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# 工业缝纫机伺服控制系统用户手册


## 前言



注意

使用前请仔细阅读本用户手册及所搭配的缝制设备说明书，配合正确使用，并须由接受过专业培训的人员来安装或操作。

### 安全说明

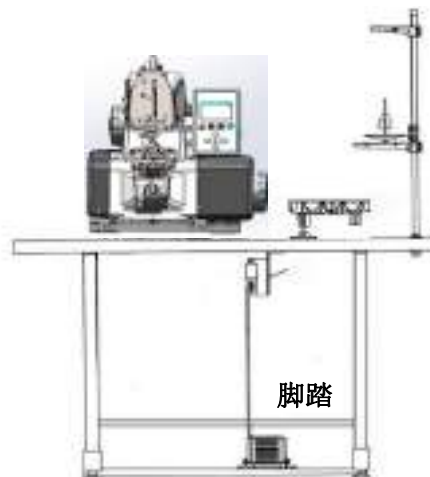
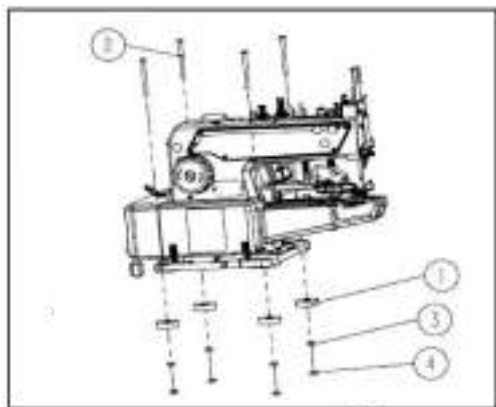
- 在使用本产品之前，请先阅读《产品说明书》及所搭配的缝纫机机械说明书。
- 本产品必须由接受过专业培训的人员来安装或操作。
- 请尽量远离电弧焊接设备，以免产生的电磁波干扰本控制器而发生误动作。
- 请不要在室温45°以上或者0°以下的场所使用。
- 请不要在湿度30%以下或者95%以上或者有露水和酸雾的场所使用。
- 安装控制箱及其他部件时，请先关闭电源并拔掉电源插头。
- 为防止干扰或漏电事故，请做好接地工程，电源线的接地线必须以牢固的方式与大地有效连接。
- 所有维修用的零部件，须由本公司提供或认可，方可使用。
- 在进行任何保养维修动作前，必须关闭电源并拔掉电源插头。控制箱里有高压危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

## 1. 产品规格 (SPECIFICATIONS)

控制器型号	AHE59
电源电压	AC 220±20% V
输出功率	550W
电机低速最大转矩	3Nm
电源频率	50HZ/60HZ
电机最大转速 (r/min)	最高1500 (常用1300)
针数	8针、16针、32针
送布量	横向送布2.5~6.5mm 纵向送布0、2.5~6.5mm
纽扣尺寸	10~28mm
机针	TQ×1#16(#14~#18) TQ×7#16(#14~#20)
机油	NO.1新机油

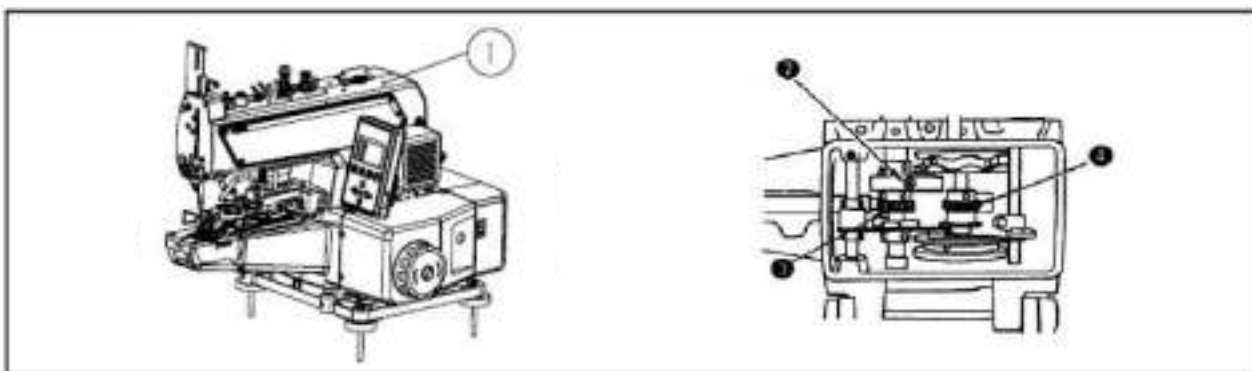
The controller model	AHE59
The power supply voltage	AC 220±20% V
The output power	550W
Low-speed maximum power frequency motor	3Nm
Power frequency	50HZ/60HZ
Sewing speed	最高1500 (常用1300)
Number of stitches	8针、16针、32针
Feed amount	横向送布2.5~6.5mm 纵向送布0、2.5~6.5mm
Button size	10~28mm
Needle	TQ×1#16(#14~#18) TQ×7#16(#14~#20)
Lubricating oil	NO.1新机油

## 2.机头安装方法 (INSTALLATION OF MACHINE HEAD)



把防震橡胶垫①放到台板上，然后把机头放在上面，用固定螺丝②、螺母③、螺母④固定好。(Put rubber cushion ① on the table, place the machine head on the rubber cushion and fix it to the table using screws ②, plain washers ③ and nuts ④.)

## 3.加油方法 (LUBRICATION)



- (1) 把No. 1新机油加入到①所指的孔处。(每周1~2次)
- (2) 拧松安装螺钉，放倒缝纫机，把润滑脂加到螺旋齿轮③和蜗轮④上。
- (3) 每周检查一次机座安装台内的加油毛毡上面是否吸满油，不够时请加油。同时请往曲轴部②上也加油

(1) Apply New Dwfrix Oil No. 1 to the components shown by the arrows .

(once or twice a week)

(2) Loosen connecting screw ①, tilt the head backward and apply some grease to driving worm grease ④ and gear ③ .

(3) Check , approximately once a week , that oil amount is sufficient to reach the top of the oil felt placed inside the bed mounting base .If the amount of oil is insufficient, add an adequate amount of oil, At the time , also apply oil to crank rod②.

#### 4.机针安装方法 (ATTACHING THE NEEDLE)

★标准机针为使用TQ×1#16

(1) 拧松机针固定螺钉①, 手拿机针把机针②长沟转到面前。

(2) 把机针②插进针杆孔的深处。

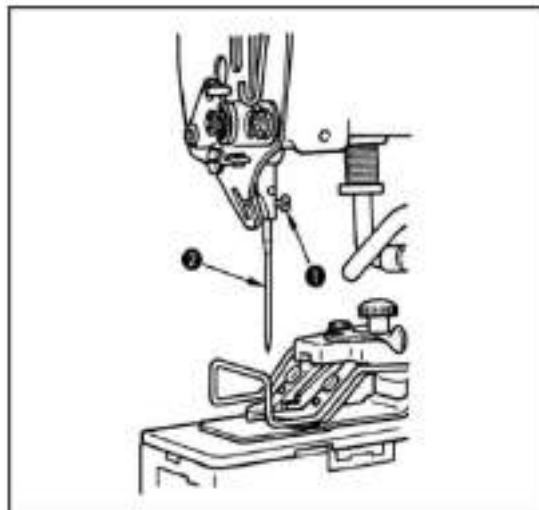
(3) 拧紧机针固定螺丝①。

★Use a standard needle ofTQ×1#16

(1) Loosen sarew ①.

