

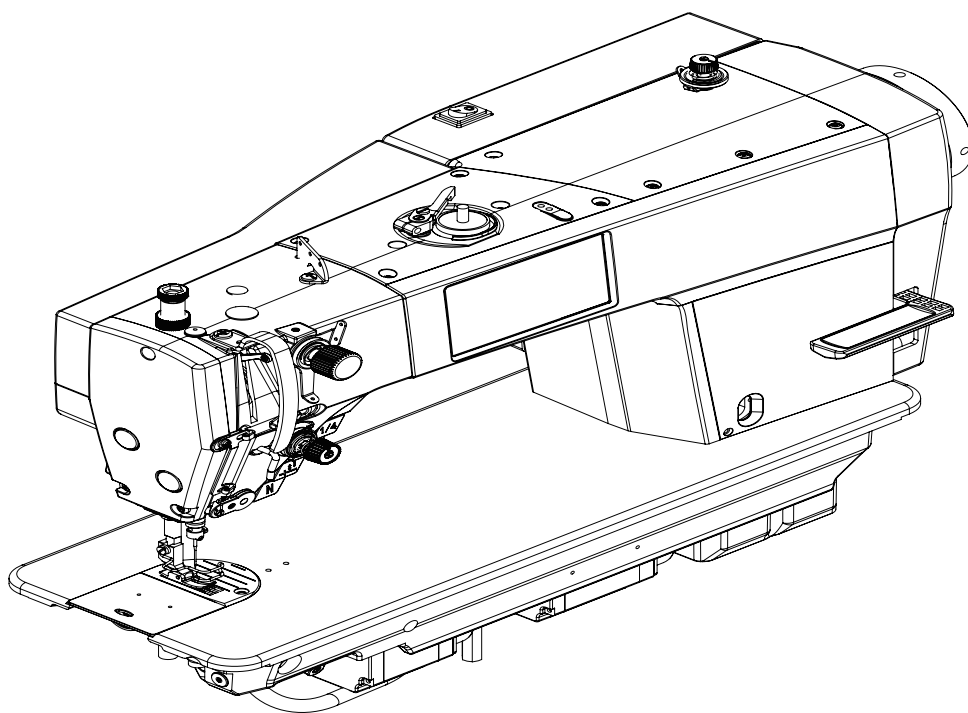
# 线头终结者

## 多轴联动微油电脑平缝机

No bird's nest multi-axis linkage micro-oil computer flat sewing machine

## 使用说明书

Instruction manual



在使用缝纫机之前,请仔细阅读<为了您的安全使用>和使用说明。

工业缝纫机的特性之一,因为要在机针和旋锁等运动零部件附近进行操作,而这些零部件很容易引起受伤的危险,所以请在受过培训的人或熟练人员的安全操作知识指导下,方可正确的使用本缝纫机。

Before using the sewing machine, please read < For Your Safe Use > and instructions carefully.

One of the characteristics of industrial sewing machines is to operate near moving parts such as needles and spinlocks, which can easily cause injury hazards, so please use this sewing machine properly under the guidance of a trained or skilled person with safe operating knowledge.

## 为了您的安全使用 For your safe use

### 1.安全使用的标记以及含义

使用说明书及产品使用的标记和图案记号是为了您安全而正确的使用产品,防止您及其他人受到危害和损害。表示方法及含义如下:

#### 1. Markings and meanings of safe use

The instruction manual and the markings and patterns used in the product are for your safe and correct use of the product to prevent you and others from being harmed and damaged. The expression method and meaning are as follows:



**危险** 该内容表示如果忽视此标记进行错误操作,必将会导致死亡或重伤。



**警告** 该内容表示如果忽视此标记进行错误操作,一定会导致死亡或重伤。



**注意** 该内容表示如果忽视此标记进行错误操作,可能会导致轻伤或中度伤害。



**Danger** Indicates that if you ignore this flag and perform incorrect operations, death or serious injury will result.



**Warning** This content indicates that if you ignore this flag and perform incorrect operations, death or serious injury will occur.



**Caution** This information indicates that if you ignore this flag, misoperations may result in minor or moderate injuries.

## 图案与符号



该符号 (△) 表示“应注意事项”。  
三角中的图案表示必须要注意的实质内容。  
(意义:小心受伤)

This symbol (△) means "Precautions to be taken."  
The pattern in the triangle represents the substance that must be noted.  
(Meaning: Beware of injury)



此符号表示 (⊘) “禁止”。  
此符号表示 (◆) 表示“必须”。

This symbol means (⊘) "Forbidden".  
This symbol means that (◆) means "must".

## 2.安全注意事项

### 注意



本缝纫机仅限于接受过安全操作培训的人员使用。



本缝纫机不能用于除缝纫外的任何其他用途。



使用缝纫机时必须带上保护眼睛。

如果不带保护眼睛,断针时就会有危险,机针的折断部分可能会弹入眼睛并造成伤害。



发生下列情况时,请切断电源。

否则误踩脚踏板时,缝纫机动作会导致受伤。

1.机针穿线时

2.更换机针

3.缝纫机不使用,或人离开缝纫机时。



为了安全起见,在使用本缝纫机之前,请安装保护装置。如果未安装这些安全装置就使用缝纫机会造成人身伤害及缝纫机损坏。



缝纫过程中,不能接触任何运动部件或将物件靠在运动部件上,这样会导致人员受伤或缝纫机损坏。



如果缝纫机操作中发生误动作,或听到异常的噪音或闻到异常的气体,应立即切断电源。然后请与购买商家或受过培训的技术人员联系。



如果缝纫机出现故障,请与购买商店或培训的技术人员联系。



缝纫机头倒下或者竖起时,请勿按压显示屏。否则会导致人员受伤或缝纫机损坏。

### 使用环境



请不要在有电源线干扰及静电干扰等有强电气干扰影响的环境使用。  
强电气干扰可能会影响缝纫机的正常使用。



电源电压的波动应在额定电压的±10%以内环境下使用。  
电压大幅度波动会影响缝纫机正常使用。



电源容量应大于缝纫机的消耗电量。电源容量不足会影响缝纫机的正常使用。



环境温度应在5°-35°的范围使用。  
低温或高温会影响缝纫机的正常使用。



相对湿度应在45%-85%的范围内,并且设备内不会形成结露的环境下使用。干燥或多湿的环境和结露会影响缝纫机的正常使用。



万一发生雷电暴风雨时,关闭电源开关,并将电源插头从插座上拔下。雷电可能会将电控箱损害。



请勿将USB存储器以外的设备连接到USB连接端口上。否则有可能会导致显示屏故障。造成缝纫机无法正常使用。

### 安装



请让受过培训的技术人员来安装缝纫机。



请委托购买商店或电气专业人员进行电气配线。



缝纫机重约46kg,安装工作必须由两人以上来完成。



在安装完成前,请不要连接电源,如果误踩下踏脚板时,缝纫机运动时会导致受伤。



请在切断电源后,再拔掉电插头。  
不然易成为控制箱发生故障的原因。



必须接地:接驳地线不牢固,是造成触电或误动作的原因。



缝纫机头倒下时,请一定要固定工作台,不可使其随意移动。  
工作台移动容易发生脚等被夹住之事故,是导致人身事故的原因。



缝纫机头倒下或竖起时,请用双手进行操作。  
单手操作时因缝纫机重量万一滑落容易导致受伤



使用润滑油和黄油时,务必戴好保护眼睛和保护手套等,以防润滑油落入眼中或沾在皮肤上造成事故,引发发炎。  
将油放在小孩拿不到的地方。



固定电缆时,不要过度弯曲电缆或用卡钉固定得过紧,会引起火灾或触电的危险。

## 2.Safety precautions



### Look out



This sewing machine is for use only by personnel trained in safe operation.



This sewing machine cannot be used for any purpose other than sewing.



You must wear eye protection when using a sewing machine. If you don't wear eye protection, you can be dangerous if you break a needle. A broken part could bounce into the eye and cause injury.



Please cut off the power supply when the following situations occur.

Otherwise, when you step on the pedal by mistake, the sewing machine action will cause injury.

1. When the machine needle threading
2. Change the needle
3. The sewing machine is not in use, or the person leaves the sewing machine.



For safety reasons, please install protective devices before using this sewing machine. If these safety devices are not installed, the use of sewing machines will cause personal injury and damage to the sewing machine.



During the sewing process, do not touch any moving parts or lean objects against moving parts, which can cause injury or damage to the sewing machine.



If the machine operation occurs in the wrong action, or hear abnormal noise or smell abnormal gas, should immediately cut off the power supply. Then contact the merchant or a trained technician.



If the sewing machine fails, contact the shop where you purchased it or a trained technician.



Do not press the display when the sewing machine head is down or upright. Otherwise, injury or damage to the sewing machine may occur.

### Use environment



Do not use the device in an environment with strong electrical interference, such as power cable interference and electrostatic interference. Strong electrical interference may affect the normal use of the sewing machine.



The fluctuation of the power supply voltage should be used within 10% of the rated voltage taxi. Large voltage fluctuations will affect the normal use of sewing machines.



The power supply capacity should be greater than the power consumption of the sewing machine. Insufficient power capacity will affect the normal use of the sewing machine.



The ambient temperature should be used in the range of 5°-35°.

Low or high temperature will affect the normal use of the sewing machine.



The relative humidity should be in the range of 45%-85%, and the equipment will not form condensation in the environment to use. Dry or humid environment and condensation will affect the normal use of the sewing machine.



In the event of a lightning storm, turn off the power switch and unplug the power from the socket. Lightning may damage the electric control box.



Do not connect devices other than USB memory to the USB connection port. Otherwise, the display may fail. Cause sewing machine can not be used normally.

### Install



Please have a trained technician install the sewing machine.



Please entrust the purchasing store or electrical professional to perform electrical wiring.



The sewing machine weighs about 46kg and must be installed by more than two people.



