

JACK

K4-D系列使用说明

K4-D series' use manual



一、规格 First. specification

机种名称 type	小头式高速绷缝机 High Speed Computerized Cylinder-bed Interlock Machine
型式 model name	K4
缝迹形式 Stitch type	ISO 标准 : 406/407/602/605 ISO standard : 406/407/602/605
用途 use	针织、编织产品的包边缝、包缠缝 Knitting, knitting products of the wrap seam 、wrapping
缝纫速度 Sewing speed	最高转速 The maximum speed : 5500RPM 出厂转速 Factory speed : 4000RPM
针幅 Needle width	3 根针 3Needle : 5.6mm、6.4mm 2 根针 2Needle : 2.8mm、3.2mm、5.6mm、6.4mm
差动送布比 Differential feed ratio	0.8-1.3
缝迹长度 Stitch length	1.5mm-4.5mm
使用机针 Needle type	UY128GAS 11#、14# (标准 standard : 11#)
针杆行程 Needle bar stroke	33mm
压脚高度 Presser foot height	7.0mm
体积 volume	纸箱体积 Carton size : 675mm×450mm×602mm 机器体积 Machine size : 500mm×380mm×260mm
重量 weight	净重 net weight : 52Kg 毛重 Gross weight : 62Kg

表 1

二、各部分的名称 Second, the name of each part

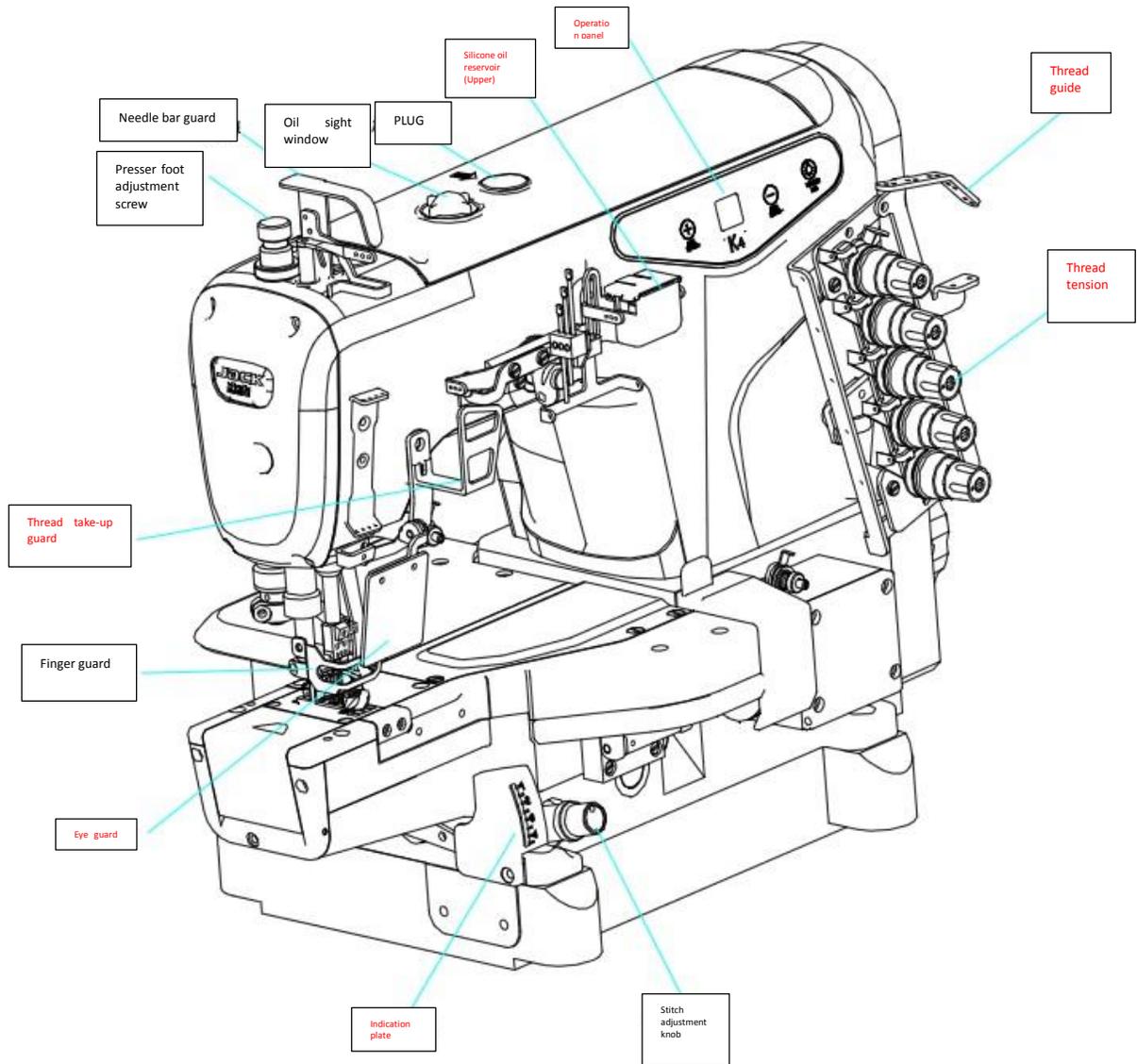


图 Figure2-1

简介：K4机器电控与机械一体，可以在机器上调节电控相关参数，实现了人性化的人机交换模式，操作便利！

Introduction : K4 , which control box is integrated into machine head, parameters can be adjusted on machine directly, achieved interpersonal exchange, easy and convenient to operate !

三、安装方法 Third, the installation method

1、台板尺寸及其安装方法

1, table size and installation method

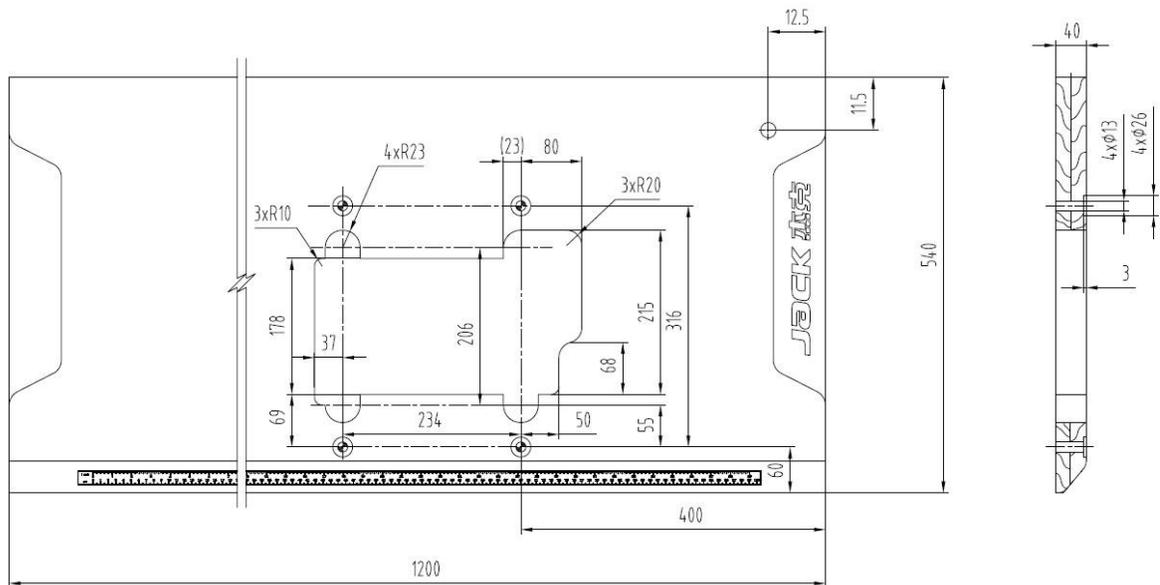


图 3-1

2、链条的安装

2. the installation of the chain

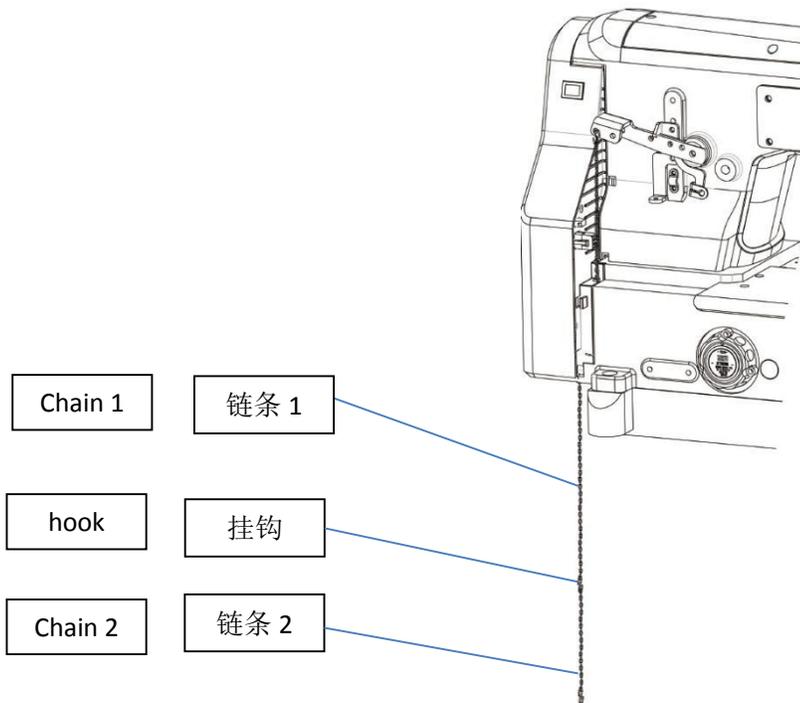


图 3-2

脚踏板链条如上图所示安装

Pedal chain installed as shown above

四、关于加油、注油 Fourth, on the Lubrication, oiling

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note: In order to prevent personal accident caused by the sudden start of the machine, please turn off the power, make sure the motor does stop turning and then operate!

