



JK-58420J/B 系列

产品使用说明书&产品零件图册

Manual book & parts book

**JACK 杰克**



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## 开头语

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衷心感谢您购买本公司产品！使用缝纫机之前，请认真阅读此说明书。本说明书介绍了缝纫机日常使用、维护与安全的有关注意事项。请您仔细加以保管，以便日后查阅。如产品规格或外观经过改良可能会与说明书略有不同，恕不另行通知。

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## PROLOGUE

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Thanking you for your purchase our products sincerely, please reading the manual book before operation, the book introduce some points how to operate, maintenance, and safe. Please keep it carefully for reading in the further; you will be not informed if the file has been revised. Please set sample as standard.

## 工业缝纫机安全使用注意事项：

- 1.必须遵守基本措施；
- 2.必须经过专业培训，对缝纫机设备性能、
- 3.使用前应检查所有安全装置；
- 4.在安装机针、更换机针、压脚、针板、送布牙、弯针、旋梭或修理时，应立即关闭电源；
- 5.离开缝纫机或工作场所时应关闭电源；
- 6.使用离合马达时，要等待马达完全停止后再进行；
- 7.缝纫机及附属装置使用的机油，润滑油等液体流入眼睛或沾到皮肤上应立即清洗；
- 8.禁止用手触摸缝纫机通电时的零件或装置；
- 9.有关工业用平缝机与包缝机的修理、改造、主要机构的调整由专门技术人员来进行；
- 10.一般的维修保养由专人进行；
- 11.在电气方面的修理应在电气技术员的监督和指导下进行；
- 12.缝纫机使用期间应定期清扫；
- 13.为了正常安全运转，应安装地线，同时应在不受高频焊接机等强噪声源影响的环境下使用；
- 14.电源插头应由专人安装；
- 15.工业用平缝机、包缝机在指定用途以外不能使用。

## 环保要求：

- 1、使用过程中产生的废油及其他废弃物请根据当地环保的要求进行合理的处置。
- 2、请在使用完后及时关闭电源，减少电能的消耗。
- 3、请在说明书要求的电压及环境下使用，已延长产品的使用寿命，减少废弃物的产生。
- 4、机器报废后请勿将本机器及其附件作为普通的生活垃圾处理。请遵守本设备及其附件处理的本地法令，并支持回收行动。

## Notes for safe use of industrial sewing machines :

1. Basic measures must be observed.
2. Pass the specialized training and master sewing machine equipment performance.
3. All safety devices should be checked before use.
4. When installing needle, and changing needle, presser foot, plate, feed dog , bent needle, hook or repairing, the power supply should be turned off immediately.
5. Power should be turned off when leaving the sewing machine or workplace.
6. When using the clutch motor, please wait until the motor stops completely.
7. The machine oil and other liquids used in sewing machines and ancillary devices should be cleaned immediately when they are put into eyes or touch skin.
8. Do not touch the parts or devices when the machine is powered by hand.
9. The repair, renovation and adjustment of the main mechanisms of the relevant industrial sewing machines and overseers shall be carried out by specialized technicians.
10. General maintenance is carried out by specially-assigned persons.
11. Electrical repairs should be performed under the supervision and direction of the electrical technician.
12. The machine should be cleaned regularly during operation.
13. In order to operate normally and safely, ground lines should be installed, and they should be used in an environment free from strong noise sources such as high frequency welding machine.
14. Power plug should be installed by specially-assigned person.
15. Industrial lockstitch sewing machine and overlock sewing machine can not be used except the designated use.

## Environmental requirements :

Please dispose the waste oil and other waste products properly according to local environmental protection requirements.

Please turn off the power after use to reduce power consumption.

Please use under the voltage and environment required in the manual to extend the service life of the product and reduce waste generation.

- 4、 Do not treat the machine and its accessories as ordinary household garbage after being scrapped. Please comply with local laws governing the disposal of the equipment and its accessories and support recycling operations.


58420J 电控使用说明书

58420J Electronic

Control Instructions

# 58420J 电控使用说明书

## 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°C 以上或者 0°C 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。

## 第1章 产品安装

### 1.1 产品规格

产品型号	AHE59	电源电压	AC 220±20% V
电源频率	50Hz/60Hz	最大输出功率	750W

### 1.2 接口插头的连接

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。

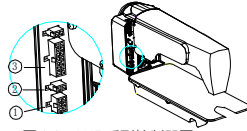



图 1-1 AHE 系列控制器图

- ① 踏板插座; ② 抬压脚电磁铁插座; ③ 自动电磁铁插座;

 : 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!

