



**BEYOUNG®**

本佳牌工业用缝纫机

# 立柱式三自动综合轮送料平缝缝纫机

## 使用说明书

INSTRUCTION BOOK

MODEL: BM-591A


BM-592A

本佳科技(香港)有限公司

BEYOUNG TECHNOLOGY (HK) CO., LTD.

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 **Beyoung®**

## 1. 安全 Safety

### 1.01 注意安全图标 Safety symbols



危险位置! 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

#### 工作中的特殊注意事项 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 to 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.



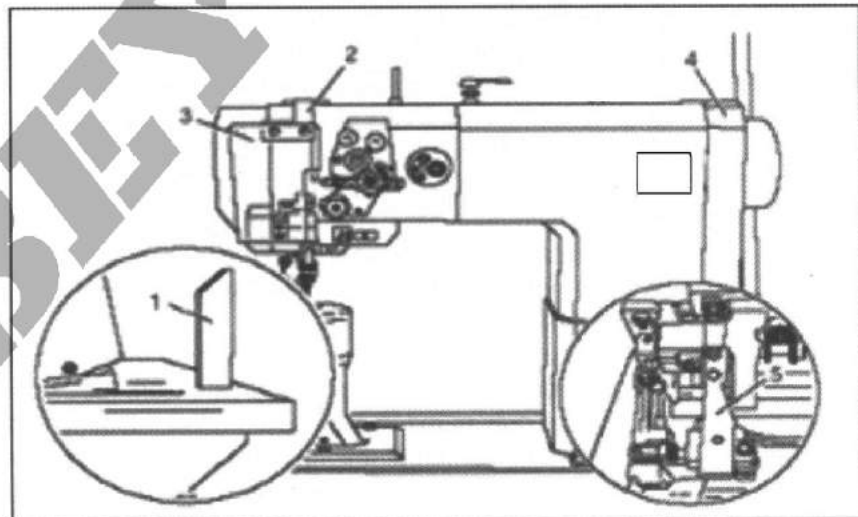
在缝纫过程中，不许在缝纫针区域抓取任何东西！有被针扎伤的危险！  
Never reach into the sewing area while sewing! Danger of injury by the needle!



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!



不许开动没有支承件1的机器！因为机头非常重，当向后倾斜时，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!





在向后倾斜机器前关闭总开关！  
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护罩<sup>2</sup>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 <sup>2</sup>!**  
**Danger of injury due to the motion of the take-up lever!**



带有线润滑器的机器不许在护眼装置<sup>3</sup>放下前开动！护眼装置<sup>3</sup>保护眼睛免受来自线润滑的油微粒伤害。  
**On machines with thread lubricator, only operate the machine with the eye guard <sup>3</sup> lowered! The eye guard <sup>3</sup> protects the eyes from oil particles from the thread lubrication!**



不许开动没有皮带防护罩<sup>4</sup>的机器！  
有被旋转的驱动皮带伤害的危险！  
**Do not operate the machine without belt guard <sup>4</sup>!**  
**Danger of injury by rotating drive belt!**



不许开动没有翻转保险<sup>5</sup>的机器！  
有在机头和抬板之间被挤伤的危险！  
**Do not operate the machine without tilt lock <sup>5</sup>!**  
**Danger of crushing between sewing head and table top!**

## 技术数据 Specifications

2

### 技术数据 Specifications

线迹型式 Stitch type	301 (锁式线迹/lockstitch)
线迹长度 Stitch length	
单针Single needle	1.3-7 mm
双针Double needle	1.3 4.8 mm
在滚轮压脚下通过高度 Clearance under roller presser	7 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

单针Single needle	3000 线迹/分/spm◆
双针Double needle	2000 线迹/分/spm◆

#### 接线数据 Connection data

工作电压 Operating voltage	230 V $\pm$ 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. 61 kg

机器毛重 Gross weight of sewing head 大约/approx. 71 kg

▲ 保留技术更改的权力 Subject to alteration

#### 机型

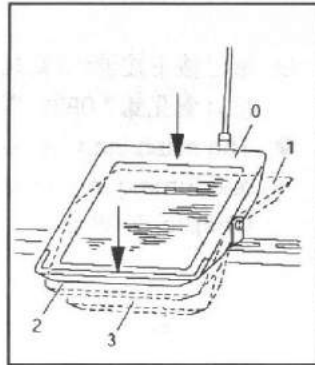
BM-591A

BM-592A

## 操作元件 Controls

### 3 操作元件 Controls

#### 3.01 踏板 Pedal



0= 静止位置 Neutral position

1= 缝纫 Sewing

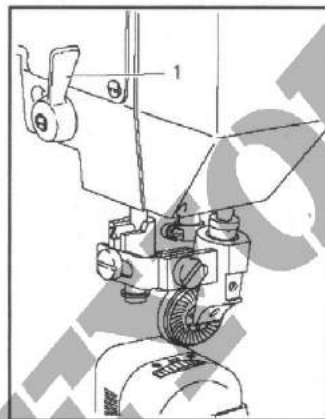
2= 抬起滚轮压脚 (在安装有 -D3、9630 .....

Raiser roller presser(on machines with-D3、9630..)

3= 剪线 (在安装有-D..的机器上)

Trim sewing threads (on machines with-D..)

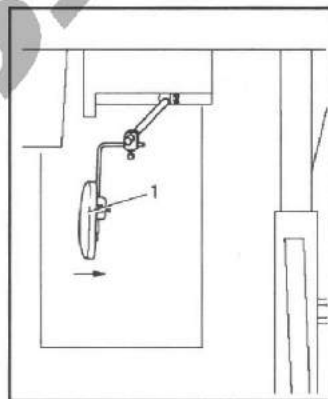
#### 3.02 滚轮压脚扳手 Lever for lifting roller presser



● 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.

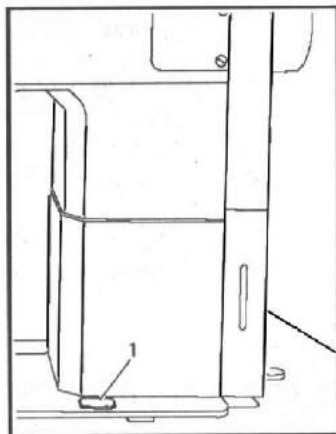
## 操作元件 Controls

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3.04

线迹长度设置按键

Key for setting stitch length

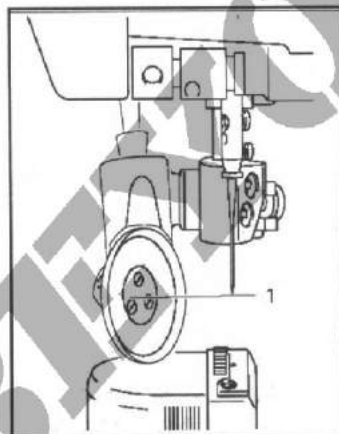


- 通过按下按键1并旋转手轮来设置线迹长度。
- The stitch length is set by pressing key 1 and turning the balance wheel.

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。
- When the roller presser is raised, it can be swung out by pulling it lightly downwards.



## 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和电机的重量。

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 with its motor.

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.

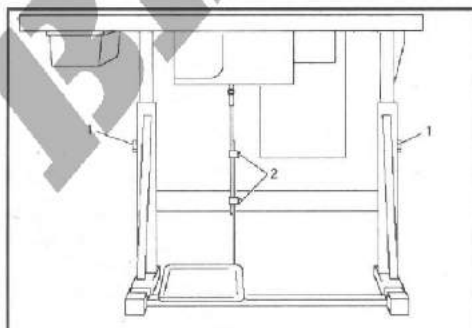


由于包装和运输的原因，台板下陷，台板高度的调整如下所述。

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

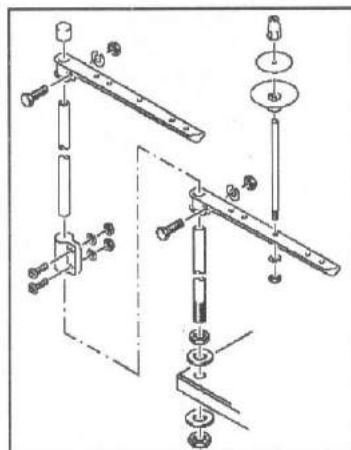
#### Adjusting the table height



- 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.

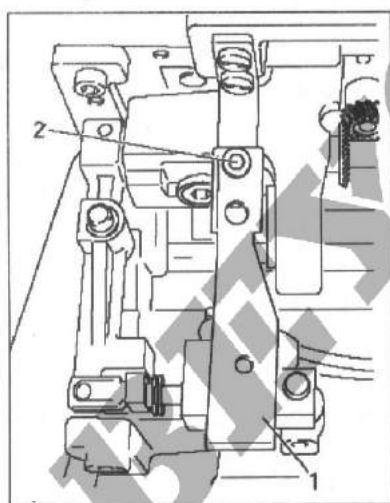
## 安装和试车 Installation and commissioning

### 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



Maschine ausschalten!  
Verletzungsgefahr durch unbeabsichtigtes  
Anlaufen der Maschine!

- Die im zubehör befindliche kipp-sicherung 1 mit schraube 2 anschrauben.



Maschine nicht ohne kipp-sicherung 1  
betreiben! Sicherung 1 betreiben!  
Quetschgefahr zwischen oberteil und  
tischplatte!



关闭机器电源总开关  
有被机器意外地起动伤害的危险!

- 用螺栓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**.

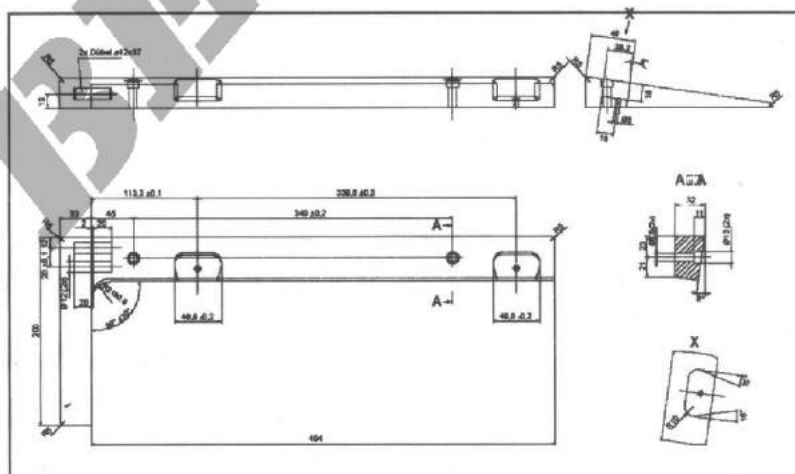


机器只允许接在有接地线的插座上!

The machine only be connected to an earthed socket!

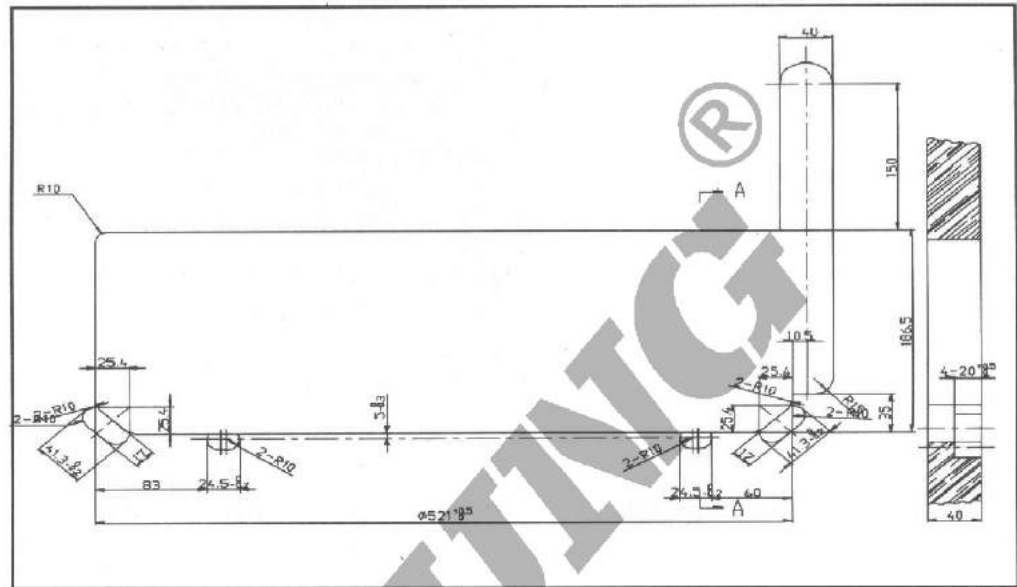
- 机器运行时, 手轮必须向操作人员方向旋转。如果不对, 由专业人员将电动机换接。
- 对带有气动装置的机器, 必须将机器接上压缩空气供应系统。压力表应该显示压力为6 bar。如果需要, 可对此值进行调整 (请参见第 6.01 节 “检查/调节空气压力”)。
- When the machine is running, the balance wheel must turn towards the operator. If it does not, the motor connection must be changed by a mechanic.
- Machines with pneumatic equipment must be connected to the compressed air supply. The pressure gauge should indicate a pressure of 6 bar. If necessary, adjust to the correct setting (see Chapter 6.01 **Checking adjusting the air pressure**).

### 4.04 倾斜的支承块 Tilted work base

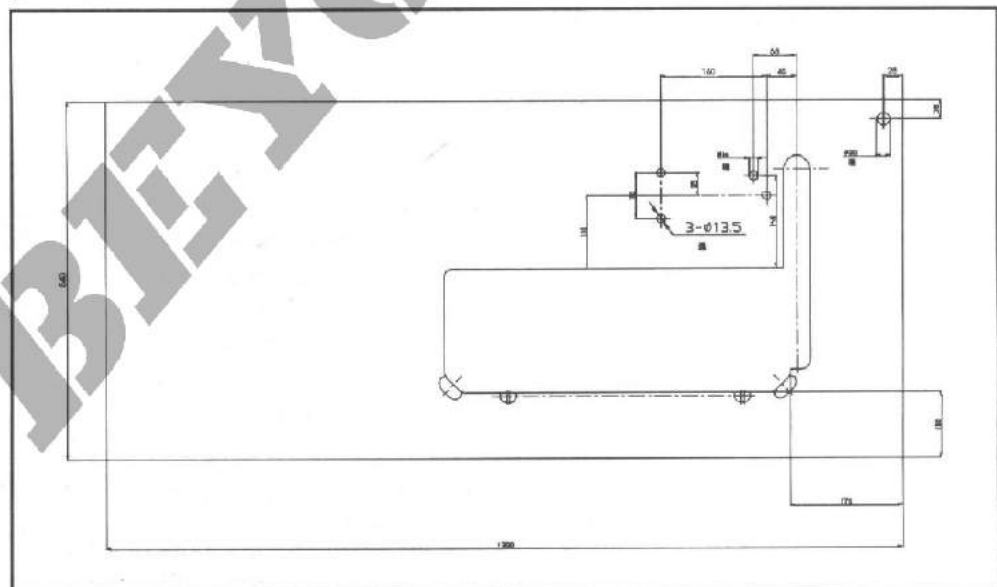


## 安装和试车 Installation and commissioning

#### 4.05 台板开槽部位尺寸 Tilted work base



#### 4.06 安装台板 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。

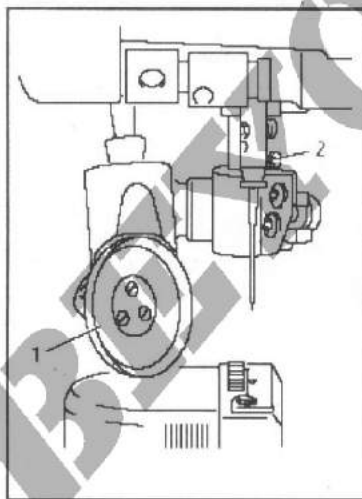
All setting-up work must only be carried out by personnel with the appropriate training. For all setting-up work the machine must be disconnected from its power supply by turning off the on/off switch, or removing the plug from the electric power socket.

