

# 本佳牌BEYOUNG

步进三自动罗拉车（一体机）  
MACHINE WITH STEP MOTOR

POST BED COMPOUND FEED SEWING

使用说明书

Instruction book

本佳牌BEYOUNG

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本佳牌BEYOUNG

## 1. 安全 Safety

### 1.01 注意安全图标

#### Safety symbols



位置危险! Danger!

特别注意点。Points to be observed



对操作人员及专业人员有受伤危险!  
Danger of injury for operating and specialist personnel !



注意 Caution

不允许在没有护指器和安全装置的情况下工作。

在穿线、换梭心、换针、清洁等工作之前，关闭总开关。

Do not operate without finger guard and safety devices.  
Before threading, changing bobbin and needle, cleaning etc switch off main switch.

### 1.02 工作中特殊注意事项 Important points for the user

- 使用说明书属于机器一部分，因此操作人员必须随时可以取用。
- 在首次试车调试之前，必须阅读使用说明书。
- 必须对操作人员及专业人员进行有关机器的防护装置及安全工作方面的培训。
- 机器的使用者有责任保证机器在正常的无故障状态下运作。
- 机器的使用者必须保证不拆除任何安全装置或使它们失效。
- 机器的使用者必须注意，只允许被授权的人员在机器上工作。
- This Instruction Manual is a component of the machine and must be available to the operating personnel at all times.
- The Instruction Manual must be read before operating the machine for the first time.
- The operating and specialist personnel must be instructed in the safeguards of the machine and safe work methods.
- It is the duty of the user to operate the machine in perfect running order.
- It is the obligation of the user to ensure that none of the safety mechanisms are removed or deactivated.
- It is the obligation of the user to ensure that only authorized persons operate and work on the machine.

# 安全 Safety

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## 1.03 危险警告 Danger



机器运作过程中，必须在机器的前后各保留**1m**的自由工作范围，以保证人员随时地、不受阻地接近机器。

**A working area of 1 meter is to be kept free both in front of and behind the machine in operation so that the machine is always easily accessible.**



在缝纫过程中，不许在缝纫针区域抓取任何东西！有被针扎伤的危险。  
**Never reach into the sewing area while sewing! Danger of injury by the needle!**



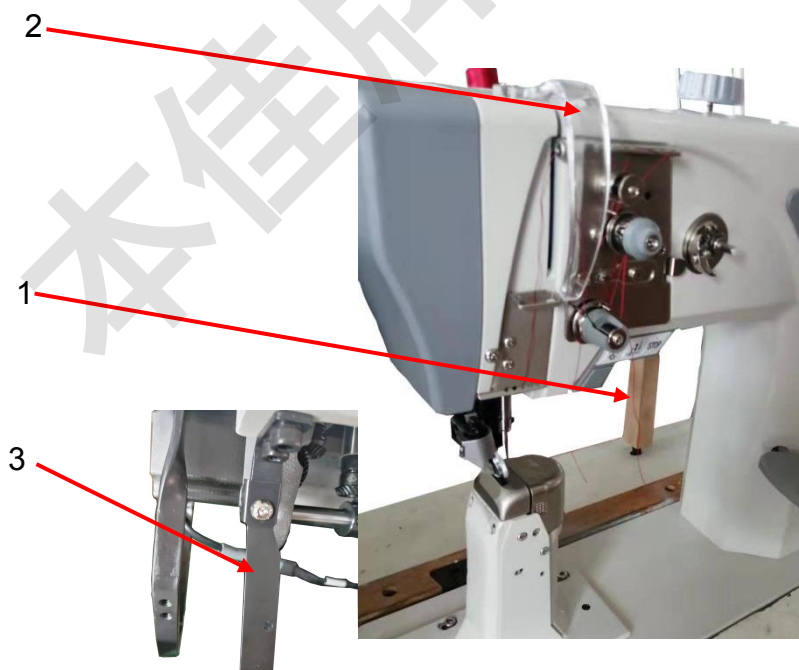
调整工作过程中，不许在工作台上放任何物品！物品有被卡住或被摔走的可能！有被四下乱飞的物品伤害的危险！

**Never leave objects on the table while adjusting the machine settings! Objects can become trapped or be slung away! Danger of injury!**



不许开动没有支撑件**1**的机器！因为机头非常重，当向后倾倒时，机器有向后翻倒的危险！

**Do not operate the machine without support 1! Danger due to top-heavy sewing head! Machine can tip over backwards when tilted!**





在向后倾倒机器前关闭总开关！  
有被机器意外地起动伤害的危险！  
**Switch the machine off before tilting it backwards!**  
**Danger of injury if the machine is started accidentally!**



不许开动没有挑线杆防护罩**2**的机器！  
有被挑线杆的动作伤害的危险！  
**Do not operate the machine without its take-up-lever guard 2!**  
**Danger of injury due to the motion of the take-up lever!**



不允许开动没有翻转保险**3**的机器！  
有在机头和台板之间被挤伤的危险！  
**Do not operate the machine without tilt lock 3!**  
**Danger of crushing between sewing head and table top!**

# 技术数据 Specifications

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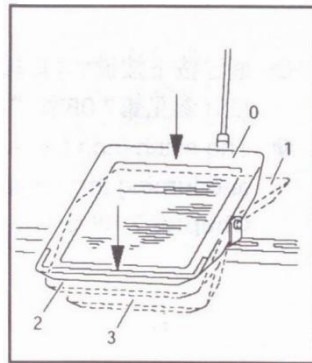
## 2 技术数据 Specifications

线迹型式 Stitch type	301 (锁式线迹lockstitch)
线迹长度 Stitch length	0-5 mm
在滚轮压脚下通过高度 Clearance under roller presser	5 mm
空间宽度 Clearance width	245 mm
空间高度 Clearance height	115 mm
柱式底板高度 Post height	180 mm
缝纫机机头尺寸 Sewing head dimensions	
长度 Length	大约/approx. 615 mm
宽度 Width	大约/approx. 240 mm
高度（台板以上） Height（above table）	大约/approx. 500 mm
底板尺度 Bedplate dimensions	518 x 177 mm
最高速度 Max.speed	2500 线迹/分/spm.
接线数据 Connection data	
工作电压 Operating voltage	230V ± 10%， 50/60 Hz
最大耗用功率 Max.power consumption	1.2 KVA
机器净重 Net weight of sewing head	大约/approx. 65 kg
机器毛重 Gross weight of sewing head	大约/approx. 77 kg

▲ 保留技术更改的权力 Subject to alteration

## 3 操作元件 Controls

### 3.01 踏板 Pedal



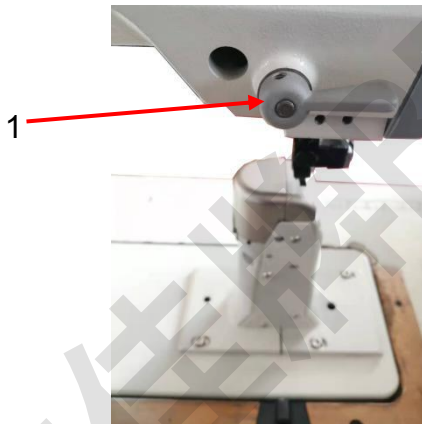
0=静止位置 Neutral position

1=缝纫 Sewing

2=抬起滚轮压脚  
Raiser roller presser

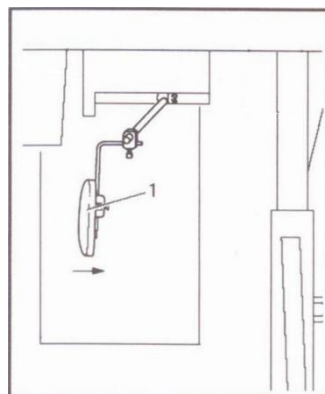
3=剪线  
Trim sewing threads

### 3.02 滚轮压脚扳手 Lever for lifting roller presser



- 可以通过转动扳手1抬起滚轮压脚。
- The roller presser can be raised by turning lever 1.

### 3.03 膝提杆 Knee lever

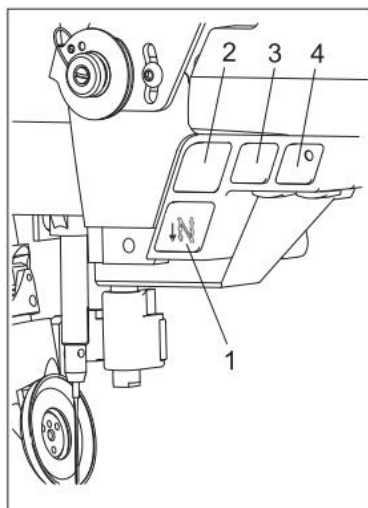


- 可以通过向箭头所示方向挤压膝提杆1, 来抬起滚轮压脚。
- The roller presser can be raised by pressing the knee lever 1 in the direction of the arrow.

## 操作元件 Controls

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### 3.04 机头按键 Head button



- 缝纫过程中，通过按下按键1可实现倒缝。
- 按键2段缝转换，按键3补针，按键4急停。
- During sewing, backstitching is achieved by pressing Key 1.
- Key 2: Section seam conversion
- Key 3: Fill needle
- Key 4: Urgent stop

### 3.05 滚轮压脚向外摆动 Swing out roller presser



- 当滚轮压脚抬起后，可以通过向下轻拉它，使其向外摆动（参见箭头所示）。
- When the roller presser is raised, it can be swung out by pulling it lightly downwards (see arrow).



# 安装和试车 Installation and commissioning

## 4 安装和试车 Installation and commissioning



只允许有资格的人员对机器进行安装和试车！！  
这里必须遵守所有有关的安全规定！

The machine must only be installed and commissioned by qualified personnel!

All relevant safety regulations must be strictly adhered to!



如果缝纫机不带台板供货，则工作时所用的机架和台板必须保证能够承受机器的重量。

在缝纫运行中的台座也要保证牢固而且稳定。

If the machine is delivered without a table, be sure to use a stand and table top that can hold the weight of the machine.

It is very important to ensure that the stand of the machine is firm and steady, also during sewing.

### 4.01 安装 Installation

在机器安装地点，必须有与机器相符的电源接口。

在机器安装地点，必须有平整、坚固的地面，以及充分的照明。

The site where the machine is installed must be provided with suitable connections for electric current.

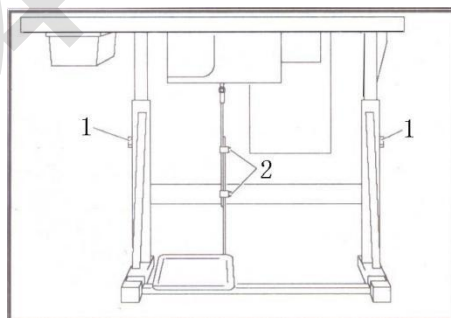
It must be ensured that the standing surface of the machine site is firm and horizontal, and that sufficient lighting is provided for.



由于包装和运输的原因，台板下陷，台板高度的调整如下所述。

For packing and transportation reasons the table top is in the lowered position. The table height is adjusted as described below.

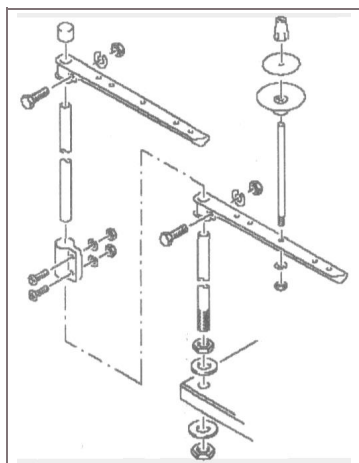
#### 台板高度的调整 Adjusting the table height



- 松开螺钉**1**和**2**,并将台板调整至所需的高度。
- 将螺钉**1**牢固地拧紧。
- 将踏板调至所需的位置，并且将螺钉**2**拧紧。
- Loosen screws **1** and **2** and set the table height as required.
- Firmly tighten screw **1**.
- Set the required pedal position and tighten screw **2**.

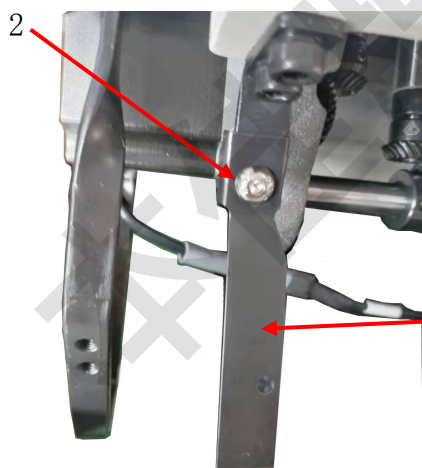
## 安装和试车 Installation and commissioning

### 4.02 安装线架 Fitting the reel stand



- 如图所示安装线架。
- 然后将线架插入台板的孔中并用随带的螺母可靠地固定。
- Fit the reel stand as shown in Fig.
- Afterwards insert the stand in the hole of the table top and secure it with the nuts provided.

### 4.02.02 安装翻转保险 Fitting the tilt lock



Switch the machine off! Danger of injury if the machine is started accidentally!

- Fix the tilt lock 1 by screw 2. (Supplied with accessories)



Do not operate the machine without tilt lock 1! Danger of crushing between sewing head and table top!



关闭机器电源总开关  
有被机器意外地起动伤害的危险!

- 用螺丝2 固定翻转保险1 (随附件供货)。



不许开动没有翻转保险1的机器! 有在机头和抬板之间被挤伤的危险!

