the hook.

- 1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)
- 2) Place the amount of oil (oil splashes) confirmation paper under the hook while the sewing machine is in operation.

3) Confirm that oil exists in the oil tank.

4) Confirmation of the amount of oil should be completed in five seconds. (Check the period of time with a watch.)

## 2. 油量 (油迹) 适合标样



1)左图标样根据缝制供需需要微调增减, 但注意增减不能过大。油量减少时, 会发热烧坏旋梭。油量过多时, 会污染缝料。

2)油量 (油迹) 应确认3次均无变化方可。

### 2. Sample showing the appropriate amount of oil

1) The amount of oil shown in the samples on the left should be finely adjusted in accordance with sewing processes. Be careful not to excessively increase/decrease the amount of oil in the hook.(if the amount of oil is too small, the hook will be seized (the hook will be hot). If the amount of oil is too much, the

sewing product may be stained with oil.)

2) Adjust the amount of oil in the hook so that the oil amount (oil splashes) should not change while checking the oil amount three times (on the three sheets of paper).

## 8. 机针的安装方法 Attaching the needle



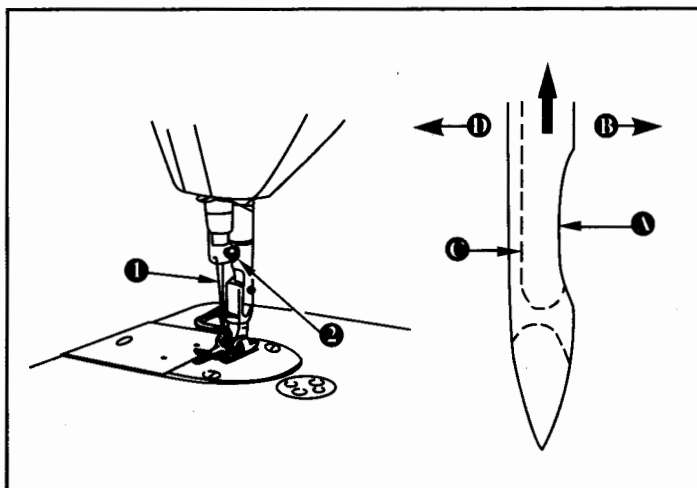
注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**

请使用DBx1或DPx5的机针。请根据线的粗细、布料的种类选择适当的机针。

1. 转动手轮，把针杆升到最高处。
2. 拧松机针固定螺钉②，手拿机针把机针①凹部④横向转到⑤的方向。
3. 把机针插到针杆孔的深处。
4. 拧紧机针固定螺钉②
5. 确认针的长孔③在左横向⑥的方向。



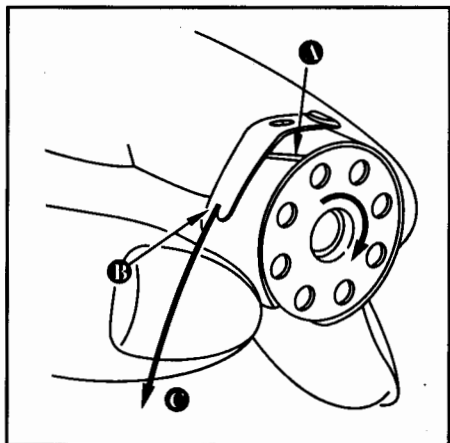
注意：使用长丝机线时，如果机针凹部朝向前方，容易发生线环不稳定或断线的现象。  
使用这类机线时，请把机针稍稍向后倾斜安装，就可以有效地防止这些现象。

A needle of DBx1 or DPx5 should be used. Select a proper needle size according to the count of thread and the type of material used.

1. Turn the hand-wheel until the needle bar reaches the highest point of its stroke.
2. Loosen screw ②, and hold needle ① with its indented part ④ facing exactly to the right in direction ⑤.
3. Insert the needle fully into the hole in the needle bar in the direction of the arrow until the end of hole is reached.
4. Securely tighten screw ②.
5. Check that long groove ③ of the needle is facing exactly to the left in direction ⑥.

**Caution:** When filament thread is used, if the indented part of the needle is tilted toward operator's side, the loop of thread becomes unstable, As a result, hangnail of thread or thread breakage may occur. For the thread that such phenomenon is likely to occur, it is effective to attach the needle with its indented part slightly slanting on the rear side.

## 9. 梭心的安装方法 Setting the bobbin into the bobbin case



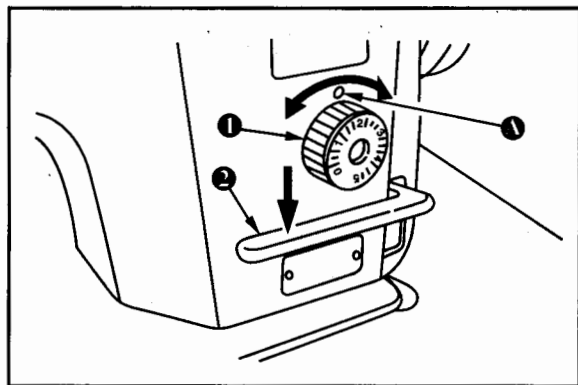
1. 将梭心装入梭子内；
2. 将线从梭子上的线槽④中穿过，朝⑤方向拉出。这样，线通过夹线簧下从线孔⑥处引出；
3. 拉底线③时，梭心应按箭头方向转动。

1. Install the bobbin in the bobbin case so that the thread wound direction is clockwise.
2. Pass the thread through thread slit ④, and pull the thread in direction ⑤. By so doing, the thread will pass under the tension spring and come out from notch ⑥.

3. Check that the bobbin rotates in the direction of the arrow when thread ③ is pulled.

## 10. 针距的调节 Adjusting the stitch length

1. 将送料距旋钮①按箭头方向转动，旋至所需数字对准机壳上的刻点④；
2. 旋钮上的刻度数字单位用毫米表示；
3. 若欲缩短线迹长度，把倒缝扳手②朝箭头方向压下的同时，转动送料距旋钮。



1. Turn stitch length dial ① in the direction of the arrow, and align the desired number to marker dot ④ on the machine arm.
2. The dial calibration is in millimeters.
3. When you want to decrease the stitch length, turn stitch length dial ① while pressing feed lever ② in the direction of the arrow.

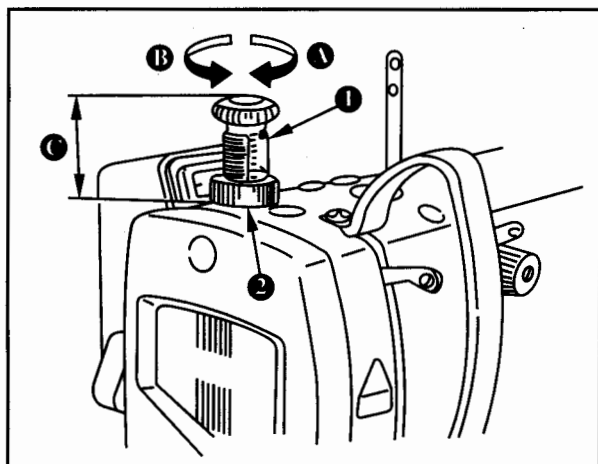
## 11. 压脚压力的调节 Presser foot pressure



注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



1. 旋松调压螺母②顺时针（即④方向）转动压力脚调节螺钉，压力将增强；
2. 逆时针（即⑤方向）转动压力脚调节螺钉，压力将减弱；
3. 调节后旋紧调压螺母②；
4. 对一般布料而言，压脚调节螺钉的标准高度为32~34毫米（4.5Kg）。

1. Loosen nut ②. As you turn presser spring regulator ① clockwise(in direction ④), the presser foot pressure will be increased.
2. As you turn the presser spring regulator counterclockwise(in direction ⑤), the pressure will be decreased.
3. After adjustment, tighten nut ②.
4. For general fabrics, the standard height of the presser spring regulator is 32 to 34mm(4.5kg).