Before the installation is complete, please do not connect the power supply. If you step on the treadboard by mistake, the movement of the sewing machine will cause injury.



Please unplug the electric plug after cutting off the power. Otherwise, it is easy to become the cause of failure of the control box.

Must be grounded: The connection ground is not strong, which is the cause of electric shock or misoperation.



When the sewing machine head falls down, please be sure to fix the workbench and not make it move at will.

The movement of the workbench is prone to accidents such as feet being caught, which is the cause of personal accidents.



When the sewing machine head falls down or stands up, use both hands to operate. One hand operation because of the weight of the sewing machine in case of slip easily lead to injury



When using lubricating oil and butter, be sure to wear eye protection and protective gloves, etc., to prevent lubricating oil from falling into the eyes or sticking on the skin, causing accidents and causing inflammation. Keep oil out of reach of children.



When fixing the cable, do not bend the cable too much or fix it too tightly with pins, which may cause fire or electric shock.



## 危险

在关闭电源开关并将电源插头拔下后,至少等待3分钟,再打开控制箱盖。接触带有高电压的区域将会造成人员伤亡。

## 警告

缝纫机内不允许进入任何液体,否则会引发火灾、电击或操作故障。  
如果缝纫机内(机头、控制箱、显示屏)进入任何液体,请立即关闭电源,并将电源插头从插座上拔掉,然后联系销售商或者资深技术人员。

## Danger

After turning off the power switch and unplugging the power plug, wait at least 3 minutes before opening the control box cover. Contact with areas with high voltage will result in casualties.

## warn

Do not allow any liquid to enter the sewing machine, otherwise it will cause fire, electric shock or operating failure. If any liquid enters the machine (head, control box, display screen), turn off the power immediately and unplug the power plug from the socket, then contact the seller or senior technician.

## 清洁clean



在开始清洁作业时,请切断电源。  
如果误踩脚踏板时,缝纫机作业会导致人员受伤。



Turn off the power supply before starting the cleaning operation. Sewing machine operations can result in injuries if foot pedals are mistakenly stepped on.



缝纫机头倒下时,请一定要固定工作台,不可使其任意移动。  
工作台移动容易造成脚夹住事故。



When the sewing machine head falls down, please be sure to fix the workbench and do not allow it to move arbitrarily. The movement of the workbench can easily cause the accident of foot clamping.



缝纫机倒下或者竖起时,请用双手进行操作。  
单手操作时因缝纫机重量万一滑落导致受伤。



Use both hands when the sewing machine falls down or stands up. When operating with one hand, the weight of the sewing machine should slip and cause injury.



使用润滑油和黄油时,务必戴好保护眼睛和保护手套等,以防润滑油落入眼中或沾在皮肤上造成事故,引发发炎。  
黄油或润滑油不可饮用,否则会引发呕吐和腹泻



When using lubricating oil and butter, be sure to wear eye protection and protective gloves to prevent lubricating oil from falling into the eyes or sticking on the skin. Accident, causing inflammation. Do not drink butter or lubricating oil, which can cause vomiting and diarrhea

## 保养和检查Maintenance and inspection



只有经过训练的技术人员才能进行缝纫机的维修保养和检查。



Only trained technicians can carry out maintenance and inspection of sewing machines.



与电气有关的维修、保养、检查请委托购买商店或专业人士进行。



Electrical related repair, maintenance, inspection, please entrust the purchase shop or professional.



发生下列情况时,请关闭电源。并将电源线拔掉。  
1.检查、调整和维修。  
2.更换旋锁,切刀等易损零部件



Turn off the power when the following conditions occur. And unplug the power cord.  
1. Check, adjust and repair.  
2. Replace the twistlock, cutter and other vulnerable parts



打开手轮盖时请务必切断电源,并在等待1分钟左右再打开盖子。若接触电机表面,有可能烫伤。



Be sure to turn off the power when opening the handwheel cover, and wait about 1 minute before opening the cover. If it touches the surface of the motor, it may burn.



在必须接上电源开关进行调整时,请务必小心操作。务必遵守所有的安全注意事项。



When the power switch must be connected to adjust, be careful. Be sure to follow all safety precautions.

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# 1.规格 specification

## 1-1基本参数 Basic parameter

表 1

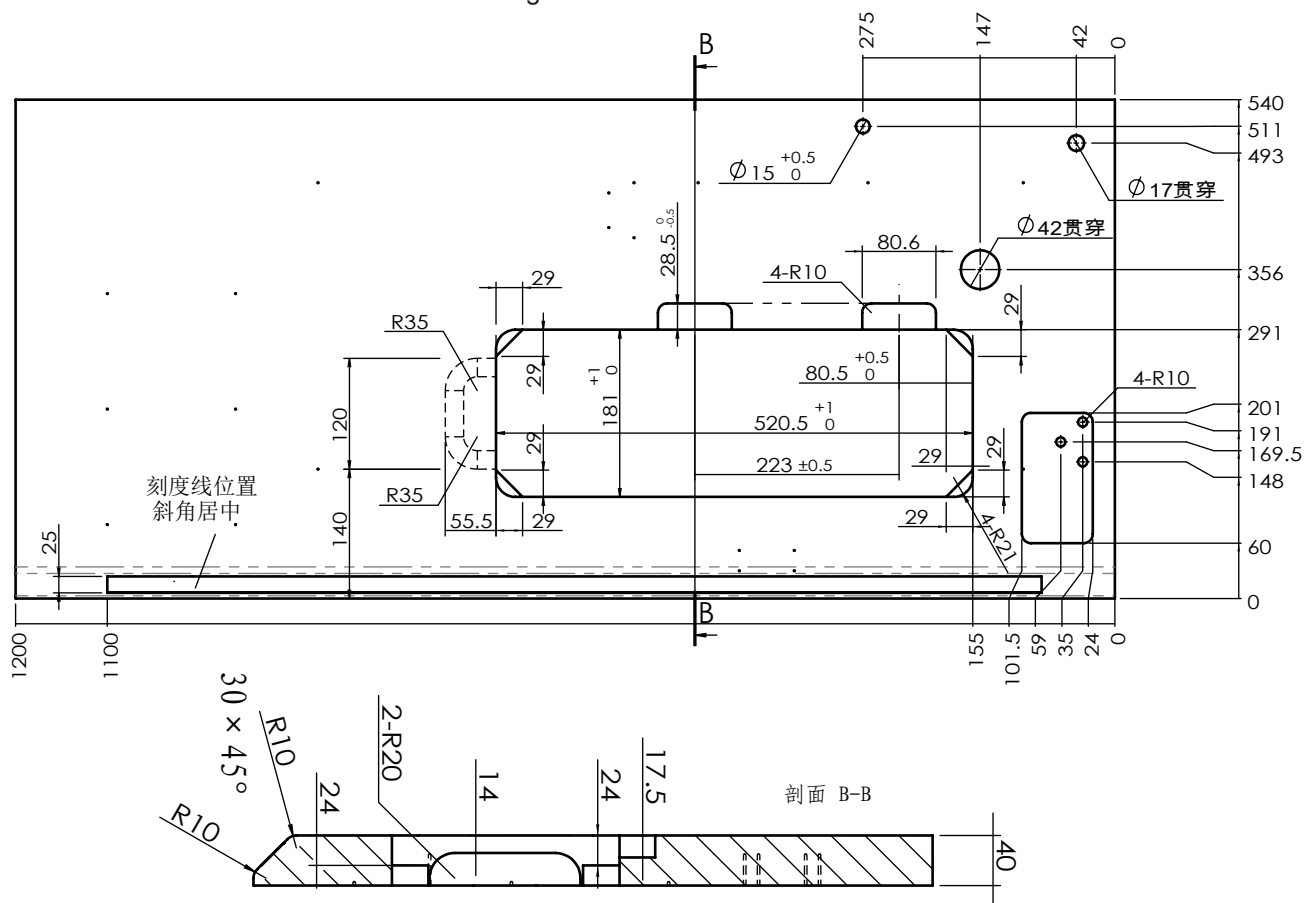
基本参数 Basic parameter		机型Machine type	
		中厚料平缝机 Medium thick material flat sewing machine	厚料平缝机 Thick material flat sewing machine
最高缝纫速度 (针/分) Maximum sewing speed/(needle/min)		5000sti/min	4000sti/min
最大线迹长度/mm Maximum stitch length /mm		≥4.5	
压脚提升高度/mm Press foot lifting height /mm	手提portable	≥5.5	
	自动Auto	≥9	
最大装饰线迹模式储存数 (个) Maximum number of decorative stitch patterns stored (PCS)		不少于8 Not less than 8	
采用机针 Using machine needle		DBx1、DPx5 9#~18#	DBx1、DPx5 18#~22#
运转噪声/dB (A) Running noise /dB (A)		≤82	≤77
采用缝线 suturing		120D×2~150D×2 涤纶高强缝纫线 Polyester high strength sewing thread	19.5 tex/3sz~7.3 tex/3sz 棉线或其他类似的缝纫线 Cotton thread or other similar sewing thread (按GB/T 6836—2007)
工作环境 Working environment		a)电源电压Supply voltage :AC (220±22)V/AC (380±38)V b)电源频率Power frequency: 50Hz/60Hz c) 环境温度Ambient temperature: 0°C~40°C d)湿度Humidity: 30%~85%(25°C无凝露without condensation) e)压缩空气压力Compressed air pressure:0.5MPa~0.6MPa;	

