



TU ALIADO EN LA CONFECCIÓN

Colombia, Bogotá D.C | Transv 77J #69-09



Jack

JACK

W4 系列使用说明 (W4 series User Guide)



一、 规格 (Specification)

机种名称 (machine description)	平台式高速绷缝机 (High speed flatbed interlock machine)
型式 (machine Model)	W4
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(Knit, knit product package edge seam, wrapped around the seam)
缝纫速度(sewing speed)	最高转速(Max speed) : 5500RPM 出厂转速(Factory set speed) : 4000RPM
针幅(needle width)	3 根针(needle) : 5.6mm、 6.4mm 2 根针(needle) : 2.8mm、 3.2mm、 5.6mm、 6.4mm
差动送布比 (differential feed ratio)	0.65-1.3
缝迹长度 (stitch length)	1.5mm-4.4mm
使用机针 (needle type)	UY128GAS 11#、 14# (标准 : 11#)
针杆行程 (needle bar stroke)	33.4mm
压脚高度 (max.presser foot height)	6.2mm
体积 (volume)	纸箱体积 (carton volume) : 670mm×445mm×59.5mm 机器体积 (machine volume) : 500mm×380mm×260mm
重量 (weight)	净重 (Net weight) : 48Kg 毛重 (Gross weight) : 58Kg

表 1 (Table 1)

二、各部分的名称

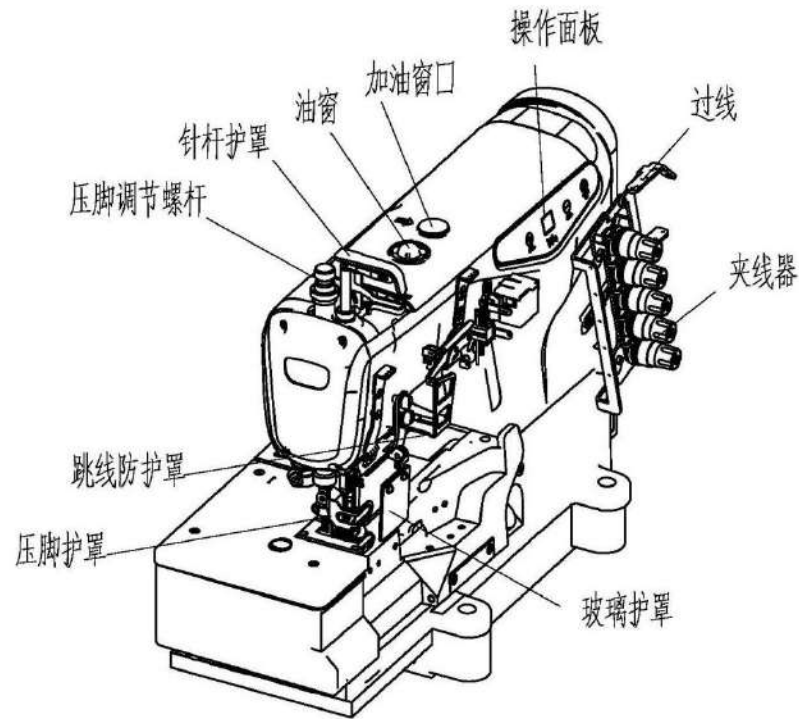


图2-1 (Figure 2-1)

压脚护罩 : Presser foot guard , 挑线防护罩 : thread take-up guard , 玻璃护罩 : glass guard , 压脚调节螺杆:Foot adjusting screw , 针杆护罩 : Pin guard , 油窗 : oil window , 加油窗口 : Refueling window , 操作面板 : operation panel , 过线 : line cross , 夹线器 : yarn trapper

W4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！（ W4 machine electric control and mechanical integration, can adjust the electric control related parameters on the machine, realized humanized man-machine exchange mode, the operation is convenient!)

三、安装方法 (Installation method)

1、台板尺寸及其安装方法 (Platform size and installation method)

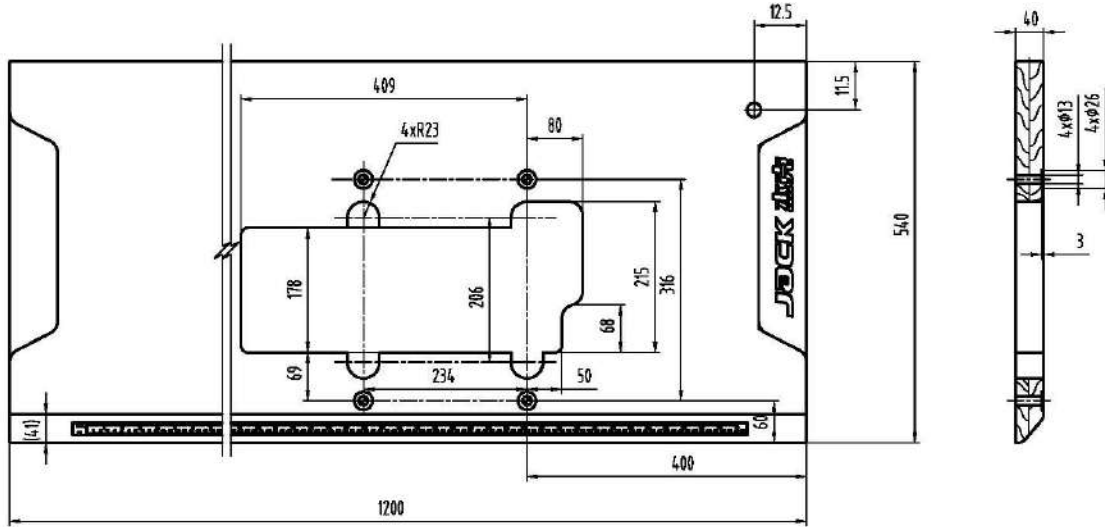
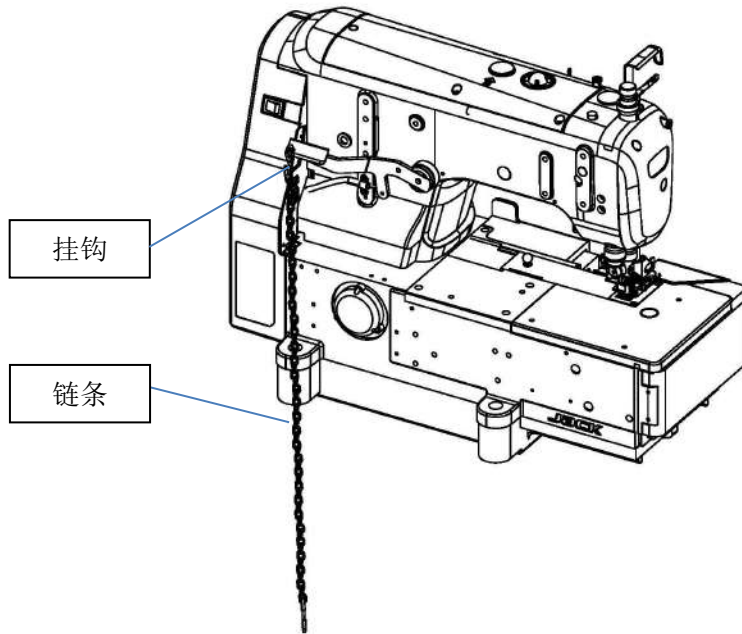


图 3-1

2、链条的安装 (Installation of the chain)



挂钩 : hook up , 链条 Chain

图 3-2 (Figure 3-2)

脚踏板链条如上图所示安装(The pedal chain is installed as shown in the figure above)

四、关于加油、注油 (About refueling and filling)

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 running and then operate! ）

1、出厂加油 (The factory refueling)

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：，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 delivered from the factory, the oil is discharged. Be sure to add the oil before using the sewing machine for the first time. It is recommended to use the oil. When filling, open the filler cap marked with OIL and add the oil between the upper and lower engraved lines. Turn the sewing machine after finish to see if there is any oil spilled in the oil window. If there is no oil spilled, please carry out overhaul.)

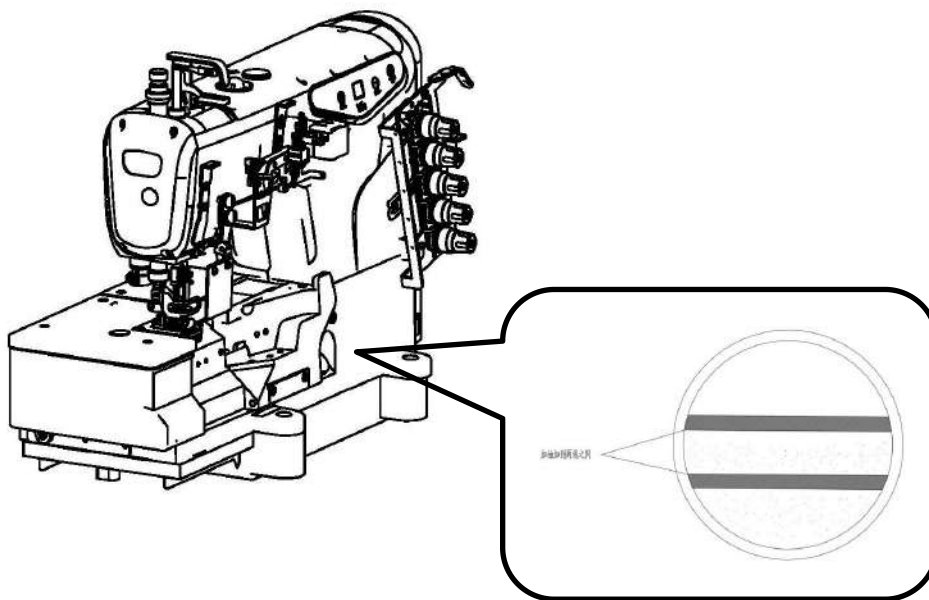
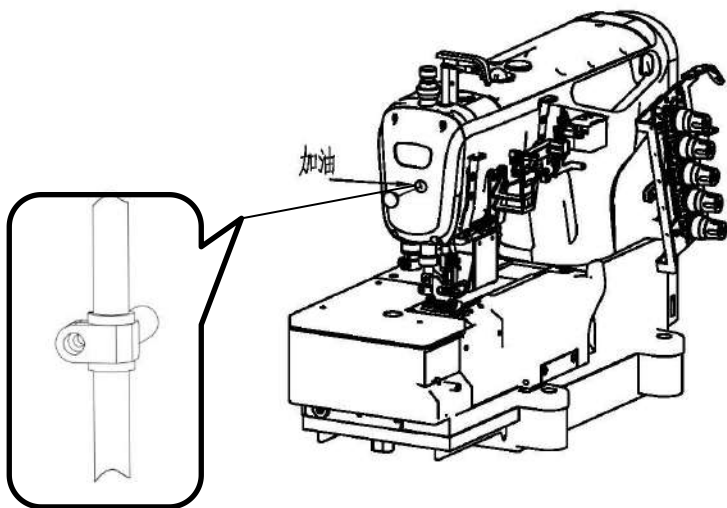


图4-1 (Figure 4-1)

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 running and then operate!）

2、出厂注油（Adding oil）

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。（When the machine is used for the first time 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（Oiled mechanism）

图 4-2（Figure 4-2）

五、缝纫机的使用方法 (Methods to use sewing machine)

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 running and then operate! ）

1、机针的安装方法 (Needle installation method)

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

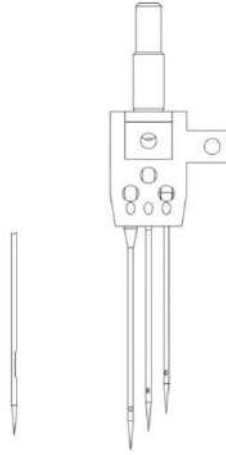


图 5-1 (Figure 5-1)

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 running and then operate! ）

2、穿线方法 (Threading method)

①、标准穿线法 (Standard threading method) :

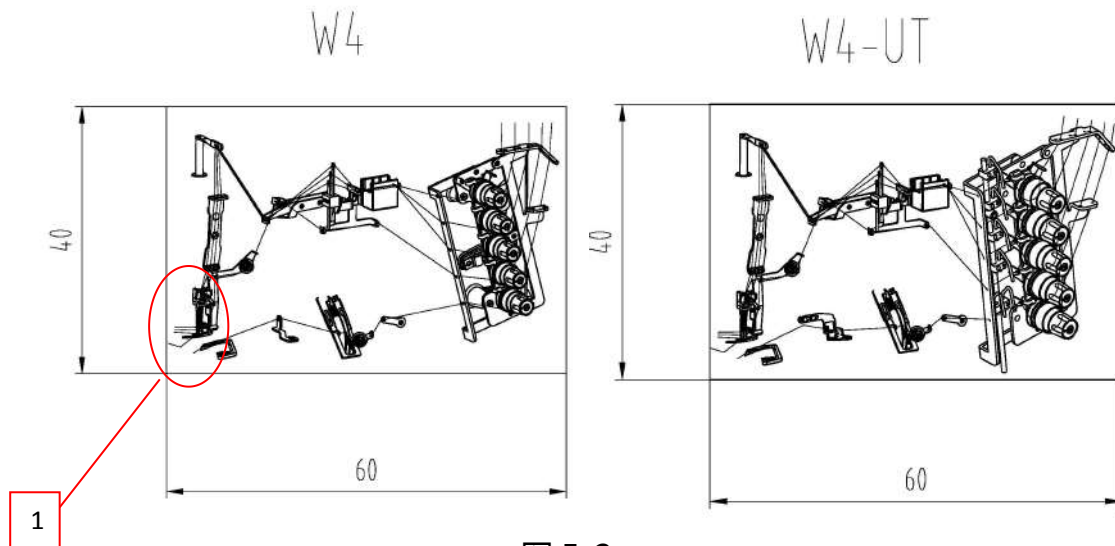


图 5-2

当机针线伸缩量较大时 (When the expansion and contraction quantity of the needle thread is big:) :

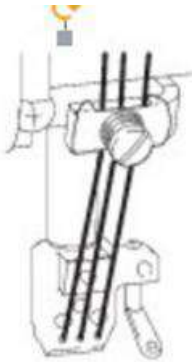


图 5-3 (Figure 5-3)

当机针线伸缩量较大时 (When the expansion and contraction quantity of the needle thread is big:) :

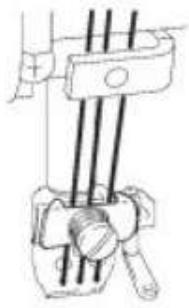


图 5-4 (Figure 5-4)

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 running and then operate!）

3、针距调节（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, stitch length becomes larger, counterclockwise rotation, stitch length becomes smaller.）