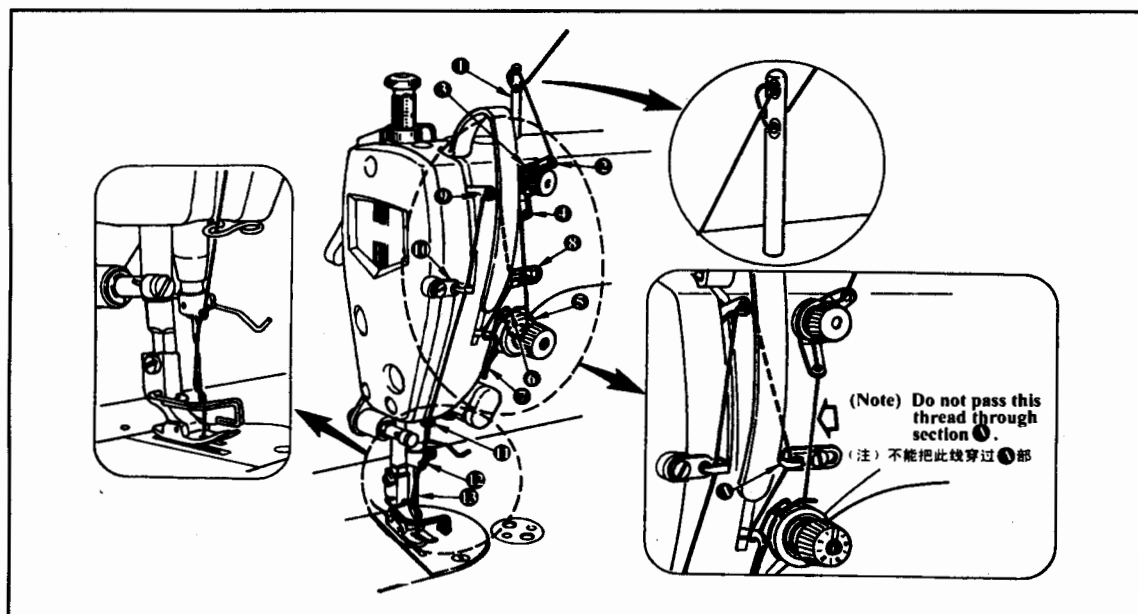
## 12. 面线的穿线方法 Threading the machine head



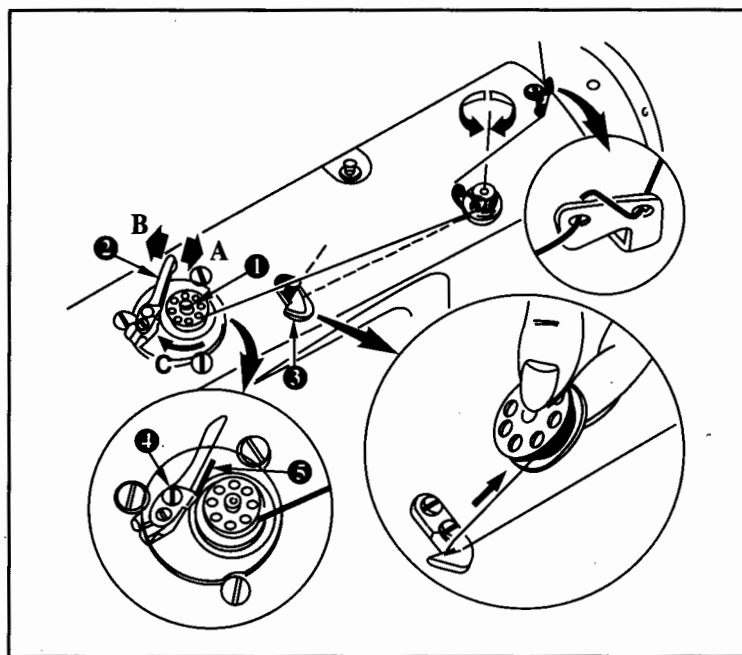
注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



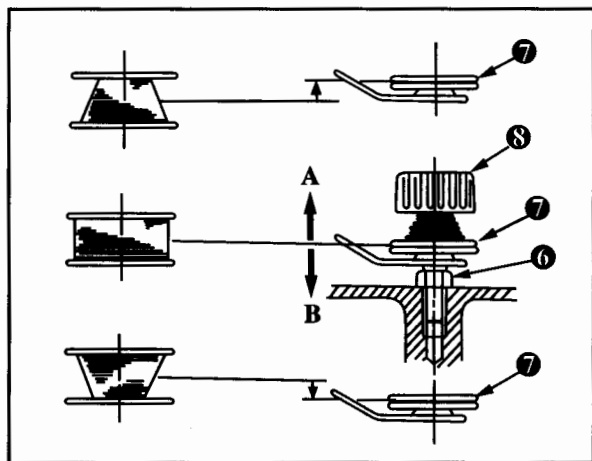
**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**



### 13. 底线的卷绕方法 Winding the bobbin thread



1. 把梭心推到卷绕轴①的最里面；
2. 把线架右侧的卷线如图所示穿线，并把线端向右缠绕数圈（铝旋梭时，把线端向右缠绕后，再把线张力盘过来的线向左缠绕数圈后，就容易绕线了）。
3. 把卷线拔杆②推到A方向，转动缝纫机。梭心向C方向转动，线卷绕到梭心上。卷绕结束后卷线轴①自动停止。
4. 取下梭心，用切线保持板③切断机线。



5. 调整底线卷线量时，请拧梭固定螺钉④，把调节板⑤移动到A方向或B方向，然后再固定螺钉④。A方向变少，B方向变多。
6. 如果线不能平绕梭心时，请拧松螺母⑥，转动卷线张力器，调整线张力盘⑦的高度：

➤ 旋梭中心和线张力盘中心高度一样时为标准位置；

➤ 下部卷得多时，向如图A方向移动线张力盘的位置，上部卷得多时，向如图B方向移动线张力盘⑦的位置。

调整到适合的位置后，把固定螺钉⑥拧紧；

7. 调整底线卷绕张力时，请转动线张力螺母⑧进行调整。

注意：

1. 卷绕底线时，请在梭芯和线张力盘⑦之间拉线的状态开始绕线。

2. 不进行缝制时给梭芯绕底线时，请把上线从挑线杆过线孔上抽出来，把梭芯从旋梭里卸下来后再进行。

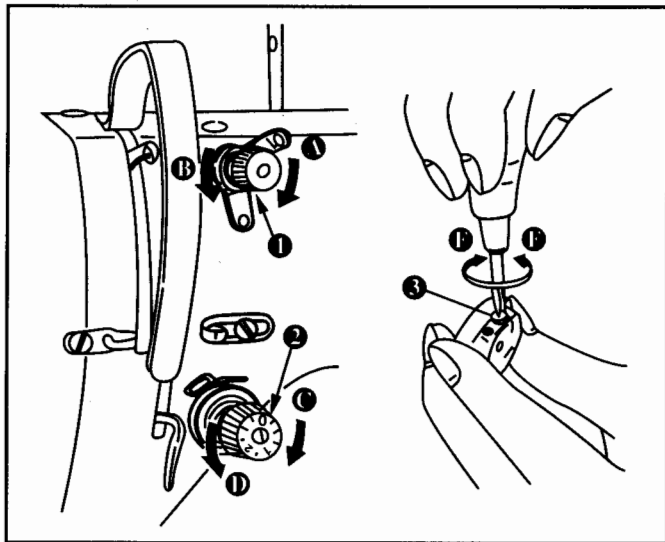
- 1) Insert the bobbin deep into the bobbin winder spindle ① until it will go no further.
- 2) Pass the bobbin thread pulled out from the spool rested on the right side of the thread stand following the order as shown in the figure on the left. Then, wind clockwise the end of the bobbin thread on the bobbin several times. (In case of the aluminum bobbin, after winding clockwise the end of the bobbin thread, wind counterclockwise the thread coming from the bobbin thread tension several times to wind the bobbin thread with ease.)
- 3) Press the bobbin winder trip latch ② in the direction of Ⓐ and start the sewing machine. The bobbin rotates in the direction of C and the bobbin thread is wound up. The bobbin winder spindle ① automatically as soon as the winding is finished.
- 4) Remove the bobbin and cut the bobbin thread with the thread cut retainer ③.
- 5) To adjust the winding amount of the bobbin thread, loosen the setscrew ④ and move the bobbin winder adjusting plate ⑤ to the direction of Ⓐ or Ⓑ. Then, tighten the setscrew ④. To the direction of Ⓐ: Decrease; to the direction of Ⓑ: Increase.
- 6) In case that the bobbin thread is not wound evenly on the bobbin, loosen the nut ⑥ and turn the bobbin thread tension to adjust the height of the thread tension disk ⑦.
- It is the standard that the center of the bobbin is as high as the center of the thread tension disk.
- Move the position of the thread tension disk ⑦ to the direction of Ⓐ as shown in the figure on the left when the winding amount of the bobbin thread on the lower part of the bobbin is excessive and to the direction of Ⓑ as shown in the figure on the left when the winding amount of the bobbin thread on the upper part of the bobbin is excessive. After the adjustment, tighten the nut ⑥.
- 7) To adjust the tension of the bobbin winder, turn the thread tension nut ⑧.