## 2.安装 Install

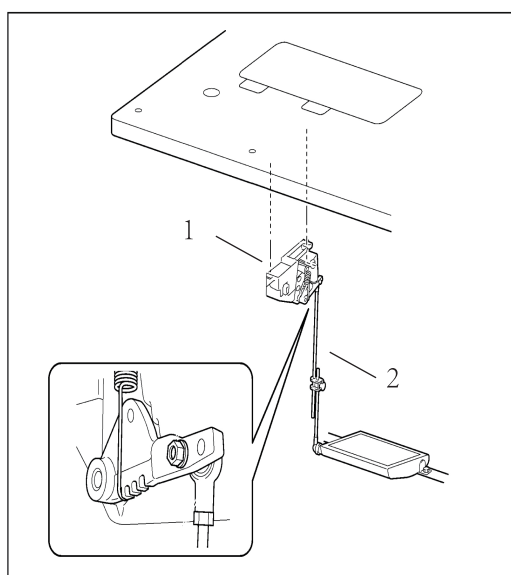
### 2-1台板面尺寸 Table surface dimensions

台板的厚度应达到40mm，能够承受缝纫机的重量，并能承受缝纫机的震动

The thickness of the table should reach 40mm, can withstand the weight of the sewing machine, and can withstand the vibration of the sewing machine



### 2-2-1踏板安装方式 Pedal mounting method



1.控速器

2.连杆

注：将（1）（2）安装在台板对应孔位上；  
将控速器插头对接在电控对应插口中。

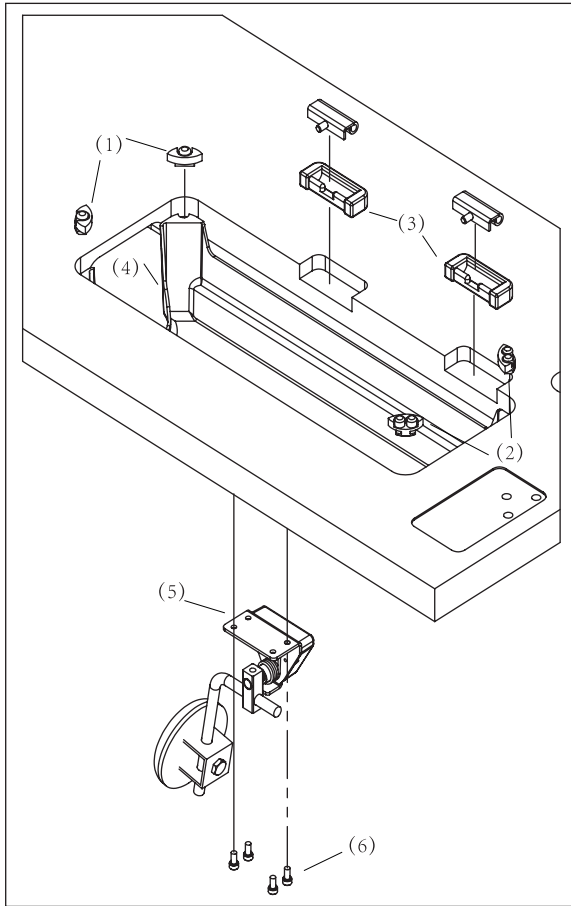
1. Speed controller

2. Connecting rod

Note: Install (1) and (2) on the corresponding holes of the platform; Connect the speed controller plug to the corresponding electrical control jack.

比例 1 : 6  
The ratio is 1:6

## 2-2-2 油盘安装方式 Oil pan installation mode



### 3.油盘安装

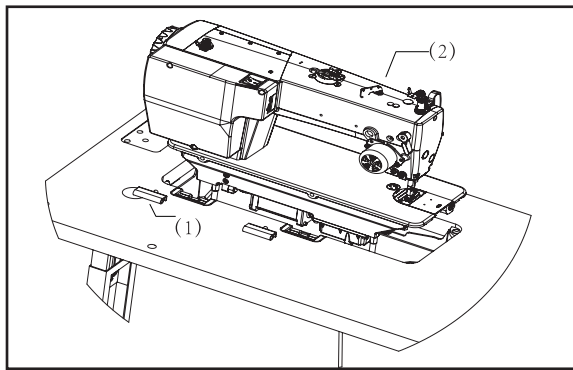
- (1) 头部防震垫 (左) 2个
- (2) 头部防震垫 (右) 2个
- (3) 铰链套2个
- (4) 油盘
- (5) 电子膝靠组件
- (6) 木螺钉4颗

注：1.将 (3) 放置于台板对应位置；  
2. (1) (2) 套入 (4) 中放置台板对应位置  
3. (5) 防止在台板反面对应位置，拧紧螺钉 (6) ；  
4.将电子膝靠插头接插到电控对应的插口中。

### 3. Install the oil pan

- (1) Head shock cushion (left) 2
- (2) Head shock pad (right) 2
- (3) Two hinge sets
- (4) Oil pan
- (5) Electronic knee rest components
- (6) 4 wood screws

Note: 1. Place (3) on the corresponding position of the table;  
2.(1) (2) Insert the corresponding position of the table plate into (4)  
3. (5) Prevent the corresponding position on the reverse side of the table plate, tighten the screw (6);  
4. Plug the electronic knee into the corresponding socket of the electric control.



### 4.缝纫机放置

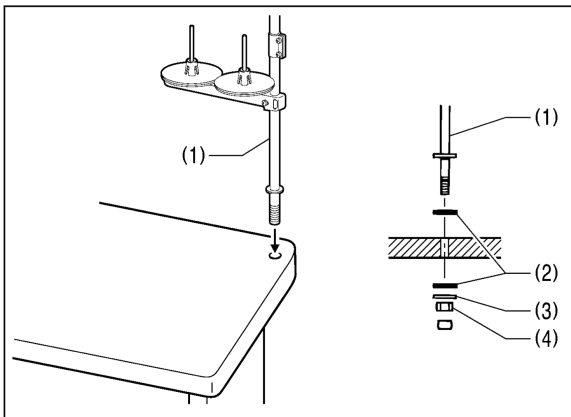
- (1) 机头铰链2个
- (2) 缝纫机

注：将 (1) 安装在机头对应孔位后，安置在台板对应位置上。

### 4. Sewing machine placement

- (1) Two head hinges
- (2) Sewing machine

Note: Install (1) in the corresponding hole position of the machine head and place it in the corresponding position of the table plate.



### 5.线架

- (1) 线架

注：将螺母 (4) 拧紧以便两个橡皮垫片 (2) 和垫圈 (3) 加紧，使线架 (1) 不会移动。

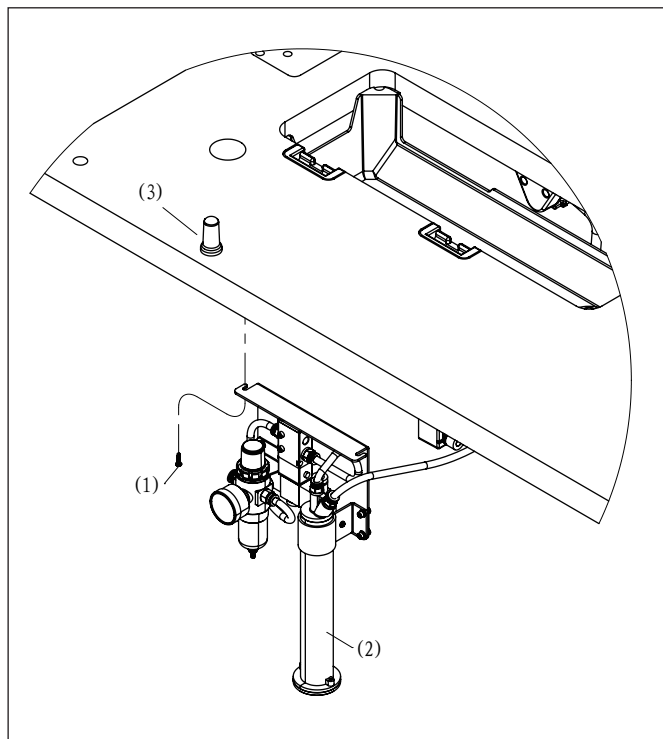
### 5. Cable tray

- (1) Wire rack

Note: Tighten the nut (4) so that the two rubber gaskets (2) and gaskets (3) are tightened so that the wire holder (1) does not move.



## 2-2-3 气动装置安装方式 Pneumatic device installation method



### 6. 气动装置

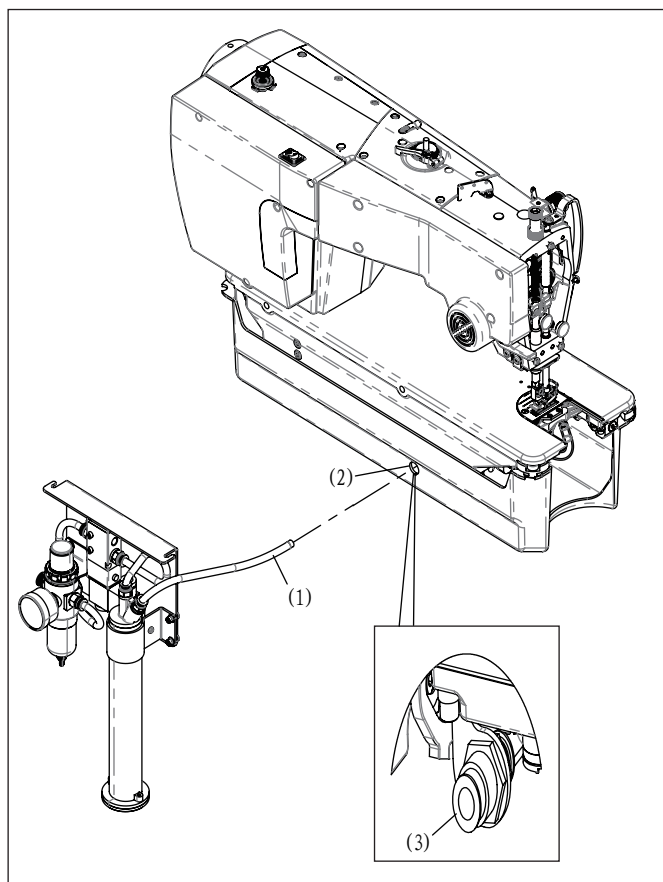
- (1) 木螺钉2颗
- (2) 气动装置一套
- (3) 机头支撑柱

注：将气动装置（2）放置于台板反面对应位置，台板处有对应孔位，再将（1）木螺钉拧紧即可。请将机头支撑柱牢牢的安装在台板上；将气阀插头接插到电控对应的插口中。

### 6. Pneumatic device

- (1) 2 wood screws
- (2) A set of pneumatic devices
- (3) head support column

Note: Place the pneumatic device (2) at the corresponding position on the reverse side of the table plate, and there is a corresponding hole at the table plate, and then tighten the wood screw (1). Please install the head support column firmly on the platform; Insert the valve plug into the corresponding socket of the electric control.