# 安装和试车 Installation and commissioning

## 4.03 试车 Commissioning

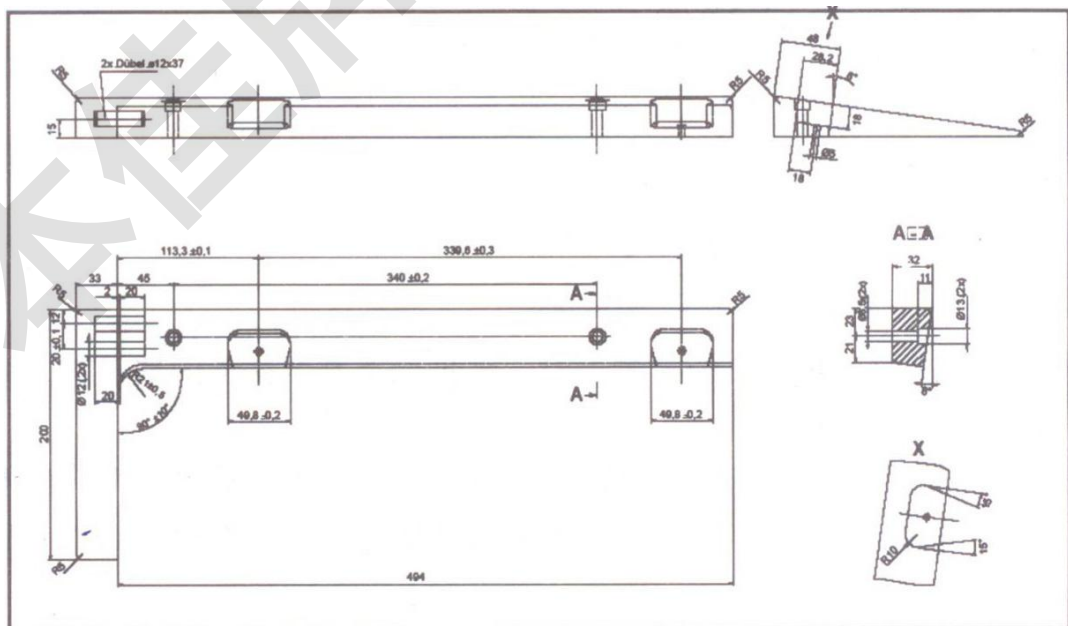
- 检查机器是否有损坏,特别是电缆线有无损坏。
- 彻底清洁机器,然后涂油或加油。
- 由专业人员检查。机器的电动机是否允许用已有的电源电压驱动,电动机是否正确地在接线盒里接线。在任何有出入的情况下,决不许开车。
- Check the machine, particularly the electrical wiring for any damage.
- Clean the machine thoroughly and then oil it or fill oil in .
- Have a mechanic check whether the motor of the machine can be operated with the available power supply, and that the motor is correctly connected in the junction box. If there are any discrepancies. the machine must not be operated under any circumstances.



机器只允许接在有接地线的插座上!  
The machine only be connected to an earthed socket!

- 机器运行时,手轮必须向操作人员方向旋转。如果不对,由专业人员进行设置。
- When the machine is running, the balance wheel must turn towards the operator. If it does not, must be changed by a mechanic.

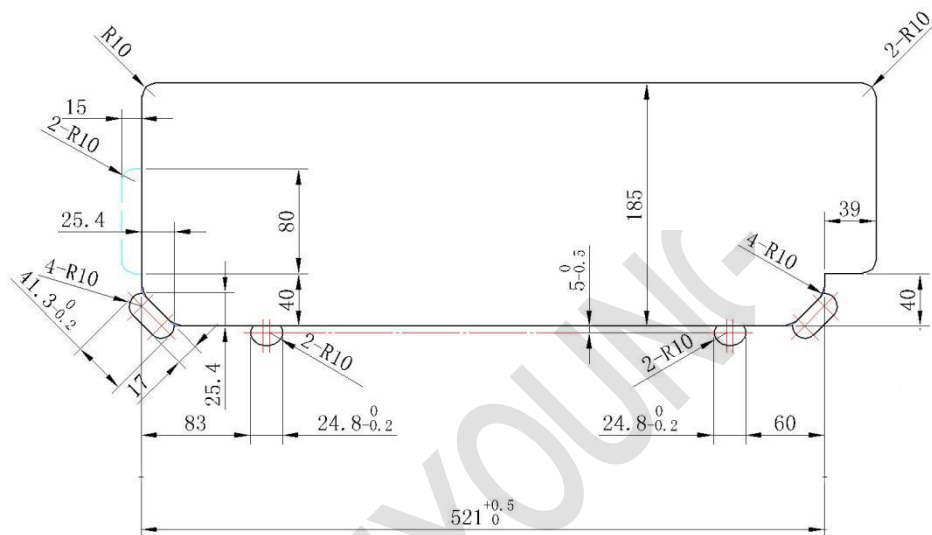
## 4.04 倾斜的支撑块 Tilted work base



# 安装和试车 Installation and commissioning

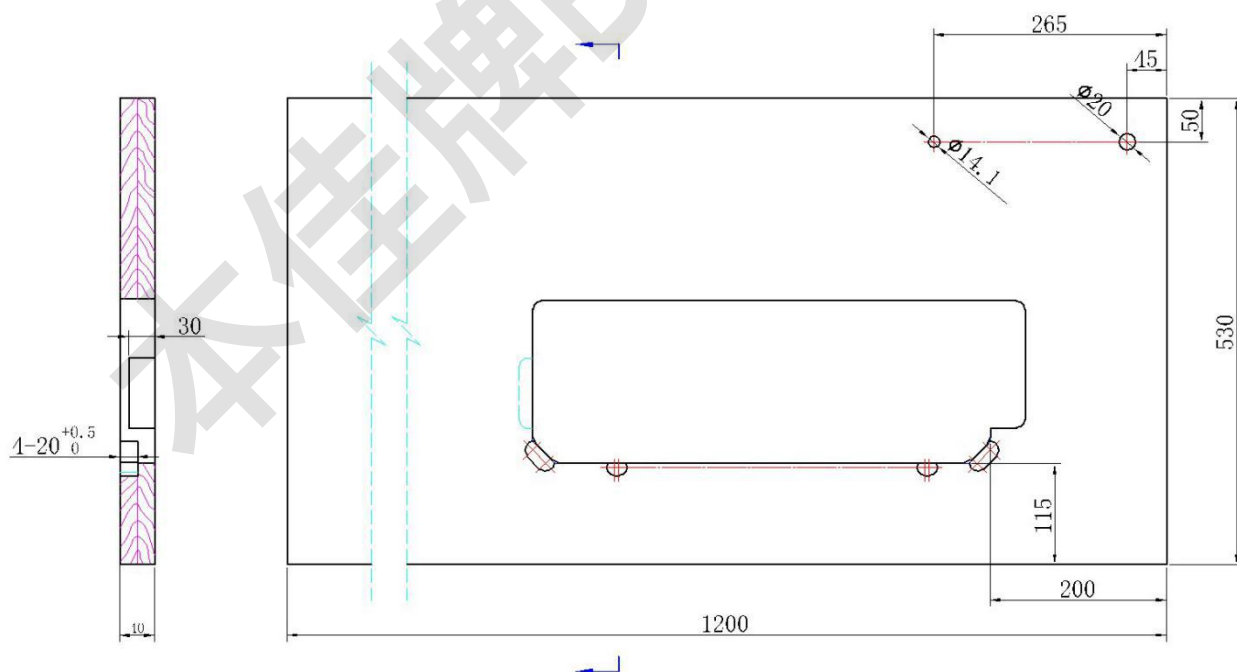
## 4.05 台板开槽部位尺寸

Tilted work base



## 4.06 安装

Mounting the table top



## 5 机器准备 Preparation



必须遵守本说明书中所有的规定和提示。  
特别要注意所有的安全规定！

All instructions and regulations in this Instruction Manual must be observed .

Special attention must be paid to all safety regulations!



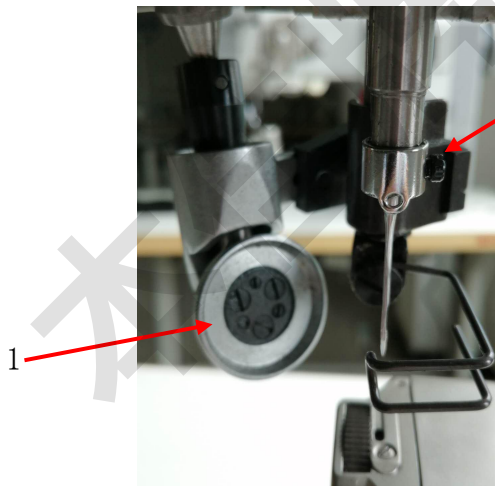
所有机器准备工作只允许由受过相应培训的人员完成。  
在所有的机器准备工作时，必须通过关闭总开关或者从电源插座上拔掉插头，以使机器断电。

All setting-up work must only be carried but by personnel with the Appropriate training. For all setting-up work the machine must be disconnected from its power supply by turning off the on/off switch, or removing the plug from the electric power socket.

### 5.01 安装机针 Inserting needle



关闭机器电源！有被机器意外地起动伤害的危险！  
Switch the machine off! Danger of injury if the machine is started accidentally!



只有使用134系统的机针  
Only use needles of system 134

- 抬起滚轮压脚1并将其向外摆动。
- 松开螺钉2并尽可能深地插入机针。长针槽必须面向左边。
- 拧紧螺钉2并将滚轮压脚摆回到原位置。
- Raise the roller presser 1 and swing it out
- Loosen screw 2 and insert the needles . as far as possible. The long groove must face to the left .
- Tighten screw 2 and swing roller presser 1 back to position.



机针的选用取决于机器的型号、线和所缝纫的材料。

The Choice of needle depends on the model of the machine and the thread and material used.

## 机器准备 Preparation

### 5.02 梭心线：调节梭心线的初始张力

#### Winding the bobbin thread; adjusting the primary thread tension



- 将一个空的梭心1安装到绕线器轴2上。
- 如图所示给梭心穿线，并将线顺时针方向在梭心上绕几圈。
- 当同时压下绕线器轴2和杠杆3，启动绕线器。
- Place an empty bobbin 1 into bobbin winder spindle 2
- Thread the bobbin as shown in Fig. And wind it clockwise around bobbin 1 a few times
- Switch on the bobbin winder while pressing bobbin winder spindle 2 and lever 3.



在缝纫过程中，梭心绕线。

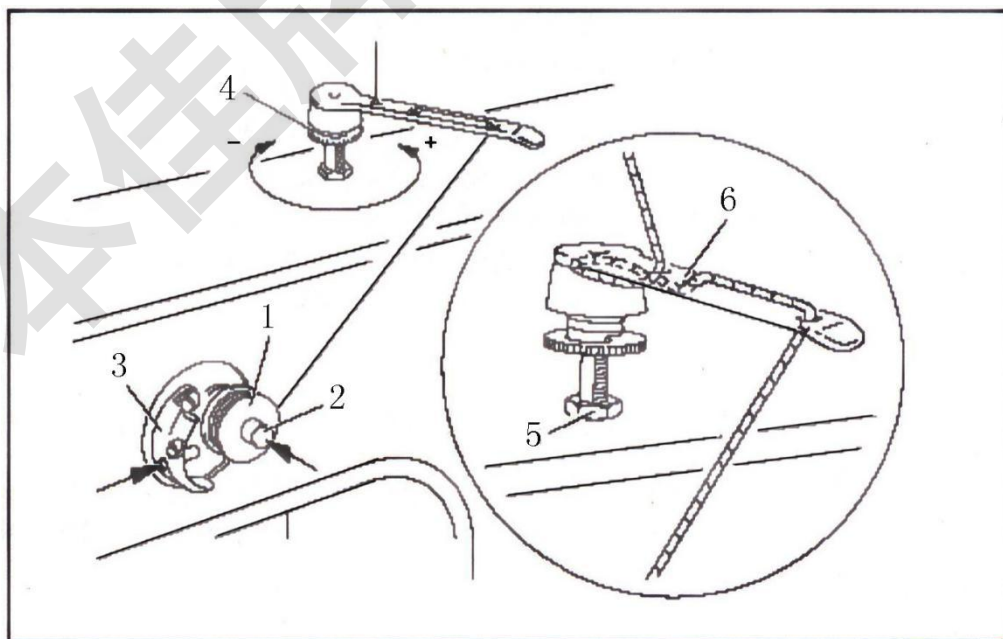
The bobbin is filled up during sewing.

- 在梭心1上的线张力可以用滚花螺纹4进行调整。
- 当梭心绕满线后，绕线器自动停止。
- The thread tension of bobbin 1 can be adjusted by knurled screw 4.
- The bobbin winder stops automatically when bobbin 1 is full.

如果绕线不均匀：

If the thread is wound unevenly:

- 松开螺母5。 Loosen nut 5.
- 相应地转动导线板6。 Turn thread guide 6 accordingly.
- 拧紧螺钉5。 Tighten nut 5.

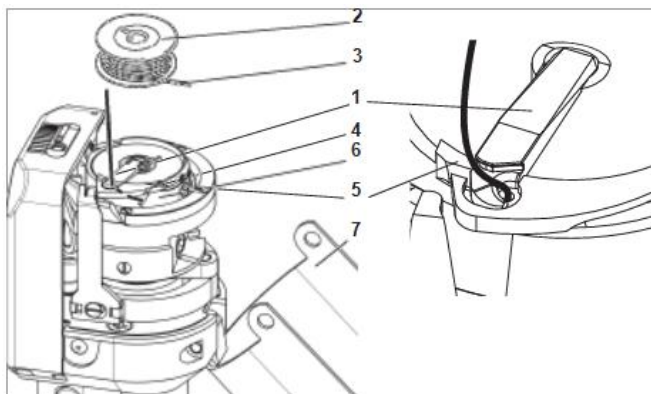


## 5.03 装入梭心/旋梭绕线

### Inserting the bobbin and threading the hook thread

关闭机器电源！ 有被机器意外地起动伤害的危险！

Switch the machine off! Danger of injury if the machine is started accidentally!