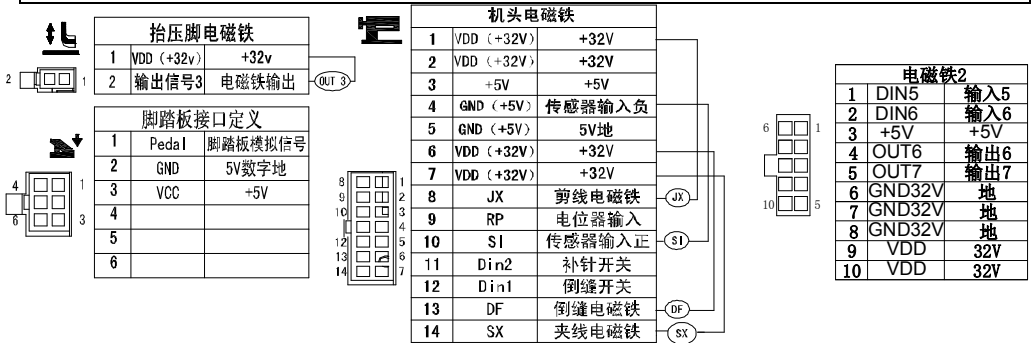



图 1-2 控制器接口定义

 : 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!

### 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。

## 第 2 章 操作面板使用说明

### 2.1 操作面板的显示说明

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绉模式、各种参数、前/后固缝设置，以及抬压脚、停针位、剪线、慢速起缝等液晶字符。操作面板上的功能图标显示说明如下所示。

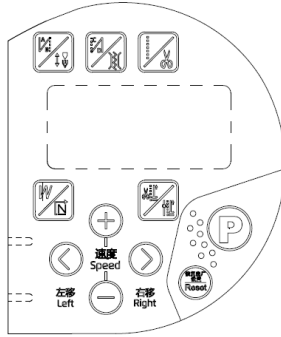


图 2-1 操作面板外观界面

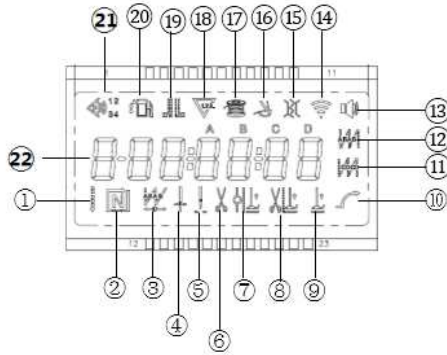


图 2-2 操作面板液晶显示屏图示

索引	图标	描述	索引	图标	描述
①		自由缝	②		后加固缝
②		多段缝	③		语音播报
③		W 缝	④		多段缝触发
④		中间停针下停针	⑤		夹线器
⑤		中间停针上停针	⑥		拨线器
⑥		自动剪线功能	⑦		记针数
⑦		中间停针抬压脚	⑧		记切线次数



⑧		剪线后抬压脚	⑲		拐角
⑨		抬压脚	⑳		油量检测
⑩		软启动功能	㉑		感应自动抬压脚
⑪		前加固缝	㉒	88888888	计数/参数值显示

## 2.2 操作面板各按键功能说明

序号	外观	名称	功能描述
1		参数进入及返回键	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, 再长按  键退出参数模式。
2		抬压脚键	在正常缝绉模式下, 按  键, 循环切换缝绉中途停车时抬压脚与缝绉结束后自动切线抬压脚。
3		前加缝键	前固缝选择键, 每短按动一次, 设置前固缝 、前双固缝 、关闭之间循环选择, 对应液晶屏图标点亮。选择对应的键可设置 A、B 段的针数, 默认针数范围 0~F 对应 0~15 针。
4		后加固缝及停针位键	1、短按  键, 每短按动一次, 设置后固缝 ; 后双固缝 ; 后固缝关闭之间循环选择, 对应液晶屏图标点亮。选择对应的键可设置 C、D 段的针数, 默认针数范围 0~F 对应 0~15 针。 2、长按  键, 设置上停针位、下停针位。
5		夹线键及压脚感应器键	1、短按  键, 液晶屏夹线图标  亮, 夹线功能开启, 再短按一次, 夹线功能关闭。 2、长按  键, 液晶屏压脚感应器图标  亮, 打开压脚感应器功能, 再长按一次, 压脚感应器功能关闭。
6		自由缝及剪线键	1、短按  键, 选择自由缝模式。 2、长按  键, 液晶屏剪线图标  亮, 自动剪线功能开启, 再长按  键, 自动剪线功能关闭。
7		W 缝/多段缝键	1、短按  键, 液晶屏  图标亮, 表示当前是 W 缝模式。 2、长按  键, 液晶屏  图标亮, 表示当前是多段缝模式。
8		参数递增键	参数设定中, 参数值递增键。
9		参数递减键	参数设定中, 参数值递减键。
10		向左选择键	参数设定中, 向左选择参数范围。(在多段缝模式下, 长按该键, 触发指示灯点亮, 即触发模式开启; 再长按该键, 触发指示灯熄灭, 触发功能关闭)
11		向右选择键	参数设定中, 向右选择参数范围。
12		恢复出厂设置	长按 5s 恢复出厂设置。