注：将气管（1）插入油盘对应孔中并且对接缝纫机上的气管接头，气管要紧紧对接。

Note: Insert the gas pipe (1) into the corresponding hole of the oil pan and butt the gas pipe connector on the sewing machine. The gas pipe should be tightly butt.

## 2-3 踏板的调整 Pedal adjustment

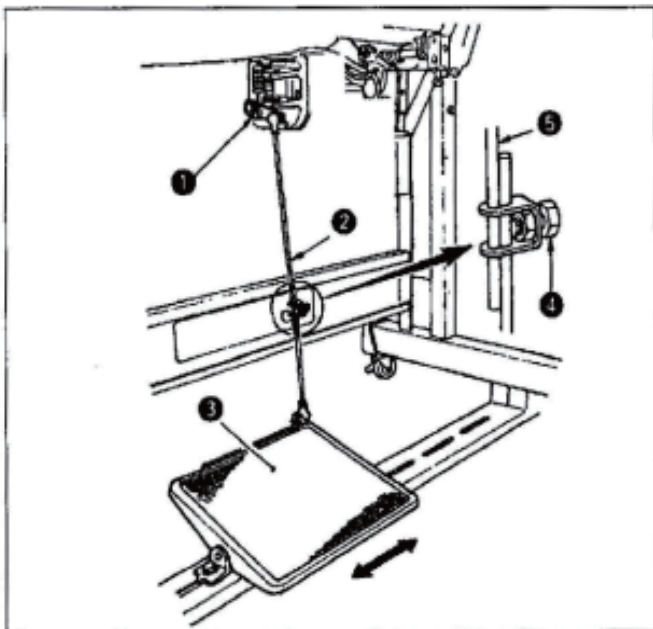


### 注意

为了防止意外的起动造成的事故，请关掉电源够进行。

### Look out

In order to prevent accidents caused by accidental starting, please turn off the power enough to proceed.



### (1) 连接杆的安装

1) 向箭头方向移动踏板调节板③，让踏板拨杆①和连接杆②呈一直线。

### (2) 踏板的角度

1) 调节连接杆的长度就可以自由地改变踏板的倾斜角度。

2) 拧松调节螺丝④，拉出插入连接杆⑤进行调整。

### (1) Installation of connecting rod

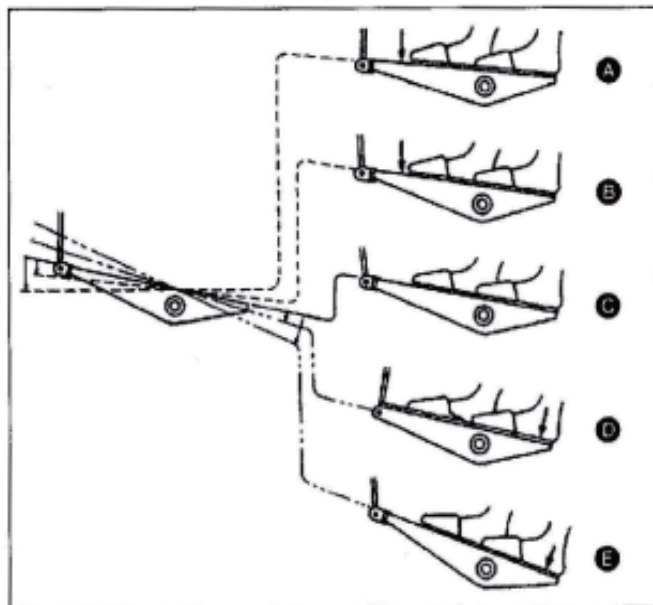
1) Move the pedal adjustment plate ③ in the direction of the arrow, so that the pedal lever ① and the connecting lever ② are in a straight line.

### (2) Pedal Angle

1) Adjusting the length of the connecting rod can freely change the tilt Angle of the pedal.

2) Loosen the adjusting screw ④ and pull out the connecting rod ⑤ for adjustment.

## 踏板操作



### (1) 踏板按4个阶段进行操作。

1) 向前轻轻踩踏板为低速缝制B。

2) 再用力向前踩踏板则变为高速缝制A

(但是，开关设定为自动倒缝时，倒缝结束后进行高速缝制)

3) 把踏板返回到脚轻轻地放到踏板上的位置缝纫机停止C。

(机针上停止或下停止位置)

4) 用力向后踩踏板则为切线动作E。

\*使用自动压脚提升装置时，再停止和切线之间增加1级开关。  
向后轻轻的踩踏板为压脚提升动作D，  
再往后用力踩踏板为切线动作。

### (1) The pedal is operated in 4 stages.

1) Gently pedal forward to sew B for low speed.

2) Push the pedal forward again to become high-speed sewing A

(However, when the switch is set to automatic backsewing, high-speed sewing is performed after the backsewing is finished)

3) Return the pedal to the position where the foot gently rests on the pedal.(needle up stop or down stop position)

4) Push the pedal back hard for the tangent movement E.

\* Add 1 step switch between restop and tangent line when using automatic presser foot lift device.

Step the pedal back gently for the press foot lifting action D, and then push the pedal back hard for the tangent action.

## 2-4 加油方法 Refueling method



### 注意 CAUTION



在加油未完成前，请勿插上电源。  
当误踩下踏脚板时，缝纫机动作会导致人员受伤。

Do not plug it in before refueling is complete.  
When the foot board is mistakenly stepped on, the sewing machine action can lead to injury.



使用润滑油时，请务必戴好保护眼镜和保护手套等，以防润滑油落入眼中或沾在皮肤上，这是引起发炎的原因。

When using lubricating oil, please be sure to wear protective glasses and gloves to prevent lubricating oil from falling into the eyes or sticking on the skin, which is the cause of inflammation.

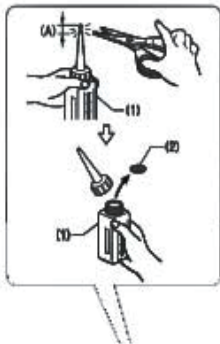


另外，润滑油不能饮用，否则会引起呕吐和腹泻。将油放在儿童拿不到的地方。  
在剪去油罐的油嘴口时，请一定要拿住油嘴的根部。如果拿住油嘴口，剪刀容易伤到手，成为受伤的原因。

In addition, lubricating oil should not be drunk, otherwise it will cause vomiting and diarrhea.  
Keep oil out of reach of children.

When cutting the nozzle of the tank, be sure to hold the root of the nozzle. If you hold the nozzle, the scissors are easy to hurt the hand and become the cause of injury.

初次使用缝纫机前需添加机油以保证机器各部机械部件的润滑，以延长机器寿命



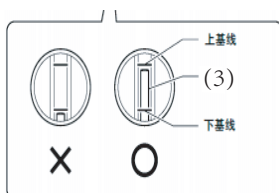
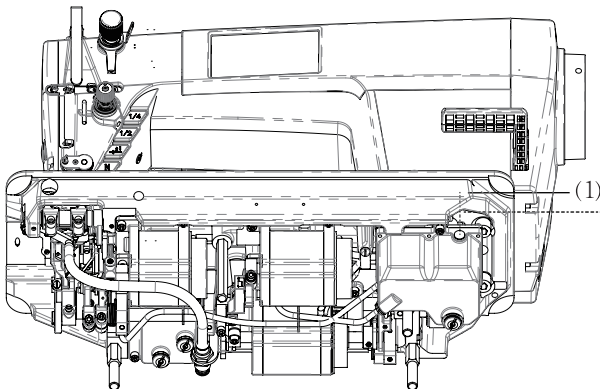
1. 将加注机油孔塞(1)打开
2. 将白油注入机头加油口中
3. 加油过程中观察油量视窗(2)，使油量表(3)稳定在上、下基线之间

注：油量表不可超过视窗上基线  
如油量表(3)低于下基线，则必须添加机油

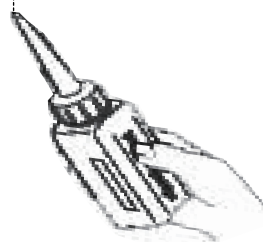
Before using the sewing machine for the first time, oil should be added to ensure the lubrication of the mechanical parts of the machine.  
To extend the life of the machine

1. Open the filler oil hole plug (1)
2. Pour the white oil into the oil filling mouth of the head
3. Observe the oil quantity window (2) during the refueling process, so that the oil quantity meter (3) is stable between the upper and lower baselines