### 5.01 在 591A 机型上装机针 Inserting needle on model



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。
- 对于 591A 机型，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 on model 591A
- 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。

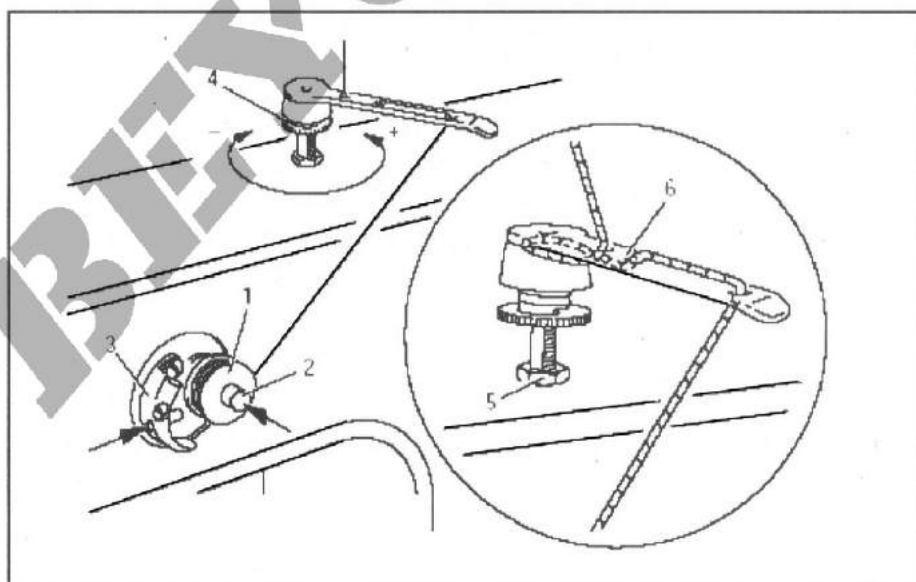
The bobbin is filled up during sewing.

- 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**.

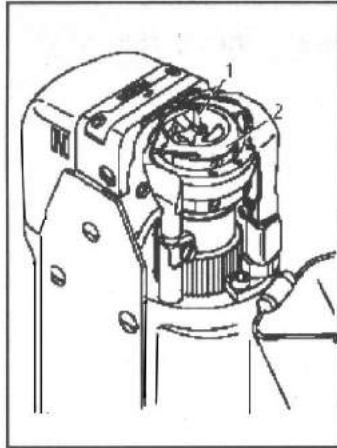


### 5.03 取出/装入梭壳

#### Removing/Inserting the bobbin case

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!



取出梭壳:

Removing the bobbin case:

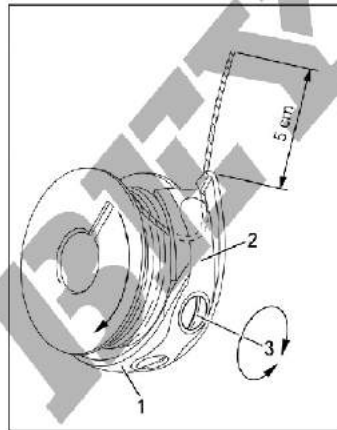
- 打开柱式底板帽。
- 抬起梭门1并取出梭壳2。
- Open the post cap.
- Raise latch 1 and remove bobbin case 2.

装入梭壳:

Inserting bobbin case:

- 装入梭壳2。
- 关闭梭门并重新盖上柱式底板帽。
- Insert bobbin case 2.
- Close the latch and close the post

### 5.04 梭壳穿线/调节梭心线的张力



- 将梭心放入梭壳1中。
- 将线穿过弹簧2下的狭槽中。
- 将线穿过凹口处。
- 通过转动螺钉3调节梭心线张力。
- Insert the bobbin into the bobbin case 1.
- Pass the thread through the slot under spring 2.
- Pass the thread through the notch.
- Adjust the thread tension by turning screw 3.



当拉线时，梭心必须朝箭头方向旋转。

When the thread is pulled, the bobbin must rotate in the direction of the arrow.

## 机器准备 Preparation

5.05

### 591A 机型上穿针线并调节针线张力

#### Threading the needle thread and regulating its tension on model 591A



关闭机器电源！

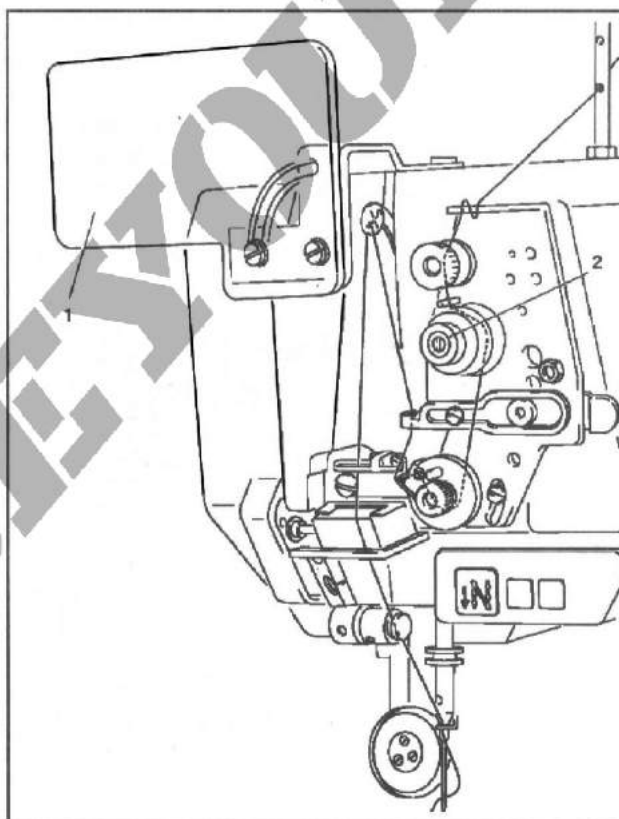
有被机器意外地起动伤害的危险！

Switch the machine off!

Danger of injury if the machine is started accidentally!



- 向上摆动护眼罩1。
- 如图所示穿针线。
- 通过转动滚花螺栓2调节针线的张力。
- Tilt up the eye guard 1.
- Thread the needle thread as shown in Fig.
- Adjust the needle thread tension by turning milled screw 2.





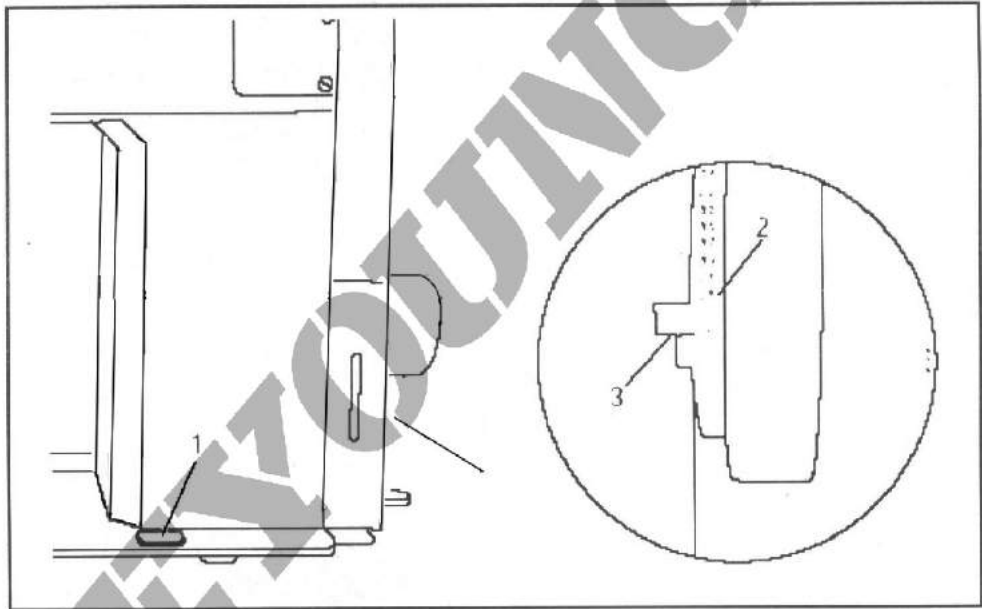
5.06

### 设置线迹长度

#### Setting the stitch length



- 按下键1并同时转动手轮直到线迹调节器吻合嵌入定位位置。
- 保持按下键1并来回地转动手轮，直到在刻度盘2上所需要设置的线迹长度数字与皮带护罩凹槽的下边缘3处对齐。
- Press key 1 and at the same time turn the balance wheel until the stitch setter clicks into position.
- Hold down key 1 and turn the balance wheel to and fro until the stitch length required is shown on the scale 2 opposite the bottom edge 3 of the belt guard recess.



## 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
检查/调节空气压力 .....	每天，开机之前
清洁空气滤清器/润滑器的过滤网 .....	在需要时

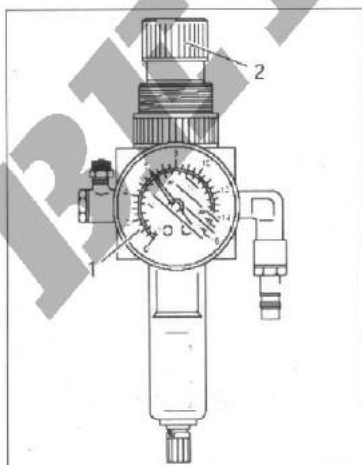
Clean .....	daily, more frequently if in continuous operation
Oil level (thread lubrication/hook lubrication) .....	daily, before use
Oil the hook .....	daily, before use
Lubricate the bevel gears .....	once a year
Check/adjust air pressure .....	daily, before use
Clean air filter of air filter/lubricator .....	when required



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 检查/调节空气压力（选装） Checking adjusting the air pressure (Select Part)



- 在每次开机前，都要先检查气压表1上显示的空气压力。
- 气压表1上必须显示6 bar的空气压力。
- 如果需要时，可调整此值。
- 为此，向上拉并旋转旋钮2，直至气压表显示6 bar的空气压力为至。
- Before operating the machine, always check the air pressure on gauge 1.
- Gauge 1 must show a pressure of 6 bar.
- If necessary adjust to this reading.
- To do so, pull knob 2 upwards and turn it so that the gauge shows a pressure of 6 bar.

## 维护与保养 Care and Maintenance

### 6.02 清洁空气滤清器/润滑器的过滤网（选装） Clean the air filter of the air-filter/lubricator (Select Part)

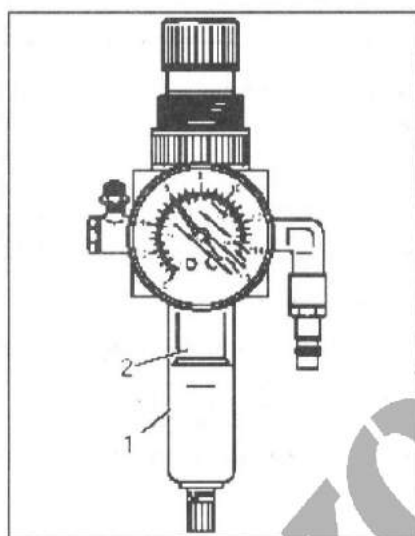


关闭机器电源！

从空气滤清器/润滑器上拆下压缩空气软管。

Switch the machine off!

Disconnect the air hose at the air-filter/lubricator.



将水杯1中的水排空：

Draining water bowl 1:

- 在从空气滤清器/润滑器上拆下压缩空气软管后，水杯1中的水自动排空。
- Water bowl 1 drains itself automatically when the compressed-air hose is disconnected from the air-filter/lubricator.

清洁过滤网2：

Cleaning filter 2:

- 拧下水杯1。
- 取出过滤网2。
- 用压缩空气或者异丙基酒精
- 拧入过滤网2并将水杯1装回到空气滤清器/润滑器上。
- Unscrew water bowl 1.
- Take out filter 2.
- Clean filter 2 with compressed air or isopropyl alcohol.
- Screw in filter 2 and screw on water bowl 1.

### 6.03 清洁 Cleaning

每天清洁旋梭，旋梭腔和齿轮3，如果持续运行时，每天清洁多次。

Clean the hook, hook compartment and toothed wheel 3 every day, several times if in continuous use

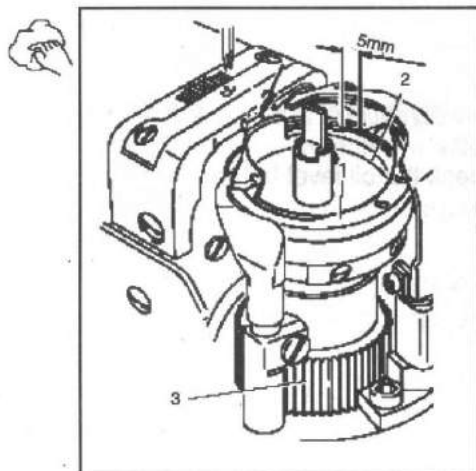
关闭机器电源！

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!

## 维护与保养 Care and Maintenance



- 将针杆升到最高位置。
- 打开柱式底板帽，取出梭壳和梭心。
- 拧松内梭头舌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的螺钉并关闭柱式底板帽。
- Bring the needle bar to its highest position.
- Open the post cap and remove the bobbin case cap and the bobbin.
- Unscrew hook gib 1.
- Turn the hand wheel until the point of bobbin case 2 penetrates into the groove of the hook race approx. 5mm.
- Remove bobbin case 2.
- Clean the hook race with paraffin.
- When inserting the bobbin case 2, ensure that the horn of the bobbin case 2 engages in the groove of the needle plate.
- Screw hook gib 1 back on and close the post cap.

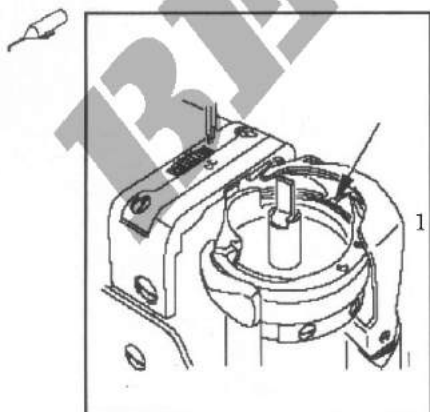
### 6.04 给旋梭加油 Oiling the hook



关闭机器电源！  
有被机器意外地起动伤害的危险！

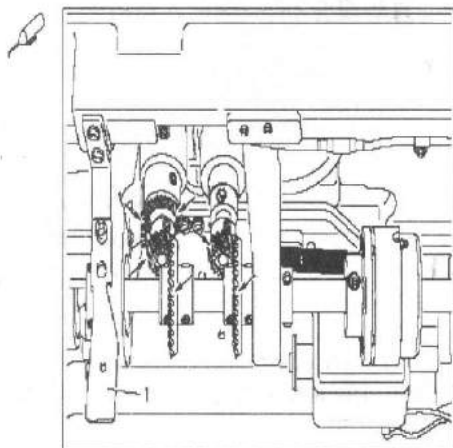
Switch the machine off!

Danger of injury if the machine is started accidentally!



- 每天注1-2滴油到内梭头舌的孔1中。
- 在机器试车前及在长期停机后，注入几滴油到旋梭的槽中（参见箭头所示）。
- Pour 1-2 drops of oil into hole 1 of the hook gib daily.
- Before commissioning the machine, and after long periods out of operation, pour a few drops of oil into the hook race (see arrow).

### 6.05 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中有油。

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加油。

If required refill oil through hole.



只允许使用在40℃ 时平均粘度为22.0 mm<sup>2</sup>/s 和在15℃时密度为0.865 g/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℃.

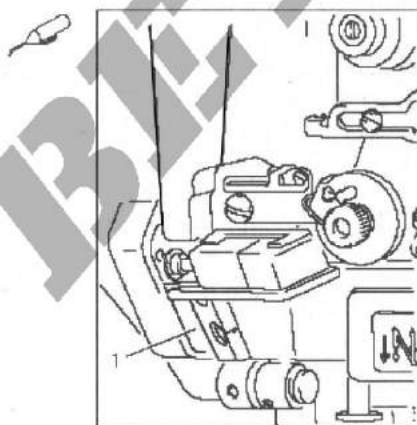
### 6.06 给线润滑系统的油盒加油 Filling the oil reservoir of the thread lubrication unit



在每次开机前检查油量。  
必须保持油盒1中始终有油。

Control the oil level before each use.