(2) Insert needle ②up into the needle hole in the needle bar until it comes in contact with the deepest end of the needle hole.

(3) Tighten screw ①firmly.



#### 5.针杆罩的安装方法 (ATTACHING THE NEEDLE BAR GUARD)

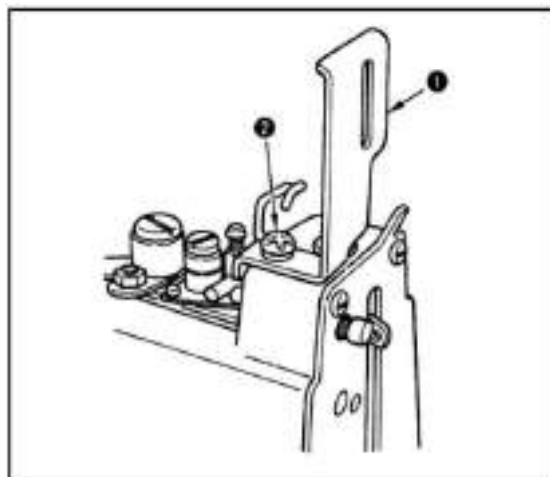
(1) 拧松固定螺丝②, 并把它卸下。  
(2) 把针杆罩①安装到第二道线器的下面。

(3) 用固定螺丝②固定起来。

(1) loosen screw②and remone the thread guide No. 2.

(2) Place needle bar guard ①under the thread guide No. 2.

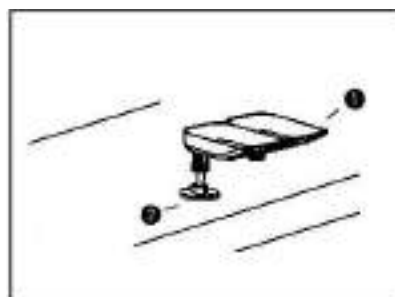
(3) Fix the thread guideNo. 2 and needle bar guard ①together using screw②.



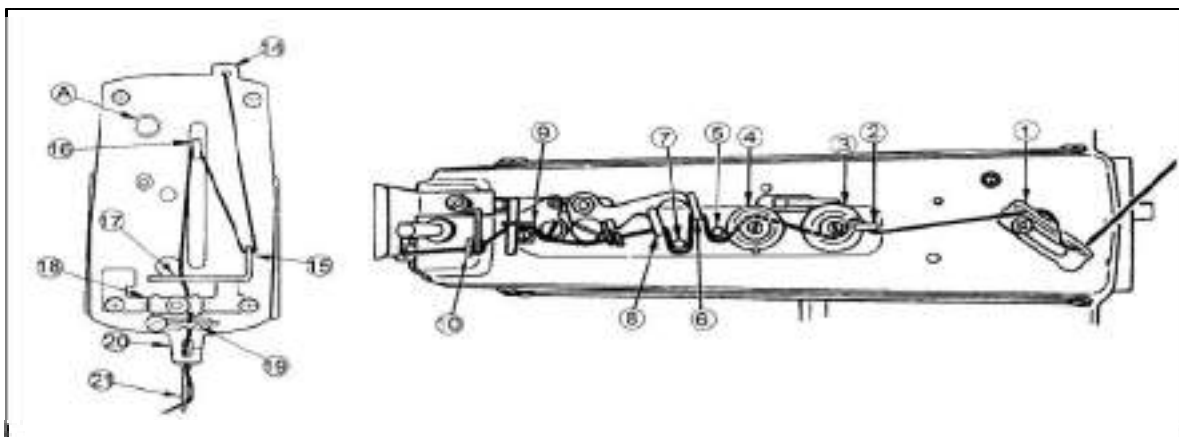
#### 6.纽扣盘的安装方法 (ATTACHING THE BUTTON TRAY ASSEMBLY)

把纽扣盘①插进油盘的孔上, 并把固定螺丝②拧紧固定。

Insert the posts of button tray① in the hole on the lacquer tray and tighten each setscrew②.



## 7.上线穿线方法 (THREADING THE MACHINE)



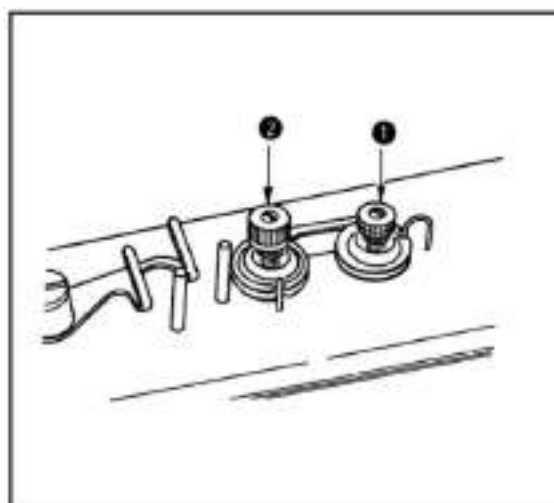
如图所示的顺序进行穿线，从针孔的前侧向后侧按松线螺母A，把线拉出约60~70mm左右。(Thread the machine in order of ①to 21 ustrated and pass the thread through the needle eye from the front for 60 to 70 mm as you depress nipper releasing knurted thumb nut A)

## 8.线张力 (THREAD TENSION ADJUSTMENT)

第一线张力螺母①是调整钉扣强度用的，仅能调节极小的张力。

第二线张力调整螺母②是调整背面的紧线程度的，其张力比第一线张力螺母①强，根据使用的机线、布料、纽扣厚度等情况，进行调整。

向右转动各线张力螺母之后，线张力变强，向左转动则张力变弱。

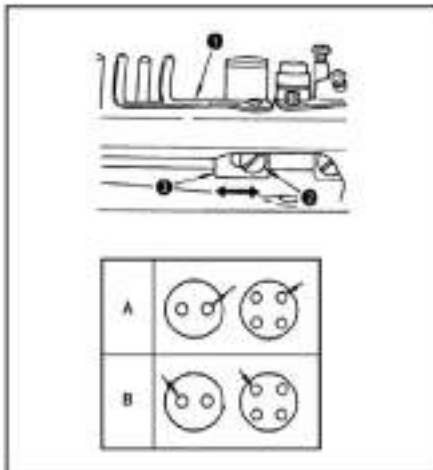


Tension post No.1① is used to adjust the thread tension to sew on the button and a relatively low tension will be enough. Tension post No.2 ②is used to adjust the thread tension applied to the root of the button sewing stitches.

This tension must be determined according to the type of thread ,fabric and thickness of the button and must be higher than that of tension post No.1①.turn the tension nuts clockwise to increase or counterclockwise to reduce the thread tension .