**Caution:**

1. when winding the bobbin thread, start the winding in the state that the thread between the bobbin and thread tension disk ⑦ is tense.
2. When winding the bobbin thread in the state that wing is not performed, remove the needle thread from the thread path of thread take-up and remove the bobbin from the hook.



## 14. 缝线张力的调整 Thread tension



### 1. 面线张力的调整

- 1) 把面线张力螺母①顺时针方向(Ⓐ方向)转动, 面线的张力变强;
- 2) 把面线张力螺母①逆时针方向(Ⓑ方向)转动, 面线的张力变弱;
- 3) 把线张力螺母②向右(Ⓒ方向)转送, 面线张力变强;
- 4) 把线张力螺母②向左(Ⓓ方向)转送, 面线张力变弱。

### 2. 底线张力的调整

- 1) 把线张力螺钉③向右(Ⓔ)的方向转动, 底线张力变强;
- 2) 向左(Ⓕ)的方向转动则变弱。

#### 1. Adjusting the needle thread tension

- 1) As you turn thread tension nut ① clockwise (in direction Ⓐ), the thread remaining on the needle after thread trimming will be shorter.
- 2) As you turn nut ① counterclockwise (in direction Ⓑ), the thread length will be longer.
- 3) As you turn thread tension nut ② clockwise (in direction Ⓒ), the needle thread tension will be increased.
- 4) As you turn nut ② counterclockwise (in direction Ⓓ), the needle thread tension will be decreased.

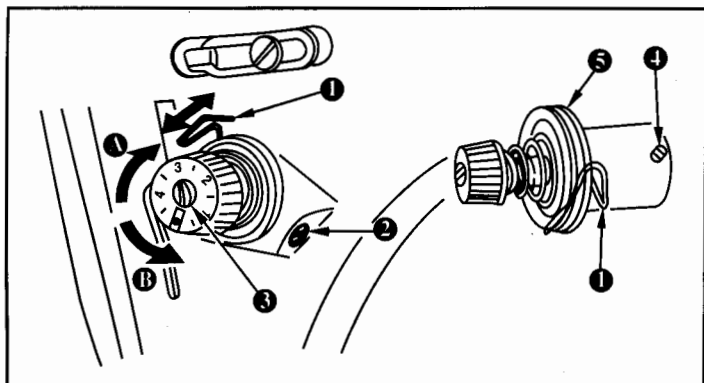
#### 2. Adjusting the bobbin thread tension

- 1) As you turn tension adjust screw ③ clockwise (in direction Ⓔ), the bobbin thread tension will be increased.
- 2) As you turn screw ③ counterclockwise (in direction Ⓕ), the bobbin thread tension will be decreased.

## 15. 挑线簧的调节 Thread take-up spring

### 1. 挑线簧摆动量的调节:

- 1) 旋松定位螺钉②;
- 2) 把夹线螺钉③朝顺时针方向(即Ⓐ方向)转动时, 挑线簧的摆动量将增大;

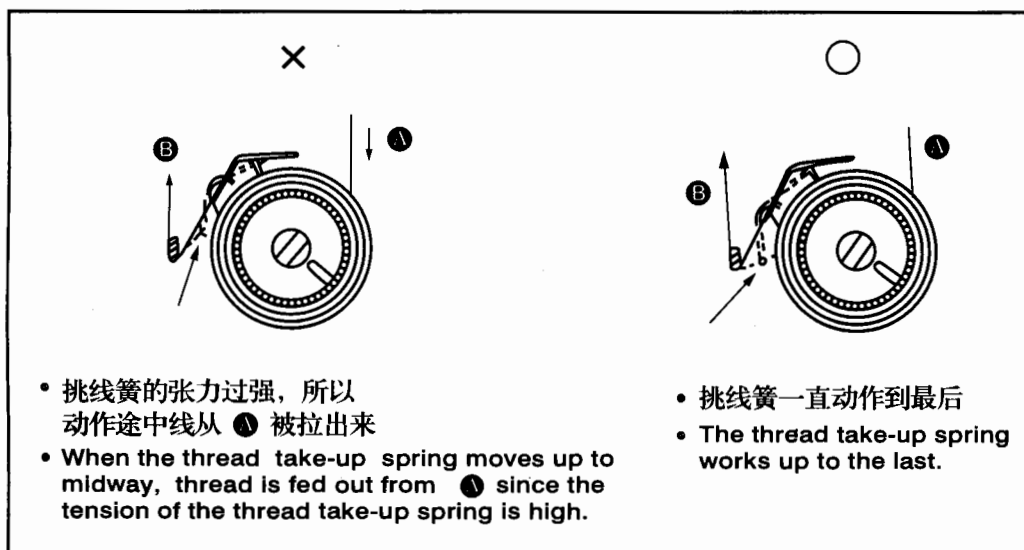


(即④方向)转动时, 挑线簧的张力将增大;

4) 把夹线螺钉③朝逆时针方向(即⑤方向)转动时, 挑线簧的张力将减小。

通常, 机器在出厂前, 挑线簧均已调整妥善。只是在缝纫特殊的缝料或特殊的缝线时, 才需要重新进行调整。

- 3) 把夹线螺钉③朝逆时针方向(即⑤方向)转动时, 挑线簧的摆动量将减小。
2. 挑线簧张力的调节:
- 1) 旋松定位螺钉②, 取出夹线器⑤(组件);
- 2) 旋松定位螺钉④, 并转动夹线螺钉③;
- 3) 把夹线螺钉③朝顺时针方向



挑线簧调整适当的判定方法: 确认挑线簧的压力调整好后, 把面线向⑥方向拉出, 如果在挑线簧到达最低位置之前面线⑥处就被拉动, 请减弱挑线簧的压力。

### 1. Changing the stroke of thread take-up spring

- 1) Loosen setscrew ②.
- 2) As you turn tension post ③ clockwise(in direction ④), the stroke of the thread take-up spring will be increased.
- 3) As you turn tension post ③ counterclockwise(in direction ⑤), the stroke will be decreased.]

### 2. Changing the pressure of thread take-up spring ①

- 1) Loosen setscrew ②, and remove thread tension ⑤.
- 2) Loosen setscrew ④.
- 3) As you turn tension post ③ clockwise(in direction ④), the pressure will be increased.

4) As you turn tension post ③ counterclockwise(in direction ㉞), the pressure will be decreased.

Usually, upon the machine coming out, all the take-up spring has been adjusted well, only while sew special material thread, it need to be adjusted again.