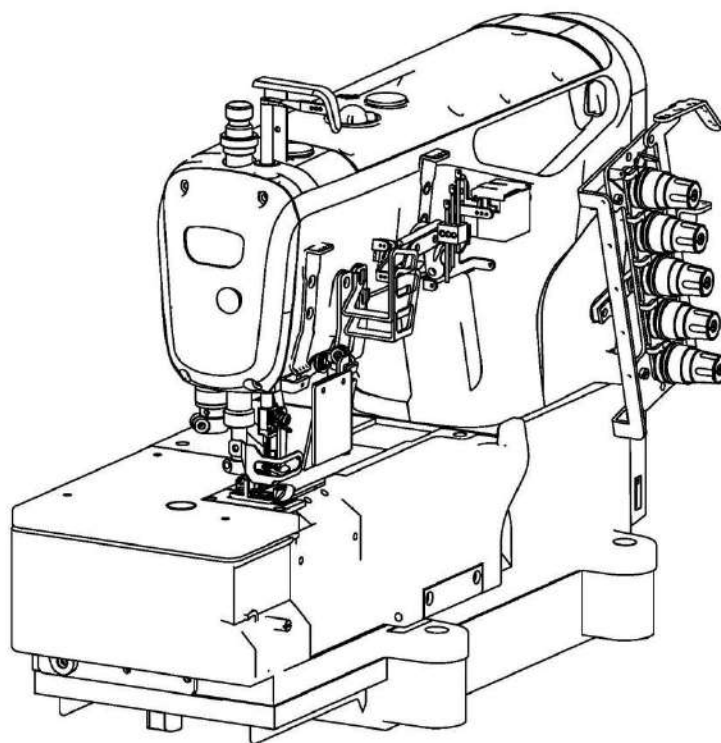


图 5-5（Figure 5-5）

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！（Warning: In order to avoid any accident, before operating please make sure power is off and motor is stopped.）

4、差动的调节（differential ratio adjustment）

差动调节范围在 0.65-1.3 内，松开调节螺钉，上下扳动，往上是顺差动，往下是逆差动。（differential ratio adjustment range from 0.65-1.3, release the adjust screw, move up or down to adjust.）

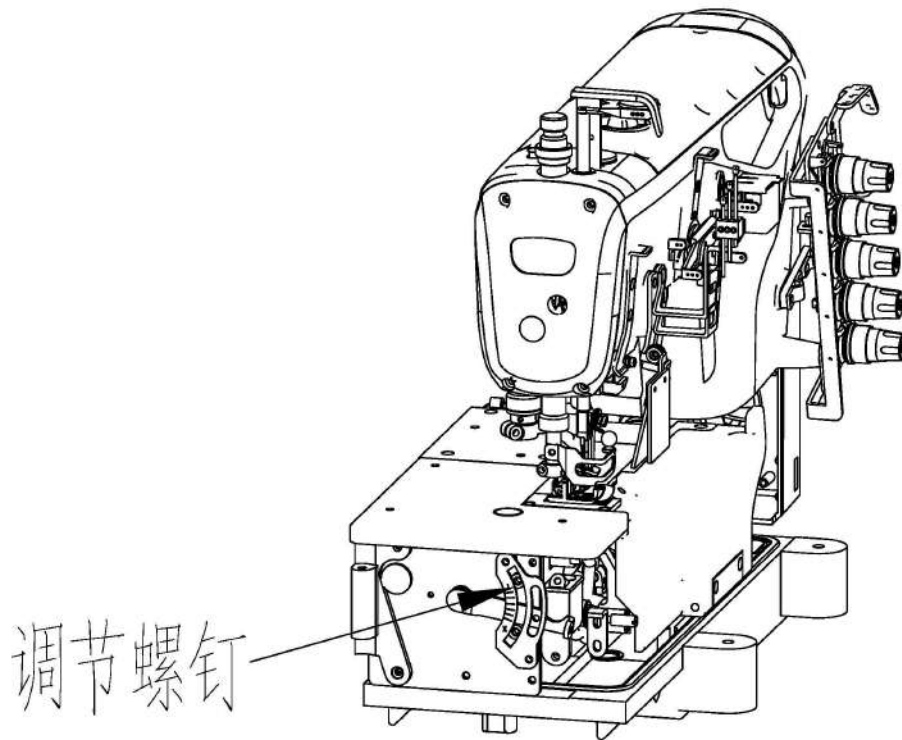


图 5-6 (Figure 5-6)

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！（Warning: In order to avoid any accident, before operating please make sure power is off and motor is stopped.）

5、压脚压力调节 (Presser foot pressure adjustment)

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。(Please keep the presser foot pressure as light as possible within the stable stitching.

When adjust the presser foot pressure, loosen the presser foot adjusting nut and adjust the presser foot adjusting screw clockwise or anticlockwise, If clockwise, presser foot pressure becomes bigger, if anticlockwise, presser foot pressure becomes smaller)

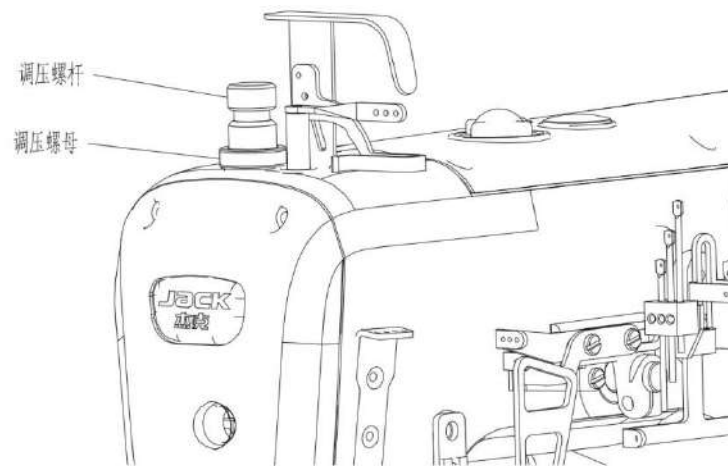


图 5-7

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！（Warning: In order to avoid any accident, before operating please make sure power is off and motor is stopped.）

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 tension changes according to the different material thread and stitch. According to different condition, adjust the thread clamp nut, turn clockwise, tight thread tension; anticlockwise turn, loose thread tension.)

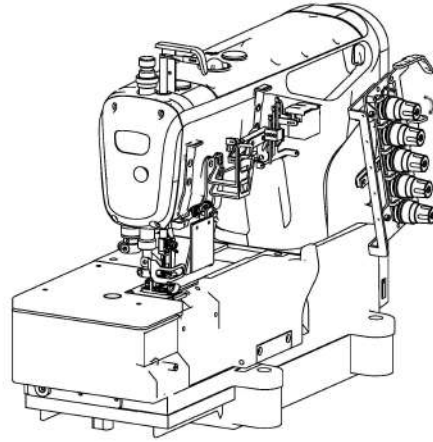


图 5-8 (Figure 5-8)

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！（Warning: In order to avoid any accident, before operating please make sure power is off and motor is stopped.）

7、滤油器的检查和更换 (oil filter inspection and replacement)

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（Oil filter, can't work smoothly with dust on it. Please check or replace every 6 months.

Note: If the add the oil according to the provisions, but in the oil window the oil shows abnormally, too weak, with bubbles, please promptly replace or clean the oil filter.)

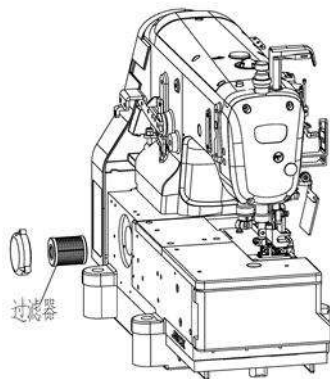


图 5-9 (Figure 5-9)

六、电控操作

1、W4-D 电控操作

Instructions of W4-D 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 tube display “P”, the second tube 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

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）

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
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”				
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	缝勿限制速 Limited sewing speed	05 - 55	50	以 500rpm 为单位递减 Decline by 500rpm every time
M	停针位开关 Switch of needle position	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
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”				
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	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。 The motor run out of load capacity, please reduce the load capacity for the motor and then restart the motor; Please check if the plug of motor loose or drop; Please check if the sewing material is too heavy; Please check if the machine needs lubrication.
E2	软件过流 software over-current	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.
E3	参数保存异常 Parameter save abnormal	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）；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 10core 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清洁；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 cut 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 cut 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	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

	under-voltage	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.

2、W4-UT 电控操作(W4-UT Electric control box operation)

安全事项

- 在使用本产品之前，请先阅读《操作手册》及所搭配的缝纫机机械说明书。
- 本产品必须由接受过专业培训的人员来安装或操作。
- 请尽量远离电弧焊接设备，以免产生的电磁波干扰本控制器而发生误动作。
- 请不要在室温 45℃ 以上或者 0℃ 以下的场所使用。
- 请不要在湿度 30% 以下或者 95% 以上或者有露水和酸雾的场所使用。
- 安装控制箱及其他部件时，请先关闭电源并拔掉电源插头。
- 为防止干扰或漏电事故，请做好接地工程，电源线的接地线必须牢固的方式与大地有效连接。
- 所有维修用的零部件，须由本公司提供或认可，方可使用。
- 在进行任何保养维修动作前，必须关闭电源并拔掉电源插头。控制箱里有高压危险，必须关闭电源五分钟后方可打开控制箱。
- 本手册中标有  符号之处为安全注意点，必须注意并严格遵守，以免造成不必要的损害。

Before using this product, please read the operation manual and the collocation of sewing machine instructions.

This product must be installed or operated by professional training personnel .

Please stay away from arc welding equipment, In order to avoid the electromagnetic interference of this controller and produce false action.

Please don't use at the temperature above 45 °C or below 0 °C indoor.


Please don't use in the humidity below 30% or more than 95% at the places where the dew and fog.

Installing a control box and other components, please turn the power off and pull the plug

To prevent interference or leakage accident, please get the grounding engineering, power cord grounding wire must be solid way to connect with the earth effectively.

All spare parts for maintenance, before using should to be supplied by the company or recognition.

Before any maintenance action, must turn the power off and pull the plug. Control box has a high pressure risk, it is necessary to open the control box after turning the power off five minutes later.

Marked symbol  in this manual is safety attention point, must pay attention and strictly abide by, In order to avoid unnecessary damage.

第1章 产品安装 (The product installation)

1.1 产品规格 (Product specification)

品型号 (Model)	AHE59	电源电压 (Supply voltage)	AC 220±20% V
电源频率 (Supply frequency)	50Hz/60Hz	最大输出功率 (Maximum output)	550W

1.2 接口插头的连接 (Connection of interface plug)

将脚踏板及机头的各连接插头安插到控制器后面对应的插座上,各插座名称如图 1-2 所示。连接好,请检查插头是否插牢。(Connect the pedal and the nose of the plug placed behind the controller corresponding to the socket, the name of the socket as shown in figure 1-2.After connection,please check whether the plug is stuck or not.)

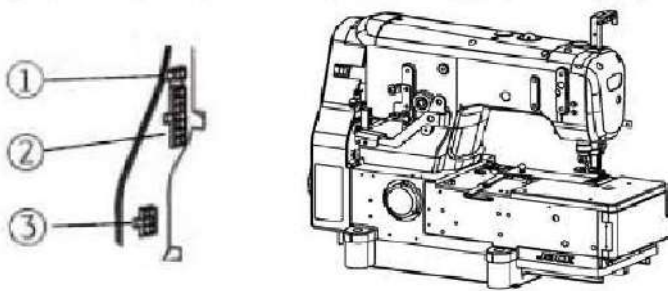


图 1-1 AHE 系列控制器图 (Figure 1-1 AHE series controller diagram)

- ① 抬压脚电磁铁插座 (presser foot electromagnet); ②自动电磁铁插座 (automatic electromagnet socket); ③脚踏板插座 (the pedals socket);

⚠: 使用正常的力量插不进去时,请检查插头与插座是否匹配,插入方向或针的方向是否正确!

(When using normal power plug could not in, please check whether the plug and socket is matched,and if the direction of the needle and insertion direction is right or not!)

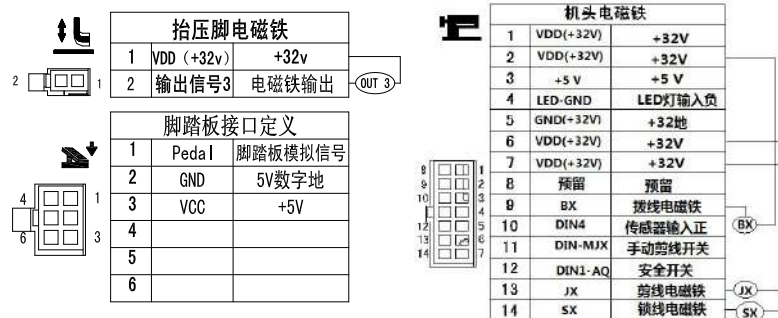


图 1-2 控制器接口定义 (Figure 1-2 The controller interface definitions)

1.3 接线与接地 (Wiring and grounding)

必须要做好系统的接地工程,请合格的电气工程人员予以施工。产品通电及投入使用前,必须确保电源插座AC输入端已安全可靠的接地。系统的接地线为黄绿线,该地线请务必可靠连接至电网安全保护接地上,以保证安全使用,并可防止出现异常情况。(Must be prepared system grounding engineering well, please ask qualified electrical engineer to construct. Before product power and put into use,must ensure that the power plug.)

⚠: 所有电源线、信号线、接地线等接线时不要被其它物体压到或过度扭曲，以确保使用安全！

(Do not press or over-distort all the power cables, signal cables, grounding cables, etc. to ensure safe operation!)

第 2 章 操作面板使用说明 (Operation panel instruction)

2.1 操作面板的显示说明 (operation panel display instruction.)

根据系统工作状态，操作面板的液晶屏模块将显示当前的缝纫模式、各种参数，以及抬压脚、停针位、剪线、慢速起缝等液晶字符。(Depends on the working status of system, the LCD screen of operation panel will display the current sewing model and parameters, and LCD legend such as auto press foot, trimmer, needle position, etc.)