## 9.线调节杆的调整 (ADJUSTMENT OF THE THREAD PULL -OFF LEVER)

调节线调节杆①时，请把螺丝刀插进左侧面板上的孔中，拧松固定螺丝②，然后左右移动调节杆的活动滑块③进行调整。缝制结束，如果线头从A部前头的孔中露出时，请把线调节杆活动滑块③向左移动，如果线头从B部箭头的孔中露出时，请把滑块向右移动，不让线头露出来。

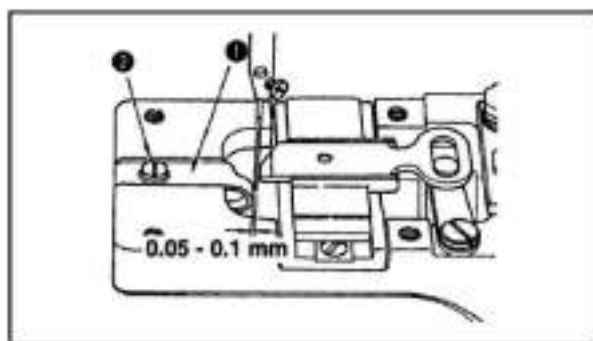


To adjust the thread pull-off lever①, insert a screwdriver through an opening in the machine arm side cover (left), loosen screw ② and adjust the position of nipper bar block (rear)③ to the left or the right . If the end of the thread is drawn from arrow hole A in the button after sewing ,change the position of nipper bar block (rear)③ to the left .Move the lever to the right when the thread end comes out from arrow hole B .

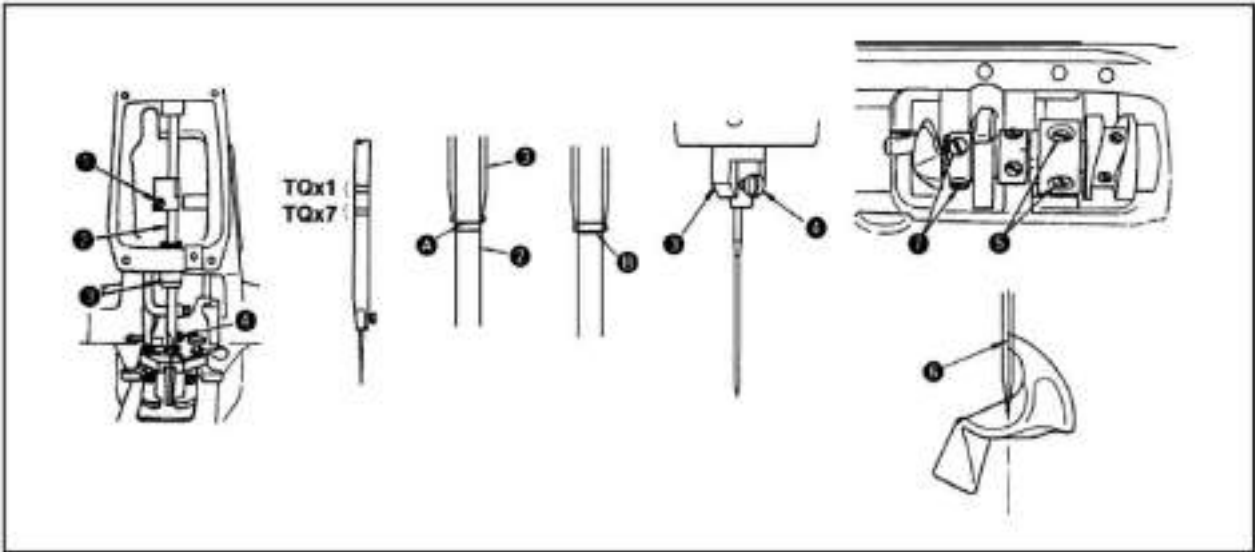
## 10.针导向器的位置 (POSITION OF THE NEEDLE GUIDE )

在针杆最下点，拧松螺丝②，左右移动针导向器①，把机针和针导向器①的间隙调整为0.05~0.1mm

Loosen screw② and provide a 0.05 to 0.1mm clearance between the needle guide ① and the needle by moving the needle guide ① to the left or the right when the needle is in the lowest position .



## 11.机针和弯针的关系 (NEEDLE -TO-LOOPER RELATION)



★机针和弯针按照如下方法进行调整

- (1) 按转动方向驱动手轮，让针杆落到最下点，然后拧松固定螺丝①（决定针杆高度）
- (2) TQx1机针时，使用上方的2条刻线，TQx7机针时，使用下方的2条刻线，把其中的上刻线A对准针杆下端块③的下端，然后拧紧固定螺丝①。这时应让机针固定螺丝4进入到避免与针杆下端块③相碰的沟槽里。（决定弯针的位置）
- (3) 拧松固定螺丝⑤，转动手轮，把针杆②的2条一组的刻线中的下刻线B对准针杆下端块③的下端。
- (4) 在此状态，把弯针的针尖⑥对准机针的中心，然后拧紧固定螺丝⑤。
- (5) 拧松固定螺丝⑦，把弯针间隙调整为0.01~0.1mm, 在拧紧螺丝⑦。

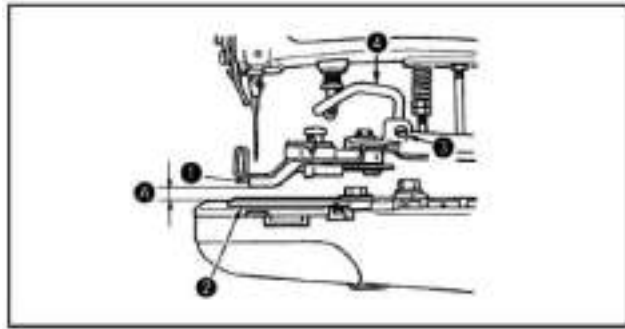
★ Adjust the needle-to-looper relation as follows :

- (1) Depress the pedal fully forward ,turn the needle driving pulley in the normal sewing direction to bring down the needle bar to the lowest point of its stroke and loosen screw①  
(Adjusting the needle bar height )
- (2) Adjust the height of the needle bar using top two lines engraved on the needle bar for the TQx1 needle and using the bottom two lines for the TQx7 needle .Align the upper line A with the bottom end face of needle bar bushing (lower)③ and tighten screw ① in the way that needle clamp screw ④ rests in the slot of the needle bar bushing (lower )
- (3) Looper screws ⑤ and turn by hand the needle driving pully until lower line B of two lines aligns with the bottom end face of needle bar bushing (lower)③
- (4) By keeping the machine in this state ,align looper blade ⑥ with the center of the needle and tighten screws ⑤.
- (5) Loosen screws ⑦ and provide a 0.01to 0.1 mm clearance between the looper and the needle .tighten screws ⑦.