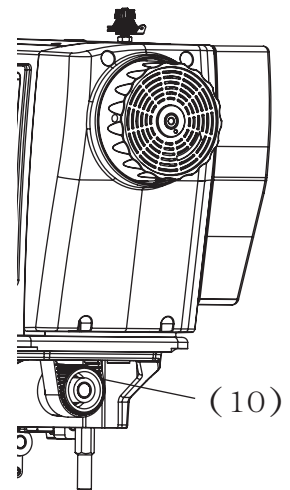
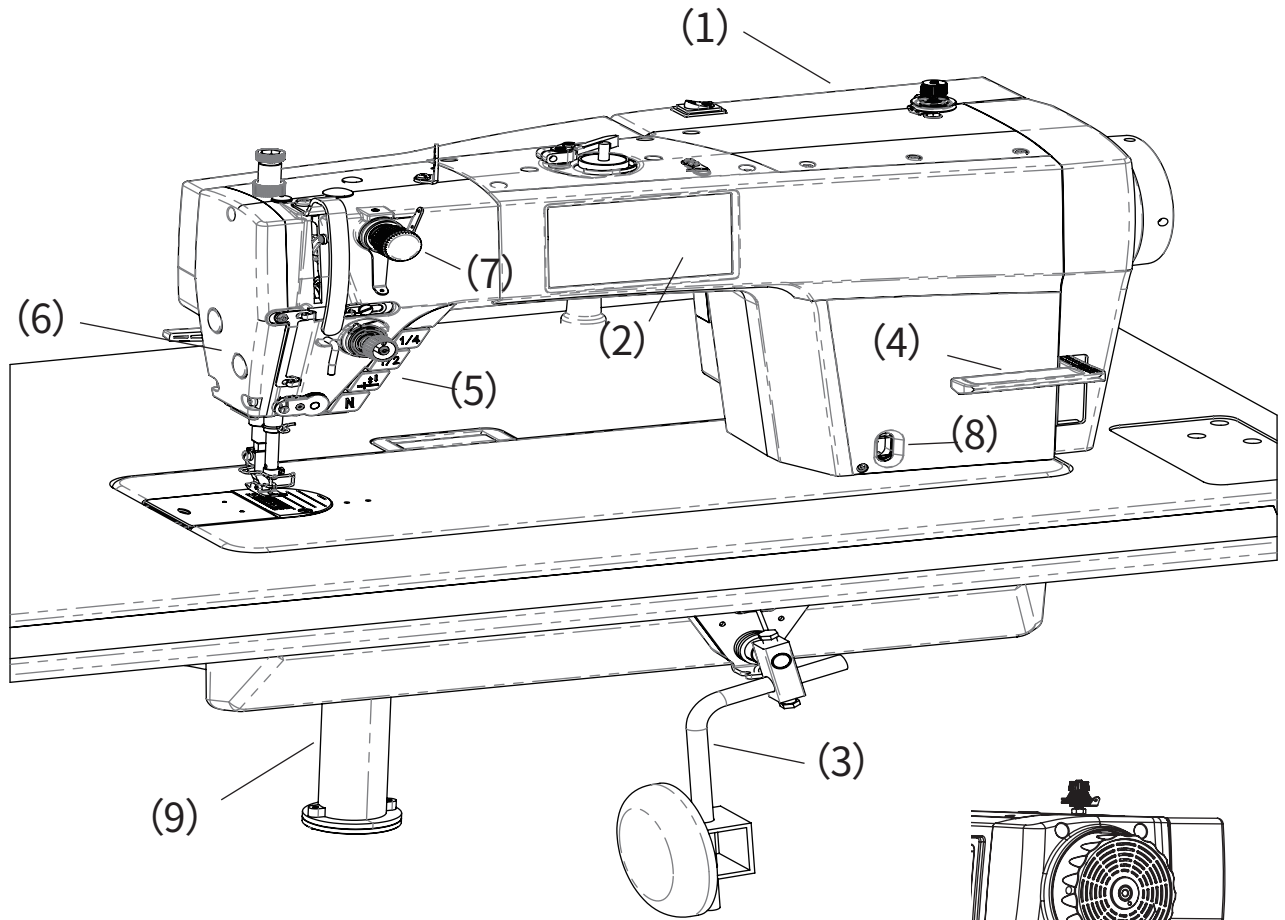
Note: The fuel gauge should not exceed the upper base line of the window  
If the fuel gauge (3) is below the lower baseline, oil must be added



— (2)



### 3.功能介绍 Function introduction



- (1) 背挂式电控箱：安装方便简单；
- (2) 触摸操作盒：采用5寸液晶屏，图像清晰，方便操作亮度可调，节能节电；
- (3) 电子膝靠：不改变工人的操作习惯，实现轻松抬压脚；
- (4) 电子倒回缝扳手；
- (5) 四键按钮：从下往上功能，倒缝、补针、1/2补针、1/4补针；
- (6) 层缝功能：系统自动感应面料薄厚，自动减速、自动按比例放大针距；
- (7) 第二张力：配合层缝功能自动增加线张力；
- (8) 油量透视窗：可查看油量；
- (9) 吸尘装置：起缝剪线后将线头吸入吸尘袋中；
- (10) 同步带联动：同步带联动上下机构，车缝速度可打致5000sti/min.

- (1) back-mounted electric control box: easy to install;
- (2) Touch operation box: using a 5-inch LCD screen, the image is clear, easy to operate the brightness can be adjusted, energy saving;
- (3) Electronic knee support: does not change the worker's operating habits, to achieve easy lifting foot;
- (4) electronic backstitch wrench;
- (5) Four-button: from the bottom up function, backstitch, stitch, 1/2 stitch, 1/4 stitch;
- (6) Layer sewing function: the system automatically senses the thickness of the fabric, automatically slows down, and automatically amplifies the needle distance proportionally;
- (7) The second tension: with the layer seam function to automatically increase the line tension;
- (8) Oil perspective window: you can view the amount of oil;
- (9) Dust suction device: After sewing and cutting the wire, the wire is sucked into the dust suction bag;
- (10) Synchronous belt linkage: synchronous belt linkage up and down mechanism, sewing speed can hit 5000sti/min.

## 4-1 缝纫前的准备 Preparation before sewing

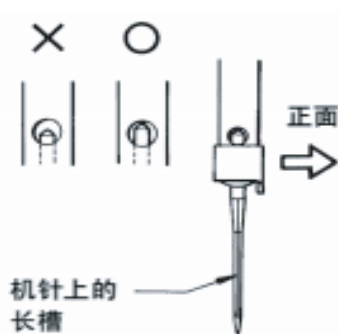
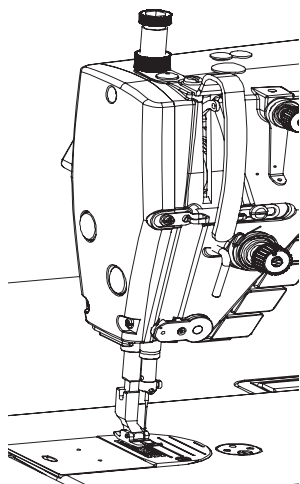


注意 CAUTION



安装机针时，请关闭电源当误踏下脚踏板时，缝纫机动作会导致人员受伤。

When installing the machine needle, please turn off the power supply. When the foot pedal is incorrectly stepped on, the sewing machine may cause injury.



1. 转动缝纫机手轮，将针杆移至最高位置。
2. 松开螺钉
3. 将机针(2)笔直插入到位，确认机针上的长槽处于左侧，然后拧紧螺钉 (1)。

1. Turn the sewing machine handwheel to move the needle lever to the highest position.
2. Loosen the screws
3. Insert the needle (2) straight into place, make sure the long slot on the needle is on the left, and tighten the screw (1).

## 4-2 梭芯套的拆装方法

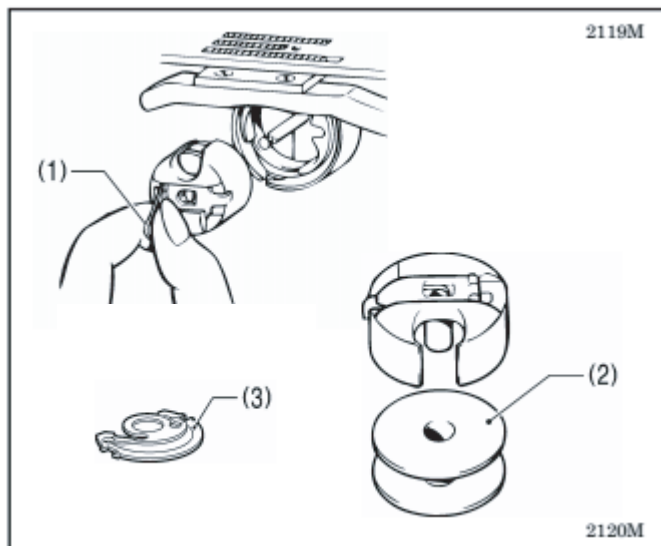


注意 CAUTION



取出梭芯套时，请切断电源当误踏下脚踏板时，缝纫机动作会导致人员受伤。

When taking out the spindle sleeve, please cut off the power supply when the foot pedal is mistakenly stepped on, the sewing machine will cause injury.



1. 转动缝纫机手轮，将针杆移至针板上方即可。
  2. 向上将梭芯套的插销(1) 拉出然后取下梭芯套。
  3. 插销 (1) 释放后，取出梭芯 (2)。
  4. 梭芯套中有旋锁空转防止簧 (3)。
- 旋锁空转防止簧 (3) 可防止梭芯在剪线等情况下空转。

1. Turn the sewing machine handwheel and move the needle bar to the top of the needle plate.
  2. Pull out the pin (1) of the spindle sleeve and remove the spindle sleeve.
  3. After the latch (1) is released, remove the shuttle core (2).
  4. There is a spinning lock idling prevention spring (3) in the spindle sleeve.
- Spin lock idling prevention spring (3) can prevent the spindle core from idling in the case of cutting wire.