## 第3章 系统参数设置说明

### 3.1 参数模式

- 1、 待机状态下，按 **P** 键进入参数模式；
- 2、 按 **←** **→** 键和 **+** **-** 键修改相对应的参数。
- 3、 当参数值有修改时，参数界面闪烁。此时，短按 **P** 键，保存修改后的参数，再长按 **P** 键退出参数界面，返回待机页面。

参数编号	参数范围	出厂值	参数描述
P99	0~12	1	语音选择 0：语音关闭 1：中文 2：英文 3：波斯语 4：越南语 5：俄语 6：波兰语 7：葡萄牙 8：西班牙语 9：土耳其 10：阿拉伯 11：印尼语 12：孟加拉 默认 1 中文
P01	200~3000	2700	自由缝最高速（全局最高限速）
		2700	
P03	0/1	1	上下停针选择 (0：为上停针；1：为下停针)
P04	200~3000	1800	前固缝速度
P05	200~3000	1800	后固缝速度
P06	200~3000	1800	连续回缝速度（W缝）
P09	0/1	0	慢速起缝开关(0为关闭，1开启)
P15	0~2	0	按钮补针模式: 0:按下时间控制；1:补半针；2:补一针
P18	1~120	70	前固缝针迹补偿 1（吸合补偿）
P19	1~120	10	前固缝针迹补偿 2（释放补偿）
P22	0-50	8	补针时倒缝关闭阈值
P24	0~1024	80	踏板剪线位置
P25	1~120	54	后固缝针迹补偿 1
P26	1~120	12	后固缝针迹补偿 2
P30	0~31	0	电机低速加力功能开关：0：正常功能 1~31：低速加力过厚能力档位
P31	10~19	50	剪线加力系数(电机加力)
P32	1~500	400	夹线电磁铁全出力时间 ms
P33	0~100	0	夹线电磁铁每周期关闭时间 ms
P37	0~100	0	夹线电磁铁每周期开通时间 ms（夹线力度）
P45	0~100	1	倒缝电磁铁每周期开通时间 ms
P46	0~100	2	倒缝电磁铁每周期关闭时间 ms
P47	200~360	360	剪线后反拉（可实现剪线回拉功能）
P49	100~500	200	剪线速度
P50	1~500	150	抬压脚电磁铁全出力时间 ms
P51	0~100	3	抬压脚电磁铁每周期开通时间 ms
P52	1~800	100	放压脚延迟时间（ms）
P53	0/1	1	抬压脚开关： 0：不抬 1：抬

P54	0~100	8	抬压脚电磁铁每周期关闭时间 ms
P56	0/1	1	上电自动找上针位： 0：不找 1：找
P57	0~600	100	抬压脚电磁铁保护时间 100ms
P60	200~3000	2700	定长缝最高速（自动测试速度）
P62	0~4	0	特殊运行模式： 0：操作工选择（正常）； 1：简易缝模式； 2：测电机初始角（不再需要取下皮带）； 3：计算传动比模式（需要有停针传感器，且不能取下皮带）； 4:自动测试模式 1（带停针位的自动测试，运行 5S，停止 5S）。
P66	0/2	2	2:打开安全开关功能；0：关闭
P71	0~50	2	缓放压脚级别调整，数值越小放的越快；（超频打开时间）
P76	1~500	60	倒缝电磁铁全出力时间 ms
P78	1~359	120	钳线开始角度
P79	0~359	320	钳线结束角度
P98	0~4	4	语音音量大小
PA2	0-1	0	语音开关
PA5	0-2	0	0 开机语音和按键语音 1 仅为开机语音 2 仅为按键语音
PA6	1~ 100	1	stitch 计数器功能比例值设定
PA7	1~ 9999	1	stitch 计数值设定
			开机+P 165 参数改为 2007 恢复出厂设置
PA8	0~ 6	0	stitch 计数器模式选择： 0：不计数； 1：依针数往上计数，数完设定值后自动重新计数； 2：依针数往下计数，数完设定值后自动重新计数； 3：依针数往上计数，数完设定值后，马达自动停止，须由 S4 [152.INI] =CRS 设定或面板上的 A 键来启动重新计数； 4：依针数往下计数，数完设定值后，马达自动停止，须由 S4 [152.INI] =CRS 设定或面板上的 A 键来启动重新计数； 5:依针数往上计数，数完设定值后,报错，马达不停止。当后踩脚踏板后，马达停止停止，须由 S4 [152.INI] =CRS 设定或面板上的 A 键来启动重新计数； 6：依针数往下计数，数完设定值后，报错，马达不停止。当后踩脚踏板后，马达停止，须由 S4 [152.INI] =CRS 设定或面板上的 A 键来启动重新计数。
PA9	1~ 100	1	Trimming 计数器功能比例值设定
PAA	1~ 9999	1	Trimming 计数值设定
PAB	0~ 4	0	Trimming 计数器模式选择： 0：不计数； 1：Trimming 数往上计数，数完设定值后自动重新计数； 2：Trimming 数往下计数，数完设定值后自动重新计数； 3：Trimming 数往上计数，数完设定值后，马达自动停止，须由 S4 [152.INI] =CRS 设定或面板上的 A 键来启动重新计数； 4：Trimming 数往下计数，数完设定值后，马达自动停止，须由 S4 [152.INI] =CRS 设定或面板上的 A 键来启动重新计数；