- 向上倾斜压板1。
- 如图所示插入线头3 朝向的梭芯2。
- 通过狭槽4和空隙5穿线，旋梭在压板1上面，将它固定在弹簧6下面。
- 从缝纫方向勾线到针板边缘（大概40 mm）。
- 关闭旋梭盖7。
- 剪切伸出来的线。
- Tilt the shutter 1 up.
- Insert the bobbin 2 with the thread end 3 oriented according to the picture.
- Thread the thread through the slit 4 and space 5, hook upon the shutter 1 and fasten it under the spring 6.
- Draw the thread in the sewing direction to the throat plate corner (about 40 mm).
- Close the cover of hook 7.
- Cut the protruding thread.

## 5.04 调节旋梭夹线 Adjusting the hook thread tension

警告！ 有受伤危险！

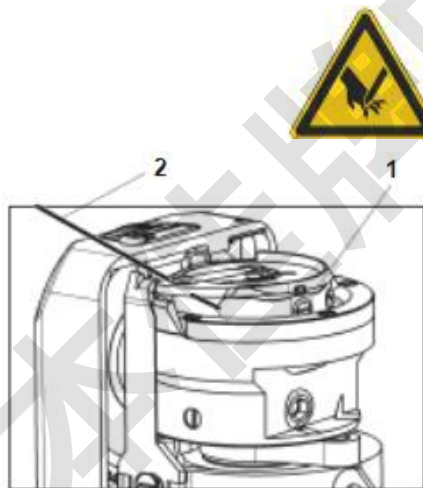
关闭总开关。

只能在关闭机器后才能对夹线进行调节。

**Caution! Risk of injury!**

Turn off the main switch.

The hook thread tension may only be adjusted with the machine switched off.



- 用螺钉1调节旋梭夹线，拧紧螺钉增加张力/拉力。
- 用测力器测量线的张力/拉力。如图所示向箭头方向2拉线。
- Adjust the hook thread tension via the screw 1. Increase the tension by tightening the screw.
- Measure the thread tension with a dynamometer. Thread the thread according to the picture and pull in the arrow direction 2.

### 旋梭夹线平均值 Hook thread tension mean value

缝料类型	机针尺寸	线的张力/拉力（克）
薄料	70-80	50
中厚料	90-110	65
Sewing category	Used needle size	Thread tension in grams
light	70-80	50
medium	90-110	65

## 机器准备 Preparation

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### 5.05 机型上穿针线并调节针线张力 Threading the needle thread and regulating its tension



关闭机器电源！

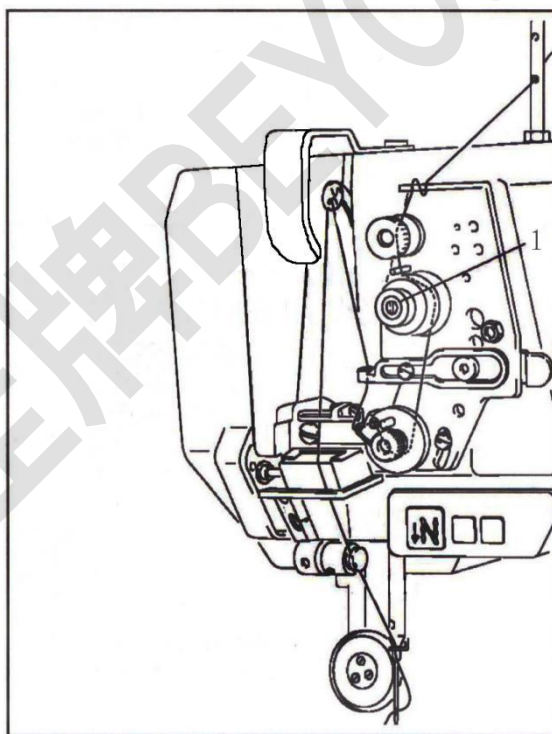
有被机器意外地起动伤害的危险！

Switch the machine off!

Danger of injury if the machine is started accidentally!



- 如图所示穿线。
- 通过转动滚花螺栓1调节针线的张力。
- Thread the thread as shown in Fig.
- Adjust the thread tension by turning milled screw 1.





## 5.06 设置线迹长度

### Setting the stitch length



- 轻触屏幕上键1解锁屏幕。
- 轻触屏幕上键2增加下送料针距，键3减少下送料针距。
- 轻触屏幕上键5增加上送料针距，键4减少上送料针距。
- 注意：上送料针距和下送料针距必须相等。
- Touch Key 1 on the screen to unlock the screen.
- Touch Key 2 on the screen to increase the stitch length of lower feed, touch Key 3 to reduce the stitch length of lower feed.
- Touch Key 5 on the screen to increase the stitch length of upper feed, touch Key 4 to reduce the stitch length of upper feed.
- Note: The stitch length of upper feed must be equal as the stitch length of lower feed.



# 维护与保养 Care and Maintenance

## 6 维护与保养 Care and Maintenance

清洁	每天，如果持续运行时，每天多次
油量检查（线润滑/旋梭润滑）	每天，开机之前
给旋梭加油	每天，开机之前
伞齿轮副润滑	每年一次

Clean	daily, more frequently if in continuous operation
Oil level (thread lubrication/hook lubrication)	daily, before use
Oil the hook	daily, before use
Lubricate the bevel gears	once a year



上述的保养间隔是根据每天单班作业的平均机器运行时间设定的。在机器运行时间增加的情况下，建议缩短保养间隔。  
These maintenance intervals are calculated for the average running time of a single shift operation. If the machine is operated more than this, shorter intervals are recommended.

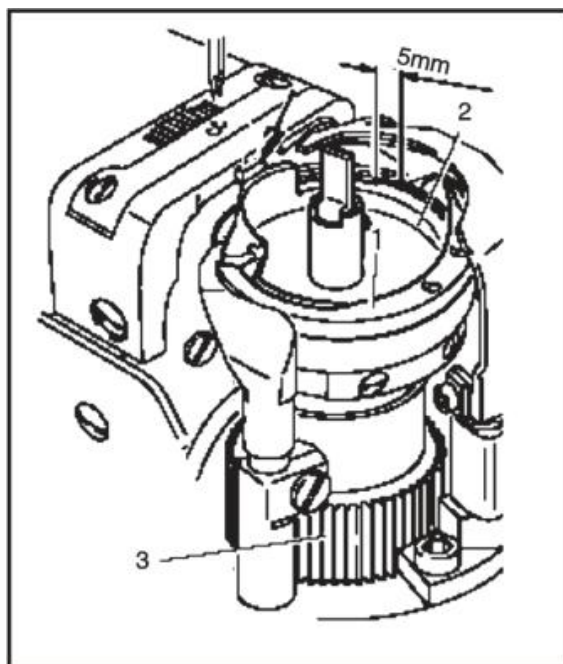
### 6.01 清洁和检查 Cleaning and checking



关闭机器电源！  
有被机器意外地起动伤害的危险！  
Switch the machine off!  
Danger of injury if the machine is started accidentally!



有机溶剂不能清洁漆面。  
含有酒精成分的洗涤剂适合清洁漆面。  
The lacquered surfaces don't clear with organic solvent.  
For the cleaning are suitable detergents based on alcoholic.



- 将针杆升到最高位置。
- 打开釜盖，取出梭壳和梭心。
- 拧开内梭头舌1的螺钉。
- 转动手轮，直到梭壳2的尖端进入旋梭的导槽内大约5MM。
- 取出梭壳2。
- 用石蜡清洁旋梭槽。
- 当放入梭壳2时，要确信梭壳2的凸出鼻端部分啮合入针板的凹槽中。
- 拧紧内梭头舌1的螺钉。
- Lift the needle bar at the highest position.
- Open the hook cover, and take out the bobbin case and the bobbin.
- Unscrew the screw on the inner hook head slice 1.
- Turn the handwheel until the tip of the bobbin case 2 into the guide slot of the hook around 5MM.
- Take out the bobbin case 2.
- Clean the hook slot by paraffin.
- When you put the bobbin case 2, make sure the protruding nose end of the bobbin case 2 into the groove of the needle.
- Tighten the screw on the inner hook head slice 1.

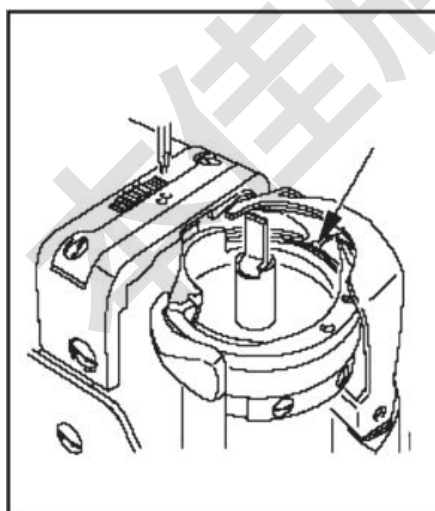
## 给旋梭加油 Filling oil in the hook



关闭机器电源！  
有被机器意外地起动伤害的危险！

Switch the machine off!

Danger of injury if the machine is started accidentally!



- 每天注1-2滴油到内梭头舌的孔中。
- 在机器试车前及长期停机后，注入几滴油到旋梭的槽中（参照箭头所示）。
- Fill 1 drop or 2 drops of oil in the hole of inner hook head slice.
- Before the machine test run and after long-term shut down, fill in a few drops of oil in the slot of the hook (refer to the arrow shown)

### 6.02 旋梭润滑油盒 Oil bowl for hook lubrication



在每次开机前检查油量。必须始终保持油盒1中油。  
Check the oil level before each use. There must always be oil in reservoir 1.

如果需要可通过加油孔2加油。  
If required refill oil through hole 2.



只允许使用在40℃时粘度为22.0mm<sup>2</sup>/s和在15℃时密度为0.865g/cm<sup>3</sup>的润滑油。  
Use only oil with a mean viscosity of 22.0mm<sup>2</sup>/s at 40℃ and a density of 0.865g/cm<sup>3</sup> at 15℃.

### 6. 03 给伞齿轮副润滑 Lubricating the bevel gears



关闭机器电源！  
有被机器意外地起动伤害的危险！  
Switch the machine off!  
Danger of injury if the machine is started accidentally!

- 所有伞齿轮副每年必须加一次新油脂。
- 向后翻转机头到支承件上。
- All bevel gears must be supplied with new grease once a year.
- Tilt the sewing head back onto the support.



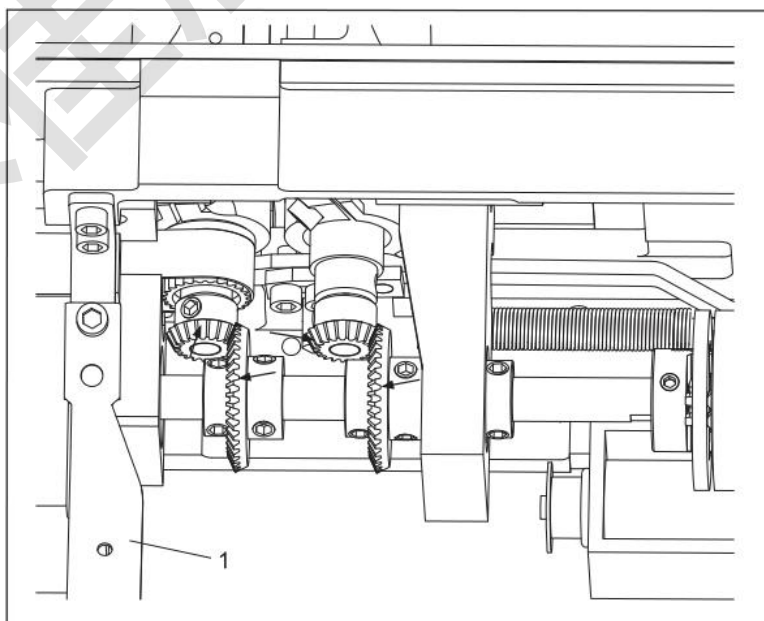
如图显示出伞齿轮副。  
Fig. shows the bevel gears .

- 涂油脂到齿轮的全部齿侧面(见箭头所示)。
- 在将机头放回垂直位置时，先向后按翻转保险1,并用双手将机头放回垂直位置。
- Apply grease to all the tooth flanks and the rack (see arrows).
- To set the sewing head upright, press tilt lock 1 backwards and set the sewing head upright using both hands.



必须用双手将机头放回垂直位置  
有在机头和抬板之间被挤伤的危险！  
Use both hands to set the sewing head upright!  
Danger of crushing between the sewing head and the table top!

我们推荐使用滴点大约为150℃含钠油脂。  
We recommend sodium grease with a dripping point of approx. 150°C.



# 调整 Adjustment

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## 7 调整 Adjustment



除非有特别说明, 否则在所有调整工作中必须将机器从电源系统上断开!  
有被机器意外地起动的危险!

Unless stated otherwise, during all adjustment work the machine must be disconnected from electric supply!

Danger of injury if the machine is started accidentally!