To judge the work of the thread take-up spring, confirm whether or not the thread take-up spring works up to the last before needle thread is pulled out from ㉞ when pulling out needle thread in the direction of ㉞ after the pressure of the thread take-up spring has been performed. When it does not work up to the last, decrease the pressure of the thread take-up spring. In addition, the stroke of the thread take-up spring is excessively small, the spring does not work properly. For the general fabrics, a stroke of 10 to 13 mm is proper.

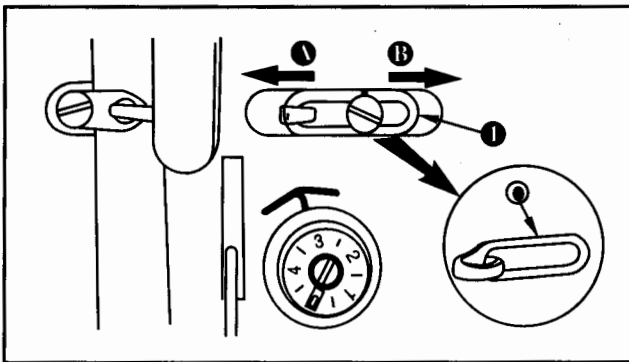
## 16. 挑线杆挑线量的调节 Adjusting the thread take-up stroke



注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**



1. 缝制厚料时，应将右线钩①朝左方向㉞移动，以增大挑线量；
2. 缝制薄料时，应将右线钩①朝右方向㉞移动，以减少挑线量；
3. 右线钩①上的刻线㉞与螺钉中心一致时为标准位置。

1. When sewing heavy- weight materials, move thread guide ① to the left (in direction ㉞) to increase the length of thread pulled out by the thread take-up.
2. When sewing light-weight materials, move thread guide ① to the right (in direction ㉞) to decrease the length of thread pulled out by the thread take-up.
3. Normally, thread guide ① is positioned in a way that marker line ㉞ is aligned with the center of the screw.

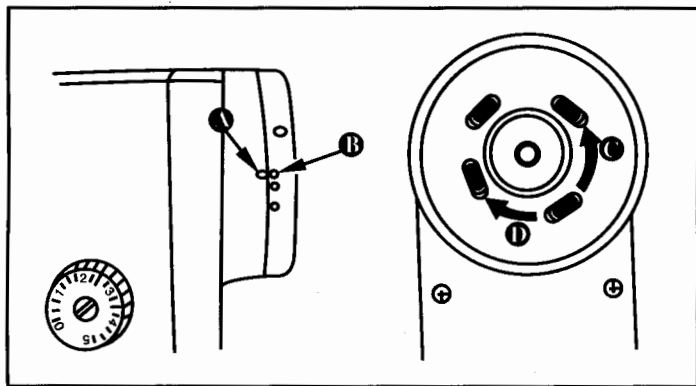
## 17. 机针停止位置的调整 Adjusting the needle stop position



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**



### 1. 切线后的停止位置

- 1) 标准的机针停止位置是皮带轮外罩的刻点A和上轮的白刻点B一致时的位置；
- 2) 让机针上升到最上的停止位置，在长孔范围对外片进行调整。

➤ 向C的方向移动，机针停止提前；

➤ 向D的方向移动，机针停止推迟；

### 1. Stop position after thread trimming

1) The standard needle stop position is obtained by aligning marker dot A on the pulley cover with white marker dot B on the hand-wheel.

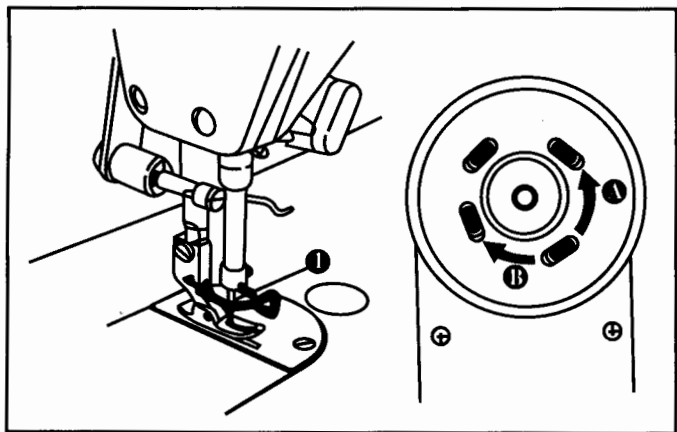
2) Stop the needle in its highest position, loosen screw ① to perform adjustment within the slot of the screw.

➤ The needle stop timing is advanced if you move the screw in direction C.

➤ The needle stop timing is delayed if you move the screw in direction D.

### 2. 缝制的结束

1) 踏板从前踩踏变为中立时的机针下停止位置与上停止一样，让机针①下停止之后，在长孔范围内对内片进行调整。向A方向移动机针停止位置提前，向B方向移动机针停止位置推迟。



### 2. Lower stop position

1) The lower needle stop position when the pedal is returned to the neutral position after the front part of the pedal is depressed can be adjusted as follows:

Stop needle ① in its lowest position. Loosen screw ②, and make adjustment within the slot of the screw. Moving the screw in direction A advances the needle stop timing. Moving the screw in direction B delays the timing.

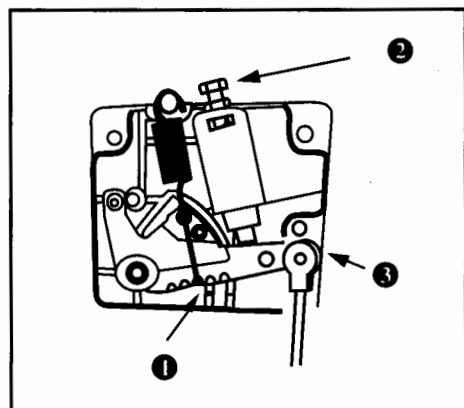
## 18. 踏板压力和行程 Pedal pressure and pedal stroke



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**



### 1. 踏板踩踏压力的调整

- 1) 摘下踏板压力调节弹簧①进行调节；
- 2) 把弹簧挂到左侧压力变小；
- 3) 挂到右侧压力变大。

### 2. 踏板返回力的调整

- 1) 用返踩调节螺钉②可以进行调节；
- 2) 拧紧调节螺钉压力变大；
- 3) 拧松螺钉压力变小。

### 3. 踏板踩踏行程的调整

- 1) 把连接杆③安装到左侧的孔内，行程变小。

### 1. Adjusting the pressure required to depress the front part of the pedal

- 1) This pressure can be changed by altering the mounting position of pedaling pressure adjust spring ①.
- 2) The pressure decreases when you hook the spring on the left side.
- 3) The pressure increases when you hook the spring on the right side.

### 2. Adjusting the pressure required to depress the back part of the pedal

- 1) This pressure can be adjusted using regulator screw ②.
- 2) The pressure increases as you turn the regulator screw in.
- 3) The pressure decreases as you turn the screw out.

### 3. Adjusting the pedal stroke

- 1) The pedal stroke decreases when you insert connecting rod ③ into the left hole.