### 3.2 监控参数表

参数编号	参数描述	参数编号	参数描述
010	针数计数	025	踏板电压采样值
011	计件数	026	机头传动比实际值
012	机头实际速度	027	电机累计运行时间 ( Hour )
013	霍尔状态	028	机头交互量电压采样值
020	母线电压	029	DSP 软件版本号
021	机头速度	02A	模拟输入 1 采样值
022	相电流	02B	模拟输入 2 采样值
023	初始角度	02C	错误计数器
024	机械角度	030-037	历史故障代码

### 3.3 安全报警表

报警代码	代码含义	解决措施
<b>ALA-2</b>	计针数报警	表示计针数已达所设上限, 按 P 键可取消报警并重新计数
<b>ALA-3</b>	计剪线数报警	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
<b>ALA-6</b>	底线报警	表示底线即将用完, 请更换底线, 按 P 键可恢复
<b>POUOFF</b>	断电提醒	请等候 30 秒后再重新打开电源开关
<b>ARON UP</b>	翻台开关报警	摆正机头, 确保翻台开关复原

### 3.4 故障代码表

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。

故障代码	代码含义	解决措施
Err-01	硬件过流	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。
Err-02	软件过流	
Err-03	系统欠压	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。
Err-04	停机时过压	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。
Err-05	运行时过压	
Err-06	电磁铁回路故障	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。
Err-07	电流检测回路故障	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。
Err-08	电机堵转	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。
Err-09	制动回路故障	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。
Err-10	HMI 通讯故障	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。

Err-11	机头停针 信号故障	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。
Err-12	电机初始角度检测故障	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。
Err-13	电机 HALL 故障	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。
Err-14	DSP 读写 EEPROM 故障	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。
Err-15	电机超速保护	
Err-16	电机反转	
Err-17	HMI 读写 EEPROM 故障	
Err-18	电机过载	
Err-23	电机堵转编码器故障	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。

## 第 4 章 脚踏板灵敏度调整

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）。

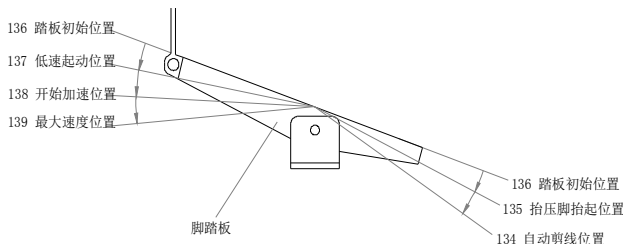



图 4-1 踏板动作各位置参数示意图

## Safety Instruction

- Please read this manual carefully, also with related manual for the machinery before use the controller.
- For installing and operating the controller properly and safely, qualified personnel are required.
- Please try to stay away from arc welding equipment, in order to avoid electromagnetic interference and malfunction of the controller.
- Keep in room bellow 45°C and above 0°C
- Do not use in humidity below 30% or above 95% or dew and mist of places.
- Install the control box and other components, turn off the power and unplug the power cord.
- To prevent interference or leakage accidents, please do the ground work; the power cord ground wire must be securely connected to an effective way to earth..
- All parts for the repair provided by the Company or approved before use.
- Performing any maintenance action, you must turn off the power and unplug the power cord. There are dangerous high voltage control box, you must turn the power off after one minute before opening the control box.
- This manual marked with the symbol  of the Department of Safety Precautions must be aware of and strictly adhered to, so as not to cause unnecessary damage.