### 7.01 对调整工作的指示

#### Notes on adjustment

- 本章中所述的所有调整工作都是针对全部安装完毕的机器。并且只允许由受过相应培训的专业人员来完成。
- 那些在检查和调整工作中需要拆下并重新装上的机器盖板在文章中将不再提及。
- 后续章节的顺序按照机器进行全部调整的逻辑工作顺序排列。如果仅是有目的地完成某些单项的工作步骤, 则要注意其前、后章节。
- 写在括号()内的螺钉、螺母是用来固定机器的零部件, 它们必须在调整工作之前松开, 并在调整工作之后再重新拧紧。
- All following adjustment are based on a fully assembled machine and may only be carried out by expert staff trained for this purpose.
- Machine covers, which have to be removed and replaced to carry out checks and adjustments, are not mentioned in the text.
- The order of the following chapters corresponds to the most logical work sequence for machines which have to be completely adjusted. If only specific individual work steps are carried out, both the preceding and following chapters must be observed.
- Screws, nuts indicated in brackets () are fastenings for machine parts, which must be loosened before adjustment and tightened again afterwards.

### 7.02 工具、量规和其他辅助材料

#### Tools, gauges and other accessories

- 1套头部宽度2至10 mm的螺丝刀
- 1套开口尺寸7至13 mm的开口扳手。
- 1套1.5至6 mm的内六角螺钉扳手。
- 1个夹持工具。
- 1把金属尺子。
- 1个量规。
- 缝纫线和试缝材料。
- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of open ended wrenches with opening sizes from 7 to 13 mm
- 1 set of alien keys from 1.5 to 6mm
- 1 clamp
- 1 metal ruler
- 1 gauge
- Sewing thread and test material

### 7. 03 调整基础机器

Adjusting the basic machine

#### 7.03.01 从缝纫方向看机针的位置。

Needle position in sewing direction .

#### 规则

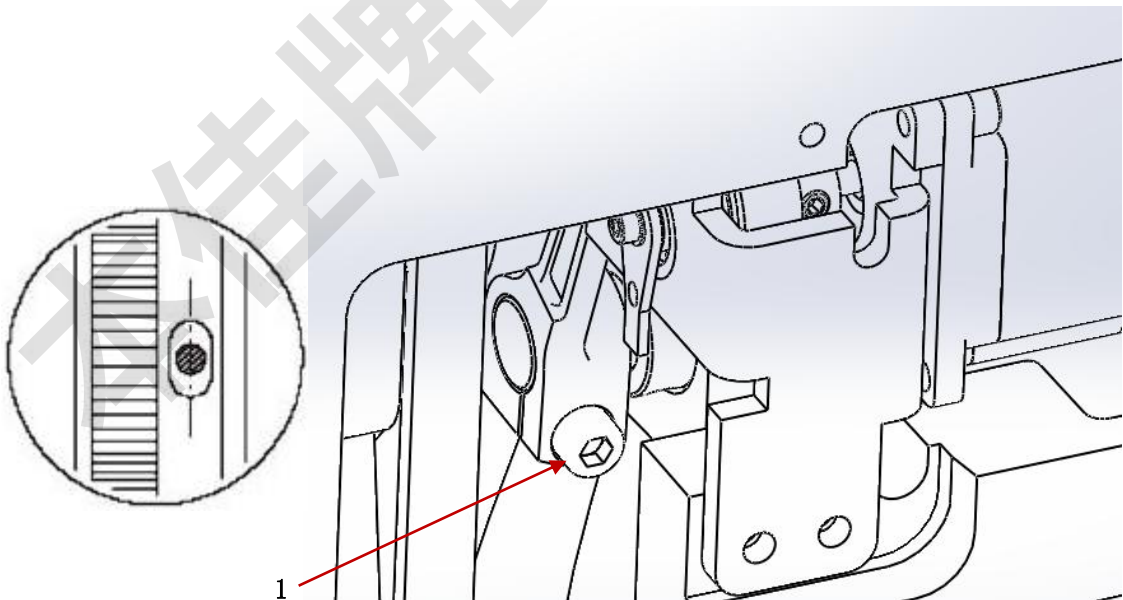
从向缝纫方向看，机针应该位于针板上针孔的中心。

#### Requirement

The needle should be positioned in the center of the needle hole, as seen in the direction of sewing.



- 参照系统操作手册（摆针中心位置调整）。
- 按照规则调整针杆（螺钉1）。
- Adjust the center position of the vibrating needle as per the system operation manual.
- Adjust needle bar (screw 1) according to the **Requirement**.



## 调整 Adjustment

### 7.03.02 初步调整针的高度 Preliminary adjustment of the needle height

#### 规则

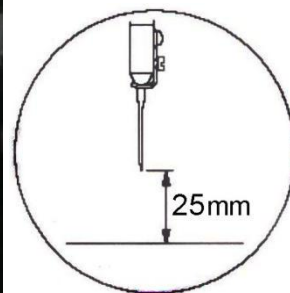
当针杆位于上死点时，在针尖到针板之间必须有大约**25mm**的距离。

#### Requirement

When the needle bar is at top dead centre, there must be a clearance of approx. **25mm** between the needle point and the needle plate.



- 按照规则调整针杆1（螺钉2），不要转动针杆。
- Adjust needle bar 1 (screw 2). Without turning it, according to the **Requirement**.





### 7. 03. 03 针杆高度，机针到旋梭尖的间隙 Needle bar height, play of needle to hook tip.

#### 规则

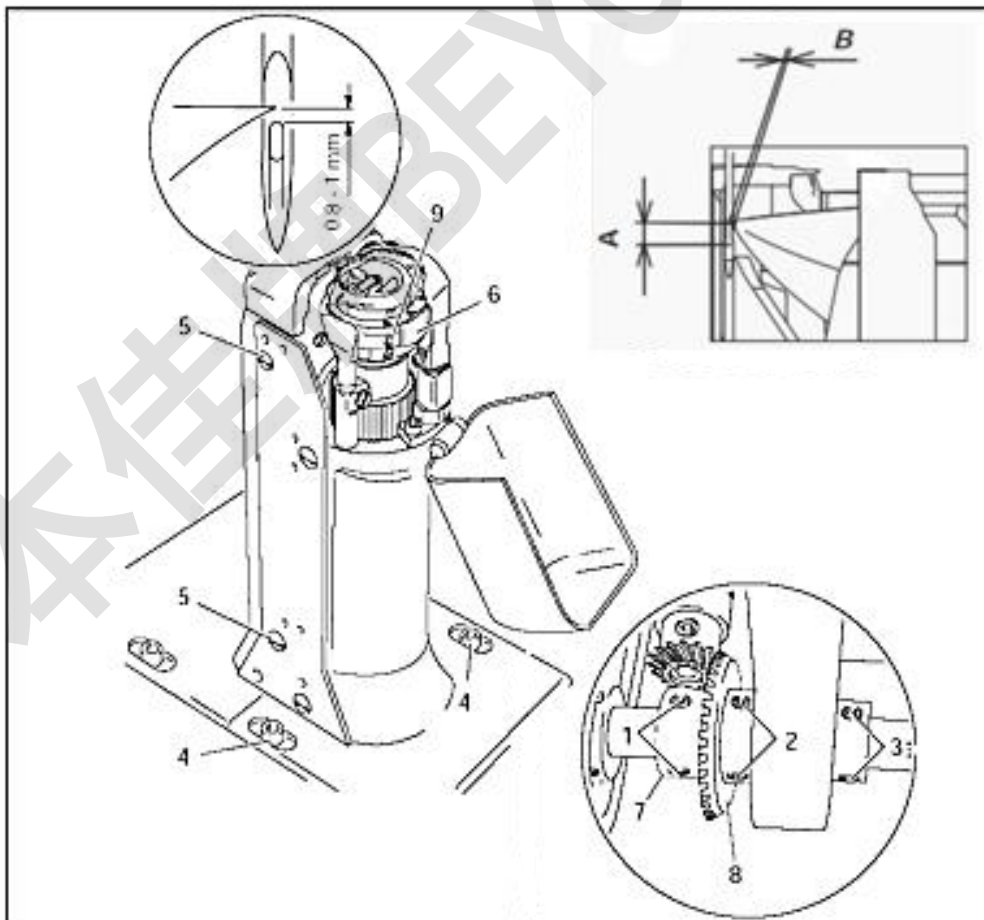
将针杆置于下死点之后上升2mm处：

1. 针眼孔的上边缘到旋梭尖的距离**A=0.8到1MM**。
2. 旋梭针尖到针的距离**B=0.02到0.1mm**。
3. 护针器**6**必须轻轻的靠着机针。

#### Requirement

Place the needle bar at the lower dead point, lift the needle bar at 2mm:

1. The distance **A=0.8 to 1MM** from the upper edge of the needle eye hole to the hook tip.
2. The distance **B=0.02 to 0.1mm** from the hook tip to the needle.
3. **Needle protector 6** must be gently leaning against the needle.



## 调整 Adjustment

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- 拧松螺钉1、2、3、4和5。
- 将针杆置于下死点后上升2MM处。
- 旋梭尖调整到机针中心，确信护针器6没有造成机针偏斜。
- 按照第2条规则调整机针的高度。
- 按照第1条规则调整旋梭台柱并拧紧螺钉4。
- 确信伞齿轮副之间有一定间隙并运转自如，拧紧螺钉2。
- 用紧圈7靠住齿轮8，拧紧螺钉1。
- 按照第3条规则调整护针器6（螺钉9）。
- Unscrew the screw 1, 2, 3, 4 and 5.
- Place the needle bar at the lower dead point, lift the needle bar at 2mm.
- Adjust the hook tip to the center of the needle, make sure the needle protector 6 did not cause the needle deflection.
- Adjust the height of the needle as per the 2<sup>nd</sup> rule.
- Adjust the hook saddle post and tighten screw 4 as per the 1<sup>st</sup> rule.
- Make sure it has the gap between the bevel gear pairs and operate freely, tighten screw 2.
- Hold gear 8 with collar 7, tighten screw 1.
- Adjust the needle protector 6 (screw 9) as per the 3<sup>rd</sup> rule.

### 7.03.04 从垂直于缝纫方向看机针的位置

Needle position in vertical sewing direction

#### 规则

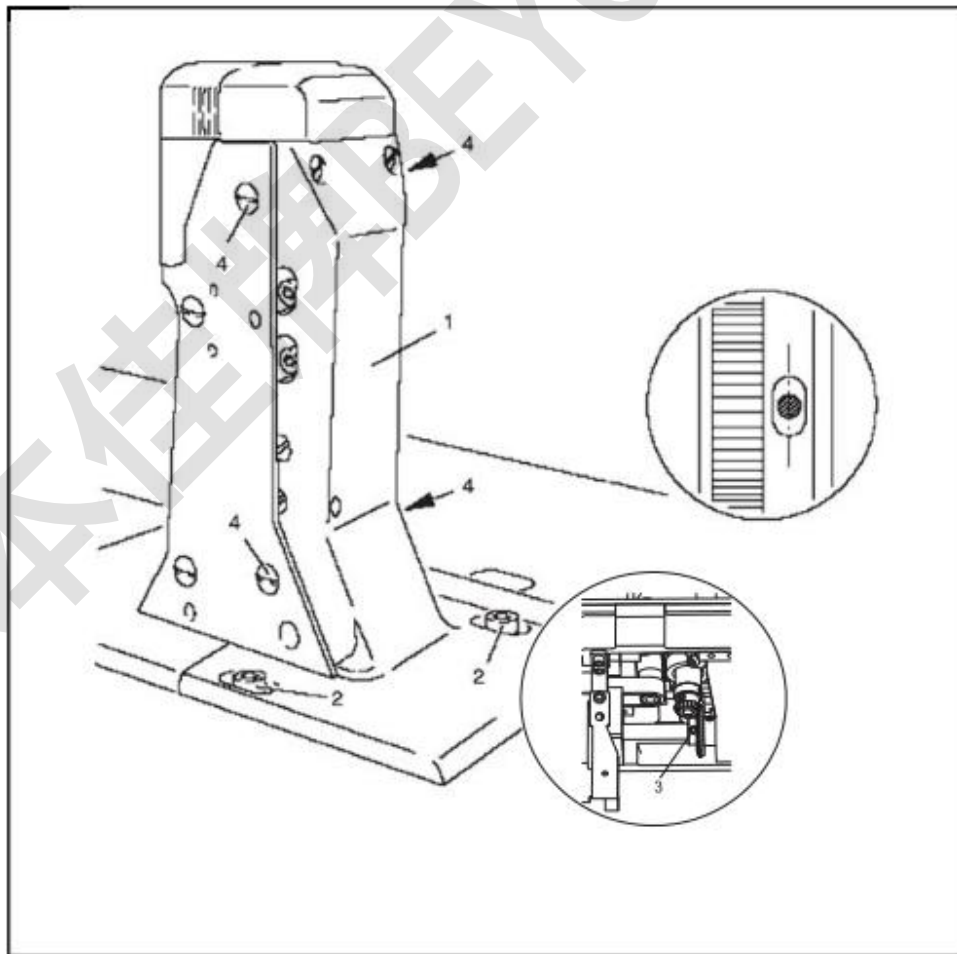
当从垂直于缝纫方向看时，机针必须位于针板的针孔中心。

#### Requirement

In vertical sewing direction, the needle must be at the center of the needle hole in needle plate.



- 按照规则通过调整进给轮台柱1（螺钉2、3、4）来进行调整。
- Adjust feed wheel post 1 (screw 2, 3 and 4) as per rule.