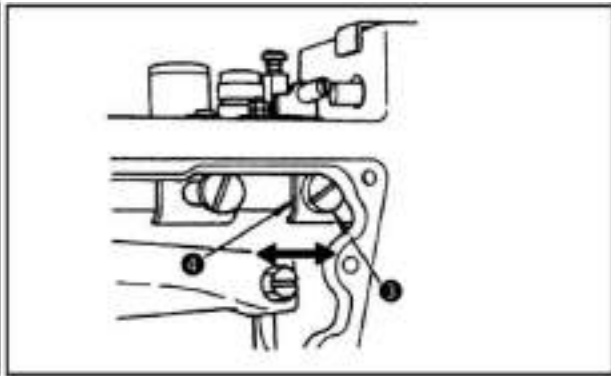
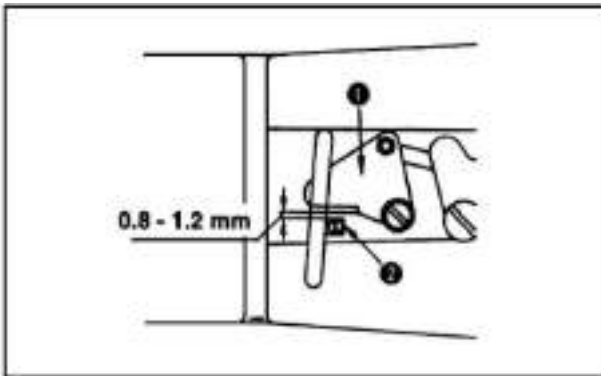
## 12. 爪扣装置的高度 (HEIGHT OF THE BUTTON CLAMP)

拧松螺钉③，通过调节提升杆④来调节纽扣爪脚①的地面和布压脚下板②上面的间隔A,标准为10mm。

**The standard clearance A between the bottom face of button clamp jaw lever ① and the top face of feed plate ② is 10 mm. Loosen screw ③ and adjust the height of button clamp lifting hook ④.**



## 13. 拨针器的调整 (ADJUSTMENT OF THE NIPPER)



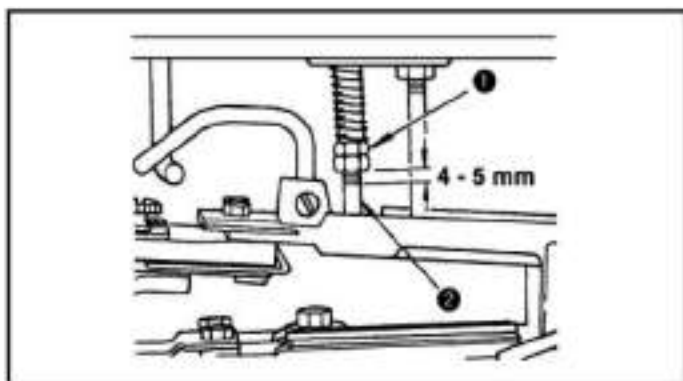
运转时，把拨针器的方块②和拨①的间隙调整为0.8~1.2mm，不让拨针器①压住机线。调节方法是，拧松固定螺钉③，左右移动拨针器活动滑块④。

**Provide a 0.8 to 1.2 mm clearance between nipper ① and nipper block ② to prevent the nipper from nipping the thread while stitching. Loosen screw ③ and move nipper bar block ④ to the left or the right.**

## 14. 压脚压力的调节 (WORK PRESSING FORCE)

压脚的压力，以在转动螺母①2个螺母的下端和压脚压力调节杆②的螺丝部间隙为4-5mm时为准。

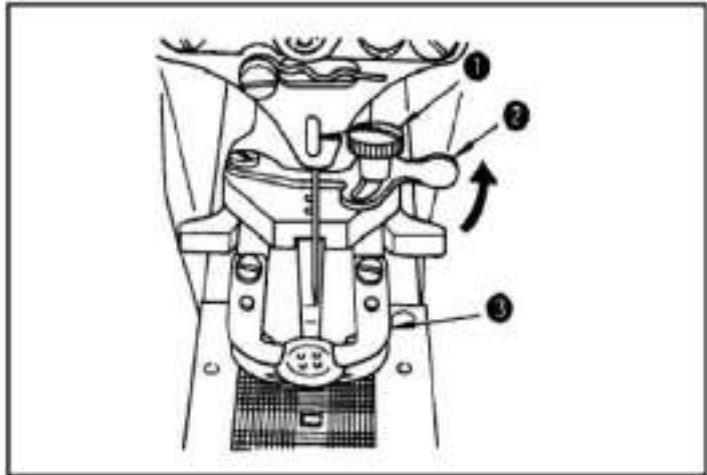
**The standard work pressing force is obtained by providing a 4 to 5 mm clearance between the bottom face of nut ① and the bottom end of the screw of pressure adjusting bar ②.**



### 15. 爪脚压力的调节 (ADJUSTMENT OF THE BUTTON CLAMP STOP LEVER)

在断开状态，拧紧固定螺丝①，用爪脚打开拨杆②开关打开爪脚③，把纽扣设定到正确的位置。让纽扣容易放进出，然后拧紧螺丝①。

**Set the machine for stop -motion state ,loosen clamp screw ①place a button correctly in the sewing position and adjust button clamp stop lever ② to permit the button properly to rest on button clamp jaw levers ③.tighten clamp screw ① after determining the distance between the left and right jaw levers③**



### 16. 松线同步时间的调整 (TIMING OF THREAD TENSION RELEASE)

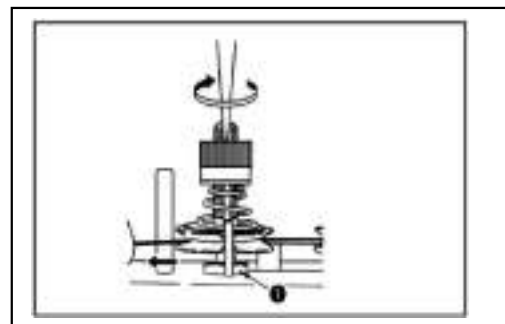
沿箭头方向拉机线，转动手轮，有一个第二线张力盘浮起，机线迅速拔出的点。此时，从针杆上端块上面到针杆上面到针杆上端的高度为使用53~56mm时为标准。

特别是频繁发生下列现象时，进行如下调节：

拧松螺母①，把螺丝刀插入第二线张力杆，沿箭头方向转动的话，针杆高度变低，向相反方向转动，则变高。

Turn the needle driving pulley as you draw the thread in the direction of the arrow as illustrated and you will find a point at which the tension disc on the tension post No.2 release the thread ,At this moment, the standard distance from the top end of the needle bar to the top of the needle bar bushing is 53 to 56 mm.Perform the following adjustments especially when the undermentioned troubles occur frequently.  
Loosen nut ①, insert the blade of a screwdriver to the top slot of the tension post No.2 and turn it in the direction of the arrow to lower the needle bar ,(to reduce the said distance ),and vice versa .Your adjustments is required when following troubles are frequently;

Phenomenon	Height of needle bar
1.when the stitch made on the wrong side of the workpiece is too loose;	Make the needle bar slightly higher
2.When the thread is broken at the time of stop -motion;	Make the needle bar slightly higher
3.When the thread is broken frequently	Make the needle bar slightly lower



## 17. 切线装置 (AUTOMATIC THREAD TRIMMER)

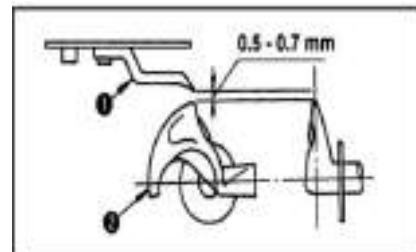
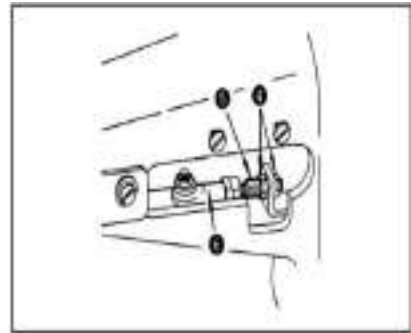
### ★移动刀位置的调整