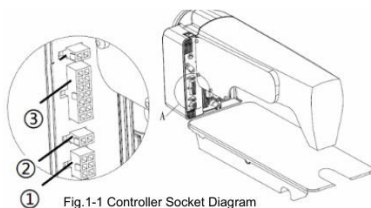
## 1 Installation Instructions

### 1.1 Product specifications


Product Type	AHE59	Supply Voltage	AC 220 ± 20% V
Power frequency	50Hz/60Hz	Maximum output power	750W

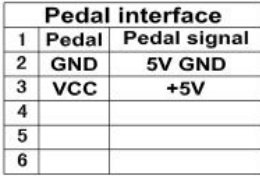
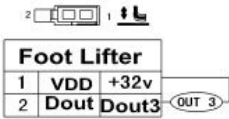
### 1.2 Interface plug connections

The pedals and the machine head of the connector plug are mounted to the corresponding position in the controller back of socket, as shown in Figure 1-2. Please check if the plug is inserted firmly



① Pedals socket; ② Foot lifter solenoid socket ; ③ Machine head solenoid socket;

:The use of the normal force are not inserted into the plug and socket, please check whether the matching, direction or needle insertion direction is correct!



Machine Head Solend		
1	VDD (+32V)	+32V
2	VDD (+32V)	+32V
3	+5V	+5V
4	GND (+5V)	5V GND
5	GND (+5V)	5V GND
6	VDD (+32V)	+32V
7	VDD (+32V)	+32V
8	JX	Trimming
9	DWQ	RP input
10	SI	Senor input
11	Din2	Fill needle SW.
12	Din1	BT SW.
13	DF	Back tack
14	SX	Nipping

Machine Head Solend		
1	DIN5	INPUT 5
2	DIN6	INPUT 6
3	+5V	+5V
4	OUT6	OUTPUT 6
5	OUT7	OUTPUT 7
6	GND32V	LAND
7	GND32V	LAND
8	GND32V	LAND
9	VDD	32V
10	VDD	32V

⚠: All power lines, signal lines, ground lines, wiring not to be pressed into other objects or excessive distortion, to ensure safe use!

### 1.3 Wiring and Grounding

We must prepare the system grounding project, please a qualified electrical engineer to be construction. Product is energized and ready for use; you must ensure that the power outlet the AC input is securely grounded. The grounding wire is yellow and green lines, it must be connected to the grid and reliable security protection on the ground to ensure safe use, and prevent abnormal situation.

## 2 Operation Panel Instructions

### 2.1 Operation Panel Display Instruction

According to the system working state, the LCD module of operation panel will display the current sewing patterns, various parameters, start / end back tacking, and presser foot, needle stop position, trimming, Slow up start sewing ect icon. The operation panel of the function icon shows as follows.

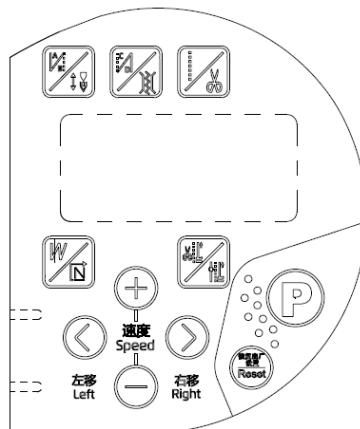


Fig. 2-1 Operation Panel

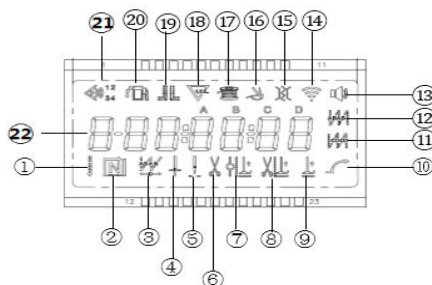





























Fig. 2-2 Operation Panel

Index	Icon	Description	Index	Icon	Description
①		Free sewing	⑫		End back tacking
②		Multi-section constant-stitch sewing	⑬		Voice broadcast
③		W bar tacking sewing	⑭		Communication system
④		Position down	⑮		Tension device
⑤		Position up	⑯		Wipe device
⑥		Automatic trimming	⑰		Count needle number
⑦		Foot lifting at seam End	⑱		Count number of times
⑧		Foot lifting after trimming	⑲		Turning
⑨		Presser foot lifting	⑳		Oil testing
⑩		Soft start sewing	㉑		Induction automatic presser foot lifting
⑪		Start bar tact	㉒	8 8 8 8 8 8 8 8	Number display

## 2.2 Key Functions

No	Key	Name	Description
1		Parameter setting key	In the boot state, long press  key to enter the parameter modes. After modify the parameters, press key  to storage. Then long press key  to exit this mode.
2		Presser foot key	In the normal sewing mode, press key , switch between cycle sewing midway parking presser foot and sewing after the end of automatic trimming presser foot.