There must always be oil in the reservoir 1.



● 如果需要可通过加油孔加油到标记处。

● If necessary, fill oil up to mark through hole

我们推荐使用线润滑油。

We recommend thread lubricating oil .

## 维护与保养 Care and Maintenance

### 6.07 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 592A 机型的伞齿轮副。

Fig. shows the bevel gears of the 592A

- 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！

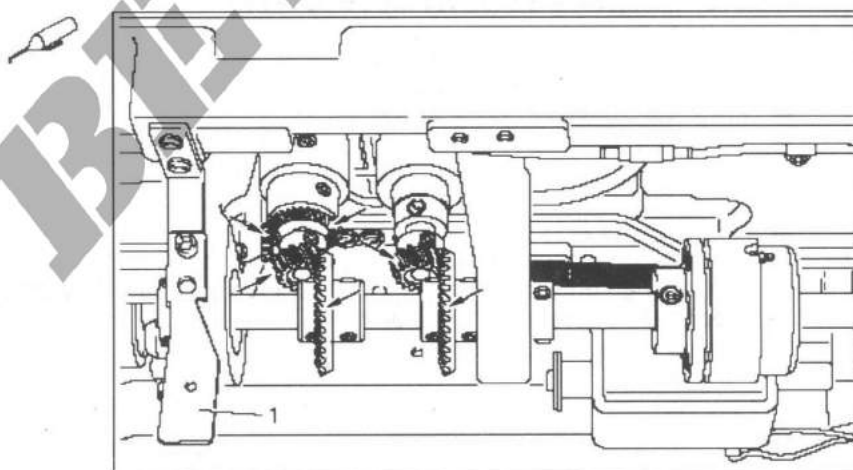
Use both hands to set the sewing head upright!

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. 150C.



### 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和压缩空气供给系统上断开!

有被机器意外地起动伤害的危险!

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

Danger of injury if the machine is started accidentally!

#### 7.01 对调整工作的提示

##### 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、量规和其它辅助材料

##### 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 allen keys from 1.5 to 6mm
- 1 clamp
- 1 metal ruler
- 1 gauge
- Sewing thread and test material

## 调整 Adjustment

### 7.03 调整基础机器 Adjusting the basic machine

#### 7.03.01 在 591A 机型上从缝纫方向上看机针的位置 Needle position in sewing direction on the 591A

##### 规则

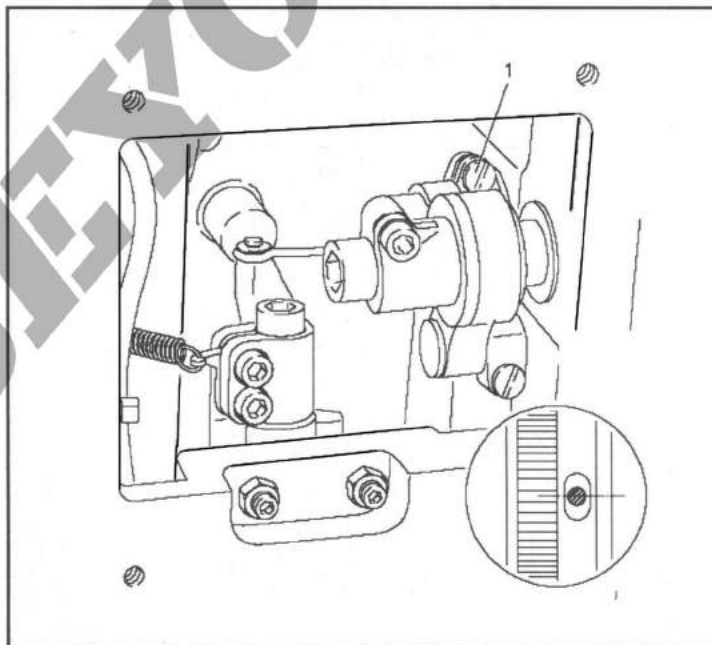
当将线迹长度设置到最小值，从向缝纫方向看，机针应该位于针板上针孔的中心。

##### Requirement

With the stitch length set at its minimum, the needle should be positioned in the centre of the needle hole, as seen in the direction of sewing.



- 设置到最小的线迹长度。
- 按照规则调整针杆（螺钉1）。
- Set the minimum stitch length.
- 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

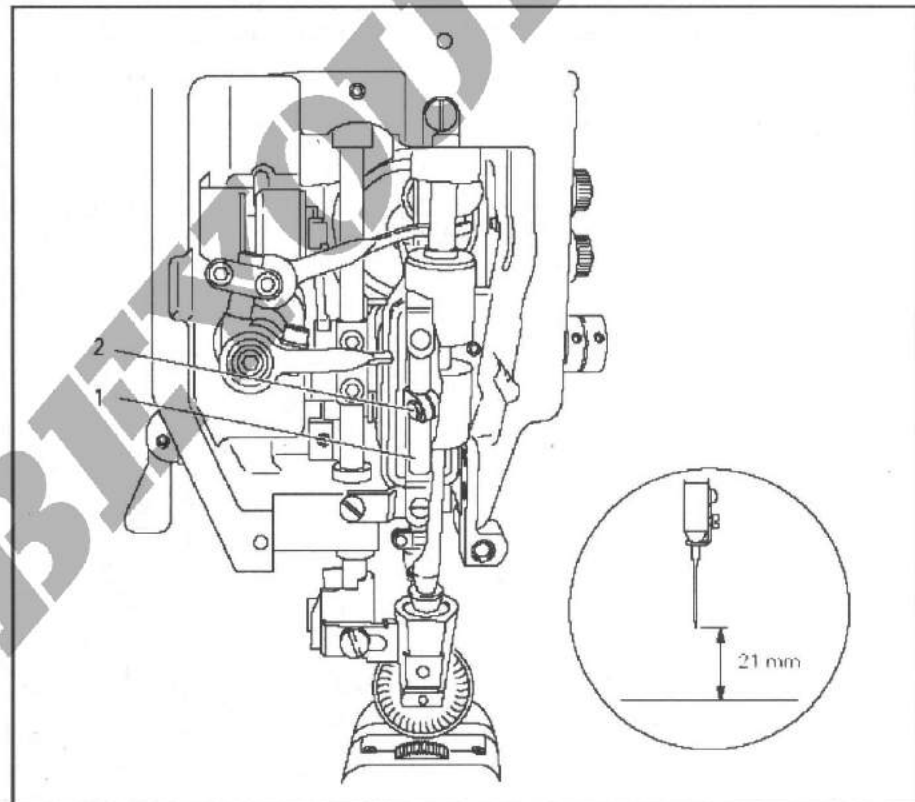
当针杆位于上死点时，在针尖到针板之间必须有大约21 mm的距离。

#### Requirement

When the needle bar is at top dead centre, there must be a clearance of approx. 21mm 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.



## 调整 Adjustment

### 7.03.03 在 591A 机型上针的上升, 旋梭到针的距离, 针的高度和护针器 Needle rise, hook clearance, needle height and needle guard on the 591A

#### 规则

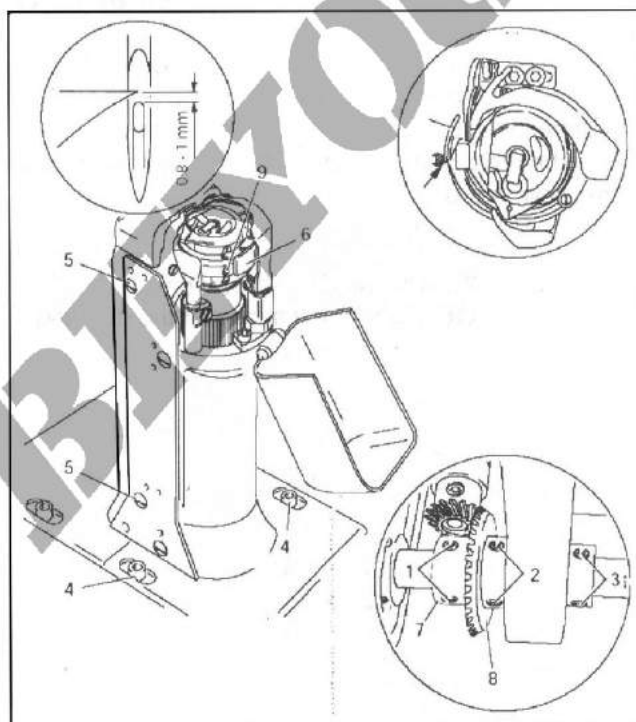
当设置线迹长度为“0.8”，将针杆置于在下死点之后上升2.0 mm处：

1. 旋梭尖必须位于针的中心，旋梭到针的距离是0.05至0.1 mm。
2. 针眼孔的上边缘必须在旋梭尖下面0.8至1.0 mm。
3. 护针器6必须轻轻地靠着机针。

#### Requirement

With the needle bar positioned 2.0mm after bottom dead centre and the stitch length set at “0.8” :

1. the hook point must be at needle centre with a hook-to-needle clearance of 0.05 to 0.1mm.
2. the top of the needle eye must be 0.8 to 1.0 mm below the hook point.
3. The needle guard 6 must touch the needle lightly.



## 调整 Adjustment

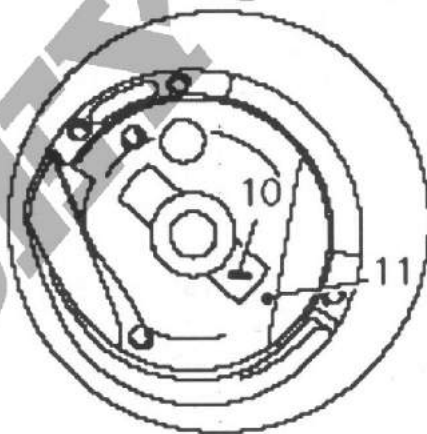


- 设置线迹长度为 "0.8".
- 拧松螺钉1, 2, 3, 4和5。
- 将针杆置于下死点后上升2.0 mm 处:
- 将旋梭尖调整到机针中心, 确保护针器6没有造成机针偏斜。
- 按照第2条规则调整机针的高度。
- 按照第1条规则调整旋梭台柱并拧紧螺钉4。
- 确信伞齿轮副之间有一定间隙并运转自如, 拧紧螺钉2。
- 用限位圈7靠住伞齿轮8, 拧紧螺钉1。
- 按照第3条规则调整护针器6 (螺钉9)。
- Set stitch length at "0.8" .
- Loosen screw 1, 2, 3, 4 and 5.
- Bring needle bar to 2.0 mm past bottom dead centre.
- Set hook point at needle centre, making sure that the needle is not deflected by needle guard 6.
- Adjust needle height according to Requirement 2.
- Adjust hook post according to Requirement 1 and tighten screw 4.
- Making sure that there is some play in the bevel gear, tighten screws 2.
- With retaining collar 7 touching bevel gear 8 tighten screws 1.
- Adjust needle guard 6 (screw 9) according to Requirement 3.



当更换旋梭时, 确信两个标记10和11在同一边。

When the hook is changed, make sure that the markings 10 and 11 are both on one side.



## 调整 Adjustment

### 7.03.04 在 591A 机型上从垂直于缝纫方向看机针的位置 Needle position crosswise to sewing direction on the 591A

#### 规则

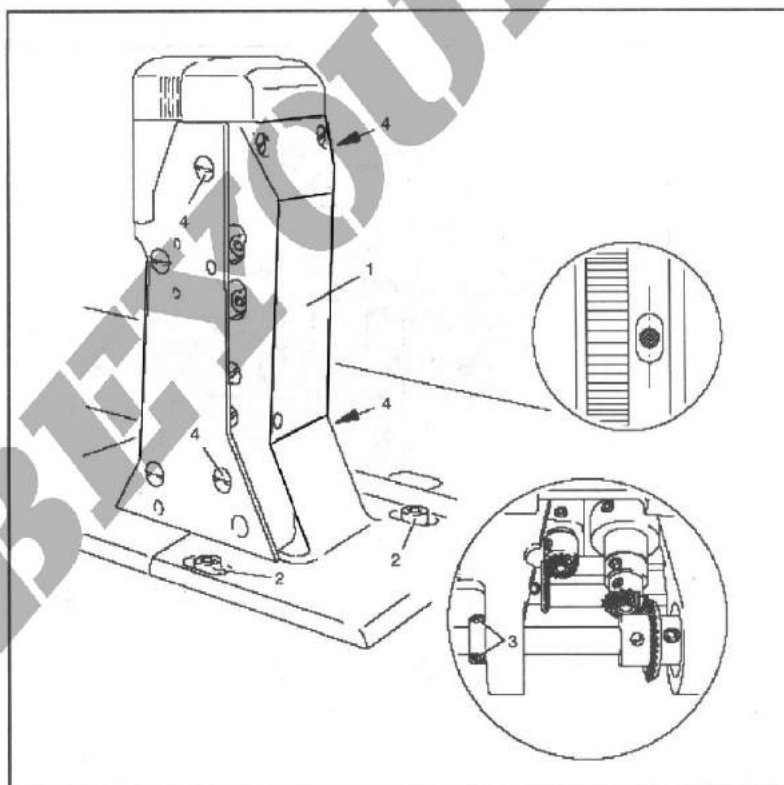
当从垂直于缝纫方向看时，机针必须位于针板的针孔中心。

#### Requirement

As seen crosswise to the sewing direction, the needle must penetrate in the centre of the needle hole.



- 按照规则通过调整进给轮台柱1（螺栓2、3和4）来进行调整。
- Adjust feed wheel post 1 (screws 2, 3 and 4) according to the Requirement.



### 7.03.05 开梭器的高度和行程

#### Height and stroke of the bobbin case opener

##### 规则

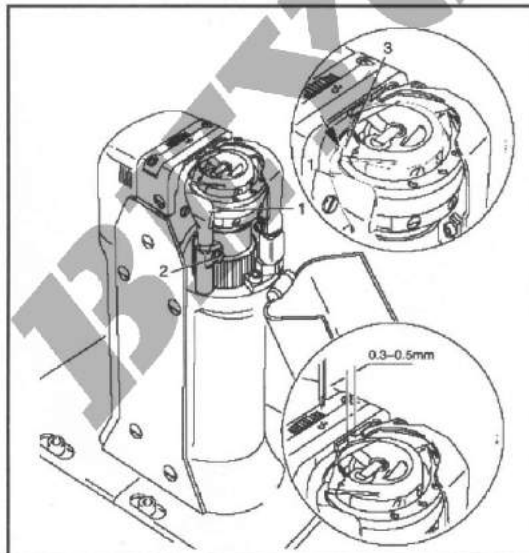
1. 开梭器**1**和梭壳架**3**的上边缘应该处于同一水平面。
2. 当开梭器**1**使梭壳偏转到其最远点时，梭壳的凸出鼻端部分应该距离针板凹槽的后边缘**0.3 至 0.5 mm**。

##### Requirement

1. The top edges of the bobbin case opener **1** and bobbin case **3** should be on one level.
2. when the bobbin case opener **1** has deflected the bobbin case to its furthest point, the catch of the bobbin case should be from **0.3 to 0.5 mm** from the back edge of the needle plate recess.



- 按照第1条规则调整开梭器**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 bobbin case opener **1** (screw **2**) in accordance with **Requirement 1**.
- Turn the balance wheel until the bobbin case opener has deflected the bobbin case to its furthest point.
- Adjust bobbin case opener **1** (screw **2**) in accordance with **Requirement 2**.



在 592A 机型上，在右边的柱台上必须重复进行上述调整工作。根据所使用的缝纫线粗细，允许对第2条规则的调整做出改变。

On the 592A these adjustments must be repeated on the right post. Depending on the thread size, a variation of the setting in Requirement 2 is permitted.