操作面板上的功能图标显示说明如下所示。(The function icons on the operation panel are displayed below)

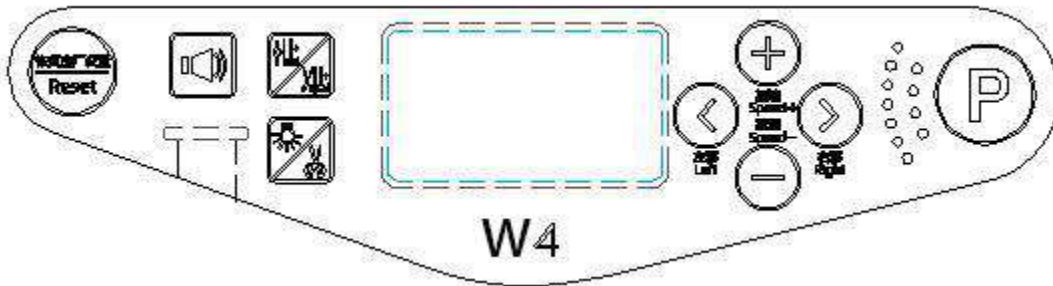


图 2-1 操作面板外观界面 (Figure 2-1 Operation panel interface)

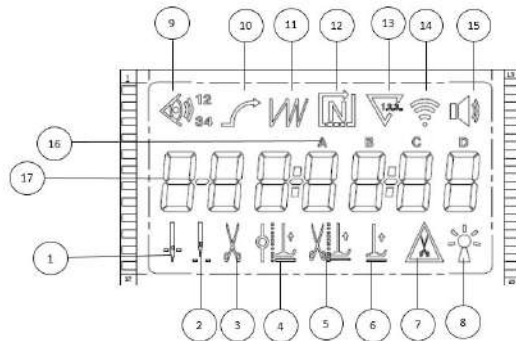


































图 2-2 操作面板液晶显示屏图示 (Figure 2-2 Operation panel LCD representation)

索引 index	图标 icon	描述 Description	索引 index	图标 icon	描述 description
1		中间停针下停针 Mid-lower needle position	11		W 缝纫 (无此功能) W sewing (Not in use)
2		中间停针上停针 Mid-upper needle position	12		四段缝 (无此功能) 4stage sewing (not in use)
3		自动剪线功能 Auto trimmer	13		记切线次数 Trim Count
4		中间停针抬压脚 Mid needle position presser lifting	14		无线信号 (无此功能) Wireless signal (not in use)
5		剪线后抬压脚 Presser lifting after trim	15		语音播报 Speak Service
6		抬压脚 Presser foot lifting	16	A B C D	针数段落 Needle stage
7		计剪数 Counter	17	8 8 8 8 8 8 8	计数/参数值显示 Count/parameter display
8		灯光亮暗 Light			
9		感应自动抬压脚 Auto sense presser foot			
10		软启动功能 Soft start			

2.2 操作面板各按键功能说明

序号 NO	外观 Appa rance	名称 Name	功能描述 Function Description
1		参数进入 及返回键 Parameter Enter and Exit	在开机状态下，长按  键进入参数模式。修改参数后按一下  键储存，再按  键退出参数模式。In state of power on, press and hold  button to enter parameter model. Press  button to save, and press  again to exit.
2		抬压脚键 Presser foot chain	在正常缝纫模式下，按  键，循环切换缝纫中途停车时抬压脚与缝纫结束后自动切线抬压脚。Under normal sewing model, press  button. Switch between presser lift when sewing pause and auto trim/presser lift after sewing process end.
3		灯按键等 级以及剪 线键 LED light level and trim	按下  ，灯的等级会发生变化；长按  ，循环切换是否剪线。press  ，the LED light level will change；long press  ，switch between whether auto trim or not.。
4		喇叭键 speaker	在报错的时候，短按一下，将会报故障原因；长按，循环切换喇叭开关。When error report, press once to report error reason；long press to switch speaker，
5		参数递增 键 Increase parameter	参数设定中，参数值递增键。In parameter setting, increase parameter
6		参数递减 键 Decrease parameter	参数设定中，参数值递减键。In parameter setting, decrease parameter
7		向左选择 键 Select left side	参数设定中，向左选择参数范围。In parameter setting, select parameter scale in left side
8		向右选择 键 Select right side	参数设定中，向右选择参数范围。In parameter setting, select parameter scale in right side.
9		恢复出厂 设置 Reset	长按 3S 触动开关恢复出厂程序。Press and hold 3 seconds to Reset.

2.2 复合按键说明 (composite button description)

序号 No.	外观组合 Appearance	名称 Name	功能描述 Description
1	 	计剪线快捷 键 Trim counter shortcut	快速进入计剪线模式，按下按键  或  ，可以自动切换成计针数模式；按下  或  时可以退出计针数计剪数模式。Quick enter in trim counter mode, press  or  ，switch between trim counter and stitch counter mode；press  or  to quit.
2	 	监控模式捷 键 Monitoring Mode shortcut	快速的进入监控模式，对一些参数进行监控。Quick enter in monitoring mode, monitor some parameter.

第3章 系统参数设置说明 (Chapter 3 System parameter description)

3.1 参数模式 (parameter mode)

- 1、 待机状态下, 按 Ⓜ 键进入参数模式; (under standby mode, press Ⓜ button to enter parameter mode;)
- 2、 按 Ⓜ Ⓜ 键和 Ⓢ Ⓢ 键修改相对应的参数。(press Ⓜ Ⓜ button and Ⓢ Ⓢ button to adjust the parameter.)
- 3、 当参数值有修改时, 参数界面闪烁。此时, 短按 Ⓜ 键, 保存修改后的参数, 再长按 Ⓜ 键退出参数界面, 返回待机页面。(When parameter change, the interface will flicker. Press Ⓜ button and save the change of parameter, press and hold Ⓜ button to quit the parameter interface and back to standby mode.)

参数编号 Parameter No.	参数范围 Parameter scale	出厂值 Default Value	参数描述 Description
P99	0/1/2	1	语音选择 (Voice choice) 0: 语音关闭 (close voice) ;1: 中文 (Chinese) 2: 英文 (English) 默认 1 中文 (Default 1 Chinese)
P01	200~5500	4000	自由缝最高速度(全局最高速度)Free sewing Maximum Seed(overall highest speed)
P03	0/1	0	上下停针选择 (Needle position) (0: 为上停针; 1: 为下停针) (0: upper; 1: lower)
P04	200~3000	1800	前加密缝速度 (Front encryption sewing speed)
P05	200~3000	1800	后加密缝速度 (Back encryption sewing speed)
P07	0~200	0	前加密缝针数(0 没有加密缝功能, 如果有针数为有加密缝功能)Front encryption sewing stitch amount (0 no encryption sewing function, If it have number this means have encryption sewing function)
P08	0~200	0	后加密缝针数(0 没有加密缝功能, 如果有针数为有加密缝功能)Back encryption sewing stitch amount (0 no encryption sewing function, If it have number this means have encryption sewing function)
P09	0/1	0	慢速起缝开关(0 为关闭, 1 开启) Slow up seam (0 off, 1 on)
P10	0~4	0	计件数调节 Counter adjustment
P16	1~3000	50	调节响应时间, 感应压脚检测到有布之后相应时间 Response time adjustment, the response time of sense presser foot detect the fabric .
P17	0~99	0	自动感应抬压脚灵敏度设置(在参数 02C 显示的参数最大值和最小值之间) Auto sense presser foot sensitive adjustment (Between the min and max value of 02C parameter)
P24	0~1024	150	踏板剪线位置 (Footboard trim position)
P27	0~3	1	抬压脚感应模式选择 (0/1/2), 0: 关闭; 1: 剪线后有效; 2: 都有效 Presser foot sense mode (0/1/2), 0: close; 1: after trim; 2: always
P30	0~31	0	电机低速加力功能开关: (Motor low speed high power mode:) 0: 正常功能 (Norma) 1~31: 低速加力过厚能力档位 (Low speed high power mode(for heavy duty))
P32	1~500	60	加密缝电磁铁全出力时间 ms (Encryption sewing magnet full capacity time ms)
P33	0~100	6	加密缝电铁每周期关闭时间 ms (encryption sewing magnet close time in a period ms)
P37	0~100	5	加密缝电磁铁每周期开通时间 ms(夹线力度)encryption sewing magnet open time in a period ms
P38	1~999	120	绷缝剪线速度 (下刀维持时间) -----下刀 Interlock trim speed (trimer holding time) -----bottom cut
P39	1~999	160	扫线延迟动作时间-----上刀 (注意: 此项也是绷缝机上剪线) Sweep thread holding time-----top cut (note: this is interlock top cut, too)
P40	1~9999	30	扫线速度 (扫线持续时间) -----上刀 (注意: 此项也是绷缝机上剪线) Sweep speed (sweep holding time) -----上刀 (note: this is top cut, too)
P41	0~9999	120	吹风开始延迟时间 ms (Air delay time ms)
P42	1~9999	300	吹风持续时间 ms (Air holding time ms)

P43	0~25	2	扫线、吹风选择功能（2 为扫线；8 为吹风） Sweep or Air（2 is sweep; 8 is air）
P45	0~100	1	剪线电磁铁每周期开通时间 ms trimmer magnet open time in a period ms
P46	0~100	2	剪线电磁铁每周期关闭时间 ms trimmer magnet close time in a period ms
P49	100~500	300	剪线速度 Trim speed
P50	1~500	100	抬压脚电磁铁全出力时间 ms Presser foot magnet full capacity time ms
P51	0~100	15	抬压脚电磁铁每周期开通时间 ms Presser foot magnet open time in a period ms
P52	1~800	150	放压脚延迟时间（ms） Presser lifting delay time（ms）
P53	0/1	1	抬压脚开关： Presser foot switch: 0: 不抬 not lift 1: 抬 lift
P54	0~100	35	抬压脚电磁铁每周期关闭时间 ms Presser foot magnet close time in a period ms
P56	0/1	1	上电自动找上针位： Auto upper needle position when plug in: 0: 不找（off） 1: 找（on）
P57	0~600	200	抬压脚电磁铁保护时间 100ms Presser foot magnet protection time 100ms
P60	200~5500	4000	定长缝最高速（自动测试速度） Given length tacking maximum speed（Auto test speed）
P62	0~4	0	特殊运行模式：（Special operation mode:） 0: 操作工选择（正常）working mode（normal） 1: 简易缝模式（easy seam） 2: 测电机初始角（不再需要取下皮带）motor angle test（no need to take belt down） 3: 计算传动比模式（需要有停针传感器，且不能取下皮带） transmission ration test mode（need needle position sensor, and cannot take belt down） 4: 自动测试模式 1（带停针位的自动测试，运行 5S，停止 5S） Auto test mode（with needle position testing, operate 5S, pause 5S）
P66	0~2	0	0: 关闭 close; 2: 打开安全开关 open safety switch
P71	0~50	0	缓放压脚级别调整，数值越小放的越快；（超频打开时间） Release presser foot level adjustment, when number get smaller, the release speed become quicker;（over frequency open time）
P76	1~500	60	剪线电磁铁全出力时间 ms Trimmer magnet full capacity time ms
P98	0~4	4	音量调节（0-4）4 为音量最大 Volume adjustment（0-4）4 is the highest
P99	0/1/2	1	语音选择 0: 语音关闭, 1: 中文, 2: 英文 Voice option 0: close, 1: Chinese, 2: English
PA0	0~9999	0	感应开启时，撤除布料后放压脚延迟时间，单位 ms When sensor open, presser foot delay time after remove fabric, Unit: ms
PA1	0~9999	50	感应开启时，带布料放压脚延迟时间，单位 0.1s When sensor open, presser foot delay time when put fabric, 单位 0.1s
PA5	0~3	0	0: 开机语音，按键语音，参数语音，故障语音；1: 仅为开机语音；2: 仅为按键语音及故障语音；3: 开机语音，按键语音，故障语音 0: starting up voice, press button voice, parameter voice, error voice; 1: only start up voice; 2: press button and parameter voice; 3: All these three
PA6	1~100	1	计底线针数比例 Bobbin thread proportion
PA7	1~9999	1	底线总针数设置 Bobbin thread amount setting

PA8	0~6	0	<p>计针数模式 (0: 不计针数; 1: 递增加满自动复位; 2: 递减至零自动复位; 3: 递增加满, 报错停机, 手动复位; 4: 递减至零, 报错停机, 手动复位; 5: 递增加满, 报错不停机, 剪线后停机, 手动复位; 6: 递减至零, 报错不停机, 剪线后停机, 手动复位)</p> <p>Stitch count mode (0: no count; 1: increase and reset on maximum point; 2: decrease and reset on Zero; 3: Increase and report error on maximum point, manual reset; 4: decrease and report error on Zero, manual reset; 5: increase and report error on maximum point without sewing stop. The machine stop after trim, Manual reset; 6: Decrease and report error on Zero without sewing stop. The machine stop after trim, Manual reset)</p>
PA9	1~100	1	计件数次数比例 Piece count proportion
PAA	1~9999	1	总件数设置 Total piece set
PAB	0~4	0	<p>计件数模式 (0: 手动计数; 1: 自动计模式——增量模式; 2: 自动计件数模式——减数模式; 3: 自动计件数到 PAA 的数值, 电机停止转动, 手动复位——增量模式; 4: 自动计件数到零, 电机停止转动, 手动复位——减量模式)</p> <p>Count mode (0: manual count; 1: auto count——increase mode; 2: AUTO COUNT: DECREASE MODE; 3: auto count until reach the number of PAA, motor will close and need manual reset-increase mode; 4: auto count until reach the number of PAA, motor will close and need manual reset-decrease mod)</p>

3.2 监控参数表 (Monitor parameter table)

参数编号 Parameter NO.	参数描述 Description	参数编号 Parameter NO.	参数描述 Description
010	针数计数 (Stitch count)	025	踏板电压采样值 (Footboard Voltage sampling)
011	计件数 (Piece count)	026	机头传动比实际值 (Machine head transmission ratio actual value)
012	机头实际速度 (Machine head actual speed)	027	电机累计运行时间 (Hour) Accumulated operation time of motor (Hour)
013	霍尔状态 (Hall mode)	028	机头交互量电压采样值 (Machine head interaction and voltages sample value)
020	母线电压 (Busbar voltage)	029	DSP 软件版本号 (DSP software version No)
021	机头速度 (Machine head speed)	02A	模拟输入 1 采样值 (Analog input 1 sample value)
022	相电流 (Phase current)	02B	模拟输入 2 采样值 (Analog input 2 sample value)
023	初始角度 (Initial angle)	02C	错误计数器 (Error counter)
024	机械角度 (Machine angle)	030-037	历史故障代码 (Error code history)

3.3 安全报警表 (Safety alarm table)

报警代码 Parameter NO.	代码含义 Description	解决措施 Way to solve
ALA-2	计针数报警 Counter alarm	表示计针数已达所设上限, 按 P 键可取消报警并重新计数 Reached the maximum count value, press P to cancel alarm and recount
ALA-3	计剪线数报警 Trim counter alarm	表示计剪线数已达所设上限, 按 P 键可取消报警并重新计数 Reached the maximum count value, press P to cancel alarm and recount
POB OFF	断电提醒 Outage alarm	请等候 30 秒再重新打开电源开关 Wait 30 second, then turn on the machine again
ARN UP	翻台开关报警	摆正机头, 不报翻台开关错误

	Rockover switch warning	Adjust the machine head until it stops warning
5LEEP	休眠 sleep	关闭系统电源，30 秒后重新接通电源，控制器若仍不能正常工作，请更换控制器并通知厂方。 Turn off the machine, and turn on it after 30 second, if the control box still not work, please replace the control box and inform service center.

3.4 故障代码表 (breakdown code table)

若系统出现报错或报警，请首先检查如下项：(If the system report error or warning, please check the following first:)

1、先确认机器的连接线是否连接完好；2、确认电控和机头是否匹配；3、确认恢复出厂是否已经恢复完成。

1、whether all the connection is fine; 2、make sure the electric control and machine head are matching; 3、make sure the system already reset.