No	Key	Name	Description
3		Start back tacking setting key	Switch during all start tacking type when pressing. (No tacking, single tacking  , double tacking  ). The icon of LCD is lit. The number of needle selecting the corresponding keys can be set to A, B segment, default needle number 0`F corresponds to the 0`15 stitch.
4		End back tacking setting key	1, Switch during all end tacking type when pressing. (No tacking, single tacking  , double tacking  ). The icon of LCD is lit. The number of needle selecting the corresponding keys. can be set to A, B segment, default needle number 0`F corresponds to the 0`15 stitch. 2, Long press  key, it can shift the needle up and down stop position.
5		Thread clamp/ Induction automatic presser foot lifting key	1, Short press key  , the icon  of LCD is lit, the thread clamp function turns on. Then short press key, the thread clamp function turns off. 2, Long press  key, the icon  of LCD is lit, the induction automatic presser foot function turns on. Then long press key, the induction automatic presser foot function turns off.
6		Free sewing/trimming key	1, Short press key  , the free sewing mode is selected. 2, Long press key  , the icon  of LCD is lit, the automatic trimming function turns on. Then long press key  , the automatic trimming function turns off.
7		W bar tacking / Multi-section constant-stitch sewing	1, Short press key  , the icon  of LCD is lit, W seam marking function turns on. 2, Long press key  , the icon  of LCD is lit, the multi-section constant-stitch sewing function turns on.
8		The parameter increment setting key	Parameter value increment key.
9		The parameter Decrease setting	Parameter value decrease key.
10		The left selection key	Parameters selection toward to left key.
11		The right selection key	Parameters selection toward to right key.
12		Factory reset	press for 5s.

### 3 System parameters setting list

#### 3.1 Parameter mode

- 1、 In the standby state, press key  $\text{P}$  to enter the parameter modes.
- 2、 Press corresponding to key  $\text{L}$   $\text{R}$  and key  $\text{+}$   $\text{-}$ , the parameter value is changed.
- 3、 When the parameter values have increased and decreased, parameter interface flash. Short press  $\text{P}$  key to save the modified parameters. Long press key  $\text{P}$  to exit parameter interface, return to standby panel model.

NO	RANGE	DEFAULT	Description
P99	0~12	1	Voice selection 0: OFF;1: Chinese 2: English 3: Persian4: Vietnamese 5: Russian 6:Polish 7: Portuguese 8: Spanish 9: Turkish 10: Arabic 11: Indonesian 12: Bangladesh Original setting: Chinese
P01	200~3000	2700	the maximum speed of free sewing (the global maximum speed)
		2700	
P03	0/1	1	Needle stop position selection (0:up; 1: down)
P04	200~3000	1500	Start back tacking speed
P05	200~3000	1500	End back tacking speed
P06	200~3000	1500	Continuous back sewing speed (W sewing)
P09	0/1	0	Soft start switch(0:off; 1: on)
P15	0~2	0	Mode of stitch correction 0: continuous; 1:half stitch; 2:one stitch
P18	1~120	70	Stitch balance for start back tacking No.1(Pull in compensation)
P19	1~120	10	Stitch balance for start back tacking No.2(Release of compensation)
P22	0-50	8	back sewing valve when stitch addition
P24	0~1024	80	Trimming point of pedal
P25	1~120	54	Stitch balance for end back tacking No.1
P26	1~120	12	Stitch balance for end back tacking No.2
P30	0~31	0	Feed forward torque of motor: 0: normal functions 1-31: feed forward torque level
P31	10~199	50	Trimming afterburner coefficient (motor afterburner)
P32	1~500	400	tension device solenoid working duration time ms
P33	0~100	0	Tension device solenoid per cycle closing time (ms)
P37	0~100	0	Tension device solenoid per cycle opening time (ms)
P45	0~100	1	Back stitch electromagnet per cycle opening time (ms)
P46	0~100	2	Back stitch electromagnet per cycle closing time (ms)
P47	200~360	360	After trimming anti pull (It realizes trimming is pulled back function)
P49	100~500	200	Trimming speed
P50	1~500	150	Presser foot lifting electromagnet full output time ms