1、出厂加油

机器出厂时，机油均被排放，因初次使用缝纫机前，请一定要加入机油，推荐使用机油：白油 22#，加油时请拿开标有 OIL 的加油口盖子，把机油加到油尺的上下刻线之间，加油完成后转动缝纫机，看油窗是否有机油喷出，如果没有机油喷出，请进行检修。

When the machine is shipped from the factory, the oil is discharged. Be sure to add the oil before using the sewing machine for the first time. It is

1, the factory refueling recommended to use the oil 22#. When filling, open the plug marked with OIL and add the oil between the upper and lower engraved lines. Turn on the sewing machine after refueling to see if there is any oil spilled in the oil window. If there is no oil spilled, please carry out overhaul.

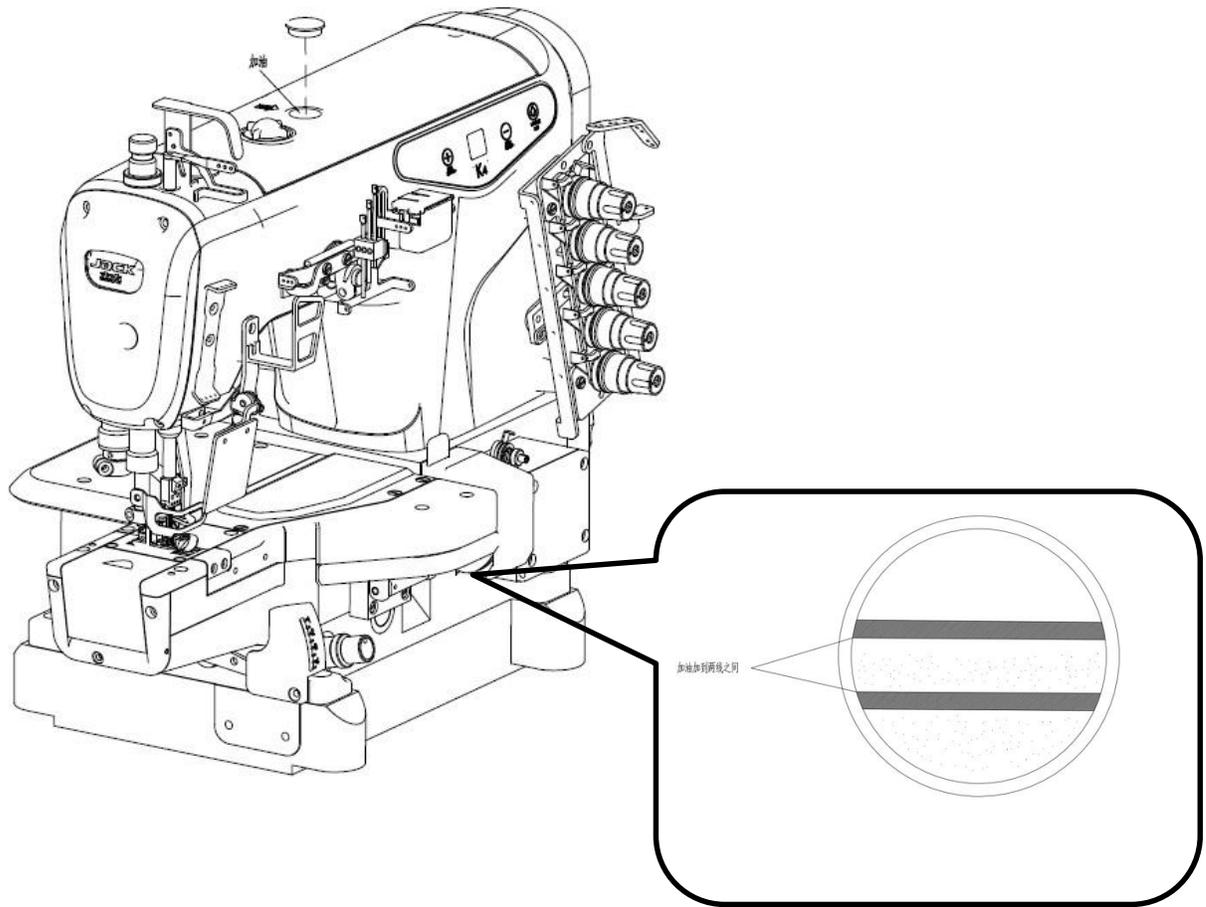


图4-1

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

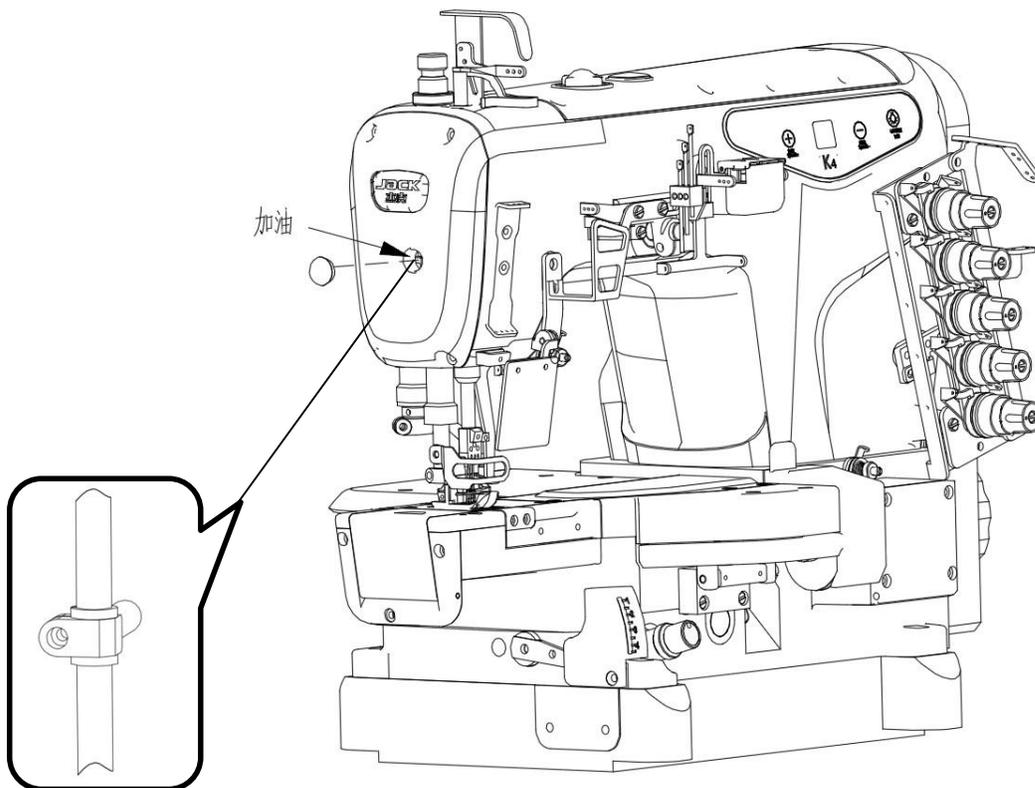
Note: In order to prevent personal accident caused by the sudden start of the machine, please turn off the power, make sure the motor does stop turning and then operate!

2、出厂注油

机器出厂首次使用或较长时间没有使用缝纫机时，请一定向针杆滴 2-3 滴机油，滴在针杆扎头与针杆的连接处，确保针杆机构润滑。

2, factory oiling

When the machine is used for the first time in the factory or when the sewing machine is not used for a long time, be sure to drop 2-3 drops of oil to the needle bar and drop it at the junction of the bar head and needle bar to ensure the needle bar mechanism is lubricated.



被加油机构 (fueling agencies)

图 Figure4-2

五、缝纫机的使用方法

Fifth、 the use of sewing machines

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note: In order to prevent personal accident caused by the sudden start of the machine, please turn off the power, make sure the motor does stop turning and then operate!

1、机针的安装方法

安装机针时，机针头部需要完全插入针壳里，且机针凹槽部位向里侧。

1, the needle installation method

When installing the needle, the needle head needs to be completely inserted into the needle clamp, and the needle groove is to the inside.

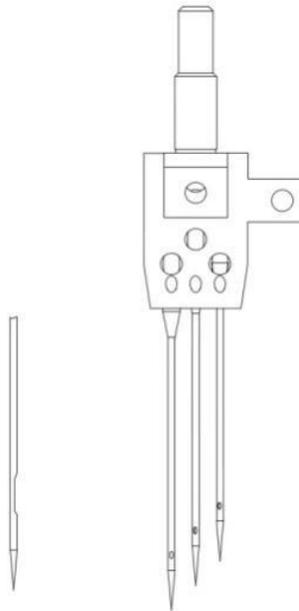


图 5-1

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note: In order to prevent personal accident caused by the sudden start of the machine, please turn off the power, make sure the motor does stop turning and then operate!