故障代码 Error code	代码含义 Description	解决措施 Way to solve
Err-01	硬件过流 Hardware overcurrent	关闭系统电源，30 秒后重新接通电源，控制器若仍不能正常工作，请更换控制器并通知厂方。Turn off the machine, and turn on it after 30 second, if the control box still not work, please replace the control box and inform service center
Err-02	软件过流 Software overcurrent	
Err-03	系统欠压 System under voltage	断开控制器电源，检查输入电源电压是否偏低（低于 176V）。若电源电压偏低，请在电压恢复正常后重新启动控制器。若电压恢复正常后，启动控制器仍不能正常工作，请更换控制器并通知厂方。Disconnect power of control box, check whether the power voltage is low (lower than 176V). If the power voltage is low, restart the control box when voltage get it right. If still not work, please replace the control boxes and inform service center
Err-04	停机时过压 Down time overvoltage	断开控制器电源，检查输入电源电压是否偏高（高于 264V）。若电源电压偏高，请在电压恢复正常后重新启动控制器。若电压恢复正常后，启动控制器仍不能正常工作，请更换控制器并通知厂方。Disconnect power of control box, check whether the power voltage is high (higher than 264V). If the power voltage is low, restart the control box when voltage get it right. If still not work, please replace the control box and inform service center
Err-05	运行时过压 Operation overvoltage	
Err-06	电磁铁回路故障 Magnet circuit fault	关闭系统电源，检查电磁铁连线是否正确，是否有松动、破损等现象。若有则及时更换。确认无误后重启系统，若仍不能工作，请更换控制器并通知厂方。Power off, check the connection of magnet, whether loose or break. Replace it if it loose or break, then restart the system, If still not work, please replace the control boxes and inform service center
Err-07	电流检测回路故障 Current detection circuit fault	关闭系统电源，30 秒后重新接通电源观察是否能正常工作。重试几次，若该故障频繁出现，请更换控制器并通知厂方。Power off, Restart after 30 second, check whether it can work normally. Try again a few times, If the error occurred frequently, please replace the control boxes and inform service center
Err-08	电机堵转 Motor locked rotor	断开控制器电源，检查电机电源输入插头是否脱落、松动、破损，是否有异物缠绕在机头上。排除后重启系统仍不能正常工作，请更换控制器并通知厂方。Power off, Check whether the motor power plug fall off, lose, or break. Whether any foreign matter twist on machine head. Restart after check and repair. If still not work, please replace the control boxes and inform service center
Err-09	制动回路故障 Brake circuit breakdown	关闭系统电源，检查电源板上白色的制动电阻接头是否松动或脱落，将其插紧后重启系统。若仍不能正常工作，请更换控制器并通知厂方。Power off, check the connection of white resistance on power panel. Whether falloff or lose, restart after plug in. If still not work, please replace the control boxes, and inform service center.

Err-10	HMI 通讯故障 HMI communication error	检查控制面板与控制器的连线是否脱落、松动、断裂，将其恢复正常后重启系统。若仍不能正常工作，请更换控制器并通知厂方。Check the connection of control panel and controller, whether loose or fall off, make it right and then restart it. If still not work, please replace the control box, and inform service center
Err-11	机头停针信号故障 Machine head needle position signal breakdown	检查机头同步信号装置与控制器的连线是否松动，将其恢复正常后重启系统。若仍不能正常工作，请更换控制器并通知厂方。Check the connection between machine head frame synchronization unit and controller, If it is loose, make it right then restart. If still not work, please replace the control box, and inform service center
Err-12	电机初始角度检测故障 Motor initial angle detection error	请断电后再尝试 2-3 次，若仍报故障，请更换控制器并通知厂方。Power off then try 2 to 3 times, If still report error, please replace the control boxes and inform service center
Err-13	电机 HALL 故障 Motor HALL breakdown	关闭系统电源，检查电机传感器接头是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换控制器并通知厂方。Power off, check the motor sensor connector, If it is loose or fall off, make It right then restart, If still not work, please replace the control box, and inform service center
Err-14	DSP 读写 EEPROM 故障 DSP read EEPROM error	关闭系统电源，30 秒后重启系统，若仍不能正常工作，请更换控制器并通知厂方。Power off then restart it after 30 second. If still not work, please replace the control box, and inform service center
Err-15	电机超速保护 Motor overspeed protection	
Err-16	电机反转 Motor contrarotation	
Err-17	HMI 读写 EEPROM 故障 HMI read EEPROM error	
Err-18	电机过载 Motor overdrive	
Err-19	翻台开关报警 Turn off switch warning	摆正机头，确保翻台开关复原 Adjust the machine head, make sure the recovery of turn off switch.

第4章 脚踏板灵敏度调整 (Chapter 4 footboard sensitivity adjustment)

脚踏板动作由初始位置① (136号参数) 开始, 缓慢向前踩至② (137号参数) 开始低速缝纫, 继续前踩至③ (138号参数) 开始

加速, 再深踩至④ (139号参数) 达到最高速度。②③段之间维持起缝速度, ③④段之间为无级调速过程;

- 1、当脚踏板由初始位置① (136号参数) 开始, 缓慢后踩至⑤ (135号参数) 时抬压脚自动抬起;
- 2、当脚踏板由初始位置① (136号参数) 开始, 缓慢后踩至⑥ (134号参数) 时自动完成剪线动作。
- 3、各参数数值设置需保证 (134号参数) < (135号参数) < (136号参数) < (137号参数) < (138号参数) < (139号参数)
- 4、可通过监控模式下 025 号参数实时监测, 不同位置下的踏板采样数值作为各参数的参考值。

调整对应参数, 抬压脚和前踩或后踩的动作位置也随之改变。如前踩很大距离机器还没有运转, 可适当减小 137 参数 (不能小于回中位置参数 136), 即可提高前踩的灵敏度; 若机器过于灵敏, 轻触踏板机器就开始运行, 可适当加大 137 参数; 若不容易补针, 稍微前踩, 速度就迅速提高造成前冲多针, 可适当增大 138 参数或减小 137 参数 (即增大脚踏板低速范围), 也可以适当降低初始起缝速度 (100)。

脚踏板: The pedals, 踏板初始位置: Pedal position, 低速启动位置: Low speed start position, 开始加速位置: Start up, 最大速度位置: Maximum velocity position, 踏板初始位置: Pedal position, 抬压脚抬起位置: Raise the foot to lift the position, 自动剪线位置: Automatic trimming position

Footboard initial action start with ① (parameter No.136), slowly move to ② (parameter No. 137) and start low speed seam, keep move to ③ (parameter No. 138)

Start to speed up, deeply tread to ④ (parameter No.139) reach to the maximum speed. Keep initial speed between ② and ③, and between ③ and ④ is stepless speed;

- 3、When footboard from ① (NO.136) slowly back to ⑤ (No.135) the presser foot automatic lifting;
- 4、When footboard from ① (No.136) slowly back to ⑥ (NO.134) the trimer auto trim.
- 3、The parameter setting must follow: (No.134) < (NO.135) < (NO.136) < (NO.137) < (NO.138) < (NO.139)
- 4、Use the NO.025 parameter under monitor mode to detect the sampling value of different point on footboard as the reference value of parameter.

By adjusting the opposite parameter, the position of front tread and back tread of presser foot board will change. If the machine not work with a deeply front tread, we can decrease the value of NO.137 a little bit. (cannot smaller than value of No.136), which means increase sensitive of front tread; If the machine is too sensitive, operate with a shallow tread, we can appropriately increase the value of No.137; if it is uneasy to mending stitch, high speed with shallow tread, we can appropriately increase the value of No.138 or decrease the value of NO.137 (which means increase the scale of low speed) or we can decrease the initial sewing seed(100).

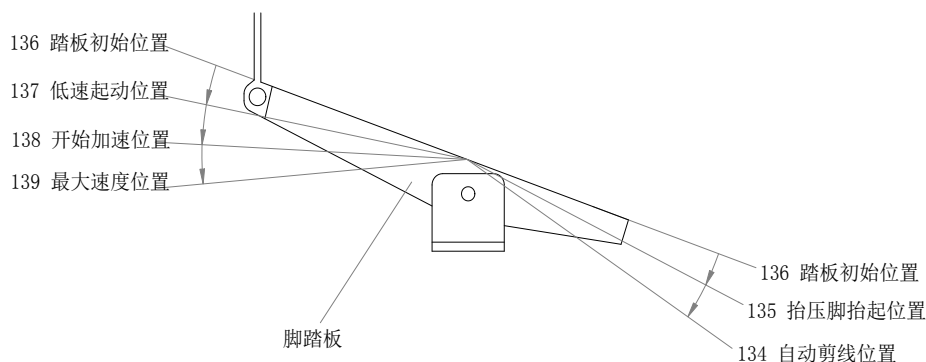


图 4-1 踏板动作各位置参数示意图

(Figure 4-1 Schematic diagram of each position parameter of pedal action)

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 machine from causing personal accident suddenly, please turn off the power supply, confirm the motor really stop running again then operate !

1、冷却器导线器的调整 (cooler thread guide adjustment)

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）。

Adjust the release pole hight to the number below, then tighten the set crew(Figure7-1) ,

Accounting to different fabric, we can change thread taking up length by adjusting pole height of A、B、C , Thread taking up quantity increases when pole height decreases and thread taking up quantity decreases when pole height increase.s (Figure 1) 。

A	B	C
12	21	32

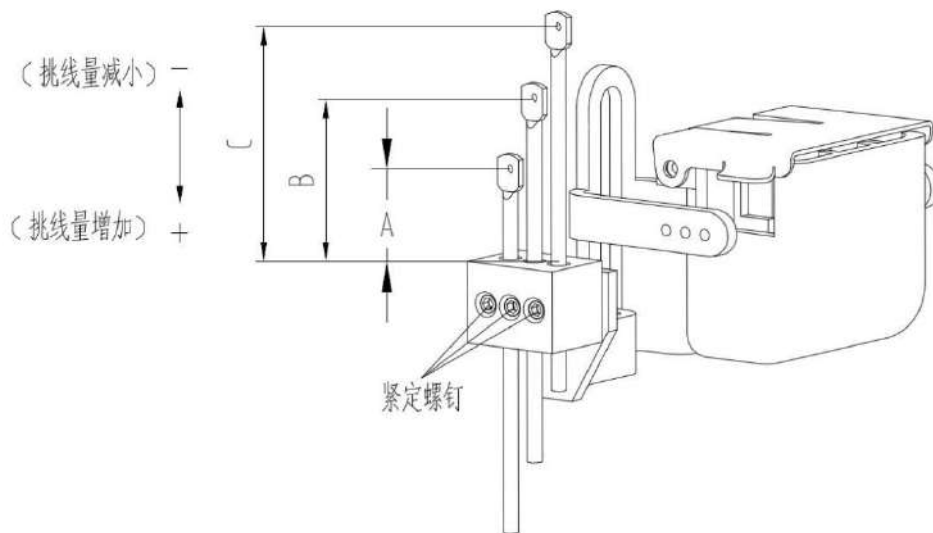
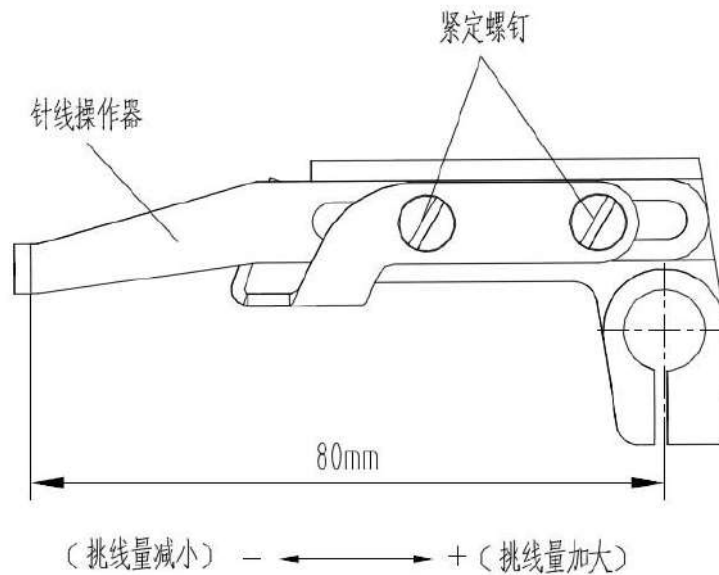


图 7-1 (Figure 7-1)

挑线量减少：Reduction of selection，挑线量增加：increase of selection 紧定螺钉：Set screw

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）。

Release set screw, moving around the needle thread operator ,showed by figure 2 ,change the distance between margin of needle thread operator and center of shuffling release pole rod to 80mm, then tighten 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 increases, the thread taking up length decreases. Also, the distance decreases, the thread taking up length increases (figure 8-2).



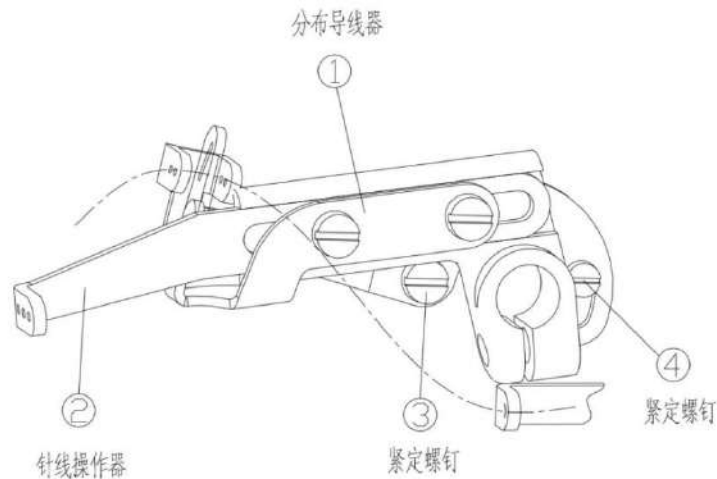
挑线量减少：Reduction of selection，挑线量增加：increase of selection，紧定螺钉：Set screw

图 8-2 (Figure 8-2)

3、分布导线器的调整 (Adjustment of distributing thread guider)

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)。

When distributing thread guider ①at 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)。



分布导线器：Distributing conductor，紧定螺钉：Set screw，针线操作器：Needle thread operator

图 8-3 (Figure 8-3)

4、打线凸轮及打线凸轮导线器的调整(Adjustment of hit thread cam and the hit thread cam guider)

①、打线凸轮位置调整 (Hit thread cam adjustment)

当左针针尖下降大约位于弯针后面 $1/2$ 的位置时 (图 8-4) , 打线凸轮最高点 B 与打线架平行。此时弯针线必须脱离凸轮最高位置, 调整打线凸轮, 使之恰好开始打线。 When the left needle goes down at the position, which is about $1/2$ of the height of curved needle. (Figure 8-4), the highest point B of hit thread cam is parallel to the thread rack, put the looper thread out of the highest position of cam and adjust hit thread cam until just start hit thread.