## 调整 Adjustment

### 7.03.05 开梭器的高度和行程 Height and stroke of the hook opener

#### 规则

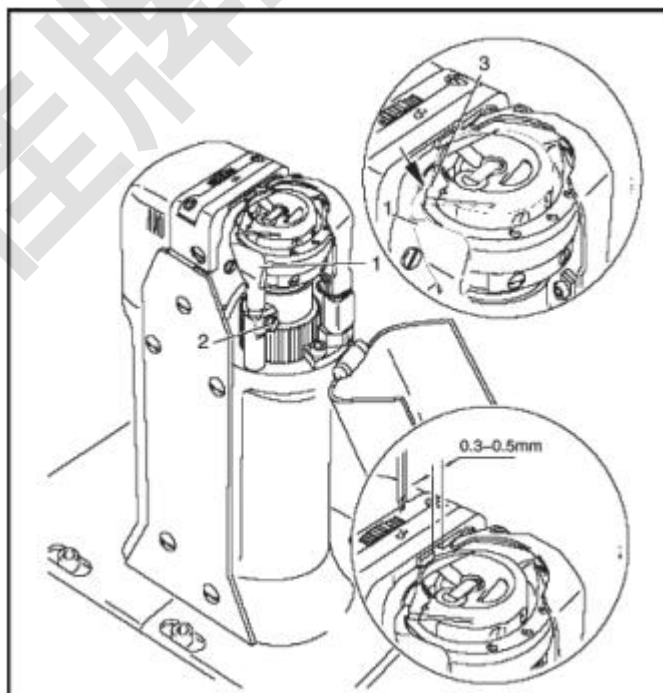
1. 开梭器1和梭壳架3的上边缘应该处于同一水平面。
2. 当开梭器1使梭壳偏转到其最远点时，梭壳的凸出鼻端部分应该距离针板凹槽的后边缘0.3到0.5MM。

#### Requirement

1. The upper edge of hook opener 1 and bobbin case frame 3 should be at the same horizontal level.
2. When the hook opener deflects the bobbin case to its farthest point, the protruding nose end of the bobbin case should be 0.3 to 0.5MM from the rear edge of needle plate groove.



- 按照第1规则调整开梭器1（螺钉2）。
- 旋转手轮直到开梭器使梭壳偏转到其最远点。
- 按照第2条规则调整开梭器1（螺钉2）。
- Adjust the hook opener 1 (screw 2) as per the 1<sup>st</sup> rule.
- Turn the handwheel until the hook opener deflects the bobbin case to the farthest point.
- Adjust the hook opener 1 (screw 2) as per the 2<sup>nd</sup> rule.



### 7.03.06 膝提杆 Knee lever

#### 规则

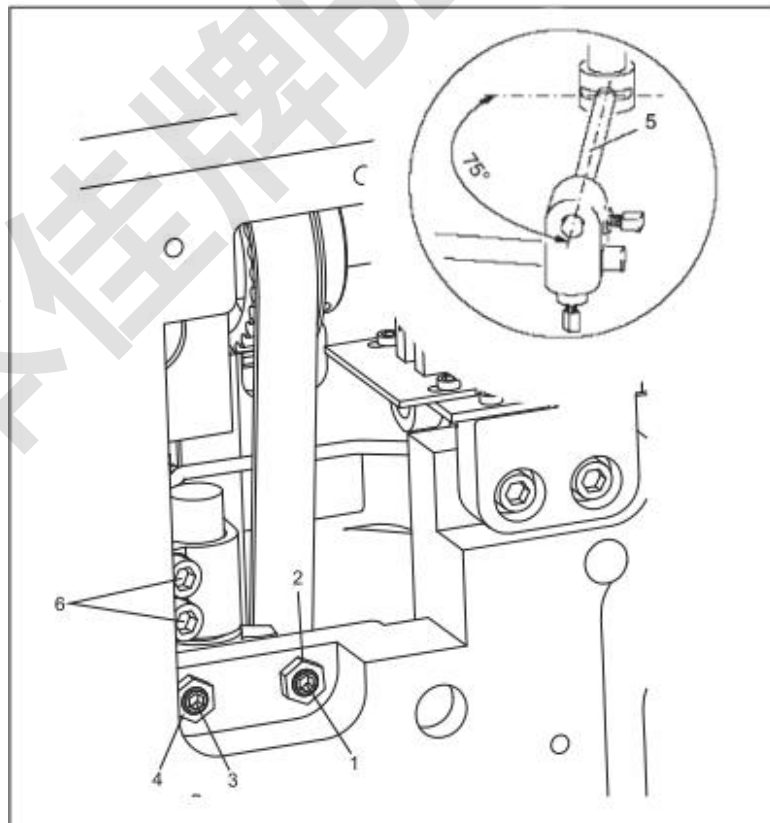
1. 在滚轮压脚抬起前，膝提杆必须有一个微小的空程。
2. 当膝提杆被挤压到最远端时，滚轮压脚扳手必须自动地落下。
3. 膝提杆组件的杆件5必须与底板成大约75°角。

#### Requirement

1. before the roller presser rises, the knee lever must still have a slight play.
2. when the knee lever is raised as far as possible, the lever for the roller presser must drop automatically.
3. knee lever bar **5** must be at an angle of approx. **75°** to the bedplate.



- 按照第3条规则调整螺栓1（螺母2）。
- 按照第2条规则调整螺栓3（螺母4）。
- 按照第3条规则调整杆件5（螺栓6）。
- Adjust screw **1** (nut **2**) according to **Requirement 3**.
- Adjust screw **3** (nut **4**) according to **Requirement 2**.
- Set bar **5** (screws **6**) according to **Requirement 3**.



## 调整 Adjustment

### 7.03.07 针线松线调整 Needle thread tension release

#### 规则

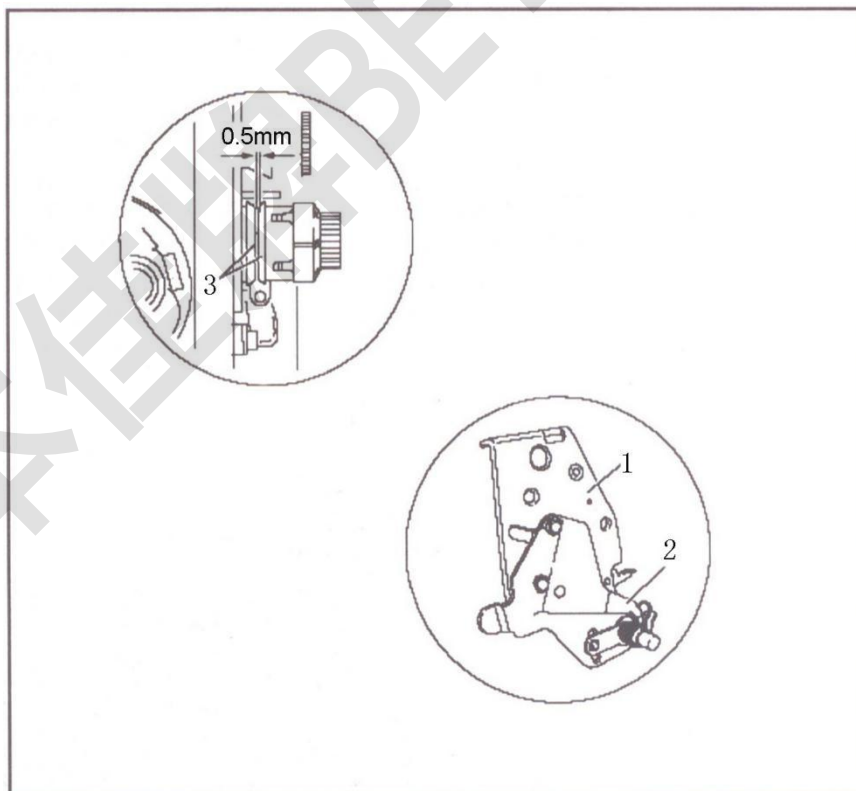
1. 当压脚扳手抬起时，夹线板3应该被挤开最少**0.5 mm**。
2. 当滚轮压脚下降时，夹线器必须完全地起功能作用。

#### Requirement

1. when the presser bar lifter is raised, the tension discs **3** should be pressed at least **0.5 mm** apart.
2. When the roller presser is lowered, the tension must be fully effective.



- 按照规则校正、调整夹线器安装板1 和压力板2。
- Align tension mounting plate **1** and pressure plate **2** according to **Requirement**.



## 7.03.08 挑线簧调整 Thread check spring

### 规则

1. 当针尖刺穿缝料时，挑线簧7应完成运动动作（弹簧行程大约7 mm）。
2. 在针线绕着旋梭形成最大线环时，挑线簧7应从其支撑件上轻微地上升。

### Requirement

- 1.the movement of thread check spring 7 should be completed when the needle point penetrate the fabric (spring stroke approx. 7 mm).
- 2.when the largest thread loop is formed while the thread is passed around the hook, the thread check spring 7 should rise slightly from its support.

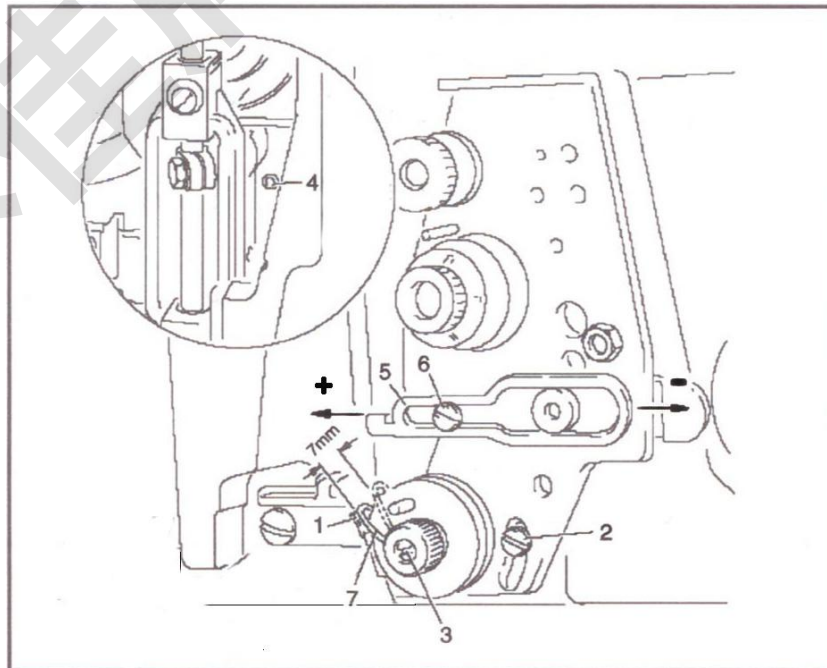


- 按照第1条规则调节支撑件1（螺钉2）。
- 转动螺钉3（螺钉4）以调整弹簧张力。
- 按照第2条规则调整导线钩5（螺钉6）。
- Adjust support 1 (screw 2) according to Requirement 1.
- Adjust the spring tension by turning screw 3 (screw 4).
- Adjust the thread regulator 5 (screw 6) according to Requirement 2.



由于技术原因，可能有必要改变弹簧行程和压力使其偏离指定值。向“+”方向移动导线钩5（螺钉6）（供线量增多）；或向“-”方向移动（供线量减少）。

For technical reasons it may be necessary to deviate from the specified spring stroke or spring tension. Move the thread regulator 5 (screw 6) towards "+" (= more thread) or "-" (= less thread).



## 调整 Adjustment

### 7.03.09 绕线器 Bobbin winder

#### 规则

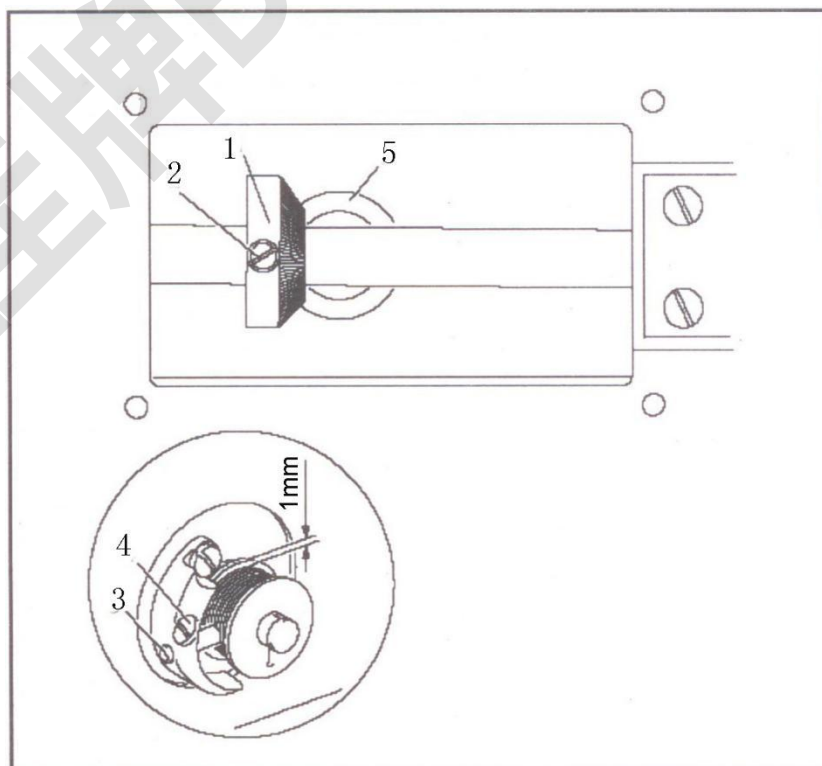
1. 当绕线器处于啮合状态时，绕轴必须可靠地被驱动。当绕线器处于脱离状态时，驱动轮1应不能造成摩擦轮5运动。
2. 当在梭心上所绕的线距离梭心边缘1 mm 时，绕线器应自动停止转动

#### Requirement

1. when the bobbin winder is engaged, the winding spindle must be driven reliably. When the bobbin winder is disengaged, the friction wheel 5 must not be moved by drive wheel 1.
2. the bobbin winder must switch itself off, when the filled thread is about 1mm from the edge of the bobbin.