2、穿线方法

2, threading method

①、标准穿线法：①, standard threading method:

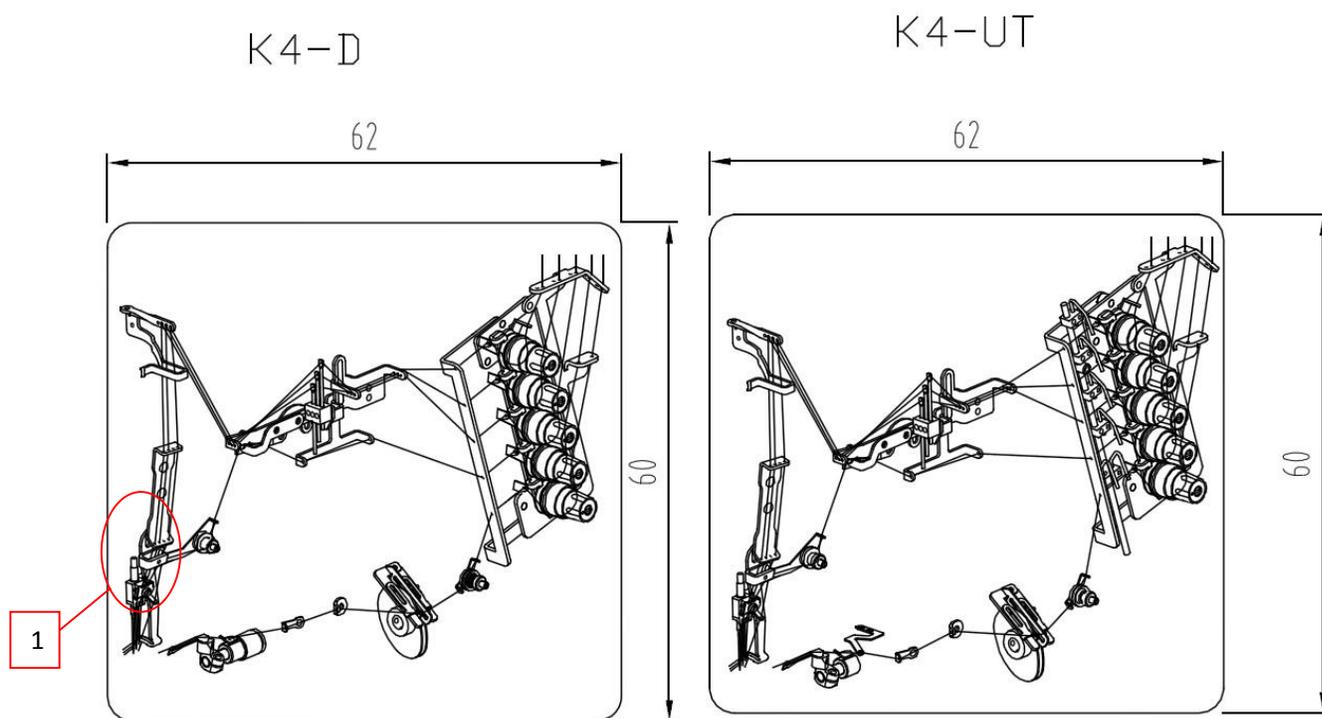


图 5-2

当机针线伸缩量较大时：When the needle thread stretching in a larger amount

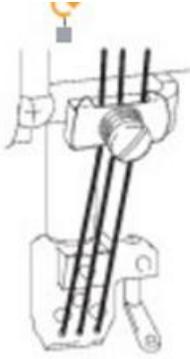


figure5-3

当机针线伸缩量较小时:When the needle thread stretching in a smaller amount

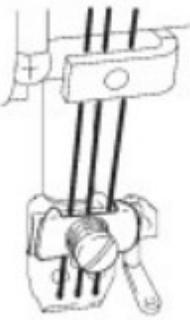


figure5-4

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note: In order to prevent personal accident caused by the sudden start of the machine, please turn off the power, make sure the motor does stop turning and then operate!

3、针距调节

3, stitch length adjustment

机器针距可以在 1.5mm-4.5mm 范围内任意调整（实际缝料线迹长度，随布料的种类和厚度有所不同），缝纫机针距的调节是通过旋转针距调节旋钮调节的，顺时针旋转，针距变大，逆时针旋转，针距变小。

Machine stitch length can be adjusted within the range of 1.5mm-4.5mm (actual sewing stitch length, depending on the type and thickness of the cloth). The sewing machine stitch length is adjusted by

rotating the stitch length adjusting knob. Clockwise Rotation, needle length becomes larger, counterclockwise rotation, stitch length becomes smaller.

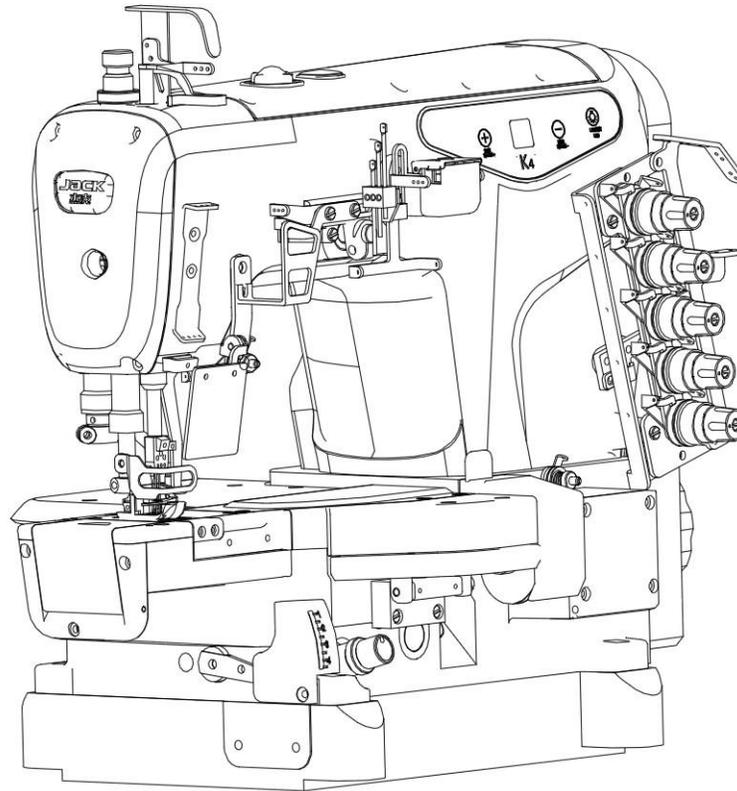


图 5-5 Figure 5-5

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note : In order to prevent the machine from personal accident suddenly, please turn off the power supply, confirm the motor really stop running again then operate !

4、差动的调节 Differential regulation

差动调节范围在 0.8-1.3 内，松开调节螺钉，上下扳动，往上是顺差动，往下是逆差动。 Within differential range of 0.8-1.3, loose and adjust screw, throw up and down, up is To Shrink, down is To Stretch.

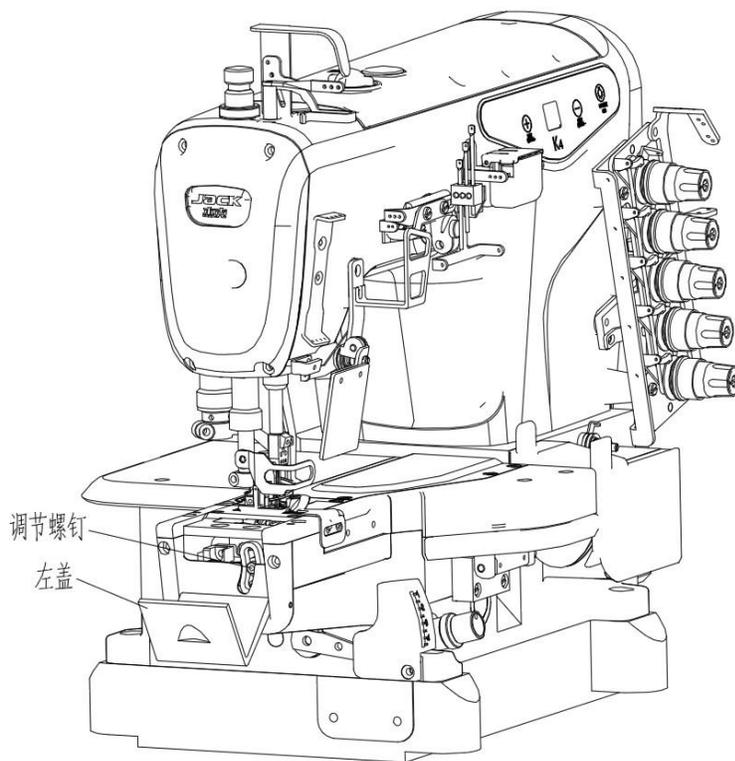


图 5-6 Figure 5-6

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note : In order to prevent the machine from personal accident suddenly, please turn off the power supply, confirm the motor really stop running again then operate !

5、压脚压力调节 Adjust presser foot pressure

请把压脚压力在缝迹稳定范围内尽量调弱

调节压脚压力时，拧松压脚调节螺母，并将压脚调节螺杆顺时针或逆时针旋转，顺时针旋转则压脚压力变大，逆时针旋转，则压脚压力变小。

It should be as light as possible, yet be sufficient to obtain the proper stitch formation.

When adjust pressure for presser foot ,loosen adjusting screw presser foot , and make presser foot adjusting screw clockwise or counterclockwise

rotation, when clockwise, the pressure of presser foot is Heavy, when counterclockwise, the pressure of presser foot is Light.