压脚上升到最高处时，切线连接板（前）①和针板②槽沟面的间隔标准为12.5mm。调整到12.5mm时，请使用附属品的定位尺③，放到缝纫机，卸下防油板，拧松螺母④（2个），前后移动连接螺丝⑤，进行调整。另外，拧紧螺母④时，请注意切线连接头⑥应基本保持水平。



### ★Position of the moving knife

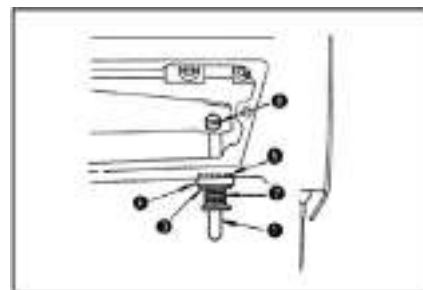
When the machine stops in the state of "stop -motion" and its button clamp assembly rests in the highest position ,there must be a standard clearance of 12.5mm between thread trimming connecting link (front)① and the end face of the slit in throat plate ②.this clearance is determined by gauge ③ which is stored in the accessory box ;tilt the head backwards ,remove the bed oil shield ,Loosen two nuts ④ and adjust the clearance by moving connecting screw ⑤ in the axial direction .When you tighten two nuts



④,ensure that joint 6stays in the horizontal position .

### ★L型提升杆的安装方法

按移动反弹弹簧②、分离垫片③、分离垫④、分离垫片⑤的顺序安装到L型提升杆上。确定完全分离之后让机梁的凸部和分离垫片端面紧密结合，不要有任何松动，用螺丝⑥拧紧固定。



# ZB-373G 电控使用说明书

## ZB-373G electric control box manual

### 安全事项

- 在使用本产品之前，请先阅读《产品说明书》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。

- Safety Precautions
- Before using this product, please read the User's Guide and the manual of the machine attached with it.
- This product must be installed or operated by professionally trained personnel.
- Please keep away from the arc welding equipment to avoid the electromagnetic wave from interfering with the controller.
- Please do not use it at room temperature above 45° or below 0°.
- Please do not use it in places with humidity below 30% or above 95% or where there is dew and acid mist.
- When installing the control box and other parts, turn off the power and unplug the power plug.
- To prevent interference or electric leakage accidents, make a good grounding work. The grounding wire of the power cord must be firmly connected to the earth.
- All parts for maintenance must be supplied or approved by the Company before they can be used.
- The power must be turned off and the plug unplugged before any maintenance action is performed. There is a high-voltage danger in the control box. You must shut down the power for 5 minutes before opening the control box.

## 1 产品安装 Product Installation

### 1.1 产品规格 product specification

电源电压 Voltage	AC 220±20% V
电源频率 Supply frequency	50Hz/60Hz
最大输出功率 maximum output power	550W

### 1.2 接口插头的连接 The 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 1-2-2 所示。连接好，请检查插头是否插牢。

Insert the connecting plugs of the foot pedal and the head of the machine into the corresponding socket at the back of the controller. Each socket names are shown in figure 1-2-2. Please check whether the plug is inserted.

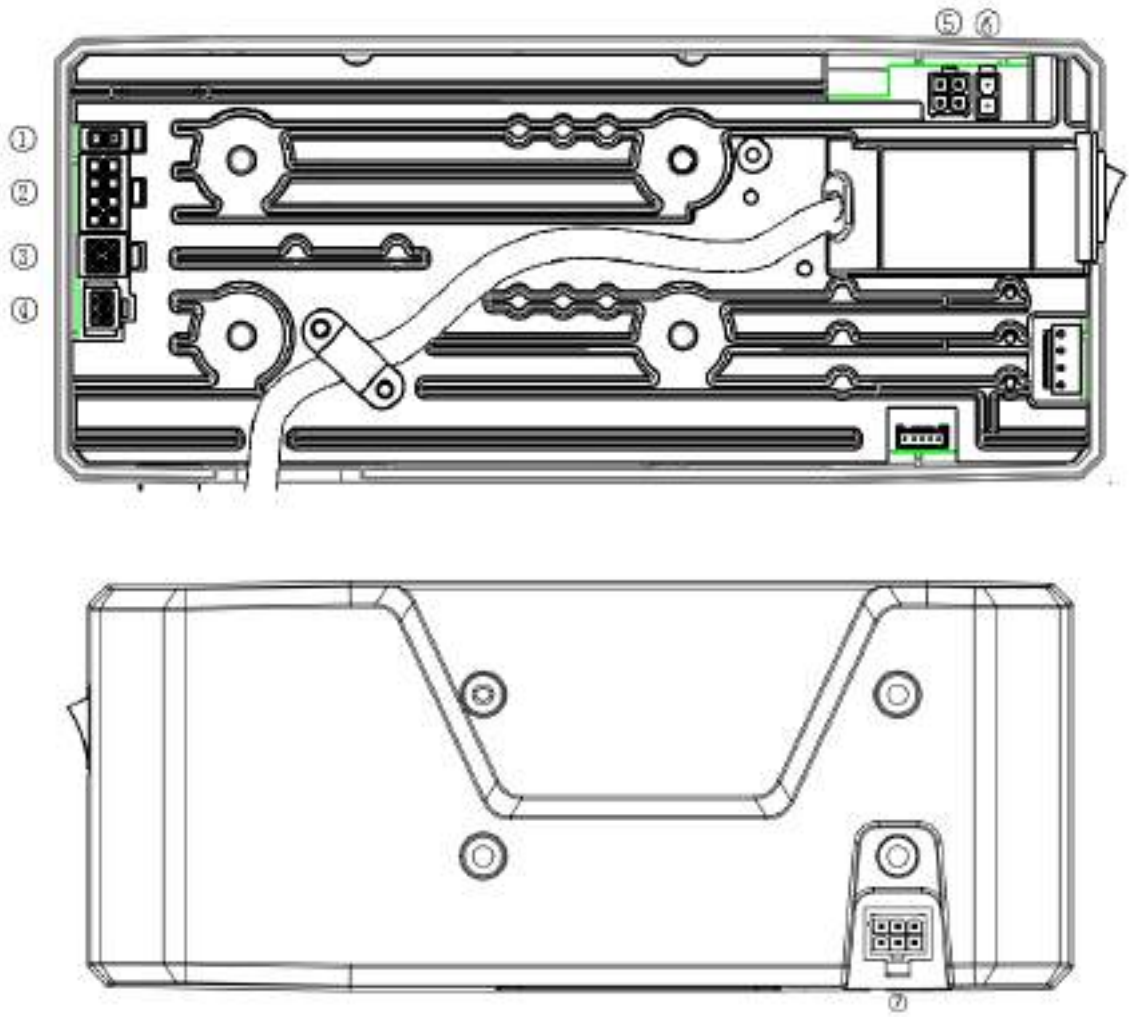


图 1-2-1 控制器图 (controller drawing)

- ① 扫线电磁铁接口
- ② 气动阀接口
- ③ 大盘传感器
- ④ 送扣接口
- ⑤ 面板通讯接口
- ⑥ 机头灯接口
- ⑦ 脚踏接口



图 1-2-2 控制器接口定义 (controller connection plug definition)

注：使用正常力量插不进去时，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！

If it cannot be inserted normally, please check the plug and socket match or not, the direction of the insertion or the direction of the needle is correct or not.