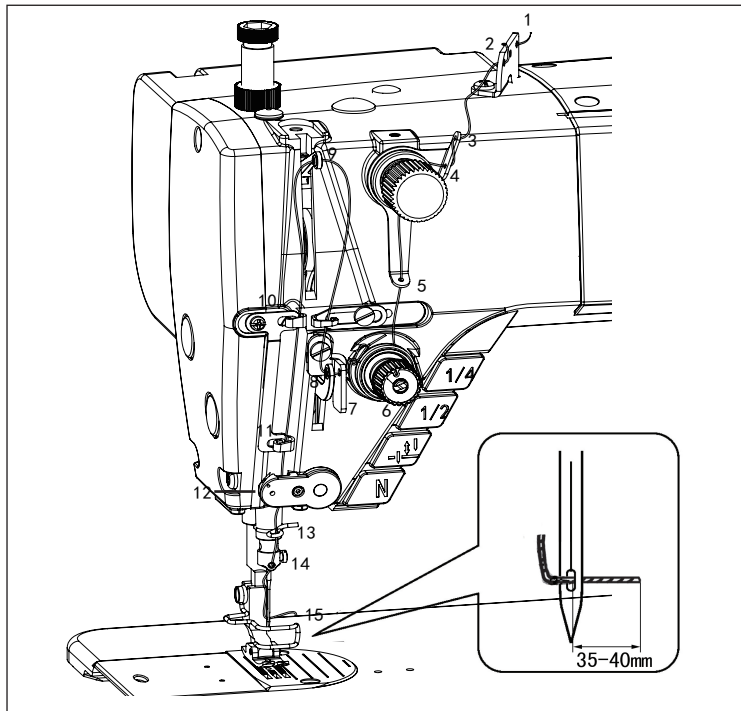


## 4-3 面线的穿法 The threading of the surface line



在穿线过程中，请切断电源。当误按动起动开关时，缝纫机动作会导致人员受伤。

During the cabling process, disconnect the power supply. When the starting switch is mistakenly pressed, the operation of the sewing machine can result in injury.



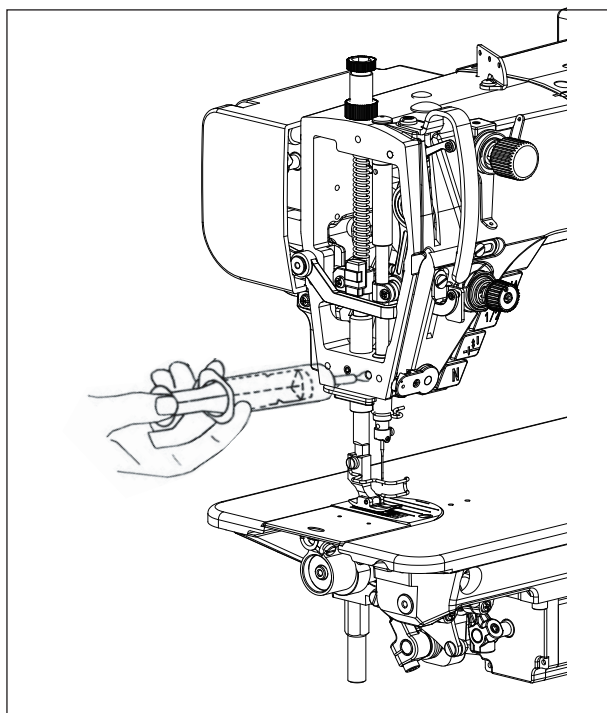
· 在穿引面线之前转动手轮，抬高挑线杆（1）。这样会使穿引更加容易，并防止面线在缝纫开始时脱落。

· Turn the handwheel before threading the lead line to raise the pick rod (1). This will make threading easier and prevent the top thread from falling off at the beginning of sewing.
















## 5. 添加润滑油 lube

1. 电源开关拨到OFF（关闭）。
2. 取下螺钉。
3. 在每个孔里添加润滑脂直到润滑脂略微溢出。
4. 拧紧螺钉，以推入润滑脂。
5. 用手转动手轮，上下移动针杆数次以便润滑脂散布开。
6. 用布从螺钉四周以及针杆轴套下面擦去多余的润滑脂。
7. 正常使用频率下，每500小时加一次润滑脂。

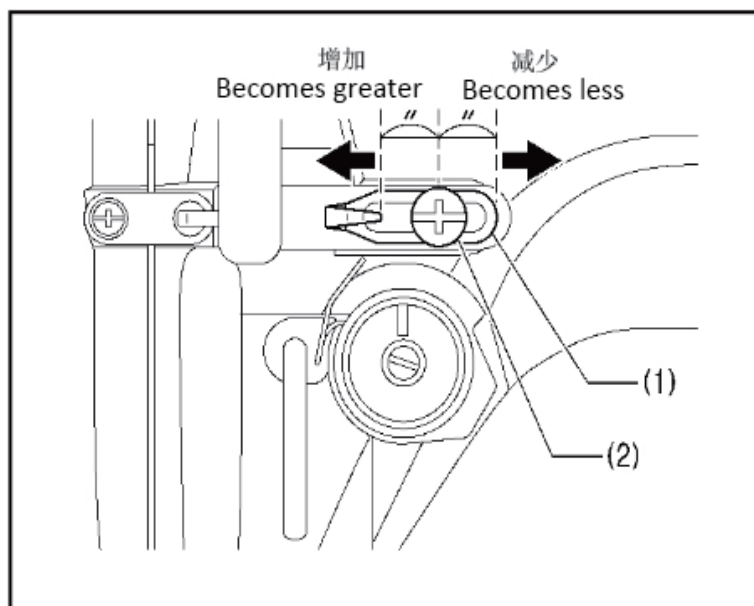
1. Switch the power switch to OFF.
2. Remove the screws.
3. Add grease to each hole until the grease slightly overflows.
4. Tighten the screws to push in the grease.
5. Turn the handwheel by hand and move the needle rod up and down several times to spread the grease.
6. Use a cloth to remove excess grease from around the screw and under the shaft sleeve of the needle bar.
7. Add grease every 500 hours under normal use frequency.



## 6. 标准调整 Standard adjustment

 <b>注意 CAUTION</b>	
 只有经过训练的技术人员才能进行缝纫机的维修, 保养和检查。	 Only trained technicians can carry out repair, maintenance and inspection of sewing machines.
 与电气有关的维修、保养和检查请委托购买商店或电气专业人员进行。	 Electrical related repairs, maintenance and inspections should be entrusted to the buying shop or electrical professionals.
 取下的安全保护装置, 再次安装时, 请务必安装在原位上, 并检查能否正常的发挥作用。	 When installing the removed safety protection device again, be sure to install it in the original position, and check whether it can work properly.
 缝纫机头倒下或竖起时, 请用双手进行操作。单手造作时因缝纫机的重量万一滑落易导致受伤。	 When the sewing machine head falls down or stands up, use both hands to operate. The weight of the sewing machine can easily lead to injury if it slips off during one-handed fabrication.
 发生下列情况时, 请关闭电源。并拔下电源插座。否则误踩下脚踏板时, 缝纫机动作会导致受伤。	 Turn off the power when the following conditions occur. And unplug the power socket. Otherwise, when you mistakenly step on the foot board, the sewing machine action will cause injury.
 · 检查、调整和维修 · 更换旋梭, 切刀等易损零部件	 · Inspection, adjustment and repair · Replace spindle, cutter and other vulnerable parts
 在必须接上电源开关进行调整时, 务必十分小心遵守所有的安全注意事项。	 When the power switch must be connected for adjustment, be very careful to follow all safety precautions.

### 6-1 机壳线导向R Case line guide R



机壳线导向R(1)的标准安装位置是在螺钉(2)位于机壳线导向R(1) 的可调范围中心处。

[注意] 旋松螺钉(2), 移动机壳线导向R(1)进行位置的调节。

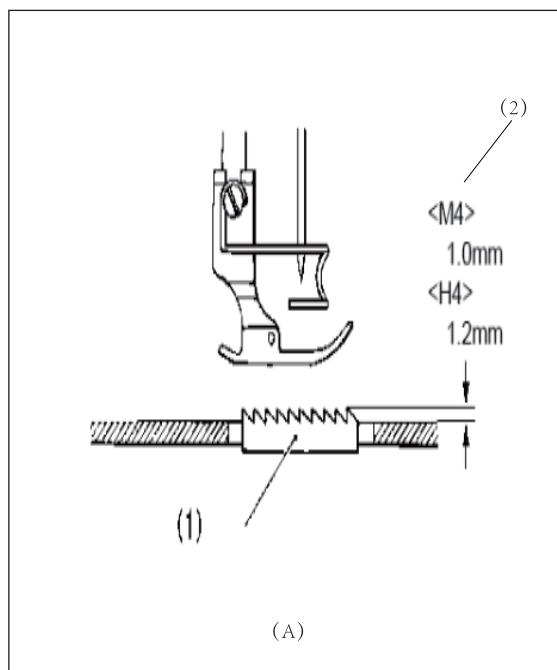
- 当缝纫厚料时, 向左移动机壳线导向R(1)。(挑线量增加。)
- 当缝纫厚料时, 向左移动机壳线导向R(1)。(挑线量减少。)

The standard mounting position of the housing wire guide R(1) is at the center of the adjustable range of the screw (2) in the housing wire guide R(1).

[Note] Loosen the screw (2) and move the housing line to guide R(1) for position adjustment.

- When sewing heavy materials, move the housing line guide R(1) to the left. (Increase in thread selection.)
- When sewing heavy materials, move the housing line guide R(1) to the left. (Less thread picking.)