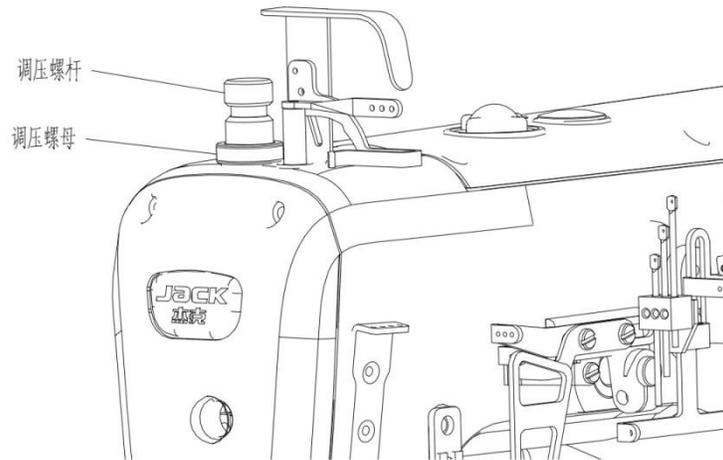


图 5-7 Figure 5-7

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note : In order to prevent the machine from personal accident suddenly, please turn off the power supply, confirm the motor really stop running again then operate !

6、线张力调节 Thread tension adjustment

夹线器按照布料、线、线迹宽度的不同，及使用条件的变化而变化。对照使用条件，调整夹线器的螺母，顺时针方向转，线紧；逆时针方向转，线松。

Thread clamp device according to the different fabric, thread and width of the thread, and the changeable conditions of use. Controlled conditions of use, adjust the nut thread clamp device, turn clockwise, tight thread; Turn counterclockwise, thread loose.

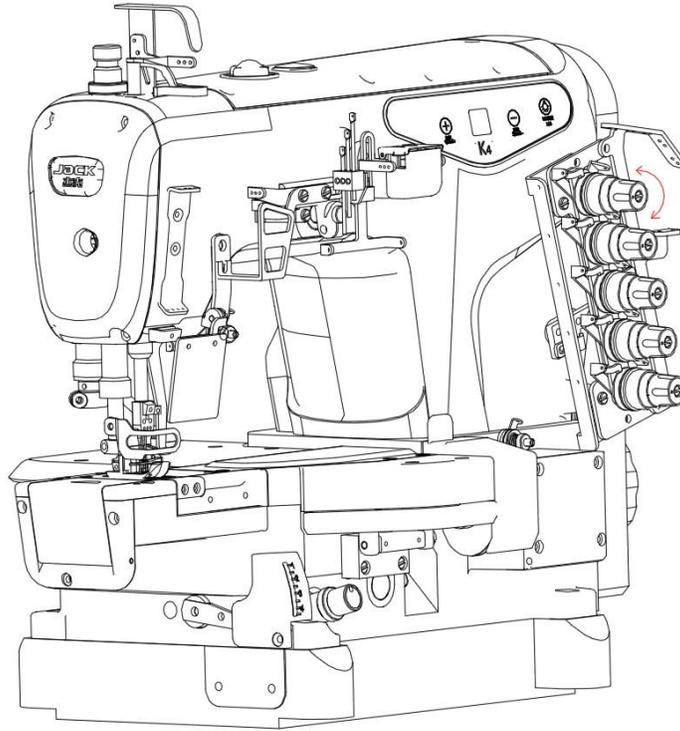


图 5-8 Figure 5-8

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作！

Note : In order to prevent the machine from personal accident suddenly, please turn off the power supply, confirm the motor really stop running again then operate !

7、滤油器的检查和更换 Inspect and replace oil filter

过滤器有灰尘在上面，不能正常使用，每使用 6 个月后请进行检查或更换。

注：如果油按规定的油量加入，油窗喷出的油量异常、过弱、有气泡等现象时，请及时更换或清扫过滤器

There are dust on oil filter, it couldn't normal use, every six months for inspection or replacement, please.

Note: if the oil in accordance with the provisions, oil window spewing oil abnormal, too weak, the phenomenon such as bubbles, please timely replace or clean oil filter.

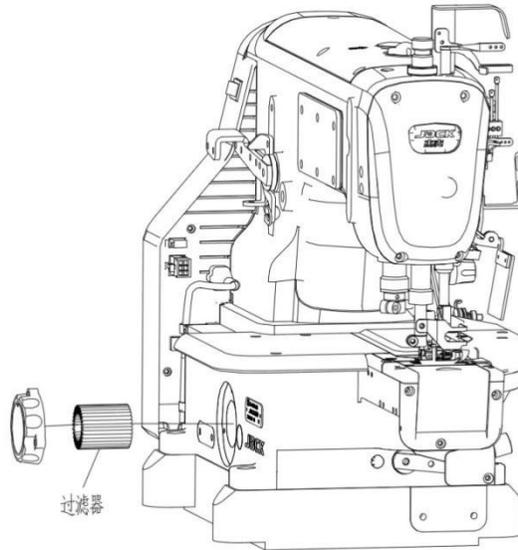


图 5-9 Figure 5-9

六、电控操作 Six Electric control box operation

1、K4-D 电控操作 K4-D Electric control box operation

Instructions of K4 Interlock sewing machine panel operation

本控制器使用双位数码管显示实现参数调整。在 P 主界面，第一个数码管显示“P”，第二个数码管显示当前设定的停针位置，上、下停针如图所示（图 1）。

In P interface, the first digit display “P”, the second digit display shows the current needle position, picture 1 shows the upper and lower needle position.



图 1 上、下停针显示界面

In figure 1, upper and down needle position display interface

1.转速的修改 Modify speed

在待机 P 界面按+键或者-键，显示当前转速，按▲键速度递增 100RPM（数值递增 1），按▼键速度递减 100RPM（数值递减 1），长按▲键（▼键）可实现快速递增（递减），停止按▲键或者▼键后约 3 秒，自动保存设定的速度参数，并回退到 P 界面。

The panel shows “P”. Then press ▲ or ▼ to adjust speed up and down, short-press ▲ or ▼ to adjust speed up 100RPM and down 100RPM, long-press ▲ (▼) speed rapidly up (down). After 3 seconds, the parameter saved and the panel back to the “P” .

2.停针位修改 Needle Position Adjust

在 P 界面下，长按▲键约 3 秒不松开，可以调节上下停针位。

The panel shows “P”, press ▲ for 3 seconds, then set the position up or down.

3.恢复出厂设置 Factory reset

在 P 界面，长按▼键 3 秒，参数将恢复出厂设置。（J4、J5、J6 的监控数据除外）

In the P interface, long ▼ button for 3 seconds, parameter will restore factory Settings.(J4, J5, except for the monitoring data of J6)

4.操作参数说明表 Parameter description

序号 NO.	参数定义 parameter	范围 range	默认 值 Default	参数说明 Description
<p>在 P 界面，长按▲和▼组合键 3s，可进入技术员界面，并显示 F The panel shows "P", press ▲and ▼ for 3 seconds, inter engineers interface, and it shows "F"</p>				
K	机头灯亮度调节 LED light adjustment	0 - 3	2	0 : 灭 off 1~3 : 亮度 1~3 level 1~3
L	缝纫限制速 Speed limitation	05 - 55	50	以 500rpm 为单位递减 Decline by 500rpm every time
M	停针位开关 needle position function	0 - 1	1	0 : 关闭 off 1 : 开启 on
H	休眠时间 Dormancy time	0 - 6	3	0 : 关闭 off unit : 10min
V	速度显示使能 Speed display	0 - 1	0	0 : 关闭 off 1 : 开启 on
<p>在 F 界面，长按▼键 3s，进入监控参数，并显示 J The panel shows "P", press ▼ for 3 seconds, inter monitoring parameter, and it shows "J"</p>				
J1	实时速度 Real-time Speed	显示的数×100=实际速度 the showing number multiples by 100 equal to the real speed.		
J2	实时功率 Real-time Power	显示的数×10=实际功率 the showing number multiples by 10 equal to the real power.		
J3	输入电压 Input Voltage	显示的数×10=实际电压 the showing number multiples by 10 equal to the		

		real voltage.
J4	历史电压 Historical Voltage	显示历史输入最低电压和最高电压 Display the historical lowest input voltage and highest input voltage.
J5	历史错误代码 Historical Error	显示最新的 5 个错误代码 Display historical error code(only show the latest 5).
J6	累计运行时间 Cumulative Running Time	显示的数×100=实际时间 (Hour) the showing number multiples by 10 equal to the real time(hour).