## 调整 Adjustment

### 7.03.06 在 592A 机型上进给轮高度的调整 Height of the feed wheel on the 592A

#### 规则

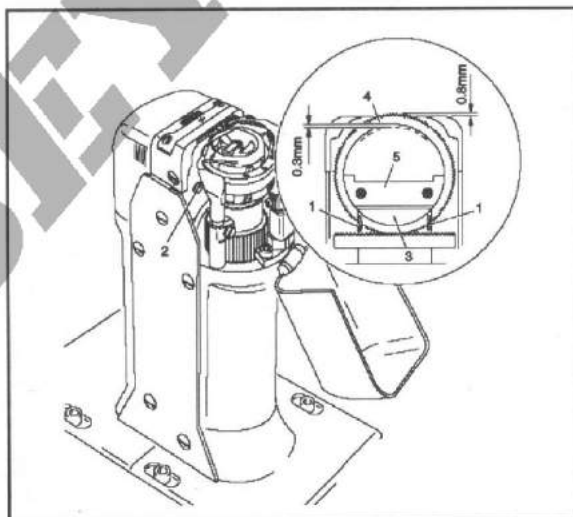
1. 当在进给轮4上施加压力时，它应凸出针板平面一个齿高（约**0.8 mm**）。
2. 当没有向进给轮4上施加压力时，其在垂直方向上应有**0.3 mm**的间隙。

#### Requirement

1. when pressure is applied to the feed wheel 4, it should protrude from the needle plate by tooth height (approx. **0.8 mm**).
2. when no pressure is applied to the feed wheel 4, it should have a vertical play of approx. **0.3 mm**.



- 向外摆动滚轮压脚。
- 拧松螺钉1和2（每一种螺钉有两个）。
- 按照第1条规则调整驱动轮3，注意驱动轮3和进给轮4的齿要相互正确地啮合。
- 拧紧螺钉1。
- 按照第2条规则调整导向件5并拧紧螺钉2。
- Swing out the roller presser
- Loosen screws 1 and 2 (two screws each).
- Adjust drive wheel 3 according to **Requirement 1**, taking care to see that the teeth of drive wheel 3 and feed wheel 4 lock into each other properly.
- Tighten screws 1.
- Adjust guide 5 according to **Requirement 2** and tighten screws 2.



### 7.03.07 在 591A 机型上进给轮高度的调整 Height of the feed wheel on the 591A

#### 规则

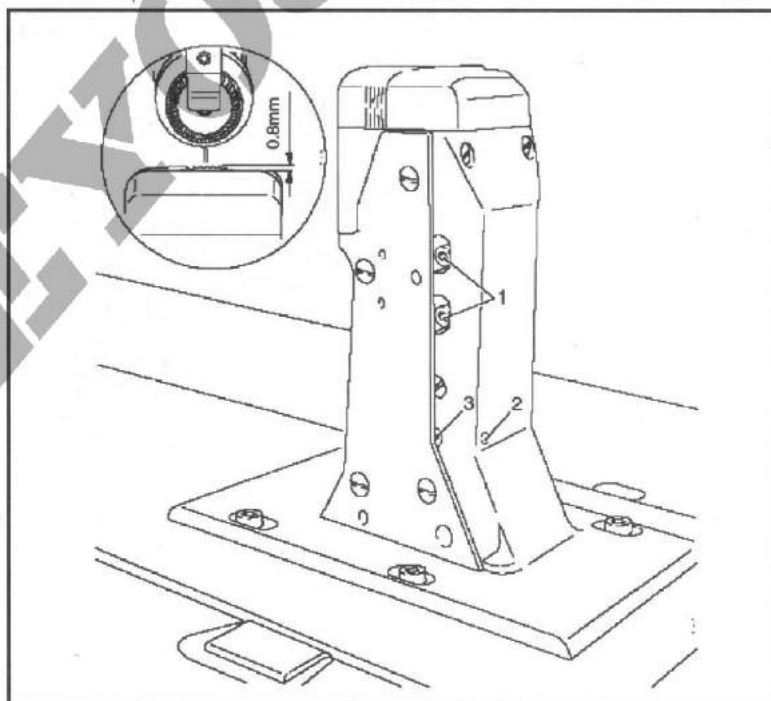
进给轮应凸出针板平面一个齿高（约**0.8 mm**）。

#### Requirement

Feed wheel should protrude from the needle plate by tooth height (appro. **0.8 mm**).



- 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 out the roller presser
- Loosen screws **1**.
- Adjust eccentric **3** (fastening screw accessible through hole **2**) according.
- Tighten screws **1**.



## 调整 Adjustment

### 7.03.08 线迹长度控制的偏心度调整 Stitch length control eccentric

#### 规则

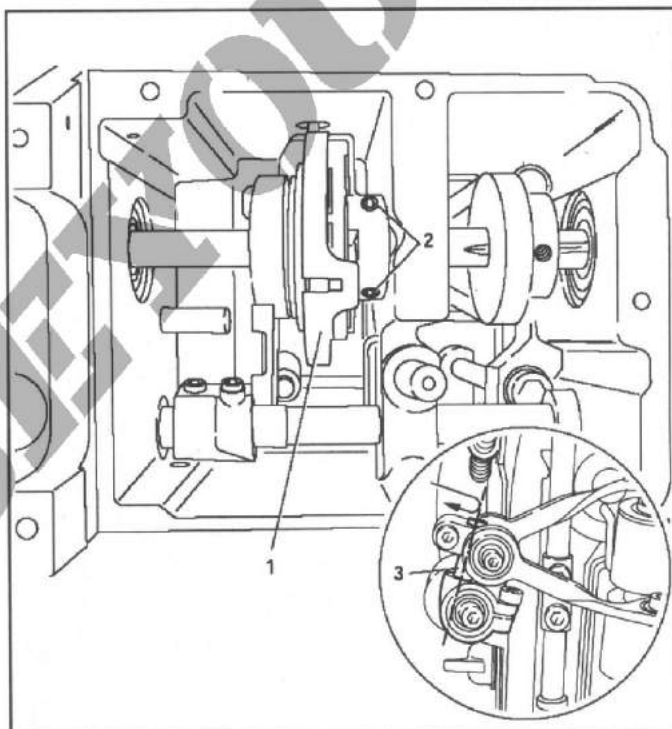
在设置为最大线迹长度的情况下，当机针从上死点下降到距针板上  
面 3 mm 时，曲柄3必须到达它的前反转点。

#### Requirement

When the needle (with maximum stitch length set), coming from  
top dead centre, is 3 mm above the needle plate, the crank 3  
must have reached its front point of reversal.



- 设置最大线迹长度。
- 按照规则转动线迹长度控制装置1（螺钉2）来调整。
- Set the maximum stitch length.
- Turn stitch length control device 1 (screws 2) according to Requirement.





### 7.03.09 线迹长度刻度盘调整 Stitch length scale disk

#### 规则

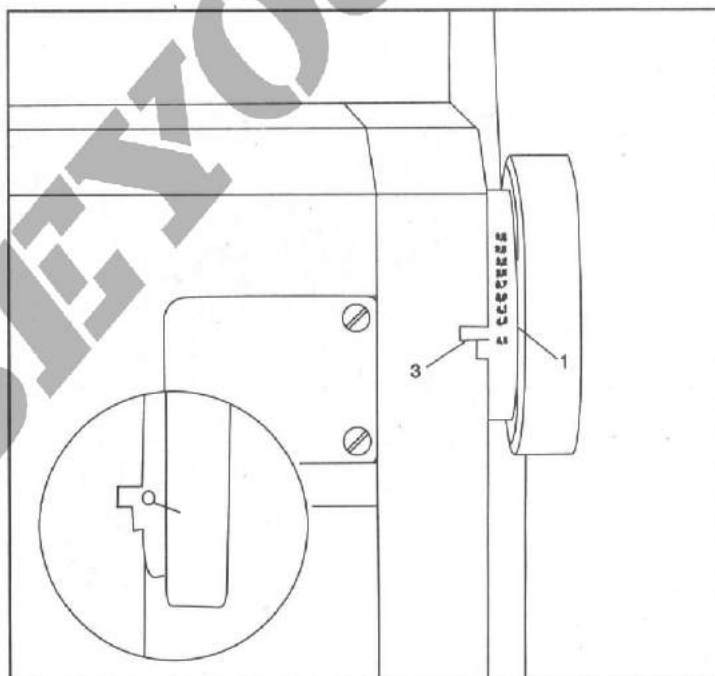
当线迹长度控制装置在适当位置被锁定，而且线迹长度设置在最大值时，在刻度盘1上最大数字的标记线必须与皮带护罩凹槽的下边缘3处对齐。

#### Requirement

When the stitch length control device is locked in position, and the maximum stitch length is set, the marking line of the highest number on the scale disk 1 must be opposite the lower edge 3 of the belt guard recess.



- 设置最大线迹长度。
- 按照规则转动刻度盘1来调整。
- Set the maximum stitch length.
- Turn the scale disk 1 according to the Requirement.



## 调整 Adjustment

### 7.03.10 杆状曲柄到进给轮的传动调整 Shaft crank to feed wheel drive

#### 规则

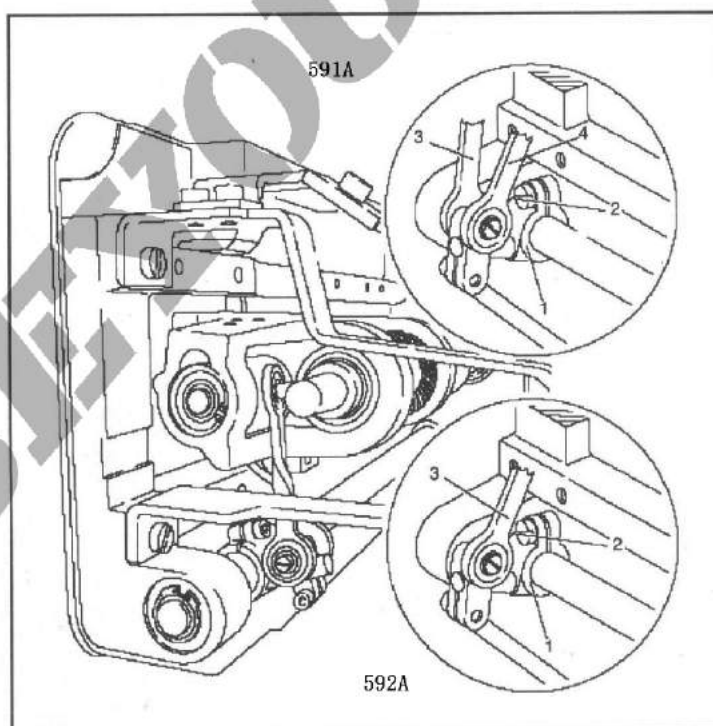
当将线迹设置在最大值，在转动手轮时连杆3（对 591A 机型是连杆 3和4）必须能运动自如。

#### Requirement

When the maximum length is set, the linkage rod 3, or linkage rods 3 and 4 on the model 591A, must be able to move freely when the balance wheel is turned.



- 设置最大线迹长度。
- 按照规则扭转和移动杆状曲柄1（螺钉2）来调整。
- Set the maximum stitch length.
- Twist or shift the shaft crank 1 ( screw 2) according to the Requirement.



### 7.03.11 杆状曲柄到滚轮压脚的传动调整 Shaft crank to roller presser drive

#### 规则

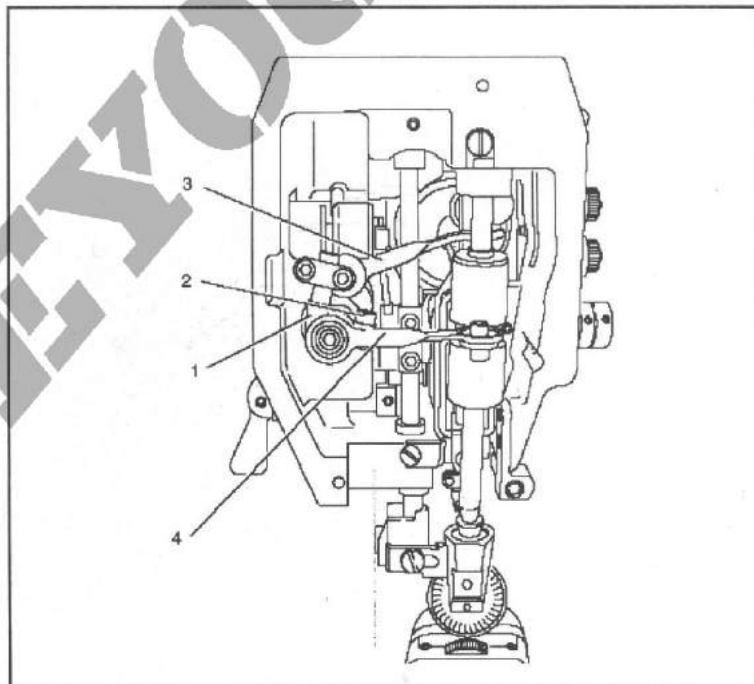
当将线迹设置在最大值，在转动手轮时连杆**3**和**4**在左右转向点都必须能运动自如。

#### Requirement

When the maximum stitch length is set, the linkage rods **3** and **4** must be able to move freely at their left and right point of reversal when the balance wheel is turned.



- 设置最大线迹长度。
- 按照规则扭转带夹头杆状曲柄**1**（螺钉**2**）来调整。
- Set the maximum stitch length
- Twist or shift the shaft crank **1** (screw **2**) according to the Requirement.



## 调整 Adjustment

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

#### 规则

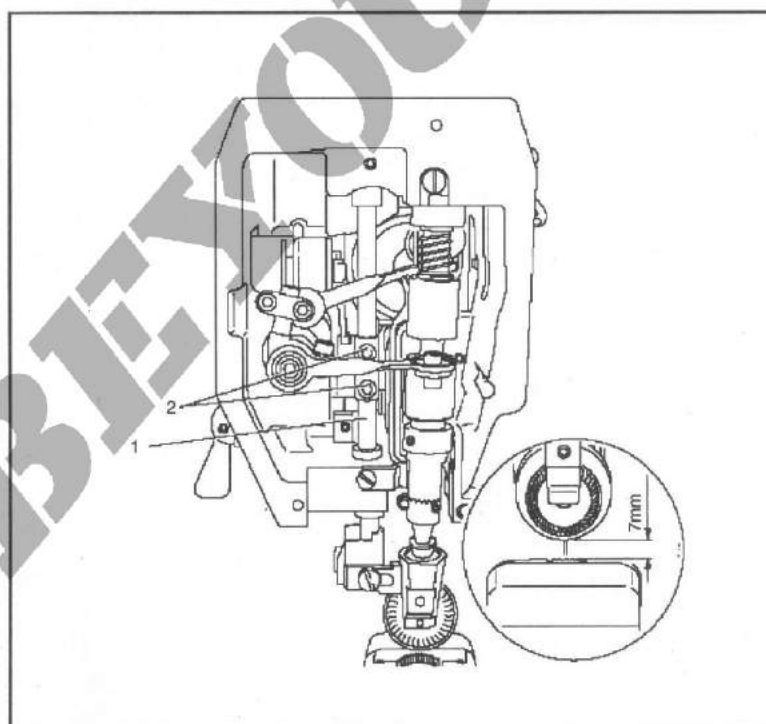
当压脚扳手抬起时，在滚轮压脚和进给轮之间的距离必须是**7 mm**。

#### Requirement

When the presser bar lifter is raised, the clearance between the roller presser and the feed wheel must be **7 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. 13

## 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（在 592A 机型上位于左针的心）。
3. 从垂直于缝纫方向看，要尽可能地靠近针（在 592A 机型上要尽可能地靠近于左针）。

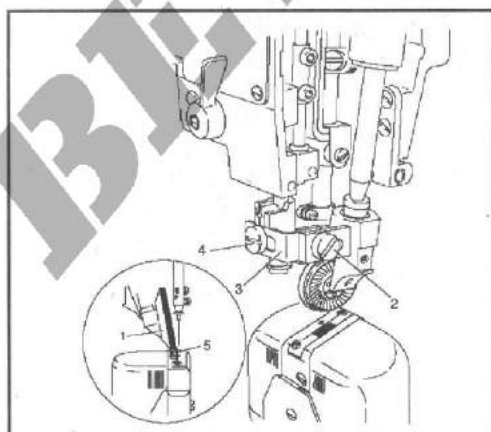
### Requirement

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 (on model 592A the left needle), as seen in the direction of sewing.
3. be as near as possible to the needle (on model 592A the left 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

### 7.03.14 按线迹长度刻度盘的指示值调整线迹长度 Stitch length on stitch length scale

#### 规则

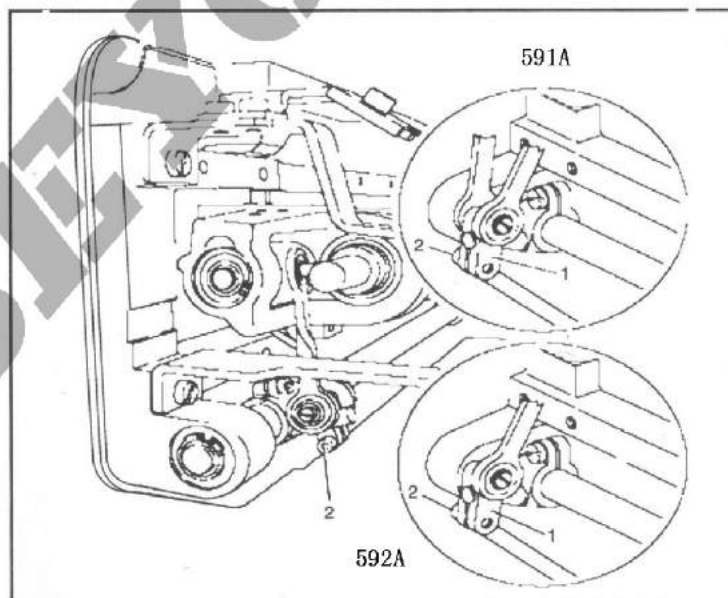
当将线迹长度设置为“3”，在针穿入一条皮革上11次后，从第一个到最后一个针孔间的总长度必须是30 mm。

#### Requirement

When the stitch length is set at “3”, and after the needle has entered a strip of leather 11 times, the total length from the first to last needle penetration must be 30 mm.