<b>P51</b>	0~100	3	Presser foot lifting electromagnet per cycle opening time (ms)
<b>P52</b>	1~800	100	Running delay time when presser footer comes down (ms)
<b>P53</b>	0/1	1	Presser foot lifting function selection 0: no action 1: action
<b>P54</b>	0~100	8	Presser foot lifting electromagnet per cycle closing time (ms)
<b>P56</b>	0/1	1	Run to up needle position after Power on: 0: no action 1: action
<b>P57</b>	0~600	100	Presser foot lifting electromagnet protection time 100ms
<b>P60</b>	200~3000	2700	The maximum speed of constant sewing (Automatic test speed)
<b>P62</b>	0~4	0	Special mode: 0: normal Mode 1: simply sewing mode 2: motor initial angle measurement (Do not remove the belt) 3: Automatically setting the pulley ratio by the CPU. (Synchronizer is necessary and the belt not removed) 4: automatic test model 1 (It has needle stop position of automatic test, running and stopping 5S)
<b>P66</b>	0/2	2	2:open safety switch function; 0: close
<b>P68</b>	200~3000	2700	The maximum speed limit of the machine head
<b>P71</b>	0~50	2	Slow release lifter level adjustment, the smaller values and the faster quickly (OC open time)
<b>P76</b>	1~500	60	Back sewing electromagnet full output time ms
<b>P78</b>	1~359	120	Start angle
<b>P79</b>	0~359	320	End angle
<b>P98</b>	0~4	4	Voice volume
<b>PA2</b>	0-1	0	Voice on or off
<b>PA5</b>	0-2	0	0:machine start voice and press voice 1 machine start voice only 2 press voice only
<b>PA6</b>	1~100	1	Stitch count function proportion setting
<b>PA7</b>	1~9999	1	Stitch count set
<b>PA8</b>	0~6	0	Stitch count function mode: 0: off 1:stitch count up, recounting after over the setting value; 2: stitch count down, recounting after over the setting value; 3: stitch count up, motor stop after over the setting value(use S4 [152.INI] =CRS, or Key A to recount) 4: stitch count down, motor stop after over the setting value(use S4 [152.INI] =CRS, or Key A to recount) 5: stitch count up, show error but motor not stop after over the setting value(use S4 [152.INI] =CRS, or Key A to recount) 6: stitch count down, show error but motor not stop after over the setting value(use S4 [152.INI] =CRS, or Key A to recount)
<b>PA9</b>	1~100	1	Trimming count function proportion setting

<b>PAA</b>	1~9999	1	Trimming count set
<b>PAB</b>	0~4	0	Trimming Stitch count function mode: 0: off 1: Trimming count up, motor stop after over the setting value(use S4 [152. INI] =CRS, or Key A to recount; 2: Trimming count down, motor stop after over the setting value(use S4 [152. INI] =CRS, or Key A to recount; 3: Trimming count up, motor stop after over the setting value(use S4 [152. INI] =CRS, or Key A to recount) 4: Trimming count down, motor stop after over the setting value(use S4 [152. INI] =CRS, or Key A to recount)

### 3.2 Monitor mode

No	Description	No	Description
<b>010</b>	Count needle number	<b>025</b>	The sampling voltage of pedal
<b>011</b>	Counter for sewing pieces	<b>026</b>	The ratio between motor and machine
<b>012</b>	The head of really speed	<b>027</b>	The total used time(hours) of motor
<b>013</b>	State of encoder	<b>028</b>	The sampling voltage of interaction
<b>020</b>	DC voltage	<b>029</b>	Software version
<b>021</b>	Machine speed	<b>02A</b>	Simulate input 2 simple value
<b>022</b>	The phase current	<b>02B</b>	Simulate input 2 simple value
<b>023</b>	Initial electrical angle	<b>02C</b>	Error counting
<b>024</b>	Mechanical angle	<b>030-037</b>	Error code record

### 3.3 The warning message

Alarm code	Description	Corrective
<b>ALA-2</b>	Count over for stitches	The counter reaches the limit. Press P key to reset the counter.
<b>ALA-3</b>	Count over for sewing pieces	The counter reaches the limit. Press P key to reset the counter.
<b>ALA-6</b>	Bottom line alarm	Change bobbin, press P to recover
<b>POB OFF</b>	Power is off	Please wait for 30 seconds, then turn on the power switch
<b>ARN UP</b>	Safety switch alarm	Adjust the machine to the correct position.