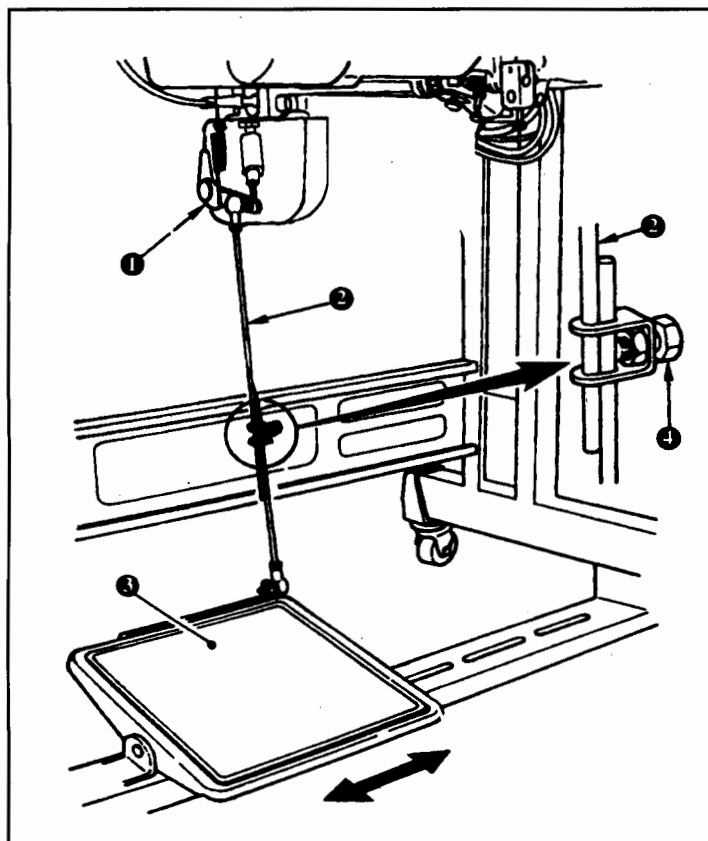
## 19. 踏板的调整 Adjustment of the pedal



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning:** Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



### 1. 连接杆的安装

- 1) 向箭头方向移动踏板调节板③，让马达控制杆①和连接杆②成一直线。

### 2. 踏板的角度

- 1) 调节连接杆的长度即可以改变踏板的角度。
- 2) 拧松调节螺钉④，移动连接杆②进行调节。

### 1. Installing the connecting rod

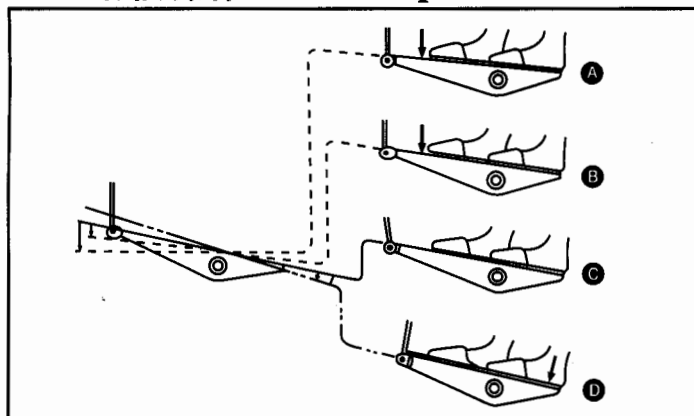
- 1) Move pedal ③ to the right or left as illustrated by the arrows so that motor control lever ① and connecting rod ② are straightened.

### 2. Adjusting the pedal angle

- 1) The pedal tilt can be freely adjusted by changing the length of the connecting rod.

- 2) Loosen adjust screw ④, and adjust the length of connecting rod ②.

## 20. 踏板操作 Pedal operation



### 1. 踏板有4级操作

- 1) 向前轻轻踩踏板为低速缝纫Ⓐ；
- 2) 再继续往前踩踏板为高速缝纫Ⓑ；（但是，设定了自动倒缝开关后，倒缝结束之后为高速缝纫）；
- 3) 向后踩踏板为切线动作Ⓓ。

※ 使用自动压脚提升装置时，在停止和切线之间增加一级开关，向后轻轻踩踏板，为压脚提升动作Ⓒ在继续踩踏板为切线动作。

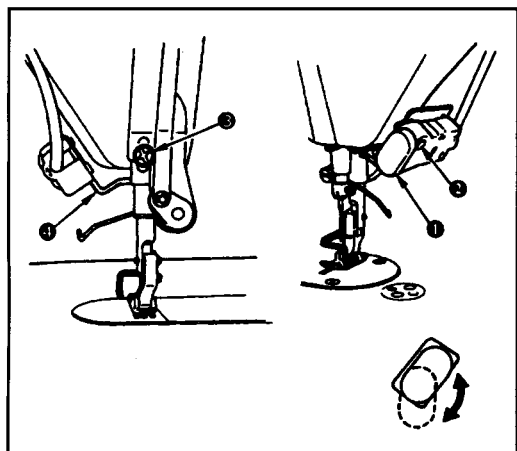
- 始缝的自动倒缝中，把踏板返回中立位置则缝纫机倒缝结束后停止。
- 从高速缝纫或低速缝纫中向后用力踩踏板缝纫机均可切线。
- 缝纫机切线中把踏板返回中立位置但机器仍然把线切完。
- 缝纫机停止机针下降停止之后，如果想升起机针时，请往后踩一次踏板。

**1. The pedal is operated in the following four steps:**

- 1) The machine runs at low sewing speed when you lightly depress the front part of the pedal Ⓒ.
  - 2) The machine runs at high sewing speed when you further depress the front part of the pedal Ⓒ. (If the automatic reverse feed stitching has been preset, the machine runs at high speed after it completes reverse feed stitching.)
  - 3) The machine trims threads when you fully depress the back part of the pedal Ⓒ.
- ※ If you machine is provided with the Auto-lifter, an addition step is given between the machine stop and thread-trimming step. The presser foot goes up when you lightly depress the back part of the pedal Ⓒ, and if you further depress the back part, the thread trimmer is actuated.
- If you reset the pedal to its neutral position during the automatic reverse feed stitching at seam start, the machine stops after it completes the reverse feed stitching;
  - The machine will perform normal thread trimming even if you depress the back part of the pedal immediately following high or low speed sewing.
  - The machine will completely perform thread trimming even if you reset the pedal to its neutral position immediately after the machine started thread trimming action.
  - When the machine stops with its needle down, and if you want to bring the needle up, depress the back part of the pedal once.

## 21. 单触手动倒缝

### One-touch type reverse feed stitching mechanism



#### 1. 使用方法

- 1) 按下开关拔杆①，缝纫机立即倒缝；
- 2) 在按下的时间进行倒缝；
- 3) 手一松开立即变为正向缝纫。

#### 1. How to operate

- 1) The moment switch lever ① is pressed, the machine performs reverse feed stitching.
- 2) The machine performs reverse feed stitching as long as the switch lever is held depressed.

3) The machine resumes normal feed stitching the moment the switch lever is released.

#### 2. 开关的高度 Height of the switch



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**

- 1) 开关①有两挡位置可以使用；
- 2) 想把开送①的位置再下降时，请拧松缝纫机背面的固定螺钉③，降下开关座④。

- 1) Switch ① can be used in two positions by turning it.
- 2) In addition, when you desire to lower the position of switch ①, loosen setscrew ③ located in the back of the machine head and lower switch base ④.



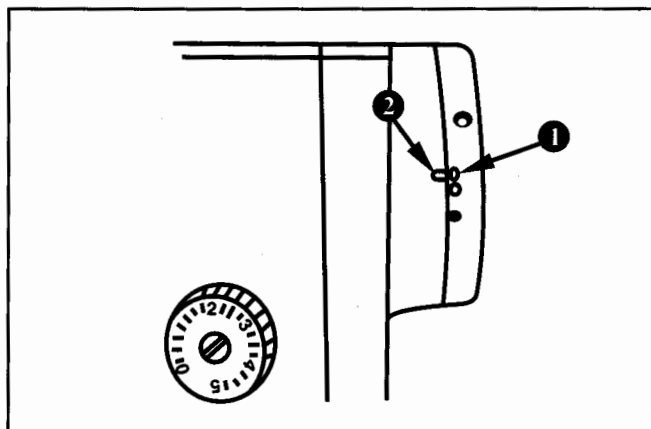
## 22. 拔线杆 Wiper



注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



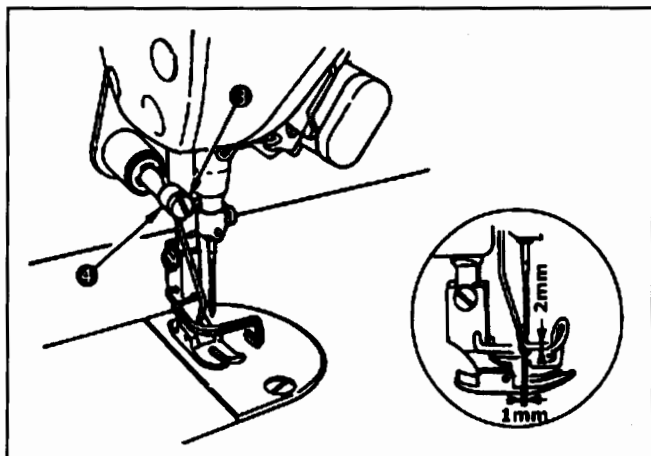
**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**