### 1.3 接线与接地

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。

The grounding of the system must be completed, and qualified electrical engineers shall be required to construct. Before the product is energized and put into use, it is necessary to ensure that the AC input already connected the grounding. The standard grounding line is the yellow and green line. The ground wire must be reliably connected to the grid safely to protect grounding and ensure safely using and to prevent abnormal conditions.

注：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。

All power wires, signal wires, ground wires and other wiring should not be pressed or distorted by other objects to ensure safety.

## 2 操作面板使用说明 Operation panel introductions

### 2.1 操作面板的显示说明 display introduction

根据系统工作状态，操作面板的液晶屏将显示当前的缝纫状态。操作面板外观如下所示。According to the working status of the system, the LCD of the operation panel will display the current sewing status. The appearance of the operation panel is shown as below.

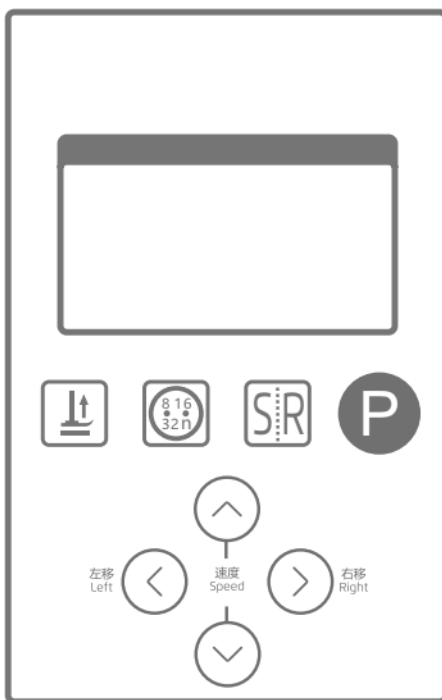








图 2-1 操作面板外观界面 appearance of operation panel










### 2.2 操作面板各按键功能说明 function declaration of each key










序号	外观	名称	功能描述
1		针数选择 Button sewing pin select	1、短按针数选择按键，切换运行针数在 8，16，32 针循环 2、长按针数选择按键，进入针数自定义选择模式 1、Short press to select the stitch num, between 8, 16, 32 2、Long press to enter the DIY stitch num mode
2		抬压脚键（锁机与解锁功能） Press up (Lock or unlock)	短按抬压脚键，锁机或解锁（待机界面时） Short press to lock or unlock the machine

3		进入参数区功能键 Parameter mode	长按 2s 进入参数界面 Long press 2 seconds to enter the parameter function
4		参数加键（速度加） Up key (speed up)	在进入参数功能参数号/值加，初始待机下速度加 Enter this mode, adjust this key, increase speed
5		参数减键（速度减） Down key (speed down)	在进入参数功能参数号/值加，初始待机下速度减 Enter this mode, adjust this key, decrease speed
6		左移键 Key left	参数设定中，向左选择参数范围 Turn to left to choose parameter
7		右移键 Key right	参数设定中，向右选择参数范围 Turn to right to choose parameter
8		恢复键 Reset key	1、短按自动找零位 2、长按 3S 后恢复出厂设置 1、Short press to find the zero position 2、press 3 seconds, then back to factory setting

### 3 参数调节 Parameter adjustment


#### 3.1 进入操作员参数模式及保存 Enter parameter mode and saving

空闲模式下，长按  键进入操作员参数模式。按  或  移动光标，相应位数值闪烁，再按  或  修改该位数值，按  或  键，保存参数。如果参数未修改，按  键退出参数模式；如果参数已经修改，第一次按键保存参数，第二次按  键退出参数模式。



Press  to enter parameter mode, then press  or  to move the lit, corresponding number flashing, then press  or  to modify this value, press  or  to save the parameter. If not modified, press  to log out parameter mode, if already modify, firstly save parameter, then press  to log out parameter mode.



#### 3.2 进入技术员参数模式及保存 Enter technician parameter mode and save it

按住  键开机进入技术员参数模式。参数调节方式同操作员参数调节方式。

Press  and turn on the machine to enter technician parameter mode. The methods is same as parameter mode.


### 3.3 速度调节 Speed adjustment

在空闲模式下，按上键  下键  调速度。向上调快，向下调慢，每按一次调整数值 50，可以长按连续加减。



Press  and  to adjust the speed. For up, to adjust fast, for down, to adjust slow. each adjustment value is 50.



### 3.4 恢复出厂设置 Factory setting



长按  恢复出厂设置，作为恢复出厂设置的快捷方式。



Press the  for a long time, back to the factory setting.

### 3.5 进入监控模式 Enter monitoring system







在空闲模式下，按  +  键进入，按上下键调整监控参数项，按 P 键退出。（若为 24、25、26 项，长按 P 键保存当前监控值为对应参数，若保存成功，显示 OK，短按 P 键退出监控模式）







Press  +  to enter this mode, press up and down key to adjust this parameter, press P, then can log out. (if it is 24、25、26, then press P to save this monitoring value as the corresponding parameter, if save successfully, show OK, press P for short time to log out this mode. )

注：上停针位置设置：进入监控参数项 24，将手轮调整至上停针（参数会随着手轮位置而变化），长按  键保存参数（保存后，下针位会自动进行相应调整），按  键退出监控模式。

PS: Needle position setting, enter monitoring mode number 24, move the hand wheel to up needle position (the value will be changed with hand wheel position), press  for long time to save it (after save it, down needle position will be adjust automatically), press  to log out this mode.

### 3.6 进入计件快捷显示及修改 Enter the quick display and modify of piece counting

在空闲模式下，按  +  键进入计件快捷显示及修改界面，可通过按  键直接修改件数，按  +  键清除当前计件数，短按  退出当前界面。

Press  +  to enter the quick display and modify of piece counting, press  modify the counting directly. Press  +  to clear the current data, press  short to log out this interface.