5.错误码说明表 Error code description

错误 Error code	内容 Reasons	对策 Solutions
E1	电机堵转 Motor stuck	<p>请转动手轮检查机头是否卡住或者干涩转动困难；请检查电机插件是否松动或者脱落；请检查加工物料是否过厚，电机因扭力不足而无法贯穿；请检查机器是否缺少润滑油。</p> <p>The motor run out of load capacity, please reduce the load capacity for the motor and then restart the motor;</p> <p>Please check if the plug of motor loose or drop;</p> <p>Please check if the sewing material is too heavy;</p> <p>Please check if the machine needs lubrication.</p>
E2	软件过流 software over-current	<p>请关电后重新上电，如果不能消除报警，请检查：电机负荷过大，请减轻负荷后重启电机；Motor used too much, Restart machine after several minutes, then please check if the fabric much too heavy.</p>
E3	参数保存异常	<p>出现此种状况，需要关闭电源，稍后再打开电源开关即可；恢复出厂设置（长按▼键约 3s 不松开）；</p>

	Parameter save abnormal	若重启或者恢复出厂设置后也不能解决，建议联系经销商解决。Restart machine after several minutes or reset machine(press  3s); If the problem unsolved, please contact dealers.
E4	电机霍尔信号异常 Hall of the motor with problem	请检查电机编码器插头连接是否可靠，编码器信号线是否有断线，插针是否退出或者变形。Please check if the 10 core line connect well or not, please check if the connect line of hall is well or not.
E5	定位器信号异常 The synchronizer signal	请检查定位器是否连接电控；请检查上下定位信号是否正常。 Forget to insert the synchronizer cable before turn on the machine To check the both up needle position signal and the down needle position signal is working.
E6	调速器异常 Speed governor abnormal	请检查压脚机构是否回到正确位置，压脚安全开关是否损坏，插座是否正常。To check if the presser foot back to the correct position or not , to check if the safety switch button is damaged or not, the outlet is abnormal or not.
E7	电流检测电路故障 Current detection and circuit fault	请检查电路板是否干净整洁；请检测电源电压是否正常；请等待电源重新开启/复位（请仔细检查电源板各项机能）。Please check whether the circuit board is clean; Please check whether the power voltage is normal; Please wait after restarting the power or reset(please carefully check each function of the power board).
EA	硬件过流 Hardware over-current	请关电后重新上电；请检查供电电压是否正常；请尝试恢复出厂设置。Please switch off the power and restart;Please check whether the supply voltage is normal; Please try to restore factory defaults.

Eb	系统过电压 System over-voltage	立即切断电源，并检查供电电压是否过高，如果是，请调整供电电压到额定电压后再开机工作(额定电压：220V)。Immediately switch off the power, and check whether the supply voltage is too high, if yes, please adjust the rated voltage, then start to work(rated voltage:220v).
EC	系统欠电压 System under-voltage	请检查供电电压是否正常；请等待电源重新开启/复位(请仔细检查电源板各项机能)。Mean the voltage abnormal, please check if the voltage is normal or not; Means waiting for the power, and need to restart again or recover to the factory reset.
Ed	刹车电阻保护 Brake resistor protection	请检查刹车电阻插头是否松动或脱落；请检查供电电压是否正常；请尝试恢复出厂设置或将电源重启；Please check whether the plug of brake resistor is loose or drop off;Please check whether the supply voltage is normal;Please try to restore factory defaults or restart.

七、缝纫机调整 Sewing machine adjustment

注意：为了防止机器突然启动造成人身事故，请关掉电源，确认电机确实停止转动后再进行操作

Attention : In order to prevent the sudden start of the machine which causing a personal accident, please turn off the power, make sure the motor does stop rotating before operating!

1、冷却器导线器的调整

松开紧定螺钉，把各导线杆高度调整为图示的尺寸，然后拧紧紧定螺钉（图7-1），针对不同布料时可通过调节A、B、C的高度来调节挑线量，导线杆的高度增加挑线量减小，导线杆的高度降低挑线量增加（图1）。

1、Cooler **wire** guide adjustment.

Adjust the release needle thread guide hight to the number below , then tightening screw (Figure7-1) ,Accounting to different fabric, we can change thread taking up length by adjusting needle thread guide hight A、B、C , Thread taking up quantity increase when needle thread guide hight decrease and thread taking up quantity decrease when needle thread guide hight increase. (Figure 1) 。

A	B	C
12	21	32

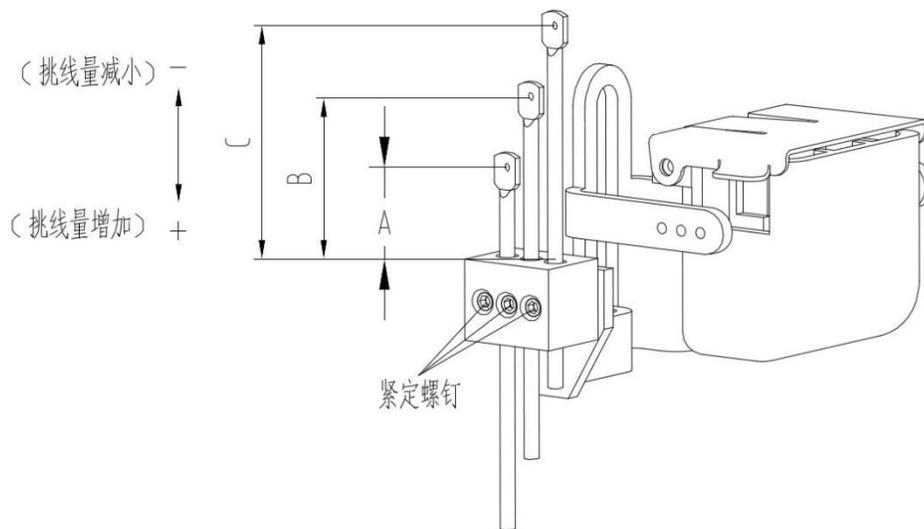


Figure 7-1

2、松开紧定螺钉，左右移动针线操作器，如图 2 所示，把针线操作器边缘到摆动挑线杆轴的中心调整至 80mm，然后拧紧紧定螺钉，针对不同布料时可通过调节针线操作器边缘到摆动挑线杆轴的中心距离来调节挑线量，针线操作器边缘到摆动挑线杆轴的中心距离加大，挑线量减小，针线操作器边缘到摆动挑线杆轴的中心距离减小，挑线量加大（图 8-2）。

2、Release set screw ,shuffling the needle thread operator ,showed by figure 8-2 , change the distance between margin of needle thread operator and center of shuffling release pole rod to 80mm, then tight the set screw. For various type of fabric, we can adjust the thread taking up length by change this distance. The distance between margin of needle thread operator and center of shuffling release pole rod increase, the thread taking up length decrease. Also, the distance decrease, the thread taking up length increase.

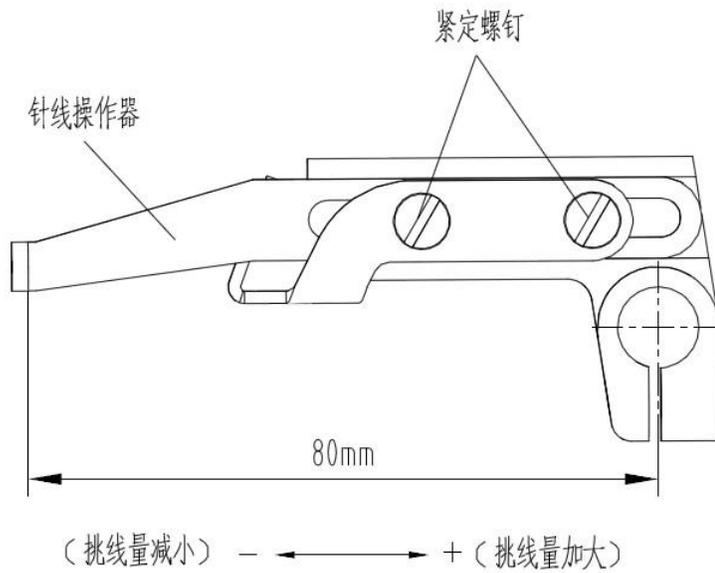


Figure8-2

3、分布导线器的调整

分布导线器①在最高点时，松开紧定螺钉③，分布导线器的导线线道里侧上端调整成与分布导线器的长槽下端一致，然后拧紧紧定螺钉③（图 8-3）。

3、 Adjustment of spreader thread take up

① at the top point ,release set screw③ ,make the top of inner guide line fix to the bottom of guider slot, then tight the set screw ③ (Figure 8-3) 。

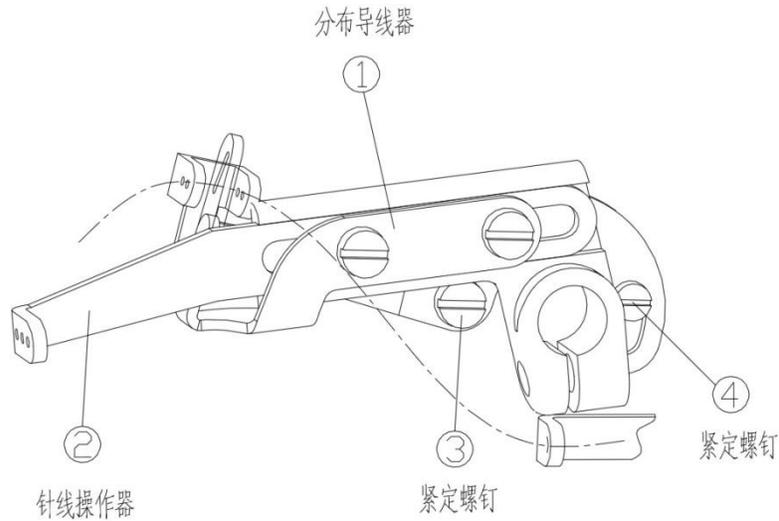


Figure 8-3

4、打线凸轮及打线凸轮导线器的调整

①、打线凸轮位置调整

当机针处于最高点时（图 8-4），调整打线凸轮，使之恰好开始打线。

5. Adjusting the looper thread cam thread guide and the looper thread cam

1、Adjustment of thread cam and thread cam guider

①、Hit thread cam adjustment

When needle at the top (Figure 8-4) , adjust hit thread cam , make it at the position that just start hit thread.