- 设置线迹长度为“3”。
  - 通过转动手轮，使针穿刺11次并测量线缝总长度。
  - 按照规则调整夹紧件1（螺钉2）。
  - Set stitch length “3”.
  - By turning the balance wheel, let the needle enter 11 times and measure the total length.
  - Adjust clamp 1 (screw 2) according to the Requirement.
- 夹紧件1不能倾斜地安装到摇轴上。  
Clamp 1 must not be positioned diagonally to the rock shaft!



## 调整 Adjustment

### 7.03.15 滚轮压脚和进给轮的同步调整

#### Synchronization of roller presser and feed wheel

##### 规则

当针穿刺了**30**次后，在下层和上层皮革上从第一个到最后一个针刺孔间的总长度应该是相同的。

##### Requirement

After **30 needle penetrations** in a strip of leather the total length from the first the the last penetration should be the same, both in the lower and the upper leather layer.

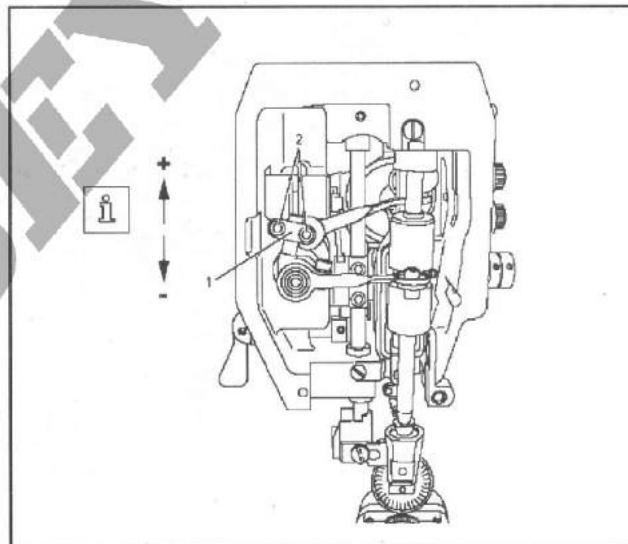


- 设置线迹长度为“3”。
- 通过转动手轮，使针穿刺**30**次。
- 比较上、下层皮革上所缝纫的总长度。
- 按照规则调整夹紧件**1**（螺钉**2**）。
- Set stitch length “3”.
- By turning the balance wheel, let the needle enter **30 times**.
- Compare the total sewn length of the lower and upper leather layer.
- Adjust clamp **1** (screw **2**) according to the **Requirement**.



夹紧件**1**不能倾斜地安装到摇轴上。

Clamp **1** must not be positioned diagonally to the rock shaft.



## 调整 Adjustment

### 7.03.16 压料器 (仅 592A 机型才有) Retainer(only on 592A)

#### 规则

压料器1必须:

1. 从缝纫方向看, 应尽可能地靠近针, 并且
2. 从垂直于缝纫方向看, 位于针的中心。
3. 当滚轮压脚下降时, 在压料器1和缝料间的距离必须是**0.2 - 0.3 mm**。

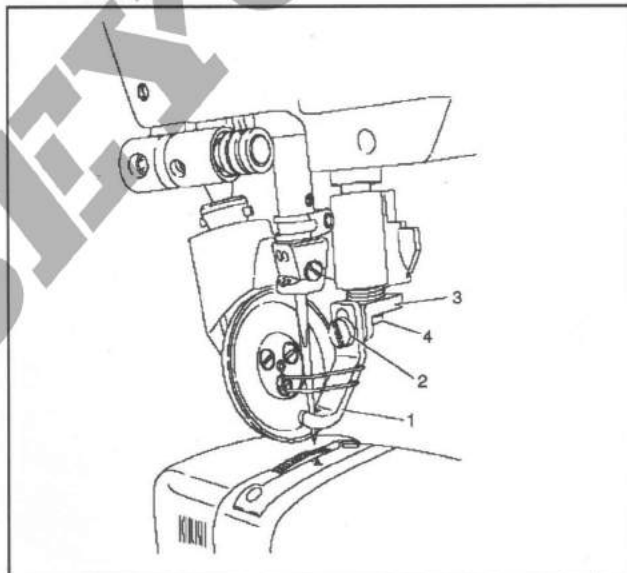
#### Requiemment

The retainer 1 must:

1. be as close as possible to the needle, as seen in the direction of sewing .
2. be in the centre of the needle, as seen crosswise to the direction of sewing.
3. when the roller presser is lowered, the distance between the retainer 1 and the workpiece must be **0.2-0.3 mm**.



- 按照第3条规则调整压料器器1 (螺钉2)。
- 按照第1条和第2条的规则调整支架3 (螺钉4)。
- Adjust retainer 1 (screw 2) according to Requirement 3.
- Adjust bracket 3 (screw 4) according to Requirement 1 and 2.





### 7.03.17 膝提杆 Knee lever

#### 规则

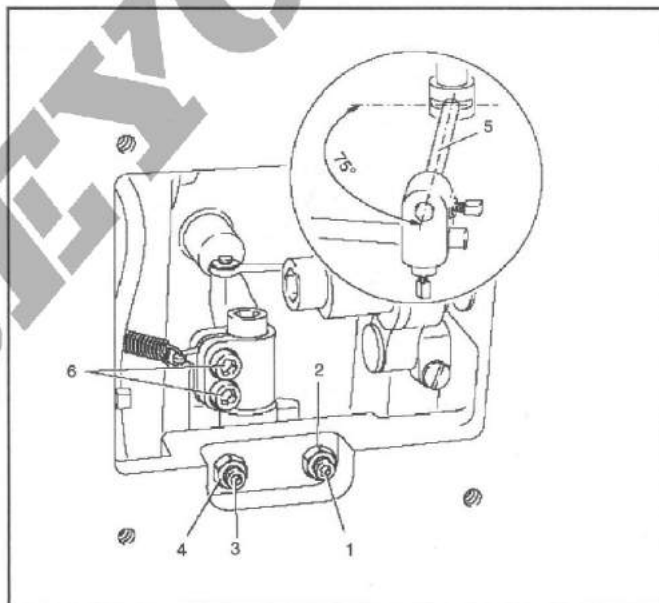
1. 在滚轮压脚抬起前，膝提杆必须有一个微小的空程。
2. 当膝提杆被挤压到最远端时，滚轮压脚扳手必须自动地落下。
3. 膝提杆组件的杆件5必须与底板成大约75°角。

#### 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

7.03.18

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

#### 规则

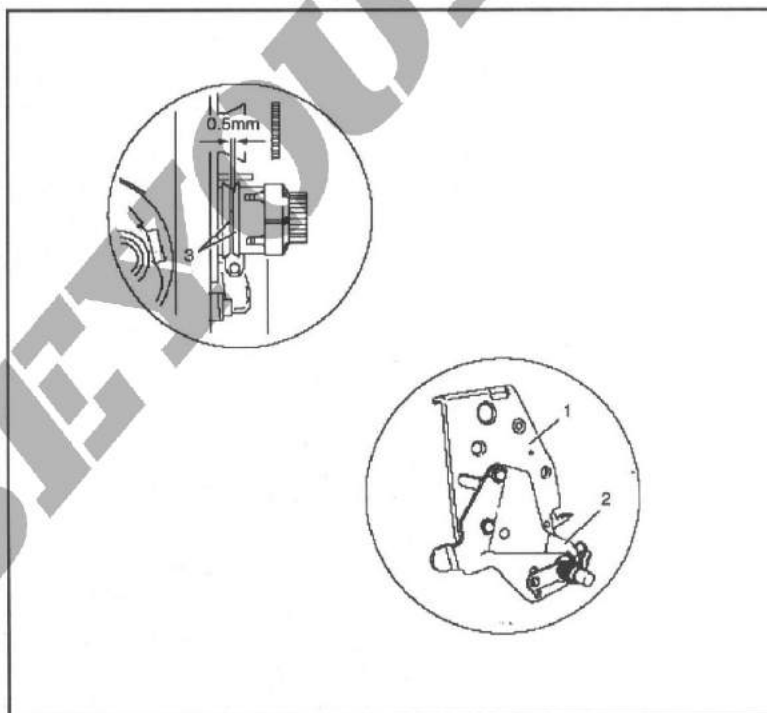
1. 当压脚扳手抬起时，夹线板3应该被挤开最少**0.5 mm**。
2. 当滚轮压脚下降时，夹线器必须完全地起作用。

#### 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.



## 7.03.19 挑线簧调整 Thread check spring

### 规则

1. 当针尖穿刺缝料时,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应从其支承件上轻微地上升。

### Requirement

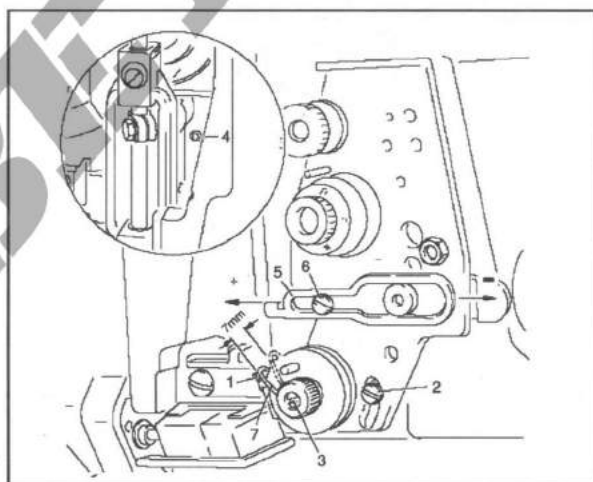
1. the movement of thread check spring 7 should be completed when the needle point penetrate the fabric (spring stroke approx. 7 mm).
2. when the largest thread loop is formed while the thread is passed around the hook, the thread check spring 7 should rise slightly from its support.



- 按照第1条规则调节支承件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. 20 绕线器 Bobbin winder

#### 规则

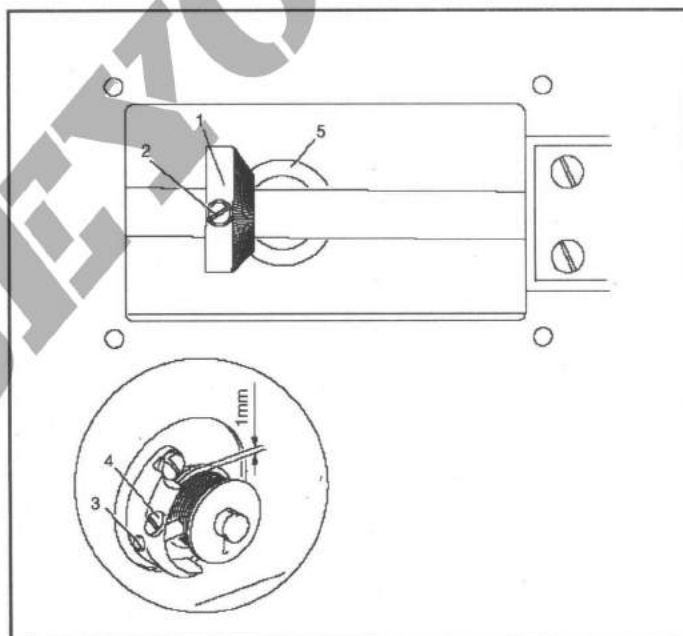
1. 当绕线器处于啮合状态时，绕轴必须可靠地被驱动。当绕线器处于脱离状态时，驱动轮1应不能造成摩擦轮5运动。
2. 当在梭心上所绕的线距离梭心边缘1 mm 时，绕线器应自动停止转动。

#### 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 1 mm 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.



### 7.03.21 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。

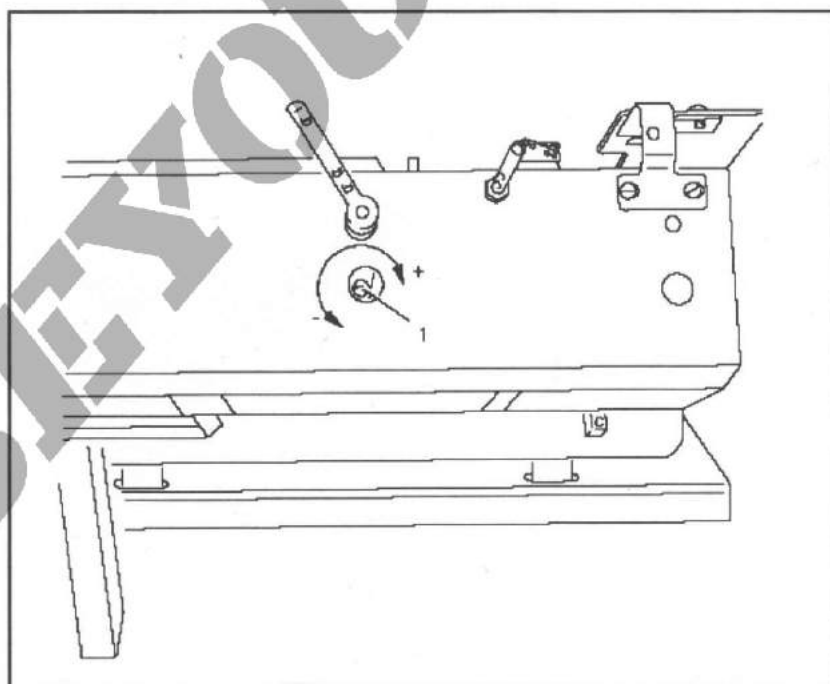


#### Requirement

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



- 按照规则通过螺钉1来调整滚轮压脚的压力。
- Adjust roller pressure with screw 1 according to the Requirement.