### 3.7 参数表 Parameters list

#### 3.7.1 操作员参数(长按 P 键进入) technician mode parameter (long press P key to enter)

参数项 Parameter List	参数描述 Description	默认值 Default Value	参数范围 Parameter range	参数项 Parameter List	参数描述 Description	默认值 Default Value	参数范围 Parameter range
P02	缝纫速度(r/min) High speed	1500	200-1500	P24	踏板后踏位置 Pedal position of trimming	350	0-4095
P04	找零速度(r/min) Reset sewing speed	500	200-1000	P27	扫线&送扣开关 Wiper switch 0: 关闭 1: 开启	0	0-1
P08	软启动针数 Soft start sewing stitch	3	1-3	P31	后踩中停关闭使能 Middle stop close enable 0: 开启后踩停车 enable middle stop 1: 关闭后踩停车 disable middle stop	0	0-1
P09	软启动开关 Soft start sewing switch	0	0-1	P32	扫线电磁铁全出力时间 Wiper action time with full power	40	0-200
P16	连踩间隔时间 Continue sew delay time	100	50-2000	P33	扫线电磁铁周期开通时间 Wiper action time each period	60	0-100
P20	抬压脚提前角度 Press start angle	85	0-250	P35	扫线提前角度 Wiper start angle	20	0-50
P22	送扣提前角度 Advance angle of buckle feeding	120	5-250	P36	扫线时间 Wiper action time	80	0-500

#### 3.7.2 技术员参数表 (按住 P 键再开机进入) Technician Parameter list (Press P and switch on to enter)

参数项 Parameter List	参数描述 Description	默认值 Default Value	参数范围 Parameter range	参数项 Parameter List	参数描述 Description	默认值 Default Value	参数范围 Parameter range
P54	背光亮度 Backlight brightness	100	20-100	P85	安全开关报警恢复时间 (ms) The recovery time of Safety switch alarm	50	1-200
P56	上电自动找零位 connect power and finding needle position automatically 0: 不找 No 1: 找 Yes	1	0-1	P88	计件数计数单位 unit of counting	1	1-50
P58	上停针调整角度 adjustment angle of up needle position	65	0-359	P89	计件数总数设定 setting of total counting	9999	0-9999
P60	测试速度(r/min) testing speed	1500	200-1500	P90	计件数模式选择 counter mode 0: 关闭 off 1: 升序循环	1	0-6

					计数 Ascending cycle count. 2: 降序循环计数 Descending cycle count. 3: 升序计数, 计满报警并停止运行 (Ascending accounting to full, alarm and stop running) 4: 降序计数, 减为 0 报警并停止运行 (Descending accounting to 0, alarm and stop running) 5: 升序计数, 计满报警提示, 继续运行 (Ascending accounting to full, remind and keep running) 6: 降序计数, 减为 0 报警提示, 继续运行 (Descending accounting to 0, alarm and keep running) 注: 短按 P 取消报警 (note: press P shortly to cancel alarm)		
P62	特殊运行模式 special running mode 0: 正常 normal 2: 初始角测试 initial angle testing 3: 自动测试模式 automatic testing mode	0	0-3	P134	步进电机零位位置 Step motor down position	1100	0-4800
P63	老化停止时间(s) aging stopping time	2	1-255	P173	步进电机抬压脚位置 Step motor up position	1100	0-4800
P66	机头保护开关检测 protection switch of machine head testing	0	0-1	P177	步进电机放压脚速度 Press down speed	200	100-800
P67	机头保护开关逻辑 protection switch of machine head	1	0-1	P179	步进电机抬压脚速度 Press up speed	700	400-800
P72	踏板半前踏开始位置(相对于回中位置) starting position of half pressing	800	0-4095	P181	压脚下放保护时间 Press Down Protect Time	40	20-200
P73	踏板半前踏结束位置(相对于回中位置)end position of half pressing	1000	0-4095	P193	软启动第一针限速 Soft start first stitch speed	500	200-1500
P74	踏板模拟量最大值 Max value of pedal analog	3800	0-4095	P194	软启动第二针限速 Soft start second stitch speed	900	200-1500
P75	踏板回中位置设定 setting of pedal back to middle position	1650	0-4095	P195	软启动第三针限速 Soft start third stitch speed	1300	200-1500
P84	安全开关报警确认时间 (ms) The confirmation time of Safety switch alarm	300	1-500				

### 3.7.3 监控参数表(开机后按 P 键+抬压脚键进入) Monitoring parameter list (press P + press foot lifter key to enter)

参数编号 number	参数描述 description	参数编号 number	参数描述 description
M10	针数计数值 Stitches account number	M23	初始角度 Initial angle
M11	件数计数值 Pieces account number	M24	机械角度 Mechanical angle
M13	操作面板软件版本号 Panel version number	M25	踏板前踩模拟量最大值 Max value for pedal forward press
M18	控制器主板软件版本号 Main board version number for control box	M26	踏板回中模拟量采样值 Sample value for pedal back
M20	母线电压 Generatrix voltage	M30-M37	历史故障代码 Historical Error number
M21	机头速度 Machine speed		

## 4 错误代码 Error code

### 4.1 故障代码表 Error code list

若系统出现报错或报警，请首先检查如下项：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 确认恢复出厂是否准确。

if have Error or alarm, please check first as follows:1. Check the connection wire is connected or not; 2. Check the machine head is matched with the control box; 3. check reset is accurate or not.

故障代码 Error number	代码含义 Code meaning	解决措施 Solutions
Err-01	主轴电机硬件过流 Arm shaft motor hardware overcurrent	1、 关闭系统电源，30 秒后重新接通电源。 1. Turn off the system power, and turn it on again after 30 seconds.
Err-02	主轴电机硬件过流 Arm shaft motor software overcurrent	2、 检查主轴电机编码器、电控是否有损坏等不良现象若有则及时更换。 2. Check whether the arm shaft motor encoder and electronic control are damaged or in other poor conditions. If so, replace them in time.
Err-03	系统欠压	3、 排除后重启系统若仍不能正常工作，请联系当地服务商或拨打 4008876858 3. If the system still does not work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858.
		断开控制器电源，检查输入电源电压是否低于 176V。若电源电压低于

	System undervoltage	176V, 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。请联系当地服务商或拨打 4008876858。 Disconnect the power supply of the controller and check whether the input power supply voltage is lower than 176V. If so, please restart the controller after the voltage returns to normal. If the voltage returns to normal, it still does not work properly after the controller starts up, please contact your local service provider or call 4008876858.
<b>Err-04</b>	停机时过压 Overvoltage during shutdown	断开控制器电源, 检查输入电源电压是否高于 264V。若电源电压高于 264V, 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。请联系当地服务商或拨打 4008876858 Disconnect the controller power and check whether the input power voltage is higher than 264V. If so, please restart the controller after the voltage returns to normal. If the voltage returns to normal, it still does not work properly after the controller starts up. Please contact your local service provider or call 4008876858.
<b>Err-05</b>	运行时过压 Overvoltage during operation	断开控制器电源, 检查输入电源电压是否高于 264V。若电源电压高于 264V, 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。请联系当地服务商或拨打 4008876858 Disconnect the controller power and check whether the input power voltage is higher than 264V. If so, please restart the controller after the voltage returns to normal. If the voltage returns to normal, it still does not work properly after the controller starts up. Please contact your local service provider or call 4008876858.
<b>Err-07</b>	主轴电机电流检测回路故障 Arm shaft motor current detection circuit failure	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。请联系当地服务商或拨打 4008876858。 Turn off the system power, and turn on the power again after 30 seconds to see whether it can work properly. Try a few times again. If the fault occurs frequently, please contact your local service provider or call 4008876858.
<b>Err-08</b>	主轴电机堵转 Arm shaft motor stalled	1、 请检查是否有异物缠绕在机头上 1、 Please check whether there is any foreign object wrapped around the machine head 2、 断开控制器电源, 检查主轴电机电源输入插头是否脱落、松动、破损。 2、 Disconnect the power supply of the controller and check whether the input plug of the arm shaft motor power supply is detached, loose, or damaged. 3、 排除后重启系统仍不能正常工作。请联系当地服务商或拨打 4008876858。 3、 If the system still does not work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858.
<b>Err-10</b>	面板通讯故障 Panel communication failure	1、 请检查操作面板与电控的连线是否脱落、松动、断裂。 1、 Please check whether the connection between the operation panel and the electric control is drops off, loose, or broken. 2、 排除后重启系统若仍不能正常工作。请联系当地服务商或拨打 4008876858 2、 If the system still does not work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858.
<b>Err-12</b>	主轴电机初始角度检测故障	1、 请进入参数项里检查主轴电机初始角度。 1、 Please enter parameter setting to check the initial angle of the arm