### 3.4 Error mode

If the error code appears, please check the following items first:

1. Make sure the machine has been connected correctly; 2. Reload the factory setting and try again.

Error Code	Description	Solution
Err-01	Hardware over-current	Turn off the power switch, and restart after 30 seconds. If the controller still does not work, please replace it and inform the manufacturer.
Err-02	Software over-current	
Err-03	Under-voltage	Disconnect the controller power and check if the input voltage is too LOW (lower than 176V). If yes, please restart the controller when the normal voltage is resumed. If the controller still does not work when the voltage is at normal level, please replace the controller and inform the manufacturer.
Err-04	Over-voltage when the machine is off	Disconnect the controller power and check if the input voltage is too high (higher than 264V). If yes, please restart the controller when the normal voltage is resumed.
Err-05	Over-voltage in operation	If the controller still does not work when the voltage is at normal level, please replace the controller and inform the manufacturer.
Err-06	Short circuit of solenoid	-Take plug out, if error continues, replace control box.
Err-07	Motor current measuring failure	Turn off the system power, restart after 30 seconds to see if it works well. If such failure happens frequently, seek technical support.
Err-08	Sewing motor blocked	- Eliminate sluggish movement in the sewing machine - Replace encoder - Replace sewing motor
Err-09	Brake circuit failure	Check the brake resistor plug on the electric board. Replace the control box
Err-10	Communication failure	Check the connection and if necessary plug in. Replace the control box.
Err-11	Machine head needle positioning failure	Check if the connection line between machine head synchronizer and controller is loose or not, restore it and restart the system. If it still does not work, please replace the controller and inform the manufacturer.
Err-12	Initial motor electrical angle Failure	- Try 2 to 3 more times after power down - if it still does not work, please replace the controller and inform the manufacturer.
Err-13	Motor HALL failure	turn off the system power, check if the motor sensor plug is loose or dropped off, restore it and restart the system. If it still does not work, please replace the controller and inform the manufacturer.。
Err-14	DSP Read/Write EEPROM Failure	Turn off the system power, restart the system after 30 seconds, if it still does not work, please replace the controller and inform the manufacturer.
Err-15	Motor over-speed protection	
Err-16	Motor reversion	
Err-17	HMI Read/Write EEPROM failure	
Err-18	Motor overload	
Err-23	Sewing motor blocked encoder failure	- Eliminate sluggish movement in the sewing machine - Replace encoder - Replace sewing motor

## 4 Pedal sensitivity adjustment

Pedal starts moving from the initial position ①(p.136) where the motor stops, slowing forward to the low speed point② (p.137)

where the motor run as the minimum speed , continuing to the accelerated point (p.138) where the motor start to speed up, until the max speed point (p.139) where the motor run up to the maximum speed. ②③ keep start sewing speed, ③④ is free adjust process.

1: Pedal starts moving from the initial position ①(p.136), And when the pedal steps back to the foot lifter position ⑤(p.135), the presser foot lift.

2: Pedal starts moving from the initial position ①(p.136), Continuing back to the auto trimming position ⑥ (p.134), the line is cut.

3. all the parameter should confirm( p.134) < (p.135) < (p.136) < (p.137) < (p.138) < (p.139)

4. It can be monitored in real time under the monitoring p.025 parameter, and the pedal sampling value at different locations is the reference value of each parameter.

Adjusting the corresponding parameters, the action position of presser foot and front step or back step is also changed. If the machine is not running before stepping on a large distance, the 137 parameter can be reduced appropriately (Cannot less than parameter 136). It can improve the sensitivity of the front step: if the machine is too sensitive, the light touch pedal machine starts to run, and the 137 parameters can be increased properly; if it is not easy to fill the needle and step forward slightly,

The speed increases rapidly to lead multiple needles, which can be properly increased by 138 parameters or reduced by 137 parameters (that is to increase the low speed range of the foot pedal), and the initial slit speed (100) can be properly reduced.

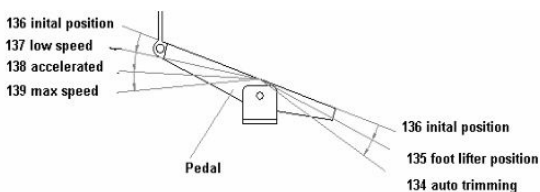


Fig. 4-1 pedal movement of each position parameter

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浙江省台州市椒江区机场南路15号

电话 :0086-576-88177788 88177789

传真 :0086-576-88177758

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### JACK SEWING MACHINE CO.,LTD.

No. 15 Airport South Road, Jiaojiang District, Taizhou, Zhejiang, PRC

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