- 按照第1条规则调整驱动轮1的位置（螺钉2）。
- 按照第2条规则调整销栓3的位置（螺钉4）。
- Position drive wheel 1 (screws 2) according to Requirement 1.
- Position bolt 3 (screw 4) according to Requirement 2.





### 7.03.10 滚轮压脚的压力调整 Pressure of roller presser

#### 规则

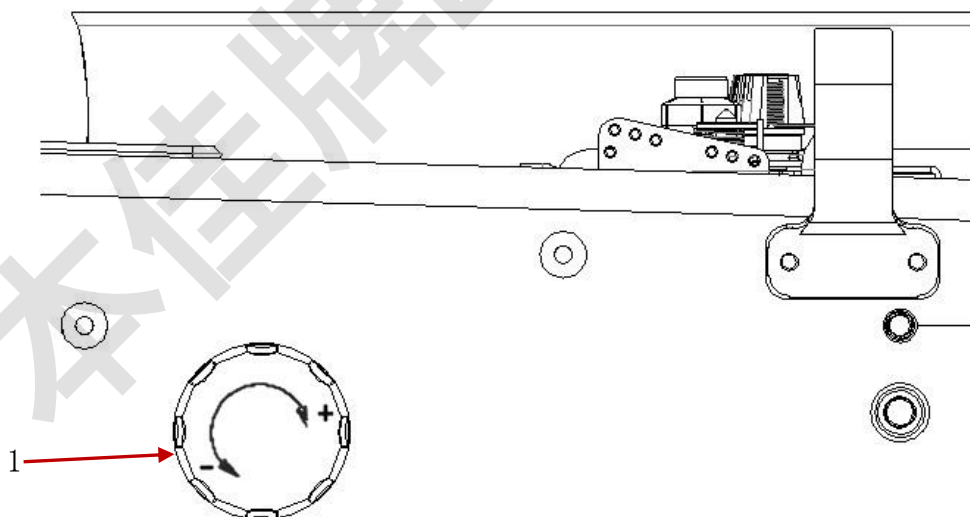
缝料必须平稳地进给。在缝料上不应有可见压痕。

#### Requirement

The material must be fed smoothly. No pressure marks should be visible on the material.



- 按照规则通过调压手柄1来调整滚轮压脚的压力。
- Adjust roller pressure with presser control handle 1 according to the Requirement.



## 调整 Adjustment

### 7.03.11 安全联轴器复位 Re-engage safety coupling



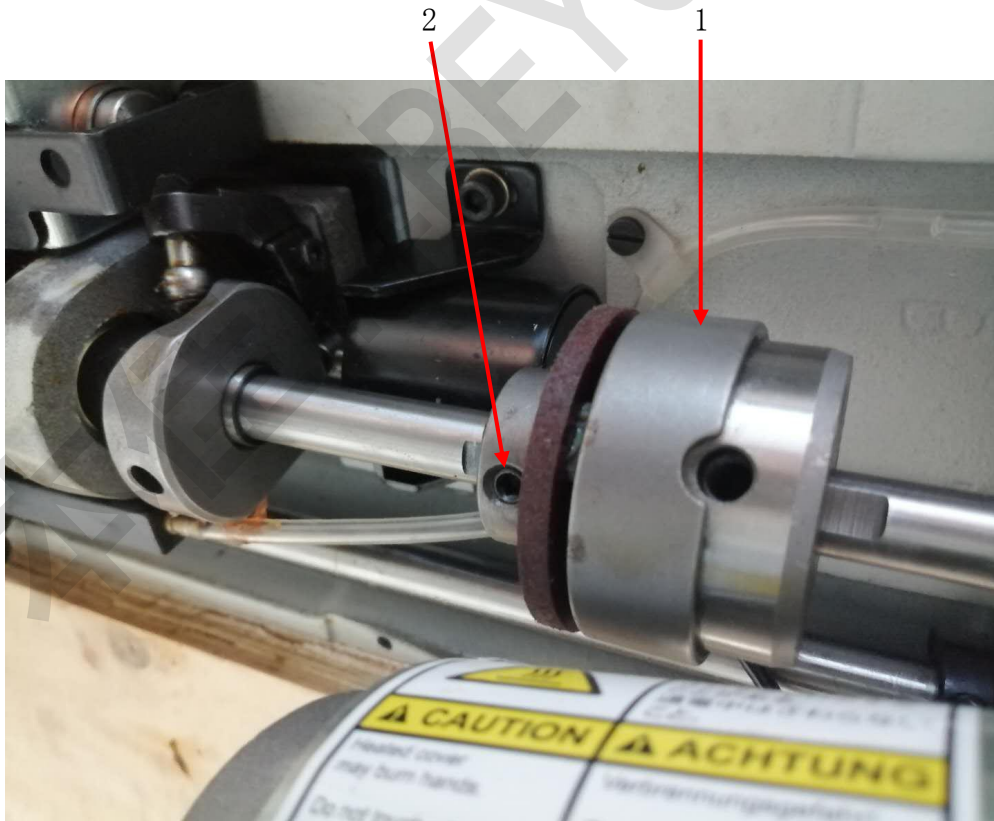
安全联轴器1是由机器制造商安置的。当发生线缠结时，安全联轴器1脱开以避免损坏旋梭。

下面说明如何使安全联轴器重新复位啮合。

The coupling **1** is set by the manufacturer. When the thread jams, the coupling **1** disengages in order to avoid damage to the hooks. A description of how to engage the coupling follows.



- 去除缠结的线。
- 用螺钉**2**固定住安全联轴器**1**，转动手轮直到感觉到安全联轴器**1**突然恢复进入原位。
- Remove jammed thread.
- Hold coupling **1** with screw **2** and turn the balance wheel, until you feel coupling **1** snap back into place again.



### 7.03.12 进给轮高度的调整 Adjust the height of feed wheel

#### 规则

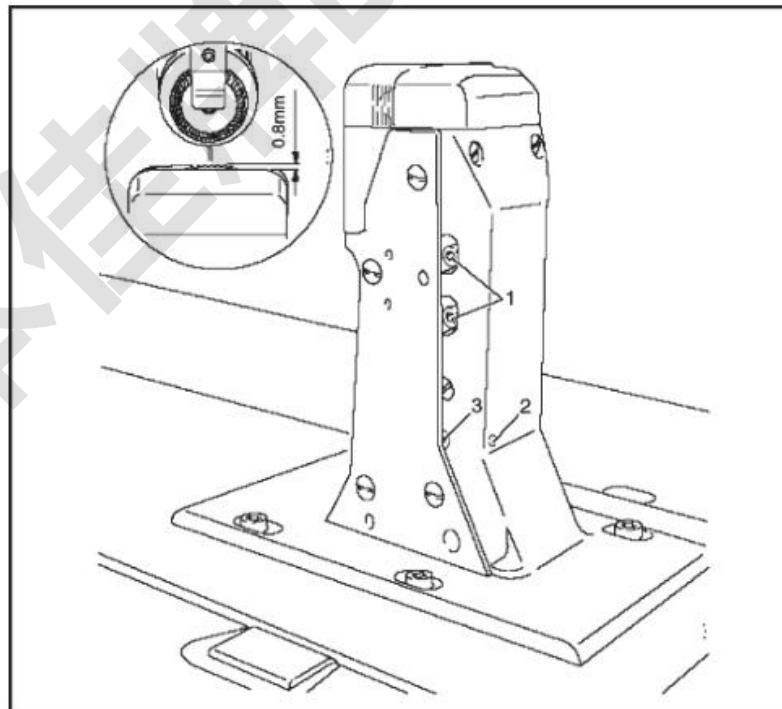
进给轮应凸出针板平面一个齿高，约0.8MM。

#### Requirement

The feed wheel should be higher around 8MM than the flat surface of the needle plate.



- 向外摆动滚轮压脚。
- 拧松螺钉1。
- 按照规则调整偏心销3（通过孔2容易拧动紧固螺钉）。
- 拧紧螺钉1。
- Swing the roller presser foot out.
- Unscrew screw 1.
- Adjust the eccentric pin 3 (unscrew the fixed screw easily through hole 2) as per the rule.
- Tighten screw 1.



## 调整 Adjustment

### 7.03.13 滚轮压脚和进给轮之间的距离 Clearance between roller presser and feed wheel

#### 规则

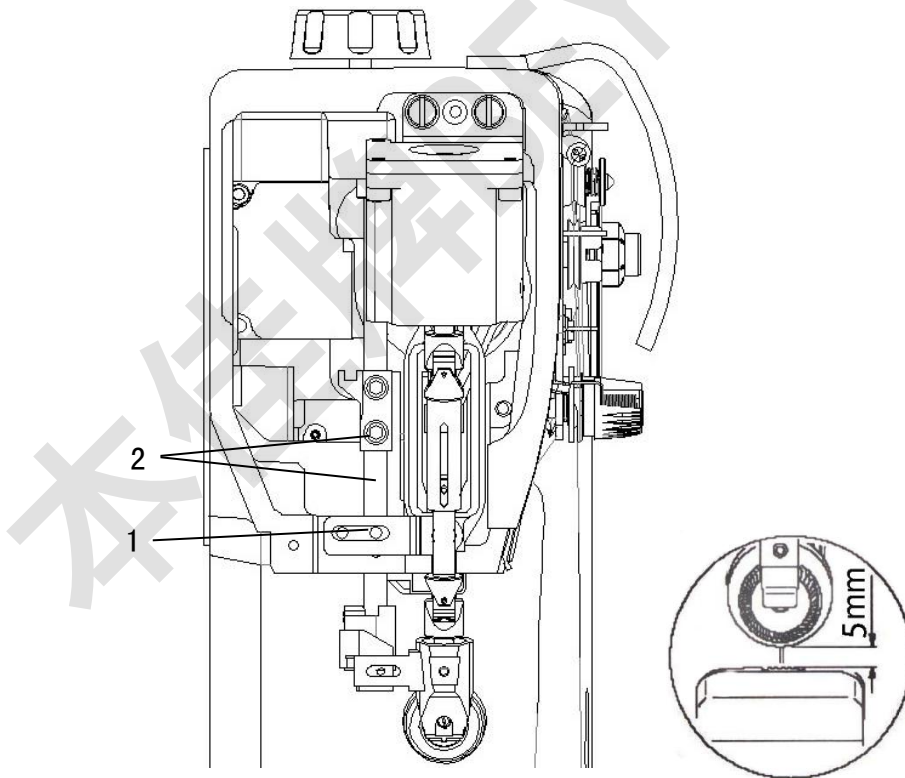
当压脚扳手抬起时，在滚轮压脚和进给轮之间的距离必须上**5 mm**。

#### Requirement

When the presser bar lifter is raised, the clearance between the roller presser and the feed wheel must be **5 mm**.



- 抬起压脚扳手。
- 按照规则调整压脚杆1（螺钉2）。确保滚轮压脚与进给轮平行。
- Raise the presser bar lifter.
- Adjust the presser bar 1 (screws 2) according to the Requirement. Make sure that the roller presser is parallel to the feed wheel.



### 7.03.14 滚轮压脚调整 Roller presser

#### 规则

当滚轮压脚**1**与进给轮**5**接触时，它必须满足：

- 1.从缝纫方向看，与进给轮**5**平行。
- 2.从垂直于缝纫方向看，位于针的中心。
- 3.从垂直于缝纫方向看，要尽可能的靠近针。

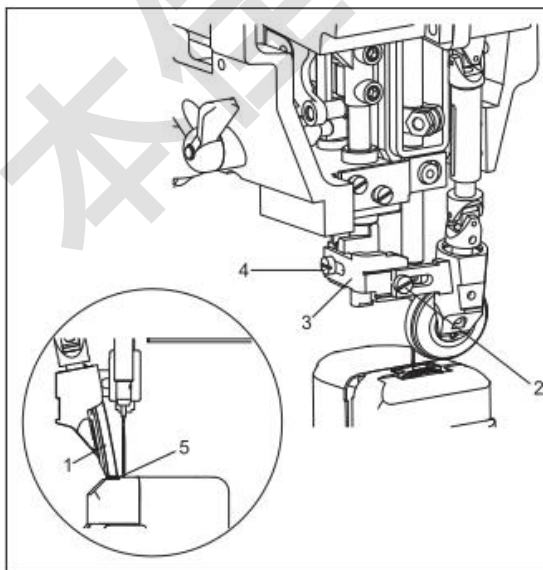
#### Requirement

When the roller presser **1** is touching the feed wheel **5** it must:

- 1.be parallel to feed wheel **5**, as seen in the direction of sewing.
- 2.be in the centre of the needle , as seen in the direction of sewing.
- 3.be as near as possible to the needle ,as seen crosswise to the direction of sewing.



- 抬起滚轮压脚。
- 在以后的调整中要始终遵守第1条规则。
- 按照第2条规则调整滚轮压脚**1**(螺钉**2**)。
- 降下滚轮压脚**1**,靠在进给轮**5**上。
- 按照第3条规则调整滚轮压脚支架**3**(螺钉**4**)。
- Raise the roller presser.
- Always observe Requirement **1** for subsequent adjustments.
- Adjust roller presser **1** (screw **2**) according to Requirement **2**.
- Lower roller presser **1** to rest on feed wheel **5**.
- Adjust roller presser bracket **3** (screw **4**) according to Requirement **3**.