## 调整 Adjustment

7. 03. 22

### 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。

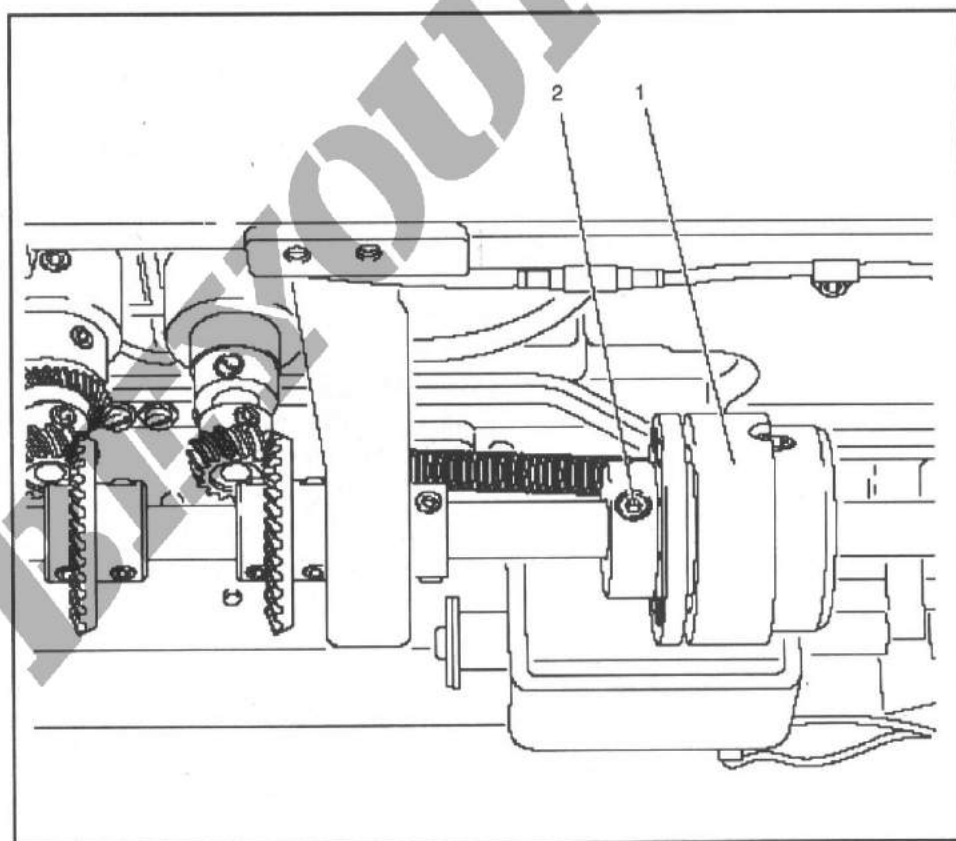
下面说明如何使安全联轴器重新复位啮合。

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.



### 7.04 剪线器D的调整 Adjusting the thread trimmer -D

#### 7.04.01 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

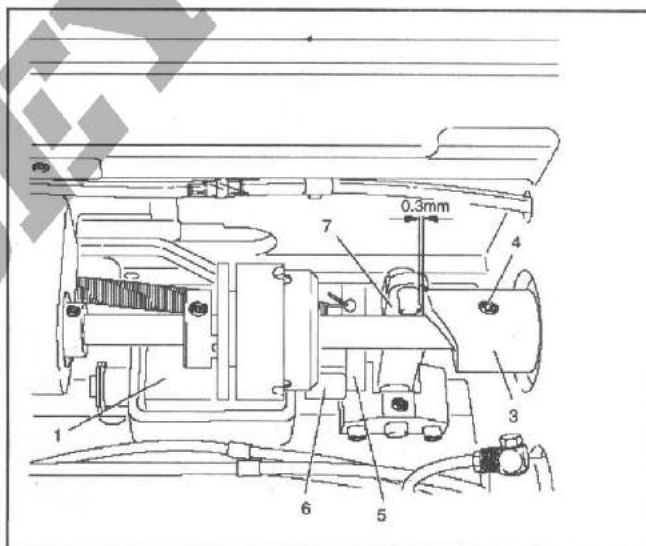
1. 当剪线器在静止位置时，杠杆5应与活塞6相接触，而且滚轮杠杆的滚轮与控制凸轮3之间有0.3 mm的距离。
2. 当挑线杆在上死点时，控制凸轮3应该正好使滚轮杠杆7处于静止位置。

##### 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定位在左止点时，按照第1条规则调整电磁铁1（两个螺钉）。
- 按照第2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. 02

### 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. 在捕线器的空挡位置和最初位置,在齿弧段零件4和捕线器架1的外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).

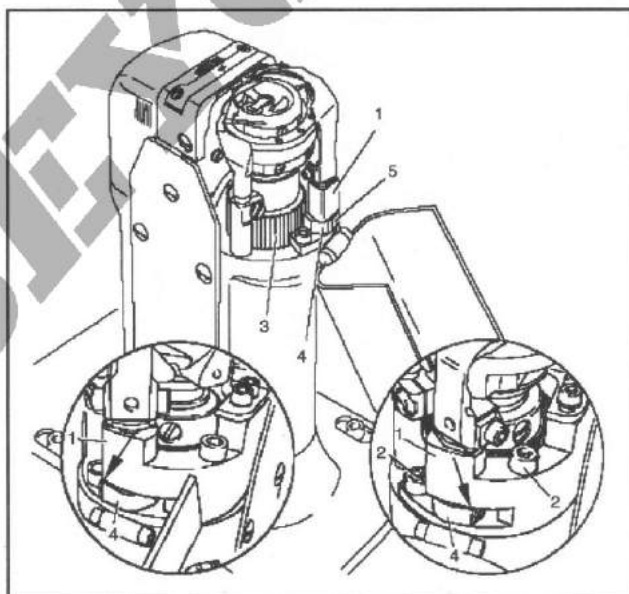


- 按照规则调整捕线器架1(螺钉2)。
- Adjust the thread catcher holder 1 (screws 2) according to Requirements.



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.





## 调整 Adjustment

7.04.03

捕线器与针板间的距离

**Distance between thread catcher and needle plate**

### 规则

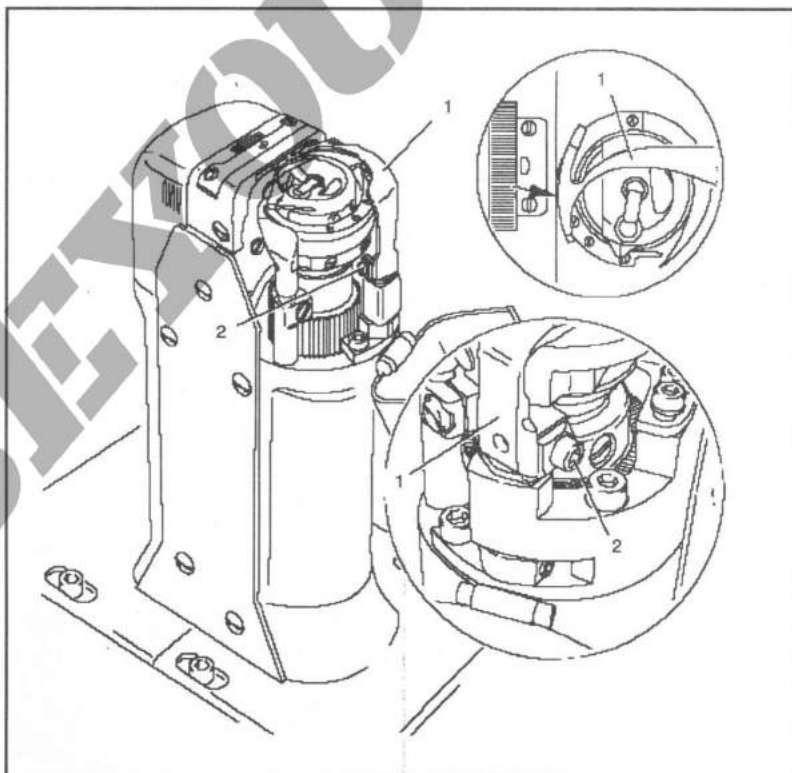
在其摆动运动过程中，捕线器1不应越过针板的边缘（参见箭头）。

### 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

### 7.04.04 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. 当剪线器处于空挡位置时，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.

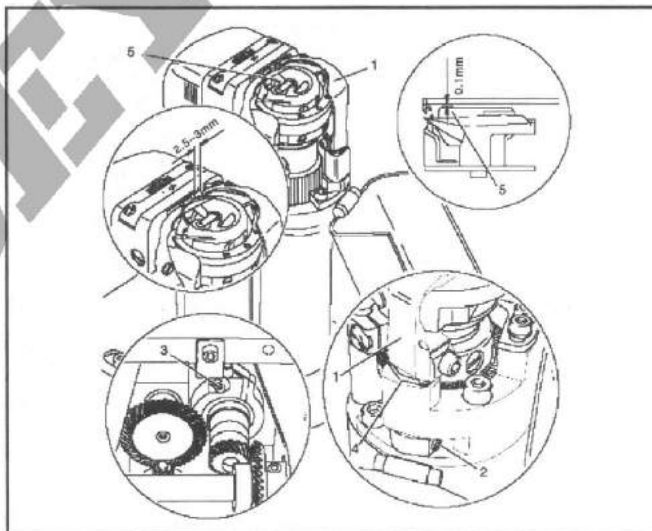


- 按照第1条规则移动捕线器1（螺钉2，两个螺钉）。
- 按照第2条规则转动捕线器1（螺钉3）。
- Move thread catcher 1 (screw 2, two screws) in accordance with Requirement 1.
- Turn thread catcher 1 (screw 3) in accordance with Requirement 2.



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. 05

## 梭心线夹持弹簧

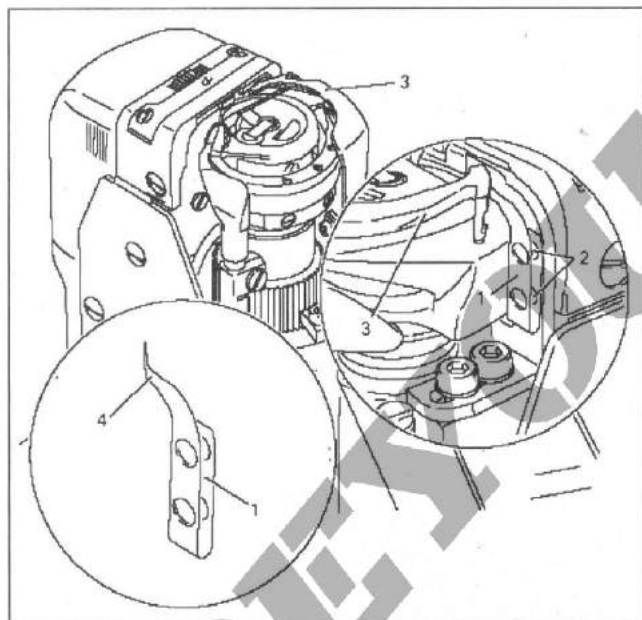
### Bobbin thread retaining spring

#### 规则

1. 梭心线夹持簧应在捕线器3的线槽中可靠地导向。
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条规则，通过扳梭心线夹持簧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。如有必要做重新调整。

#### 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，通过转动手轮缝制几个线迹，检查在第1个和第3个线迹之间是否梭心线被从夹持簧中拉出。如有必要改进持紧簧压力。

#### 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.

## 调整 Adjustment

7.04.06

### 手动剪线试验

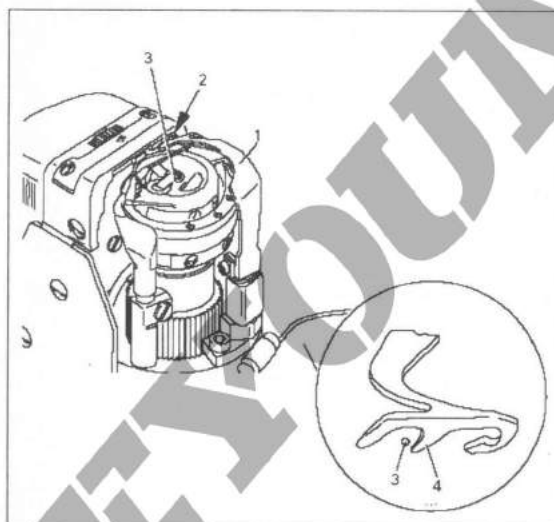
#### Manual cutting test

##### 规则

1. 当捕线器1在其向前的行程时，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和第2条规则检查，如果有必要可按照7.04.04节捕线器位置调整重新调整捕线器1。
- 按第3条规则检查，如果有必要可按照第7.04.05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 7.04.04 Position of the thread catcher**.
- Check **Requirement 3**, and if necessary readjust the bobbin thread retaining spring 2 in accordance with **Chapter 7.04.05 Bobbin thread retaining spring**.

## 调整 Adjustment

7.04.07

### 夹线器松线

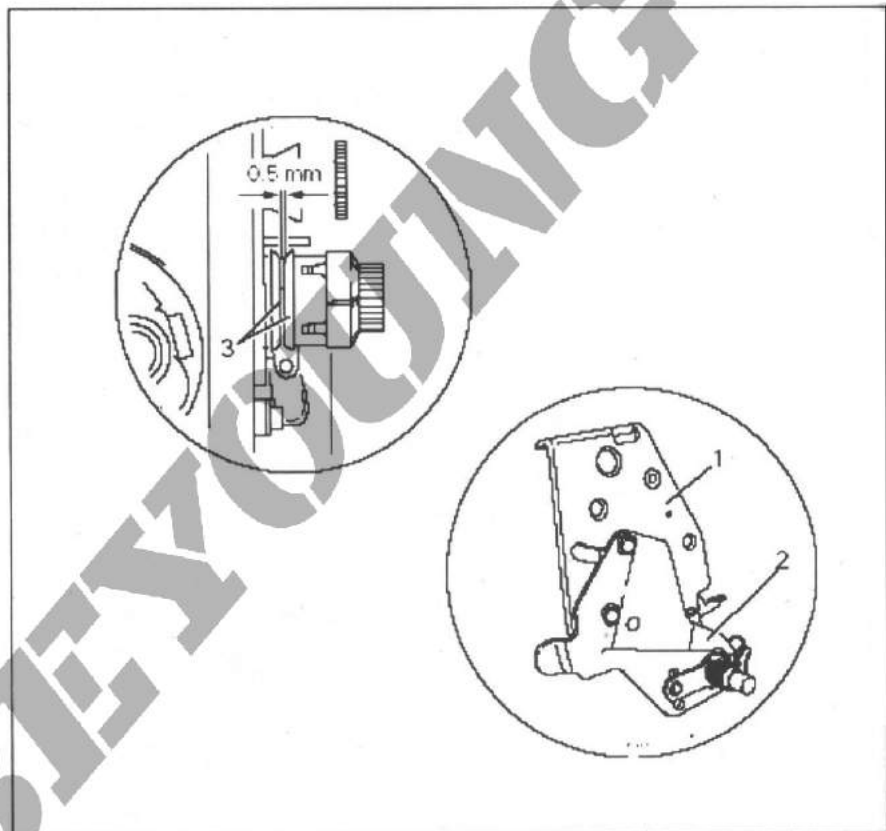
#### Releasing the tension

规规则

1. 当电磁铁通电时，夹线板3应该被挤开最少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承板1并调整压力板2。
- Activate the magnet.
- Detach the tension bearing plate 1 and adjust pressure plate 2.