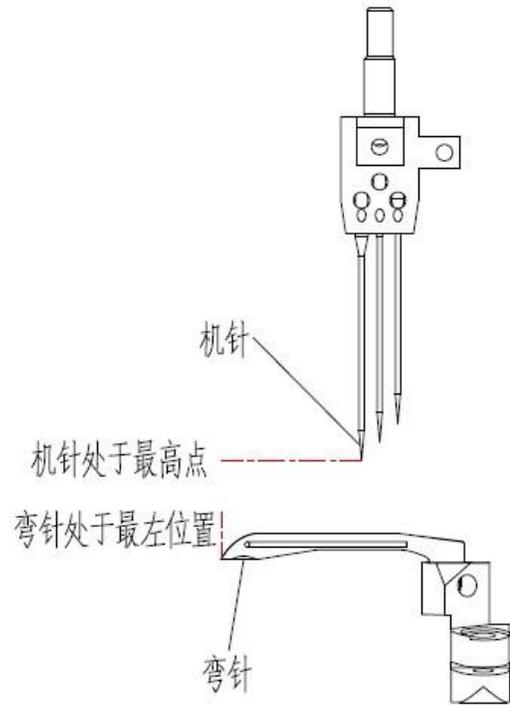


图8-4

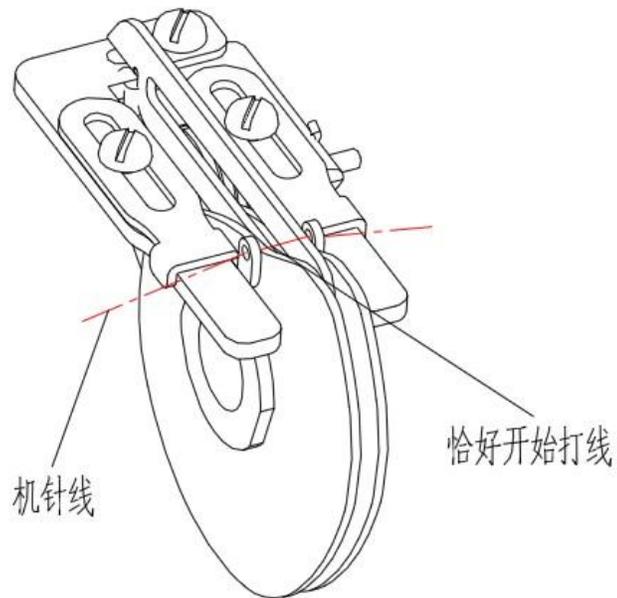


图5

②、打线凸轮打线量调整

当需要调节底线打线量时，松开紧定螺钉，调节分线片位置，分线片往上移动打线量减小，分线片往下运动，打线量增加。（图6）

②、 Adjusting thread guides of CAM

When adjusting the base thread distance, first loose screw and adjust dividing thread plate position. If dividing thread plate moving up ,the thread distance get less, while vice versa.

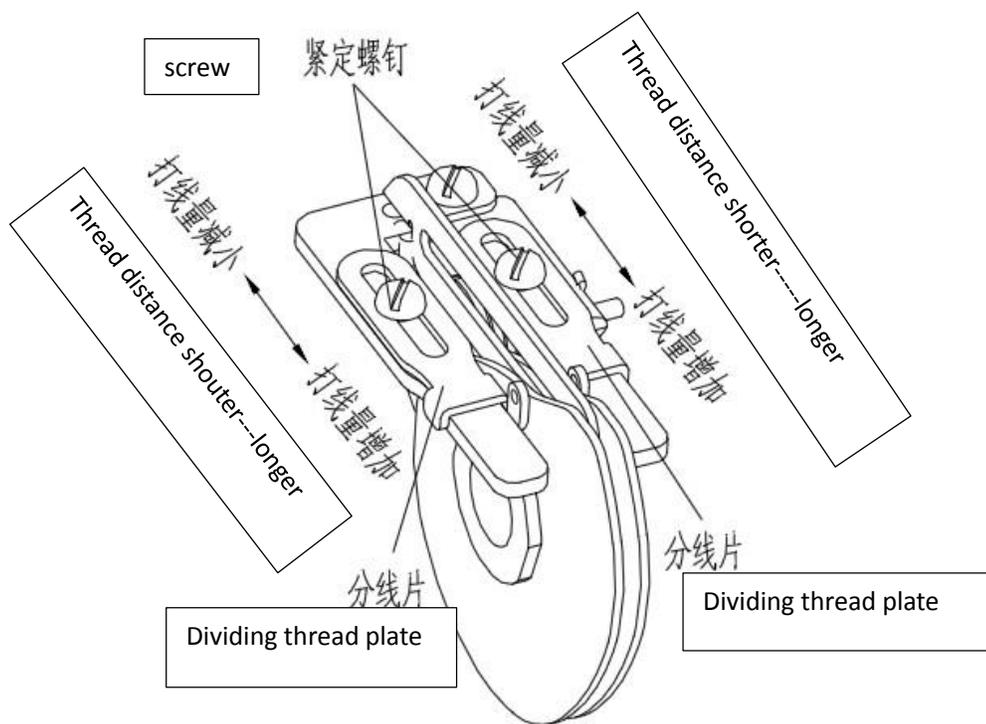


图6(Picture 6)

5、机针高度调整

首先调整机针与针板的间隙，保证机针与针板的间隙均等，调整机针高度，机针运行到最高点，针板到左针针尖的高度为H（图7），H参数如下表：

5、 Adjusting needle height

Firstly, adjusting the gap between the needle and the needle plate to ensure the gap is equal. And then adjusting needle height ,when the needle run to the highest point,the height of needle plate to left needle pinpoint is H(Picture 7),and H parameter as follows:

标准 standards 机型 Machine Model	标准行程 (30.8mm) Standards(30.8mm)	高行程 (33.4mm) Height(33.4mm)
型号 Model	左针高度H left needle Height	左针高度H Left needle Hight
K4-01GB×356	7.5	9
K4-01GB×364	7.1	8.6
K4-02BB×356	7.5	9
K4-01BB×364	7.1	8.6
K4-35AC×356	9	9
K4-35AC×364	8.6	8.6

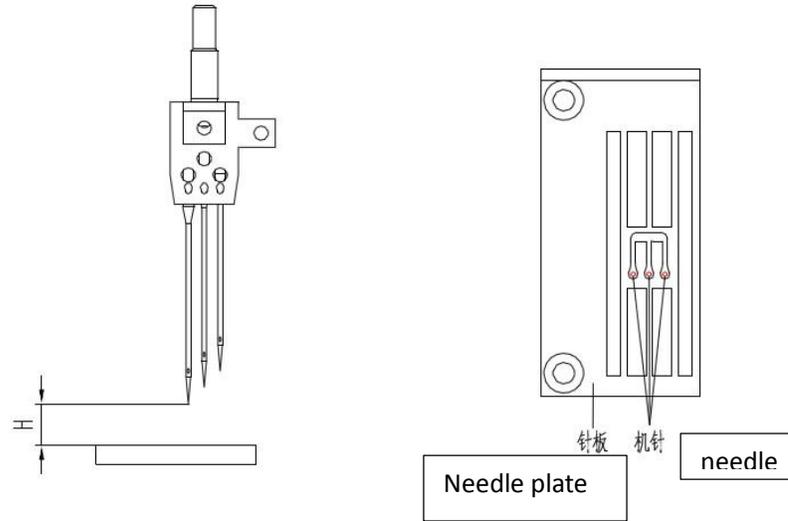


图7(picture 7)

6、弯针的调整方法

6、Looper adjusting method

①、弯针与机针引量的调节

当机针在最低点时，弯针在最右点，弯针针尖到右针中心点距离为弯针与机针的引量A（图8），详细参数见下表：

①、Adjusting the distance of looper to needle

When needle in the lowest point, and looper in the right end point, the distance between looper pinpoint to right needle middle point is called Leading distance A (Picture 8) between looper to needle, the detailed parameter see as follows:

	标准 Standard		
机型 Model		标准行程 (30.8mm) Standards(30.8mm)	高行程 (33.4mm) Height (33.4mm)

型号 Model	弯针与机针引量A Leading distance A between looper to needle	弯针与机针引量A Leading distance A between looper to needle
K4-01GB×356	3.5-3.8	3.0-3.2
K4-01GB×364	3.1-3.4	2.6-2.8
K4-02BB×356	3.5-3.8	3.0-3.2
K4-01BB×364	3.1-3.4	2.6-2.8
K4-35AC×356	3.1-3.3	3.0-3.2
K4-35AC×364	2.7-2.9	2.6-2.8

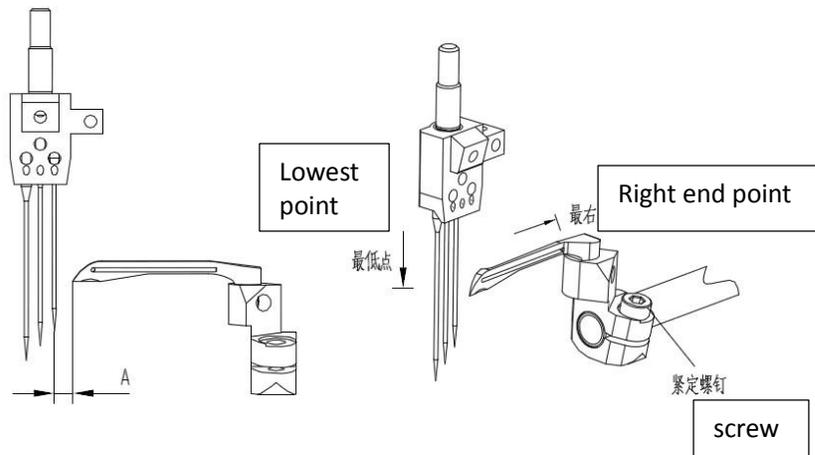


图8(Picture 8)

②、弯针与机针间隙的调整

弯针从最右端运行到中针中心后，把弯针与机针间隙调整为0-0.05mm（图9），弯针继续向左运动，当弯针运行到左针中心是，弯针与左针间隙为0.05-0.1mm（图9）。

②、Adjusting the distance between looper and needle

When looper moving from right at needle middle, adjusting the distance of

looper and needle to be 0-0.05 mm(Picture 9), and looper continue to moving towards left, when is arrive the middle of left needle, the distance of looper and left needle is 0.05-0.1mm(picture 9) .