### 1. 拔线杆的位置

拔线杆的位置根据布料的厚度按下列方法进行调节

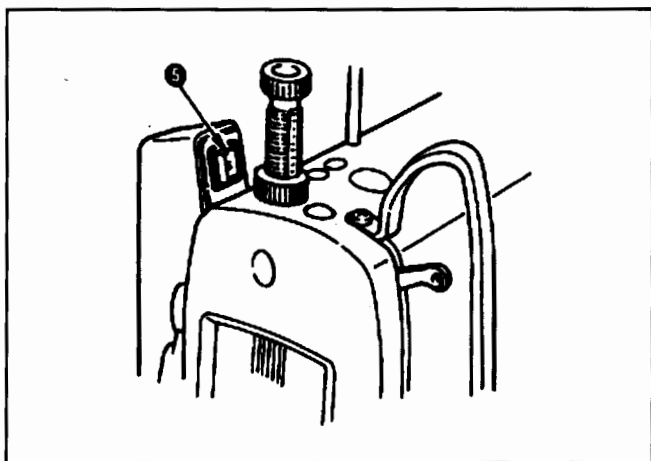
- 1) 向正常方向转动飞轮，让飞轮白刻点①对准机壳的刻点②。
- 2) 用拔线杆环④推拔线杆，然后拧紧固定螺钉③，把挑线杆的平坦部和机针中心的距离相距离1mm；
- 3) 不使用拔线杆时，请关掉拔线杆开关



### 1. Positioning the wiper

Adjust the position of the wiper according to the thickness of the material sewn. The adjustment procedure is as follows:

- 1) Turn the hand-wheel in the normal direction of rotation to align white marker dot ① on the hand-wheel with marker dot ② on the machine arm.
- 2) Adjust the distance between the flat part of the wiper and the center of the needle to 1mm. Tighten wiper adjust screw ③ so that the wiper is pressed and fixed by wiper collar ④.
- 3) When the wiper is unnecessary, turn wiper switch ⑤ OFF.



## 23. 机针与旋梭的关系 Needle-to-hook relationship

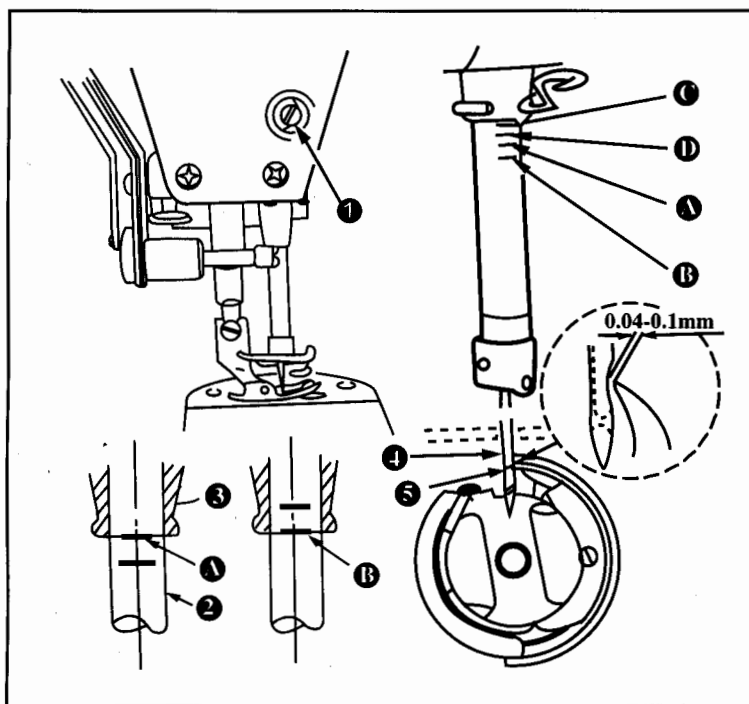


注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**

1. 转动上轮，使针杆下到最低点，然后拧松针杆连接柱紧固螺钉①；
2. 确定针杆高度：
  - 1) 使用DB针时，使针杆②上的刻线④对准针杆下轴套③的下端，然后拧紧针杆连接柱定位螺钉①；
  - 2) 使用DA针时，使针杆②上的刻线⑤对准针杆下轴套③的下端，然后旋紧针杆连接柱定位螺钉①。
3. 确定旋梭位置：
  - 1) 使用DB针时，旋松三颗旋梭定位螺钉，并转动上轮，使针杆②在上升的方向刻线⑥



- 对准针杆下轴套③的下端；
- 2) 使用DA针时，旋松三颗旋梭定位螺钉，并转动上轮，使针杆②在上升的方向刻线⑤对准针杆下轴套③的下端；
  4. 在上述状态下，使旋梭的勾线尖⑤对准机针④的中心，针与旋梭的间隙为0.04~0.1（大约）毫米，然后拧紧旋梭紧固螺钉。

注意：

1. 若间隙太小，会磨损梭尖；若间隙太大，会引起跳针；
2. 旋梭损坏后更换，请使用相同的型号。

1. Turn the hand-wheel to bring the needle bar down to the lowest point of its stroke, and loosen setscrew ①.
2. Adjusting the needle bar height:
  - 1) While using DB needle, align marker line ④ with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

- 2) While using DA needle, align marker line ㉓ with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.
3. Locate the hook position:
  - 1) While using DB needle, loosen the three hook set screw, turn the hand-wheel, and align marker line ㉔ on ascending needle bar 2 with the bottom end of needle bar lower bushing ③.
  - 2) While using DA needle, loosen the three hook set screw, turn the hand-wheel, and align marker line ㉕ on ascending needle bar 2 with the bottom end of needle bar lower bushing ③.
4. After making the adjustments mentioned in the above steps, align hook blade point ⑤ with the center of needle ④. Provide a clearance of 0.04mm to 0.10mm(reference value) between the needle and the hook, then securely tighten setscrews in the hook.

Caution:

1. If the clearance between the blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skip-ping will result.
2. Use a hook of the same part No. when replacing your hook with a new one.

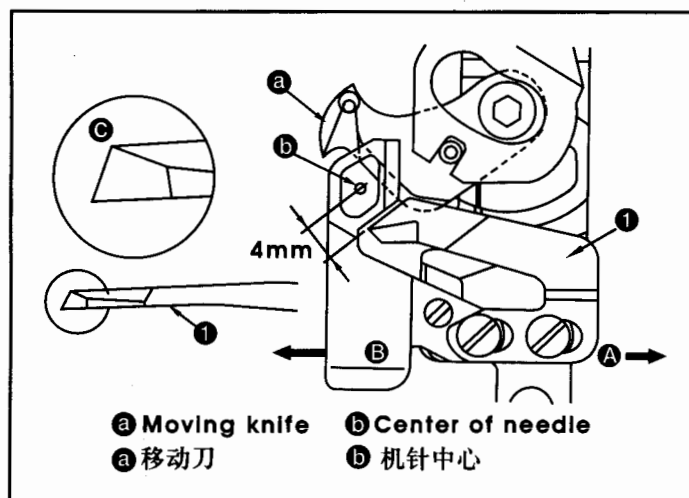
## 24. 固定刀 Counter knife



注意：为了防止缝纫机的意外启动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**



切刀不快时，请尽早如图㉓所示研磨固定刀①，然后正确的安装好。

- 1) 把固定刀的安装位置往标准位置的右A方向移动，切线长度比标准位置时长；
- 2) 往左B方向移动，切线变短。

注意：研磨固定刀时请注意研磨方法。

When the knife sharpness has deteriorated, re-sharpen counter knife ① as illustrated in ㉔, and properly reinstall it.