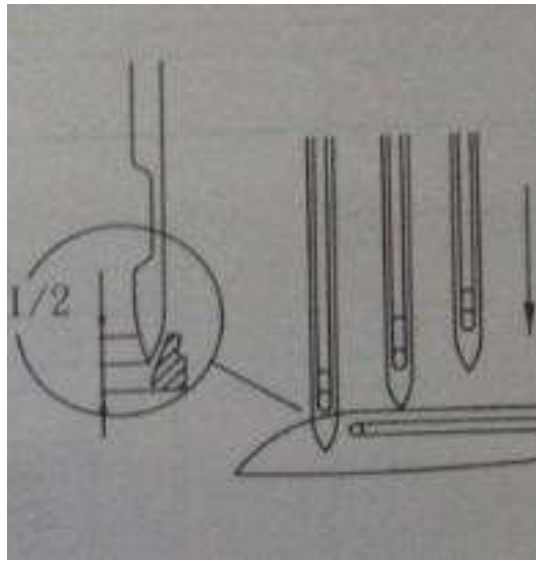


图8-4 (Figure 8-4)

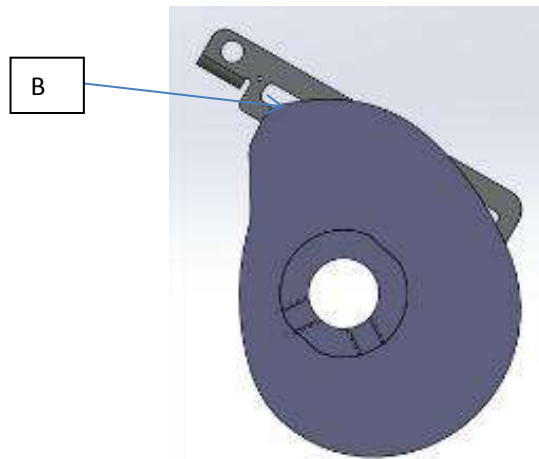


图5 (Figure 8-5)

②、打线凸轮打线量调整 (Adjusting the line distance of CAM)

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) When adjusting the base thread distance, first loose crew and adjust dividing thread plate position. If dividing thread plate moves up ,the thread distance get less, while vice versa.(Figure 6)

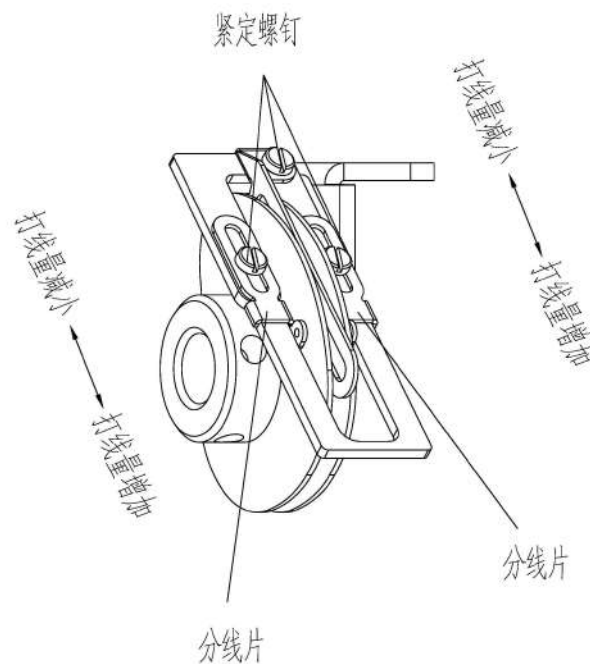


图6(Figure 6)

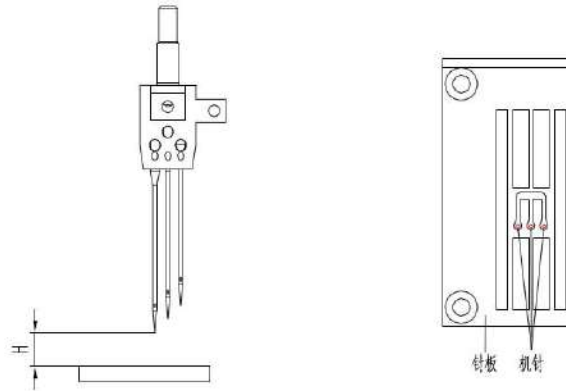
紧定螺钉：Set screw，打线量减少：Line drop，打线量增加：Line up，分线片：Line piece

5、机针高度调整 (Needle height adjustment)

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：

Adjust the gap between needle and needle plate, make sure the gap is equal; then adjust the needle height, when the needle is in the highest position, the distance” H” between needle plate and the left needle is like the following sheet(Figure 7)

标准 (Standard) 机型 (models)	标准行程 (30.8mm) Standard movement	高行程 (33.4mm) High movement
型号 (specifications)	左针高度H Left needle height H	左针高度H Left needle height H
W4-01GB×356	8.5	9.7
W4-01GB×364	8.1	9.3
W4-02BB×356	8.5	9.7
W4-01BB×364	8.1	9.3
W4-05CB×356	8.5	9.7
W4-05CB×364	8.1	9.3



针板：The needle plate，机针：needle

图7(Figure 7)

6、弯针的调整方法 (The Looper Adjustment)

①、弯针与机针引量的调节

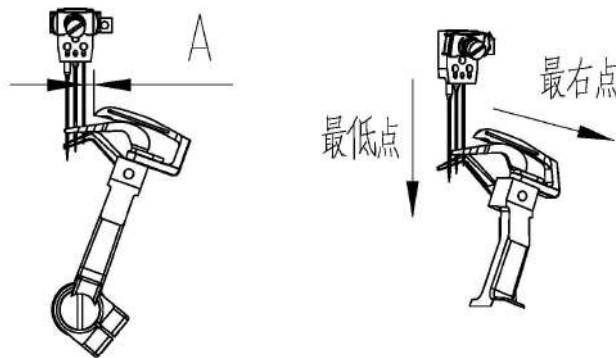
当机针在最低点时，弯针在最右点，弯针针尖到右针中心点距离为弯针与机针的引量A（图8），详细参数见下表：

① The adjustment of looper and needle citation amount adjustment

When the needle is in the bottom position, the looper is in the rightmost position, the distance from the looper tip to the right needle central point is the citation amount “A”(Figure 8) of looper and needle

标准 (Standard)	标准行程 (30.8mm)	高行程 (33.4mm)
机型 (models)	Standard movement	High movement
型号 (specifications)	弯针与机针引量A citation amount “A”	弯针与机针引量A citation amount “A”
W4-01GB×356	3.2-3.5	3-3.2

W4-01GB×364	2.8-3.1	2.6-2.8
W4-02BB×356	3.2-3.5	3-3.2
W4-01BB×364	2.8-3.1	2.6-2.8
W4-05CB×356	3.2-3.5	3-3.2
W4-05CB×364	2.8-3.1	2.6-2.8



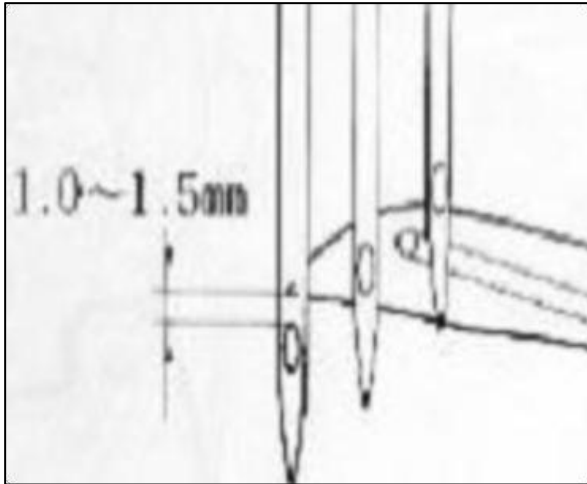
最低点：The lowest point，最右点: The most right point

图8 (Figure8)

① 弯针与机针间隙的调整 (The adjustment between looper and needle gap)

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)。

Looper moves to the middle needle central position from rightmost positon, make the gap between looper and needle gap as 0-0.05mm(Figure9), the looper moves ahead to the left, when the looper moves to the left needle central position, the gap between looper and left needle is 0.05-0.1mm(Figure9)



弯针尖与左机针的位置：当机针上升 弯针向左运动到左机针中心线时，
在左机针的针孔上1-1.5mm。左机针与弯针的间隙应为0.05mm。

The position of looper and needle: when the needle moves up, the looper moves left to the left needle central position, and 1-1.15mm above the needle hole. Meanwhile, the gap of left needle and looper is 0.05mm

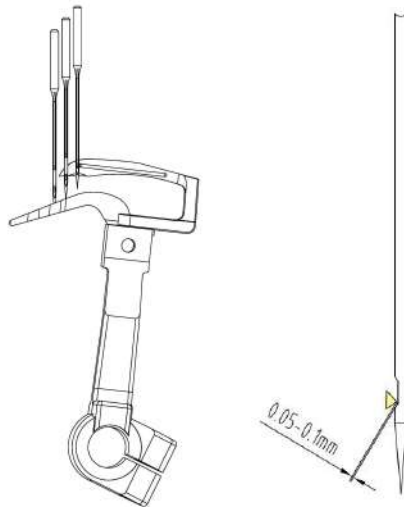


图9 (Figure9)

7、后护针的调节 (Rear guard needle adjustment)

弯针到机针的中心线时，弯针与机针的间隙0.05mm。机针与后护针的间隙为0

When the looper moves to the central line of needle, the gap between looper and needle is 0.05mm. The gap between rear guard needle and needle is 0.

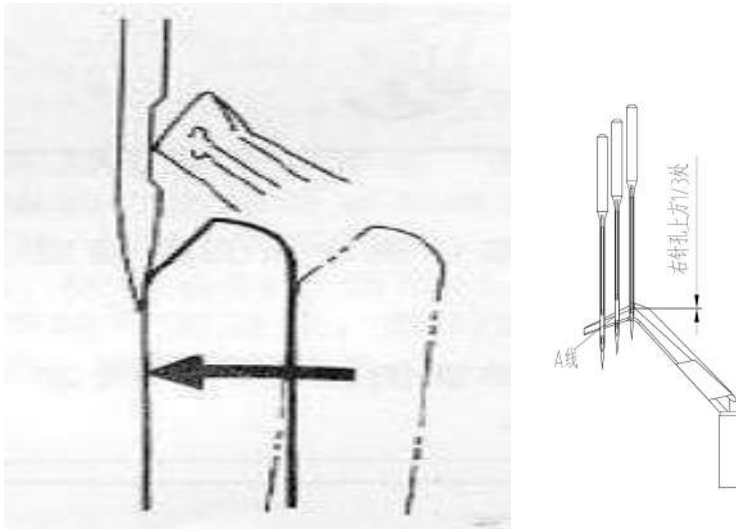


图10 (Figure10)

8、摆动挑线杆的同步和线环的关系(The relationship between swing timing bar and thread loop)

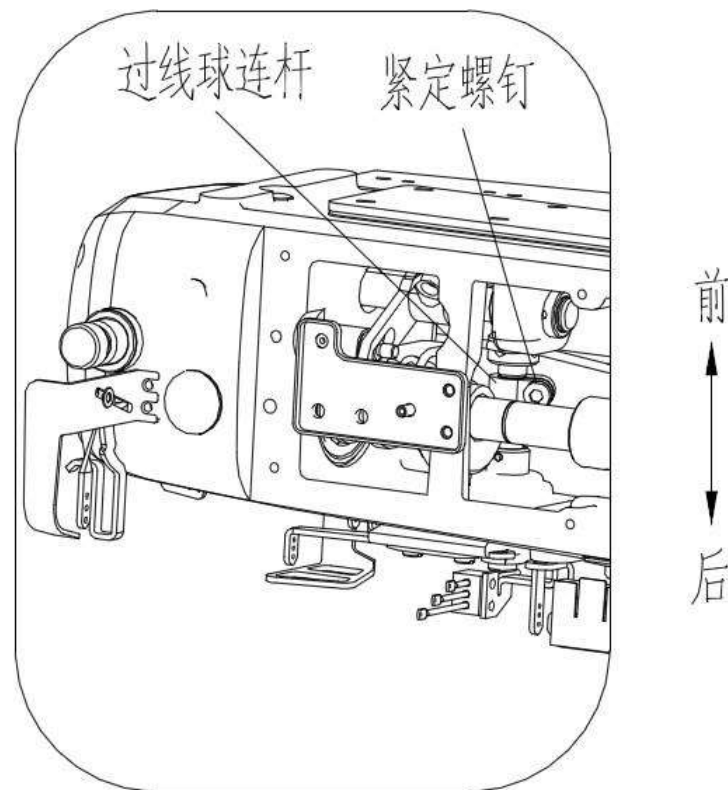
提要：如果由于线环过大或过小等找出机器跳针、断线时，可以通过调节摆动挑线杆来调整线环的大小。Abstraction: if the thread loop is either bigger or smaller, and leading to the needle-skipping, thread-broken, please adjust the swing timing bar to reset the size of thread loop

利用过线球连杆调整

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。

Making use of over-thread bar to make the adjustment

Loose set, adjusting over-thread bar, moving the bar forward or backward, to adjust the loop smaller or larger.



过线球连杆: Bobbin connecting rod,紧定螺钉: Set screw,前: Front ,后: back

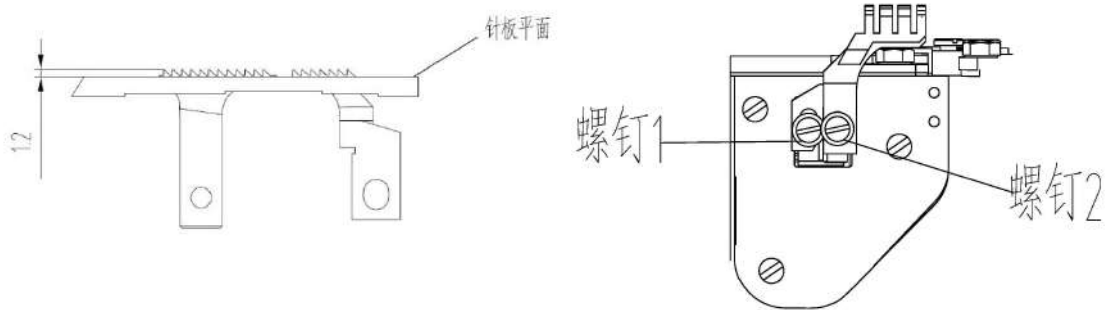
图11 (Figure11)

9、送布牙高度的调整 (Adjustment of the feed dog 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。

Adjust the feed dog height, when teeth reach to the height peak, loosen

the screw 2, adjust the main feed dog to 1.2 mm, then tighten the screw 2, in the same way, loosen screw 1, adjust the height of the differential feed dog to 1.2 mm, then tighten the screw 1.