## 调整 Adjustment

7.04.08

联动杆调整(仅 592A 机型有)

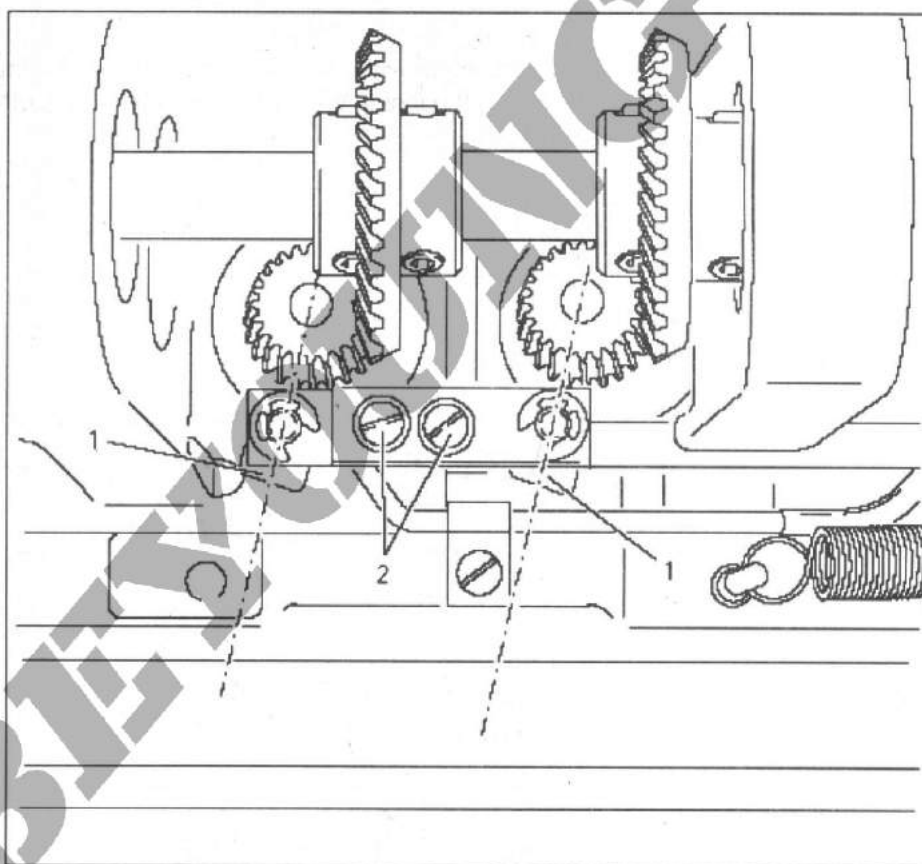
**Linkage rod** (only for the 592A )

规则

当剪线器处于静止位置时，其驱动杠杆1之间必须是平行的。

**Requirement**

When the thread trimmer is in its resting position, the drive levers 1 must be parallel.



● 按照规则调整杠杆1（螺钉2）。

● Adjust drive levers 1 (screw 2) in accordance with the Requirement.

## 调整 Adjustment

7.05

调整倒缝机构

**Adjusting backtacking mechanism**

7.05.01

机针在针孔中的位置 (仅对于 591A 机型)

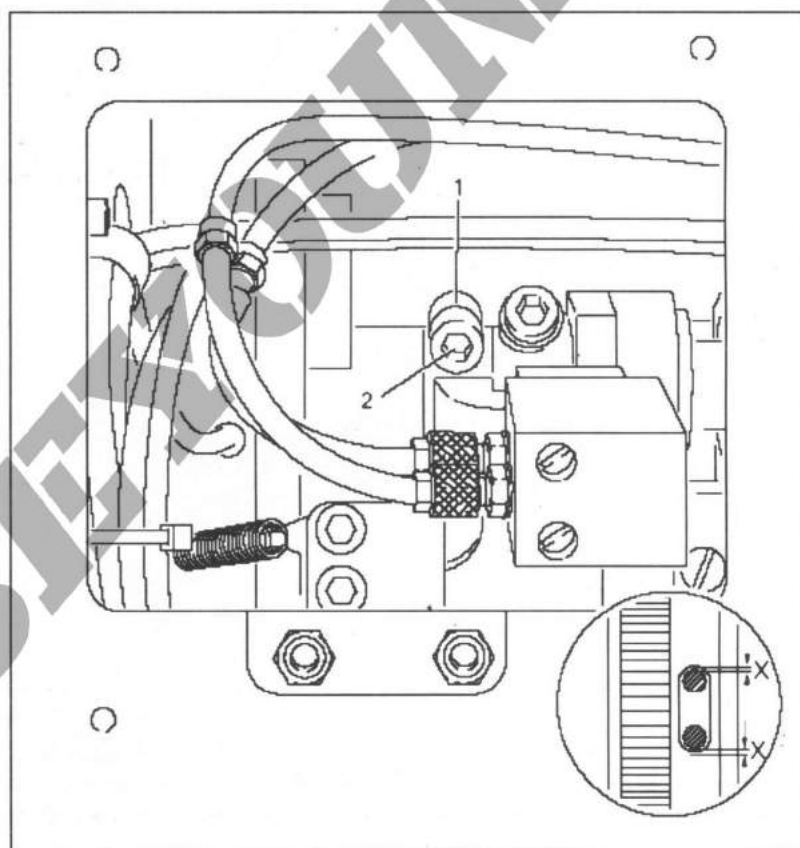
**Needle in needle hole (only for 591A)**

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。

**Requirement**

When the maximum stitch length is set, the needle must be the same distance from the inside edge of the needle hole, both for forward and reverse stitch.



● 按照规则转动曲柄1 (螺钉2) 来调整。

● Turn crank 1 (screw 2) according to the Requirement,

## 调整 Adjustment

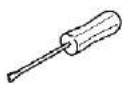
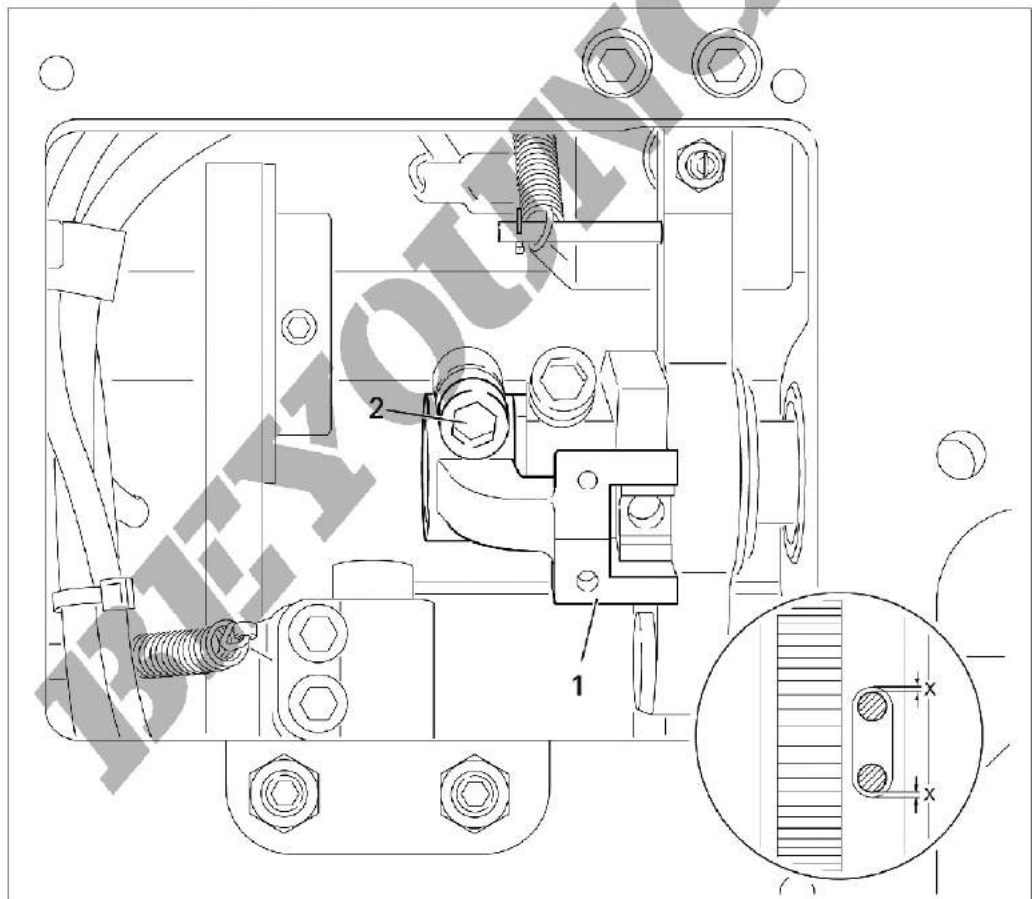
### 7. 05. 02 针孔的机针位置 (在 591A 机型上) Needle in needle hole (only for 591A )

#### 规则

当设定最大针距时，不管是顺缝还是倒缝，机针必须在针孔里与针孔周边是一样的距离。

#### Requirement

When the maximum stitch length is set, the needle must be the same distance from the inside edge of the needle hole, both for forward and reverse stitch.



- 按规则调整曲柄1（螺丝2）。
- Turn crank 1 (screws 2) according to the requirement.



## 调整 Adjustment

7.05.03

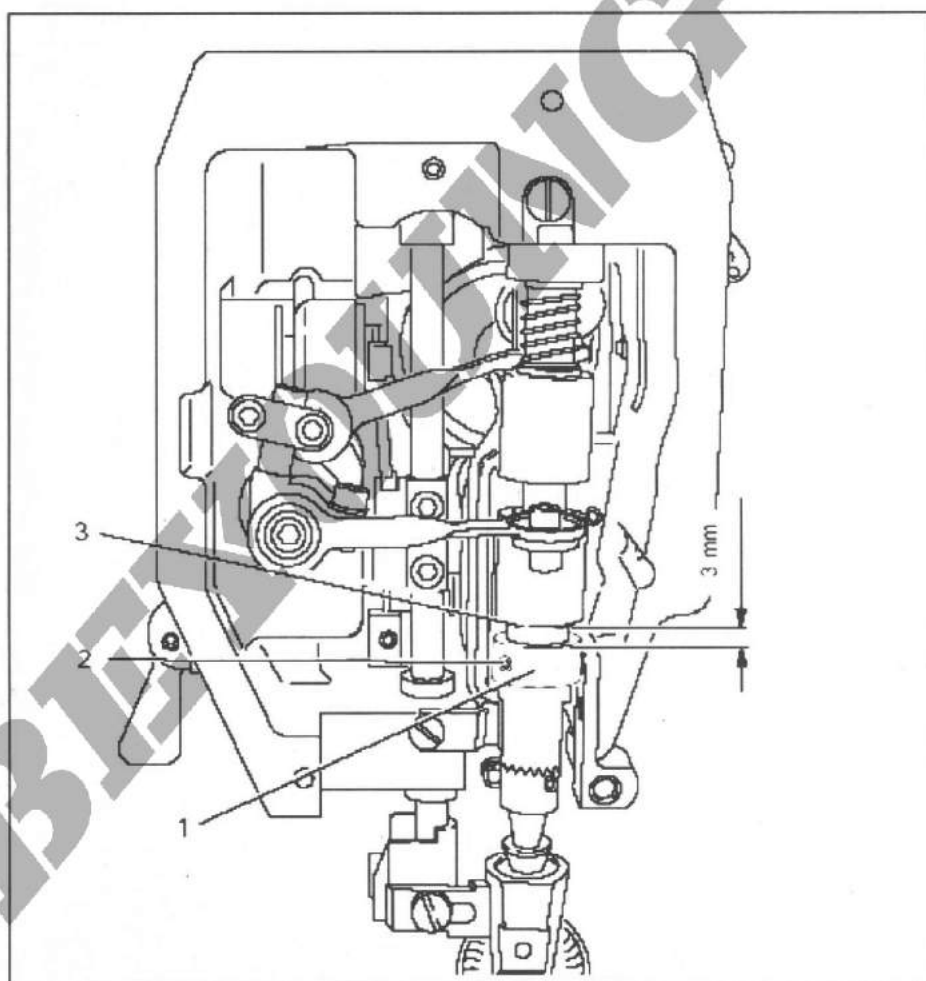
### 滚轮压脚驱动装置的联接器调整 Coupling for roller presser drive

#### 规则

在半联接器1和驱动装置的锁定圆片3之间必须有3 mm 的距离。

#### Requirement

There must be a distance of 3 mm between coupling half 1 and locking disc 3 of the drive mechanism.



- 按照规则调整半联接器1（螺钉2）。
- Adjust coupling half 1 (screw 2) according to the Requirement.

## 调整 Adjustment

7.05.01

进给轮驱动装置的伞齿轮(在 592A 机型上)

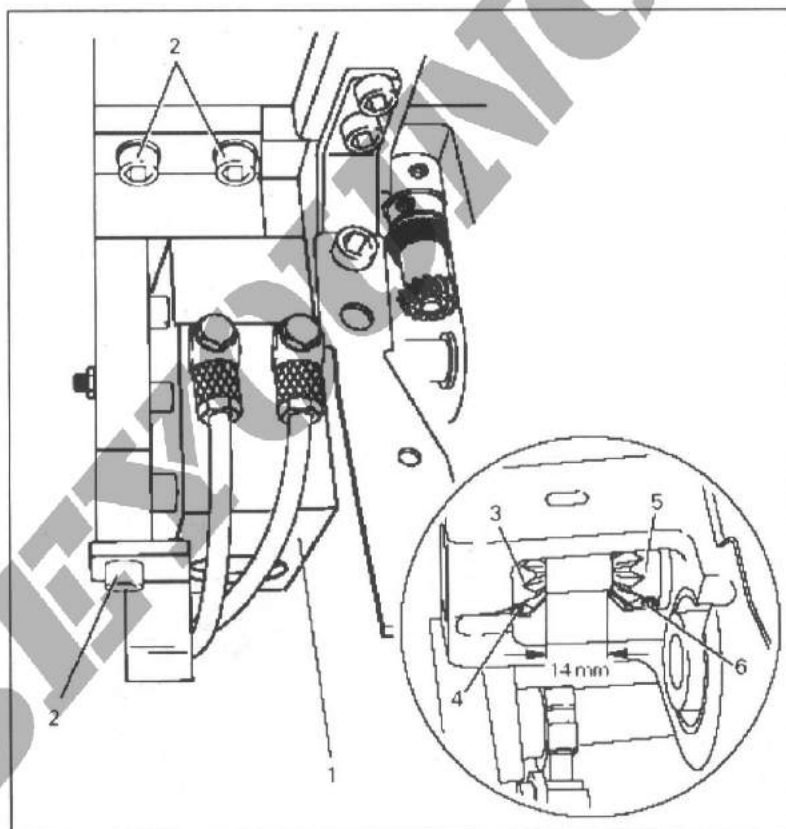
**Bevel gears for feed wheel drive** (on the 592A )

### 规则

1. 伞齿**3**必须正确地安装在左边。
2. 在伞齿轮**3**和伞齿轮**5**之间必须有**14 mm** 的距离。

### Requirement

1. bevel gear **3** must fit well on the left side.
2. there must be a distance of **14 mm** between bevel gear **3** and bevel gear **5**.



- 移动控制单元**1**（螺钉**2**）。
- 按照第**1**条规则调整伞齿轮**3**（螺钉**4**）。
- 按照第**2**条规则调整伞齿轮**5**（螺钉**6**）。
- Remove control unit **1** (screws **2**).
- Adjust bevel gear **3** (screw **4**) according to **Requirement 1**.
- Adjust bevel gear **5** (screw **6**) according to **Requirement 2**.

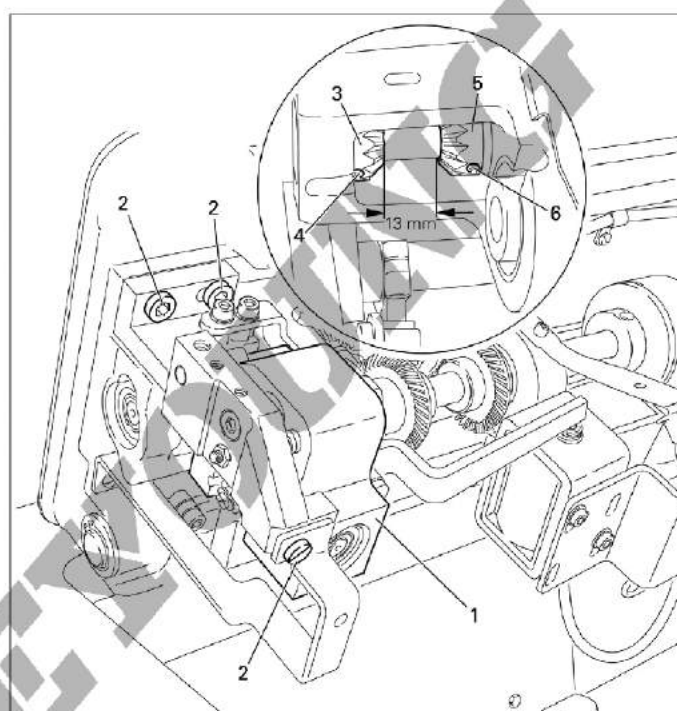
## 7.05.05 进给轮驱动装置的伞齿轮调整 (在 592A 机型上) Bevel gears for feed wheel drive (on the 592A )

### 规则

- 1、伞齿3必须在左边安装好。
- 2、在伞齿轮3和伞齿轮5之间必须有13mm的距离。

### Requirement

1. Bevel gear 3 must fit well on the left side.
2. There must be a distance of 13 mm between bevel gear 3 and bevel gear 5.