- 1) If the mounting position of the counter knife is moved in direction ㉕ from the standard mounting position, the thread length after thread trimming will be increased accordingly.
- 2) If the mounting position is moved in direction ㉖, the thread length will be decreased accordingly.

**Caution:** When re-sharpening the knife blade, extra special care must be taken on the handling of the knife.

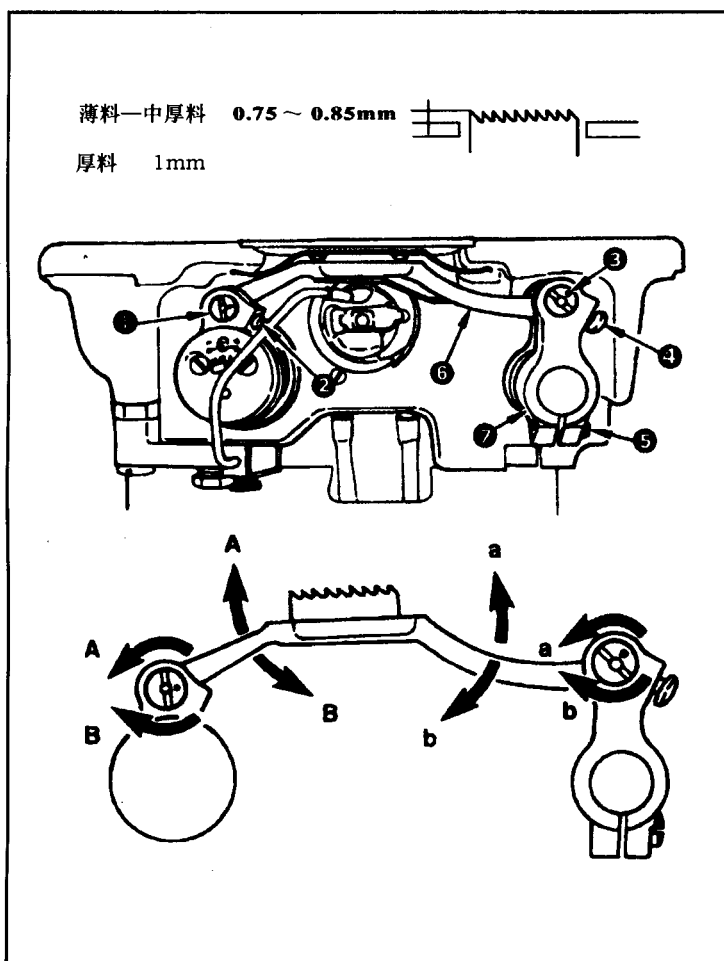
## 25. 送料牙的高度和倾斜度 Height and tilt of the feed dog



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning:** Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



送料牙的高度是高出针板0.75-0.85mm(厚料为1mm), 请根据布料的具体情况调节适当的高度。

### 1. 送料牙的高度和倾斜度的调整

- 1) 拧松抬牙曲柄调节偏心销①紧定螺钉②以及牙架座偏心销③的紧定螺钉④;
- 2) 用螺丝刀转动①、③两销, 就可以改变送料牙的高度和倾斜度;
- 3) 有关各销的转动方向和牙架⑥的倾斜度关系请参照图示;
- 4) 调整后, 请把拧松的螺钉拧紧固定。(请在推住①、③偏心销的状态下拧紧②、④两颗紧定螺钉)

注意：

1. 如果只用一侧的偏心销来调整送料牙的倾斜度，送料牙的高度也会变化，所以请一定要用两侧的销来调整。
2. 如果调整销位置之后，送料牙的运动位置偏斜，请拧松牙架座⑦的紧定螺钉⑤，调整送料牙的运动位置。

Height of the feed dog is adjusted so that the feed dog protrudes from the throat plate surface by 0.75 to 0.85 mm (1 mm for Heavy type). Adjust the height in accordance with the material to be used.

### 1. Adjusting the height and tilt of the feed dog

- 1) Loosen setscrew ② in feed bar driving shaft ① and setscrew ④ in feed bar rocker shaft ③
- 2) Height and tilt of the feed dog will change by turning both shafts ① and ③ with a screwdriver.
- 3) For the relation between the rotating direction of each shaft and tilt of feed bar ⑥, refer to the figure on the left.
- 4) After the adjustment, securely tighten the setscrews. (Tighten setscrews ② and ④ in the state that shafts ① and ③ are pushed against the hand-wheel side.)

### Caution:

1. If the tilt of the feed dog is adjusted with one shaft only, the height of the feed dog changes. Be sure to adjust it with both shafts.
2. Movement position of the feed dog may be shifted depending on the adjusting position of the shaft. At this time, loosen setscrew ⑤ in feed rocker shaft arm ⑦ and adjust the movement position.

## 26. 送布的同步 Adjusting the feed timing



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning: Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.**

改变抬牙凸轮①的固定位置，就可以改变送料的同步时间。

送料同步的调整方法：

1. 放倒缝纫机，拧松抬牙凸轮①的两颗固定螺钉②；
2. 转动抬牙凸轮①，就可以变更送布的同步时间。

把抬牙曲柄的刻度③对准抬牙轴的刻线④

- 向（+）方向转动抬牙凸轮①，上下抬牙的同步时间变快；
- 向（-）方向转动抬牙凸轮①，上下抬牙的同步时间变慢。

注意：一般情况，请把刻度③的中央对准刻线。

The feed timing can be changed by changing the stop position of feed eccentric cam ①.

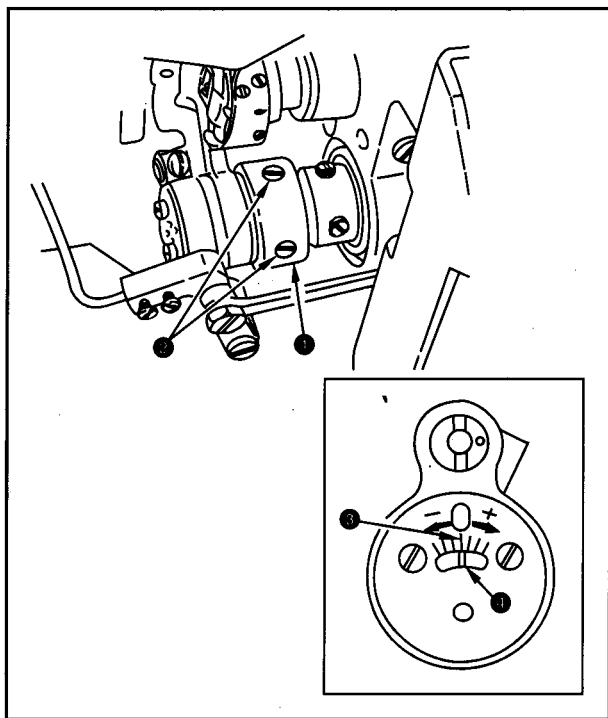
#### How to adjust the feed timing

1. Tilt the sewing machine head and loosen two setscrews ② in feed eccentric cam ①.
2. Turn feed eccentric cam ① to change the feed timing.

Align graduation ③ on the feed bar driving arm with engraved marker line ④ on the feed driving shaft.

- Turn feed eccentric cam ① in the direction of (+) → Increases the feed timing.
- Turn feed eccentric cam ① in the direction of (-) → Decreases the feed timing.

**Caution:** For general use, use the machine in the state that center of graduation ③ is aligned with the engraved marker line.