## 6-2 送布牙的高度 The height of the feeding teeth



当送布牙(1)被尽量提高到针板表面之上时,其标准高度为1.0mm(用于M规格)和1.2mm(用于H规格)。

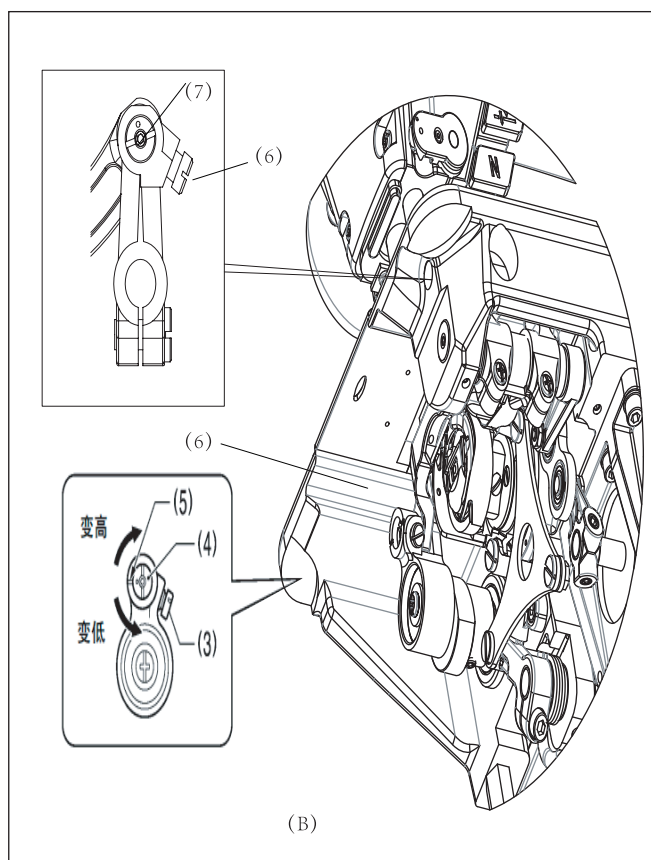
- 1.回转缝纫机手轮,将送布牙(1)移到针板上方最高处。
- 2.放倒缝纫机机头。
- 3.旋松螺钉(3)。
- 4.将上下送布台(4)根据基线(5)在90°的范围内旋转,来上下调整送布台(6)图B。
- 5.拧紧螺钉(3)。
- 6.如发现送布牙(1)有倾斜现象时,按上述操作旋转送布台短轴(7)。

When the feed tooth (1) is raised as high as possible above the surface of the needle plate, the standard height is 1.0mm(for M gauge) and 1.2mm(for H gauge).

1. Rotate the sewing machine handwheel and move the tooth cloth (1) to the highest point above the needle plate.
2. Put down the sewing machine head.
3. Loosen the screw (3).
4. Rotate the feed table (4) in the range of 90° according to the baseline (5) to adjust the feed table (6) in Figure B.
5. Tighten screws (3).
6. If the feed tooth (1) is found to be inclined, rotate the short axis of the feed table (7) according to the above operation.

## 6-3 送布牙高低调整

### Feed cloth tooth height adjustment



送布牙(1)位于针板最高处时的标准倾斜是牙架曲柄偏心轴(2)上的钢印(O)与牙架山柄(3)上的标记一致,送布牙(1)与针板平行。

- 1.转动缝纫机手轮,将送布牙(1)移到针板上方最高处的位置。
  - 2.放倒缝纫机机头。
  - 3.将螺钉(3)松开。
  - 4.根据标准位置,在90°的范围内按箭头方向调整牙架曲柄偏心轴(2)。
- 为了防止起皱,可降低送布牙(1)的前端。(图A)
  - 为了防止在重叠缝纫时布料不一致[缝线不合],可抬高送布牙(1)的前端。(图B)
- 5.将螺钉(3)完全拧紧。

[注意]

调整送布牙(1)的倾斜度后,送布牙(1)的高度也会改变,因此请再一次调整送布牙(1)的高度。

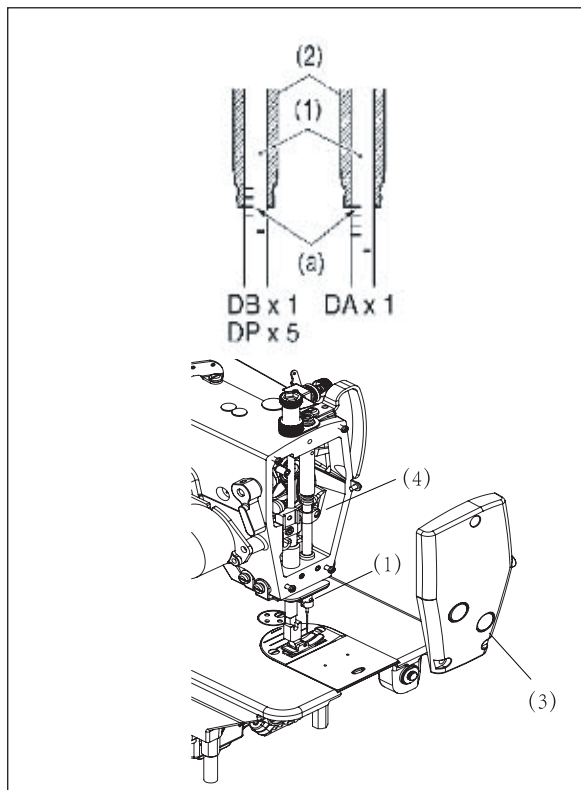
The standard tilt of the feed tooth (1) at the highest point of the pin plate is that the steel mark (O) on the eccentric shaft of the crank of the tooth holder (2) is consistent with the mark on the shank of the tooth holder (3), and the feed tooth (1) is parallel to the pin plate.

1. Turn the handwheel of the sewing machine and move the feed tooth (1) to the highest position above the needle plate.
  2. Put down the sewing machine head.
  3. Loosen screw (3).
  4. According to the standard position, adjust the crank of the tooth frame in the direction of the arrow within 90° Eccentric axis (2).
- To prevent wrinkling, the front end of the feed tooth (1) can be lowered. (Figure A)
  - To prevent fabric inconsistency during overlapping sewing, The front end of the feed tooth (1) can be raised. (Figure B)
5. Tighten screws (3) completely.

[Note]

After adjusting the inclination of the feed tooth (1), the height of the feed tooth (1) will also change. Therefore, please adjust the height of the feeder tooth (1) again.

## 6-4 针杆的高度 The height of the pin



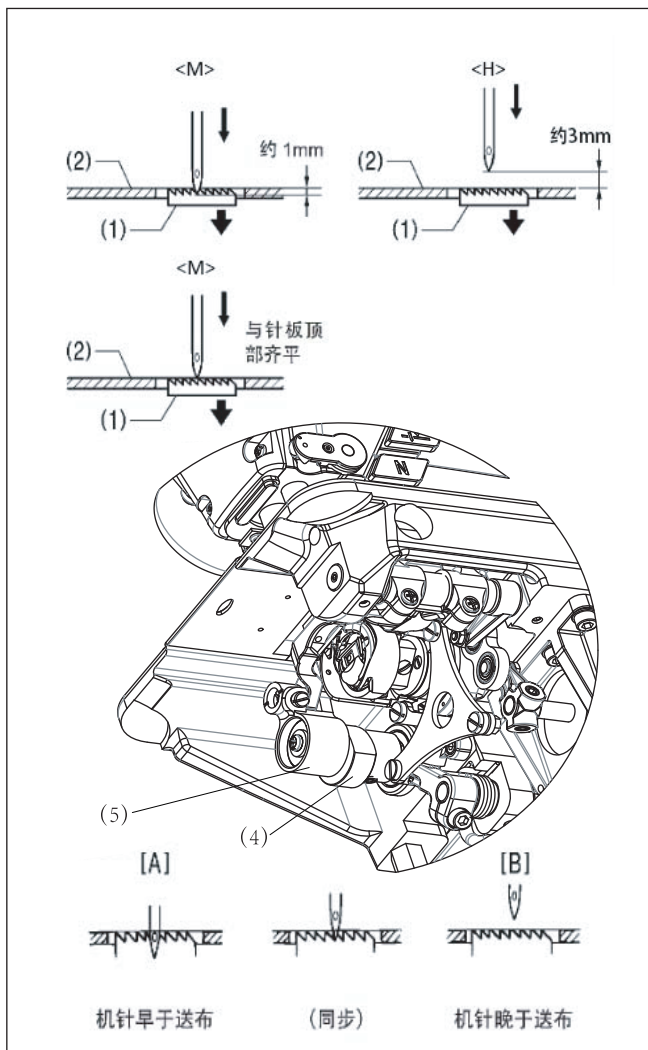
针杆(1)到达最下位置时，针杆(1)的基线(a)如图所示要与针杆轴套(2)的下端保持对齐。

1. 转动缝纫机手轮，使针杆到达最下位置。
2. 取下面板上的橡皮塞(3)。
3. 旋松螺钉(4)将针杆(1)上下移动来进行调整。
4. 拧紧螺钉(4)。
5. 安装上橡皮塞(3)。

When the pin (1) reaches the lowest position, the base line (a) of the pin (1) should be aligned with the lower end of the pin sleeve (2) as shown in the figure.

1. Turn the sewing machine handwheel so that the needle rod reaches the lowest position.
2. Remove the rubber plug (3) from the panel.
3. Loosen the screw (4) and move the needle rod (1) up and down to adjust.
4. Tighten screws (4).
5. Install the rubber plug (3).

## 6-5 机针和送布的同步 Synchronization of needle and cloth feed



送布牙(1)从最高位置开始下降到针板(2)的表面一致时，机针的尖端应在如左图所示的位置上时为标准位置。

1. 放倒机头。
2. 拧松垂直凸轮(4)的两个固定螺钉(5)，然后轻轻地旋转垂直凸轮(4)来调整速度。

· 如要使机针早于送布时，可向<顺时针>的方向回转，要使机针晚于送布时，可向<逆时针>的方向回转。

· 为了防止在重叠缝纫时布料不一致[缝线不合]，可将机针的时序调晚些。(图[B])

· 为了使收线良好，可将机针的时序调早些。(图[A])

[注意]

如果将垂直凸轮(4)沿<顺时针>的方向旋转得过多，则其可能导致机针断裂。

3. 调整后牢固地拧紧固定螺钉 (5)。

When the feeder tooth (1) is lowered from the highest position to the surface of the needle plate (2), the tip of the needle should be in the standard position as shown on the left.