针板平面：The needle plate plane，螺钉 1：screw 1，螺钉 2：screw 2

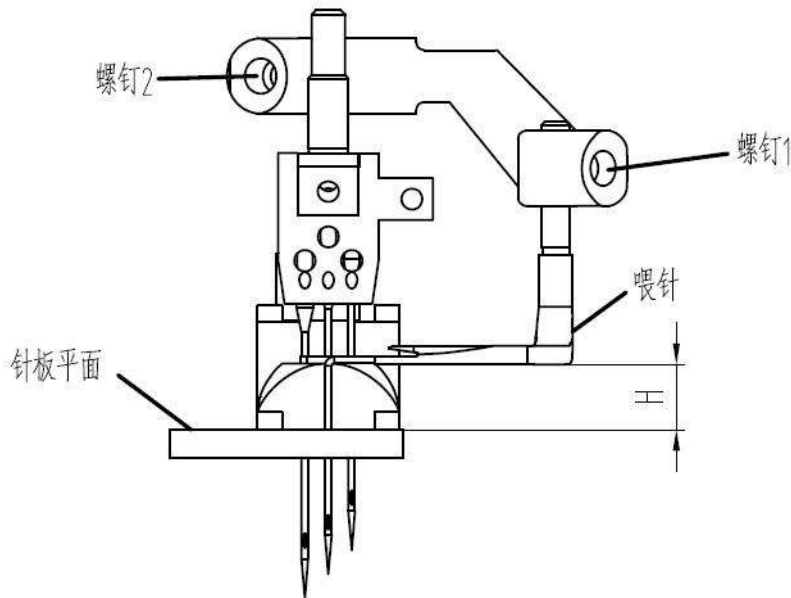
图12 (Figure12)

10、喂针的安装位置 (Position of feeding needle)

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)，使其高度为为H，H的具体取值如下表：

Feeding needle height means the distance between needle plate plane surface and needle tip is H, adjust feed needle height, loosen screw 1, move up and down feed needle (figure 13), the height is H, the specific numerical for H are in the following table:

标准standard 机型 (model)	标准行程 (30.8mm) Standard trip	高行程 (33.4mm) High trip
型号 type	喂针高度H Feeding needle height H	喂针高度H Feeding needle height H
W4-01GB×356	8.7	9.8
W4-01GB×364	8.3	9.4
W4-02BB×356	8.7	9.8
W4-02BB×364	8.3	9.4
W4-05CB×356	8.7	9.8
W4-05CB×364	8.3	9.4



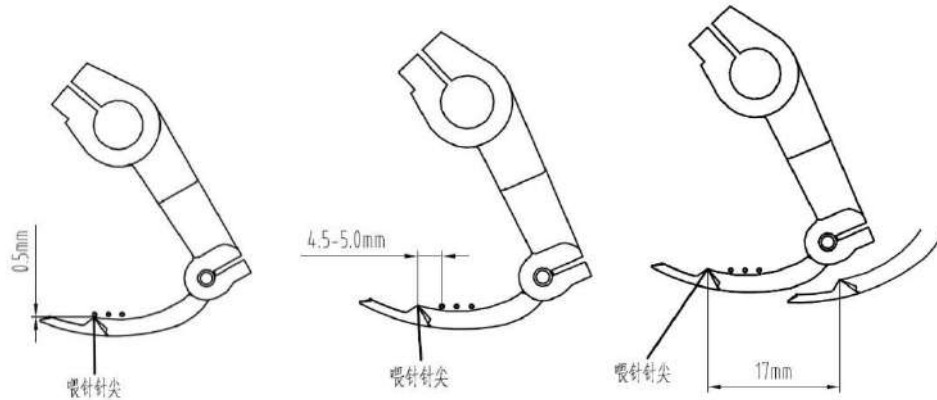
标准 standard , 机型 model , 型号 type , 标准行程 Standard trip , 高行程 High trip , 喂针高度 H Feeding needle height H , 螺钉 1 Screw 1 , 螺钉 2 Srew 2 , 针板平面 The needle plate plane 喂针 , Feeding needle

图13 (Figure13)

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。

Feed needle move from right to left , loosen the screw 1, adjust the gap between feed needle and left needle adjustment feed 0.5mm, feed needle continue to move to the left limit to the left, loosen the screw 2, adjust the feed needle and the center of the left needle The gap is 4.5-5.0mm, then tighten the screw 2.

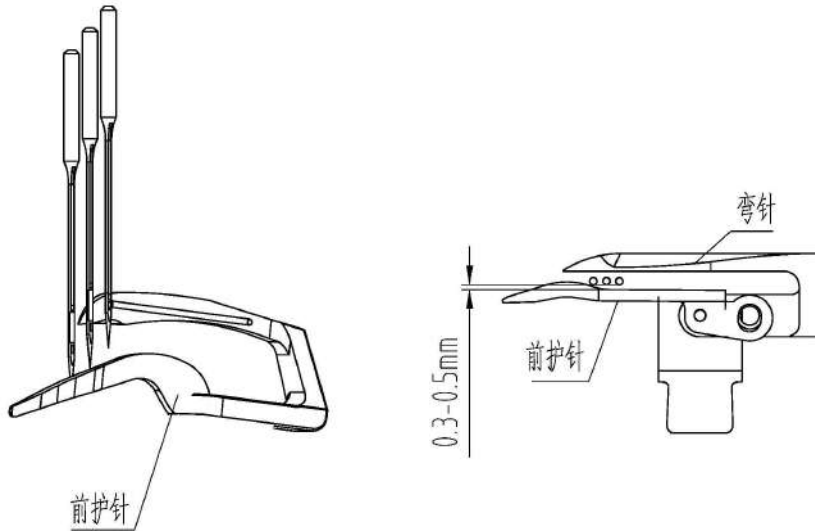


喂针针尖 : feeding needle tip

图14 (Figure14)

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。

the looper to the left through the inside of the needle, adjust the needle and the gap between the front and the needle 0.3-0.5mm, the thickness of the control line, the needle can be passed smoothly, the front guard as close as possible to install the needle. (Figure 15)



前护针：To protect the needle before，弯针：Curved needle

图15 (Figure 15)

12、压脚高度调节 (presser foot height adjustment)

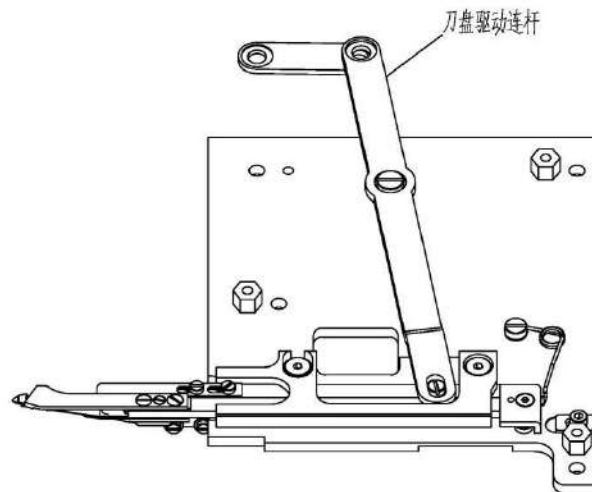
调节压脚高度时，调整螺丝的高度，不让压脚和其他零件相接触，然后用螺母进行固定。When adjusting the height of the presser foot, adjust the height of the screw so that the presser foot does not come in contact with other parts, and then use a nut to fix it.

一、下切刀调整 (the next knife adjustment)

1、下切刀左右位置调整 (under the knife around the position adjustment)

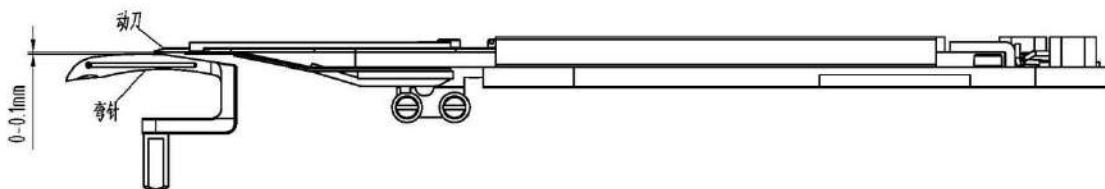
进行下切刀调整时应使缝纫机机针处于上停针点，并关闭电控进行手动调试，手推剪线电磁铁运动通过刀盘驱动连杆带动下切刀组件向左运动(图 1)，动刀向左移动 (机头位置) 到最左时，定刀下平面与弯针上平面间隙为 0-0.1mm (图 2)，调节下切刀左右位置可松开紧定螺钉 2，通过调节曲柄 2 左右方向来调节下切刀位置 (图 3)，当下切刀组件复位时，下切刀组件刀架与下切刀安装版边缘距离为 1-1.2mm (图 4)，如上述条件在调节过程中无法同时满足，则需要通过松开调节

螺母 1 与调节螺母 2 来调节剪线电磁铁行程，通过调节电磁铁行程满足上述调节要求，剪线电磁铁标准行程为 20mm(图 3)。When adjusting the cutter, make the needle of the sewing machine be in the upper stop point and turn off the electric control to perform manual debugging. The hand-pushing cutter electromagnet moves to the left (Fig. 1) Move the knife to the left (head position) to the left,, fixed knife under the plane and the needle on the plane gap 0-0.1mm (Figure 2), adjust The lower cutter left and right position can loosen the set screw 2, adjust the lower cutter position by adjusting the left and right direction of the crank 2 (Fig. 3). When the current cutter assembly is reset, the distance between the lower cutter assembly and the lower cutter mounting plate edge is 1-1.2mm (Figure 4), as the above conditions can not be met in the adjustment process, you need to release the adjustment nut 1 and the adjustment nut 2 to adjust the trimming solenoid stroke by adjusting the solenoid stroke to meet the above adjustment requirements, trimming Electromagnet standard stroke of 20mm (Figure 3).



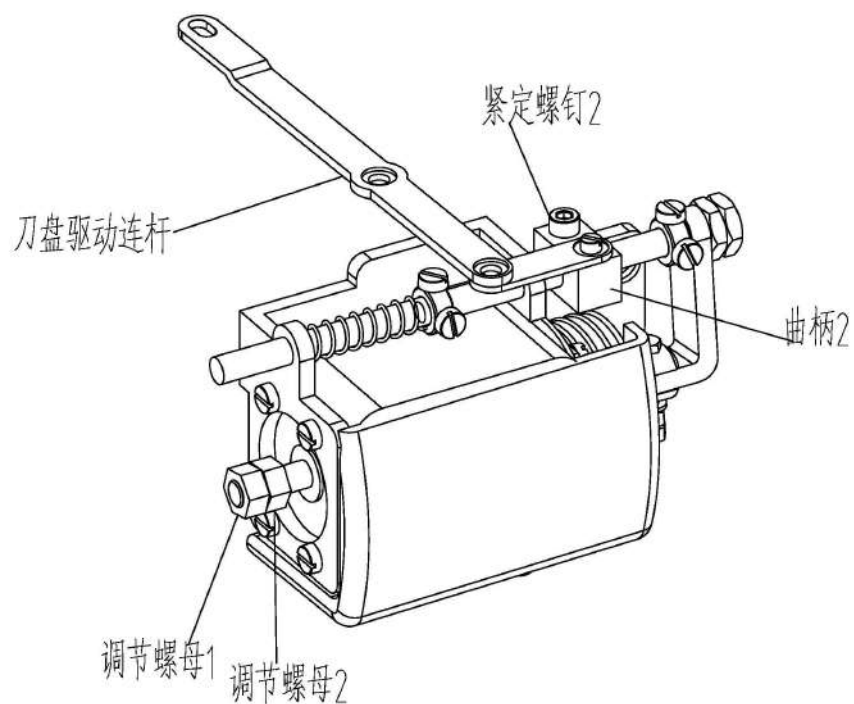
刀盘驱动连杆 : Knife drive connecting rod

图 1 (Figure1)



动刀 : The knife , 弯针 : Curved needle

图 2 (Figure2)



调节螺母1 : Adjusting nut1 , 调节螺母2 : Adjusting nut2 , 紧定螺钉2 : Set screw2 , 曲柄2 : The crank2 ,
刀盘驱动连杆 : Knife drive connecting rod

图3 (Figure3)

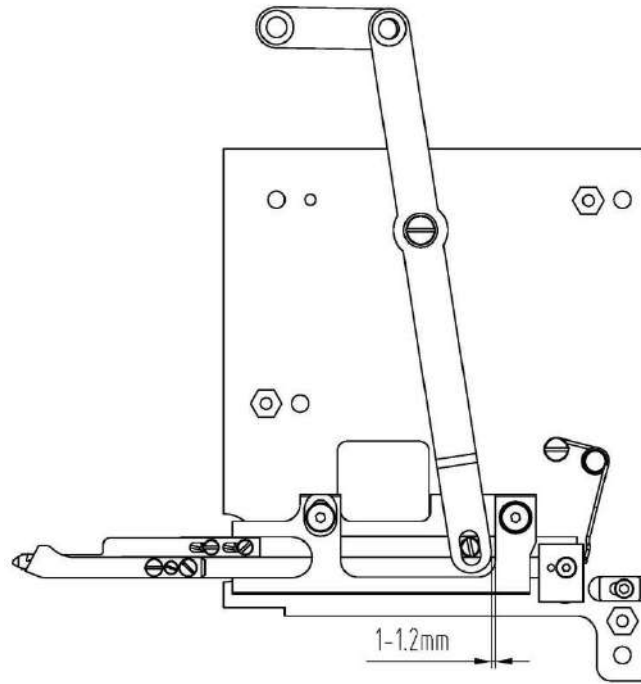
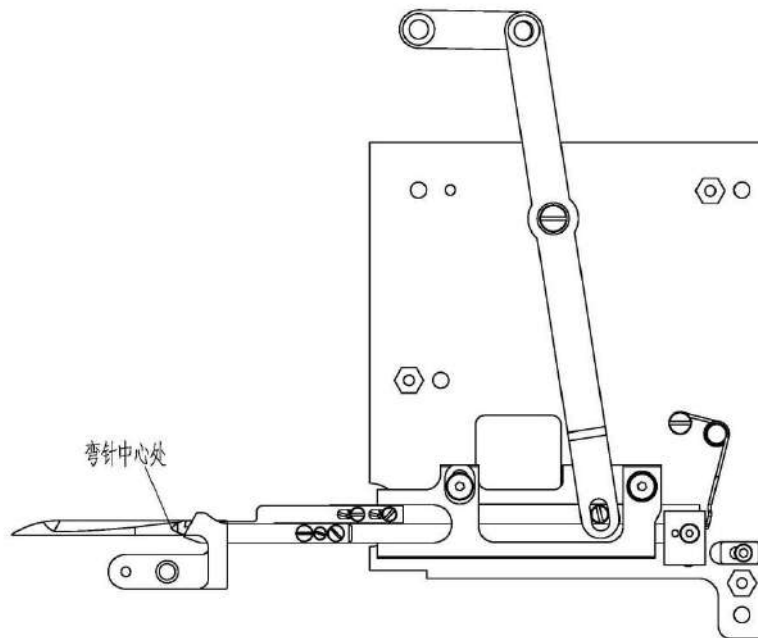


图 4 (Figure4)

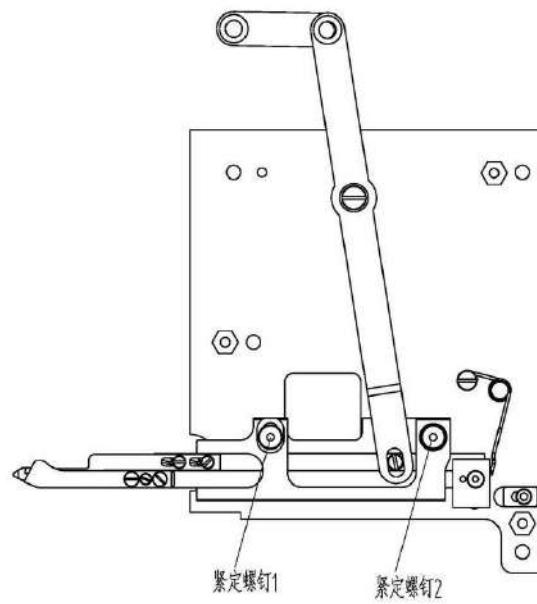
2、下切刀前后位置的调整(under the knife position adjustment)

当下切刀组件由初始位置向左运动，动刀刀尖运动到弯针处，约在弯针宽度中心，前后 1/2 位置（图 5），调整时可通过松开紧定螺钉 1 与 2，使动刀前后移动，调整刀正确位置（图 6）。The current cutter assembly moves from the initial position to the left, the moving knife tip moves to the bending needle, about the center of the bending needle width, the front and back 1/2 position (Fig. 5), and can be adjusted by loosening the set screws 1 and 2, Move the knife back and forth and adjust the correct position of the knife (Figure 6).