当缝纫缝式为曲率半径很小的曲线时，滚轮压脚**1**必须向操作者方向移动一点。

When sewing very tight curves, the roller presser **1** must be moved a little towards the operator.

## 调整 Adjustment

### 7.04.01 夹线器松线

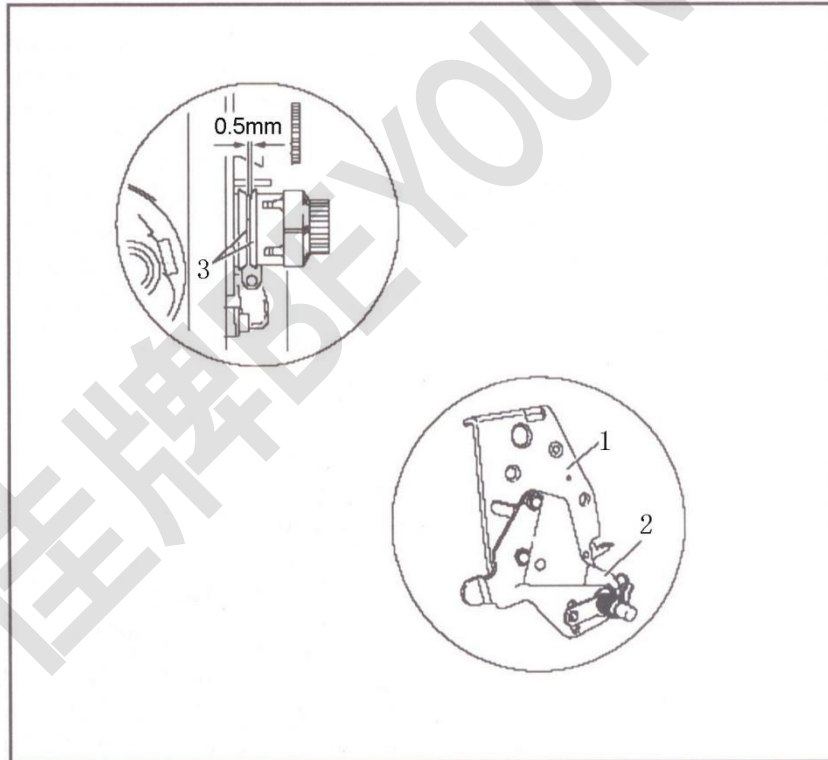
#### Releasing the tension

##### 规则

当电磁铁通电时，夹线板3应该被挤开至少**0.5 mm**。

##### Requirement

When the magnet is activated, tension discs 3 must be at least **0.5 mm** apart.



- 接通电磁铁。
- 按照规则拆开夹线器支撑板**1**并调整压力板**2**。
- Activate the magnet.
- Detach the tension bearing plate **1** and adjust pressure plate **2**.

### 7.04.02 滚子杠杆的静止位置/控制凸轮的径向位置调整 Resting position of the roller lever/ radial position of the control cam

#### 规则

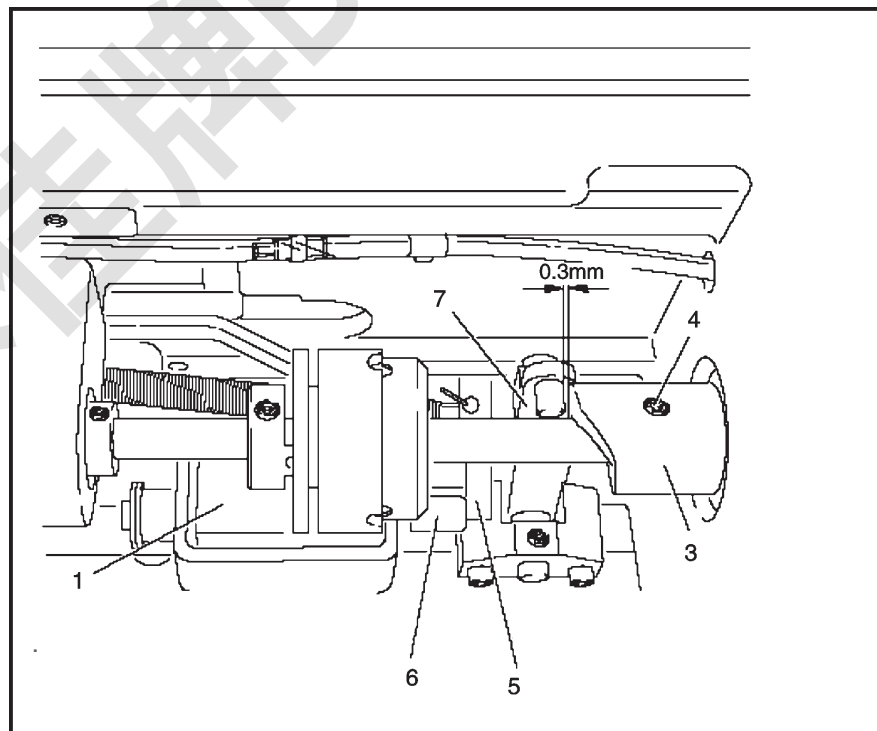
1. 当剪线器在静止位置时，杠杆5应与活塞6相接触，而且滚轮杠杆的滚轮与控制凸轮3之间有0.3MM的间隙。
2. 当挑线杆在上死点时，控制凸轮3应该正好使滚轮杠杆7处于静止位置。

#### Requirement

1. when the thread trimmer is in resting position, lever 5 should be touching piston 6 and the roller of roller lever 7 should be 0.3 mm away from control cam 3.
2. when the take-up lever is at top dead centre, control cam 3 should just have placed roller lever 7 in its resting position.



- 当确信活塞6定位在止点时，按照第一条规则调整电磁铁1（两个螺钉）。
- 按照第二条规则调整控制凸轮3（螺钉4）。
- Having made sure that piston 6 is positioned against the left stop, adjust magnet 1 (2 screws) in accordance with Requirement 1.
- Adjust control cam 3 (screw 4) in accordance with Requirement 2.



## 调整 Adjustment

### 7.04.03 捕线器架的位置调整 Position of the thread catcher holder

#### 规则

1. 在齿轮3和齿弧段零件4之间，应有一最小的间隙使其运动自如。
2. 在捕线器的空档位置和最初位置，在齿弧段零件4和捕线器架1的边缘之间的距离都应该是相同的（参见箭头）。

#### Requirement

1. there should be a minimum amount of play between toothed wheel 3 and toothed segment 4.
2. both in the neutral position and the foremost position of the catcher, the distance between the toothed segment 4 and the outer edge of the thread catcher holder 1 should be the same (see arrow).

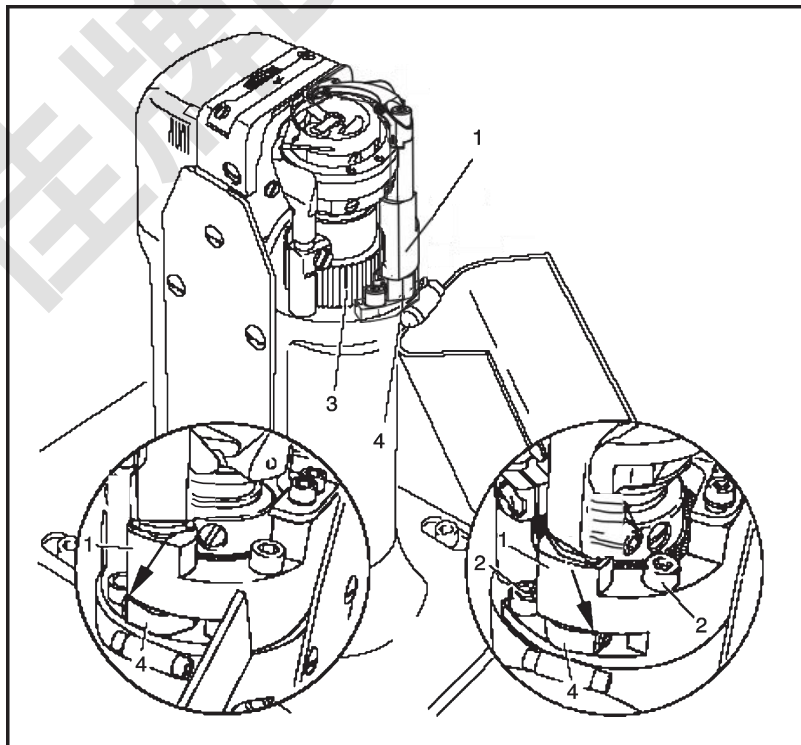


- 按照规则调整捕线器架1（螺钉2）。
- Adjust the thread catcher holder 1 (screws 2) according to Requirements.

如果调整不能达到第2条规则的要求，拧松螺钉2并将齿弧段零件4移动一个齿啮合。



If Requirement 2 cannot be fulfilled, loosen screw 2 and move the toothed segment 4 by one tooth.





### 7.04.04 捕线器与针板间的距离

#### Distance between thread catcher and needle plate

##### 规则

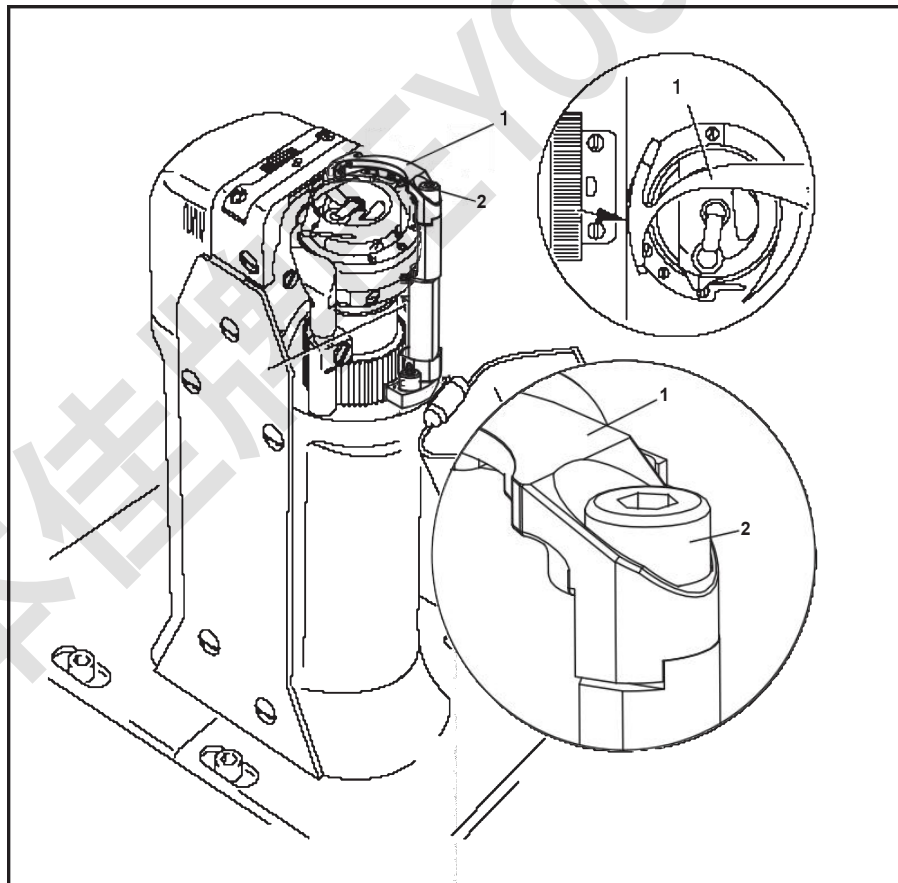
在其摆动运动过程中，捕线器1不应越过针板边缘（参见箭头）。

##### Requirement

During its swivel movement thread catcher 1 should not pass the edge of the needle plate (see arrow).



- 按照规则移动捕线器1（螺钉2，两个螺钉），使与捕线器架平行。
- Move thread catcher 1 (screws 2, two screws), parallel to the thread catcher holder in accordance with the **Requirement**.



## 调整 Adjustment

### 7.04.05 捕线器位置调整

#### Position of the thread catcher

##### 规则

1. 在捕线器1的底边与梭壳定位指5之间应有**0.1 mm**的距离。
2. 当剪线器处于空档位置时，捕线器的后边缘应定位在刀刃后面大约**2.5~3 mm**。

##### Requirement

- 1.the bottom edge of the thread catcher **1** should be at a distance of **0.1 mm** from the positioning finger of the bobbin case **5**.
- 2.when the thread trimmer is in its neutral position, the rear edge of thread catcher should be positioned approx. **2.5 3 mm** behind the edge of the knife.