1. Put the nose down.
2. Loosen the two fixing screws (5) of the vertical CAM (4), and then slightly rotate the vertical CAM (4) to adjust the speed.

· If you want to make the needle earlier than the cloth feed, you can turn in the direction of < clockwise >, to make the needle later than the cloth feed, you can turn in the direction of < counterclockwise >.

· To prevent fabric inconsistencies during overlapping sewing, the timing of the machine needle can be adjusted later. (Figure [B])

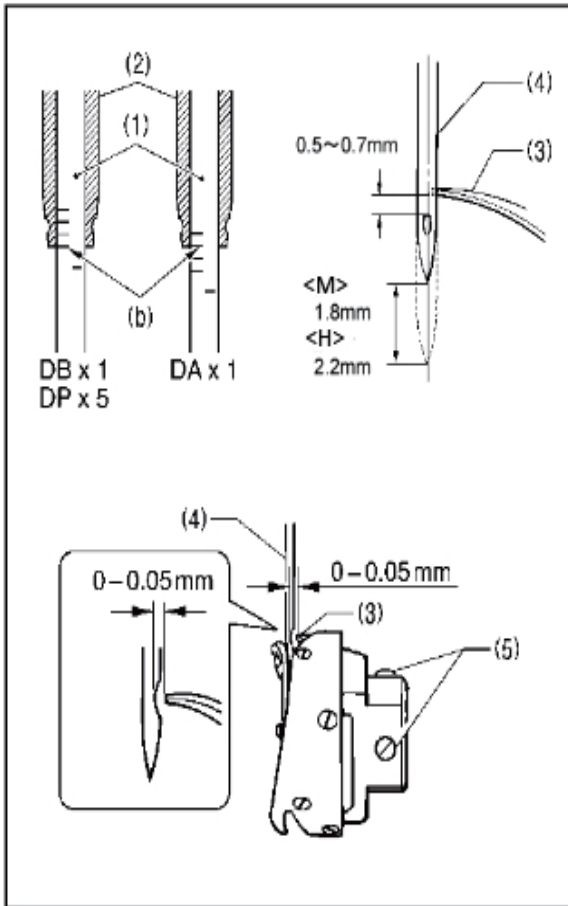
· In order to make good winding, the timing of the machine needle can be adjusted earlier. (Figure [A])

[Note]

If the vertical CAM (4) is rotated too much in the < clockwise > direction, it may cause the needle to break.

3. Tighten the screws (5) after adjustment.

## 6-6 机针和旋梭的同步 Synchronization of needle and spindle



当针杆(1)从最低位置向上移动1.8mm(2.2mm用于M和H规格), 到达基线(b)与针杆轴套(2)下端对齐的位置时, 旋梭尖端(3)应与机针中心(4)对齐, 如图所示。

(此时, 针孔上边缘与旋梭尖的距离为0.5至0.7mm.)

1.转动缝纫机手轮, 使针杆(1)从最低位置上升到如图所示的基线(b)与针杆轴套(2)的下端保持对齐为止。

2.旋松固定螺钉(5)[3个], 使旋梭尖(3)与机针(4)的中心一致。

此时, 旋梭尖(3)与机针(4)之间的间隙为0~0.05mm

3.拧紧固定螺钉 (5) [3个]。

When the needle bar (1) is moved up 1.8mm from the lowest position (2.2mm for M and H specifications) to the position where the baseline (b) is aligned with the lower end of the needle bar sleeve (2), the tip of the spinning shuttle (3) should be aligned with the center of the needle (4), as shown in the figure.

(At this time, the distance between the top edge of the pinhole and the tip of the spindle is 0.5 to 0.7mm.)

1. Turn the sewing machine handwheel so that the needle bar (1) is raised from the lowest position to the baseline (b) as shown in the figure and the lower end of the needle bar sleeve (2) remains aligned.

2. Loosen the fixing screws (5)[3] so that the tip of the spinning shuttle (3) is consistent with the center of the machine needle (4).

At this time, the gap between the spinning tip (3) and the machine needle (4) is 0 ~ 0.05mm

3. Fasten (5) [three] screws.



## 6-7 旋梭供油量调节 Shuttle oil supply adjustment

### ⚠ 注意 CAUTION

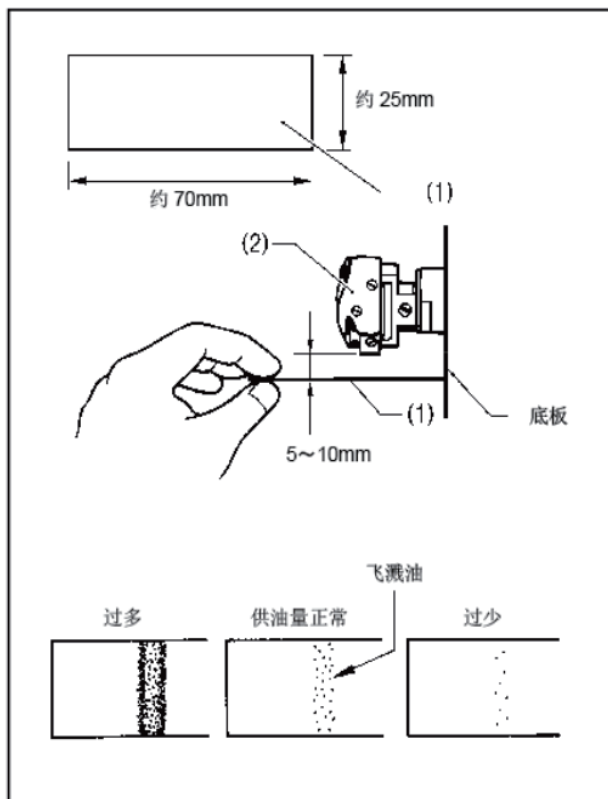


在检查旋梭供油量时，手指和油量测试纸不能碰到旋梭和送布机构等运动零部件。是导致人员受伤的原因。

When checking the oil supply of the spinning shuttle, the finger and the oil test paper should not touch the moving parts such as the spinning shuttle and the cloth feeding mechanism. Is the cause of injuries.

如更换了旋梭或要变更缝纫速度时，请按下述步骤调整旋梭的供油量。

If you change the spinning shuttle or change the sewing speed, please adjust the oil supply of the spinning shuttle by following the steps below.



#### <供油量的确定>

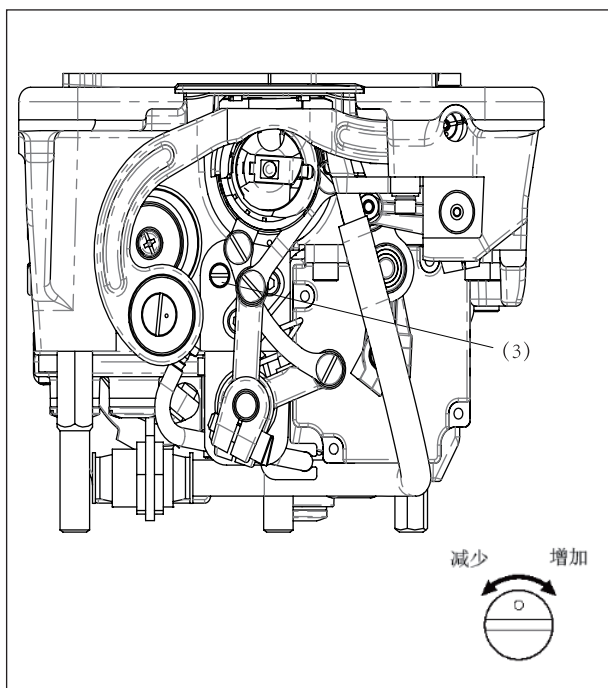
1. 拆去挑线杆至机针上的线。
2. 用抬压脚板手抬起压脚。
3. 以缝纫机实际缝纫时的转速进行约1分钟的空运转 (适度的断续运转)。
4. 将油量测试纸(1)插入旋梭(2)的下面并握住，以缝纫机实际进行缝纫时的转速使缝纫机运转8秒钟。(对油量测试纸(1)的纸质没有什么要求。)
5. 确认飞溅到试纸上的油量。

当需要进行调整时，请按下面<供油量的调整>一节所述进行调整作业。

#### < Determination of fuel supply >

1. Remove the thread from the rod to the needle.
2. Lift the foot with the foot lift hand.
3. Empty operation (moderate intermittent operation) for about 1 minute at the actual sewing speed of the sewing machine.
4. Insert the oil test paper (1) under the rotating shuttle (2) and hold it, running the sewing machine for 8 seconds at the actual sewing speed. (There is no requirement for the paper of oil test paper (1).)
5. Confirm the amount of oil spilled on the test paper.

When adjustments need to be made, make the adjustments as described in the section "Adjustment of Fuel Supply" below.



#### <供油量的调整>

1. 将缝纫机头部倒下。
2. 转动油量调整螺钉(3)，调整供油量。
  - 向右转动油量调整螺钉(3)供油量增加。
  - 向左转动油量调整螺钉(3)供油量减少。
3. 参阅上述<供油量的确定>所述来检查供油量。

#### [注意]

请反复转动油量调整螺钉(3)，进行调整及供油量的确定，直到获得适当的供油量为止。

4. 在进行了约2小时的缝纫后，请再次检查供油量。

#### < Adjustment of fuel supply >

1. Lay the head of the sewing machine down.
2. Turn the oil adjustment screw (3) to adjust the oil supply.
  - Turn the oil adjustment screw to the right (3) The oil supply increases.
  - Turn the oil adjustment screw to the left (3) The oil supply decreases.
3. Check the amount of fuel supplied by referring to "Determining the Amount of Fuel Supplied" above.

#### [Note]

Please turn the oil adjustment screw (3) repeatedly to adjust and determine the oil supply until the appropriate oil supply is obtained.

4. After sewing for about 2 hours, please check the oil supply again.