弯针中心处 : Needle center

图 5 (Figure5)



紧定螺钉 1 : Set screw1 , 紧定螺钉 2 : Set screw2

图 6 (Figure6)

3、下切刀组件相对位置调整(adjust the relative)

注意:下切刀组件安装前须先检查下切刀组件相对位置是否正确, 是否有卡点。

当动刀运动到最右时, 也就是下切刀组件初始状态时, 动刀与定刀前端的啮合距离为 0.5mm (图 7) 移动定刀调整动刀与定刀的相对位置, 动刀与定刀啮合距离 0.5-1mm, 动刀与定刀平行 (图 7、图 8)。

Note: The lower cutter assembly before installation must first check the relative position of the lower cutter assembly is correct, whether there is a card point.

When the movable knife to the right, that is, under the initial state of the cutter assembly, the movable knife and fixed knife front end of the engagement distance of 0.5mm (Figure 7) to move fixed knife to adjust the relative position of fixed knife and fixed knife, movable knife and Fixed knife meshing distance 0.5-1mm, movable knife and fixed knife parallel (Figure 7, Figure 8).

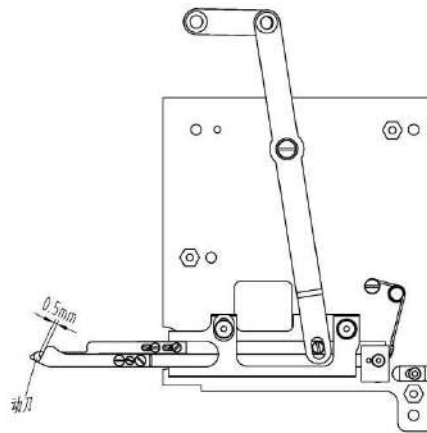


图 7(Figure7)

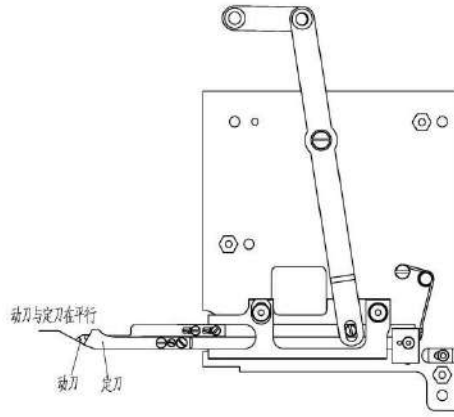
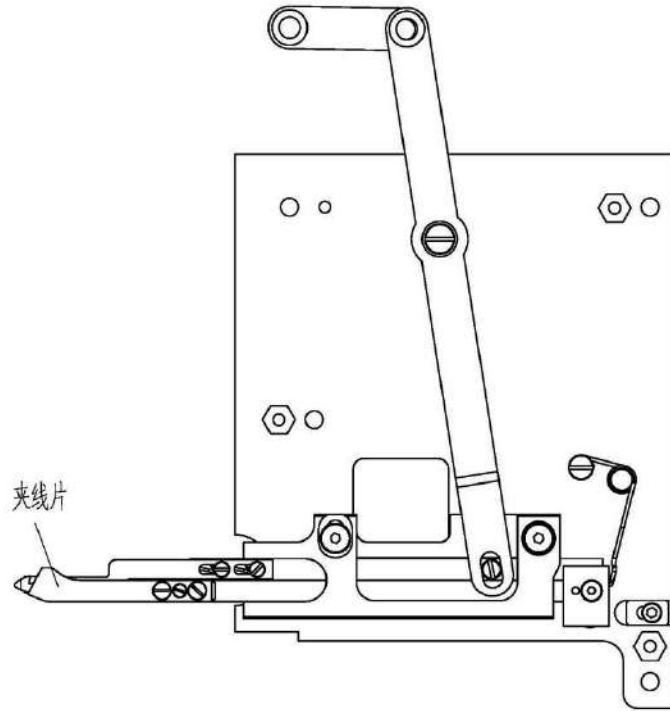
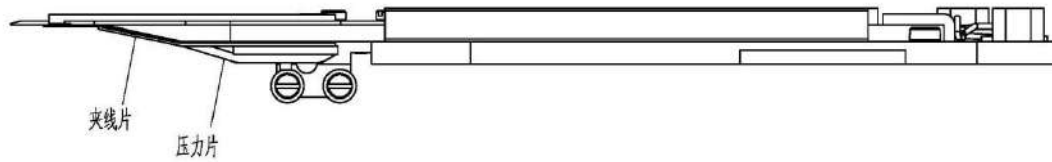


图 8 (Figure8)



夹线片 : Thread clamp piece

图 10 (Figure10)

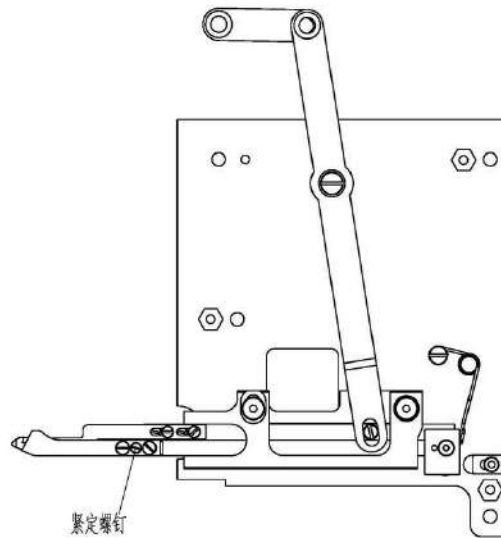


夹线片：Thread clamp piece，压力片：Pressure piece

图 11(Figure11)

4、夹线片及压力片的调整 (clip and pressure film adjustment)

当下弯针线被下切刀组件切断后，动刀与夹线片需将底线(下弯针线)稳定夹住，调节夹线片与动刀之间的夹紧力，可由紧定螺钉旋转来调整，顺时针方向则夹紧力越大，反之则夹紧力越小(图 12)。After the current looper thread is cut off by the lower cutter assembly, the movable knife and the clip line need to clamp the bobbin thread (the lower looper thread) stably, and the clamping force between the clip thread piece and the movable knife can be adjusted by rotating the fastening screw, Clockwise clamping force is greater, otherwise the clamping force is smaller (Figure 12).



紧定螺钉：Set screw

图 12 (Figure 12)

注意：

- 1、下切刀组件完成调试后，需再次手动推动下切刀组件的定刀剪线，确认相对位置准确，下切刀组件推出及复位均无卡点后方可重启电控，然后进行剪线。
- 2、当下切刀组件需要进行调整时，需确认针杆处于最高点，下弯针处于最右点，然后方可手动推动下切刀组件确认相关位置。

Note:

1. After the lower cutter assembly is finished debugging, it is necessary to manually push the cutter cutter of the lower cutter assembly again to confirm the relative position is accurate. The lower cutter assembly is released and reset without card point before restarting the electric control and then cutting the wire.
- 2, when the current cutter assembly needs to be adjusted, be sure to

confirm the needle bar at the highest point, the lower looper at the far right point, and then can only manually push the lower cutter assembly to confirm the relevant position.

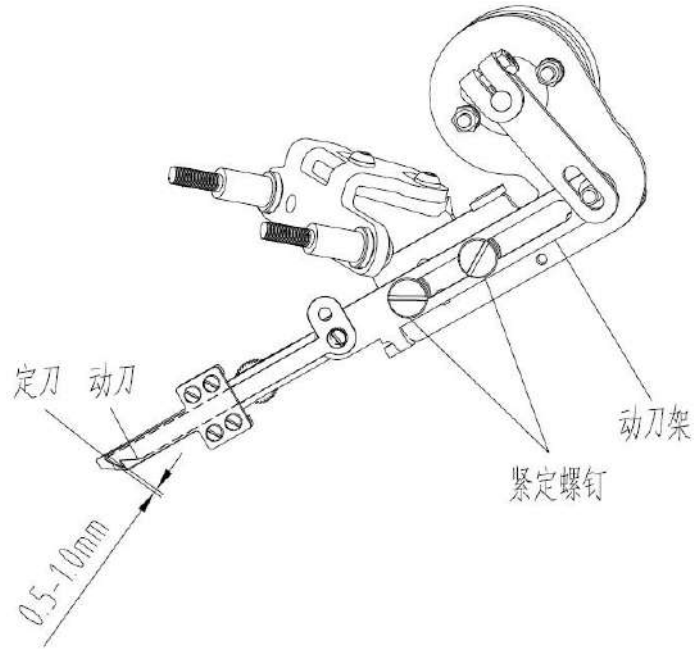
二、上切刀组调整 (adjust the cutter group)

注意：安装调整上切刀组前，必须先确认针杆处于最高点，且喂针与机针位置处于标准状态。 Note: Before installing and adjusting the cutter group, you must first confirm that the needle bar is at the highest point and the position of the needle and the needle are in the standard state.

1、上切刀组动刀与定刀啮合量的调整

请把定刀与动刀的啮合量调整为0.5-1.0mm，可通过松开紧定螺钉，上下移动动刀架，调整定刀与动刀的啮合量为0.5-1.0mm (图13)。

1、 on the knife group knife and fixed knife meshing amount of adjustment
Adjust the amount of engagement between the fixed knife and movable knife to 0.5-1.0mm. By loosening the set screw, move the movable knife holder up and down to adjust the amount of engagement between the fixed knife and movable knife to 0.5-1.0mm (Figure 13).



定刀：Constant knife，动刀：The moving nife，紧定螺钉：Set screw，动刀架：Moving head

图13 (Figure13)

2、上切刀组弹簧夹紧力的调整 (on the cutter group spring clamping force adjustment)

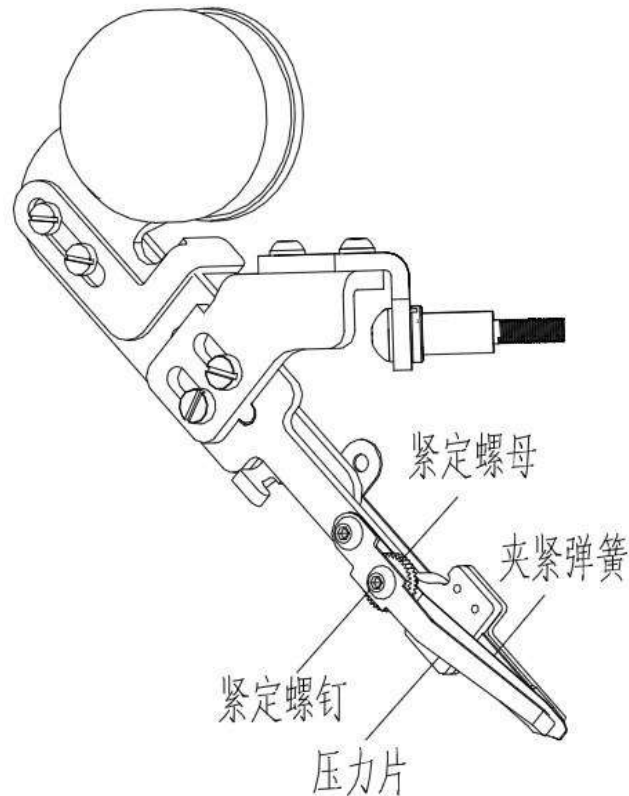
上饰线切线后，被夹紧弹簧夹持，调节夹紧弹簧夹紧力，松开紧定螺母转动紧定螺钉，可以调节夹紧弹簧的夹紧力，拧紧紧定螺钉夹紧弹簧夹紧力加大，拧松紧定螺钉夹紧弹簧的夹紧力减小，调整完成后，拧紧紧定螺母 (图14)

注意：请在能夹紧上饰线的范围内，尽量把夹持力调整到稍小范围！

Trim the upper thread trimmed by the clamping spring to adjust the clamping force of the clamping spring and release the clamping nut to rotate the clamping screw to adjust the clamping force of the clamping spring and tighten the clamping screw. If the force increases, loosen the set screw. The clamping force of the clamping spring decreases. After the

adjustment is completed, tighten the set nut (Figure 14)

Note: Please be able to clamp the upper decorative line range, try to adjust the clamping force to a lesser extent!