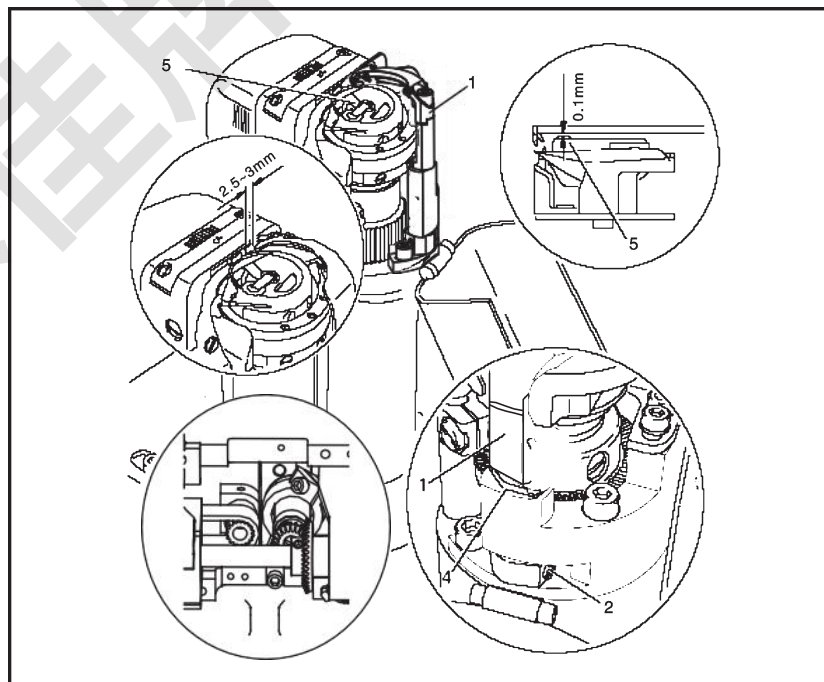


- 按照第1条规则移动捕线器**1**（螺钉**2**，两个螺钉）。
- 按照第2条规则转动捕线器**1**（螺钉**3**）。
- Move thread catcher **1** (screw **2**, two screws) in accordance with **Requirement 1**.
- Turn thread catcher **1** (screw **3**) in accordance with **Requirement 2**.



捕线器**1**必须与捕线器架**4**的表面平行。

Thread catcher **1** must be parallel to the surface of the thread catcher holder **4**.



### 7.04.06 切线刀位置和切线压力

#### Knife position and knife pressure

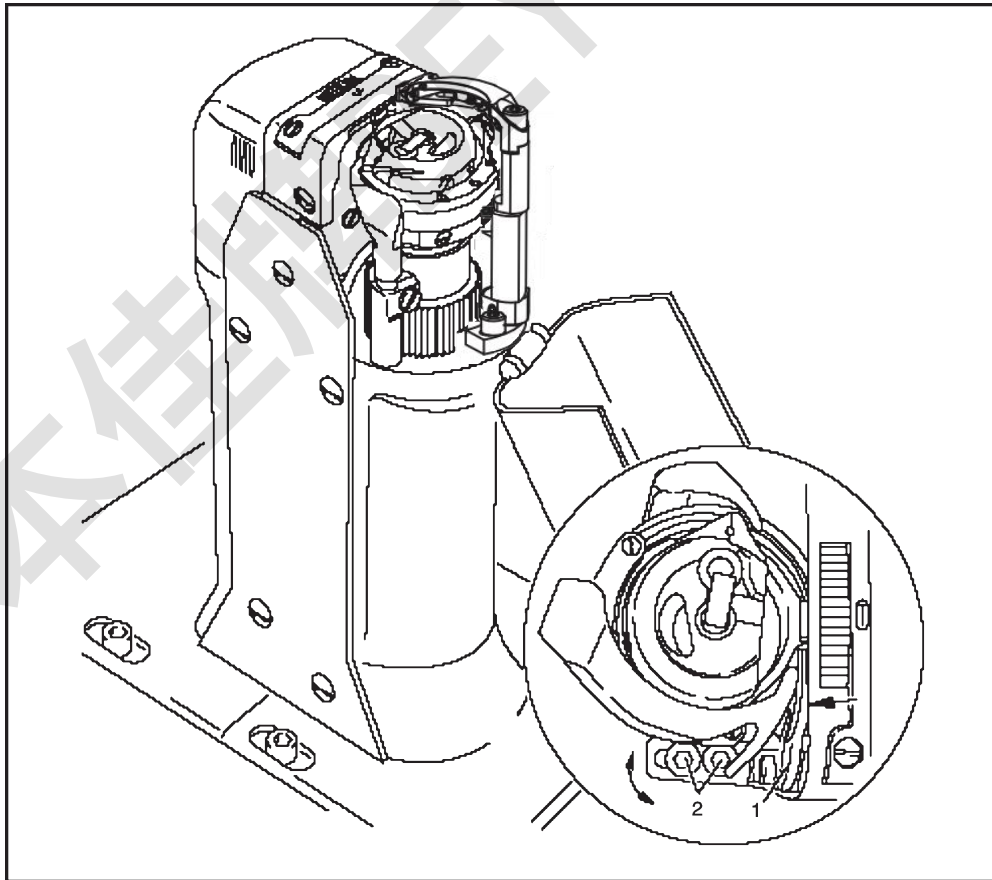
##### 规则

1. 切线刀1应与针板接触。
2. 应设置尽可能低的切刀压力，但剪线功能要可靠地完成。

##### Requirement

- 1.the knife 1 should be touching the needle plate.
- 2.the knife pressure should be set as low as possible but the cutting operation should still be carried out reliably.

- 按照第1条规则移动切刀1（螺钉2），或者按照第2条规则摆动切刀1来调整。
- Move knife 1 (screw 2) in accordance with **Requirement 1** or swivel it in accordance with **Requirement 2**.



## 调整 Adjustment

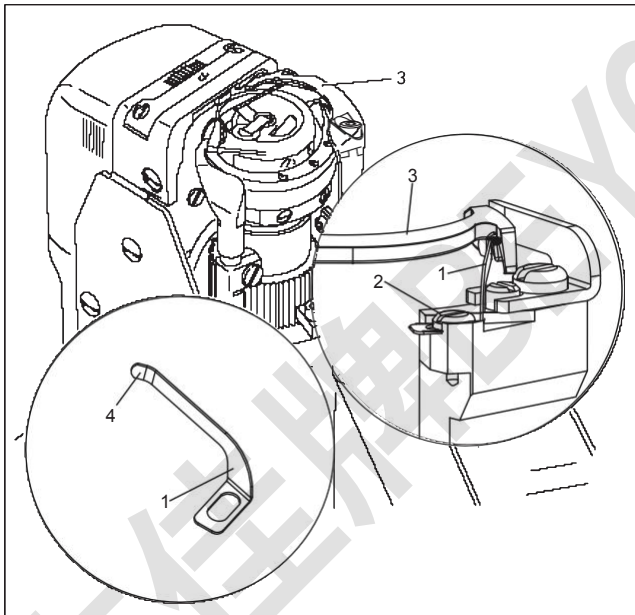
### 7.04.07 梭心线夹持弹簧 Bobbin thread retaining spring

#### 规则

1. 梭心线夹持簧应在捕线器3的线槽中可靠的导向。
2. 梭心线夹持簧的压力应尽可能低，但在剪线动作后梭心线应可靠地被夹持住。

#### Requirement

1. the bobbin thread clamp spring should be guided reliably in the thread groove of the thread catcher 3.
2. the tension of the bobbin thread spring clamp should be as low as possible, but the bobbin thread should be reliably after the cutting operation.



- 按照第1条规则调整梭心线夹持簧1(螺钉2)。
- 按照第2规则通过扳梭心夹线簧1的侧边4来调整其压力。
- Adjust bobbin thread clamp spring 1 (screw 2) in accordance with Requirement 1.
- Adjust the tension in accordance with Requirement 2 by bending side 4 of the bobbin thread clamp spring 1.

按第1条规则调节

- 关闭机器并使挑线杆位于下死点。
- 手动使捕线器3进入和脱离工作位置，并按第1条规则检查，若有必要作重新调整。

#### Control requirement 1

- Switch off the machine and bring the take-up lever to its bottom dead centre.
- Engage and disengage the thread catcher 3 by hand and check Requirement 1. Adjust if necessary.

按第2条规则调节

- 在剪线后，通过转动手轮缝纫几个线迹，检查在第1个和第3个线迹之间梭心线是否被从夹持簧拉出，如有必要改进夹持簧压力。

#### Control requirement 2

- After the thread has been cut, sew a few stitches by turning the balance wheel, checking whether the bobbin thread is drawn out of the bobbin thread clamp spring between the 1<sup>st</sup> and 3<sup>rd</sup> stitched, if necessary, correct the tension.

### 7.04.08 手动剪线实验 Manual cutting test

#### 规则

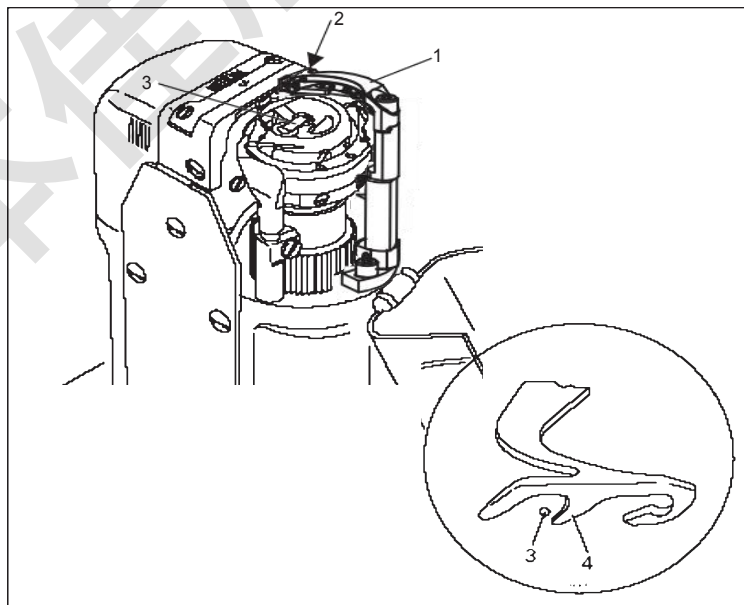
1. 当捕线器1在其向前行进时，它不能带着梭心线3也向前。
2. 当捕线器1在其前端位置时，钩件4必须可靠地保持住梭心线3。
3. 在剪线动作后，针线和梭心线都必须被完全剪断，并将梭心线3夹持住。

#### Requirement

1. when thread catcher 1 is on its forward stroke, it must not carry bobbin thread 3 forward too.
2. when thread catcher 1 is in its front position, bobbin thread 3 must be held reliably by hook 4.
3. After the trimming action, both the needle thread and the bobbin thread must be perfectly cut and bobbin thread 3 retained.



- 缝纫几个线迹。关闭总电源开关。手动完成剪线操作。
- 按第1条和第2条规则检查，如果有必要可按照7.04.06节捕线器位置调整重新调整捕线器1。
- 按照第3条规则检查，如果有必要可按照7.04.07节梭心线夹持弹簧重新调整梭心线夹持弹簧2。
- Sew a few stitches. Turn off the on/off switch. Carry out the cutting operation manually.
- Check Requirement 1 and 2, and if necessary readjust thread catcher 1 in accordance with Chapter 97.04.06 Position of the thread catcher.
- Check Requirement 3, and if necessary readjust the bobbin thread retaining spring 2 in accordance with Chapter 7.04.07 Bobbin thread retaining spring



## 调整 Adjustment

### 7.04.09 机针在针孔中的位置 Needle in needle hole

#### 规则

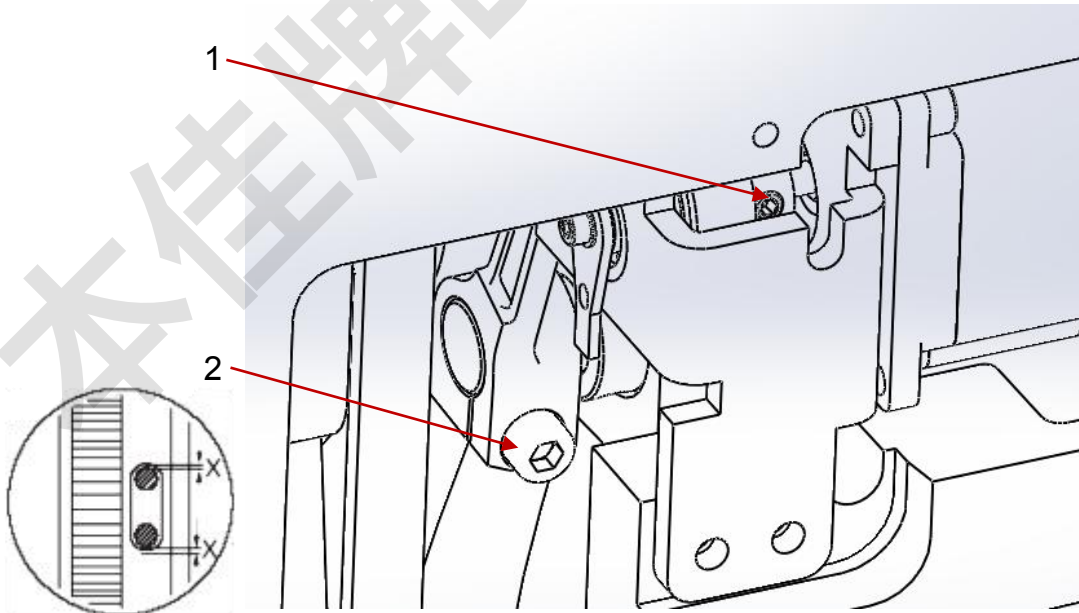
当设置最大线迹长度时，在顺缝和倒缝线迹情况下，机针在针孔中到针孔内边缘的距离必须是相同的且不能碰到针板。

#### Requirement

When the maximum stitch length is set, the needle must be the same distance from the inside edge of the needle hole and it can not hit the needle plate, both for forward and reverse stitch.



- 主轴原点调整完毕后，松开偏心轮上两颗螺钉**1**，根据系统操作手册调整摆针原点，完毕后锁紧两颗螺钉**1**。
- 按照规则调整针杆（螺钉**2**）。
- Adjust the original standard position of the main shaft, loosen 2pcs screw 1 on the eccentric wheel, adjust the original standard position of the vibrating needle as per the system operation manual, tighten 2pcs screw 1.
- Adjust needle bar (screw **1**) according to the **Requirement**.



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