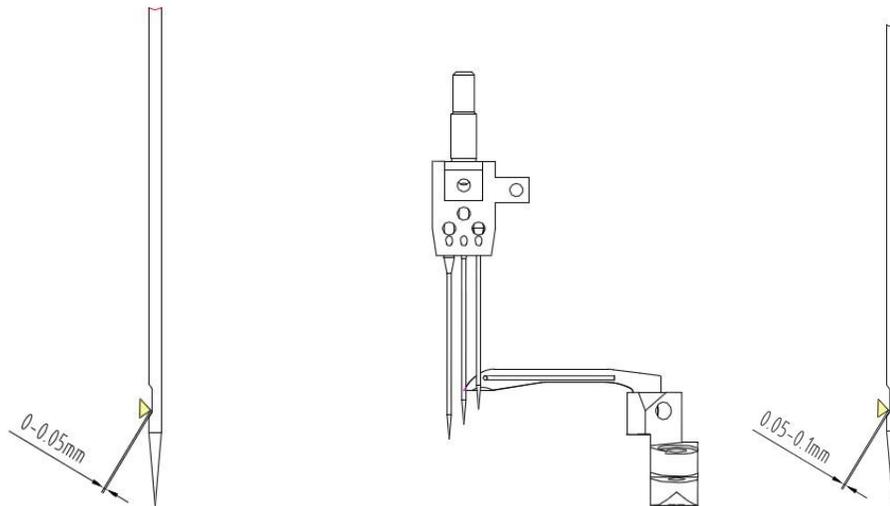


图9 Picture 9

7、后护针的调节

针杆在最低点时，调整后护针，使护针在右针孔上方1/3处，弯针先端最右位置开始到右针中心时>右针和弯针的先端前后间隙为0-0.05mm（图10）

7、 Adjusting rear guard needle

When the needle bar is at the lowest point, adjusting the rear guard needle to make it on 1/3 of the right needle hole, the right end of looper to the middle of right needle>the front and rear clearance of the right needle and loopeer is 0-0.05mm (Figure 10).

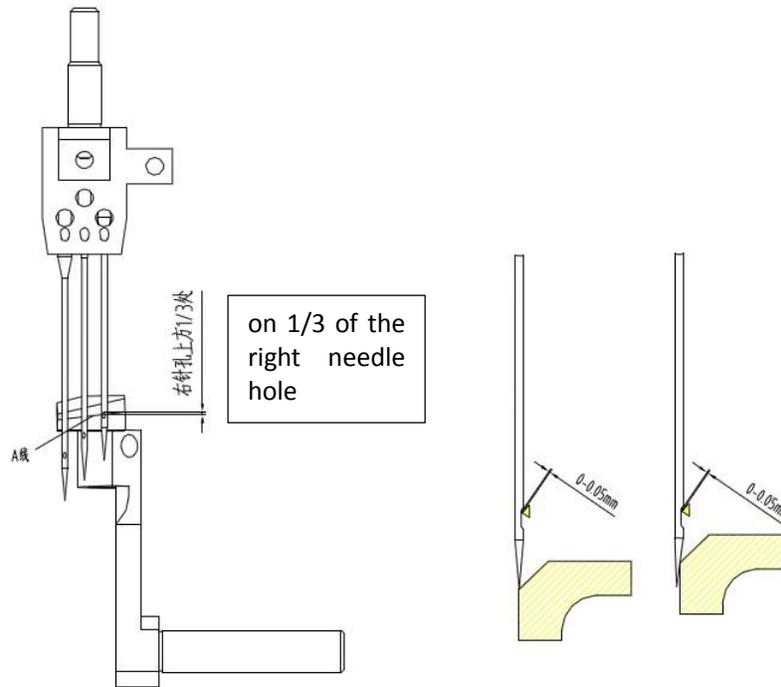


图10 picture 10

8、摆动挑线杆的同步和线环的关系

8、The relationship between swing timing bar and thread loop

提要：如果由于线环过大或过小等找出机器跳针、断线时，可以通过调节摆动挑线杆来调整线环的大小。

Tips: you can adjust swing timing bar to adjust the size of thread loop, if the thread loop is too large or too small that leads to needle-skipping, thread-broken problems.

利用过线球连杆调整

Making use of over-thread bar to adjust

松开紧定，调节过线球连杆，移动过线球连杆想前或向后，向前移动则线环变小，向后移动则线环变大。（图11）

Loose set, adjusting over-thread bar, moving the bar forward or backward,

if forward movement, the thread loop get smaller, otherwise if backward movement, the thread loop get larger.

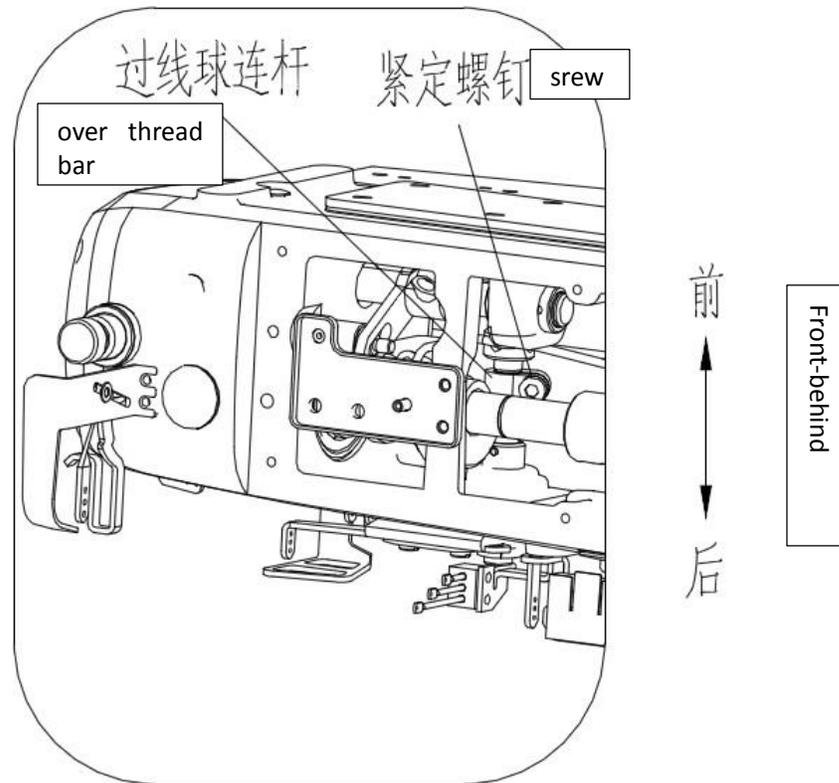


图11 (Picture 11)

9、送布牙高度的调整

9、 Adjusting feed teeth height

调整送布牙高度，牙齿来到最高点时，松开螺钉2，将主送布牙高度调整刀1.2mm，然后拧紧螺钉2，同理松开螺钉1，将差动送布牙的高度调整到1.2mm，然后拧紧螺钉1。

Adjusting feed teeth height,when feed teeth get the maxmium point,loose srew2,and adjusting the feed teeth height to 1.2mm,then ,tighten screw2 and loose screw1, adjusting the feed teeth

height to 1.2mm, and after that tighten screw 1.