压力片 : Pressure piece , 紧定螺钉 : Set screw , 紧定螺母 : Set screw nut , 夹紧弹簧 : The clamping spring

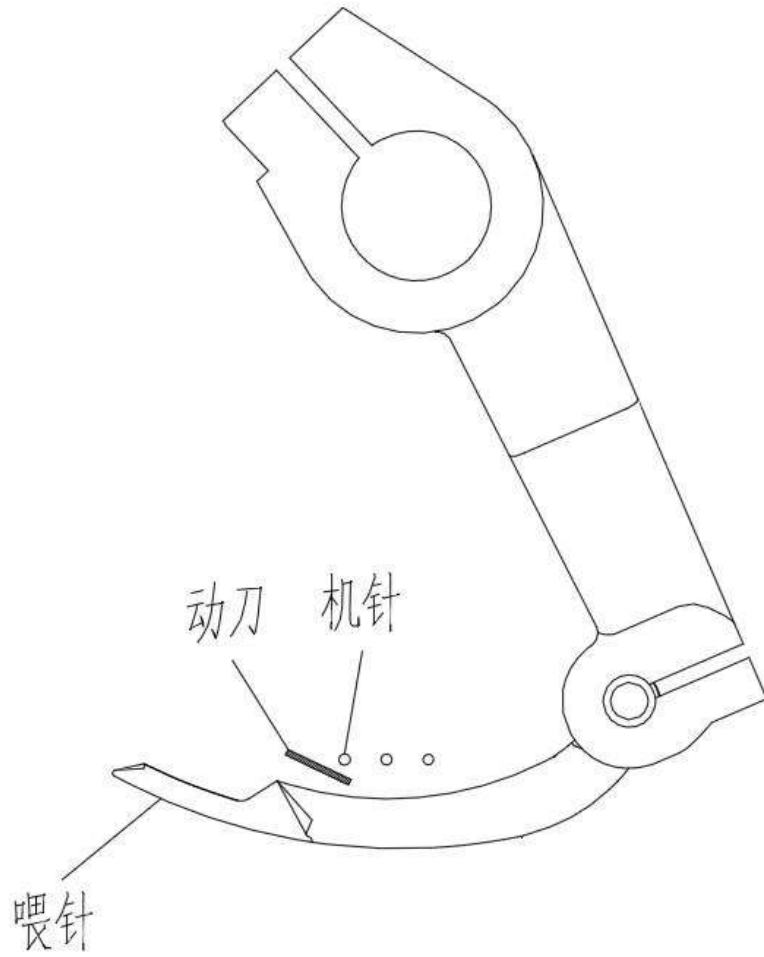
图14 (Figure14)

3、上切刀组高度及角度的调整 (on the cutter group height and angle adjustment)

当动刀往下运动，并运动到最低点时，动刀需在喂针与机针中间位置，动刀尖与压脚间距2-3mm，可通过调节紧定螺钉3和紧定螺钉4来调节安装板左右位置，从而调节上切刀组的角度，使动刀在机针和喂针中间（图15），动刀勾尖与喂针勾尖基

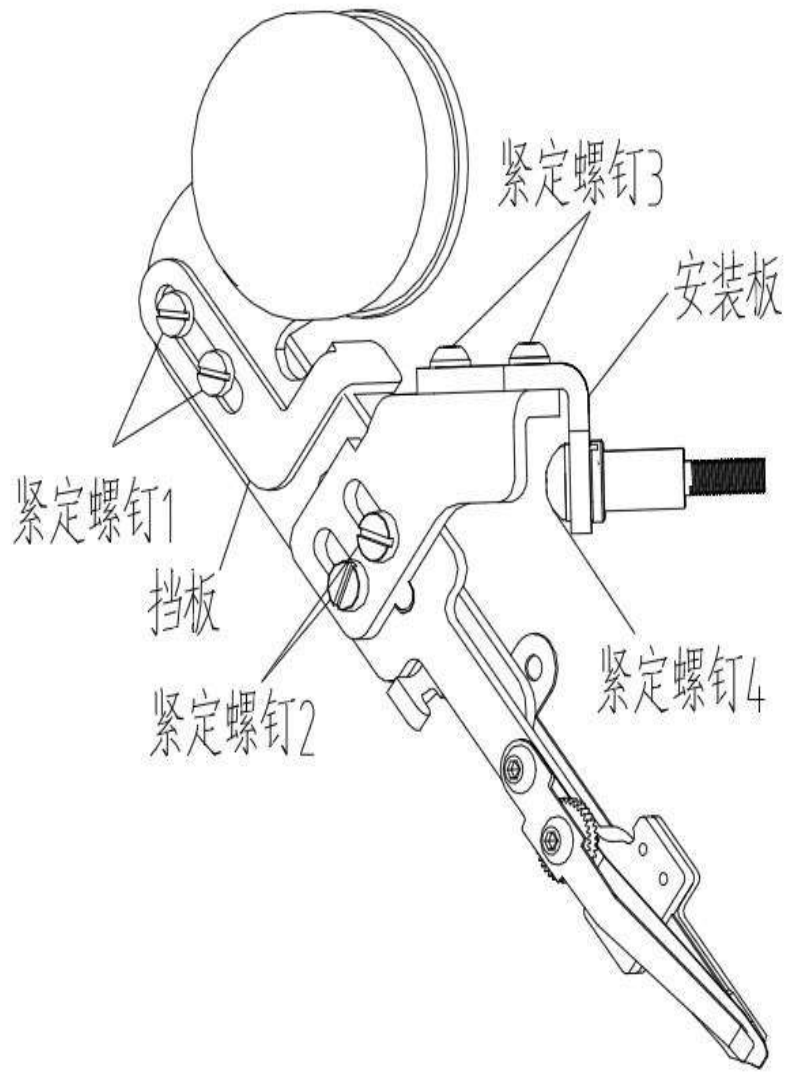
本齐平（图17），松开紧定螺钉1，上下移动挡板，可以调节动刀行程，同时松开紧定螺钉2，将整个上切刀上下移动，调节上切刀组的行程，调节标准。动刀运行到最低时，动刀尖与压脚间距为2-3mm。（图16）

When the movable knife moves downward and moves to the lowest point, the moving knife needs to be positioned between the needle and the needle. The distance between the movable knife tip and the presser foot should be 2-3mm. By adjusting the set screw 3 and the set screw 4 Adjust the mounting plate to the left and right to adjust the angle of the upper knife set so that the knife is centered between the needle and the needle (Figure 15). The tip of the knife is essentially flush with the tip of the needle (Figure 17) Set screw 1, move the baffle up and down, you can adjust the movable knife stroke, while loosening the set screw 2, move the entire cutter up and down, adjust the stroke of the cutter group, adjust the standard. Moving knife to the lowest operation, moving the tip and presser foot spacing of 2-3mm. (Figure 16)



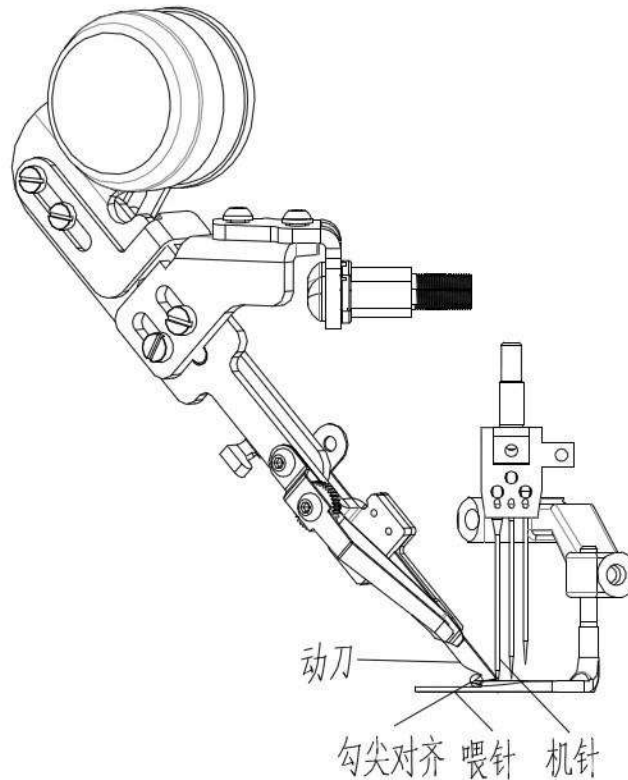
动刀 : moving blade, 机针 : machine needle, 喂针 : feed needle.

图15 (Figure 15)



紧定螺钉1：Set Screw 1, 紧定螺钉2：set screw 2, 紧定螺钉3：Set screw3, 紧定螺钉4：Set Screw ,
4. 挡板：Baffle, 安装板：mounting plate.

图16 (Figure 16)



动刀： The knife , 钩尖对齐： hook align at tip , 机针： Machine Needle,喂针： Feed the needle

图17 (Figure 17)

三、拨线器的调整 (the adjustment of thread dial)

1、拨线器高度调整

当拨线片往下运动到最低点时，拨线片底面与左机针（长针）针尖齐平（图18）。
可以通过松开紧定螺钉1来调节拨线器上下位置，从而调节拨线器的高度（图19）。

2、拨线器前后位置调整

当拨线器通过压脚时，拨线片与压脚的间隙为1mm（图18），可通过松开紧定螺钉2来调节拨线器的前后位置，从而调节拨线器与压脚的间隙。

3、拨线器左右位置调节

当拨线片运行到最左端的时候，拨线片的勾尖与左针之间的距离为3.5mm(图20)，可通过松开紧定螺钉3来调节拨线器的左右位置。

1、 Adjust the Height of thread dial

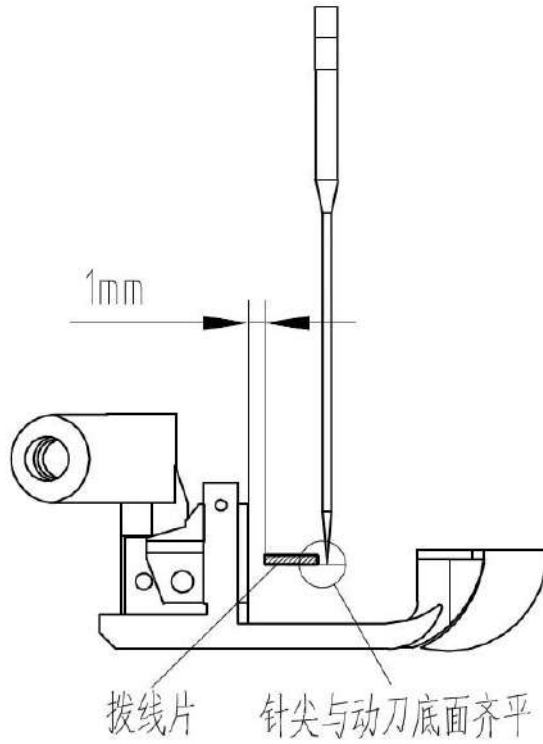
When move thread dial to the lowest position. The bottom of Thread dial is aligned with the needle tip. (Figure 18) We can release the set screw 1 to adjust the position and height of thread dial. (Figure 19)

2、 Adjustment of anteroposterior position of thread dial.

When thread dial through the presser foot, the distance between dial and presser foot should be 1mm (figure 18), we can adjust the anteroposterior position by release the set screw 2. And then we can justify the distance between dial and presser foot.

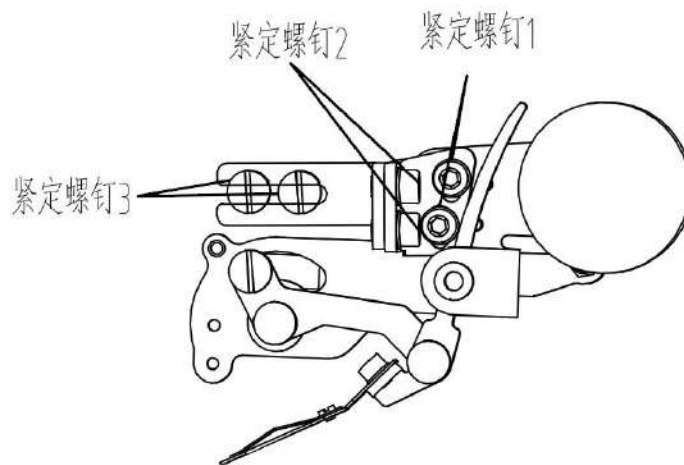
3、 adjust the left and right position of thread dial.

When thread dial process to the leftmost side. The distance between dial hook and left needle is 3.5mm. (Figure 20) We can adjust the position of dial by release the set screw.



拨线片 : Thread dial, 针尖与动刀底面齐平 : the bottom of Thread dial is aligned with the needle tip

图18 (Figure 18)



紧定螺钉1 : Set screw 1, 紧定螺钉2 : Set Screw 2, 紧定螺钉3 : Set Screw 3

图19 (Figure 19)

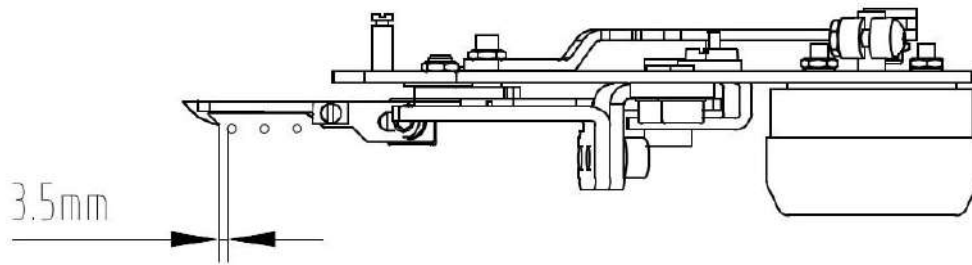
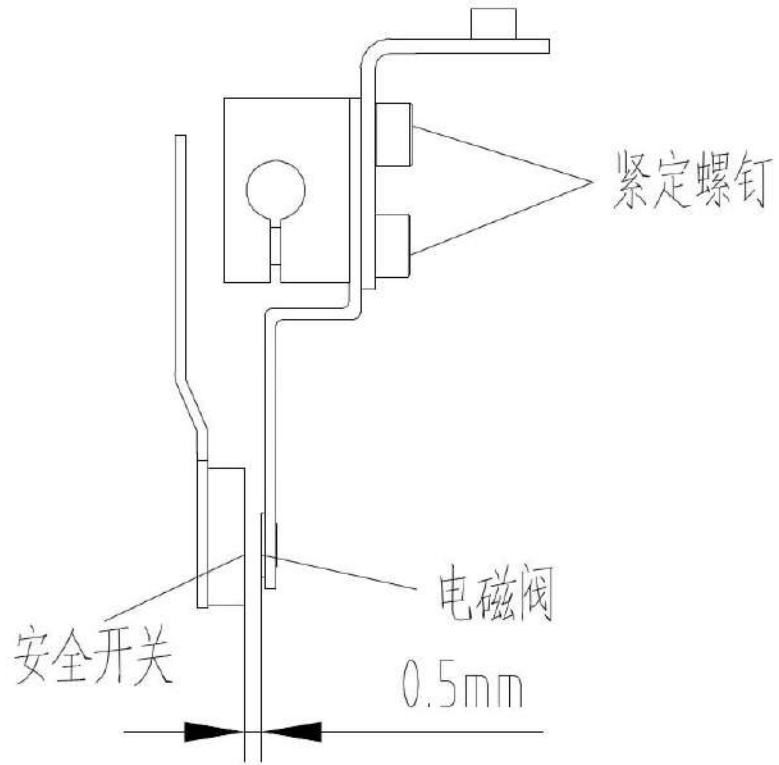


图20 (Figure 20)

四、安全开关的调整 (The adjustment of Safety Switch)

调节安全开关与电磁阀间隙，安全开关与电磁阀间隙为0.5mm，可通过松开紧定螺钉上下调节安全开关与电磁阀的间隙，知道安全开关灯亮为止，然后拧紧紧定螺钉 (图21)

Adjust the distance between safety switch and solenoid value to 0.5MM. we can release the set screws to adjust the distance, until the light of safety switch on, then we can tighten up the set screw. (Picture21)



紧定螺钉：Set Screws，安全开关：Safety Switch，电磁阀：Solenoid Valve.

图21 (Figure21)



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