- 移开控制装置1（螺丝2）。
- 按照第1条规则调整伞齿轮3（螺丝4）。
- 按照第2条规则调整伞齿轮5（螺丝6）。
- Remove control unit 1 (screws 2).
- Adjust bevel gear 3 (screws 4) according to requirement 1.
- Adjust bevel gear 5 (screws 6) according to requirement 2.



伞齿轮3与伞齿轮5的钝齿必须排列整齐，排成一条线。  
The cogs of bevel gears 3 and 5 must be aligned.

## 调整 Adjustment

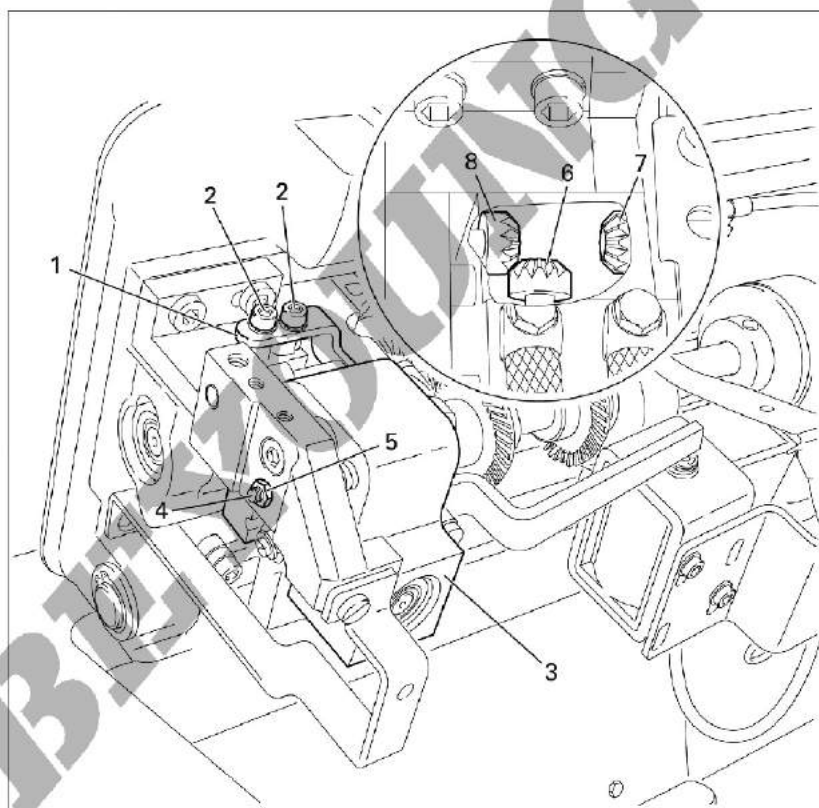
### 7. 05. 06 伞齿轮副间隙调整 (在 592A 机型上) Bevel gear play (on the 592A )

#### 规则

- 1、当顺缝时，在伞齿轮副6和7之间必须有微小的间隙。
- 2、当倒缝时，在伞齿轮副6和8之间必须有微小的间隙。

#### Requirement

1. When sewing forwards, there must be a slight play between bevel gears 6 and 7.
2. When sewing backwards, there must be a slight play between bevel gears 6 and 8.



- 按照第1条规则调整支架1（螺丝2）。
- 用手将装置3尽可能地向左移动。
- 按照第2条规则调整螺钉4（螺母5）。
- Adjust bracket 1 (screws 2) according to requirement 1.
- Move unit 3 by hand as far as possible to the left.
- Adjust screw 4 (nut 5) according to requirement 2.

### 7.05.07 电磁铁调整 (在 592A 机型上) Adjusting the magnets (on the 592A )

#### 规则

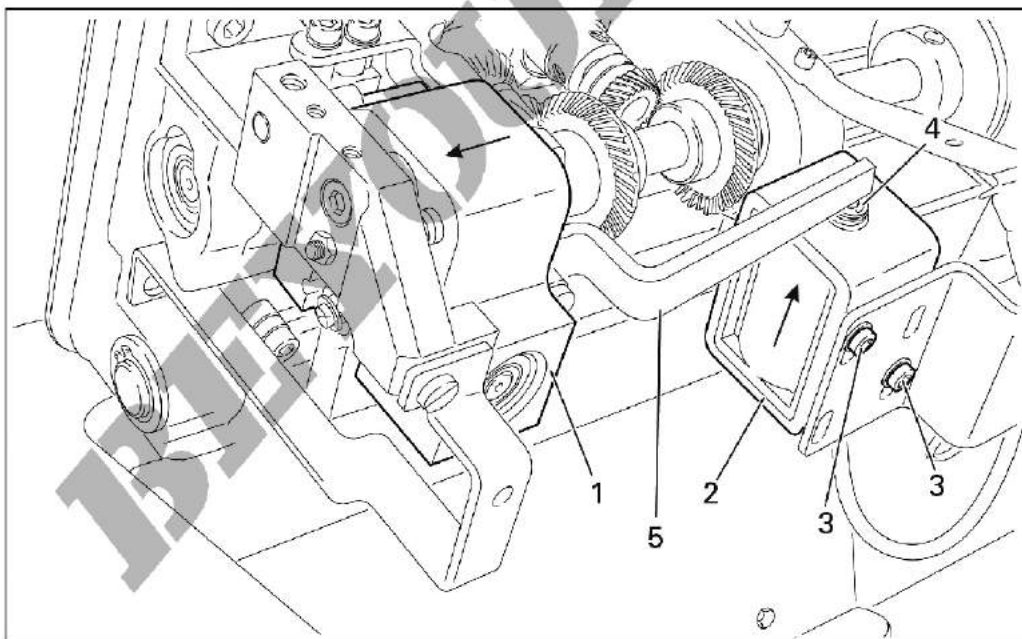
当装置1在它的左边位置停止时

- 1、电磁铁边框应当安装在停止位置，并且
- 2、电磁铁推杆4应该完全伸出。
- 3、当电磁铁推杆4伸出时，在电磁铁推杆与连杆5之间应该没有间隙。

#### Requirement

When switch unit 1 is in its left stop position

1. The magnet frame 2 should be positioned at the top stop position and
2. The magnet tappet 4 should be completely extended.
3. When the magnet tappet 4 is extended, there should be no play between the magnet tappet and lever 5.



- 尽可能向左边用手移动离合装置1（见箭头）。
- 按要求调整电磁铁边框2（螺丝3）。
- Manually slide switch unit 1 as far as possible to the left (see arrow).
- Adjust magnet frame 2 (screws 3) in accordance with the **requirements**.

## 调整 Adjustment

7.05.08

进给轮驱动装置的伞齿轮调整(在 591A/592A 机型上)

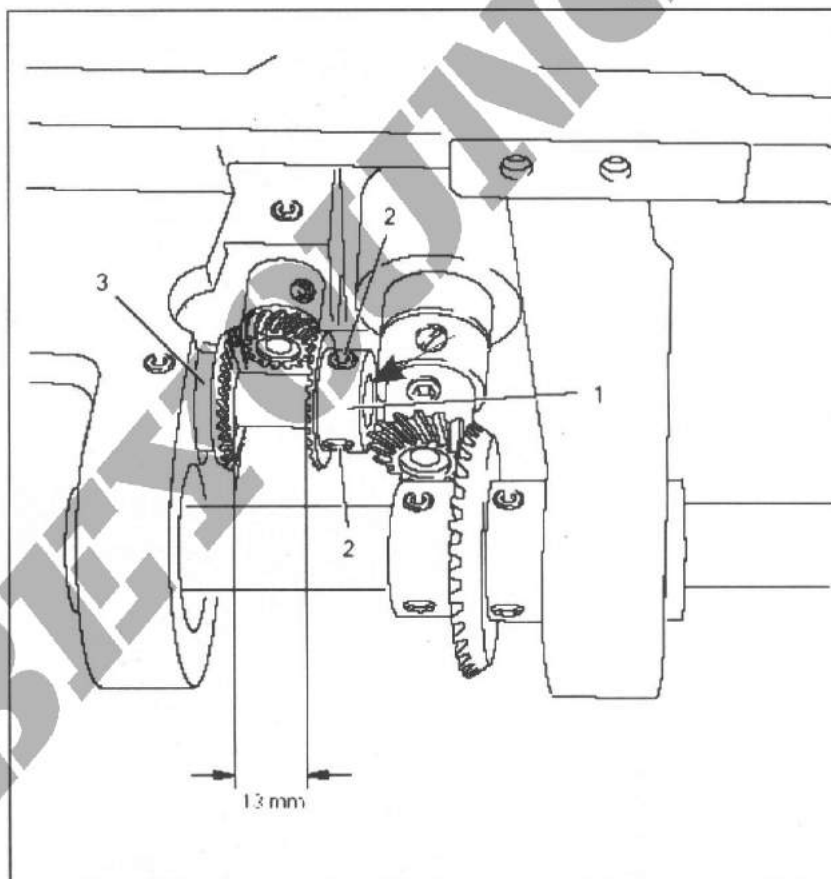
**Bevel gears for feed wheel drive (on the 591A/592A )**

规则

1. 伞齿轮1的右端面必须与其驱动轴的端面平齐（见箭头所示）。
2. 在伞齿轮3和伞齿轮1之间必须有13 mm 的距离。

**Requirement**

1. the right side of bevel gear 1 must be flush with its drive shaft (see arrow).
2. there must be a distance of 13 mm between bevel gear 3 and bevel gear 1.



- 按照第1条规则调整伞齿轮1（螺钉2）。
- 按照第2条规则调整伞齿轮3（螺钉4）。
- Adjust bevel gear 1 (screws 2) according to Requirement 1.
- Adjust bevel gear 3 (screws 4) according to Requirement 2.

## 调整 Adjustment

7. 05. 09

伞齿轮副间隙调整(在 591A 机型上)

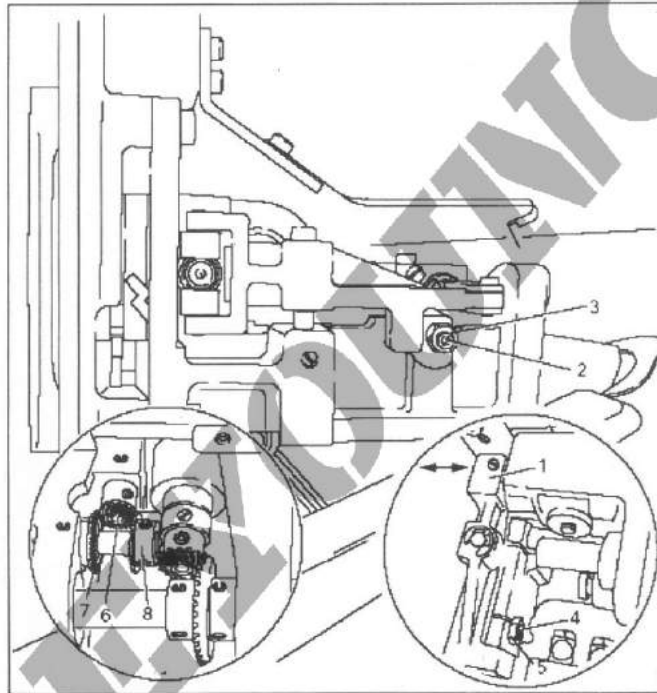
### Bevel gear play (on the 591A )

#### 规则

1. 当顺缝时，在伞齿轮副6和7之间必须有微小的间隙。
2. 当倒缝时，在伞齿轮副6和8之间必须有微小的间隙。

#### Requirement

1. when sewing forwards, there must be a slight play between bevel gear 6 and 7.
2. When sewing backwards, there must be a slight play between bevel gear 6 and 8.



- 从空气滤清器/润滑器上断开压缩空气供应。
- 用手将单元1尽可能地向右移动（参见箭头所示）。
- 按照第1条规则调整螺钉2（螺母3）。
- 用手将单元1尽可能地向左移动（参见箭头所示）。
- 按照第2条规则调整螺钉4（螺母5）。
- Disconnect air supply of the air filter/lubricator.
- Move unit 1 by hand as far as possible to the right (see arrow).
- Adjust screw 2 (nut 3) according to **Requirement 1**.
- Move unit 1 by hand as far as possible to the left (see arrow).
- Adjust screw 4 (nut 5) according to **Requirement 2**.

## 调整 Adjustment

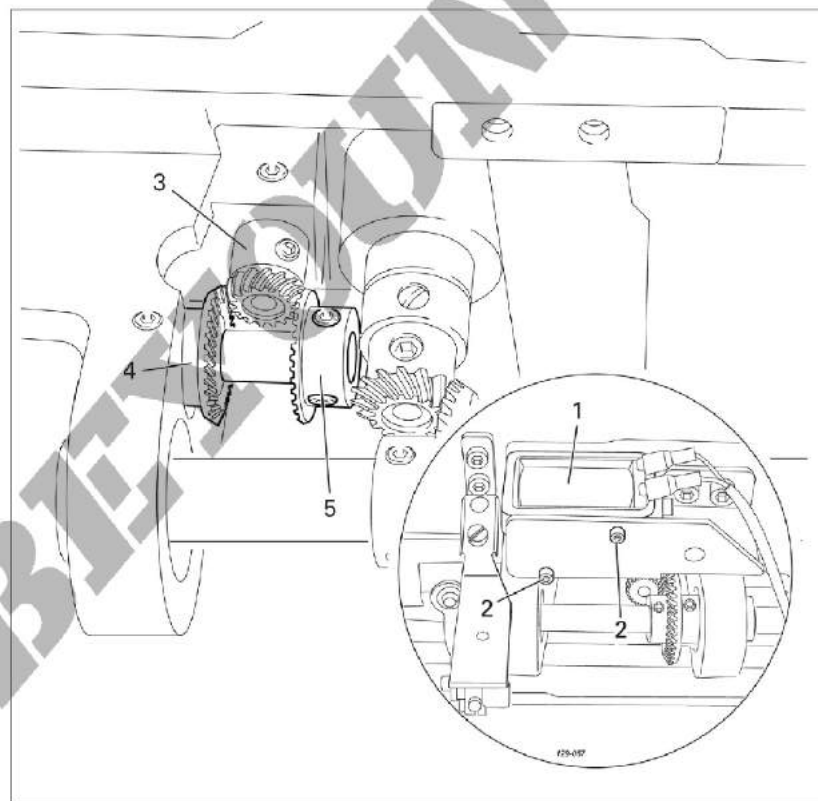
### 7.05.10 电磁铁调整 (在 591A 机型上) Adjusting the magnets (on the 591A)

#### 规则

- 1、当倒缝装置处于停止状态时，齿轮3与齿轮4之间应该仅仅只有细微间隙。
- 2、当倒缝装置处于工作状态时，齿轮3与齿轮5之间应该仅仅只有细微间隙

#### Requirement

1. When the backtacking device is in its resting position, there should only be a slight clearance between gear wheel 3 and gear wheel 4.
2. When magnet 1 is extended/switched off, there should be a slight clearance between gear wheel 3 and gear wheel 5.



- 按要求调整电磁铁1（螺丝2）。
- Adjust magnet 1 (screws 2) in accordance with the requirements.





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