## 27. 解除机构

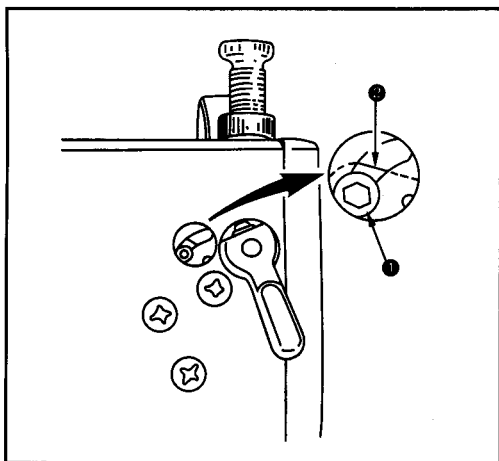
### Thread tension release releasing mechanism



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning:** Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



利用松线解除机构，缝制中也可以提升面线也不松线。（厚的叠层部用膝动提升压脚，让它越过叠层部，而线张力不变化）

#### 1. 解除方法

- 1) 卸下缝纫机的盖子，用内六角扳手拧松松线变换螺钉①；
- 2) 把螺钉①固定到松线变换板②的最上部。  
抬起压脚时夹线器也不松线，面线张力也不松弛（只在切线时夹线器才松线）

注意：螺钉①的位置，只能固定到松线变换板的最上或最下位置，其它位置不能使用。  
缝纫机出货时固定在最下位置。

By means of the thread tension release releasing mechanism, sewing can be performed without slackening the needle thread tension even when the presser foot is lifted during sewing. (Even when the presser foot is slightly lifted at the thick overlapped section by the knee lifter, this mechanism can prevent the thread tension from being changed.)

### 1. How to release

- 1) Remove the cap in the machine head and loosen thread tension release changeover screw ① using a hexagon wrench.
- 2) Fix screw ① on the top of thread tension release changeover plate ②. The thread tension disk does not rise even when the presser foot is lifted, and the needle thread tension is not loosened. (The thread tension disk rises only when thread trimming is performed.)

**Caution:** Do not use screw ① at any position other than the top or bottom position of the thread tension release changeover plate. The screw has been factory-set to the bottom position at the time of delivery.

## 28. 微量压脚提升

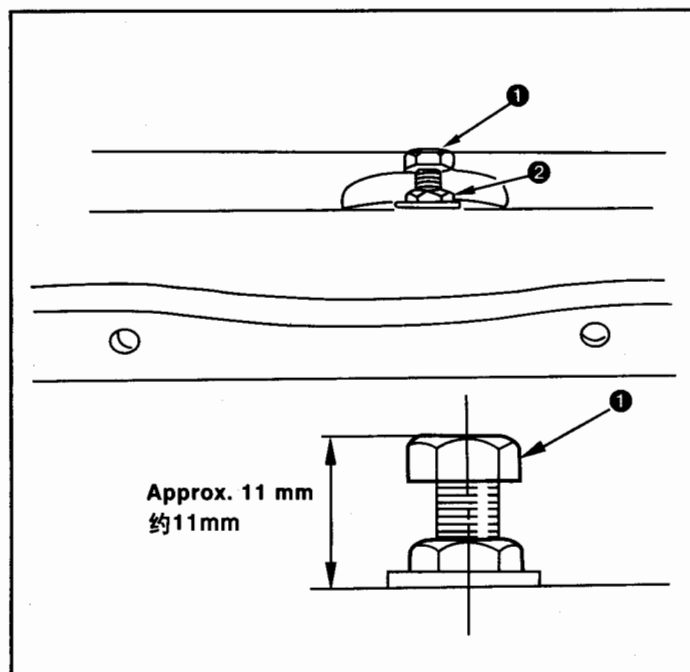
### Micro-lifting mechanism of the presser foot



注意：为了防止缝纫机的意外起动，请关掉电源之后再进行操作。



**Warning:** Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



缝制丝绒等起毛性缝料时，使用微量压脚提升螺钉①功能就可以不使缝料缝偏，减轻缝料的损伤。

在螺母②拧松的状态下，一点一点拧紧微量压脚提升螺钉①，调整到适合缝料的让压脚微量上升的位置，然后将螺母②固定。

注意：微量压脚提升机构不使用时，请把螺钉①高度调整到比缝纫机高约11mm的位置。微量压脚提升机构提升后缝纫机的送布能力会减弱。

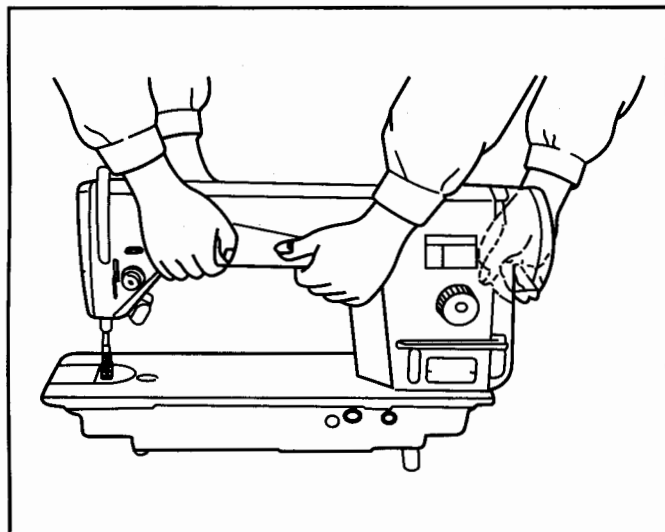
When sewing velvet or the like which is fluffy, slippage of material or damage of material is reduced by using screw ① for presser foot micro-lifting.

Gradually tighten screw ① for presser foot micro-lifting in the state that nut ② is loosened, adjust the presser foot to the position where it is finely lifted until it matches the material, and fix it with nut ②.

**Caution:** when the presser foot micro-lifting mechanism is not used, adjust the height of screw ① so that it is higher by approximately 11 mm than the sewing machine. If the sewing machine is operated in the state that the micro-lifting mechanism is working, sufficient feed force cannot be obtained.

## 29. 缝纫机的搬运及放置注意事项

### Caution when carrying or placing the sewing machine



#### 1. 搬运方法

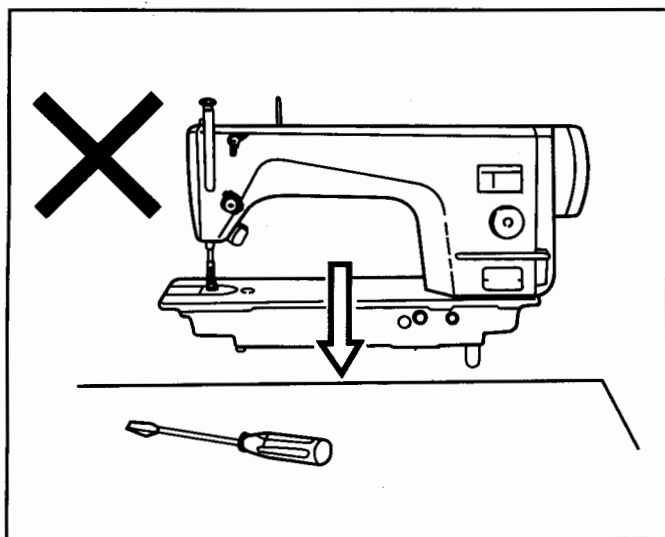
请按照图示那样，由两人来搬运

注意：请不要抬着皮带轮来搬运

#### 2. 放置缝纫机时的注意事项

请不要把螺丝刀等东西放到放置缝纫机的地方。

#### 3. How to carry the sewing machine



Carry the sewing machine with two persons as shown in the figure.

**Caution:** Do not hold the hand-wheel.

#### 4. Caution when placing the sewing machine

Do not place any protruding thing such as screwdriver or the like on the place where the sewing machines is set.