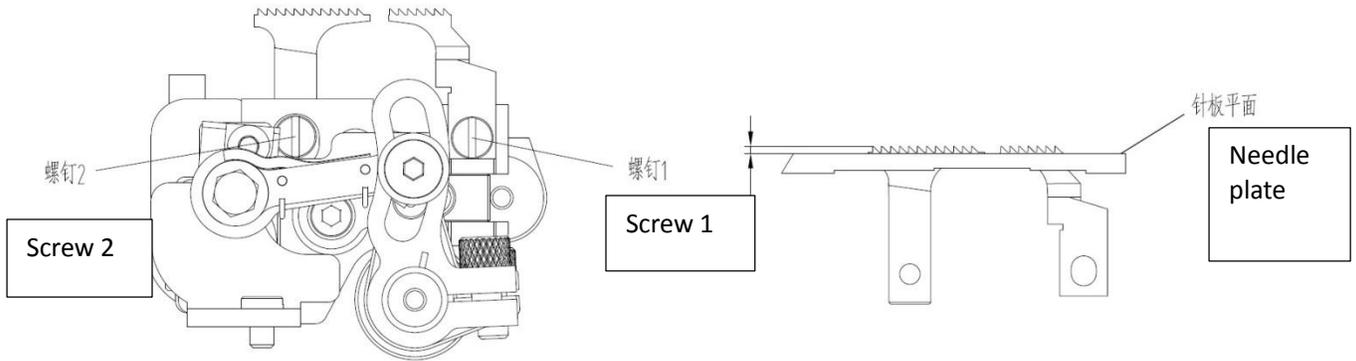


图12 picture12

10、喂针的安装位置

10、Installation position of spreader

喂针高度是针板上平面到喂针下面的距离为H，调整喂针高度，松开螺钉1，上下移动喂针（图13），使其高度为H，H的具体取值如下表：

Spreader height H is the distance between needle plate to needle, adjusting Spreader height, and loosening screw 1, then move Spreader up or down (picture 13) to adjusting the height is H, the specific references as follows:

	标准	标准行程 (30.8mm)	高行程 (33.4mm)
机型model		Standards(30.8mm)	Height(33.4)

型号 model	喂针高度H Spreader height H	喂针高度H Spreader height H
K4-01GB×356	7.8	9.2
K4-01GB×364	7.8	8.8
K4-02BB×356	7.8	9.2
K4-02BB×364	7.8	8.8
K4-35AC×356	7.8	9.2
K4-35AC×364	7.8	8.8

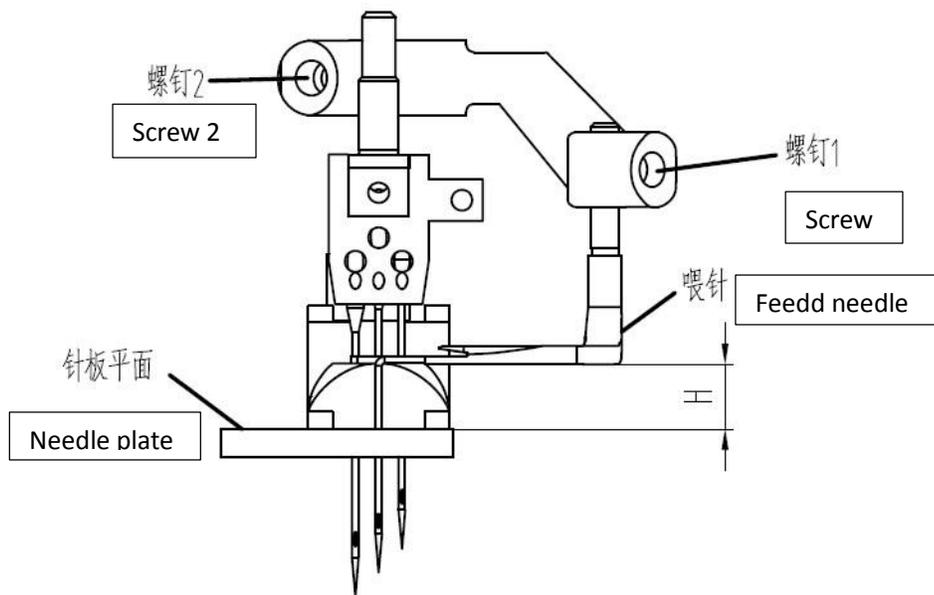
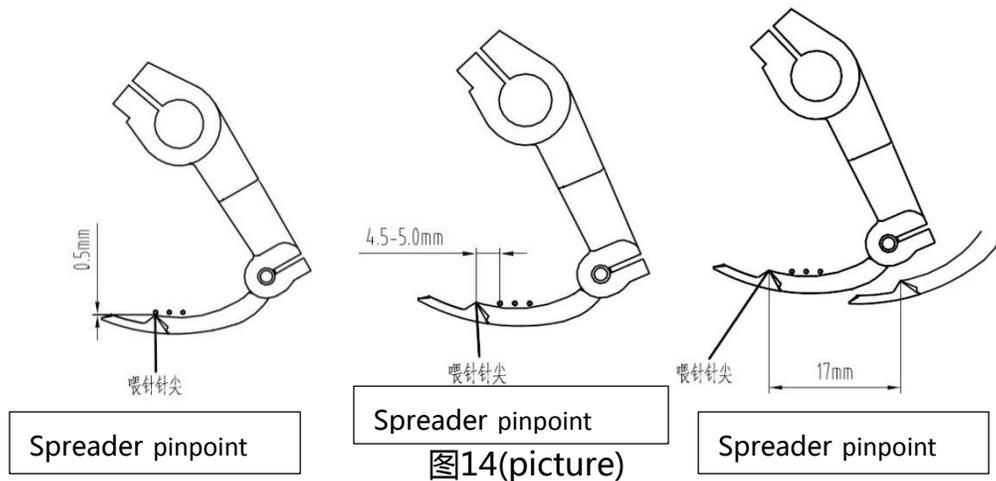


图13(Picture 13)

喂针从右往左运动，松开螺钉1，调整喂针针尖与左针间隙调整喂0.5mm，喂针继续向左运动到左极限，松开螺钉2，调整喂针与左针中心的间隙为4.5-5.0mm，然后拧紧螺钉2。

Spreader moving from right towards to left, loose screw 1, adjusting the distance between Spreader pinpoint and left needle to be 0.5mm, and

Spreader continue to move towards left to the end; and then loosening screw 2, adjusting the distance between Spreader and left needle middle to be 4.5-5.0mm, next is tighten screw 2.



11、弯针向左运动通过各针的内侧，调整针和前护针和的间隙为0.3-0.5mm，对照线的粗细，针线能顺利通过，前护针尽量靠近安装。调整前护针与前护针架为0.5mm。

11. Loper moving towards left through the inside of all needles, adjusting the distance between needle and front guard needle to be 0.3-0.5mm.

Checking thread is thick or thin to ensure the thread can be pass needle successfully, the front guard needle should near to installation. And adjusting the distance between front guard needle and front guard needle protect device to 0.5mm.

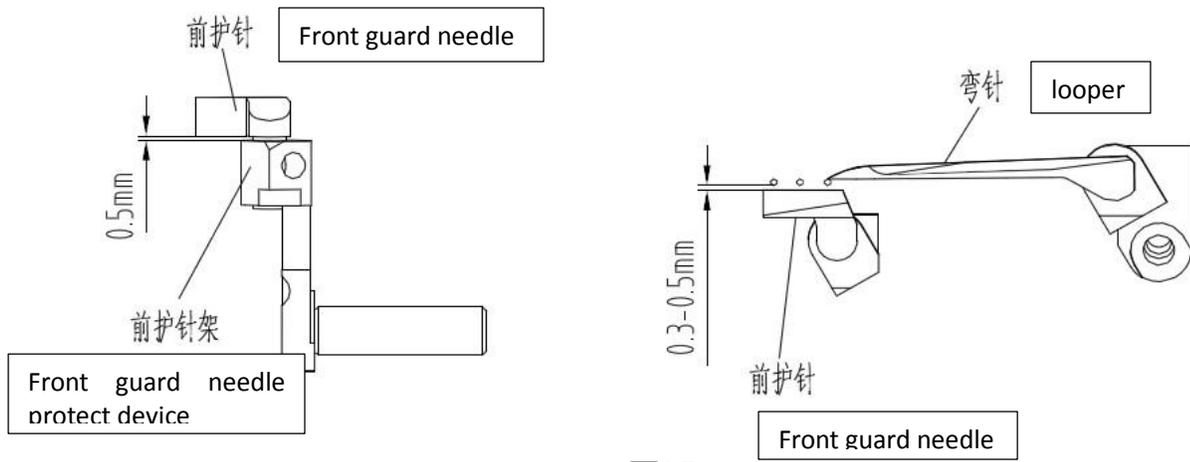


图15

12、压脚高度调节

12. Adjusting presser height

调节压脚高度时，调整螺钉的高度，不让压脚和其他零件相接触，然后用螺母进行固定。

When you are adjusting presser height, you should adjust the screw height to avoid presser touching other spare parts, and then fix it withnut

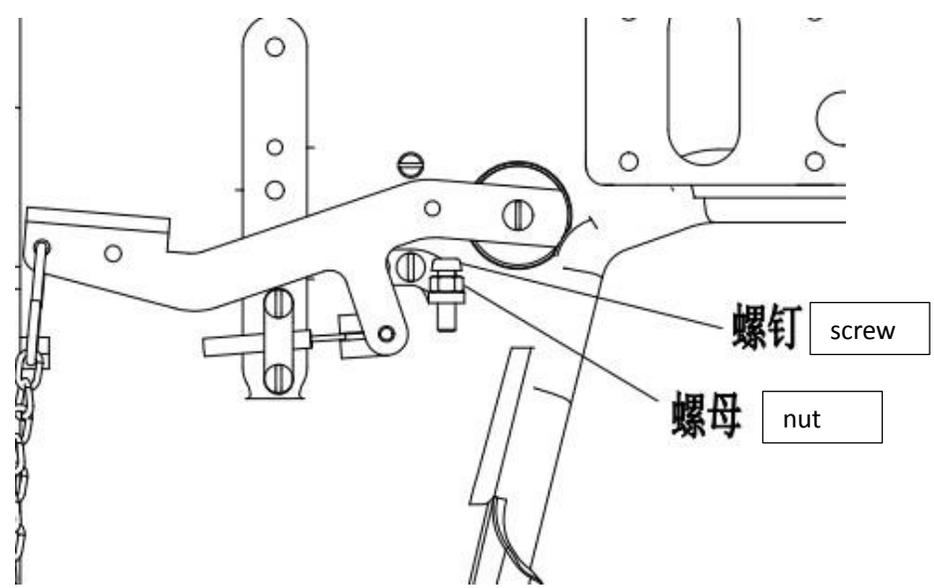


图16