	Arm shaft motor initial angle detection failure	shaft motor. 2、请断电后再尝试 2-3 次，若仍报故障。请联系当地服务商或拨打 4008876858。 2、 Please try 2-3 times again after power off. If it still fails. Please contact your local service provider or call 4008876858.
<b>Err-13</b>	主轴电机零位故障 Arm shaft motor zero position fault	1、关闭系统电源，检查主轴电机编码器接头是否松动或脱落，将其恢复正常后重启系统。 1. Turn off the power of the system, check whether the arm shaft motor encoder connector is loose, or drops off. Restore it to normal and restart the system. 2、更换主轴电机编码器。 2、 Replace the arm shaft motor encoder. 3、排除后重启系统若仍不能正常工作请联系当地服务商或拨打 4008876858。 3、 If the system still does not work properly after troubleshooting and restart, Please contact your local service provider or call 4008876858.
<b>Err-14</b>	主控 eeprom 元器件读写故障 Master control eeprom components read/write failure	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，请联系当地服务商或拨打 4008876858 Turn off the system power, and then turn on the power again after 30 seconds. If the controller still does not work properly, please contact your local service provider or call 4008876858
<b>Err-15</b>	主轴电机超速保护 Arm shaft motor overspeed protection	
<b>Err-16</b>	主轴电机反转 Arm shaft motor reverse	
<b>Err-17</b>	面板参数读写故障 Panel date read/write failure	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，请联系当地服务商或拨打 4008876858 Turn off the system power, and then turn on the power again after 30 seconds. If the controller still does not work properly, please contact your local service provider or call 4008876858
<b>Err-18</b>	主轴电机过载 Arm shaft motor overload	检查主轴电机是否堵转，若未堵转，请联系当地服务商或拨打 4008876858。 Check whether the arm shaft motor is stalled. If not, please contact your local service provider or call 4008876858.
<b>Err-19</b>	电机类型不匹配 Motor type mismatch	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，请联系当地服务商或拨打 4008876858 Turn off the system power, and then turn on the power again after 30 seconds. If the controller still does not work properly, please contact your local service provider or call 4008876858
<b>Err-20</b>	调速器异常 Pedal failure	1、请检查脚踏控速器连接线是否脱落、松动或脚踏控速器是否损坏。 1、 Please check whether the connection cable of the pedal speed controller is drops off, loose, or damaged. 2、排除后重启系统仍不能正常工作。请联系当地服务商或拨打 4008876858。 2、 If the system still does not work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858.
<b>Err-21</b>	步进电机硬件过流 Step motor hardware overcurrent	1、关闭系统电源，30 秒后重新接通电源 1、 Turn off the system power, and then turn on the power again after 30 seconds 2、断电后，检查机器器器抬压步进电机是否卡死，恢复正常状态后，重启系统

		<p>2.、 Check whether the backstitch step motor, swing seat, and teeth are stuck. After returning to the normal state, restart the system.</p> <p>3、排除后重启系统若仍不能正常工作,请联系当地服务商或拨打 4008876858</p> <p>3.、 If the system still does not work properly after troubleshooting and restart.Please contact your local service provider or call 4008876858</p>
<b>Err-22</b>	<p>步进电机软件过流 Step motor software overcurrent</p>	<p>1、关闭系统电源, 30 秒后重新接通电源</p> <p>1、 Turn off the system power, and then turn on the power again after 30 seconds</p> <p>2、断电后, 检查机器抬压步进电机是否卡死, 恢复正常状态后, 重启系统</p> <p>2、 Check whether the press-up step motor, swing seat, and teeth are stuck. After returning to the normal state, restart the system.</p> <p>3、排除后重启系统若仍不能正常工作。请联系当地服务商或拨打 4008876858</p> <p>3、 If the system still does not work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858</p>
<b>Err-23</b>	<p>步进电机电流检测回路故障 Step motor current detection circuit failure</p>	<p>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, 请联系当地服务商或拨打 4008876858。</p> <p>Turn off the system power, and then turn on the power again after 30 seconds. If the controller still does not work properly, please contact your local service provider or call 4008876858.</p>
<b>Err-24</b>	<p>步进电机堵转 Step motor stalled</p>	<p>1、关闭系统电源, 30 秒后重新接通电源</p> <p>1、 Turn off the system power, and then turn on the power again after 30 seconds</p> <p>2、断电后, 检查机器抬压步进电机是否卡死, 恢复正常状态后, 重启系统</p> <p>2、 Check whether the press-up step motor, swing seat, and teeth are stuck. After returning to the normal state, restart the system.</p> <p>3、检查步进编码器、电控是否有损坏等不良现象若有则及时更换</p> <p>3、 Check whether the step encoder and electronic control are damaged or in other poor conditions. If so, replace them in time.</p> <p>4、排除后重启系统若仍不能正常工作。请联系当地服务商或拨打 4008876858</p> <p>4、 If the system still cannot work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858</p>
<b>Err-28</b>	<p>步进电机零位故障 Step motor zero position fault</p>	<p>1、断电后, 检查机器抬压步进电机是否卡死, 恢复正常状态后, 重启系统</p> <p>1、 Check whether the press-up step motor, swing seat, and teeth are stuck. After the normal state is restored, restart the system.</p>
<b>Err-29</b>	<p>步进光编 AB 信号异常 Reverse stitch stepping motor encoder AB signal abnormal</p>	<p>2、检查抬压步进编码器是否有损坏等不良现象若有则及时更换</p> <p>2、 Check whether the press-up step encoder is damaged or in other poor conditions. If so, replace it in time.</p> <p>3、排除后重启系统若仍不能正常工作。请联系当地服务商或拨打 4008876858</p> <p>3、 If the system still does not work properly after troubleshooting and restart. Please contact your local service provider or call 4008876858</p>

## 4.2 安全报警表 Safety alarm meter

报警代码 Alarm code	代码含义 Description	解决措施 Solutions
A-UP	翻抬开关报警 Alarm of safety switch	摆正机头,确保翻抬开关复原 Return machine head to normal position, to make sure safety switch rebound
ALR-1	机头按钮短路报警 Alarm of machine head button with short circuit	关闭系统电源, 更换机头灯按钮 Turn off system power and change the light button of machine head
ALR-2	计针数计满报警 Alarm when needle counting is fulfilled	短按 P 键取消报警 Press P key with short time, alarm will stop
ALR-3	计件数计满报警 Alarm when needle counting is fulfilled	短按 P 键取消报警 Press P key with short time, alarm will stop
RESET	请求找零位 Ask for reset	短按 P 键或 S/R 键找零位 Press P or S/R key with short time,
ALR-9	零位传感器报警 Zero position sensor failure	短按 P 键取消报警, 检查传感器是否正常工作 Press P key with short time, alarm will stop, check the sensor





































